

**CONTRACT BETWEEN THE CITY OF AUSTIN (“City”)
AND
Synagro of Texas-CDR, Inc. (“Contractor”)
for
Beneficial Reuse of Biosolids
Contract Number: NA160000184**

The City accepts the Contractor’s Offer (as referenced in Section 1.1.3 below) for the above requirement and enters into the following Contract.

This Contract is between Synagro of Texas-CDR, Inc. having offices at 435 Williams Court, Suite 100, Baltimore, MD 21220 and the City, a home-rule municipality incorporated by the State of Texas, and is effective as of the date executed by the City (“Effective Date”).

Capitalized terms used but not defined herein have the meanings given them in Solicitation Number Request for Proposal CDL2003.

1.1 This Contract is composed of the following documents:

- 1.1.1 This Contract
- 1.1.2 The City’s Solicitation, Request for Proposal CDL 2003, including all documents incorporated by reference
- 1.1.3 Synagro of Texas-CDR, Inc. Offer, dated May 17, 2016, including subsequent clarifications

1.2 Order of Precedence. Any inconsistency or conflict in the Contract documents shall be resolved by giving precedence in the following order:

- 1.2.1 This Contract
- 1.2.2 The City’s Solicitation as referenced in Section 1.1.2, including all documents incorporated by reference
- 1.2.3 The Contractor’s Offer as referenced in Section 1.1.3, including subsequent clarifications.

1.3 Term of Contract. The Contract will be in effect for an initial term of sixty (60) months and may be extended thereafter for up to five (5) additional twelve (12) month periods, subject to the approval of the Contractor and the City Purchasing Officer or his designee. See the Term of Contract provision in Section 0400 for additional Contract requirements.

1.4 Compensation. The Contractor shall be paid a total not-to-exceed amount of \$9,424,778 for the initial Contract term and \$2,185,180 for each extension option for a total contract amount not-to-exceed \$20,350,678. Payment shall be made upon successful completion of services or delivery of goods as outlined in each monthly invoice.

1.5 Quantity of Work. There is no guaranteed quantity of work for the period of the Contract and there are no minimum order quantities.

1.6 **Clarifications and Additional Agreements.** Clarifications specifically referenced below shall not be interpreted to exclude the full scope and substance of Contractor's proposal or the City's RFP CDL2003. The following are incorporated into the Contract.

1.6.1 Item 9, Section 0300 of the City's Standard Purchase Terms and Conditions is deleted in its entirety and replaced as follows:

PLACE AND CONDITION OF WORK: The City shall provide the Contractor access to the sites where the Contractor is to perform the services as required in a timely and efficient manner, in accordance with and subject to the applicable security laws, rules, and regulations. The Contractor acknowledges that it has satisfied itself as to the nature of the City's service requirements and specifications, the location and essential characteristics of the work sites which can be discovered solely from a visual inspection, the quality and quantity of materials, equipment, labor and facilities necessary to perform the services, and any other condition or state of fact which could in any way affect performance of the Contractor's obligations under the contract. Should the Contractor encounter any contamination or subsurface site condition which adversely impacts Contractor's ability or cost to perform the services, in each case which could not reasonably be discovered by visual inspection of the sites, the Contractor may cease performing the services until the City remediates such contamination or subsurface site condition.

1.6.2 Tab 6, Page 2 and Tab 4, Exhibit 4.1 of Contractor's Proposal is clarified as follows:

- Contractor shall not, without prior approval of the City, bring any material for grinding onsite.
- Contractor shall, upon mutual agreement of the parties, grind materials for the City's Austin Resource Recovery Department.
- To the extent that the City provides amendment materials during any contract year in excess of those amounts identified in RFP CDL2003, Contractor shall credit Austin Resource Recovery \$2.50 per cubic yard of ground, suitable amendment supplied basis.
- The City will not be obligated to supply any amount of amendment (yard debris or other woody material) to Contractor for its composting operations and Contractor shall not be obligated to credit the City for amendment material supplied unless such supply is requested by Contractor.

1.6.3 Tab 6, Page 2 of Contractor's Proposal is clarified as follows:

- The City will have the sole and exclusive right to direct Contractor to provide onsite or offsite land application as specified in RFP CDL2003 and in a manner consistent with Contractor's Proposal. While recognizing that composting 100% of the City's biosolids is the intent of this contract, offsite and onsite land application may be utilized in an emergency if the City elects to continue this method as a means of providing contingency biosolids solutions.
- Contractor shall utilize reasonable best efforts to maintain suitable and sufficient offsite land application permits as a contingency for Class B biosolids.

- Contractor shall maintain composting equipment and staffing levels capable of managing 100% of the City's biosolids.

1.6.4 Tab 4, Page 50 of Contractor's Proposal is clarified as follows:

- A certified truck scale shall be used in lieu of a load scanner to measure biosolids.
- The weight of the biosolids will be used in conjunction with the percentage solids measurement to obtain a conversion factor to cubic yards that shall be approved by Austin Water. The truck scale shall provide output data in an electronic format approved by Austin Water within a 1% accuracy as stated in the Department of Agriculture regulations.
- To reduce environmental impacts and promote efficiency, Contractor shall maximize the use of electronic report and data submission. Contractor shall provide an electronic/scanned bill of lading when submitting a monthly invoice.
- Austin Water retains the right to view certification and calibration documents for the truck scale upon request. An electronic/scanned bill of lading shall be provided accompanying the monthly invoice from the Contractor.

1.6.5 Tab 4, Pages 39-42 of Contractor's Proposal is clarified as follows:

- Contractor's point of acceptance shall occur when the biosolids are obtained off the belt press. When storing sludge, it will be separated and tracked by month, and laboratory analysis completed on a monthly basis. Class B sludge will be weighed before storage.
- Contractor shall submit monthly invoices to the City based off of the scale measurements and lab analysis reports, converted into cubic yards.
- Contractor shall also submit to the City for monitoring: a monthly inventory report of stored biosolids, compost in process, compost in curing and bulking agents stored onsite.

1.6.6 Tab 4, Pages 49-50, Tab 5, Page 53, and Tab 6, Page 2 of Contractor's proposal is clarified as follows:

- Contractor shall provide all equipment required for composting and/or land application (as may be requested by the City) of biosolids per its proposal. Subject to the City's Council approval, contract start date shall be November 18, 2016 with Contractor assuming responsibility to manage 100% of the City's dewatered biosolids from that date.
- Contractor shall reasonably accommodate the City's or other contractor's ongoing work to clear the old compost piles/pad 90 days after this Contract's start date.

1.6.7 Tab 4, Page 49 of Contractor's Proposal is clarified as follows:

- Contractor shall donate up to 2,000 cubic yards of finished compost per year for pick-up by City Departments or charitable organizations as approved by the City.
- Compost donations exceeding the initial 2,000 cubic yards per year may be made by Contractor at its sole discretion.
- Contractor shall provide written notice to the City of organizations to which it donates compost.

1.6.8 Tab 4, Page 43 of Contractor's Proposal is clarified as follows:

- Contractor shall send samples of the City's liquid sludge to its specialized lab that will analyze the sludge samples to achieve optimized dewatering performance. Based upon lab results, Contractor shall make recommendations to the City of polymer mixtures and process improvements. Contractor may send an optimization team to the City to evaluate potential operational improvements that can reduce City costs.
- Contractor recommendations are non-binding and shall have no impact on the City's rights or Contractor's obligations to perform the services required under this Contract.
- Dewatering optimization is offered by Contractor at no additional cost to the City.

1.6.9 Tab 4, Pages 37-47 of Contractor's Proposal is clarified as follows:

- AllGro is the brand name under which Contractor markets high quality compost across the country. All compost, including AllGro, produced and sold by Contractor under the terms of this agreement will be a Class A material; adequately cured; and will meet the U.S. Composting Council's (USCC) definition of compost and be Seal of Testing Assurance (STA) Certified. All compost, including AllGro compost, meets Process to Further Reduce Pathogens as set forth by the Environmental Protection Agency.
- Subject to the City's approval, Contractor proposes to utilize the Dillo Dirt name. If Contractor uses the Dillo Dirt name, all compost sold under the Dillo Dirt name will meet the same high quality compost standards and be USCC STA Certified just as the compost that the City has previously sold as Dillo Dirt. Any compost that does not meet Dillo Dirt standards, as such standards are set forth by the City, shall be sold under a different name.
- All compost produced by Contractor shall be screened, including the use of an additional device that effectively removes plastics, prior to delivery to final customer markets. Plastics removal shall be at least as effective as that currently practiced by the City.
- As the value of anticipated compost sales is already included in Contractor's proposed cost of service to the City, no additional royalties shall be paid for use of the Dillo Dirt name.
- The City reserves the right to discontinue Contractor's use of the Dillo Dirt name at any time and at its sole discretion.
- Contractor retains full responsibility for marketing and sale of all compost produced, regardless of whether or not the use of the Dillo Dirt name is granted by the City.
- The City, at any reasonable time, shall have the right to review Contractor records regarding the sale and utilization of compost produced under the contract. The City shall treat such compost record review as confidential and proprietary information in accordance with all federal, state and local laws.

1.6.10 Tab 4, Pages 50-52 of Contractor's Proposal is clarified as follows:

- All Odor and Dust Control/Operations Management/Fire Prevention/Spill Response Plans are subject to approval by Austin Water. Such approval shall not be unreasonably withheld and no work may commence under this Contract until such plans are approved by Austin Water.

1.6.11 Tab 4, Pages 36-42 of Contractor's Proposal is clarified as follows:

- Contractor shall work with the City in investigating alternative ways of reusing biosolids, including piloting or allowing the City to pilot alternative methods of reuse of biosolids as may be mutually agreed during the term of this Contract.

This Contract (including any Exhibits) constitutes the entire agreement of the parties regarding the subject matter of this Contract and supersedes all prior and contemporaneous agreements and understandings, whether written or oral, relating to such subject matter. This Contract may be altered, amended, or modified only by a written instrument signed by the duly authorized representatives of both parties.

In witness whereof, the parties have caused a duly authorized representative to execute this Contract on the date set forth below.

SYNAGRO OF TEXAS-CDR, INC.

CITY OF AUSTIN

Printed Name of Authorized Person

Printed Name of Authorized Person

Signature

Signature

Title:

Title:

Date:

Date:

Exhibit A-Synagro Proposal (Redacted)



ORIGINAL

Proposal to Provide
Beneficial Reuse of Biosolids
RFP CDL2003

to the



City of Austin, Texas

May 19, 2016

SYNAGRO



May 19, 2016

Ms. Danielle Lord, Purchasing Manager
City of Austin, Municipal Building
Purchasing Office
124 W. 8th Street, Rm 308
Austin, Texas 78701

**Re: RFP CDL2003 – Beneficial Reuse of Biosolids
Synagro of Texas-CRD, Inc. Proposal**

Dear Ms. Lord:

Synagro of Texas-CDR, Inc. (Synagro) is pleased to respond to the City of Austin's Request for Proposals, RFP CDL2003 – Beneficial Reuse of Biosolids. As the City of Austin's biosolids management partner for the past eight years, we are eminently familiar with the requirements of this project and the City's biosolids management needs.

In addition to our familiarity with the City's biosolids program, Synagro is the nation's largest and most comprehensive provider of biosolids program solutions. The company currently serves more than 600 local and county government clients across the U.S. with similar programs.

How is a Partnership with Synagro Beneficial to the City?

Synagro has a unique qualification set for this project – direct experience with the City's program and an unrivaled national resume and resource capabilities.

- The City can secure the benefits of working with a proven partner:
 - Met or exceeded all performance requirements for the last eight years
 - Confidence that the program requirements, including the assumptions and expectations required to assemble this proposal, are well understood and will be met.
 - An outstanding safety record
 - Maintained 100% environmental compliance for City and project permits
- By partnering with the nation's leader in biosolids management the City has access to Synagro's knowledge bases and resource pool including:
 - 600+ customers across the U.S.
 - 750 employees – exclusively focused on biosolids solutions
 - Deep pool of technical resources and talent
 - Local understanding with a national perspective on biosolids issues
- Our Composting & Compost Marketing Expertise will be leveraged for the City's benefit:
 - Synagro is the leading biosolids compost firm in the United States
 - 5 U.S. composting facilities – including Austin
 - Currently market 400,000+ cubic yards of biosolids compost per year
 - National Biosolids Partnership Certified compost operations
 - U.S. Composting Council leadership organization
 - Experts in operating to control odor and dust
 - Site safety experts – fire risk mitigation
- Experience Operating 16 Class A Type Biosolids Facilities

Why Should the City Select this Proposal?

This proposal has been crafted to maximize value to the City by delivering a high quality biosolids solution featuring reliability, redundancy and diversification at a significant annual savings.

- Proven Performance
 - The City can be confident that the Hornsby Bend Biosolids Processing Facility will continue to be operated and managed as an industry leading flagship facility.
 - Synagro is a proven performer and trusted partner which has operated side by side with the City at the Hornsby Bend site for the last eight years.
 - City and Synagro employees have meshed well and worked cooperatively under the current program which is an indicator of a successful long term working relationship going forward.
- Reduced Biosolids Management Costs
 - At least \$2.0M per year in savings by leveraging private sector resources
 - Optional cost proposals provided, identifying further potential savings
- The Right Solution Set
 - Composting and land application on the Hornsby Bend site
 - Back up off-site land application for diversification and redundancy
- Optimized Product Marketing
 - A diverse, reliable market – Retail, commercial and the agricultural market.
 - Synagro developed the agricultural market in the Austin area – local ranchers were unfamiliar with compost – now it is a key market segment for sustainability – Commitment to this market reduces short term revenue, but builds diversification and long term stability. Chasing short term dollars leaves the City vulnerable to competitive products (e.g. food compost from ARR program) and short term market changes.
- Work Plans that Minimize Odor and Dust & Maximize Safety and Compliance
 - Amendment collected and prepared off-site – Avoids potential impacts on community adjacent to Hornsby Bend.
 - National Biosolids Partnership Certified operating plans – Operational controls that reduce odor and dust potential
 - Regular internal performance audits ensure continuous compliance & improvement

Proprietary – This Page Contains Proprietary Information

Business Resource Department representative for this project and, if selected, will work with the City to identify and contract with local MBE/WBE partners.

- Provide a minimum of \$10,000 per year in corporate giving to Austin based charitable causes
- Provide 2,000 cubic yards per year of finished compost for City projects

Increased Value Delivery

As detailed in the attached proposal, Synagro has identified a number of Optional Cost Proposal scenarios and value added service offerings, each able to generate significant annual savings to the City of Austin.

- Dewatering Optimization Savings
- Amendment Supply Credits
- Minimum Volume Guarantees
- On-Site Land Application Offsets
- City Equipment Purchase Option
- Product Revenue Share Arrangements

We look forward to discussing this proposal with the City's team and are available to meet upon your request. Thank you once again for the opportunity to compete for this important project.

Sincerely,

Andrew E. Bosinger

Andrew E. Bosinger
Vice President, Strategic Accounts

Proprietary – This Page Contains Proprietary Information



RFP CDL2003

Beneficial Reuse of Biosolids



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Section 0900: Minority- and Women-Owned Business Enterprise (MBE/WBE)

No Goals Form

SOLICITATION NUMBER:	CDL20023
PROJECT NAME:	Beneficial Reuse of Biosolids

The City of Austin has determined that no goals are appropriate for this project. Even though goals were not assigned for this solicitation, the Offeror is required to comply with the City's MBE/WBE Procurement Program, if areas of Subcontracting are identified.

If any service is needed to perform the Contract and the Offeror does not perform the service with its own workforce or if supplies or materials are required and the Offeror does not have the supplies or materials in its inventory, the Offeror shall contact the Small and Minority Business Resources Department (SMBR) at (512) 974-7600 to obtain a list of MBE and WBE firms available to perform the service or provide the supplies or materials. The Offeror must also make a Good Faith Effort to use available MBE and WBE firms. Good Faith Efforts include but are not limited to contacting the listed MBE and WBE firms to solicit their interest in performing on the Contract, using MBE and WBE firms that have shown an interest, meet qualifications, and are competitive in the market; and documenting the results of the contacts.

Will Subcontractors, Sub-consultants, or Suppliers be used to perform portions of this Contract? (Check the box that is applicable below and follow the instructions as indicated; only check one box.)

- ☒ If **NO**, please sign the No Goals Form and submit it with your Offer.
- ☐ If **YES**, please contact SMBR to obtain further instructions and an availability list and perform Good Faith Efforts. Complete and submit the No Goals Form and the No Goals Utilization Plan with your Offer in a separate sealed envelope.

After Contract award, if your firm Subcontracts any portion of the Contract, it is a requirement to complete Good Faith Efforts and the No Goals Utilization Plan, listing any Subcontractor, Sub-consultant, or Supplier. Return the completed Plan to the Project Manager or the Contract Manager.

I understand that even though goals were not assigned, I must comply with the City's MBE/WBE Procurement Program if Subcontracting areas are identified. I agree that this No Goals Form and No Goals Utilization Plan shall become a part of my Contract with the City of Austin.

Synagro of Texas-CDR, Inc.

Company Name

Michael Schwartz, Vice President

Name and Title of Authorized Representative (Print or Type)



May 17, 2016

Signature

Date

Minority- and Women-Owned Business Enterprise (MBE/WBE) Procurement Program No Goals Utilization Plan
(Please duplicate as needed)

SOLICITATION NUMBER:	CDL2003
PROJECT NAME:	Beneficial Reuse of Biosolids

PRIME CONTRACTOR / CONSULTANT COMPANY INFORMATION

Name of Contractor/Consultant	Synagro of Texas-CDR, Inc.		
Address	435 Williams Court, Suite 100		
City, State Zip	Baltimore, MD 21220		
Phone Number	443-489-9000	Fax Number	443-489-9042
Name of Contact Person	Roderick Grant, Operations Manager (512-745-4051 direct)		
Is Company City certified?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> MBE/WBE Joint Venture <input type="checkbox"/>		

I certify that the information included in this No Goals Utilization Plan is true and complete to the best of my knowledge and belief. I further understand and agree that the information in this document shall become part of my Contract with the City of Austin.

Michael Schwartz, Vice President

Name and Title of Authorized Representative (Print or Type)



May 17, 2016

Signature

Date

Provide a list of all proposed Subcontractors / Sub-consultants / Suppliers that will be used in the performance of this Contract. Attach Good Faith Effort documentation if non MBE/WBE firms will be used.

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Ethics / Gender Code:	<input type="checkbox"/> Non-Certified	
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Ethics / Gender Code:	<input type="checkbox"/> Non-Certified	
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

FOR SMALL AND MINORITY BUSINESS RESOURCES DEPARTMENT USE ONLY:

Having reviewed this plan, I acknowledge that the Offeror (HAS) or (HAS NOT) complied with City Code Chapter 2-9A/B/C/D, as amended.

Reviewing Counselor _____ Date _____ Director/Deputy Director _____ Date _____



Tab I – City of Austin Purchasing Documents

Synagro's completed proposal Purchasing documents are attached.





CITY OF AUSTIN, TEXAS
Purchasing Office
REQUEST FOR PROPOSAL (RFP)
OFFER SHEET

SOLICITATION NO:
RFP CDL2003

COMMODITY/SERVICE DESCRIPTION:
Beneficial Reuse of Biosolids

DATE ISSUED:
April 4, 2016

PRE-PROPOSAL CONFERENCE TIME AND DATE:
April 18, 2016, 1:00PM local time

REQUISITION NO.:
2200 16021600262

LOCATION:
Hornsby Bend Biosolids Management Plant
Room: Auditorium
2210 FM 973
Austin, TX 78725

COMMODITY CODE:
95812

**FOR CONTRACTUAL AND TECHNICAL
ISSUES CONTACT THE FOLLOWING
AUTHORIZED CONTACTS:**

PROPOSAL DUE PRIOR TO:
May 5, 2016 at 2:00PM local time

Primary Point of Contact:

Danielle Lord
Purchasing Manager
Phone: (512) 974-2298
E-Mail: Danielle.Lord@austintexas.gov

PROPOSAL CLOSING TIME AND DATE:
May 5, 2016 at 2:00PM local time

LOCATION:
Municipal Building, 124 W 8th Street, Room 308
Austin, Texas 78701

Secondary Point of Contact:

Joshua Pace
Buyer II
Phone: (512) 974-3127
E-Mail: Joshua.Pace@austintexas.gov

LIVE SOLICITATION CLOSING ONLINE:

For RFP's, only the names of respondents will be read aloud

For information on how to attend the Solicitation Closing online, please select this link:

<http://www.austintexas.gov/department/bid-opening-webinars>

When submitting a sealed Offer and/or Compliance Plan, use the proper address for the type of service desired, as shown below:

Address for US Mail (Only)	Address for FedEx, UPS, Hand Delivery or Courier Service
City of Austin	City of Austin, Municipal Building
Purchasing Office-Response Enclosed for Solicitation # CDL2003	Purchasing Office-Response Enclosed for Solicitation # CDL2003
P.O. Box 1088	124 W 8 th Street, Rm 308
Austin, Texas 78767-8845	Austin, Texas 78701
	Reception Phone: (512) 974-2500

NOTE: Offers must be received and time stamped in the Purchasing Office prior to the Due Date and Time. It is the responsibility of the Offeror to ensure that their Offer arrives at the receptionist's desk in the Purchasing Office prior to the time and date indicated. Arrival at the City's mailroom, mail terminal, or post office box will not constitute the Offer arriving on time. See Section 0200 for additional solicitation instructions.

All Offers (including Compliance Plans) that are not submitted in a sealed envelope or container will not be considered.

SUBMIT 1 ORIGINAL AND 6 ELECTRONIC COPIES (FLASH DRIVE ONLY) OF YOUR RESPONSE

*****SIGNATURE FOR SUBMITTAL REQUIRED ON PAGE 3 OF THIS DOCUMENT*****

This solicitation is comprised of the following required sections. Please ensure to carefully read each section including those incorporated by reference. By signing this document, you are agreeing to all the items contained herein and will be bound to all terms.

SECTION NO.	TITLE	PAGES
0100	STANDARD PURCHASE DEFINITIONS	*
0200	STANDARD SOLICITATION INSTRUCTIONS	*
0300	STANDARD PURCHASE TERMS AND CONDITIONS	*
0400	SUPPLEMENTAL PURCHASE PROVISIONS	8
0500	SCOPE OF WORK	4
0600	PROPOSAL PREPARATION INSTRUCTIONS & EVALUATION FACTORS	5
0605	LOCAL BUSINESS PRESENCE IDENTIFICATION FORM – Complete and return	2
0700	REFERENCE SHEET – Complete and return	1
0800	NON-DISCRIMINATION CERTIFICATION	*
0805	NON-SUSPENSION OR DEBARMENT CERTIFICATION	*
0810	NON-COLLUSION, NON-CONFLICT OF INTEREST, AND ANTI-LOBBYING CERTIFICATION	*
0815	LIVING WAGES CONTRACTOR CERTIFICATION–Complete and return	1
0835	NONRESIDENT BIDDER PROVISIONS – Complete and return	1
0900	MBE/WBE PROCUREMENT PROGRAM PACKAGE NO GOALS FORM – Complete, sign (first and second page), and return	2
ATT A	ATTACHMENT A- TRANSITION PLAN	**
ATT B	ATTACHMENT B- VOLUME	**
ATT C	ATTACHMENT C- CURRENT PERMITS	**
ATT D	ATTACHMENT D- LAYOUT DIAGRAM	**
ATT E	ATTACHMENT E- CHAIN OF CUSTODY TEMPLATE	**
ATT F	ATTACHMENT F- COST PROPOSAL FORM	**
ATT G	ATTACHMENT G- PURCHASING OFFICE EXCEPTIONS FORM	**

* Documents are hereby incorporated into this solicitation by reference, with the same force and effect as if they were incorporated in full text. The full text versions of the * documents are available on the Internet at the following online address: http://www.austintexas.gov/financeonline/vendor_connection/index.cfm#STANDARDBIDDDOCUMENTS

If you do not have access to the Internet, you may obtain a copy of these Sections from the City of Austin Purchasing Office located in the Municipal Building, 124 West 8th Street, Room #308 Austin, Texas 78701; phone (512) 974-2500. Please have the Solicitation number available so that the staff can select the proper documents. These documents can be mailed, expressed mailed, or faxed to you.

** Documents are hereby incorporated into this solicitation as attached documents with the same force and effect as if they were incorporated in full text.

INTERESTED PARTIES DISCLOSURE

In addition, Section 2252.908 of the Texas Government Code requires the successful offeror to complete a Form 1295 "Certificate of Interested Parties" that is signed and notarized for a contract award requiring council authorization. The "Certificate of Interested Parties" form must be completed on the Texas Ethics Commission website, printed, signed and submitted to the City by the authorized agent of the Business Entity with acknowledgment that disclosure is made under oath and under penalty of perjury prior to final contract execution.

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

The undersigned, by his/her signature, represents that he/she is submitting a binding offer and is authorized to bind the respondent to fully comply with the solicitation document contained herein. The Respondent, by submitting and signing below, acknowledges that he/she has received and read the entire document packet sections defined above including all documents incorporated by reference, and agrees to be bound by the terms therein.

Company Name: Synagro of Texas-CDR, Inc.


Company Address: 435 Williams Court, Suite 100

City, State, Zip: Baltimore, MD 21220

Federal Tax ID No. 74-2648566

Printed Name of Officer or Authorized Representative: Michael Schwartz

Title: Vice President

Signature of Officer or Authorized Representative: 

Date: May 17, 2016

Email Address: abosinger@synagro.com

Phone Number: (410) 271-1020

*** Proposal response must be submitted with this Offer sheet (pages 1-3)
to be considered for award.***



ADDENDUM
CITY OF AUSTIN, TEXAS

Solicitation: RFP CL2003

Addendum No: 1

Date of Addendum: 4/20/16

This addendum is to incorporate the following changes to the above referenced solicitation:

I. **Clarifications:**

- I.1 Section 0500, Scope of Work item 3.5 is hereby revised to read as follows:

The Contractor shall provide, install, and maintain onsite scanning technology to accurately measure the volume of biosolids **for invoice quantities. The load scanner will serve as the control point for biosolids measurement. Biosolids shall be removed from the belt press area daily and moved to a staging area. Biosolids removed from the staging area shall be loaded into trucks, scanned and assigned a code for tracking. Tracking codes shall be used to differentiate between biosolids designated for compost, on-site land application, off-site land application or other approved reuse method.** Measurement data from the load scanner shall be provided with the monthly invoice in an excel spreadsheet.

- I.2 Section 0500, Scope of Work item 3.7 is hereby revised to read as follows:

The Contractor shall maintain the biosolids processing and storage areas as directed by the City's Site Contact. **The Contractor shall be responsible for keeping the area around the basin drain valves clear of debris.** Maintenance of these areas shall include, but is not be limited to daily removal of all biosolids from the belt press area, cleaning and building berms necessary to contain the biosolids, and other work needed to ensure the areas are neat, safe, and usable. The Contractor shall store biosolids such that the oldest biosolids can be accessed first for beneficial reuse.

- I.3 Section 0500, Scope of Work item 4.2 is hereby revised to read as follows:

The Contractor shall land apply, if directed by the City, approximately 12,000 cubic yards of biosolids annually onsite at Hornsby on approximately 400 acres. The City will verify the loading rates based on agronomic rate calculations. The Contractor shall ensure that fields are marked for buffers and setbacks. The Contractor shall plan, track, and report cubic yards and dry tons applied per field on a monthly basis. The Contractor shall provide loading, spreading, and any other equipment and personnel necessary to complete this task. The Contractor shall be responsible for annual soil sampling and lab analysis of the onsite applications fields as required by the Hornsby permit. Soil sampling shall be performed in November and results submitted to the City Site Contact no later January 1. **Annual soil sampling is required even if on-site land application is not performed.**

I.4 Section 0500, Scope of Work item 5.2 is hereby revised to read as follows:

The City will allow the Contractor to utilize approximately three acres onsite to receive bulking materials for the Contractor's composting operations at Hornsby. **Grinding is not allowed at the bulk drop off site.** The bulk drop off site shall be fenced with an opaque fence at the Contractor's expense and kept locked except when the Contractor is present. Site security is the responsibility of the Contractor.

II. **Questions:**

Q1: Will the City accept an annually renewable performance bond?

A1: **An annually renewable performance bond is acceptable.**

Q2: The RFP seems to indicate that invoices will be based on the number of cubic yards removed from the City's Belt Filter Press area, but that volume is to be re-measured prior to leaving the plant for land application on or off the Hornsby Bend Site. Is there an operational reason to re-measure volume for land application that is not required for composting? How does the City intend to resolve differences in the measurement of the amount of biosolids coming off the belt filter press versus contained in trucks hauled to land application? We suggest that the City have a single point and time for measurement of volume that will be used at the agreed basis of payment with the on-site weigh scale as the most accurate and preferred alternative.

A2: **The Contractor shall provide, install, and maintain onsite scanning technology to accurately measure the volume of biosolids for invoice quantities. The load scanner will serve as the control point for biosolids measurement. Biosolids shall be removed from the belt press area daily and moved to a staging area. Biosolids removed from the staging area shall be loaded into trucks, scanned and assigned a code for tracking. Tracking codes shall be used to differentiate between biosolids designated for compost, on-site land application, off-site land application or other approved reuse method. Measurement data from the load scanner shall be provided with the monthly invoice in an excel spreadsheet.**

Q3: In section 3.7 of the scope of work, will the City clarify that direction on maintenance of the site will be "reasonably" provided? As written, the statement provides unlimited discretion to the City – i.e. could direct the Contractor to maintain the site in a manner that is un-attainable.

A3: **AW will not be unreasonable; the sludge needs to be cleared daily from the belt press area and the storage areas kept cleaned up. The way it is being maintained now is acceptable.**

Q4: Will the City provide a summary of any odor or dust complaints experienced at Hornsby Bend during the past two years?

A4: **There has been one odor complaint and no dust complaints.**

Q5: Is the use of one of the basins for green waste receiving allowed?

A5: **Yes. The drop-off of green waste to the basin area by a commercial vehicle is allowed.**

Q6: Will the City allow on-site consumer purchase of compost product?

A6: **On-site sales will be allowed but limited to loads of 6 cubic yards or greater.**

- Q7: Will the City consider selling or leasing its existing composting equipment to any proposer?
- A7: AW will not lease its existing equipment. If AW decides to sell the equipment it will be auctioned "as is" to the highest bidder.
- Q8: Can the proposer use the DilloDirt product name?
- A8: AW has not made a final determination on the use of the DilloDirt name at this time. Proposers should assume it will not be available.
- Q9: On Tab 5, Part C of the Scope of Work, can the City please clarify its objectives for asking for a schedule for handling belt press biosolids at 50%, 75% and 100% of annual production? We would like to understand more clearly so that we may provide an appropriate response. Is the City seeking or considering seeking proposals that contemplate the private party managing less than 100% of the annual production?
- A9: AW realizes there could be a "ramp up" period involved when the Contractor first starts working on site. If that is the case AW would like a timeline or schedule of how long it will take the Contractor to get to where they are processing 50%, 75% and 100% of the biosolids coming off the belt press, and what the plan is for the remainder of the biosolids during that time period.
- Q10: RFP section 3.2 requires the Contractor to be responsible for all permits. The current permit has the City of Austin as the permittee and runs until Oct 31, 2017. With the anticipated term commencing December 1, 2016, can the permit be left under City of Austin? Will future permit terms be left under City or will they need to be permitted under the proposer?
- A10: The City will keep the current permit for Hornsby Bend in the City's name and when it is time will apply for the renewal. The Contractor will only be responsible for any offsite land application permits.
- Q11 (a-d): Attachment C permit questions:
- a. Page 1 of pdf - Are there any limits on processing dry tons per year. There is a limit on land application that is set at 6.27 dry tons per acre (454 acres for land application).
- A11a: There are no limits in the Hornsby Permit except for onsite land application.
- b. Page 1 of pdf - Who irrigates lagoon supernatant? Is this to be part of the Contractor's scope?
- A11b: City will continue to run the irrigation process.
- c. Page 23- IX.D. If the Contractor becomes the permittee, is a licensed wastewater operator required to run the compost facility?
- A11c: Not applicable.
- d. Page 23- IX.E – will the proposer be in charge of groundwater assessment and monitoring plan and reporting? Will the City provide copies of existing reports/plans?
- A11d: No. The City will continue to perform all the groundwater sampling and reporting. The reports are available, if they are still needed given the answer to this question we can make them available.
- Q12: Would the City please clarify the statement "Maximum 25 points" at the end of the last paragraph of section 0600, Evaluation Factors and Award?
- A12: The City may decide to conduct interviews and/or visits to the Proposer's site. A shortlist of Proposers may be asked to attend an interview; specific questions and topics will be provided to the Proposer to answer or clarify. The City may tour the Proposer's site to view their operations. The Proposer can earn up to an additional 25 points for this

interview and/or site visit. There is a possibility for a total of 125 points instead of just 100 points if the City conducts interviews and/or site visits.

Q13: Will the Contractor invoice and be paid for biosolids composting on a screened cubic yard biosolids or measured curing pile?

A13: No, invoices can only be generated for material that has left the site.

Q14: Will the Contractor have a volume number when the biosolids are taken from the belt press?

A14: The volume measurement will be as the material leaves the staging area.

Q15: The Contractor should not invoice until after PFRP and removal, correct?

A15: Yes, that is correct.

Q16: Will the Contractor's payment be based on the cubic yardage coming off the belt filter press, regardless of any changes up or down?

A16: The Contractor shall provide, install, and maintain onsite scanning technology to accurately measure the volume of biosolids for invoice quantities. The load scanner will serve as the control point for biosolids measurement. Biosolids shall be removed from the belt press area daily and moved to a staging area. Biosolids removed from the staging area shall be loaded into trucks, scanned and assigned a code for tracking. Tracking codes shall be used to differentiate between biosolids designated for compost, on-site land application, off-site land application or other approved reuse method. Measurement data from the load scanner shall be provided with the monthly invoice in an excel spreadsheet.

Q17: If there is a volume increase, will the Contractor be paid for the higher volume?

A17: Yes.

Q18: The Contractor's payment on the outgoing material is for the biosolids only irrespective of any carbon source amendments?

A18: Correct, the payment is for biosolids only.

Q19: So 100 cubic yards [of biosolids] is 100 cubic yards [paid] whether it's 50 or 200 [cubic yards in volume] going out the door?

A19: Correct.

Q20: How will the material be measured?

A20: The City requires load scanning technology in the scope of work.

Q21: Is there a procedure for the verification of the accuracy of the load scanning technology?

A21: The manufacturer's recommended procedure for calibration will need to be followed.

Q22: How will the City verify that the load scanner the Contractor uses is as accurate as the LoadScan LVS 2?

A22: If the Contractor chooses to use a load scanner other than the LoadScan model, then he must submit third party accuracy testing results on the model proposed. If the manufacturer does not have a report of documented accuracy, then the Contractor must submit a proposed testing protocol for City approval. All costs of accuracy testing will be borne by the Contractor.

- Q23: Will the City expect the Contractor to do grinding on the 3 acres, or to transfer to another place to do grinding?
A23: Grinding can be done in one of the basins or pad area designated for the Contractor's use.
- Q24: Can the Contractor grind at Hornsby at all?
A24: Yes.
- Q25: The Contractor must transfer the material offsite to sell it from somewhere else, correct?
A25: Bulk sales with a minimum load size of 6 cubic yards or more can occur at Hornsby
- Q26: Will the Contractor be required to renew TCEQ permit?
A26: No. AW will continue to be responsible for renewing the TCEQ permit.
- Q27: Will the Contractor be required to renew the Storm Water Pollution Prevention Plan?
A27: No, however if the bulk drop off site requires any additional permitting that will be the responsibility of the contractor.
- Q28: What is the City's plan for ongoing maintenance on the drain areas for basins 1-5?
A28: The City will operate and maintain the lift station that drains those areas. The priority is to clear out any standing water in Basin 2.
- Q29: What is the Contractor required to do as far as maintaining the drains of the basins so that they function?
A29: It is the Contractor's responsibility to keep area around the telescoping valves clear of debris. The City will operate the valves.
- Q30: So essentially, it is from the belt press and beyond that the Contractor is responsible for keeping clean?
A30: Yes.
- Q31: There will be up to 50,000 cubic yards when the Contractor arrives on site. Is the Contractor allowed to store existing 50,000 cubic yards plus an additional 50,000 cubic yards that can be stored?
A31: Yes. In the first year the Contractor must address the 50,000 cubic yards that are already stored onsite, plus move enough offsite to not exceed a total of 100,000 cubic yards onsite at any one time in the first year of the contract. Subsequent years the contractor is limited to having 50,000 cubic yards onsite at any time.
- Q32: Does the Contractor have a role in determining when an emergency has taken place and the biosolids can be transferred to a landfill?
A32: No. AW will determine if an emergency transfer of biosolids to a landfill is necessary.
- Q34: Regarding Section 0400, Paragraph 10.A.: What level of discretion does each party retain to reject a price change request that is compliant with the provisions of Paragraph 10?

- A34: Requests for price escalations that are supported by one of the indexes identified in the 0400 and in accordance with the terms stated will be granted by the City. Requested adjustments will be rejected if they do not correspond with the Contractor's direct costs.
- Q35: The City's intent is to limit landfill use to emergencies, but the landfill pricing can only be used when landfilling is requested by the City. Does this mean that the Contractor cannot conclude on its own that an emergency situation exists requiring landfill disposal? Can landfilling be used as part of the ramp-up plan?
- A35: Only the City can designate when it is time to utilize the landfill option. Landfill is not an approved method of disposal since it is not beneficial reuse and in compliance with the Zero Waste Ordinance. Therefore it is not approved to be used in the "ramp-up" plan.
- Q36: Bidder requests that the City pay demobilization costs, costs of breaking subcontracts (including equipment leases) and other expenses incurred by Contractor should the City exercise its termination for convenience right set forth in Section 300, paragraph 28.
- A36: This should be notated on the Purchasing Office Exception Form with a justification and suggested alternate language.
- Q37: Regarding Section 0500: Bidder understands the minimum removal requirements. Is there a maximum amount that the Contractor would be required to remove?
- A37: The contractor can assume the maximum will be 135,000 cubic yards in a calendar year.
- Q38: Please confirm that any contaminated material or other material that does not meet land application legal requirements is beyond the scope of work.
- A38: The contractor is only required to process Class B sludge.
- Q39: Is the Contractor required to, or may they elect to, remove the load scanning technology at the end of the contract term?
- A39: The Contractor is responsible to move the load scanning equipment off site at the end of the contract term.
- Q40: Bidder requests that the discovery of any hazardous substances/materials (as defined by applicable law) at the site that were not identified in the RFP be accepted from Section 0300, Condition 9. For this scope of work, bidder has neither the opportunity nor the need to examine the site sufficiently to determine if this risk exists. If it does exist, it should be the City's responsibility to address.
- A40: This should be notated on the Purchasing Office Exception Form with a justification and suggested alternate language.

III. **Additional Contacts:** Additional Authorized Contacts have been added to this solicitation for contractual and technical issues. Additional Authorized Contacts include:

Primary Contact (no change):
Danielle Lord
Corporate Purchasing Manager
(512) 974-2298
Danielle.Lord@austintexas.gov

Secondary Contact (no change):
Joshua Pace
Buyer II
(512) 974-3127
Joshua.Pace@austintexas.gov

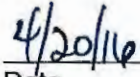
Contract Administrator:
Monica McClure
Contract Administrator
(512) 974-1714
Monica.McClure@austintexas.gov

- IV. Attached is the sign-in sheet from the Pre-Proposal Meeting on April 18, 2016 at 1:00 PM.
- V. Attachment B (Volume) of solicitation CDL2003 is hereby updated to include 2016 volumes and is attached to Addendum 1 as a reference.
- VI. **ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.**

APPROVED BY:



Danielle Lord, Corporate Purchasing Manager
Purchasing Office, (512) 974-2298




Date

ACKNOWLEDGED BY:

Michael Schwartz, Vice President

Name



Authorized Signature

May 17, 2016

Date

RETURN ONE COPY OF THIS ADDENDUM TO THE PURCHASING OFFICE, CITY OF AUSTIN, WITH YOUR RESPONSE OR PRIOR TO THE SOLICITATION CLOSING DATE. FAILURE TO DO SO MAY CONSTITUTE GROUNDS FOR REJECTION.



**ADDENDUM
CITY OF AUSTIN, TEXAS**

Solicitation: RFP CL2003

Addendum No: 2

Date of Addendum: 4/21/16

This addendum is to incorporate the following changes to the above referenced solicitation:

I. Questions:

Q1: City of Austin RFP 2200 JXP0501 "Sale and Removal of Compost Material" appears to conflict with the intent of RFP CDL2003. Can the City please provide clarification of its intended approach? For example, is it the City's intent to award a contract under both RFP's or on an either/or basis?

A1: The City intends to award two separate contracts – one under each RFP. The City estimates up to 15 curing piles will be produced by City staff prior to December 1, 2016 when the contract awarded under RFP CDL2003 is projected to go into effect. It is the City's intent to sell those piles through a contract awarded under "Sale and Removal of Compost Material" (RFP JXP0501). The scope of work in that RFP requires 5 of those piles to be removed in the first 90 days after award of the contract (so they should be removed prior to December 1, 2016). The compost sale and removal contract requires the removal of the remaining 10 piles, if available, in the next 9 months. The curing piles are stored on a portion of the work area that will be made available to the contractor selected for RFP CDL2003. The curing piles are not part of the 50,000 cubic yards of biosolids that may be onsite.

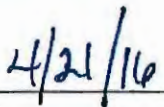
Q2: Does the City intend to move to payment of invoices by credit card during the term of the contract?

A2: The City does not anticipate paying these invoices by credit card.

II. ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.


APPROVED BY:


Danielle Lord, Corporate Purchasing Manager
Purchasing Office, (512) 974-2298


Date

ACKNOWLEDGED BY:

Michael Schwartz, Vice President
Name


Authorized Signature

May 17, 2016
Date

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**ADDENDUM
CITY OF AUSTIN, TEXAS**

Solicitation: RFP CL2003

Addendum No: 3

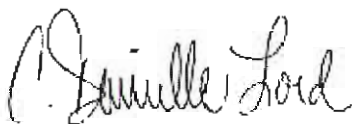
Date of Addendum: 4/27/16

This addendum is to incorporate the following changes to the above referenced solicitation:

I. Questions:

- Q1: Can you please provide us with a narrative or example of how you will pay for compost?
A1: The City is not paying for compost. We are paying for cubic yards of biosolids used in the composting process which will be measured with the load scan when removed from the staging area. Once the composted material has met PFRP requirements and moved off site the contractor can invoice the City for the quantity of biosolids used.
- Q2: Will the contractor be allowed to bring in soils as bulking agents to blend with compost, composted overs and sludge?
A2: No, soils as bulking agents are not allowed on site. The compost product will need to be moved off site before blending or mixing.
- Q3: At what point does the city no longer consider material biosolids in reference to the storage cap of 50,000 yards? In a scenario where a contractor has for example 30,000 yards stored on hand for land ap, 20,000 yards in finished compost and then 15,000 yards in different stages of composting but has not yet achieved full pfrp to be considered class A. Does the city view this as 45,000 yard(30K + 15k)s on hand or 65,000 yards(30K+20K+15K) on hand meaning the contractor would be in excess of the 50,000 yard limit.
A3: The 50,000 cubic yard storage cap applies to Class B biosolids only.
- Q4: Which contractor New or Incumbent, will be paid for material that is produced off the belt press during the 120 day transition period?
A4: The transition period does not mean the current contractor and the new contractor will both be working with biosolids on the same site. The current contract expires November 17, 2016 and the City does not anticipate asking the contractor to hold over. The new contractor will start biosolids processing on December 1, 2017.
- Q5: How much lead time before December 1, 2016 will the contractor be given to install the scanner and possibly small shed to house operator and scanning interface?
A5: Any request for mobilization of equipment prior to December 1, 2016 can be included in the response under Tab 5, Schedule and Timeline.
- Q6: Can the location of water that is available to the contractor and the size of the line please be indicated on attachment D? Is this water potable?
A6: See the attached diagram.

II. ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.



APPROVED BY:

Danielle Lord, Corporate Purchasing Manager
Purchasing Office, (512) 974-2298

4/26/16

Date

ACKNOWLEDGED BY:

Michael Schwartz, Vice President



May 17, 2016

Name

Authorized Signature

Date

RETURN ONE COPY OF THIS ADDENDUM TO THE PURCHASING OFFICE, CITY OF AUSTIN, WITH YOUR RESPONSE OR PRIOR TO THE SOLICITATION CLOSING DATE. FAILURE TO DO SO MAY CONSTITUTE GROUNDS FOR REJECTION.



**ADDENDUM
CITY OF AUSTIN, TEXAS**

Solicitation: RFP CDL2003

Addendum No: 4

Date of Addendum: 4/27/2016

This addendum is to incorporate the following changes to the above referenced solicitation:

- I. **Extension:** The proposal due date is hereby extended until Thursday, May 19, 2016 at 2:00 PM local time.
- II. **ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.**

APPROVED BY: _____

Joshua Pace, Buyer II
Purchasing Office, (512) 974-2298

4/27/16
Date

ACKNOWLEDGED BY:

Michael Schwartz, Vice President
Name

Michael Schwartz
Authorized Signature

May 17, 2016
Date

RETURN ONE COPY OF THIS ADDENDUM TO THE PURCHASING OFFICE, CITY OF AUSTIN, WITH YOUR RESPONSE OR PRIOR TO THE SOLICITATION CLOSING DATE. FAILURE TO DO SO MAY CONSTITUTE GROUNDS FOR REJECTION.

Section 0605: Local Business Presence Identification

A firm (Offeror or Subcontractor) is considered to have a Local Business Presence if the firm is headquartered in the Austin Corporate City Limits, or has a branch office located in the Austin Corporate City Limits in operation for the last five (5) years, currently employs residents of the City of Austin, Texas, and will use employees that reside in the City of Austin, Texas, to support this Contract. The City defines headquarters as the administrative center where most of the important functions and full responsibility for managing and coordinating the business activities of the firm are located. The City defines branch office as a smaller, remotely located office that is separate from a firm's headquarters that offers the services requested and required under this solicitation.

OFFEROR SHALL SUBMIT THE FOLLOWING INFORMATION FOR EACH LOCAL BUSINESS (INCLUDING THE OFFEROR, IF APPLICABLE) TO BE CONSIDERED FOR LOCAL PRESENCE.

NOTE: ALL FIRMS MUST BE IDENTIFIED ON THE MBE/WBE COMPLIANCE PLAN OR NO GOALS UTILIZATION PLAN (REFERENCE SECTION 0900).

USE ADDITIONAL PAGES AS NECESSARY

OFFEROR:

Name of Local Firm:	Synagro of Texas-CDR, Inc.	
Physical Address:	2210 S. FM 973, Austin, TX 78725	
Is your headquarters located in the Corporate City Limits?	Yes	No
OR		
Has your branch office been located in the Corporate City Limits for the last 5 years?	Yes	No
Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

SUBCONTRACTOR(S):

Name of Local Firm:		
Physical Address:		
Is your headquarters located in the Corporate City Limits? (circle one)	Yes	No
OR		
Has your branch office been located in the Corporate City Limits for the last 5 years	Yes	No
Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

SUBCONTRACTOR(S):

Name of Local Firm:		
Physical Address:		
Is your headquarters located in the Corporate City Limits? (circle one)	Yes	No
OR		
Has your branch office been located in the Corporate City Limits for the last 5 years	Yes	No
Will your business be providing additional economic development opportunities created by the contract award? (e.g., hiring, or employing residents of the City of Austin or increasing tax revenue?)	Yes	No

Section 0700: Reference Sheet

Responding Company Name Synagro of Texas-CDR, Inc.

The City at its discretion may check references in order to determine the Offeror's experience and ability to provide the products and/or services described in this Solicitation. The Offeror shall furnish at least 3 complete and verifiable references. References shall consist of customers to whom the offeror has provided the same or similar services within the last 5 years. References shall indicate a record of positive past performance.

1. Company's Name City of Austin
Name and Title of Contact Ken Lockard, Site Superintendent
Project Name Biosolids Hauling and Land Application Contract
Present Address Hornsby Bend Biosolids Management Plant, 2210 FM 973
City, State, Zip Code Austin, TX 78725
Telephone Number (512) 972-1953 Fax Number (512) 972-1900
Email Address kenneth.lockard@austintexas.gov

2. Company's Name Charlotte County, FL
Name and Title of Contact Richard Allen, Solid Waste Operations Manager
Project Name Charlotte County Bio-Recycling Center Composting Facility
Present Address 25550 Harbor View Road, Suite 2
City, State, Zip Code Port Charlotte, FL 33980-2503
Telephone Number (941) 764-4393 Fax Number (941) 764-4399
Email Address richard.allen@charlottefl.com

3. Company's Name City of Fresno, CA
Name and Title of Contact Mr. Rick Staggs, Chief of Operations
Project Name Central Valley Compost Facility
Present Address 5607 W. Jensen Avenue
City, State, Zip Code Fresno, CA 93706
Telephone Number (559) 621-5190 Fax Number (559) 498-1700
Email Address rick.staggs@fresno.gov

Section 0815: Living Wages Contractor Certification

Company Name: Synagro of Texas-CDR, Inc.

Pursuant to the Living Wages provision (as defined in Section 0400, Supplemental Purchase Provisions) the Contractor is required to pay to all employees directly assigned to this City contract a minimum Living Wage equal to or greater than \$13.03 per hour.

The below listed employees of the Contractor who are directly assigned to this contract are compensated at wage rates equal to or greater than \$13.03 per hour. If no employees will be directly assigned to the resulting Contract indicate in the "Employee Name" section below "none directly assigned".

Employee Name	Employee Job Title
Alex Aquino	Equipment Operator
Omar Malvaez	Equipment Operator
Julio Serrano	Equipment Operator
Gerardo Gonzalez	Operator
Eloy Talamantes	Operator
Rod Grant	Project Manager

USE ADDITIONAL PAGES AS NECESSARY

(1) All future employees assigned to this Contract will be paid a minimum Living Wage equal to or greater than \$13.03 per hour.

(2) Our firm will not retaliate against any employee claiming non-compliance with the Living Wage provision.

A Contractor who violates this Living Wage provision shall pay each affected employee the amount of the deficiency for each day the violation continues. Willful or repeated violations of the provision or fraudulent statements made on this certification may result in termination of this Contract for Cause and subject the firm to possible suspension or debarment, or result in legal action.

Section 0835: Non-Resident Bidder Provisions

Company Name: Synagro of Texas-CDR, Inc.

- A. Offeror shall answer the following questions in accordance with Vernon's Texas Statutes and Codes Annotated Government Code 2252.002, as amended:

Is the Bidder/Offeror that is making and submitting this Bid/Offer a "Resident Bidder/Offeror" or a "non-resident Bidder/Offeror"?

Answer: Resident Bidder/Offeror

- (1) Texas Resident Bidder/Offeror- A Bidder/Offeror whose principle place of business is in Texas and includes a Contractor whose ultimate parent company or majority owner has its principal place of business in Texas.
- (2) Nonresident Bidder/Offeror- A Bidder/Offeror who is not a Texas Resident Bidder/Offeror.
- B. If the Bidder/Offeror is a "Nonresident Bidder/Offeror" does the state, in which the Nonresident Bidder/Offeror's principal place of business is located, have a law requiring a Nonresident Bidder/Offeror of that state to Bid/Offer a certain amount or percentage under the Bid/Offer of a Resident Bidder/Offeror of that state in order for the nonresident Bidder/Offeror of that state to be awarded a Contract on such Bid/Offer in said state?

Answer: _____ Which State: _____

- C. If the answer to Question B is "yes", then what amount or percentage must a Texas Resident Bidder/Offeror Bid/Offer under the Bid/Offer price of a Resident Bidder/Offeror of that state in order to be awarded a Contract on such Bid/Offer in said state?

Answer: _____

Section 0900: Minority- and Women-Owned Business Enterprise (MBE/WBE)

No Goals Form

SOLICITATION NUMBER:	CDL20023
PROJECT NAME:	Beneficial Reuse of Biosolids

The City of Austin has determined that no goals are appropriate for this project. Even though goals were not assigned for this solicitation, the Offeror is required to comply with the City's MBE/WBE Procurement Program, if areas of Subcontracting are identified.

If any service is needed to perform the Contract and the Offeror does not perform the service with its own workforce or if supplies or materials are required and the Offeror does not have the supplies or materials in its inventory, the Offeror shall contact the Small and Minority Business Resources Department (SMBR) at (512) 974-7600 to obtain a list of MBE and WBE firms available to perform the service or provide the supplies or materials. The Offeror must also make a Good Faith Effort to use available MBE and WBE firms. Good Faith Efforts include but are not limited to contacting the listed MBE and WBE firms to solicit their interest in performing on the Contract, using MBE and WBE firms that have shown an interest, meet qualifications, and are competitive in the market; and documenting the results of the contacts.

Will Subcontractors, Sub-consultants, or Suppliers be used to perform portions of this Contract? (Check the box that is applicable below and follow the instructions as indicated; only check one box.)

- ☒ If **NO**, please sign the No Goals Form and submit it with your Offer.
- ☐ If **YES**, please contact SMBR to obtain further instructions and an availability list and perform Good Faith Efforts. Complete and submit the No Goals Form and the No Goals Utilization Plan with your Offer in a separate sealed envelope.

After Contract award, if your firm Subcontracts any portion of the Contract, it is a requirement to complete Good Faith Efforts and the No Goals Utilization Plan, listing any Subcontractor, Sub-consultant, or Supplier. Return the completed Plan to the Project Manager or the Contract Manager.

I understand that even though goals were not assigned, I must comply with the City's MBE/WBE Procurement Program if Subcontracting areas are identified. I agree that this No Goals Form and No Goals Utilization Plan shall become a part of my Contract with the City of Austin.

Synagro of Texas-CDR, Inc.

Company Name

Michael Schwartz, Vice President

Name and Title of Authorized Representative (Print or Type)



May 17, 2016

Signature

Date

Minority- and Women-Owned Business Enterprise (MBE/WBE) Procurement Program No Goals Utilization Plan
(Please duplicate as needed)

SOLICITATION NUMBER:	CDL2003
PROJECT NAME:	Beneficial Reuse of Biosolids

PRIME CONTRACTOR / CONSULTANT COMPANY INFORMATION

Name of Contractor/Consultant	Synagro of Texas-CDR, Inc.		
Address	435 Williams Court, Suite 100		
City, State Zip	Baltimore, MD 21220		
Phone Number	443-489-9000	Fax Number	443-489-9042
Name of Contact Person	Roderick Grant, Operations Manager (512-745-4051 direct)		
Is Company City certified?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> MBE/WBE Joint Venture <input type="checkbox"/>		

I certify that the information included in this No Goals Utilization Plan is true and complete to the best of my knowledge and belief. I further understand and agree that the information in this document shall become part of my Contract with the City of Austin.

Michael Schwartz, Vice President

Name and Title of Authorized Representative (Print or Type)

Signature

May 17, 2016

Date

Provide a list of all proposed Subcontractors / Sub-consultants / Suppliers that will be used in the performance of this Contract. Attach Good Faith Effort documentation if non MBE/WBE firms will be used.

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Ethics / Gender Code:	<input type="checkbox"/> Non-Certified	
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

Sub-Contractor / Sub-Consultant			
City of Austin Certified	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Ethics / Gender Code:	<input type="checkbox"/> Non-Certified	
Vendor ID Code			
Contact Person		Phone Number	
Amount of Subcontract	\$		
List commodity codes & description of services			

FOR SMALL AND MINORITY BUSINESS RESOURCES DEPARTMENT USE ONLY:

Having reviewed this plan, I acknowledge that the Offeror (HAS) or (HAS NOT) complied with City Code Chapter 2-9A/B/C/D, as amended.

Reviewing Counselor _____ Date _____ Director/Deputy Director _____ Date _____



Tab 2 – Business Organization and Capacity

A. COMPANY INFORMATION

Synagro of Texas-CDR, Inc. is the proposer for this contract with the City of Austin. We have office locations as follows:

Table 2.1 Synagro Office Locations

Corporate Office	Branch Office
435 Williams Court, Suite 100 Baltimore, MD 21220	2210 S. FM 973 Austin, TX 78725

Synagro of Texas-CDR, Inc. operates as a corporation and was incorporated in the State of Texas on June 28, 2000. We have been operating various biosolids and organics recycling projects throughout the state for 16 years. We are part of Synagro's broad family of companies and Synagro South, LLC is our parent company.

B. KEY PERSONNEL CONTACT INFORMATION

Synagro's key personnel who will be assigned to the awarded contract are:

Table 2.2 Key Personnel Contact Information

Name & Title	Telephone Number	E-Mail
Andrew Bosinger, VP of Strategic Accounts & Partnerships	(410) 271-1020	abosinger@synagro.com
Nick Caggiano, Director of Compost Operations	(859) 629-1026	ncaggiano@synagro.com
Craig Geyer, Sr. Operations Director	(520) 631-4982	cgeyer@synagro.com
Glenn Thompson, General Manager	(978) 302-5418	gthompson@synagro.com
Mark Vine, Texas Area Director	(832) 509-9167	mvine@synagro.com
Rod Grant, Operations Manager	(512) 745-4051	rgrant@synagro.com
Chuck Simmons, Technical Services Director	(256) 565-3374	csimmons@synagro.com
Craig Maultsby, Product Sales Manager	(512) 534-0755	cmaultsby@synagro.com

C. AUTHORIZED NEGOTIATOR

Synagro's authorized negotiator for contract terms and matters will be:





Andrew Bosinger, VP of Strategic Accounts & Partnerships
Synagro of Texas-CDR, Inc.
435 Williams Court, Suite 100
Baltimore, MD 21220
(410) 271-1020 mobile
(443) 489-9087 Office
abosinger@synagro.com

D. TCEQ CERTIFICATIONS AND PERMITS

The following TCEQ land application site permits issued to Synagro of Texas-CDR, Inc. are provided in Exhibit 2.1:

- Permit No. WQ0004441000
- Permit No. WQ0004451000
- Permit No. WQ0004671000
- Permit No. WQ0004723000

These permits are for land application of Class B biosolids at site(s) other than the Hornsby Bend facility. Land application at the Hornsby Bend facility will be performed by Synagro in compliance with the City of Austin's permits.

E. COMPANY'S ORGANIZATIONAL CAPACITY

As the City of Austin's biosolids management partner for the past eight years, Synagro is eminently familiar with the requirements of this project, the City's biosolids management needs and have demonstrated the organizational capacity to perform the requested scope of work. We are familiar with and consistently in compliance with the Supplemental Purchasing Provisions.

Synagro's mission and core business purpose is focused on the management of municipal biosolids, including project development, operations, and biosolids product recycling. This focus has resulted in Synagro being North America's leading provider of high-quality, cost-effective biosolids management and beneficial use services. We have been successfully meeting the biosolids management needs of hundreds of generators for more than 37 years. This includes providing land application, compost





and compost marketing services for the City of Austin's biosolids for the past eight years. Synagro's experience in all areas of biosolids management is unparalleled.

Synagro annually manages over 12 million tons of biosolids and other organic by-products for more than 650 generators (including 600 municipal clients). Synagro employs a team of over 750 professional engineers, soil scientists, agronomists, construction managers, financial managers and the largest, most diverse operational staff in the industry. Our team is dedicated to working with our clients to find the right solution to their organic residuals management challenges. Synagro, and its various subsidiaries, have been at the forefront of the environmental movement to safely process and beneficially market organic residual materials.

Synagro offers virtually all commercially viable processing options and product marketing channels for biosolids and organic residuals including:

- Heat drying and pelletization
- Incineration
- Composting
- Alkaline stabilization
- Digestion
- Dewatering (installation & operation)
- Mobile dewatering
- Land application and reclamation
- Lagoon and digester cleaning
- Rail transportation
- Product marketing

This ability to offer the complete range of biosolids options is unique to Synagro and allows us to develop projects that fit a municipality's unique needs. In addition, this breadth of experience provides us with an in-depth understanding of biosolids that other companies simply do not possess.

As the industry leader in providing various forms of project delivery options, we have extensive experience developing and managing biosolids facility design-build-operate (DBO) and design-build-own-operate (DBOO) projects. We currently operate nine heat-drying facilities, three thermal processing facilities, five composting facilities, over a dozen alkaline stabilization facilities, and approximately 70 permanent and mobile dewatering facilities.





Synagro is owned by EQT, a Swedish private equity firm with over \$20 billion in assets under management, and is part of EQT Infrastructure II, a fund with a hard cap of over \$2 billion. This fund is dedicated to creating improved value through investing capital and support resources to companies like Synagro that provide vital infrastructure services. EQT is a strong, stable, financial partner with a stellar performance history and an emphasis on long-term, sustainable investment.

F. INSURANCE PROVIDER LETTER

A letter from Aon Risk Services, Inc. confirming our capability of meeting insurance requirements is provided in Exhibit 2.2.

G. BONDING AGENT LETTER

A letter from Aon Risk Services, Inc. confirming our bonding capability is provided in Exhibit 2.3.





Exhibit 2.1

TCEQ Permits



Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 29, 2009

Mr. Greg Roque
Synagro of Texas-CDR, Inc.
1002 Village Square Road, Suite C
Tomball, Texas 77375

Re: Synagro of Texas-CDR, Inc., Individual Permit No. WQ0004441000
CN601307630, RN102994514

Dear Mr. Roque:

Enclosed is a copy of the above referenced permit for your beneficial land use site. The permit contains several general and special conditions for the operation of the site. In addition, the operation activities of the site must be consistent with those represented in the application.

As required by the 30 Texas Administrative Code Chapter 312, you must submit copies of the results from soil sampling on an annual basis. These sample results should be filed with both the Texas Commission on Environmental Quality (TCEQ) in Austin and the appropriate TCEQ Regional Office and maintained in your records for five years. In addition, you must submit the Annual Sludge Report Summary Sheet by September 30th of each year. Please pay associated fees promptly when billed by the TCEQ each year during the term of this permit.

This permit will be in effect for five years from the date of approval or for the term stated on the permit. To renew this permit, an application for this action must be filed with the TCEQ at least 180 days prior to the expiration date.

If you have any questions, please contact Mr. Bijaya Chalise of the TCEQ's Wastewater Permitting Section at (512) 239-4671, or if by correspondence include MC-148 in the letterhead address below.

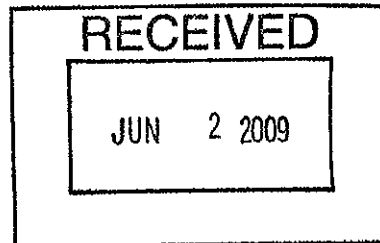
Sincerely,

A handwritten signature in cursive script that reads "L'Stepney".

L'Oreal W. Stepney, P.E., Director
Water Quality Division

LWS/BC/evm

Enclosures



ccs: TCEQ, Region 12

The Honorable Al Jemison, Colorado County Judge, P.O. Box 236, Columbus, Texas 78934
The Honorable John Murrile, Wharton County Judge, 309 East Milam, Room 600, Wharton, Texas 77488

Buddy Garcia, *Chairman*
Larry R. Soward, *Commissioner*
Bryan W. Shaw, Ph.D., *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 29, 2009

Greg Roque
Synagro of Texas-CDR, Inc.
1002 Village Square Road, Suite C
Tomball, Texas 77375-4489

RE: Synagro of Texas-CDR, Inc.
Permit No. WQ0004441000

This letter is your notice that the Texas Commission on Environmental Quality (TCEQ) executive director (ED) has issued final approval of the above-named application. According to 30 Texas Administrative Code (TAC) Section 50.135 the approval became effective on the date the ED signed the permit or other approval. A copy of the final approval is enclosed and cites the effective date.

You may file a **motion to overturn** with the chief clerk. A motion to overturn is a request for the commission to review the TCEQ executive director's approval of the application. Any motion must explain why the commission should review the TCEQ executive director's action. According to 30 TAC Section 50.139 an action by the ED is not affected by a motion to overturn filed under this section unless expressly ordered by the commission.

A motion to overturn must be received by the chief clerk within 23 days after the date of this letter. An original and 7 copies of a motion must be filed with the chief clerk in person or by mail. The Chief Clerk's mailing address is Office of the Chief Clerk (MC 105), TCEQ, P.O. Box 13087, Austin, Texas 78711-3087. On the same day the motion is transmitted to the chief clerk, please provide copies to Robert Martinez, Environmental Law Division Director (MC 173), and Blas Coy, Public Interest Counsel (MC 103), both at the same TCEQ address listed above. If a motion is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

You may also request **judicial review** of the ED's approval. According to Texas Water Code Section 5.351 a person affected by the ED's approval must file a petition appealing the ED's approval in Travis County district court within 30 days after the effective date of the approval. Even if you request judicial review, you still must exhaust your administrative remedies, which includes filing a motion to overturn in accordance with the previous paragraphs.

Individual members of the public may seek further information by calling the TCEQ Office of Public Assistance, toll free, at 1-800-687-4040.

Sincerely,

A handwritten signature in dark ink, appearing to read "LaDonna Castañuela".

LaDonna Castañuela
Chief Clerk

LDC/ka

cc: Blas Coy, TCEQ Public Interest Counsel (MC 103)



TCEQ PERMIT NO. WQ0004441000

Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
04441 issued September 19,
2003.

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of Health and Safety Code, Chapter 312 of Texas Administrative Code.

I. PERMITTEE:

Synagro of Texas-CDR, Inc.
1002 Village Square Road, Suite C
Tomball, Texas 77375

RECEIVED

JUN 2 2009

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) sewage sludge

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge at an annual rate not to exceed 6.02 dry tons/acre/year on Fields 2A, 4A and 19A, 7.17 dry tons/acre/year on Field 3A, 9.98 dry tons/acre/year on Fields 5A, 6A, 6B, 6C, 31B and 31C, 8.29 dry tons/acre/year on Fields 7A, 9A, 10A, and 35A, 6.59 dry tons/acre/year on Fields 8A, 20A, 20B, 21A, 21B, 23A and 24A, 7.14 dry tons/acre/year on Fields 9B, 11A, 11B, 11C, 11D, 12B, 26A, 27A, 28A, and 34A, 7.71 dry tons/acre/year on Fields 12A, 13A, 36B, 7.95 dry tons/acre/year on Field 14A, 9.13 dry tons/acre/year on Field 15A, 10.04 dry tons/acre/year on Fields 16A, 17B, 18A, and 18B, 8.44 dry tons/acre/year on Fields 17A, 29A, 29B, 31A and 33A, 8.86 dry tons/acre/year on Fields 30A, and 36A, 5.85 dry tons/acre/year on Fields 30B, and 30C, 7.01 dry tons/acre/year on Field 32A, and 7.63 dry tons/acre/year on Fields 37A and 37B on 4914.35 acres located within approximately 6,228 acres at this site.

Location: The sewage sludge land application site is located adjacent to the north side of Farm-to-Market Road 1093, extending north to Farm-to-Market Road 3013, approximately 4.5 miles east of the City of Eagle Lake, and immediately west and south of the San Bernard River in Colorado and Wharton County, Texas.
(See Attachment A).

SIC Code: 0139

Drainage Basin: The land application site is located in the drainage area of San Bernard River above tidal in Segment No. 1302 of the Brazos-Colorado Coastal River Basin.

This permit and the authorization contained herein shall expire at midnight five years from the date of issuance listed below.

ISSUED DATE: MAY 19 2009

For the Commission

IV. GENERAL REQUIREMENTS:

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner which protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.
- B. Application for renewing this permit shall be submitted by the permittee at least 180 days prior to expiration date of this permit.
- C. WWTP sludge
 1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.
 2. Permittee shall not accept the sewage sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I or other method, which receives the prior approval of the TCEQ for the contaminants listed in Table 1 of 40 CFR Section 261.24.
 3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

TABLE 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

4. When the total aggregate amount of any metal in Table 2 (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in table 2 below, only sludge with metal levels at or below those shown Table 3 below can be applied at the site. To compute this criteria, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration (milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge, septage and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP sludge from any source(s) other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team(MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate the sludge from the proposed new source(s) meets the requirements of this permit. The permittee must provide certifications from each source that the sludge meets the requirement for a Process to Significantly Reduce Pathogens (PSRP) or other alternatives. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.
- D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:
 1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;

2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.
- E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.

V. OPERATIONAL REQUIREMENTS:

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and Title 40 of the Code of Federal Regulations (40 CFR) Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES:

- A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Sludge must not be applied to land that is flooded, frozen or snow-covered to prevent entry of bulk sewage sludge into wetland or other waters in the State.
- C. Sludge shall be land applied in a manner which complies with Management Requirements in accordance with 30 TAC Section 312.44 including maintaining the following buffer zones for each application area:

a.	Established school, institution, business or residence	750 feet
b.	Public water supply well, intake, public water supply spring or similar source, public water treatment plant, or public water supply elevated or ground storage tank	500 feet
c.	Solution channels, sinkholes, or other conduits to groundwater	200 feet
d.	Waters in the State of Texas - when sludge is not incorporated	200 feet
e.	Waters in the State of Texas - when sludge is incorporated within 48 hours of application and a vegetated cover is established	33 feet
f.	Private water supply well	150 feet
g.	Public right of way	50 feet

h.	Property boundary	50 feet
i.	Irrigation conveyance canals	10 feet

- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge can not be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and that protect the quality of the surface water and the soils in the unsaturated zone. In addition the following conditions must be met:
1. Sludge must be applied uniformly over the surface of the land.
 2. Sludge must not be applied to areas where permeable surface soils are less than 2 feet thick.
 3. Sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated.
 4. Sludge must not be applied to any areas having a slope in excess of 8%.
 5. Where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected.
 6. The site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible.
 7. Sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site.
 8. Sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises on which the land application unit is located stating that a beneficial land use application site is located on the premises.

VII. PATHOGEN CONTROL:

- A. All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following methods to ensure that the sludge meets either the Class A or Class B pathogen requirements.

1. Six alternatives are available to demonstrate compliance with Class A sewage sludge.

The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. Below are the additional requirements necessary to meet the definition of a Class A sludge.

Alternative 1 The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC §312.82(a)(2)(A) for specific information.

Alternative 2 The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(iv-vi) for specific information.

Alternative 4 The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

Alternative 5 Processes to Further Reduce Pathogens (PFRP) - Sewage sludge that is used or disposed of shall be treated in one of the processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of shall be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

2. Three alternatives are available to demonstrate compliance with Class B criteria for sewage sludge.

Alternative 1

- i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
- ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2

Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must provide a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U. S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Sewage sludge shall be treated in an equivalent process that has been approved by the U. S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U. S. Environmental Protection Agency final guidance;
- iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. The executive director will accept from the U. S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.
2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.
3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.
4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.
5. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.

6. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.
7. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
9. Land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

- A. All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives for Vector Attraction Reduction.

- Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].
- Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].
- Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].
- Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. This test may only be run on sludge with a total percent solids of 2.0% or less [30 TAC §312.83(b)(4)].
- Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].
- Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container [30 TAC §312.83(b)(6)].

- Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(7)].
- Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(8)].
- Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].
- Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS:

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Sections IV.C.5 and IV.C.6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the calculations must use Table 2 in Section IV.C.4 to provide a volume weighted average of all sludge that will be applied during the current monitoring period.
- B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.
- D. If WWTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.

- E. All metal constituents and Fecal coliform or Salmonella sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and/or shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge and domestic septage land application permits:
 - 1. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or 30 TAC §312.47(a)(5)(A)(ii), which ever is applicable.
 - 2. The location, by street address, and specific latitude and longitude, of each site on which sewage sludge (including WTP sludge and/or domestic septage if applicable) is applied.
 - 3. The number of acres in each site on which bulk sludge is applied.
 - 4. The dates, times and quantities of sludge (and/or domestic septage if applicable) is applied to each site.
 - 5. The cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site.
 - 6. The total amount of sludge applied to each site in dry tons.
 - 7. A description of how the management practices listed above in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(viii).
- B. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; which also meets Class A pathogen requirements in 30 TAC §312.82(a), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
 - 1. A description of how the vector attraction reduction requirements are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- C. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

1. A description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x).
 2. A description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- D. For Sewage Sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
1. A description of how the requirements to obtain information from the generators of sludge in 30 TAC §312.42(e) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(vi).
 2. A description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x).
 3. A description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).

XI. REPORTING REQUIREMENTS:

- A. Permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1 of previous year through August 31 of current year. Additionally an "Annual Sludge Summary Report Form" (Attachment C) should be filled out and submitted with the annual report. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47.
1. Annual Sludge Summary Sheet (a blank form is provided in Attachment C of this permit) with following information. This information must be submitted by all permittees:
 - i. Permit number.
 - ii. The site location (address or latitude and longitude).
 - iii. Operator address, contact person name, telephone number, and fax number.
 - iv. Amount of sludge disposal dry weight (lbs/acre) at each disposal site. Report domestic septage quantities in gallons.
 - v. Number of acres on which sludge and septage is land applied.
 - vi. Vegetation grown and number of cuttings.

- vii. Other items listed in the summary sheet.
2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:
 - i. Date and time of each sludge application.
 - ii. All four certification statements required under 30 TAC §312.47(a)(5)(B).
 - iii. A description of how the information from the sludge generator was obtained, as per 30 TAC §312.42(e).
 - iv. A description of how each of the management practices in 30 TAC §312.44 were met for this site.
 - v. A description of how the site restrictions in 30 TAC §312.82(b)(3) were met for the site.
 - vi. If the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met, a description of how this was done.
 - vii. Soil and sludge test reports, as required in Section XII of this permit.
 - viii. Calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of application, as identified in Section IV.C.4, or similar form).
 3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4 of this permit:
 - i. Information per 30 TAC §312.47(a)(3)(B) for Class A sludge.
 - ii. Information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
 4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4 of this permit the permittee shall provide the following additional information:
 - i. Date and time of each sludge application.
 - ii. The information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report.
 - iii. The cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.
 5. Permittee shall submit evidence that the permit holder is complying with the nutrient management plan developed by a **certified nutrient management specialist** in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.

- B. Permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, a "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The quarterly report must include all the information listed below. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47.
1. The source, quality, and quantity of sludge applied to the land application unit.
 2. The location of the land application unit, either in terms of longitude and latitude or by physical address, including the county.
 3. The dates of delivery of Class B sludge.
 4. The dates of application of Class B sludge.
 5. The cumulative amount of metals applied to the land application unit through the application of Class B sludge.
 6. Crops grown at the land application unit site.
 7. The suggested agronomic application rate for the Class B sludge.

XII. SOIL SAMPLING:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45 day time-frame each year, or by an approved sampling plan and analyzed within 30 days of procurement.

The permittee must monitor the soil-sludge mixture for the site as follows using soil sampling requirements described in 30 TAC §312.11(d)(2) and (3):

	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0"-6"	6"-24"
1	Nitrate Nitrogen (NO ₃ -N, mg/kg)		1 per year	X	X
2	Ammonium Nitrogen (NH ₄ -N, mg/kg)		1 per year	X	X
3	Total Nitrogen (TKN, mg/kg)	1	1 per year	X	X
4	Phosphorus (plant available, mg/kg)	2	1 per year	X	X
5	Potassium (plant available, mg/kg)	2	1 per year	X	X
6	Sodium (plant available, mg/kg)	2	1 per year	X	X
7	Magnesium (plant available, mg/kg)	2	1 per year	X	X
8	Calcium (plant available, mg/kg)	2	1 per year	X	X
9	Electrical Conductivity	3	1 per year	X	X
10	Soil Water pH (S.U.)	4	1 per year	X	X
11	Total Arsenic (mg/kg)	*	1 per 5 years	X	NA
12	Total Cadmium (mg/kg)	*	1 per 5 years	X	NA
13	Total Chromium (mg/kg)	*	1 per 5 years	X	NA
14	Total Copper (mg/kg)	*	1 per 5 years	X	NA
15	Total Lead (mg/kg)	*	1 per 5 years	X	NA
16	Total Mercury (mg/kg)	*	1 per 5 years	X	NA
17	Total Molybdenum (mg/kg)	*	1 per 5 years	X	NA
18	Total Nickel (mg/kg)	*	1 per 5 years	X	NA
19	Total Selenium (mg/kg)	*	1 per 5 years	X	NA
20	Total Zinc (mg/kg)	*	1 per 5 years	X	NA

1. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
 2. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
 3. Electrical Conductivity (EC) - determine from extract of 2:1 (volume/volume) water/soil mixture and expressed in ds/m (same as mmho/cm).
 4. Soil pH must be analyzed by the electrometric method in "Test Methods for Evaluating Solid Waste," EPA SW-846, 40 CFR 260.11; method 9045C - determine from extract of 2:1 (volume/volume) water/soil mixture.
- * Analysis for metals in sludge and soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste," EPA SW-846; method 3050.

XIII. STANDARD PROVISIONS:

- A. This permit is granted in accordance with the Texas Water Code, Health and Safety Code, and the rules and other Orders of the Commission and the laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided to the TCEQ Regional Office (MC Region 12) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in the Standard Provision B, or any required information not submitted or submitted incorrectly, shall be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee will comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.
- G. The permittee is subject to the provisions of 30 TAC §305.125.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. This permit does not become a vested right in the permit holder.
- J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.

XIV. SPECIAL PROVISIONS:

- A. Maximum annual sludge application rate shall not exceed the application rate for each individual field as in the table below, and shall be land applied at a frequency proposed in the application. Agronomic loading rates shall be calculated on an annual basis to ensure that nutrient balances are not exceeded.

FIELD NUMBER(S)	APPLICATION RATE (in dry tons per acre per year)
2A, 4A, 19A	6.02
3A	7.17
5A, 6A, 6B, 6C, 31B, 31C	9.98
7A, 9A, 10A, 35A	8.29
8A, 20A, 20B, 21A, 21B, 23A, 24A	6.59
9B, 11A, 11B, 11C, 11D, 12B, 26A, 27A, 28A, 34A	7.14
12A, 13A, 36B	7.71
14A	7.95
15A	9.13
16A, 17B, 18A, 18B	10.04
17A, 29A, 29B, 31A, 33A	8.44
30A, 36A	8.86
30B, 30C	5.85
32A	7.01
37A, 37B	7.63

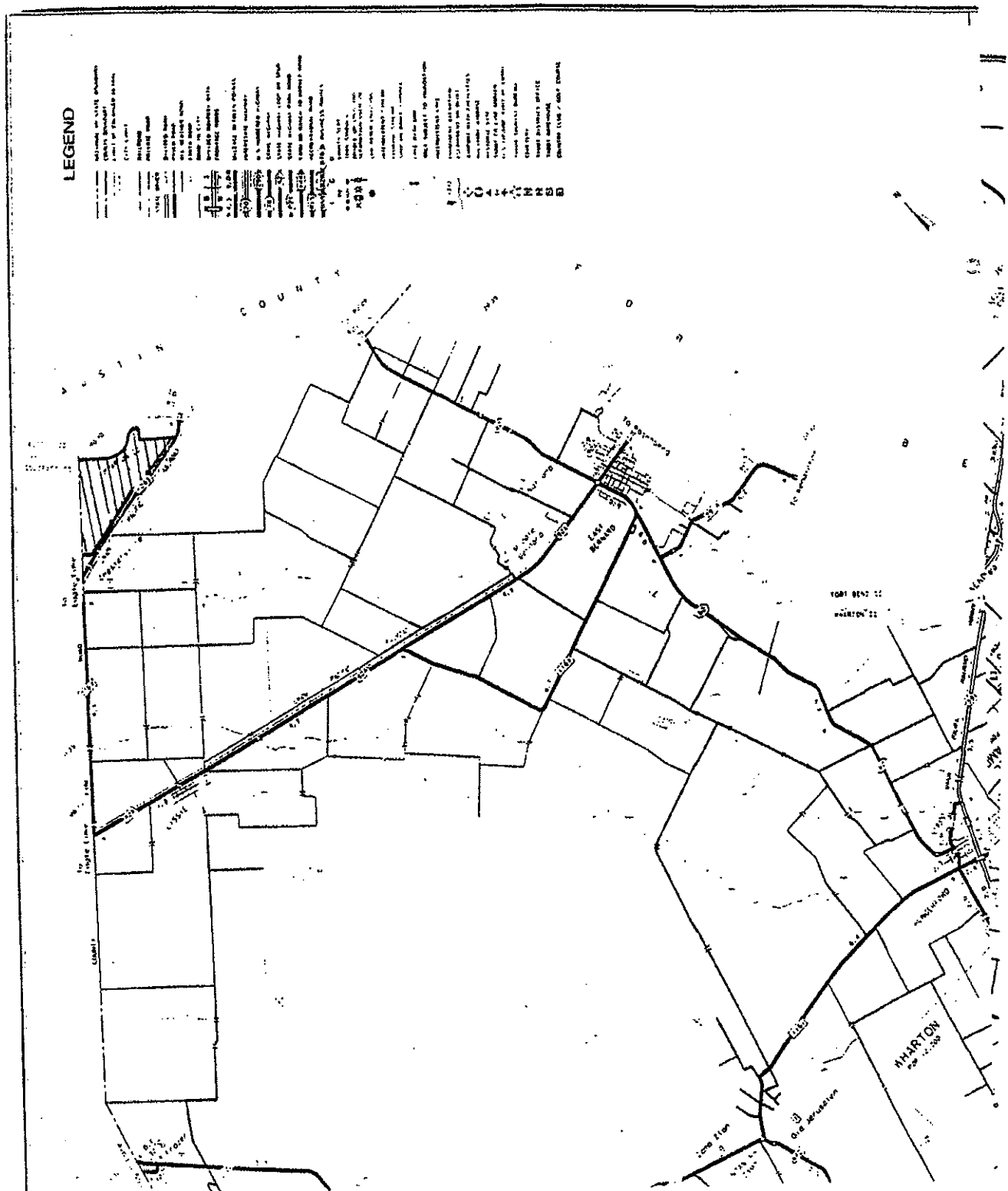
- B. For soils with permeability greater than 2 inches per hour and less than 20 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 4 feet of the treatment zone as demonstrated through the determination of presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 4 feet of the treatment zone.
- C. For soils with permeability less than 2 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 3 feet of the treatment zone as demonstrated through the determination of presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 3 feet of the treatment zone.

- D. The permittee should consider nutrient management practices appropriate for land application of sewage sludge and assess the potential risk for nitrogen and phosphorous to contribute to water quality impairment. Information and assistance on a certification program for Nutrient Management Specialists is available on the web at "<http://nmp.tamu.edu>".

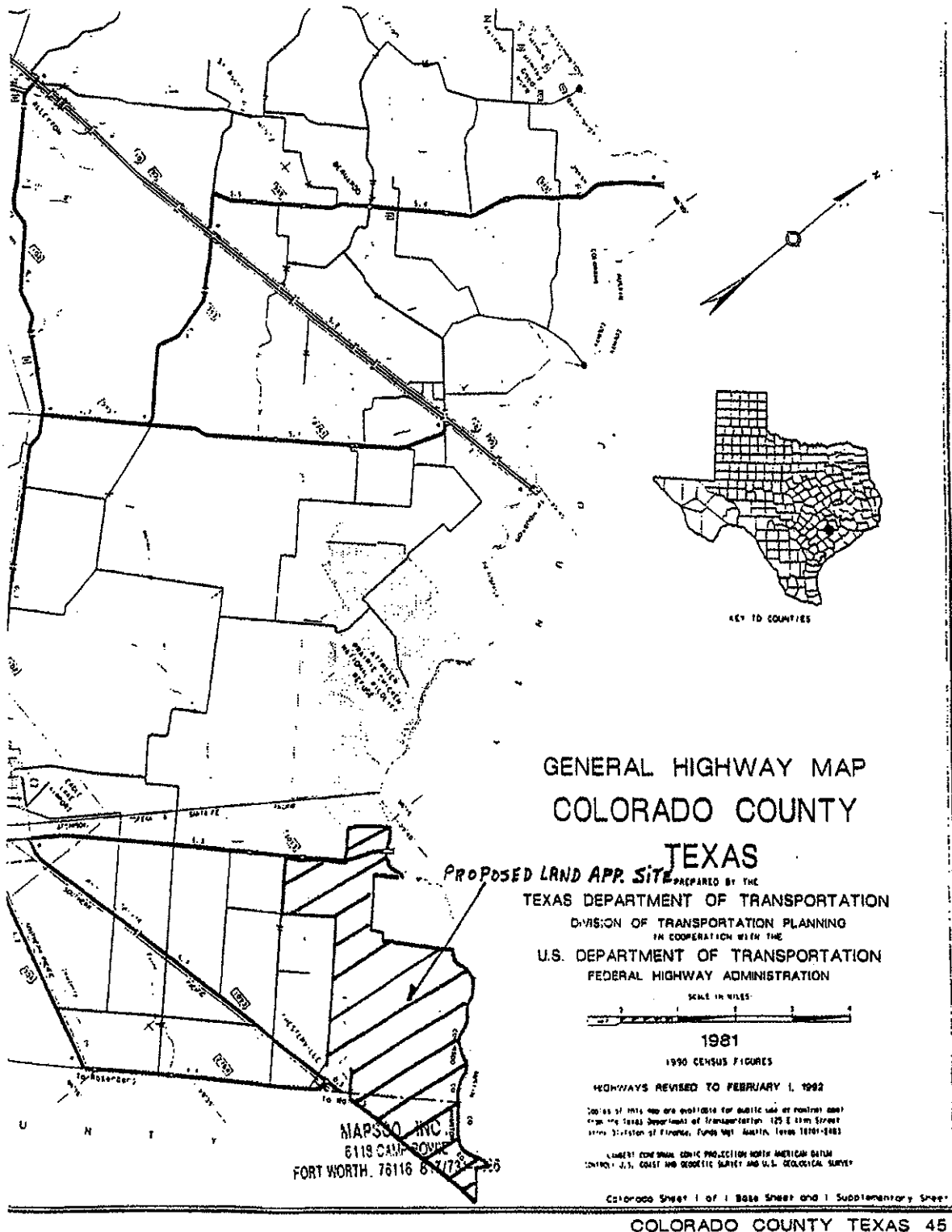
Nutrient management should be practiced within the context of the Natural Resources Conservation Service (NRCS) Code 590 Practice Standard which addresses the kind, source, placement, from, amount, timing and application method of nutrients and soil amendments. This is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/finalTX590_07_09_07.pdf". The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on Phosphorus Index is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/TXTechNote15_rev.pdf". The annual analysis of extractable phosphorus in soil samples should be conducted using the Mehlich III extraction with inductively coupled plasma.

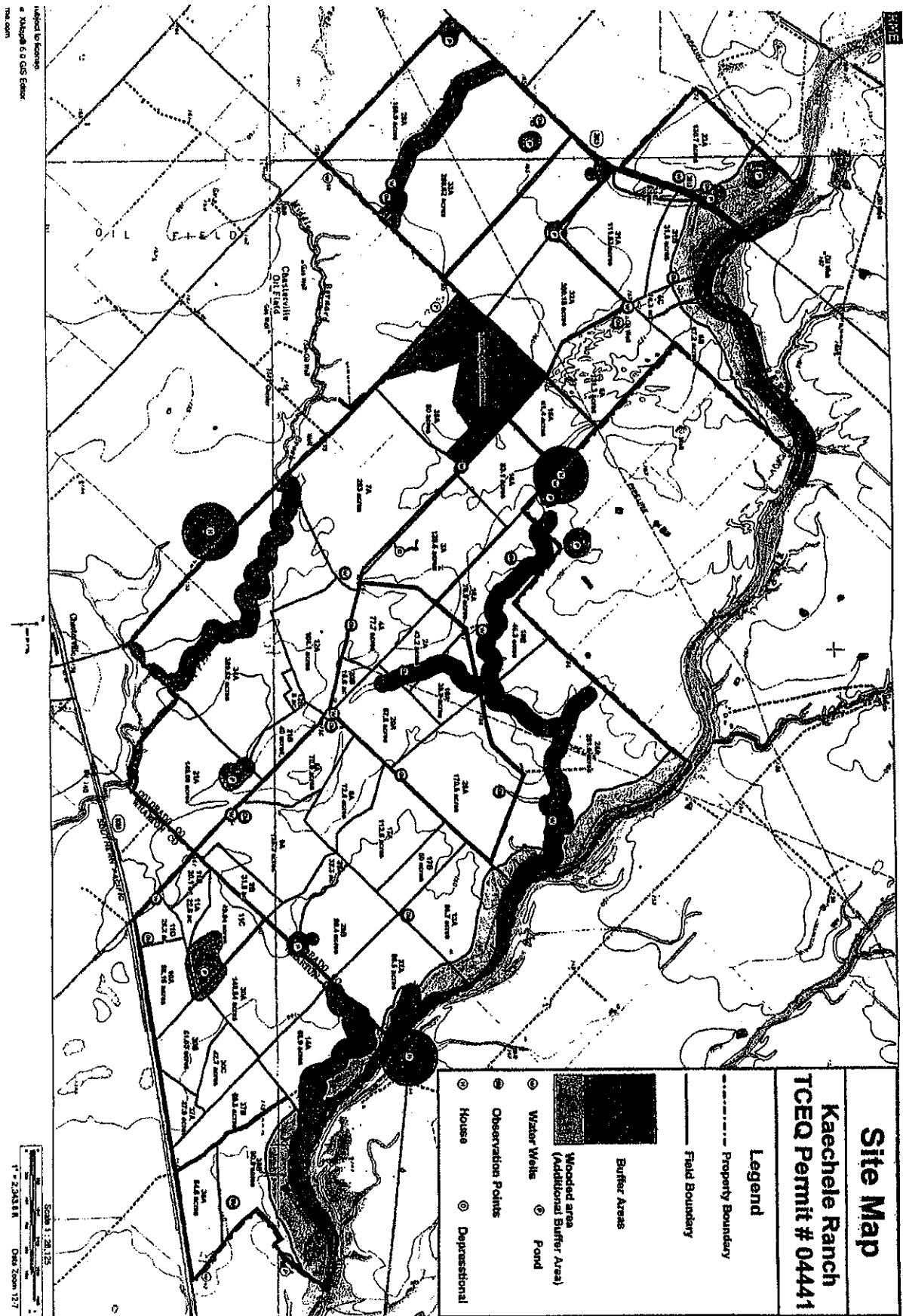
- E. Application areas (Field # s) must be distinguished from each other by use of flags, posting or fencing to ensure that is separated.

Attachment A1: General Highway Map for Wharton County



Attachment A2: General Highway Map for Colorado County





TCEQ

Attachment C

Annual Sludge Summary Report Form

- Note 1: If your site has more than one land application field, please submit a separate form for each field.
Note 2: Please note, in addition to the summary form, you need to submit all information as required by 30 TAC 312.48.
Note 3: If you operate other registered/permited sludge land application sites, a form should be submitted for each site.
Note 4: Also send one complete copy of your report and this form to the TCEQ regional office in your area.

For TCEQ Fiscal year _____; Reporting period from September 1, _____, August 31, _____

PERMIT NO.: _____**DATE:** _____**NAME OF PERMITTEE:** _____**MAILING ADDRESS:** _____**CONTACT PERSON:** Name: _____ Telephone No: _____**Field No. (if any):** _____ (Please submit a separate form for each field).

1. Sewage Sludge :
 - a. Land Applied : _____ dry tons/year
 - b. Disposed Via Monofill : _____ dry tons/year
 - c. Disposed Via MSW Landfill : _____ dry tons/year
2. Treated Domestic Septage - Land Applied : _____ gallons/year
 - a. Method used to treat Domestic Septage: _____
3. Water Treatment Plant Sludge:
 - a. Land Applied: _____ dry tons/year;
 - b. Dedicated Land Disposal: _____ dry tons/year
 - c. Disposed Via monofill : _____ dry tons/year

Class A sludge land applied : _____ dry tons / year

Acres used for Sludge Application/disposal at this site: _____ acresSite Vegetation (such as grass type etc) and # of cuttings: _____**Sewage Sludge only** – Please provide information regarding the following 3 items:

1. Does any of the sludge you have generated or received NOT MEET the concentration limits for the metals listed in Table 3 of "30 TAC §312.43 (b)"? Yes _____ No _____
2. Has your field/site reached or exceeded 90% of the cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"? Yes _____ No _____
3. Has sewage sludge been applied to the field/site after 90% of cumulative metal loading rates for any of the metals per Table 2 of " 30 TAC §312.43 (b)" been reached? Yes _____ No _____

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO :

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087



Attachment D

Quarterly Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.

Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Quarter _____ Reporting period from _____, to, _____

PERMIT NO.: _____

DATE: _____

NAME OF PERMITTEE: _____

MAILING ADDRESS: _____

CONTACT PERSON: Name: _____ Telephone No: _____

Field No: _____ (Submit separate form for each field, if site has two or more fields)

- Class B Sewage Sludge Land Applied: _____ dry tons / quarter
 - Treated Domestic Septage - Land Applied: _____ gallons / quarter
 - Method used to treat Domestic Septage: _____
 - Water Treatment Plant Sludge - Land Applied: _____ dry tons / quarter
 - Class A sludge land applied: _____ dry tons / quarter
- a. Acreage used for Sludge Application/disposal at this site: _____ acres
- b. Site Vegetation (such as grass type etc) and # of cuttings: _____
- c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)"? Yes _____ No _____
- d. Site location: Latitude: _____, Longitude: _____
- e. Site physical address: _____

Please attach the information regarding the following items (Sewage Sludge only):-

* Please note the following information shall be provided in computer generated report format:

* Please place check mark before each item below to indicate you have attached that item with this report.

- _____ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- _____ 2. Provide a list containing the name and permit number of each source of sludge.
- _____ 3. Date of delivery of each load of sludge land applied.
- _____ 4. Date of land application of each load of sludge.
- _____ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"?
- _____ 6. The suggested agronomic rate for the class B sludge.

PLEASE MAIL THE COMPLETED REPORT TO :

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087



Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 25, 2015

Mr. Charles E. Simmons
Synagro of Texas-CDR, Inc.
501 Woodall Road
Decatur, Alabama 35601

Re: Synagro of Texas-CDR, Inc. - Proposed TCEQ Permit No. WQ0004441000
(CN601307630; RN102994514)

Dear Mr. Simmons:

Enclosed for your review and comment is a copy of a draft proposed permit and technical summary for the above-referenced operation. This draft permit is subject to further staff review and modification; however, we believe it generally includes the terms and conditions that are appropriate to your application. Please read the entire draft carefully as there may be changes from the existing permit and note the following:

1. The draft permit will be issued to expire **at midnight five years from the date of issuance** in accordance with 30 Texas Administrative Code, Chapter 312.
2. The Special Provisions and certain Standard Provisions have been revised in the draft permit.
3. Maximum sludge application rates on certain fields have been reduced for the first year of this permit (See Special Provision A).

Also enclosed for your review and comment is a copy of the draft second notice, the Notice of Application and Preliminary Decision, that was prepared for your application. Please review this notice and provide comments if there are any inaccuracies or any information that is not consistent with your application. Please do not publish the notice at this time; after the draft permit is filed with the Office of Chief Clerk, you will receive instructions for publishing this notice in a newspaper from the Chief Clerk.

Please submit your comments prior to the deadline that is indicated on the form. If your comments are not received by the deadline, the draft permit will be transferred to the Office of Chief Clerk and comments received after this date will not be considered. Please see the enclosed form for further details.

Mr. Charles E. Simmons
Page 2
November 25, 2015

If you have any comments or questions, please contact me at (512) 239-1375 or if by correspondence, include MC 148 in the letterhead address following my name.

Sincerely,



Brian Sierant, Permit Coordinator
Municipal Permits Team
Wastewater Permitting Section (MC 148)
Water Quality Division

Enclosures

ccs: Mr. Paul Reynolds, P.G., Agronomist, Urban Infrastructure Group, P.O. Box 778, Clarendon, Texas
79226
TCEQ Region 12

WASTEWATER PERMITTING SECTION

DRAFT PERMIT COMMENTS FORM

Comments to the draft permit must be received from the applicant no later than:

December 11, 2015

To help expedite the permit processing, please fax or email your comments to the
attention of the permit coordinator

at (512) 239-4430.

Please note the draft permit will be filed with the Office of the Chief Clerk for
issuance of the public notice no later than one (1) week from the deadline
indicated above.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



DRAFT

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR LAND APPLICATION OF SEWAGE SLUDGE PERMIT RENEWAL

PERMIT NO. WQ0004441000

APPLICATION AND PRELIMINARY DECISION. Synagro of Texas-CDR, Inc., 501 Woodall Road, Decatur, Alabama 35601, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of TCEQ Permit No. WQ0004441000, which authorizes the land application of wastewater treatment plant sewage sludge for beneficial use. The existing permit authorizes land application of sewage sludge for beneficial use on 4,914.33 acres. This permit will not authorize a discharge of pollutants into water in the state. TCEQ received this application on May 19, 2014.

The sewage sludge land application site is located adjacent to the east and west side of Farm-to-Market Road 271, approximately 4.5 miles from the intersection of Farm-to-Market Road 271 and Highway 90, seven miles east of Eagle Lake, in Colorado and Wharton Counties, Texas 77435. The sewage sludge land application site is located within the drainage basin of San Bernard River Above Tidal in Segment No. 1302 of the Brazos-Colorado Coastal Basin.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at the Wharton County Extension Office, 201 South Rusk Street, Wharton, in Wharton County, Texas and at the Eula and David Wintermann Library, 101 North Walnut Avenue, Eagle Lake, in Colorado County, Texas. This link to an electronic map of the facility's location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.

<https://www.tceq.texas.gov/assets/public/hb610/index.html?lat=29.641666&lng=-96.203055&z=13&type=r>

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name; address, phone number; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are germane to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

TCEQ may act on an application to renew a permit for the land application of sludge without providing an opportunity for a contested case hearing if certain criteria are met.

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and (2) the mailing list for a specific county. If you wish to be placed on the permanent and the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.state.tx.us/about/comments.html within 30 days from the date of newspaper publication of this notice.

AGENCY CONTACTS AND INFORMATION. If you need more information about this permit application or the permitting process, please call the TCEQ Public Education Program Toll Free, at 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040. General information about the TCEQ can be found at our web site at www.TCEQ.state.tx.us.

Further information may also be obtained from Synagro of Texas-CDR, Inc. at the address stated above or by calling Mr. Charles E. Simmons, Technical Services Director, at 256-351-0959.

Issuance Date _____

TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant: Synagro of Texas-CDR, Inc.

TCEQ Permit No.: WQ0004441000

Regulated Activity: Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sewage Sludge

Type of Application: Renewal

Request: Renewal with no changes

Authority: Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapters 281, 305, and 312; Texas Health and Safety Code (THSC) §361.121; and Commission policies.

DRAFT

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight five years from the date of issuance in accordance with 30 TAC §312.10 and THSC §361.121.

REASON FOR PROJECT PROPOSED

Synagro of Texas-CDR, Inc. has applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for a renewal of Permit No. WQ0004441000 to authorize the beneficial land application of WWTP sewage sludge.

PROJECT DESCRIPTION AND LOCATION

The land application site is located adjacent to the east and west side of Farm-to-Market Road 271, approximately 4.5 miles from the intersection of Farm-to-Market Road 271 and Highway 90, seven miles east of Eagle Lake, in Colorado and Wharton Counties, Texas 77435.

The sewage sludge land application site is located within the drainage basin of San Bernard River Above Tidal in Segment No. 1302 of the Brazos-Colorado Coastal Basin. No discharge of pollutants into water in the state is authorized by this permit.

PROPOSED PERMIT CONDITIONS

Sludge provisions are included in the draft permit according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. The draft permit authorizes the land application of WWTP sewage sludge for beneficial use on 4,914.33 acres.

Maximum annual sludge application rates shall not exceed the application rate for each individual field as in the Table below, and shall be land applied at a frequency proposed in the application during the first year after permit issuance. Agronomic loading rates shall be calculated on an annual basis to ensure that nutrient balances are not exceeded.

FIELD NUMBER(S)	APPLICATION RATE (in dry tons/acre/year)
10A	2.5
17A	3.7
23A, 31A	3.9
17B, 33A	4.1
21B	4.3
27A, 28A, 11D, 34A, 11B, 20A, 11A, 13A, 14A, 20B, 21A, 11C	4.8
5A, 30B, 30C	5.9
2A, 4A	6.0
29A, 19A	6.1
8A, 24A	6.6
32A, 12A, 12B, 26A, 30A, 9B	7.1
35A, 29B, 36B, 37B, 3A	7.2
36A	7.3
31C, 37A	7.6
31B	7.9
7A, 9A	8.3
6A	8.5
18B, 6B, 6C, 15A, 18A, 16A	9.0

Subsequent annual calculation rates shall be based on the results of annual sampling and analysis and shall not exceed the rates listed in the table below.

FIELD NUMBER(S)	APPLICATION RATE (in dry tons/acre/year)
2A, 4A, 19A	6.0
3A	7.2
5A, 6A, 6B, 6C, 31B, 31C	10.0
7A, 9A, 10A, 35A	8.3
8A, 20A, 20B, 21A, 21B, 23A, 24A	6.6
9B, 11A, 11B, 11C, 11D, 12B, 26A, 27A, 28A, 34A	7.1
12A, 13A, 36B	7.7
14A	8.0
15A	9.1
16A, 17B, 18A, 18B	10.0
17A, 29A, 29B, 31A, 33A	8.4

Synagro of Texas-CDR, Inc.

Permit No. WQ0004441000

Technical Summary and Executive Director's Preliminary Decision

30A, 36A	8.9
30B, 30C	5.9
32A	7.0
37A, 37B	7.6

SUMMARY OF CHANGES FROM APPLICATION

None.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The Sludge Provisions, Special Provisions, and Standard Provisions have been revised in the draft permit.

Maximum sludge application rates on certain fields have been reduced for the first year of this permit (See Special Provision A).

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application submitted with a letter dated May 19, 2014 and additional information submitted on September 30, 2014, January 23, 2015, May 22, 2015, June 3, 2015, July 24, 2015, October 23, 2015, and November 16, 2015.
2. Existing TCEQ permit no.: Permit No. WQ004441000 issued on May 19, 2009.
3. Interoffice Memorandum from the TCEQ Water Quality Assessment Team, Water Quality Division.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application, and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested

Synagro of Texas-CDR, Inc.

Permit No. WQ0004441000

Technical Summary and Executive Director's Preliminary Decision


case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Brian Sierant at (512) 239-1375.



Brian Sierant
Municipal Permits Team
Wastewater Permitting Section (MC 148)



Date



PERMIT NO. WQ0004441000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
WQ0004441000 issued May 19,
2009.

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of the Texas Health and Safety Code,
and Chapter 312 of the Texas Administrative Code.

DRAFT

I. PERMITTEE:

Synagro of Texas-CDR, Inc.
501 Woodall Road
Decatur, Alabama 35601

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sewage Sludge

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge on 4,914.33 acres located within approximately 6,228 acres at this site.*

* See Special Provision A for the maximum sludge application rates for each field at this site.

Location: The sewage sludge land application site is located adjacent to the east and west side of Farm-to-Market Road 271, approximately 4.5 miles from the intersection of Farm-to-Market Road 271 and Highway 90, seven miles east of Eagle Lake, in Colorado and Wharton Counties, Texas 77435 (see Attachment A).

SIC Code: 4952

Drainage Basin: The land application site is located in the drainage basin of San Bernard River Above Tidal in Segment No. 1302 of the Brazos-Colorado Coastal Basin. No discharge of pollutants into water in the state is authorized by this permit.

This permit and the authorization contained herein shall expire **at midnight five years from the date of issuance** listed below.

ISSUED DATE:

For the Commission

IV. GENERAL REQUIREMENTS:

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 Texas Administrative Code (TAC) Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
- B. An application for renewing this permit shall be submitted by the permittee at least 180 days prior to the expiration date of this permit.
- C. WWTP sludge
 - 1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.
 - 2. The permittee shall not accept sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 Code of Federal Regulations (CFR) Part 261 and 40 CFR Part 268, or another method which receives the prior approval of the Texas Commission on Environmental Quality (TCEQ) for the contaminants listed in Table 1 of 40 CFR Section 261.24.
 - 3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

- 4. When the total aggregate amount of any metal in Table 2 below (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2, only sludge with metal levels at or below those shown in Table 3 below can be applied at the site. To compute this number, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP sludge from any source other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team (MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate that the sludge from the proposed new source meets the requirements of this permit. The permittee must provide a certification from each source that the sludge meets the requirements for a Process to Significantly Reduce Pathogens (PSRP) or an alternative. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction, and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

- D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.
- E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.

V. OPERATIONAL REQUIREMENTS:

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and 40 CFR Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES:

- A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Sludge must not be applied to land that is flooded, frozen, or snow-covered to prevent the entry of bulk sewage sludge into wetlands or other water in the state.
- C. Sludge shall be land applied in a manner which complies with 30 TAC Section 312.44, Management Requirements, including maintaining the following buffer zones for each application area.
- | | |
|--|----------|
| 1. Established school, institution, business or residence | 750 feet |
| 2. Public water supply well, intake, spring, or similar source, public water treatment plant, or public water supply elevated or ground storage tank | 500 feet |
| 3. Solution channel, sinkhole, or other conduit to groundwater | 200 feet |
| 4. Water in the state - when sludge is not incorporated | 200 feet |
| 5. Water in the state - when sludge is incorporated within 48 hours of application and a vegetated cover is established | 33 feet |
| 6. Private water supply well | 150 feet |
| 7. Public right-of-way | 50 feet |
| 8. Property boundary | 50 feet |
| 9. Irrigation conveyance canal | 10 feet |

- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
1. sludge must be applied uniformly over the surface of the land;
 2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;
 3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;
 4. sludge must not be applied to any areas having a slope in excess of 8%;
 5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;
 6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;
 7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
 8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
 9. sludge may not be applied on land within a designated floodway.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises where the land application unit is located stating that a beneficial land use application site is located on the premises.

The sign shall be posted three days prior to and 14 days after the commencement of land application of sewage sludge and shall include the operator name, telephone number, the classification of sewage sludge and the TCEQ authorization number.

In the event of reasonably unforeseen circumstances such as weather conditions or equipment failure that necessitate a change in a planned land application site, the required sign may be posted on the day on which sewage sludge land application commences.

Records of any deviation of the posting requirements listed in this subsection and associated reasons shall be retained by the operator and be readily available for review by a TCEQ representative.

- H. Sludge and septage must be handled by a method that is consistent with the permittee's Adverse Weather and Alternative Plan. This plan shall detail procedures to address times when the sludge and septage cannot be applied to the land application site due to adverse weather or other conditions such as wind, precipitation, field preparation delays, and access road limitations.

VII. PATHOGEN CONTROL:

- A. All sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B pathogen requirements.

1. For sewage sludge to be classified as Class A with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(3)(A) for specific information.

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5

2. For sewage sludge to be classified as Class AB with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(i-iii) for specific information. The sewage sludge shall be analyzed for

viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(iv-vi) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. See 30 TAC §312.82(a)(2)(C) for specific information.

3. Sewage sludge that meets the requirements of Class AB sewage sludge may be classified a Class A sewage sludge if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
4. Three alternatives are available to demonstrate compliance with the Class B criteria for sewage sludge.

- Alternative 1
- i. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
 - ii. The geometric mean of the density of fecal coliform in the samples collected must be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 colony forming units per gram of total solids (dry weight basis).

- Alternative 2
- Sewage sludge that is used or disposed of must be treated in one of the PSRP described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.
- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
 - ii. An independent Texas licensed professional engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
 - iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record

keeping requirements shall be in accordance with established EPA final guidance;

- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Sewage sludge must be treated in an equivalent process that has been approved by the EPA so long as all of the following requirements are met by the generator of the sewage sludge:

- i. prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
- ii. prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in accordance with established EPA final guidance;
- iii. all certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. the executive director will accept from the EPA a finding of equivalency to the defined PSRP; and
- v. if the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

- 1. food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface must not be harvested for 14 months after the application of sewage sludge;

2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil;
3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after the application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil;
4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after the application of sewage sludge;
5. animals shall not be allowed to graze on the land for 30 days after the application of sewage sludge;
6. turf grown on land where sewage sludge is applied shall not be harvested for 1 year after the application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn;
7. public access to land with a high potential for public exposure shall be restricted for 1 year after the application of sewage sludge;
8. public access to land with a low potential for public exposure shall be restricted for 30 days after the application of sewage sludge; and
9. land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

- A. All bulk sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site shall be treated in accordance with one of the following alternatives for vector attraction reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20

degrees Celsius [30 TAC §312.83(b)(4)]. This test may only be run on sludge with a total percent solids of two percent or less.

- Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].
- Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours [30 TAC §312.83(b)(6)]. This must be done at the time the sewage sludge is prepared for sale or given away in a bag or other container.
- Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(7)]. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(8)]. This shall be done at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].
- Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A or Class AB with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS:

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Section IV.C.5 and 6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the permittee must use Table 2 in Section IV.C.4 to calculate a volume weighted average of all sludge that will be

applied during the current monitoring period.

- B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.
- D. If WWTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.
- E. All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge land application permits:
 - 1. a certification statement that all applicable requirements (specifically listed) have been met and the permittee understands that there are significant penalties for false certification, including fines and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or (a)(5)(A)(ii), whichever is applicable;
 - 2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge is applied;
 - 3. the number of acres in each site on which bulk sludge is applied;
 - 4. the dates, times, and quantities of sludge applied to each site;
 - 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
 - 6. the total amount of sludge applied to each site in dry tons; and
 - 7. a description of how the management practices listed in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(viii).

- B. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class A or Class AB pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of a description of how the vector attraction reduction requirements are met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- C. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
 2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- D. For sewage sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how the requirements to obtain information from the sludge generators in 30 TAC §312.42(e) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(vi);
 2. a description of how the site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
 3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).

XI. REPORTING REQUIREMENTS:

- A. The permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1st of the previous year through August 31st of the current year. Additionally, the "Annual Sludge Summary Report Form" (Attachment C) should be filled out and submitted with the annual report. The permittee shall submit the report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The following information must be included in the report:
1. Annual Sludge Summary Sheet (a blank form is provided as Attachment C) with the following information:
 - i. permit number;
 - ii. the site location (address or latitude and longitude);

- iii. operator address, contact person's name, telephone number, and fax number;
 - iv. amount of sludge applied (dry metric tons) at each land application site;
 - v. number of acres on which sludge and septage is land applied;
 - vi. vegetation grown and number of cuttings; and
 - vii. other items listed in the summary sheet.
2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:
- i. date and time of each sludge application;
 - ii. all certification statements required under 30 TAC §312.47(a)(5)(B);
 - iii. a description of how the information from the sludge generator was obtained, per 30 TAC §312.42(e);
 - iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;
 - v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for this site;
 - vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) were met, a description of how this was done;
 - vii. soil and sludge test reports, as required in Section XII of this permit; and
 - viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of the application, or a similar form).
3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4:
- i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and
 - ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4, the permittee shall provide the following additional information:
- i. date and time of each sludge application;
 - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and
 - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.

5. The permittee shall submit evidence it is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. The permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, the "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The permittee shall submit the report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include the following information:
 1. the source, quality, and quantity of sludge applied to the land application unit;
 2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
 3. the dates of delivery of Class B sludge;
 4. the dates of application of Class B sludge;
 5. the cumulative amount of metals applied to the land application unit through the application of Class B sludge;
 6. crops grown at the land application unit site; and
 7. the suggested agronomic application rate for the Class B sludge.

XII. SOIL SAMPLING AND ANALYSIS:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or under an approved sampling plan and analyzed within 30 days of sample collection.

The permittee must monitor the soil-sludge mixture for the site for the parameters listed below using the soil sampling requirements described in 30 TAC §312.12(b)(1)(I) and (J). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO ₃ -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH ₄ -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

- Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
- Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
- Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
- Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
- Soil pH must be analyzed by the electrometric method, Method 9045C, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846, as referenced in 40 CFR §260.11 - determined from extract of 2:1 (volume/volume) water/soil mixture.
- Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846; method 3050B.

XIII. STANDARD PROVISIONS:

- A. This permit is granted in accordance with the Texas Water Code, Texas Health and Safety Code, the rules and other Orders of the Commission and other applicable laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. A report of such information must be provided orally or by facsimile transmission (FAX) to the TCEQ Regional Office (MC Region 12) within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 12) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated amount of time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.
- G. The permittee is subject to the provisions of 30 TAC §305.125.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. The permittee does not have a vested right in this permit.
- J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.

XIV. SPECIAL PROVISIONS:

- A. Maximum annual sludge application rates shall not exceed the application rate for each individual field as in the Table below, and shall be land applied at a frequency proposed in the application during the first year after permit issuance. Agronomic loading rates shall be calculated on an annual basis to ensure that nutrient balances are not exceeded.

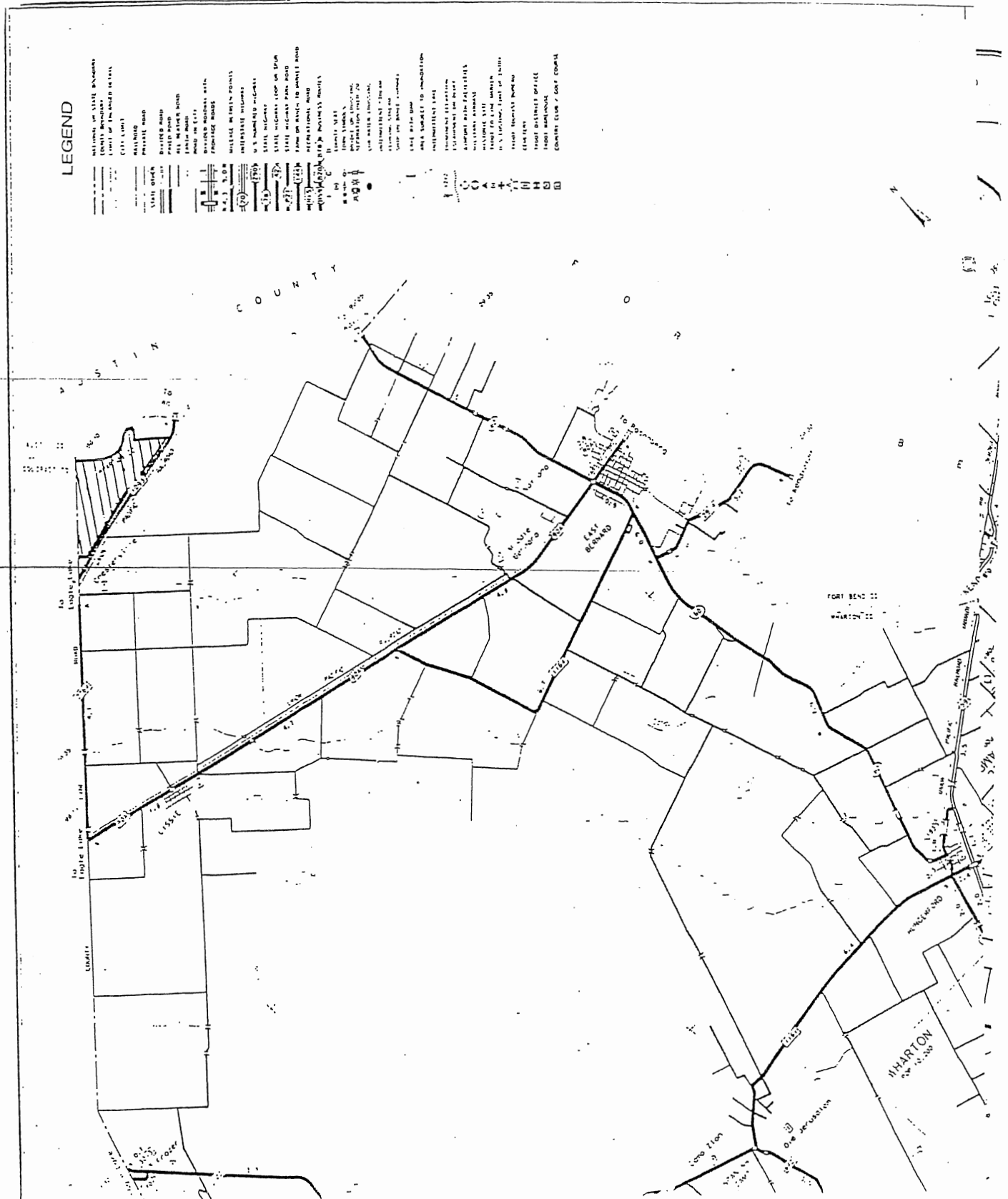
FIELD NUMBER(S)	APPLICATION RATE (in dry tons/acre/year)
10A	2.5
17A	3.7
23A, 31A	3.9
17B, 33A	4.1
21B	4.3
27A, 28A, 11D, 34A, 11B, 20A, 11A, 13A, 14A, 20B, 21A, 11C	4.8
5A, 30B, 30C	5.9
2A, 4A	6.0
29A, 19A	6.1
8A, 24A	6.6
32A, 12A, 26A, 30A, 9B	7.1
35A, 29B, 36B, 37B, 3A	7.2
36A	7.3
31C, 37A	7.6
31B	7.9
7A, 9A	8.3
6A	8.5
18B, 6B, 6C, 15A, 18A, 16A	9.0

Subsequent annual calculation rates shall be based on the results of annual sampling and analysis and shall not exceed the rates listed in the table below.

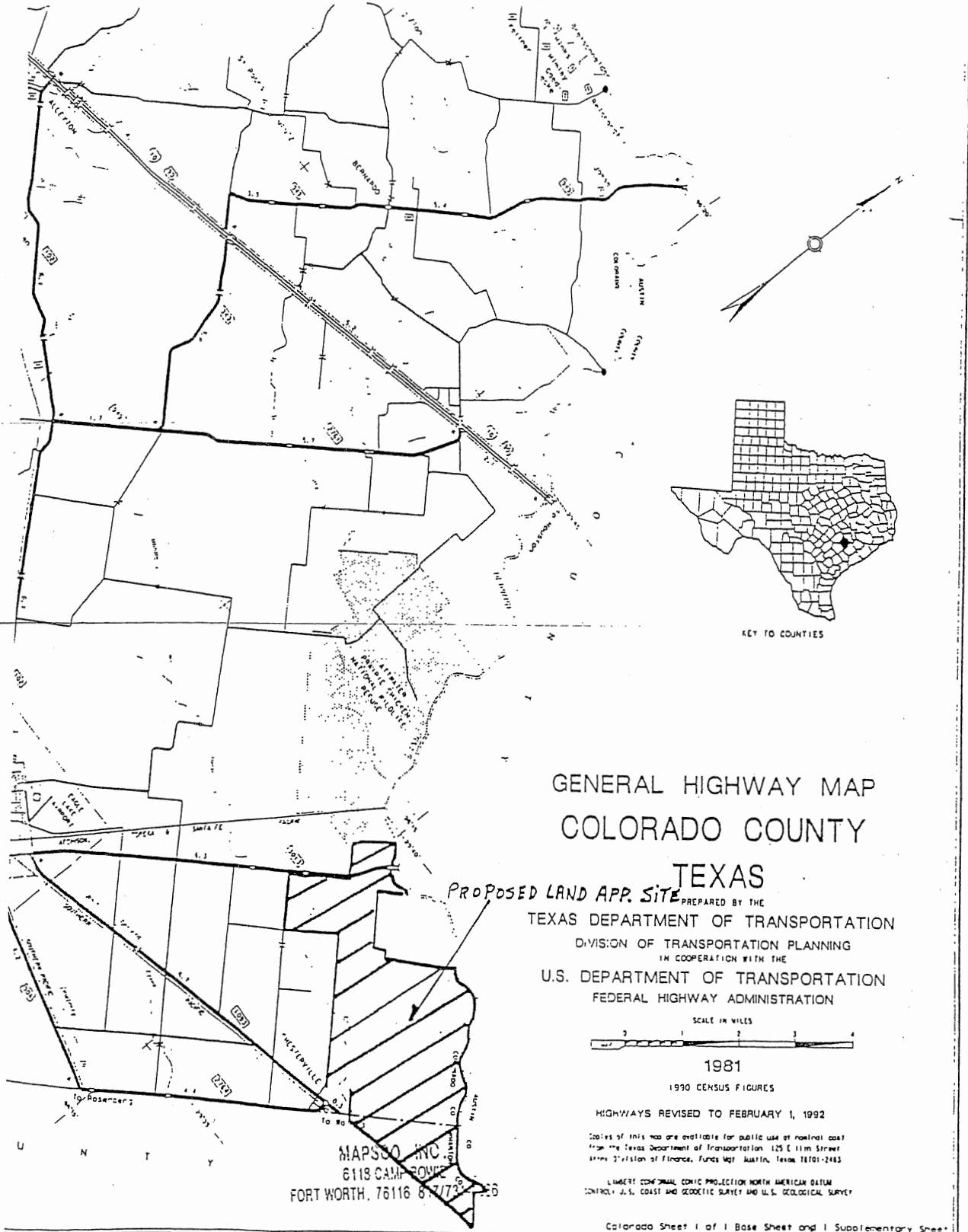
FIELD NUMBER(S)	APPLICATION RATE (in dry tons/acre/year)
2A, 4A, 19A	6.0
3A	7.2
5A, 6A, 6B, 6C, 31B, 31C	10.0
7A, 9A, 10A, 35A	8.3
8A, 20A, 20B, 21A, 21B, 23A, 24A	6.6
9B, 11A, 11B, 11C, 11D, 12B, 26A, 27A, 28A, 34A	7.1
12A, 13A, 36B	7.7
14A	8.0
15A	9.1
16A, 17B, 18A, 18B	10.0
17A, 29A, 29B, 31A, 33A	8.4

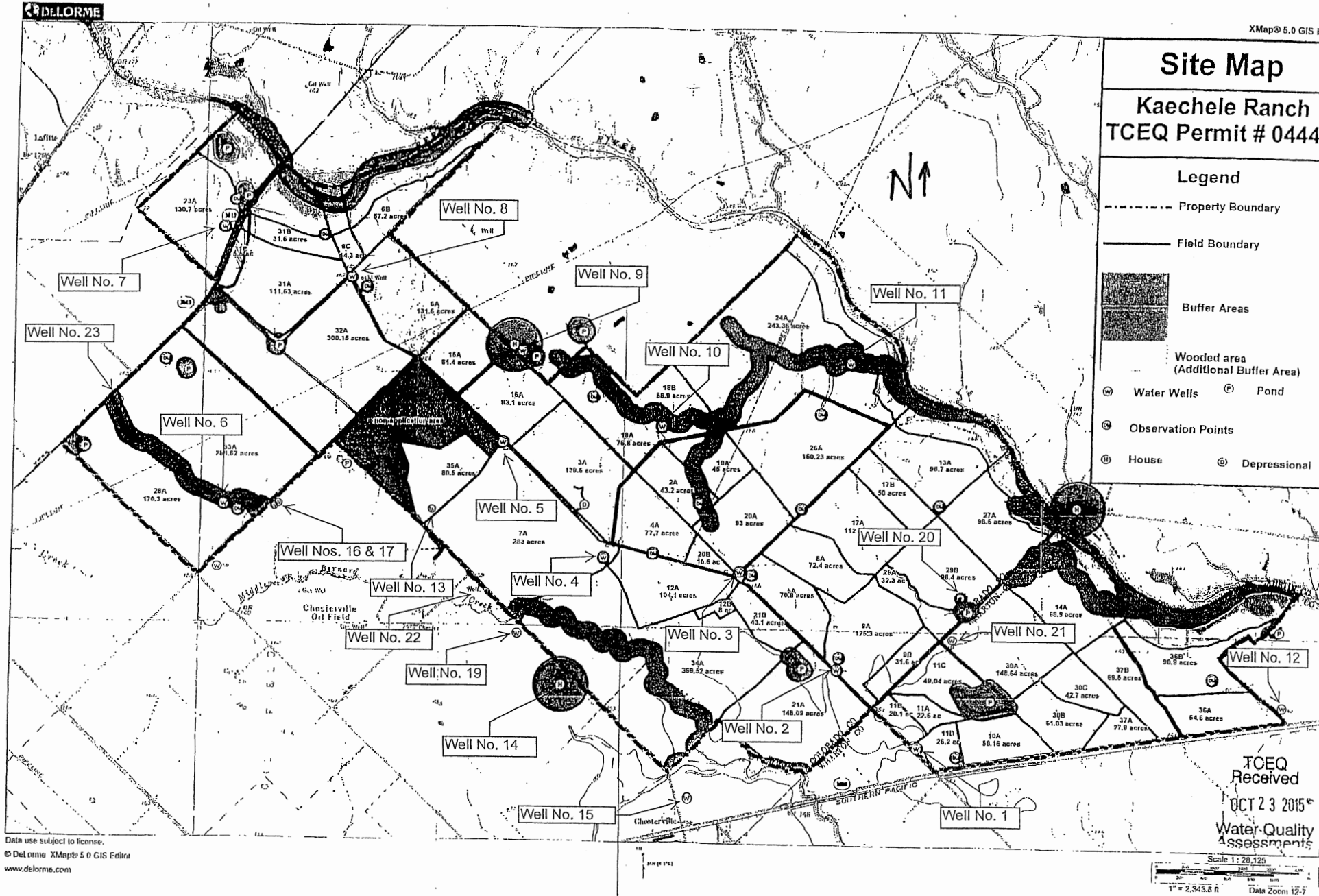
30A, 36A	8.9
30B, 30C	5.9
32A	7.0
37A, 37B	7.6

- B. For soils with permeability greater than 2 inches per hour and less than 20 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 4 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 4 feet of the treatment zone.
- C. For soils with permeability less than 2 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 3 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 3 feet of the treatment zone.
- D. During times of land application of sludge, all buffer zones must be distinguished from each other by the use of flags, posting or fencing to ensure that buffer areas and land application areas are separated from each other.
- E. The application areas (Field #'s) must be distinguished from each other by the use of flags, posting, or fencing to ensure that each field is separated from each other.
- F. The permittee should consider nutrient management practices appropriate for land application of wastes to assess the potential risk for nitrogen and phosphorus to contribute to water quality impairment. Information on a certification program for Nutrient Management Specialist is available on the web at <http://nmp.tamu.edu/>. Nutrient management should be practiced within the context of the Natural Resource Conservation Service (NRCS) Code 590 Practice Standard which addresses the kind, source, placement, form, amount, timing and application method of nutrients and soil amendments. This is available on the web at http://efotg.sc.egov.usda.gov/references/public/TX/2012_Texas_590_NM_Standard_Final.pdf. The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on Phosphorus index is available on the web at http://efotg.sc.egov.usda.gov/references/public/TX/TXTechNote15_December_2012_Texas_P_Index.pdf. Annual analysis of plant-available phosphorus in soil must be conducted using the Mehlich III extraction.
- G. All sludge staging areas shall be located outside the buffer zones required by 30 TAC §312.44(c).



Attachment A
(2 of 2)
General Highway Map for Colorado County





Data use subject to license.
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www.delorme.com



Attachment C

Annual Sludge Summary Report Form

Note 1: If your site has more than one disposal field, please submit a separate form for each field.

Note 2: Please note, in addition to the summary form, you must submit all information as required by 30 TAC 312.48.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Please send a copy of this sheet and all attachments to the TCEQ regional office in your area.

For TCEQ Fiscal Year: ____ Reporting period from September 1, ____ to August 31, ____

PERMIT NO.: _____ DATE: _____

NAME OF PERMITTEE: _____

MAILING ADDRESS: _____

Contact Name: _____ Telephone No: _____

(Please include "N/A" if item is not applicable to your site)

1. Sewage Sludge:
 - a. Land Applied: _____ dry tons / year
 - b. Disposed via monofill: _____ dry tons / year
 - c. Disposed via MSW Landfill: _____ dry tons / year
2. Water Treatment Plant Sludge:
 - a. Land Applied: _____ dry tons / year
 - b. Disposed via monofill: _____ dry tons / year
 - c. Disposed via MSW Landfill: _____ dry tons / year

Class A sludge Produced: _____ dry tons / year

Acreage used for sludge application / disposal at this site: _____ acres

Site Vegetation (such as grass type, etc.) and # of cuttings: _____

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO :

Texas Commission on Environmental Quality

Municipal Permits Team (MC 148)

Wastewater Permitting Section

P.O. Box 13087

Austin, TX 78711-3087



Attachment D
Quarterly Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Please send a copy of this sheet and all attachments to the TCEQ regional office in your area.

For TCEQ Quarter _____ Reporting period from _____ to _____

Permit No.: _____ Date: _____

Permittee Name: _____

Mailing Address: _____

Contact Name: _____ Telephone No: _____

Field Number (if any): _____ (Submit separate form for each field, if site has two or more fields)

1. Class B Sewage Sludge land Applied: _____ dry tons/quarter

2. Treated Domestic Septage land Applied: _____ gallons/quarter

3. Water Treatment Plant Sludge land Applied: _____ dry tons/quarter

a. Acreage used for sludge application at this site or field: _____ acres

b. Site Vegetation (such as grass type, etc.) and # of cuttings or indicate if grazing: _____

c. Did any of the sludge you have generated or received NOT MEET concentration limits for any of the metals listed in Table 3 of 30 TAC §312.43 (b)? (Yes or No) _____

d. Did the cumulative metal loading Rates for any metal equal or exceed 90% of the limits in Table 2 of 30 TAC 312.43(b)? (Yes or No) _____

e. Were the site management practices per 30 TAC 312.44 met? (Yes or No) _____

f. Was an insurance policy required per 30 TAC 312.11(d)(5)? (Yes or No) _____

Sewage Sludge Only - Please attach information regarding the following items:

* Please note the following information should be provided in computer-generated report format:

* Please place check mark before each item below to indicate that the item is attached to this report.

* Please include all information in manner such as listed in the attached instructions on Page 2

- _____ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- _____ 2. Provide a list containing the name and permit number of each source of sludge.
- _____ 3. Date of delivery of each load of sludge land applied.
- _____ 4. Date of land application of each load of sludge.
- _____ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43(b)?
- _____ 6. The suggested agronomic rate for the Class B sludge.

PLEASE MAIL THE COMPLETED QUARTERLY REPORT TO:

Texas Commission on Environmental Quality
 Municipal Permits Team (MC 148)
 Wastewater Permitting Section
 P.O. Box 13087
 Austin, TX 78711-3087

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 30, 2015

Mr. Charles Simmons
Synagro of Texas-CDR, Inc., South
501 Woodall Road
Decatur, Alabama 35601

Re: Synagro of Texas-CDR, Inc., Individual Permit No. WQ0004451000
(CN601307630; RN102994837)

Dear Mr. Simmons:

Enclosed is a copy of the above referenced permit for your beneficial land use site. The permit contains several general and special conditions for the operation of the site. In addition, the operation activities of the site must be consistent with those represented in the application.

As required by the 30 Texas Administrative Code Chapter 312, you must submit copies of the results from soil sampling on an annual basis. These sample results should be filed with both the Texas Commission on Environmental Quality (TCEQ) in Austin and the appropriate TCEQ Regional Office and maintained in your records for five years. In addition, you must submit the Annual Sludge Report Summary Sheet by September 30th of each year. Please pay associated fees promptly when billed by the TCEQ each year during the term of this permit.

This permit will be in effect for five years from the date of approval or for the term stated on the permit. To renew this permit, an application for this action must be filed with the TCEQ at least 180 days prior to the expiration date.

If you have any questions, please contact Mr. Brian Sierant of the TCEQ's Wastewater Permitting Section at (512) 239-4671, or if by correspondence include MC-148 in the letterhead address below.

Sincerely,

A handwritten signature in black ink, appearing to read "David W. Galindo".

David W. Galindo, Director
Water Quality Division

DWG/BS/evm

cc: TCEQ, Region 12
Mr. Craig Gonzalez, P.E., Urban Infrastructure Group, Inc., P.O. Box 729, Donna, Texas 78537
The Honorable Ty Prause, Colorado County Judge, 400 Spring Street, Room 107, Columbus, Texas 78934



PERMIT NO. WQ0004451000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
WQ0004451000 issued
October 1, 2009.

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of the Texas Health and Safety Code,
and Chapter 312 of the Texas Administrative Code.

I. PERMITTEE:

Synagro of Texas-CDR, Inc.
501 Woodall Road
Decatur, Alabama 35601

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) Sewage Sludge

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge at an overall rate not to exceed 9.14 dry tons per acre per year on Fields 1, 2 and 5, 5.88 dry tons per acre per year on Field 3, 4.77 dry tons per acre per year on Field 4, 8.06 dry tons per acre per year on Field 6, and 11.32 dry tons per acre per year on Fields 7 and 9, on 185.27 acres located within approximately 320.1 acres at this site.*

*See Special Provision A.

Location: The sewage sludge land application site is located near the City of Chesterville, approximately 900 feet west of the intersection of Farm-to-Market Road 2764 and Farm-to-Market Road 1093 in Colorado County, Texas 77435.

SIC Code: 4952

Drainage Basin: The land application site is located in the drainage basin of San Bernard River Above Tidal in Segment No. 1302 of the Brazos-Colorado Coastal Basin. No discharge of pollutants into water in the state is authorized by this permit.

This permit and the authorization contained herein shall expire **at midnight five years from the date of issuance** listed below.

ISSUED DATE: December 21, 2015

A handwritten signature in black ink, appearing to read "R. A. Hylleberg", written over a horizontal line.

For the Commission

IV. GENERAL REQUIREMENTS:

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 Texas Administrative Code (TAC) Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.
- B. An application for renewing this permit shall be submitted by the permittee at least 180 days prior to the expiration date of this permit.
- C. WWTP sludge
 1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.
 2. The permittee shall not accept sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 Code of Federal Regulations (CFR) Part 261 and 40 CFR Part 268, or another method which receives the prior approval of the Texas Commission on Environmental Quality (TCEQ) for the contaminants listed in Table 1 of 40 CFR Section 261.24.
 3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

4. When the total aggregate amount of any metal in Table 2 below (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2, only sludge with metal levels at or below those shown in Table 3 below can be applied at the site. To compute this number, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP sludge from any source other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team (MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate that the sludge from the proposed new source meets the requirements of this permit. The permittee must provide a certification from each source that the sludge meets the requirements for a Process to Significantly Reduce Pathogens (PSRP) or an alternative. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction, and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

- D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.
- E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:
1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 2. designates the commission as an additional insured; and
 3. is in an amount of not less than \$3 million.

V. OPERATIONAL REQUIREMENTS:

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and 40 CFR Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES:

- A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Sludge must not be applied to land that is flooded, frozen, or snow-covered to prevent the entry of bulk sewage sludge into wetlands or other water in the state.
- C. Sludge shall be land applied in a manner which complies with 30 TAC Section 312.44, Management Requirements, including maintaining the following buffer zones for each application area.
- | | |
|--|----------|
| 1. Established school, institution, business or residence | 750 feet |
| 2. Public water supply well, intake, spring, or similar source, public water treatment plant, or public water supply elevated or ground storage tank | 500 feet |
| 3. Solution channel, sinkhole, or other conduit to groundwater | 200 feet |
| 4. Water in the state - when sludge is not incorporated | 200 feet |
| 5. Water in the state - when sludge is incorporated within 48 hours of application and a vegetated cover is established | 33 feet |
| 6. Private water supply well | 150 feet |
| 7. Public right-of-way | 50 feet |
| 8. Property boundary | 50 feet |
| 9. Irrigation conveyance canal | 10 feet |

- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
 - 1. sludge must be applied uniformly over the surface of the land;
 - 2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;
 - 3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;
 - 4. sludge must not be applied to any areas having a slope in excess of 8%;
 - 5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;
 - 6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;
 - 7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
 - 8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
 - 9. sludge may not be applied on land within a designated floodway.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises where the land application unit is located stating that a beneficial land use application site is located on the premises.

The sign shall be posted three days prior to and 14 days after the commencement of land application of sewage sludge and shall include the operator name, telephone number, the classification of sewage sludge and the TCEQ authorization number.

In the event of reasonably unforeseen circumstances such as weather conditions or equipment failure that necessitate a change in a planned land application site, the required sign may be posted on the day on which sewage sludge land application commences. Records of any deviation of the posting requirements listed in this subsection and associated reasons shall be retained by the operator and be readily available for review by a TCEQ representative.

- H. Sludge and septage must be handled by a method that is consistent with the permittee's Adverse Weather and Alternative Plan. This plan shall detail procedures to address times when the sludge and septage cannot be applied to the land application site due to adverse weather or other conditions such as wind, precipitation, field preparation delays, and access road limitations.

VII. PATHOGEN CONTROL:

- A. All sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B pathogen requirements.

1. For sewage sludge to be classified as Class A with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(3)(A) for specific information.

Alternative 5 (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5

2. For sewage sludge to be classified as Class AB with respect to pathogens, the density of fecal coliform in the sewage sludge be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge shall be above 52° Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50%.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(i-iii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less

than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(iv-vi) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. See 30 TAC §312.82(a)(2)(C) for specific information.

3. Sewage sludge that meets the requirements of Class AB sewage sludge may be classified a Class A sewage sludge if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment, or create nuisance odor conditions.
4. Three alternatives are available to demonstrate compliance with the Class B criteria for sewage sludge.

- Alternative 1
- i. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
 - ii. The geometric mean of the density of fecal coliform in the samples collected must be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 colony forming units per gram of total solids (dry weight basis).

Alternative 2 Sewage sludge that is used or disposed of must be treated in one of the PSRP described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
- ii. An independent Texas licensed professional engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established EPA final

guidance;

- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Sewage sludge must be treated in an equivalent process that has been approved by the EPA so long as all of the following requirements are met by the generator of the sewage sludge:

- i. prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in subparagraph v. below;
- ii. prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in accordance with established EPA final guidance;
- iii. all certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. the executive director will accept from the EPA a finding of equivalency to the defined PSRP; and
- v. if the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

- 1. food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface must not be harvested for 14 months after the application of sewage sludge;
- 2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of sewage sludge when the sewage sludge remains on the land

- surface for 4 months or longer prior to incorporation into the soil;
3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after the application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil;
 4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after the application of sewage sludge;
 5. animals shall not be allowed to graze on the land for 30 days after the application of sewage sludge;
 6. turf grown on land where sewage sludge is applied shall not be harvested for 1 year after the application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn;
 7. public access to land with a high potential for public exposure shall be restricted for 1 year after the application of sewage sludge;
 8. public access to land with a low potential for public exposure shall be restricted for 30 days after the application of sewage sludge; and
 9. land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

- A. All bulk sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site shall be treated in accordance with one of the following alternatives for vector attraction reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius [30 TAC §312.83(b)(4)]. This test may only be run on sludge with a total percent solids of two percent or less.

- Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].
- Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours [30 TAC §312.83(b)(6)]. This must be done at the time the sewage sludge is prepared for sale or given away in a bag or other container.
- Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(7)]. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(8)]. This shall be done at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].
- Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A or Class AB with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS:

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Section IV.C.5 and 6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the permittee must use Table 2 in Section IV.C.4 to calculate a volume weighted average of all sludge that will be applied during the current monitoring period.

- B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.
- D. If WWTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.
- E. All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge land application permits:
 - 1. a certification statement that all applicable requirements (specifically listed) have been met and the permittee understands that there are significant penalties for false certification, including fines and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or (a)(5)(A)(ii), whichever is applicable;
 - 2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge is applied;
 - 3. the number of acres in each site on which bulk sludge is applied;
 - 4. the dates, times, and quantities of sludge applied to each site;
 - 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
 - 6. the total amount of sludge applied to each site in dry tons; and
 - 7. a description of how the management practices listed in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(viii).

- B. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class A or Class AB pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of a description of how the vector attraction reduction requirements are met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- C. For sewage sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
 2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- D. For sewage sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how the requirements to obtain information from the sludge generators in 30 TAC §312.42(e) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(vi);
 2. a description of how the site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
 3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).

XI.REPORTING REQUIREMENTS:

- A. The permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1st of the previous year through August 31st of the current year. Additionally, the "Annual Sludge Summary Report Form" (Attachment C) should be filled out and submitted with the annual report. The permittee shall submit the report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The following information must be included in the report:
1. Annual Sludge Summary Sheet (a blank form is provided as Attachment C) with the following information:
 - i. permit number;
 - ii. the site location (address or latitude and longitude);

- iii. operator address, contact person's name, telephone number, and fax number;
 - iv. amount of sludge applied (dry metric tons) at each land application site;
 - v. number of acres on which sludge and septage is land applied;
 - vi. vegetation grown and number of cuttings; and
 - vii. other items listed in the summary sheet.
2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:
- i. date and time of each sludge application;
 - ii. all certification statements required under 30 TAC §312.47(a)(5)(B);
 - iii. a description of how the information from the sludge generator was obtained, per 30 TAC §312.42(e);
 - iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;
 - v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for this site;
 - vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) were met, a description of how this was done;
 - vii. soil and sludge test reports, as required in Section XII of this permit; and
 - viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of the application, or a similar form).
3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4:
- i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and
 - ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4, the permittee shall provide the following additional information:
- i. date and time of each sludge application;
 - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and
 - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.

5. The permittee shall submit evidence it is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. The permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, the "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The permittee shall submit the report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include the following information:
 1. the source, quality, and quantity of sludge applied to the land application unit;
 2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
 3. the dates of delivery of Class B sludge;
 4. the dates of application of Class B sludge;
 5. the cumulative amount of metals applied to the land application unit through the application of Class B sludge;
 6. crops grown at the land application unit site; and
 7. the suggested agronomic application rate for the Class B sludge.

XII. SOIL SAMPLING AND ANALYSIS:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or under an approved sampling plan and analyzed within 30 days of sample collection.

The permittee must monitor the soil-sludge mixture for the site for the parameters listed below using the soil sampling requirements described in 30 TAC §312.12(b)(1)(I) and (J). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO ₃ -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH ₄ -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

- Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
- Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
- Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
- Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
- Soil pH must be analyzed by the electrometric method, Method 9045C, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846, as referenced in 40 CFR §260.11 - determined from extract of 2:1 (volume/volume) water/soil mixture.
- Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA SW-846; method 3050B.

XIII. STANDARD PROVISIONS:

- A. This permit is granted in accordance with the Texas Water Code, Texas Health and Safety Code, the rules and other Orders of the Commission and other applicable laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. A report of such information must be provided orally or by facsimile transmission (FAX) to the TCEQ Regional Office (MC Region 12) within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 12) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated amount of time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.
- G. The permittee is subject to the provisions of 30 TAC §305.125.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. The permittee does not have a vested right in this permit.
- J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.

XIV. SPECIAL PROVISIONS:

- A. For the first year of this permit, the maximum sludge application rate shall not exceed 7.9 dry tons per acre per year on Field 1, 8.7 dry tons per acre per year on Field 2, 5.88 dry tons per acre per year on Field 3, 4.77 dry tons per acre per year on Field 4, 9.04 dry tons per acre per year on Field 5, 8.06 dry tons per acre per year on Field 6, 8.87 dry tons per acre per year on Field 7, and 8.91 dry tons per acre per year on Field 9.

On an annual basis, the sludge application rate shall be calculated and adjusted based on current sludge and soil monitoring results. This application rate that is submitted in each annual sludge report shall not exceed the overall maximum application rate of 9.14 dry tons per acre per year on Fields 1, 2, and 5, 5.88 dry tons per acre per year on Field 3, 4.77 dry tons per acre per year on Field 4, 8.06 dry tons per acre per year on Field 6, and 11.32 dry tons per acre per year on Fields 7 and 9. A major amendment to this permit shall be required to increase the overall maximum sludge application rate.

- B. During times of land application of sludge, all buffer zones must be distinguished from each other by the use of flags, posting or fencing to ensure that buffer areas and land application areas are separated from each other.

Application areas (Fields 1, 2, 3, 4, 5, 6, 7, and 9) must be distinguished from each other by the use of flags, posting or fencing to ensure that each field is separated.

- C. The permittee shall consider nutrient management practices appropriate for the land application of sewage sludge and assess the potential risk for nitrogen and phosphorus to contribute to water quality impairments. Information and assistance on a certification program for Nutrient Management Specialists is available online at <http://nmp.tamu.edu>.

Nutrient management shall be practiced within the context of the Natural Resources Conservation Service Code 590 Practice Standard, which addresses the kind, source, placement, form, amount, timing, and application method of nutrients and soil amendments. This is available online at:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046896.pdf The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool used to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on the Phosphorus Index is available online at:

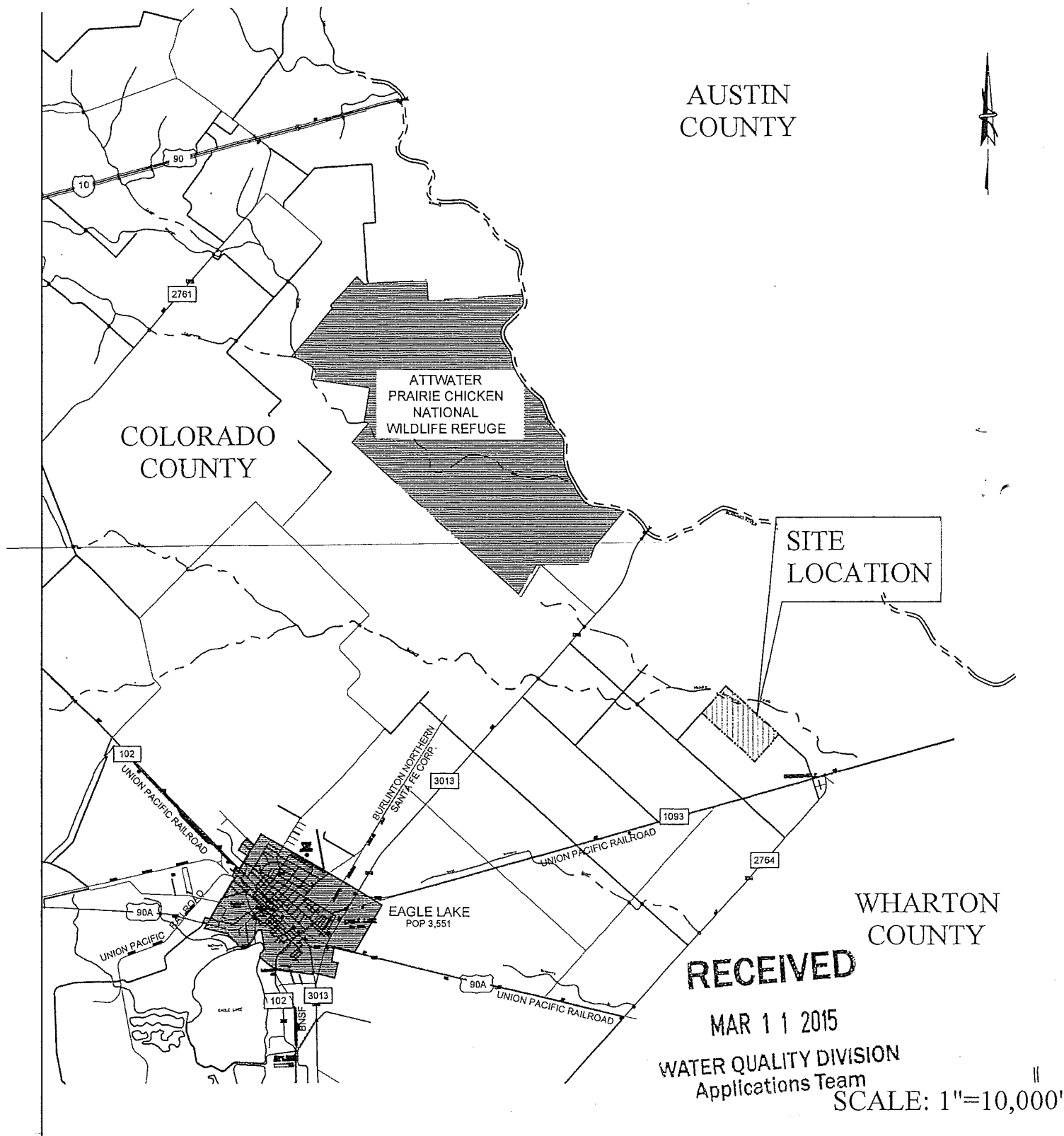
http://efotg.sc.egov.usda.gov/references/public/TX/TXTechNote15_December_2012_Texas_P_Index.pdf The annual analysis of extractable phosphorus in soil samples shall be conducted using the Mehlich III extraction with inductively coupled plasma.

- D. All sludge staging areas shall be located outside the buffer zones required by 30 TAC §312.44(c).
- E. For soils with permeability greater than 2 inches per hour and less than 20 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 4 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data

indicate that a perched or apparent water table may be present within 4 feet of the treatment zone.

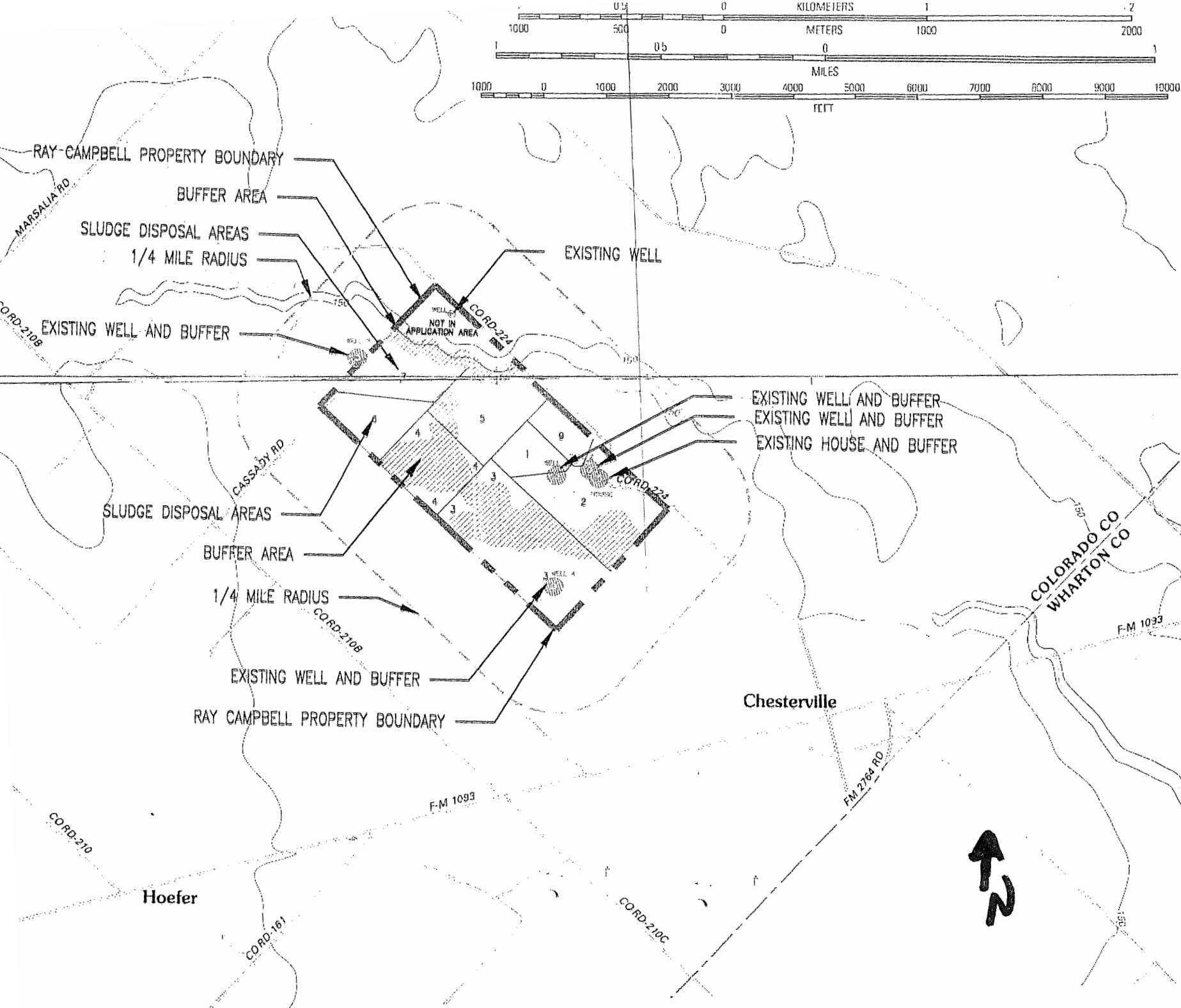
- F. For soils with permeability less than 2 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 3 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 3 feet of the treatment zone.
- G. Application of sludge shall not take place on the areas of Edco, Garwood, and Nada-Cieno soil types.

Attachment A



Attachment B

TCEQ Permit No. WQ00004451000





Synagro of Texas-CDR, Inc.

TCEQ Permit No. WQ0004451000

Annual Sludge Summary Report Form

Attachment C

Note 1: If your site has more than one disposal field, please submit a separate form for each field.

Note 2: Please note, in addition to the summary form, you must submit all information as required by 30 TAC 312.48.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Please send a copy of this sheet and all attachments to the TCEQ regional office in your area.

For TCEQ Fiscal Year ____ Reporting period from September 1, ____ to August 31, ____

PERMIT NO.: _____ DATE: _____

NAME OF PERMITTEE: _____

MAILING ADDRESS: _____

Contact Name: _____ Telephone No: _____

Field Number (if any): _____ (Submit separate form for each field, if site has two or more fields.)

1. Sewage Sludge:
 - a. Land Applied: _____ dry tons / year
 - b. Disposed via monofill: _____ dry tons / year
 - c. Disposed via MSW Landfill: _____ dry tons / year
2. Water Treatment Plant Sludge:
 - a. Land Applied: _____ dry tons / year
 - b. Disposed via monofill: _____ dry tons / year
 - c. Disposed via MSW Landfill: _____ dry tons / year

Class A sludge Produced: _____ dry tons / year

Acreage used for sludge application / disposal at this site: _____ acres

Site Vegetation (such as grass type, etc.) and # of cuttings: _____

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO :

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087



Synagro of Texas-CDR, Inc.

TCEQ Permit No. WQ0004451000

Quarterly Sludge Summary Report Form Attachment D

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Please send a copy of this sheet and all attachments to the TCEQ regional office in your area.

For TCEQ Quarter _____ Reporting period from _____ to _____

Permit No.: _____ Date: _____

Permittee Name: _____

Mailing Address: _____

Contact Name: _____ Telephone No: _____

Field Number (if any): _____ (Submit separate form for each field, if site has two or more fields)

1. Class B Sewage Sludge land Applied: _____ dry tons/quarter

2. Treated Domestic Septage land Applied: _____ gallons/quarter

3. Water Treatment Plant Sludge land Applied: _____ dry tons/quarter

4. Class A Sewage Sludge land applied: _____ dry tons/quarter

a. Acreage used for sludge application at this site or field: _____ acres

b. Site Vegetation (such as grass type, etc.) and # of cuttings or indicate if grazing: _____

c. Did any of the sludge you have generated or received NOT MEET concentration limits for any of the metals listed in Table 3 of 30 TAC §312.43 (b)? (Yes or No) _____

d. Did the cumulative metal loading Rates for any metal equal or exceed 90% of the limits in Table 2 of 30 TAC 312.43(b)? (Yes or No) _____

e. Were the site management practices per 30 TAC 312.44 met? (Yes or No) _____

f. Was an insurance policy required per 30 TAC 312.11(d)(5)? (Yes or No) _____

Sewage Sludge Only - Please attach information regarding the following items:

* Please note the following information should be provided in computer-generated report format:

* Please place check mark before each item below to indicate that the item is attached to this report.

* Please include all information in manner such as listed in the attached instructions on Page 2

_____ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.

_____ 2. Provide a list containing the name and permit number of each source of sludge.

_____ 3. Date of delivery of each load of sludge land applied.

_____ 4. Date of land application of each load of sludge.

_____ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43(b)?

_____ 6. The suggested agronomic rate for the Class B sludge.

PLEASE MAIL THE COMPLETED QUARTERLY REPORT TO:

Texas Commission on Environmental Quality

Municipal Permits Team (MC 148)

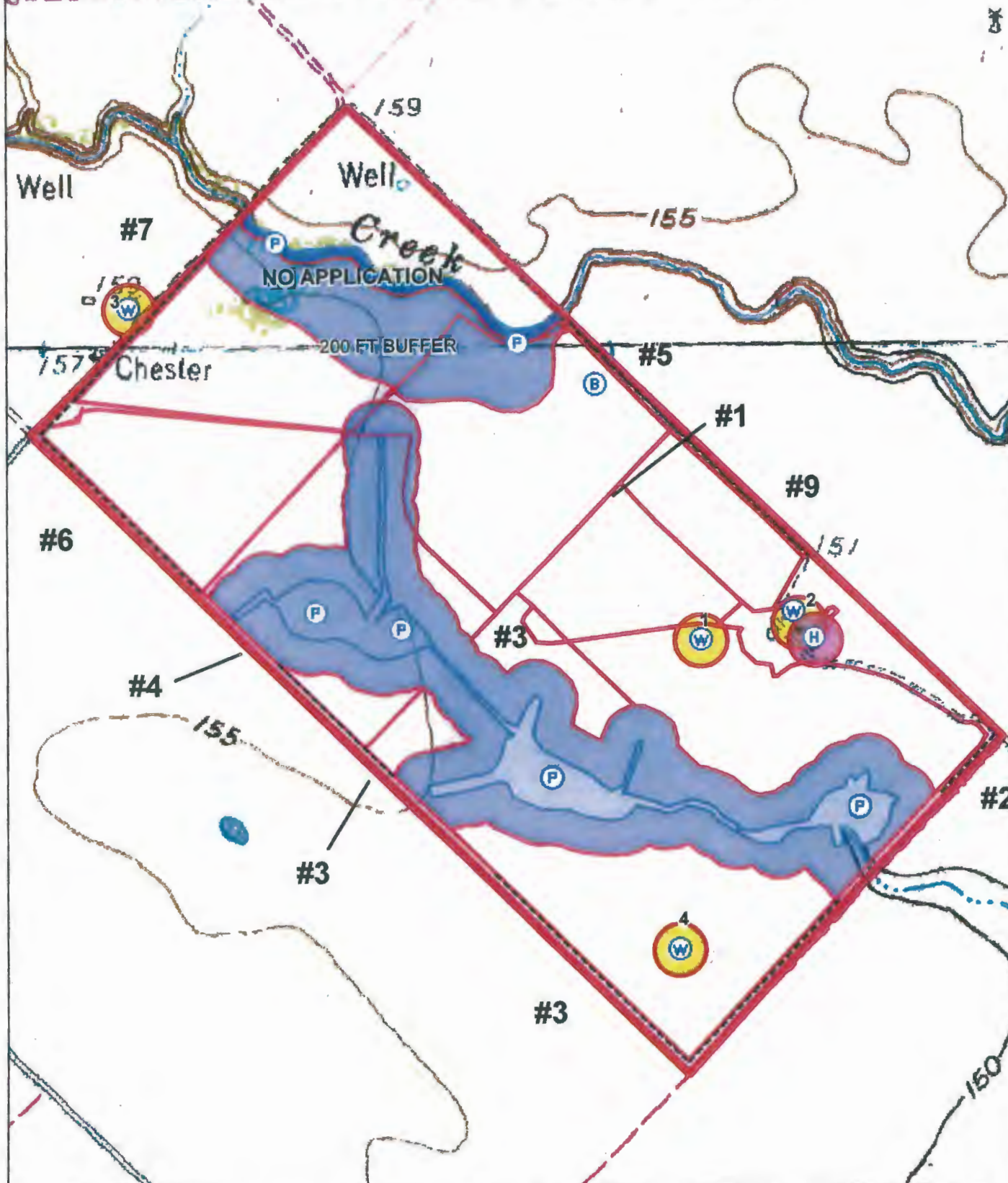
Wastewater Permitting Section

P.O. Box 13087

Austin, TX 78711-3087

6/2012

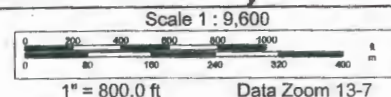
CAMPBELL RANCH PERMIT #04451



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PERMIT NO. WQ0004671000
This is a renewal of Permit No.
WQ0004671000 issued May 21, 2008.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of Health and Safety Code, Chapter 312 of Texas Administrative Code.

I. PERMITTEE:

Synagro of Texas-CDR, Inc.
501 Woodall Road
Decatur, Alabama 35601

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) sludge

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge at an overall rate not to exceed 5.02 dry tons per acre per year on Fields 1 and 2 and 4.66 dry tons per acre per year on Field 3, on 1,069.12 acres located within approximately 4,800 acres at this site.

Location: The sewage sludge land application site is located approximately 4.5 miles from the City of Lissie, south/southwest of the intersection of Highway 90 and Farm-to-Market Road Road 271, and approximately 7 miles southeast of the City of Eagle Lake, in Wharton County, Texas 77434 (see Attachment A).

SIC Code: 4952

Drainage Basin: The sewage sludge land application site is located in the drainage basin of San Bernard River Above Tidal in Segment No. 1302 of the Brazos - Colorado Coastal Basin. No discharge of pollutants into waters in the State is authorized by this permit.

This permit and the authorization contained herein shall expire **at midnight five years from date of issuance** listed below.

ISSUED DATE: October 27, 2014



For the Commission

IV. GENERAL REQUIREMENTS:

- A. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner which protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.
- B. Application for renewing this permit shall be submitted by the permittee at least 180 days prior to expiration date of this permit.
- C. WWTP sludge
 1. In all cases, the generator or processor of sewage sludge shall provide necessary analytical information to the parties who receive the sludge, including those receiving the sewage sludge for land application, to assure compliance with these regulations.
 2. Permittee shall not accept sludge that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I or other method, which receives the prior approval of the TCEQ for the contaminants listed in Table 1 of 40 CFR Section 261.24.
 3. Sewage sludge shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

4. When the total aggregate amount of any metal in Table 2 (in all sludge applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2 below, only sludge with metal levels at or below those shown Table 3 below can be applied at the site. To compute this criteria, the total amount of each metal in all sludge applied must be summed on a continuing basis as sludge is applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge, septage and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP sludge from any source(s) other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team(MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate the sludge from the proposed new source(s) meets the requirements of this permit. The permittee must provide certifications from each source that the sludge meets the requirement for a Process to Significantly Reduce Pathogens (PSRP) or other alternatives. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

- D. The permittee shall maintain a commercial liability insurance policy for the duration of the permit that:
 - 1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 - 2. designates the commission as an additional insured; and
 - 3. is in an amount of not less than \$3 million.
- E. The permittee shall maintain an environmental impairment insurance policy for the duration of the permit that:
 - 1. is issued by an insurance company authorized to do business in this state that has a rating by the A.M. Best Company of A- or better;
 - 2. designates the commission as an additional insured; and
 - 3. is in an amount of not less than \$3 million.

V. OPERATIONAL REQUIREMENTS:

The operation and maintenance of this land application site must be in accordance with 30 TAC Chapter 312 and Title 40 of the Code of Federal Regulations (40 CFR) Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES:

- A. Sludge applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Sludge must not be applied to land that is flooded, frozen or snow-covered to prevent entry of bulk sewage sludge into wetlands or other waters in the State.
- C. Sludge shall be land applied in a manner which complies with Management Requirements in accordance with 30 TAC Section 312.44, including maintaining the following buffer zones for each application area.
 - 1. Established school, institution, business or residence 750 feet
 - 2. Public water supply well, intake, public water supply spring or similar source, public water treatment plant, or public water supply elevated or ground storage tank 500 feet
 - 3. Solution channels, sinkholes, or other conduits to groundwater 200 feet
 - 4. Waters in the State of Texas - when sludge is not incorporated 200 feet
 - 5. Waters in the State of Texas - when sludge is incorporated within 48 hours of application and a vegetated cover is established 33 feet
 - 6. Private water supply well 150 feet
 - 7. Public right of way 50 feet
 - 8. Property boundary 50 feet
 - 9. Irrigation conveyance canals 10 feet

- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and that protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
 - 1. sludge must be applied uniformly over the surface of the land;
 - 2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;
 - 3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;
 - 4. sludge must not be applied to any areas having a slope in excess of 8%;
 - 5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;
 - 6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;
 - 7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
 - 8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises on which the land application unit is located stating that a beneficial land use application site is located on the premises.

VII.PATHOGEN CONTROL:

- A. All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A or Class B pathogen requirements.
 - 1. Six alternatives are available to demonstrate compliance with Class A sewage sludge.

The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. Below are the additional requirements necessary to meet the definition of a Class A sludge.

Alternative 1 The temperature of the sewage sludge that is used or disposed must be maintained at or above a specific value for a period of time. See 30 TAC §312.82(a)(2)(A) for specific information.

Alternative 2 The pH of the sewage sludge that is used or disposed must be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the sewage sludge must be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12 std. units.

At the end of the 72-hour period during which the pH of the sewage sludge is above 12 std. units, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 The sewage sludge must be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(i-iii) for specific information. The sewage sludge must be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(C)(iv-vi) for specific information.

Alternative 4 The density of enteric viruses in the sewage sludge must be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge must be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

Alternative 5 Processes to Further Reduce Pathogens (PFRP) - Sewage sludge that is used or disposed of must be treated in one of the processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

2. Three alternatives are available to demonstrate compliance with Class B criteria for sewage sludge.

- Alternative 1
- i. A minimum of seven random samples of the sewage sludge must be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.
 - ii. The geometric mean of the density of fecal coliform in the samples collected must be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 Sewage sludge that is used or disposed of must be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U. S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Sewage sludge must be treated in an equivalent process that has been approved by the U. S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum

operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in accordance with established U. S. Environmental Protection Agency final guidance;

- iii. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. The executive director will accept from the U. S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and
- v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the Processes to Significantly Reduce Pathogens, and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met if Class B sludge is land applied:

- 1. food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface must not be harvested for 14 months after application of sewage sludge;
- 2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil;
- 3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil;
- 4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;
- 5. animals shall not be allowed to graze on the land for 30 days after application of sewage sludge;
- 6. turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn.
- 7. public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.
- 8. public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge; and
- 9. land application of sludge shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

- A. All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives for Vector Attraction Reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. This test may only be run on sludge with a total percent solids of 2.0% or less [30 TAC §312.83(b)(4)].

Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].

Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container [30 TAC §312.83(b)(6)].

Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(7)].

Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC

§312.83(b)(8)].

Alternative 9 Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected. When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].

Alternative 10 Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS:

The sewage sludge must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MSARs in Sections IV.C.5 and IV.C.6, the MSAR for that element must be recalculated. If the sludge comes from multiple sources, the calculations must use Table 2 in Section IV.C.4 to provide a volume weighted average of all sludge that will be applied during the current monitoring period.
- B. After the sludge has been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of sludge that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the sludge warrants such action.
- D. If WWTP and WTP sludge is received at this site for land application then the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.
- E. All metal constituents and Fecal coliform or Salmonella sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge land application permits:
1. a certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or 30 TAC §312.47(a)(5)(A)(ii), whichever is applicable;
 2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge is applied;
 3. the number of acres in each site on which bulk sludge is applied;
 4. the dates, times and quantities of sludge is applied to each site;
 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
 6. the total amount of sludge applied to each site in dry tons; and
 7. a description of how the management practices listed above in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(viii).
- B. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; which also meets Class A pathogen requirements in 30 TAC §312.82(a), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
1. a description of how the vector attraction reduction requirements are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- C. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x); and
 2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- D. For Sewage Sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

1. a description of how the requirements to obtain information from the generators of sludge in 30 TAC §312.42(e) are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(vi);
2. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x); and
3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).

XI.REPORTING REQUIREMENTS:

- A. Permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1st of previous year through August 31st of current year. Additionally an "Annual Sludge Summary Report Form" (Attachment C) should be filled out and submitted with the annual report. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47.
 1. Annual Sludge Summary Sheet (a blank form is provided in Attachment C of this permit) with following information. This information must be submitted by all permittees:
 - i. permit number;
 - ii. the site location (address or latitude and longitude);
 - iii. operator address, contact person name, telephone number, and fax number;
 - iv. amount of sludge disposal dry weight (lbs/acre) at each disposal site;
 - v. number of acres on which sludge and septage is land applied;
 - vi. vegetation grown and number of cuttings; and
 - vii. other items listed in the summary sheet.
 2. If the sludge concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:
 - i. date and time of each sludge application;
 - ii. all four certification statements required under 30 TAC §312.47(a)(5)(B);
 - iii. a description of how the information from the sludge generator was obtained, as per 30 TAC §312.42(e);
 - iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;
 - v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for the site;

- vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met, a description of how this was done;
 - vii. soil and sludge test reports, as required in Section XII of this permit; and
 - viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of application, as identified in Section IV.C.4, or similar form).
3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4 of this permit:
 - i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and
 - ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
 4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4 of this permit the permittee shall provide the following additional information:
 - i. date and time of each sludge application;
 - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and
 - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.
 5. Permittee shall submit evidence that the permit holder is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. Permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, a "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The quarterly report must include all the information listed below. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include:
1. the source, quality, and quantity of sludge applied to the land application unit;
 2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
 3. the dates of delivery of Class B sludge;
 4. the dates of application of Class B sludge;

5. the cumulative amount of metals applied to the land application unit through the application of Class B sludge;
 6. crops grown at the land application unit site; and
 7. the suggested agronomic application rate for the Class B sludge.
-

XII. SOIL SAMPLING AND ANALYSIS:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or by an approved sampling plan and analyzed within 30 days of procurement.

The permittee must monitor the soil-sludge mixture for the site as follows using soil sampling requirements described in 30 TAC §312.12(b)(1)(I) and (J). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO ₃ -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH ₄ -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

1. Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
4. Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
5. Soil pH must be analyzed by the electrometric method in "Test Methods for Evaluating Solid Waste," EPA SW-846, 40 CFR 260.11; method 9045C - determined from extract of 2:1 (volume/volume) water/soil mixture.
6. Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste," EPA SW-846; method 3050.

XIII. STANDARD PROVISIONS:

- A. This permit is granted in accordance with the Texas Water Code, Health and Safety Code, and the rules and other Orders of the Commission and the laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. Report of such information must be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 12) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in the Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.
- G. The permittee is subject to the provisions of 30 TAC §305.125.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. This permit holder does not have a vested right in the permit.
- J. The permittee may not accept Class B sludge unless the sludge has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.

XIV. SPECIAL PROVISIONS:

- A. For the first year of this permit, the maximum sludge application rate shall not exceed 5 dry tons per acre per year on Field 1, 5.02 dry tons per acre per year on Field 2, and 4.62 dry tons per acre per year on Field 3. On an annual basis, the sludge application rate shall be calculated and adjusted based on current sludge and soil monitoring results. This application rate, that is submitted in each annual sludge report, shall not exceed the overall maximum application rate of 5.02 dry tons per acre per year on Fields 1 and 2 and 4.66 dry tons per acre per year on Field 3. A major amendment to this permit shall be required to increase the overall maximum sludge application rate.
- B. The permittee should consider nutrient management practices appropriate for land application of sewage sludge and assess the potential risk for nitrogen and phosphorous to contribute to water quality impairment. Information and assistance on a certification program for Nutrient Management Specialists is available on the web at:

<http://nmp.tamu.edu>

Nutrient management should be practiced within the context of the Natural Resources Conservation Service (NRCS) Code 590 Practice Standard which addresses the kind, source, placement, form, amount, timing and application method of nutrients and soil amendments. This is available on the web at:

http://efotg.nrcs.usda.gov/references/public/TX/finalTX590_07_09_07.pdf

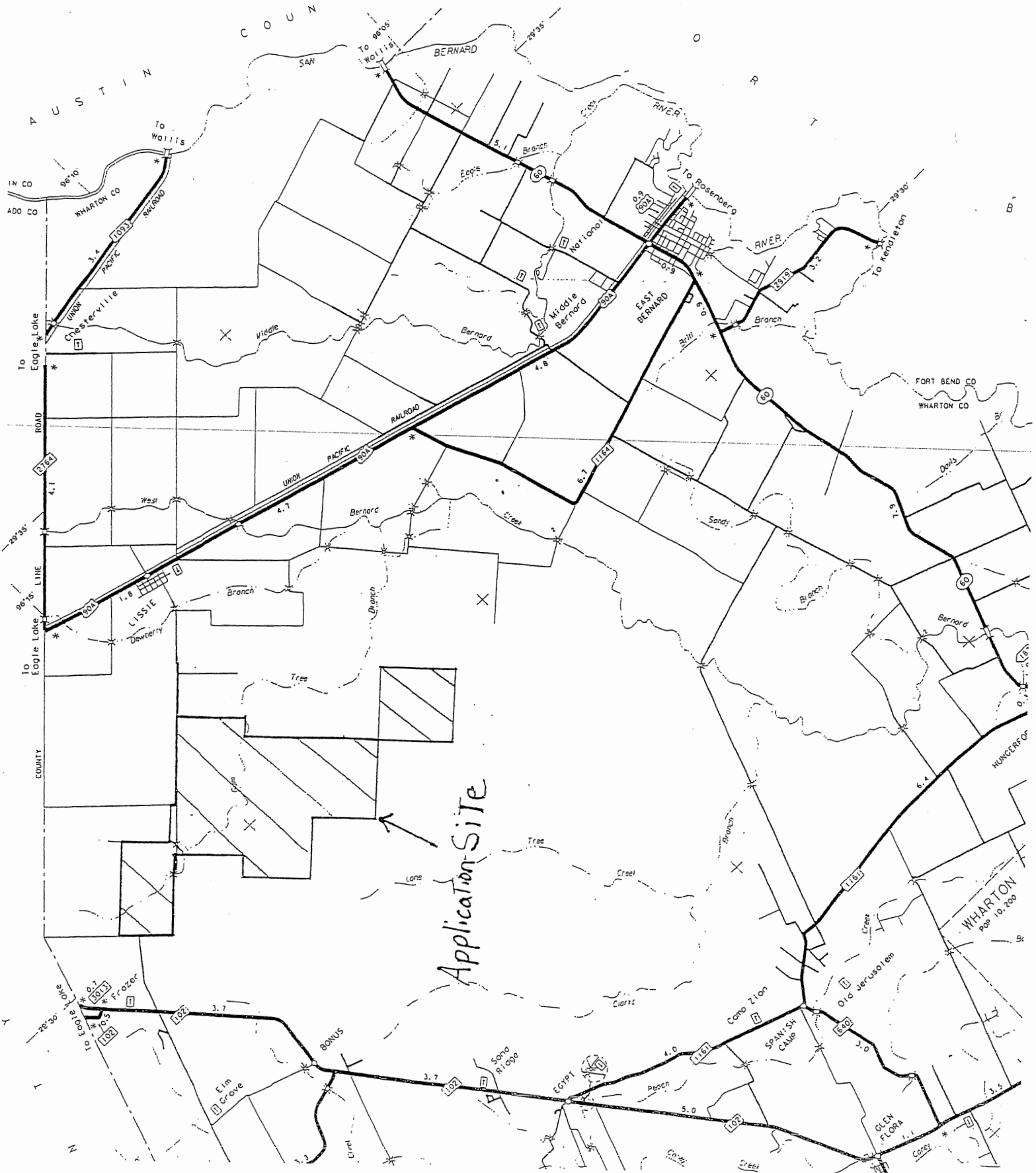
The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on Phosphorus Index is available on the web at:

http://efotg.nrcs.usda.gov/references/public/TX/TXTechNote15_rev.pdf

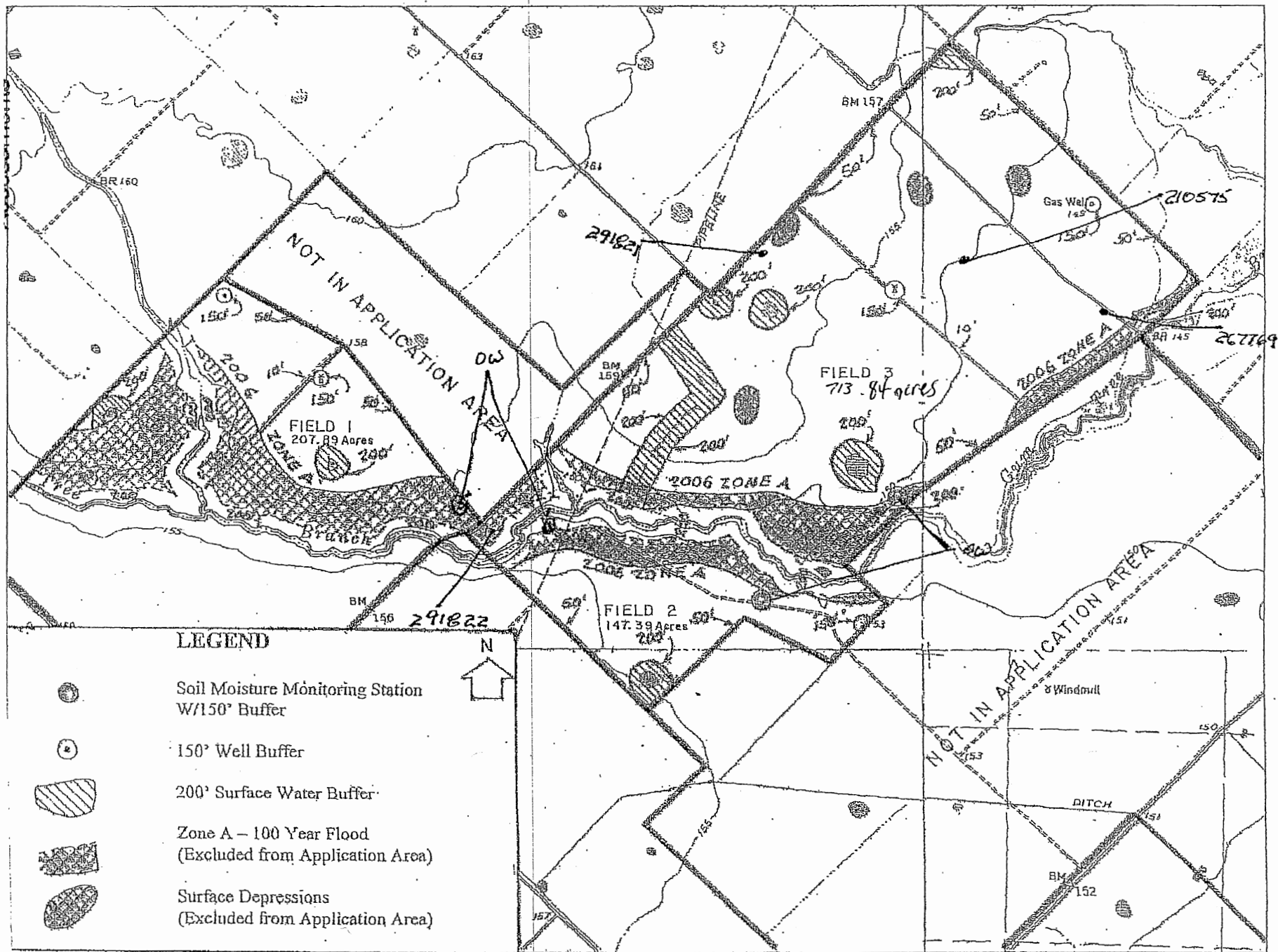
- C. For soils with permeability greater than 2 inches per hour and less than 20 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 4 feet of the treatment zone as demonstrated through the determination of presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 4 feet of the treatment zone.
- D. For soils with permeability less than 2 inches per hour, the land application of sludge is prohibited if the soil is saturated or groundwater is present within a depth of 3 feet of the treatment zone as demonstrated through the determination of presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months that the most recently published soil survey data indicate that a perched or apparent water table may be present within 3 feet of the treatment zone.
- E. During times of land application of sludge, all buffer zones must be distinguished from each other by the use of flags, posting or fencing to ensure that both buffer areas and land application areas are separated. Also, application areas (Field #'s) must be distinguished from each other by the use of flags, posting or fencing to ensure that each field is separated.

- F. The permittee shall comply with the requirements of 30 TAC Section §312 and any Best Management Practices (BMPs) proposed in the application, including buffer requirements of 30 TAC §312.44(c) and groundwater and surface water protection requirements of 30 TAC §312.44(g) and (h).
- G. All sludge staging areas shall be located outside of buffers required by 30 TAC §312.44(c).

Attachment A



Attachment B



Attachment C

Annual Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please note, in addition to the summary form, you need to submit all information as required by 30 TAC 312.48.

Note 3: If you operate other registered/permitted sludge land application sites, a form should be submitted for each site.

Note 4: Also send one complete copy of your report and this form to the TCEQ regional office in your area.

For TCEQ Fiscal year _____; Reporting period from September 1, _____, August 31, _____

PERMIT NO.: _____

DATE: _____

NAME OF PERMITTEE: _____

MAILING ADDRESS: _____

CONTACT PERSON: Name: _____ Telephone No: _____

Field No(if any): _____ (Please submit a separate form for each field).

1. Sewage Sludge :
 - a.. Land Applied : _____ dry tons/year
 - b.. Disposed Via Monofill : _____ dry tons/year
 - c.. Disposed Via MSW Landfill : _____ dry tons/year
2. Treated Domestic Septage - Land Applied : _____ gallons/year
 - a.. Method used to treat Domestic Septage : _____
3. Water Treatment Plant Sludge:
 - a.. Land Applied: _____ dry tons/year;
 - b.. Dedicated Land Disposal: _____ dry tons/year
 - c.. Disposed Via monofill : _____ dry tons/year

Class A sludge land applied : _____ dry tons / year

Acreage used for Sludge Application/disposal at this site: _____ acres

Site Vegetation (such as grass type etc) and # of cuttings: _____

Sewage Sludge only – Please provide information regarding the following 3 items:-

1. Does any of the sludge you have generated or received NOT MEET the concentration limits for the metals listed in Table 3 of "30 TAC §312.43 (b)"? Yes _____ No _____
2. Has your field/site reached or exceeded 90% of the cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"? Yes _____ No _____
3. Has sewage sludge been applied to the field/site after 90% of cumulative metal loading rates for any of the metals per Table 2 of "30 TAC §312.43 (b)" been reached? Yes _____ No _____

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO :

Texas Commission on Environmental Quality
Land Application Team (M/C 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087

Attachment D

TCEQ

Quarterly Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.

Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Quarter _____ Reporting period from _____, to, _____

PERMIT NO.: _____

DATE: _____

NAME OF PERMITTEE: _____

MAILING ADDRESS: _____

CONTACT PERSON: Name: _____ Telephone No: _____

Field No: _____ (Submit separate form for each field, if site has two or more fields)

- Class B Sewage Sludge Land Applied : _____ dry tons / quarter
- Treated Domestic Septage - Land Applied : _____ gallons / quarter
- Method used to treat Domestic Septage: _____
- Water Treatment Plant Sludge - Land Applied: _____ dry tons /quarter
- Class A sludge land applied : _____ dry tons / quarter
- a. Acreage used for Sludge Application/disposal at this site:- _____ acres
- b. Site Vegetation (such as grass type etc) and # of cuttings:- _____
- c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)"? Yes _____ No _____
- d. Site location: Latitude: _____, Longitude: _____
- e. Site physical address: _____

Please attach the information regarding the following items (Sewage Sludge only):-

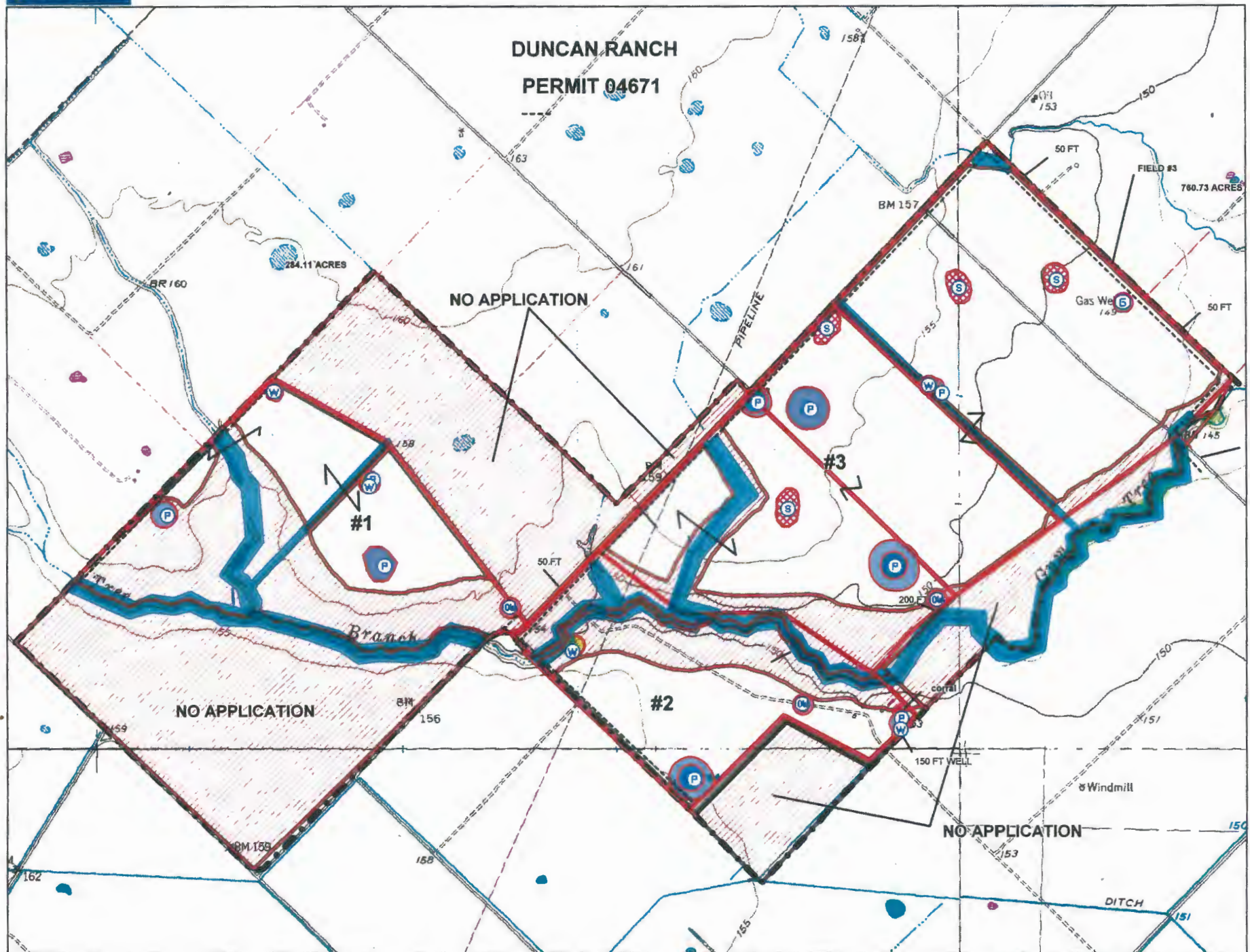
* Please note the following information shall be provided in computer generated report format:

* Please place check mark before each item below to indicate you have attached that item with this report.

- _____ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- _____ 2. Provide a list containing the name and permit number of each source of sludge.
- _____ 3. Date of delivery of each load of sludge land applied.
- _____ 4. Date of land application of each load of sludge.
- _____ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"?
- _____ 6. The suggested agronomic rate for the class B sludge.

PLEASE MAIL THE COMPLETED REPORT TO :

Texas Commission on Environmental Quality
Land Application Team (M/C 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087





PERMIT NO. WQ0004723000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
WQ0004723000 issued
June 22, 2006.

PERMIT TO LAND APPLY SEWAGE SLUDGE
under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of Health and Safety Code, Chapter 312 of Texas Administrative Code.

I. PERMITTEE:

Synagro of Texas - CDR, Inc.
1002 Village Square Drive, Suite C
Tomball, Texas 77375

II. AUTHORIZATION:

Beneficial Land Application of Wastewater Treatment Plant (WWTP) sludge and Water Treatment Plant (WTP) sludge.

III. GENERAL DESCRIPTION AND LOCATION OF SITE:

Description: The permittee is authorized to land apply WWTP sewage sludge and WTP sludge at an annual rate not to exceed 8.6 dry tons per acre per year on 80.5 acres located within approximately 363.78 acres at this site.

Location: The sludge land application site is located approximately 0.75 mile south of the City of Rock Island, east of and fronting Farm-to-Market Road 1693, in Colorado County, Texas 77470 (see Attachment A).

SIC Code: 0139

Drainage Basin: The land application site is located in the drainage basin of Lake Texana in Segment No. 1604 of the Lavaca River Basin. No discharge of pollutants into waters in the State is authorized by this permit.

This permit and the authorization contained herein shall expire at midnight **five years from the date of issuance** listed below.

ISSUED DATE: January 30, 2012


For the Commission

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Sludge also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum sludge application rate (MSAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the sludge, septage and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MSAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the sludge and in the soils in the application area.
6. All of the MSARs above must be calculated using Appendix A of the "Application for Permit for Beneficial Land Use of Sewage Sludge." These calculations must cover both sludge and septage for areas where both are applied. If sludge is received from multiple sources, the average concentration of each of the elements above must be determined using "Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration" from the application form.
7. Anytime the permittee plans to accept WWTP or WTP sludge from any source(s) other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division, Municipal Permits Team(MC 148) of the TCEQ prior to receiving the new sludge. The notification must include information to demonstrate the sludge from the proposed new source(s) meets the requirements of this permit. The permittee must provide certifications from each source that the sludge meets the requirement for a Process to Significantly Reduce Pathogens (PSRP) or other alternatives. The permittee must provide documentation that the sludge meets the limits for polychlorinated biphenyls (PCBs), vector attraction and the metal pollutants in Table 1 above. No sludge from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

- D. Sludge must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the sludge is applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Sludge cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Sludge must be applied by a method and under conditions that prevent runoff beyond the active application area and that protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
 - 1. sludge must be applied uniformly over the surface of the land;
 - 2. sludge must not be applied to areas where permeable surface soils are less than 2 feet thick;
 - 3. sludge must not be applied during rainstorms or during periods in which surface soils are water-saturated;
 - 4. sludge must not be applied to any areas having a slope in excess of 8%;
 - 5. where runoff from the active application area is evident, the operator must cease further sludge application until the condition is corrected;
 - 6. the site operator must prevent public health nuisances. Sludge debris must be prevented from leaving the site. Where nuisance conditions exist, the operator must eliminate the nuisance as soon as possible;
 - 7. sludge application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
 - 8. sludge can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any sludge applied on them.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises on which the land application unit is located stating that a beneficial land use application site is located on the premises.

VII.PATHOGEN CONTROL:

- A. All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A or Class B pathogen requirements.
 - 1. Six alternatives are available to demonstrate compliance with Class A sewage sludge.

The first 4 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four

solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2

Sewage sludge that is used or disposed of must be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. An independent Texas Licensed Professional Engineer must provide a certification to the generator of sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U. S. Environmental Protection Agency final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3

Sewage sludge must be treated in an equivalent process that has been approved by the U. S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

- i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;
- ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce

30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS:

- A. All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives for Vector Attraction Reduction.

Alternative 1 The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].

Alternative 2 If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].

Alternative 3 If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].

Alternative 4 The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. This test may only be run on sludge with a total percent solids of 2.0% or less [30 TAC §312.83(b)(4)].

Alternative 5 Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].

Alternative 6 The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container [30 TAC §312.83(b)(6)].

Alternative 7 The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process [30 TAC §312.83(b)(7)].

Alternative 8 The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior

X. RECORD KEEPING REQUIREMENTS:

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for all types of sludge land application permits:
1. a certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or 30 TAC §312.47(a)(5)(A)(ii), whichever is applicable;
 2. the location, by street address, and specific latitude and longitude, of each site on which sewage sludge (including WTP sludge) is applied;
 3. the number of acres in each site on which bulk sludge is applied;
 4. the dates, times and quantities of sludge is applied to each site;
 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
 6. the total amount of sludge applied to each site in dry tons; and
 7. a description of how the management practices listed above in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(viii).
- B. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; which also meets Class A pathogen requirements in 30 TAC §312.82(a), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
1. a description of how the vector attraction reduction requirements are met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- C. For Sewage Sludge with metal concentrations at or below levels in Table 3 of Section IV.C.4; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):
1. a description of how site restrictions for Class B sludge in 30 TAC §312.82(b)(3) are being met. If these requirements are being met prepare and keep a certification statement per 30 TAC §312.47(5)(B)(x); and
 2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met. If these requirements are being met, prepare and keep a certification statement per 30 TAC §312.47(5)(B)(xii).
- D. For Sewage Sludge with metal concentrations at or below levels in Table 1 of Section IV.C.3; and which also meets Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10):

- v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for the site;
 - vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are met, a description of how this was done;
 - vii. soil and sludge test reports, as required in Section XII of this permit; and
 - viii. calculations of the current agronomic sludge application rate and the life of the site based on metal loadings (Appendix A of application, as identified in Section IV.C.4, or similar form).
3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4 of this permit:
- i. information per 30 TAC §312.47(a)(3)(B) for Class A sludge; and
 - ii. information per 30 TAC §312.47(a)(4)(B) for Class B Sludge.
4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4 of this permit the permittee shall provide the following additional information:
- i. date and time of each sludge application;
 - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the sludge generator and included in the report; and
 - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk sewage sludge.
5. Permittee shall submit evidence that the permit holder is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. Permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, a "Quarterly Sludge Summary Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The quarterly report must include all the information listed below. Submit your report to the Water Quality Division, Municipal Permits Team (MC 148) and the TCEQ Regional Office (MC Region 12). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Sludge Summary Report Form must include:
- 1. the source, quality, and quantity of sludge applied to the land application unit;
 - 2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
 - 3. the dates of delivery of Class B sludge;
 - 4. the dates of application of Class B sludge;

XII. SOIL SAMPLING AND ANALYSIS:

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site. Samples will need to be taken within the same 45-day period each year, or by an approved sampling plan and analyzed within 30 days of procurement.

The permittee must monitor the soil-sludge mixture for the site as follows using soil sampling requirements described in 30 TAC §312.12(b)(1)(I) and (J). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO ₃ -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH ₄ -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

1. Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
4. Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
5. Soil pH must be analyzed by the electrometric method in "Test Methods for Evaluating Solid Waste," EPA SW-846, 40 CFR 260.11; method 9045C - determined from extract of 2:1 (volume/volume) water/soil mixture.
6. Analysis for metals in soil must be performed according to methods outlined in "Test Methods for Evaluating Solid Waste," EPA SW-846; method 3050.

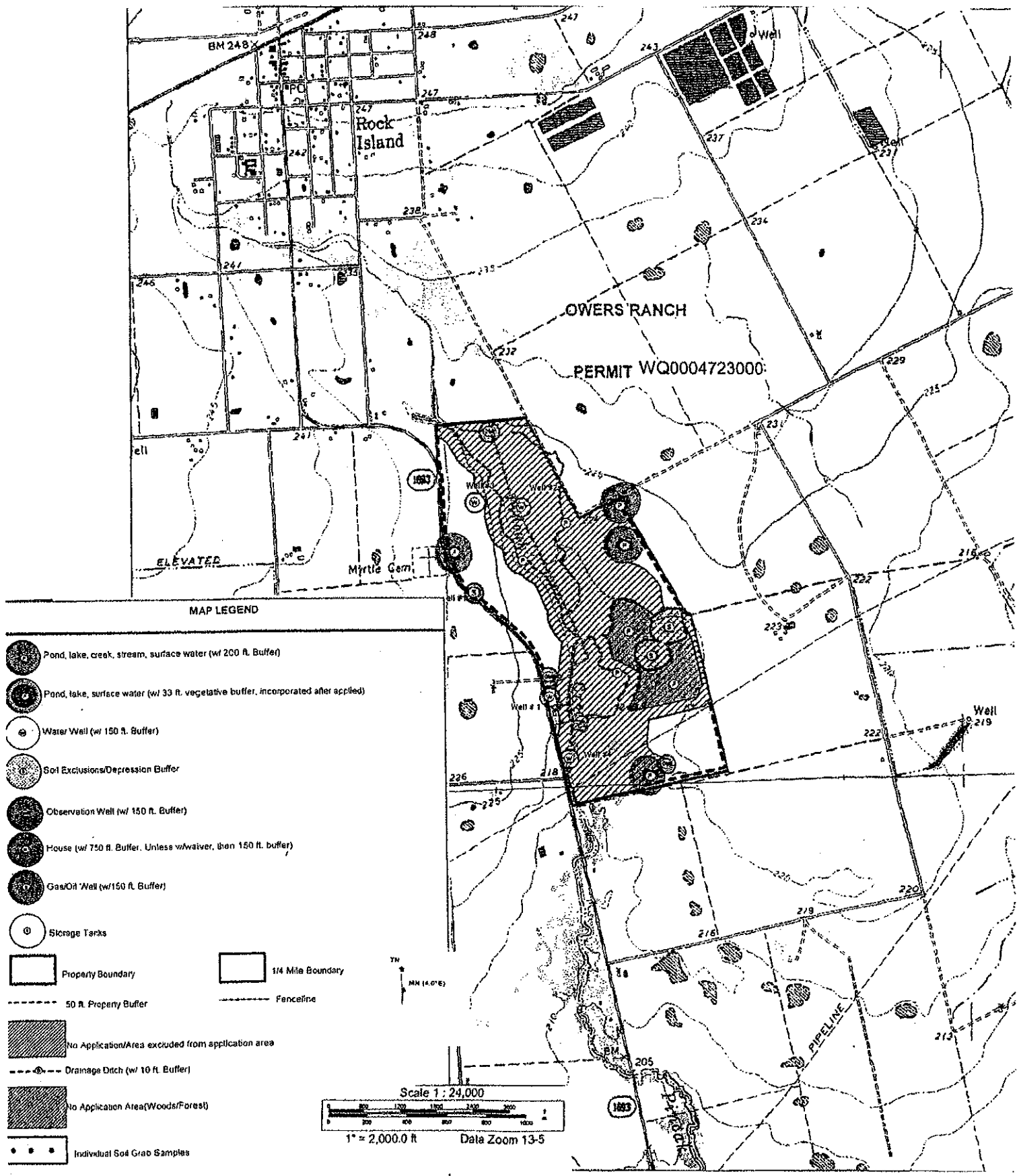
XIV. SPECIAL PROVISIONS:

- A. The maximum annual sludge application rate shall not exceed 8.6 dry tons/acre/year and shall be land applied at a frequency proposed in the application. Agronomic loading rates shall be calculated on an annual basis to ensure that nutrient balances are not exceeded.
- B. During times of land application of sludge, all buffer zones must be distinguished from each other by the use of flags, posting or fencing to ensure that both buffer areas and land application areas are separated.
- C. The permittee should consider nutrient management practices appropriate for land application of sewage sludge and assess the potential risk for nitrogen and phosphorous to contribute to water quality impairment. Information and assistance on a certification program for Nutrient Management Specialists is available on the web at "<http://nmp.tamu.edu>".

Nutrient management should be practiced within the context of the Natural Resources Conservation Service (NRCS) Code 590 Practice Standard which addresses the kind, source, placement, form, amount, timing and application method of nutrients and soil amendments. This is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/finalTX590_07_09_07.pdf". The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on Phosphorus Index is available on the web at "http://efotg.nrcs.usda.gov/references/public/TX/TXTechNote15_rev.pdf". The annual analysis of extractable phosphorus in soil samples should be conducted using the Mehlich III extraction with inductively coupled plasma.

- D. All sludge staging areas shall be located outside of buffers required by 30 TAC Section 312.44(c).
- E. A minimum 150 foot buffer zone shall be maintained for all monitoring/observation wells.
- F. Sludge applied in the northwest corner of this site, approximately 25 acres, must be incorporated to mitigate burrowing activities of crawfish.
- G. The permittee shall sample Pin Oak Creek once each calendar quarter when the creek is flowing for metals listed in the soil sampling chart on page 15 of the permit to ensure compliance with applicable stream standards.
- H. The permittee shall incorporate all sludge land applied as soon as possible considering weather, crop, and soil conditions.

Attachment B



Attachment D

Quarterly Sludge Summary Report Form

Note 1: If your site has more than one land application field, please submit a separate form for each field.

Note 2: Please place this sheet at the top of your Quarterly Sludge Report.

Note 3: If you have more than one permitted site, then fill-out this form for each one of those sites.

Note 4: Please send a copy of this sheet and all attachments to the local TCEQ regional office.

For TCEQ Quarter:	Reporting period:	From September 1,	to August 31,
Registration No:	Date		
Name of Registrant:			
Mailing Address:			
Contact Person	Name	Telephone No:	

Field No. (if any): _____ (Submit separate form for each field, if site has two or more fields).

Class B Sewage Sludge Land Applied: dry tons /quarter

Treated Domestic Septage - Land Applied: gallons / quarter

Method used to treat Domestic Septage:

Water Treatment Plant Sludge - Land dry tons /quarter

Applied:

Class A sludge land applied: dry tons /quarter

a. Acreage used for Sludge Application/disposal at this site

b. Site Vegetation (such as grass type etc) and # of cuttings

c. Does any of the sludge you have generated or received DOES NOT MEET concentration limits for any of the metals listed in Table 3 of "30 TAC §312.43 (b)"? Yes ☐ No ☐

d. Site location Latitude: Longitude:

e. Site physical address:

Please attach the information regarding the following items (Sewage Sludge only):

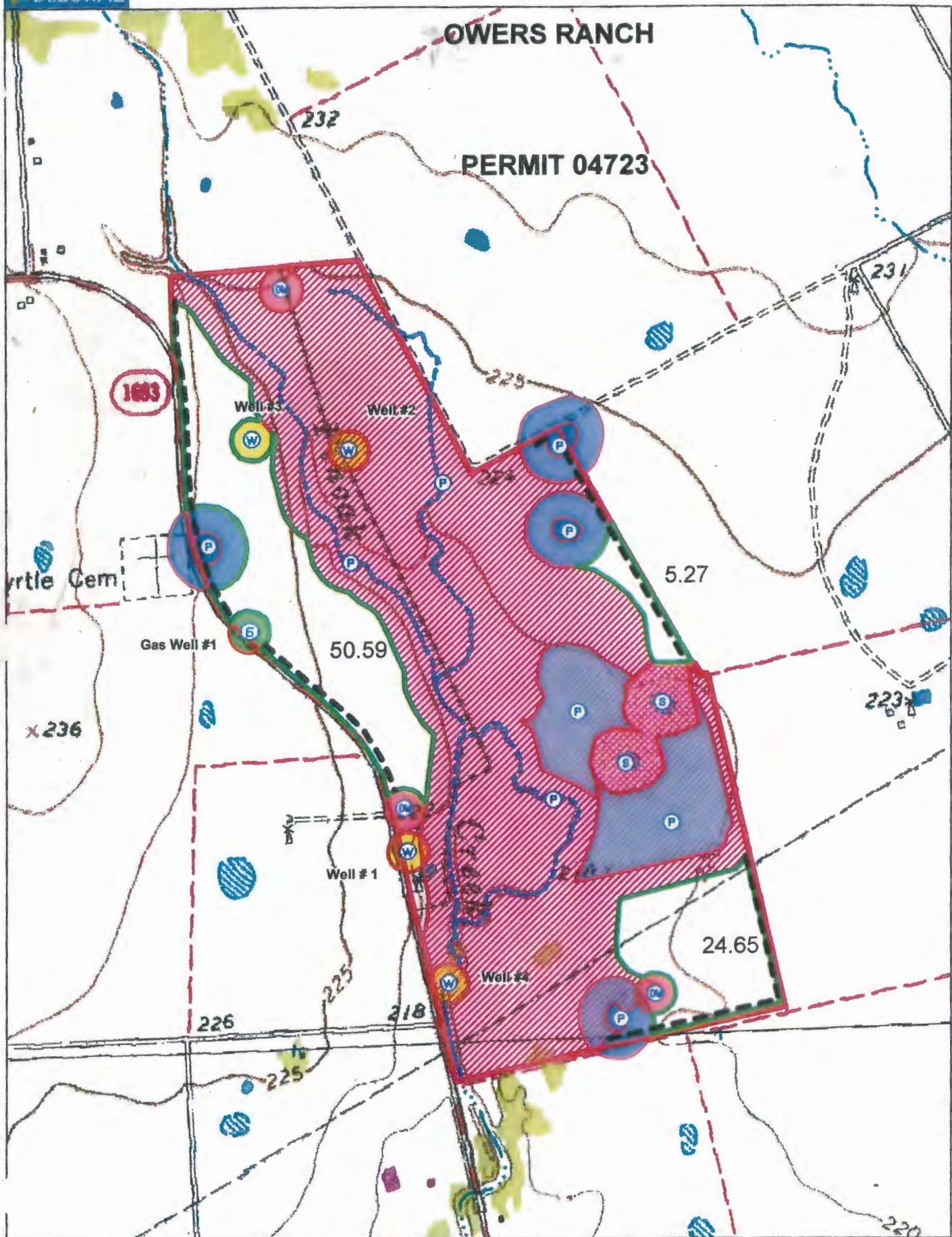
* Please note the following information shall be provided in computer generated report format:

* Please place check mark before each item below to indicate you have attached that item with this report.

- ☐ 1. Metal concentration, pathogen analysis data and vector attraction certifications of sludge for each source.
- ☐ 2. Provide a list containing the name and permit number of each source of sludge.
- ☐ 3. Date of delivery of each load of sludge land applied.
- ☐ 4. Date of land application of each load of sludge.
- ☐ 5. The cumulative metal loading rates for any metals as listed in Table 2 of 30 TAC §312.43 (b)"?
- ☐ 6. The suggested agronomic rate for the class B sludge.

PLEASE MAIL THE COMPLETED ANNUAL REPORT TO:

Texas Commission on Environmental Quality
Municipal Permits Team (MC 148)
Wastewater Permitting Section
P.O. Box 13087
Austin, TX 78711-3087



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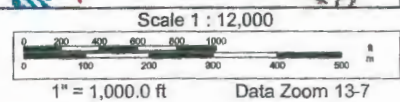




Exhibit 2.2

Insurance Provider Letter





April 21, 2016

To: Whom it May Concern

RE: Synagro of Texas-CDR, Inc.
Commercial Insurance Program
Effective: August 1, 2015 to August 1, 2016

Aon Risk Services is the Commercial Insurance Broker for Synagro of Texas-CDR, Inc. This letter is to confirm that Synagro of Texas-CDR, Inc. is capable of meeting the insurance requirements stated in the Supplemental Purchase Provisions – Section 0400.

If you have any questions, please feel free to call me (516) 396-4384

Best regards,
Aon Construction Services Group

Brian Pearsall

Brian Pearsall
Vice President
Brian.pearsall@aon.com



Exhibit 2.3

Bonding Agency Letter





April 18, 2016

Ms. Danielle Lord
City of Austin
Municipal Building -Purchasing Office
124 W 8th Street, Room 308
Austin, Texas 78701

Re: Synagro of Texas - CDR, Inc.
Solicitation No: RFP CDL2003; Requisition No: 2200 16021600262
Hornsby Bend Biosolids Management Plant Room: Auditorium 2
210 FM 973; Austin, TX 78725

Attention Ms. Lord:

We understand **Synagro of Texas - CDR, Inc.** has been invited to participate in the pre-qualification process for City of Austin projects - **Solicitation No: RFP CDL2003; Requisition No: 2200 16021600262 - Hornsby Bend Biosolids Management Plant Room: Auditorium 2 - 210 FM 973; Austin, TX 78725.**

The surety company for **Synagro of Texas - CDR, Inc.** is **Westchester Fire Insurance Company**. They have been associated with **Synagro of Texas - CDR, Inc.** since 2011. **Westchester Fire Insurance Company** is listed on the U.S. Treasury List of Approved Surety Companies and they currently hold an A. M. Best Rating of "A++" (Superior) and is authorized to do business in the State of Texas. **Westchester Fire Insurance Company** has issued bonds up to \$5,000,000 and would have no difficulty in issuing the \$500,000 performance bond as required by this RFP if **Synagro of Texas - CDR, Inc.** is awarded a contract.

Synagro of Texas - CDR, Inc. enjoys an unexcelled reputation for performance, management and quality construction. Aon Risk Services gives the Company our highest, unqualified recommendation.

Of course, any performance and payment bonds required would be subject to the normal review of current conditions plus such considerations as acceptable bond forms, contract terms and confirmation of financing satisfactory to the surety and contractor.

Please feel free to contact us if you should have any questions.

Sincerely,

AON RISK SERVICES

Greg Kessler,
Director, Surety & Performance Security
Aon Risk Solutions | Aon Risk Insurance Services West, Inc. | Construction Services Group
1900 16th Street, Suite 1000 | Denver, CO 80202

Aon Risk Insurance Services West, Inc.

1900 16th Street • Suite 1000 • Denver, CO 80202
tel: 303.782.3355 • cel: 630.561.3529 • greg.kessler@aon.com



Tab 3 – Experience & Qualifications

A. COMPANY EXPERIENCE, QUALIFICATIONS, AND EXPERTISE

Biosolids Solution Experience and Qualifications

Synagro's mission and core business purpose is focused on the management of municipal biosolids, including project development, operations, and biosolids product recycling. This focus has resulted in Synagro being North America's leading provider of high-quality, cost-effective biosolids management and beneficial use services. We have been successfully meeting the biosolids management needs of hundreds of generators for more than 37 years. This includes providing land application and compost marketing services for the City of Austin's biosolids for the past eight years. Synagro's experience in all areas of biosolids management is unparalleled.

Synagro annually manages over 12 million tons of biosolids and other organic by-products for more than 650 generators (including 600 municipal clients). Synagro employs a team of over 750 professional engineers, soil scientists, agronomists, construction managers, financial managers and the largest, most diverse operational staff in the industry. Our team is dedicated to working with our clients to find the right solution to their organic residuals management challenges. Synagro, and its various subsidiaries, have been at the forefront of the environmental movement to safely process and beneficially market organic residual materials.

Synagro offers virtually all commercially viable processing options and product marketing channels for biosolids and organic residuals including:

- Heat drying and pelletization
- Incineration
- Composting
- Alkaline stabilization
- Digestion
- Dewatering (installation & operation)
- Mobile dewatering
- Land application and reclamation
- Lagoon and digester cleaning
- Rail transportation
- Product marketing

This ability to offer the complete range of biosolids options is unique to Synagro and allows us to develop projects that fit a municipality's unique needs. In addition, this breadth of experience provides us with an in-depth understanding of biosolids that other companies simply do not possess.

As the industry leader in providing various forms of project delivery options, we have extensive experience developing and managing biosolids facility design-build-operate (DBO) and design-build-own-operate (DBOO) projects. We currently operate nine heat-drying facilities, three thermal





processing facilities, five composting facilities, over a dozen alkaline stabilization facilities, and approximately 70 permanent and mobile dewatering facilities.

Synagro is owned by EQT, a Swedish private equity firm with over \$20 billion in assets under management, and is part of EQT Infrastructure II, a fund with a hard cap of over \$2 billion. This fund is dedicated to creating improved value through investing capital and support resources to companies like Synagro that provide vital infrastructure services. EQT is a strong, stable, financial partner with a stellar performance history and an emphasis on long-term, sustainable investment.

Product Marketing Expertise

Synagro is the largest producer and distributor of biosolids compost in the United States. We successfully marketed over 400,000 cubic yards of biosolids compost last year for the various facilities and customers that we serve. Our facilities handle green waste and pre-consumer food waste, and increasingly we are being asked to handle post-consumer food waste as well. In addition, we are experienced in handling challenging green waste varieties such as palm fronds. For example, at our facility in Charlotte County, FL 80% of the green waste delivered to the facility are palm fronds. By establishing handling practices and grinding methods we successfully and consistently grind these palm fronds with minimal downtime to our machinery.

Our Sales Managers specialize in compost sales and typically come to us with extensive knowledge of the industry and are well versed in the benefits of using compost as a soil amendment. Below is a description of Synagro's biosolids compost marketing experience:

Table 3.1 Biosolids Compost Marketing Experience

Biosolids Compost Facility	Startup Year	Biosolids Processed (ton/year average)	Compost Marketed (cubic yard/year average)
City of Austin Composting Facility	2013	35,000	48,000
Charlotte County Bio-Recycling Center	2014	46,000	32,000
AZ Soils Composting Facility	1989	100,000	56,000
Central Valley Composting Facility	2005	65,000	76,000
South Kern Compost Facility	2007	190,000	225,000

Synagro is proud to have been providing biosolids management services to the City of Austin for the past eight years and we are looking forward to expanding the services that we can offer the City.





Professional & Technical Organization Memberships

As a company focused on biosolids management, Synagro has leadership participation in many regional and national organizations affiliated with the wastewater, biosolids, and organic product industry. Some of the relevant memberships include:

- The Water Environment Federation – National and Local Chapters
- The Water Environment Association of Texas
- The Water Environment Research Foundation
- The United States Composting Council
- The National Association of Clean Water Agencies
- The Farm Bureau
- Numerous Nursery Products, Turf Grass and Landscape Associations

Both Synagro and our customers have received numerous regional and national awards for biosolids program excellence, including:

- **2010 “Composter of the Year”**
US Composting Council
- **EPA Region 4; Beneficial Use of Biosolids Award**
with Charlotte-Mecklenburg Utility Department, NC
- **EPA National, 1st Place; Exemplary Biosolids Management Award**
with Anne Arundel County, MD
- **EPA Region 5, 1st Place; Beneficial Use of Biosolids Award**
with City of Wyoming, MI
- **EPA National, 2nd Place; Beneficial Use of Biosolids Award**
with City of Gastonia, NC
- **EPA National, 3rd Place; Beneficial Use of Biosolids Award**
with Knoxville, TN Utilities Board
- **GWPCA’s Gold Award for Complete & Consistent Permit Compliance**
- **GWPCA’s Industrial Land Application Award**
with Anheuser-Busch, Inc.
- **EPA Special Recognition Award for Efforts in Educating the Nation about EPA 503 Rule**
- **EPA Award for Public Acceptance Programs**
- **WPA Award for Longevity & Contributions to the Field of Sludge & Biosolids Recycling**

Synagro’s award as U.S. Composting Council’s 2010 “Composter of the Year” and National Biosolids Partnership Platinum level certification highlight the company’s qualifications and focus on operational excellence





- **Water Resources Association of the Delaware River Basin 2013 Business & Industry Award**
Philadelphia Biosolids Recycling Center – City of Philadelphia, PA
- **National Biosolids Partnership Platinum-Level Recognition for Biosolids Management Program**

B. RELEVANT EXPERIENCE FOR SIMILAR SERVICES

In addition to our work for the City of Austin, Synagro owns/operates four other biosolids composting facilities with associated product marketing programs, including:

- The South Kern Compost Manufacturing Facility (SKIC), located near Bakersfield, CA and serving the Southern California market.
- Central Valley Composting (CVC), serving San Francisco Bay area and located near Fresno, CA
- Arizona Soils in La Paz County, AZ (Phoenix area), and;
- The Charlotte County Bio-Recycling Center, serving the Southern Florida market.

These facilities utilize a variety of compost methodologies and are described in detail below.

South Kern Compost Manufacturing Facility

Project Description

Seated approximately 50 km southwest of Bakersfield, California, South Kern Compost Manufacturing Facility (SKIC) was commissioned in 2006 to alleviate Synagro's Los Angeles area customer's concerns about long-term viability of land application of Class B biosolids in Southern California. Beyond this objective, SKIC aimed to meet the highest standards in addressing air quality and odor control while expanding regional biosolids and organics recycling capacity.



Synagro utilizes an enclosed biosolids receiving and mixing building along with biofiltration in its compost system that controls VOCs and odors for the surrounding area.



SKIC was originally designed to utilize a state-of-the-art Engineered Negative Aerated Static Pile composting technology to blend and compost up to 400,000 tons annually of treated biosolids in combination with up to 270,000 tons annually of wood wastes (i.e., agricultural and green material) and other available carbon-rich sources, into Class A - Exceptional Quality (EQ) composted soil amendment.

- The SKIC design includes an enclosed biosolids receiving and feedstock mixing building, along with the Engineered Negative Aerated Static Pile compost system, including Biofiltration to control Volatile Organic Compounds (VOC's) and odors by over 80%.
- In the first quarter of 2016 the facility has been converted from negative Aerated Static Pile (ASP) to positive ASP. The benefits of this conversion include:
 - Reduced electric consumption and improved energy efficiency
 - Lower equipment repair and maintenance costs due to less materials movement during the compost process
 - More efficient biofilter utilization
 - Less water handling which simplifies pond management
 - Continued compliance and leadership with BACT
- We have also secured County approval to utilize pre-consumer food waste for a portion of our amendment needs. The benefits of this approval include:
 - Lower amendment costs
 - Solution for removal of organics from landfill

In addition, the compost facility has lined asphaltic concrete composting pads, a water collection system and lined retention basin to ensure that all process water and contact stormwater is collected and contained.

Dates and Duration of Project

- Contract commenced: June 2004
- Commercial operations: December 2006
- Contract end date: January 2026





Charlotte County Bio-Recycling Center, FL Composting Facility

Project Description

The Charlotte County Bio-Recycling Center (CCBRC) is a public private partnership between Charlotte County, FL and Synagro. The project created a Facility for recycling of up to 50,000 tons per year of biosolids and organic wastes from in-County and regional generators.



Through a public/private partnership, Synagro financed the compost facility with internal funds and initiated construction in September 2013; the facility was ready to begin accepting biosolids within five months.

The County previously maintained a small yard waste and biosolids composting program on an area adjacent to their landfill; the output of this composting program was used as final cover for the landfill. In 2011, the County selected Synagro as its partner to expand, modernize and commercialize the compost facility via a design-build-finance-operate and maintain agreement. Synagro financed the facility with internal funds and initiated construction in September 2013; the facility was ready to begin accepting biosolids within five months.

The public/private partnership benefits the County through a lease arrangement for the 8.5-acre site, a host fee for out-of-County biosolids received for composting, and a below-market rate for processing County biosolids. The County also sheds internal costs associated with their composting process. In addition to the site, the County provides road maintenance, storm water control, and wastewater treatment.

Synagro markets the compost from the CCBRC although the County has access to a portion for use as final cover. Additionally, on an as requested basis, some of the compost is provided to County ratepayers and to generators whose biosolids are being processed.

Dates and Duration of Project

- Contract award: 2011
- Commercial operation: January 2014
- Contract end date: December 2033





Arizona Soils Composting Facility

Project Description

Synagro's Arizona Soils Composting Facility is one of the largest outdoor biosolids composting facilities in the United States. The facility is located in La Paz County, Arizona and has been servicing the Arizona and Southern California region since 1991. The 40-acre windrow composting facility provides recycling of up to 500 wet tons of biosolids per day, along with select bulking agents consisting of greenwaste, stable bedding and/or wood chips. These materials are used in the production of high-grade compost products that are sold in bulk to the agricultural sector.



With operations encompassing 40 acres, Arizona Soils is one of the largest outdoor biosolids composting facilities in the U.S.

Dates and Duration of Project

- Commercial operation: 1991
- Contract end date: ongoing

Central Valley Compost Facility

Project Description

The Central Valley Composting was opened in the fall of 2005. The facility is located in Dos Palos, CA and serves the Central Valley of California. The facility processes 375 tons of biosolids and greenwaste per day, producing a beneficial soil amendment (or compost). The finished compost is used by farmers, horticulturalists, landscapers, nurseries, and product blenders who distribute and market composted products in retail stores.



At our Central Valley Composting facility, Synagro utilizes a mobile chip and grind operation for inbound feedstock size reduction.

The composting operation is conducted on a 32-acre lined compost operations area that includes 27.5 acres dedicated to composting and 2 acres for a storm water retention basin. A mobile chip and grind operation is used when necessary for inbound feedstock size reduction. The composting operation is conducted over a soil cement-lined operations area that slopes and drains to a contained storm water retention basin. Upon arrival, feedstock materials (biosolids & greenwaste) are mixed within the lined operations area and formed into windrows approximately 500 feet in length. Following windrow construction, the windrows are mixed and aerated using a windrow turner in



order to meet pathogen reduction process requirements per California regulations. Once pathogen reduction has been achieved (up to 40 days after initial windrow formation and mixing), the compost may remain in the windrow for up to an additional 80 days, at which time the material will be screened and sold to agricultural customers.

Dates and Duration of Project

- Commercial operation: 2005
- Contract end date: ongoing

Letters of recommendation received by Synagro for various compost and project marketing projects are included in Exhibit 3.1.

C. KEY PROJECT PERSONNEL

Synagro's personnel assigned to the City's project will include:

Table 3.2 Synagro's Key Personnel

Key Individual	Primary Work Assignment
Andrew Bosinger	Accountable for all business aspects of project development, proposal submittal, and contract negotiation with the City as well as ongoing customer service and communication regarding contractual matters.
John Goodwin	Overall accountability for guiding engineering design, site layout, mass balance development, compost process review, commissioning and startup of the proposed operations.
Nick Caggiano	Accountable for performance of all aspects of the contract with the City of Austin. All Synagro composting facility site and senior managers report to Mr. Caggiano.
Craig Geyer	Sr. level operations oversight and review.
Roderick Grant	Day to day operations management at the Hornsby Bend site.
Glenn Thompson	Accountable for the operation of on-site and off-site land application portions of the proposed solution.
Mark Vine	Day to day operations responsibility of the land application components of the proposed solution.
Craig Maultsby	Implementation of a diversified, sustainable product marketing plan for the final product.
Chuck Simmons	Technical and permit compliance responsibilities for the land application components of the proposed solution, including soil sampling and analysis at the Hornsby Bend site.



In addition to those people identified, Synagro has a full team of project development support staff with expertise in facility design, construction, financing and operation. The company has “back of the house” staff such as legal, marketing, HR and other support functions designed to ensure that its projects are successful and “field” staff have the resources they need to meet or exceed customer expectations.

Resumes for the team members provided in the table above are included in Exhibit 3.2.

D. STATEMENT OF GOOD STANDING WITH LICENSING AND REGULATORY AGENCIES

Synagro’s statement is provided in Exhibit 3.3.





Exhibit 3.1

Letters of Recommendation





THE OCEAN COUNTY UTILITIES AUTHORITY

Serving Ocean County & Southern Monmouth County

JOHN C. PARKER, CHAIRMAN
DANIEL J. HENNESSY, VICE CHAIRMAN
F. FRANK SADEGHI, TREASURER
CAROL A. SCULL, SECRETARY
ROBERT TOSCAN
RICHARD L. WORK
WATSON E. PHARO
HELEN FAYAD
JESSE TANTILLO
ALAN W. AVERY, JR.
RABBI YITZCHOK ROZSANSKY, ALTERNATE
CARMEN F. AMATO, JR., ALTERNATE

RICHARD M. WARREN, EXECUTIVE DIRECTOR

April 28, 2016

To Whom It May Concern:

The Ocean County Utilities Authority owns and operates a biosolids drying facility located in Bayville, New Jersey. At our facility we produce a dried granular biosolids fertilizer product named OCEANGRO[®] with a guaranteed analysis of 5-5-0.

Synagro WWT has been involved in the marketing and distribution of our biosolids since we started drying them in 1998. In all the years that we have been dealing with Synagro, we have not had any issues with their ability to manage our product. They have the resources needed to perform the service they provide to us. They have acted professionally in all of our dealings and have provided the Authority with other services in relation to the disposal of our residuals when drying was not an option.

If you have any questions, please feel free to contact me.

Sincerely,

Peter Kusion
Manager, Fertilizer Manufacturing Division



La Paz County Parks Department

7350 Riverside Drive

Parker, Arizona 85344

(928) 667-2069

Fax (928) 667-2757

John G. Bennett

Chief Ranger

To whom it may concern,

On behalf of the La Paz County Parks Department we would like to endorse the usage of Synagro's product. We have a partnership with them and will continue to use their product for all of our compost applications.

We use this product at three of our county parks. It is also used at Bouse Elementary School for their soccer and ball fields on multi-use turfs. They are constantly getting compliments on their fields and brag to all the surrounding schools in the area on how much nicer their fields are than theirs.

We believe that the performance is unmatched to any product that we have used. We have achieved better results with this product than when we have used odorless steer manure from our local nursery. It adds nutrients and cover during over seeding and fertilizing.

This product is fine enough to use with our top dresser at our parks and our golf course. We have also used this product after tilling and disking to improve the native soil. It has also proved to add no salts to our soils.

We give Synagro's product two thumbs up. It has never disappointed us on any project.

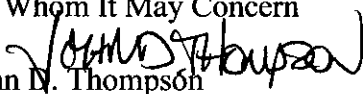
Sincerely,
John Bennett
Chief Ranger
La Paz County Parks



COUNTY OF LAKE
SPECIAL DISTRICTS ADMINISTRATION
230 N. Main Street
Lakeport, California 95453
Telephone (707) 263-0119
Fax (707) 263-3836

John D. Thompson
Utility Systems Compliance Coordinator

MEMORANDUM

To: To Whom It May Concern
From: John D. Thompson 
Date: May 11, 2011
Subject: **Letter of Reference for Synagro**

Over the last four (4) years, the County of Lake / Lake County Special Districts Administration has contracted with Synagro to perform a variety of projects involved with our biosolids management program including: dredging, drying, hauling and disposal (re-use) services. Synagro has removed over 800 dry tons of residuals from aerated lagoons, storage ponds at three of our regional wastewater treatment facilities operated by the Lake County Sanitation District.

Our treatment plant operators and superintendents were appreciative of their hard work to complete these projects quickly, without issue, or drama. Considering what they accomplish, their field crews operate in a very clean manner. As the District's project manager, I appreciate Synagro's management efforts and timing with the contract, insurance, accounting and regulatory aspects of these project(s). They are all in a class by themselves.

Because of their exemplary work, I can easily recommend the Synagro "team". They are obviously an industry leader in their field and also in their professionalism, operations, and overall customer service. Please feel free to contact me anytime (johnt@co.lake.ca.us) if you have any questions.



La Paz County Board of Supervisors

1108 Joshua Avenue

Parker, Arizona 85344

(928) 669-6115

TDD (928) 669-8400

Fax (928) 669-9709

Gene Fisher - District 1

Clifford Edey - District 2

Jay W. Howe - District 3

Donna J. Hale

Huey P. Long

Clerk of the Board

County Administrator

February 7, 2004

Mr. John P. Goodwin

General Manager

Synagro Composting Company of California, Inc.

P.O. Box 7027

Corona, CA 92878-7027

RE: AZ Soils Composting Facility

Dear Mr. Goodwin:

La Paz County, Synagro and I have worked hard in the last two years to develop and maintain open and honest communications relative to the current operations and their impact on the surrounding community, as well as discussing opportunities for additional tonnage that is on the horizon that will be consistent with the Arizona Soils Composting Facility Special Use Permit, if managed with the diligence I have witnessed in the last eighteen months.

Synagro has made substantial improvements to their operation to address community concerns and has made a necessary investment in the long term operation of the Arizona Soils Composting Facility through community involvement, facility upgrades, and dedicated local labor. This type of business provides La Paz County with property tax, host fee, income tax and sales tax revenues and, with few exceptions, has become a more welcomed business to our community.

As discussed recently, I and La Paz County have no issues at this time relative to the current operations of the Arizona Soils Composting Facility with the exception of a commitment from Synagro to, in good faith, guarantee \$1.00 per ton to La Paz County for any additional new tonnage to be in line with host fees collected at another Sludge processing facility in the County. This in no way will affect your ability to expand within your special use permit parameters but will give me and

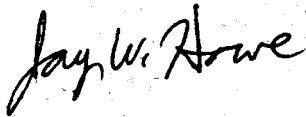
other local industry supporters some fire power to fend off political attempts to tax or further regulate biosolids in La Paz County.

I understand and support Synagro's interest in increasing the operational capacity of the facility during 2004 which could allow for additional benefit to both parties.

I also want to take this opportunity to thank you and Synagro for your support of our community and youth. Your contributions to scholarships, athletics, event sponsorships, and personal community involvement, have and will continue to provide opportunities for both "at risk" and college bound students and those less fortunate. Thank you from all of La Paz County!

I and La Paz County will continue to work together with Synagro in hopes of continuing to develop our successful business partnership with a vision for the future of all concerned.

Sincerely,

A handwritten signature in cursive script that reads "Jay W. Howe".

Jay Howe
Chairman, La Paz County
Board of Supervisors

cc:



Exhibit 3.2

Key Personnel Resumes





Andrew Bosinger

VICE PRESIDENT, STRATEGIC ACCOUNTS

Synagro Technologies, Inc.

Over 22 years' experience in all aspects of development of large municipal biosolids management programs and processing facilities, including contract negotiation and project financing. Past project experience includes:

Austin, TX Composting

Since 2007, Synagro has partnered with the City of Austin, Texas to provide biosolids solutions at their Hornsby Bend Biosolids Management Plant. The City was facing challenges associated with maintaining adequate biosolids management capacity at the Hornsby facility, had a major fire on the site, and was having increasing difficulty marketing compost product that they produced. Synagro evaluated and presented the City with multiple options, ultimately selecting and implementing a diversified off-site land application and on-site composting solution. To diversify and expand the compost product market, Synagro initiated an ag-grade compost production program that would allow cost-effective entry of the high-volume agricultural market. Andrew lead the solution development process, evaluating options for the City's biosolids and setting Synagro's approach to the project. He also lead the Synagro teaming, proposal development and contracting team.

Camden County Municipal Utilities Authority

In 2010, CCMUA purchased and constructed a 200 ton per day indirect sludge drying facility. Through a P3 procurement process, they entered a ten-year contract with Synagro for the operations, maintenance, and renewal services of that facility. During the design phase, Synagro partnered with the CCMUA to provide value engineering services, transferring key private sector experience and maximize the Authority's value for money from the project. In addition to OMR services, Synagro provides the CCMUA with product marketing services for dried biosolids produced. Andrew lead Synagro's team through all phases of the project, including team building, proposal development and submittal, contract negotiation and transition to operating services post-commencement.

Narragansett Bay Commission

In 2004 Synagro contracted with the Narragansett Bay Commission (NBC) and the Rhode Island Resource Recovery Corporation (RIRRC) for the DBFOM delivery of a 20-year

EDUCATION

B.S. Resource
Economics and
Management
University of New
Hampshire

PROFESSIONAL AFFILIATIONS

- Biosolids Committee Member, National Association of Clean Water Agencies
- Water Environment Federation Member



biosolids management solution. Development of the biosolids solution required the negotiation of a complex set of commercial, political, site development and technical challenges. Under terms of the DBFOM contract, Synagro constructed two biosolids dewatering facilities, one at each of the NBC's major wastewater treatment facilities. Dewatered biosolids were initially processed at multiple off-site facilities. In the spring of 2014, the NBC granted approval for Synagro to begin processing all of their biosolids as a beneficial use at Synagro's recently upgraded Woonsocket Bio-Energy Facility. The facility processes dewatered biosolids, using them as a fuel source for the production of approximately 2.0 Megawatts of electricity from a renewable resource. Andrew lead Synagro's project team through all phases of the project, including team building, proposal development and submittal, contract negotiation and transition to operating services post-commencement.

CURRENT ASSIGNMENT

SYNAGRO TECHNOLOGIES, INC.

Vice President – Engineering & Operations Support, 2011 to Present

Responsible for project management, including the design, permitting, construction and initial commercial operations of drying/pelletizing and composting facilities. He provides technical coordination and leadership for the design-build-construction teams and is responsible for the coordination and involvement of various subconsultants. Mr. Goodwin helps to facilitate the integration of review committees, quality control members, and client staff into all phases of the design-build-construction process. He is involved throughout the permitting, construction, startup and testing phases to ensure the facility is constructed and delivered to the client as intended.



John P. Goodwin
Vice President
Engineering and
Operations Support

EXPERIENCE

SYNAGRO WWT, INC. – ENGINEERING & FACILITIES DEVELOPMENT GROUP

General Manager – Philadelphia Renewable Bio-Fuels, Inc., 2008 to 2011

Responsible for full project management, including the design, permitting, construction and initial commercial operations, of an in-development biosolids drying/pelletizing facility to be located in Philadelphia, PA. This facility consists of Two Andritz DDS-110x Drum Drying Systems that are capable of processing 65,000 dry tons annually of Philadelphia Water Department biosolids in the production of pellet material to be beneficially utilized in the fertilizer and energy markets.

SYNAGRO WWT, INC. – ENGINEERING & FACILITIES DEVELOPMENT GROUP

General Manager – South Kern Compost Manufacturing Facility, 2006 to 2008

Responsible for full project management, including the design, permitting, construction and initial commercial operations, of the largest biosolids engineered negative aerated static pile composting facility located near Bakersfield, CA. This facility ramped up to full contracted operations within one month and operated above design capacity at ≈400,000 tons annual throughput of biosolids and amendment in the production of over 120,000 tons of exceptional quality compost products.

SYNAGRO WEST, INC. – SO. CA/AZ DIVISION

Division Manager, 2004 to 2006

Responsible for Synagro's residuals management services, consisting primarily of biosolids land application and composting operations in the Southern California and Arizona region. This involved direct responsibility and oversight of all financial, technical, environmental and customer/community relations aspects of the projects.

SYNAGRO COMPOSTING COMPANY OF CALIFORNIA, INC.

General Manager – Regional Compost Facility, Corona, California, 2001 to 2004

Responsible for commercial operation of two of Synagro's biosolids composting facilities located in Southern California and Arizona. The two facilities combined process over 200,000 wet tons of biosolids annually in the manufacture of over 300,000 cubic yards of exceptional quality compost products.

SYNAGRO-WWT, INC.

Plant Manager – Burlington County, New Jersey and Rockland County, New York Co-composting Facilities, 1998 to 2001

Responsible for construction, initial hiring, start-up and commercial operation of two biosolids composting facilities which process over 80,000 wet tons of biosolids annually in the manufacture of ~100,000 cubic yards of exceptional quality compost.

WHEELABRATOR WATER TECHNOLOGIES INC., BIO GRO DIVISION

Corporate Technical Services Manager, 1996 to 1998

Supported regional offices with public outreach and education efforts, regulatory liaison, permitting for stand-alone facilities and general regulatory compliance functions as needed. Assisted in tracking federal and state regulatory developments, which impacted Division projects and facilities.

WHEELABRATOR WATER TECHNOLOGIES BALTIMORE L.L.C.

Environmental Health & Safety Compliance Director, 1995 to 1996

Responsible for compliance with Federal/State regulations, permit requirements, company policy, as well as OSHA training and inspection programs at three biosolids drying/pelletizing facilities. Liaison with regulatory agencies and citizens groups to assure continued environmental compliance and community acceptance of facilities.

WHEELABRATOR ENVIRONMENTAL SYSTEMS, INC.

Senior Environmental Engineer, 1993 to 1995

Provided technical and regulatory support for stack emissions test programs throughout the company, including odor testing at four biosolids composting facilities. Conducted corporate environmental audits to ensure facility compliance with environmental regulations and permit conditions. Provided principal coordination, technical support and became the central resource for the company on odor issues.

EDUCATION

NORWICH UNIVERSITY

B.S., Environmental Engineering, 1988

PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS

- 🌱 Water Environment Federation
- 🌱 Air & Waste Management Association
- 🌱 US Composting Council



Nick Caggiano

DIRECTOR OF COMPOST OPERATIONS

Synagro Technologies, Inc.

Overall leadership responsibility for financial, operational and personnel performance for Synagro's Compost Business Unit. Facilities under this unit include: AZ Soils Composting Facility, Central Valley Composting Facility, Charlotte County Bio-Recycling Center, South Kern Compost Manufacturing Facility, as well as the compost product sales associated with these facilities.

Carmeuse North America

Multi-Site Area Operations Manager

Managed three lime manufacturing facilities. Directed a staff of six with indirect responsibility for 120 associates. Held full P&L for \$76M operating budget.

Business Manager/Project Leader

Oversaw the business evaluation, design, engineering, and permitting analysis for a \$168M facility expansion project and managed a Joint Venture Partnership for a new \$45M lime facility.

Site Operations Manager

Directed one of the largest lime manufacturing facilities in the company consisting of multiple kilns, a stone processing operation, a lime hydrating plant and a 3M+ ton per year underground limestone mining operation. Managed a \$64M operating budget with 6 direct reports and indirect responsibility for 200 associates.

- Increased site EBITDA by 34% in five years with stagnant sales during the period
- Improved site safety performance by reducing Recordable Incidents by 60% and was successful in getting the facility removed from an MSHA Pattern of Violation status
- Corrected environmental air compliance deficiencies and developed systems to ensure future compliance

EDUCATION

B.S. Industrial Engineering

West Virginia University

Advanced Leadership Training – Dale Carnegie



Knight Celotex

General Manager

Managed a fiberboard manufacturing facility including operations, customer service, logistics, engineering, maintenance, accounting and human resources. Directed a staff of six with indirect responsibility for 120 associates. Held full P&L for \$24.2M operating budget.

- Renegotiated a five year Labor Agreement with PACE Union.
- Managed \$10M clean up, rebuilding and start-up of an 85 acre, 800,000 square foot manufacturing facility after Hurricane Katrina.
- Coordinated the plant product development and product launch efforts for new Door Core product line.
- Pivotal role on company Energy Taskforce Team to reduce energy costs. Realized over \$1.8M in annualized savings in less than six months and projected \$2.5M within 12 months.

Operations Manager

Recruited to direct all manufacturing, logistics, operations and customer service. Managed \$10.7M budget and eight direct reports with indirect responsibility for 75 associates.

- Increased productivity 3%, reduced downtime 2% and reduced reject rate 68%
- Spearheaded reduction of finished goods inventory by \$10M
- Reduced grievances 40% by improving associate and union relations.
- Coordinated five month unpacking, installation and start-up of a Rikett Quartz tile flooring line.

Fleetwood Enterprises

Production Manager

Directed manufacturing, quality and continuous improvement in two motor home manufacturing facilities. Managed \$18M budget and 18 staff with indirect responsibility for 638 associates.

Product Compliance Manager

Oversaw development, implementation, training and follow-up of the Product Compliance Program for 17 manufacturing and service facilities of the Recreational Vehicle Group. Member of the Quick Response and Special Work Action Team (SWAT) for plant turn-around situations.

Continuous Improvement / Quality Engineer

Recruited to direct quality, continuous improvement and lean manufacturing efforts within five plants of the Motor Home Group. Facilitated associate development and leadership. Created a formalized plant auditing and evaluation process for quality and process improvement.



Craig Geyer

SENIOR OPERATIONS DIRECTOR

Synagro Technologies, Inc.

Responsible for management of Synagro's biosolids daily haul, composting, and event operations in Arizona and Southern California. Includes daily managed of ingoing biosolids and outgoing compost product at the company's Arizona Soils Compost Facility.

Gilbert Pump

Construction Superintendent

Supervised construction for water facilities.

Camp, Dresser and McKee

Construction Superintendent

Supervised construction for water and wastewater treatment plants.

Latigo, Inc.

Assisted with the management and operation of a family-owned business specializing in truck transportation and construction.

CERTIFICATIONS

State of Arizona Class A
General Contractor's
License



Roderick Grant

OPERATIONS MANAGER

Synagro Technologies, Inc.

Management of biosolids and composting program for the City of Austin, TX since 2013. Produce and manage the sales and distribution of over 50,000 tons of Class A compost for the City. Responsible for the application of Class B biosolids under the guidelines of the Texas Commission on Environmental Quality on over 12,000 acres of graze land. Develop and implement composting program to private agricultural customers. Prepare budgets, manage operating costs, allocate resources (personnel and equipment), implement repair and maintenance programs, develop and maintain relationships between Synagro and land owners/ranchers.

Containment Services Inc./Vision Enviro Services

Vice President – Operations/Field Service

Directly responsible for exceeding sales objectives and business to business sales. Responsible for operational excellence and establishment of sales and marketing objectives. Managed government and private bid preparation; budget process and personnel performance. Implementation of new technology and process assessment. Directed all transportation/disposal/permitting operations.

Project Manager/Field Service

Responsible for project completion, personnel, budget management, and customer relations. Operation of pumping equipment – power units, hydraulics and electronics. Successful installation/operation of material dewatering systems (belt press, centrifuge, and geotextile). Management of disposal programs including permitting, transportation, and reporting.

EDUCATION

B.S. Geosciences

Northwest Missouri State
University
Environmental
Geography/Geology

CERTIFICATIONS

- CDL – Class A
- Water Environment Federation Member



Glenn Thompson

GENERAL MANAGER – SOUTH REGION

Synagro Technologies, Inc.

Full P&L, operations and sales responsibility for the company's South Region, including biosolids processing facilities and services projects and customers. Responsible for driving and delivering Operational Excellence using Lean management principles and tools. Create growth strategies for both services customers and standalone processing facilities in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, Tennessee and Texas.

Clean Harbors, Inc./Safety-Kleen Systems

Sr. VP TSDF Facilities Operations

Direct P&L and management responsibility for a diverse set of 37 transfer, storage, disposal facilities (TSDF) and recycling centers across the U.S. and Canada and their \$200+ million revenue and 20% EBITDA margin. Responsible for a sales force specialized in recycle and tolled chemical sales, along with a chemical distribution operation and high hazard waste handling (explosives and cylinders) business units. In 2013, retooled an under-performing business unit changing the customer focus and product offering to improve EBITDA from -1.6% to 26.5 %. Member of the leadership team that developed and implemented the Safety-Kleen/Clean Harbors integration plan. Developed synergy plans that consolidated 12 locations into 5, headcount reductions of over 100, and transportation improvements that were part of a total \$170 million synergy plan.

VP Recycle and Accumulation Services

Management responsibility for 18 waste recycling and accumulation centers across the U.S. and Canada with \$80+ million operating budget. Lead a specialized sales force generating \$26.0 million in direct, specialty waste and tolling business into these sites. Process owner of corporate waste tracking system; responsible for management of system upgrades, repairs, training and management of waste systems team. Instituted new processes to decrease disposal expense by \$1.3 million per year at the Dolton, IL facility. Internalized dry cleaning waste recycling, reducing disposal cost by \$2.0 million and increased revenue by \$1.3 million through the sale of recycled perchloroethylene

EDUCATION

M.S. Business Administration

Mississippi State University

Focused on Marketing and Management

B.S. Business Administration

Mississippi State University

Degree in Transportation and Marketing



Reichhold, Inc.

Supply Chain Manager - Sourcing

Responsible for the global sourcing strategy for five of Reichhold's top twenty raw materials with direct control of over \$250 million in global commodities. Developed a new purchasing agreement for Phthalic Anhydride that reduced European material cost by 7% saving the company \$1.0 million per year. Re-negotiated higher glycols contract to hold prices stable for 6 months avoiding price increases of over 20% and generate savings of \$440,000.

Manager of North American Logistics

Managed a staff of 15 including mode managers, international customer service and accounts payable. Developed outsourcing strategies, implemented EDI billing, and realigned business strategies to reduce staff by 25%. Responsible for the management of Reichhold's contract carriers and completed the divestiture of all private fleet operations in North America. Outsourced the management of ocean and bulk freight to create savings of \$1.6 million.

Rogers Cartage Co.

Director of Operations and Pricing

Responsible for the operational, pricing, and union decisions for the company. Through new business development, increased company revenues from \$33 to \$42.0 million. Developed dedicated carrier programs to replace private fleet operations at Reichhold and Du Pont. Acted as lead union negotiator for the Central Region Tank Truck Carriers Association. Improved on-time and error free operations to 99.95%.



Mark Vine

TEXAS AREA DIRETOR

Synagro Technologies, Inc.

Oversight of several contracts within Texas and Louisiana for various clients including City of Houston, City of Austin, City of Tyler and Georgia Pacific. The day to day function of the position is focused on client liaison, business/market development, financial oversight and the management of four Project Managers and a Project Coordinator.

Key achievements include development of an agricultural compost Market in the City of Austin area, projected sales to exceed 100,000 cubic yards during the 2015-16 financial year. Mentored local Minority Business as part of contract with the City of Houston at the South East Water Purification Plant. The implementation of a beneficial reuse/land application program at the Georgia Pacific Paper Mill in Zachary, LA. This project provided an outlet for the various process residuals from the paper mill which benefited the client by reducing the reliance of the landfill and providing an organic material/supplement to the local land/farming community.

Severn Trent Services

Project Manager

Total of 18 years experience with Severn Trent. Most recently responsible for all aspects of Wastewater, Water Production & Collection/Distribution projects in the Greater North East Houston Service Area and the City of Woodbranch Village. This was a \$25Million project over five years with a total of 25 full-time employees. Operational facilities included six wastewater treatment plants ranging from 0.05 MGD to 7MGD, 14 ground water treatment plants, 18 water wells and 64 lift stations.

Project Manager/ Project Director

Responsible for all aspects of the Operation, Maintenance and Management of the Wastewater Facilities in the City of Jackson, Mississippi. \$6.5 Million budget holder with a total of 39 ttaff. This included six direct reports who managed the day to day activities of the Operational, Maintenance, Regulatory,

EDUCATION

B.S. Water & Environmental Management

DeMonfort University
United Kingdom

CERTIFICATIONS

- B Classification Wastewater License – Texas Commission of Environmental Quality
- Grade IV Wastewater License – Mississippi Dept. of Environmental Quality



Laboratory, Land Application and Project Administration teams. The operational facilities included a 46 MGD and 5.8 MGD wastewater treatment plants and 96 lift stations, a commercial laboratory (including an Industrial Monitoring Program) and a land farm.

Change Leader

Facilitated the introduction of a company-wide change program which was developed to achieve several key business objectives. Key achievements included: introduction of strategic change at all levels of the Sewage Treatment Department; identification of efficiencies and opportunities through staff engagement; increased awareness/understanding of Company Key Performance Indicators & Key Strategic Indicators; empowerment of staff at all levels to affect change; introduction of structured, daily departmental communication meetings designed to improve communication and focus on local team and company objectives; development and facilitation of a problem solving team focused on sludge transportation and optimization of the Anaerobic Digestion Plants; and completion of process mapping of the Wastewater/Sludge Treatment processes.



Craig Maultsby

PRODUCT SALES MANAGER

Synagro Technologies, Inc.

Responsible for compost product sales for the City of Austin since 2015. Development of market outlets for compost and relationships with local landowners, ranchers and regulators. Assistant with development of green waste markets for other Synagro compost facilities.

Cen-Tex Sheet Metal Fabricators

Business Manager/Administrator

Responsible for conducting and overseeing all administrative duties pertaining to Sales, Marketing, Purchasing, Incoming and Outgoing Freight and Shipments, Human Relations, Payroll, Accounts Payable, Accounts Receivable along with all other related duties. Building relationships with managers and owners of both customers and vendors related to any of the tasks at hand. Evaluate and research profit and loss as related to production.

Animal Health International, Inc.

Territory Manager

Responsible for animal health and lawn and garden product sales for Sunwest Industries focusing on dealer and retail outlets in the animal health and home and garden markets. Prospect new customers in the dealer markets along with retaining and growing both sales and profit margin with current customers. Understand market outlets for animal health and lawn and garden products related to the local consumers within each market. Educate purchasing agents and sales staff on the usage and knowledge of current and new products. Evaluate the product supply and demand within each market per location and determine pricing.

Teaching Experience

Nine years of teaching experience ranging from the Department of Agricultural at Texas Tech University to Agricultural Science teaching assignments in local Texas school districts. Involvement local FFA chapters as advisors within those school districts.

EDUCATION

M.S. Agricultural Education

Texas Tech University

B.S. Interdisciplinary Agriculture

Texas Tech University

PROFESSIONAL ORGANIZATIONS

- China Spring ISD Agriculture Advisory Committee
- Houston Go-Texan Committee: McLennan County
- McLennan County Junior Livestock Show Board of Directors
- Texas Lamb Breeders Association



Chuck Simmons

TECHNICAL SERVICES DIRECTOR

Synagro Technologies, Inc.

Over 17 years of experience in compliance with local, state and federal regulations related to biosolids land application. Supervision of Technical Service staff who cover the South region with active projects in AL, GA, MS and TN. Research, development, permitting and management of land base for land application of municipal and industrial residuals. Review of analytical data for land filling, reuse, fertility and compliance. Development of SOP's for Operations and Technical Service Managers, development and implementation of nutrient and best practices plans. Development of compliance reports to local, state and federal regulators. Client, farmer and corporate public relations.

Mid-South Testing, Inc.

Soil/Environmental Scientist

Permitting, site consultations on soil, soil sampling, mapping and investigations. Development of geotechnical and environmental investigation reports. UST, AST and lagoon closures. Landfill investigations for permitting expansions. Industrial and municipal land application. Supervision of geo technical and environmental investigation crews and drilling.

EDUCATION

B.S. Agronomy

Auburn University

Specializing in crops and soils

CERTIFICATIONS

- ARCPACS Certified Professional Soil Scientist
- State of Alabama Professional Soil Classifier



Exhibit 3.3

Statement of Good Standing





Statement of Good Standing

I, Michael Schwartz, Vice President of Synagro of Texas-CDR, Inc., do hereby attest that the company is in good standing with all relevant State of Texas licensing and TCEQ permitting.



Signature

Michael Schwartz, Vice President
Name & Title of Signer

May 17, 2016
Date



Tab 4 – Proposed Solutions

A. PLAN FOR BENEFICIAL USE OF BIOSOLIDS

Synagro is proposing to provide beneficial use of Austin biosolids via on-site land application and composting at the Hornsby Bend facility. Synagro will also continue to make the investments required to sustain the capability to provide off-site land application of the City's biosolids as a contingency management solution and diversification strategy.

The City's biosolids production history, capacity and processing requirements are well understood by Synagro. For the past eight years the City and Synagro have worked side by side at the Hornsby site. Synagro has previously land applied biosolids on the Hornsby site, including performance of the soil testing and other required pre-work. Composting by Synagro on the Hornsby site has been scaled to support operations by the City. Under this proposed approach, Synagro would provide all composting operations and continued land application at Hornsby.

Diversification and redundancy are keys to providing a stable, long term beneficial use program.

Synagro's proposed approach offers the City composting and land application at Hornsby Bend, with off-site land application as a contingency.

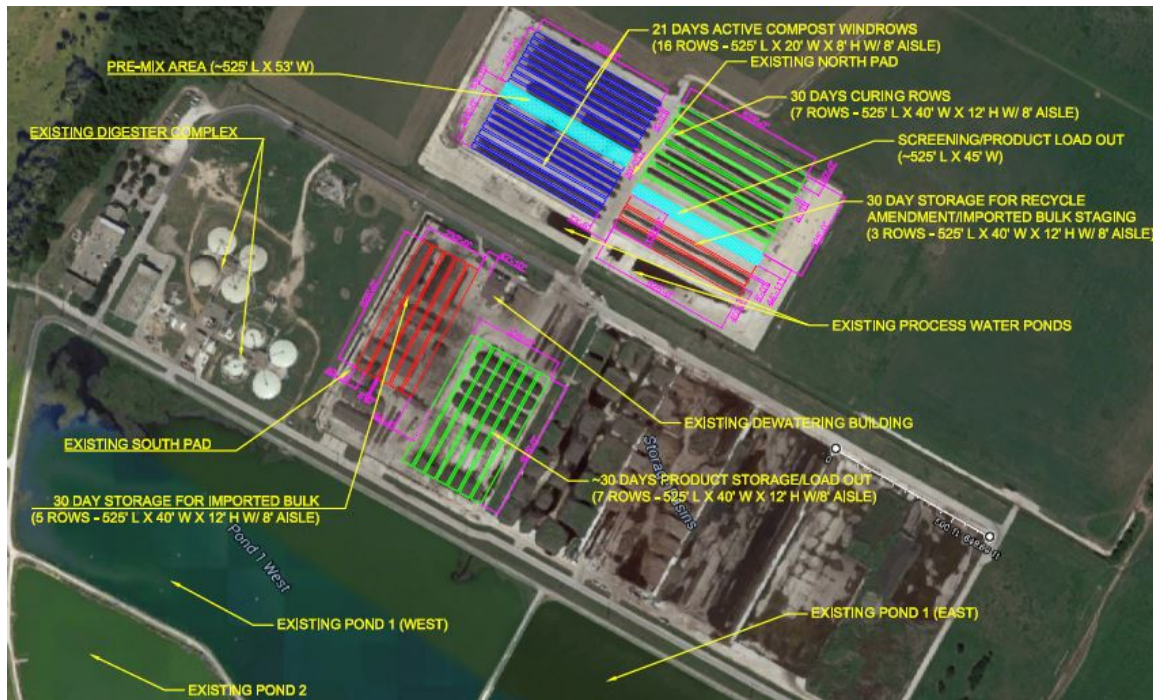
Having a proven contingency plan is smart business and good public policy.

Composting

In preparation for a transition to the lead role in the composting process we have prepared a mass balance, process flow and site plan demonstrating that the proposed approach is viable on the Hornsby Bend site.

Synagro will continue the current windrow composting technique but will consolidate the active composting phase activities on the west one-half of the north or "new" pad (see conceptual layout below). We have calculated that there is sufficient area available on that portion of the pad to allow for up to 21 days of active composting while also allowing for a nearly one-half acre area for pre-mixing dewatered cake with fresh bulking agent and recycled overs. The blend ratios with existing amendment materials and the seasonal differences in composting process requirements are well understood and have been taken into account in plan development.





Hornsby Bend Biosolids Management Plant project area.

The eastern half of the north pad will be dedicated to curing, screening, and recycled overs stockpiling. There is sufficient area on this portion of the pad to allow 30 days of curing time as well as these other activities. This area will be utilized for the first cut screening and harvesting of recycled overs. The primary products generated in this area will be agricultural grade, screened compost, although some amount of unscreened compost can be distributed from this point as the market demands.

Extended composting and curing time will allow us to assure the City, ourselves and the marketplace of compliance with the time and temperature requirements for meeting Class A pathogen reduction and vector attraction reduction standards. This will also allow for the production of a well-cured final product which will protect against end-user issues with compost material that has not fully cured (odor, impacts of ammonia on crops/plants, etc.).

Additionally, we will reserve a portion of the south pad (approximately one acre) for inventorying cured, screened compost. This area will allow further maturation of the product and provide up to 30 days storage of finished product, allowing us some flexibility in targeting high product demand periods. Product will be loaded out from this area. Additionally, we will set aside some area for



extended aging and drying (up to 8 months) to enable us to manufacture product meeting the current Dillo Dirt specifications.

We will also utilize an additional approximate one-acre area on the south pad as required for received pre-ground bulking agent (that portion not provided by ARR).

Source and Quality of Supplemental Bulking Agents

To compost a larger fraction of the City's biosolids, we will need to receive more bulking agent than what is currently provided by Austin Resource Recovery; the actual amount required will be a function of actual tons of biosolids to be composted, any diminution in ARR's supply over time, and other factors (for example, dryness of both the biosolids and amendment).

Avoiding collection and preparation of amendment on the Hornsby Bend site has multiple benefits to the City and the community at large.

To ensure a reliable supply bulking agent, we have identified local firms already engaged in the collection and management of woody wastes across the Austin area. These firms are mulching firms, landfill owners/operators and other recycling ventures, including those identified on ARR's web site as "Austin-Area Construction Material Reuse or Recycling Facilities".

Synagro has considerable experience sourcing amendment for use in composting facilities and, with City of Austin's enactment of an ordinance requiring 50 percent diversion from landfills of recyclable materials from construction projects, we believe that sourcing additional bulking agent as necessary can be accomplished. Our plan contemplates collection and preparation of supplemental amendment materials off-site with delivery on a just in time basis to the Hornsby site, ready for use in composting. This approach to amendment acquisition and preparation has several benefits to the City:

1. Reduced amendment storage on site – lowers risk of fire.
2. Reduced truck traffic, noise, aesthetic, or other nuisance issues for neighbors of the Hornsby site.
3. City savings – Via the delivery of yard debris by ARR to the same off-site location, eliminating the need for duplicative grinding operations.

This proposal anticipates off-site (away from Hornsby Bend) collection and preparation of amendment materials. Should ARR/the City wish to divert its yard debris to the site anticipated for utilization by Synagro, the material can be prepared there as amendment for use at Hornsby Bend.





Economies of scale and the elimination of duplicative grinding operations present an opportunity for City savings.

Regulatory Compliance -- Synagro operates four large scale biosolids composting facilities across the United States and has incorporated certain Standard Operating Procedures into our processing. Chief among the process parameters we follow are those associated with determination of compliance with regulatory requirements and production of a quality compost product. The following provide an overview of some of these critical process steps.

1. **Inbound Biosolids Quality**

- a. Pre-receipt analysis: The quality of the biosolids to be received and processed will be monitored by Synagro prior to acceptance for composting. Biosolids will be tested and determined to be compliant with limits relating to land application of biosolids as described in Title 40 Code of Federal Regulations (CFR) 503.13 Tables 1 and 3, TCEQ regulations, and the City's permits. The minimum base parameters for biosolids testing are listed below. All data must be reported on a dry weight basis and in the units indicated:

Total Nitrogen %	Mercury mg/kg
Total Phosphorus %	Molybdenum mg/kg
Total Potassium %	Nickel mg/kg
Arsenic mg/kg	Selenium mg/kg
Cadmium mg/kg	Zinc mg/kg
Copper mg/kg	pH standard units
Lead mg/kg	Total Solids %

Generally Synagro requires analytical results from several sampling events (typically data from sampling used to meet the calendar year sampling and analysis requirements of 40 CFR 503.). The quality of the City's biosolids has been established as within the parameters for beneficial use.

- b. Synagro may from time-to-time, obtain samples from incoming biosolids loads as a method of spot checking quality. In these instances, Synagro's standard sampling procedures shall be followed. Analytical reports generated from such sampling will be maintained at the composting site and a copy will be provided to the City.





2. Compost Process Quality Monitoring

- a. *Windrow identification:* For purposes of identification and to provide for clear understanding of windrow status during compliance, individual windrows are identified and labeled. This allows appropriate data gathering and documentation for regulatory reporting. In order to properly track and monitor the composting process, each windrow is assigned a discrete designation which reflects the location of the windrow, the number within the active composting area and the date the windrow is finished being built and is ready for initiation of temperature monitoring. The quantity of dewatered biosolids utilized in each windrow will also be tracked for invoicing purposes.
- b. *Time/temperature/turning documentation for demonstration of Class A pathogen reduction and vector attraction reduction (VAR):* Composting is performed utilizing an aerobic processes through which Class A pathogen reduction is accomplished by maintaining the temperature of the composting mass at a temperature of 55o Celsius (131oF) or higher for a minimum of 15 days. During this 15-day period, the windrow shall be turned a minimum of five times. Time logging and temperature monitoring procedures are carried out to ensure and document attainment of Class A pathogen reduction requirements. VAR is accomplished when biosolids are treated in an aerobic process for 14 days or longer and during that time, the temperature of the sewage sludge shall be higher than 40o Celsius and the average temperature of the sewage sludge shall be higher than 45o Celsius. By meeting the Class A requirements, VAR is also achieved.

3. Compost Analytical Quality

- a. *Sampling and analyses before distribution:* Compost will be ready for distribution after active composting and an appropriate curing period. Typically, compost will be cured for at least 30-days, but may be cured for as long as 8 months, depending on the specifications required by the intended end market. Compost may be screened before curing or before distribution; however it will be after the curing period that the product will be considered ready for sampling. In some cases, unscreened compost may be sold. Discrete stockpiles of cured compost will be identified based on the date the compost was finished curing and this identification and date will be recorded in on-site records.
- b. *Compost Quality Review Prior To Distribution:* Prior to compost shipment off-site, the Synagro project manager will confirm the compost meets the Federal and State standards for distribution.





4. US Composting Council (USCC) Compost Certification

- a. Synagro intends to obtain certification of the compost produced through the USCC Seal of Testing Approval (STA) program. Sampling and analyses necessary to obtain and maintain this certification will be conducted in accordance with Synagro SOP's, but such procedures may be modified as required by the laboratory performing the STA certification analyses.

During particularly wet periods or to manage seasonal variations in biosolids production, we may utilize one or more of the available basins to temporarily store dewatered cake. Our goal will be not only to minimize use of the basins, but also to remove any stored biosolids as expeditiously as possible so as to lessen any potential issues associated with stockpiling.

Land Application

City biosolids have been land applied by Synagro since 2008, enabling beneficial use of more than 100,000 cubic yards per year of Class B biosolids. Biosolids have been land applied on the Hornsby Bend site and on some of the more than 14,000 acres of ranch land sites permitted by Synagro and available to meet the City's biosolids program needs. The land application program has operated successfully, reliably and in 100% compliance with all applicable federal, state and local requirements and permits. Synagro is registered with the TCEQ and permitted to haul and land apply City biosolids.

Under the terms of this proposal, the City will be provided composting and on-site land application services. Off-site land application will be provided as a contingency, with Synagro making the financial and resource investments required to continue to maintain the applicable site permits.

On-site Land Application

As directed by the City, Synagro is prepared to handle land application at Hornsby Bend. We will coordinate these activities with City staff and provide the labor and equipment to properly apply biosolids. Synagro will provide annual soil sampling and lab results, as per the City's specification and previous practice. We will work with the City team to make sure proper application rates are developed and adhered to and provide data and information necessary to produce the required regulatory reports.

Off-Site Land Application

The sites currently permitted for off-site land application of City of Austin biosolids will be maintained by Synagro as a contingency and redundant beneficial use solution. These sites provide





more than 100% additional biosolids recycling capacity. While there is a cost associated with maintaining these sites, Synagro believes in the value of diversification and redundancy of solutions for all biosolids programs. Public agencies across the United States with large biosolids management programs routinely invest in diversification to protect their program, the environment and their taxpayers. Synagro has provided a separate cost per cubic yard for utilization of contingency, off-site land application.

The applicable site maps and permit information is included in Exhibit 2.1.

Guaranteed Biosolids Management

The City will receive a unique set of capabilities and value from Synagro on this project: We not only compost more biosolids than any other company in the U.S., we also have extensive capabilities to land apply Class B biosolids in Texas using our own equipment and staffing.

The diversified and redundant management capacity available in this proposal will provide the City with a guarantee that, if the composting process is impeded for any reason, biosolids will continue to be recycled through on and off-site land application. This will allow the City to avoid contingency landfill disposal and help meet its Zero Waste goals. It is our intent to maintain our current base of permitted land application sites. This will enable us to transition to a back-up beneficial use program in a manner that will be seamless to the City. Moreover, as with any of our land application projects, Synagro will provide all regulatory aspects of the program, including agronomic rate determinations, soil sampling and analyses, data compilation, and reporting.

Public agencies across the United States with large biosolids management programs routinely invest in diversification to protect their program, the environment and their taxpayers.

This in-place beneficial use outlet is critical to the sustainability of City's program because the land application permitting process in Texas can take one to three years to complete. By selecting Synagro, the City will be assured that the Hornsby Bend biosolids will be beneficially used throughout the contract period.

In addition to direct biosolids beneficial use services – composting and land application - the City will receive the benefits of partnering with the biosolids management industry's leader. That means receiving a broad set of service offerings and support services, including:





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Dewatering Optimization – City costs are directly and significantly impacted by the performance of its dewatering operations. Recent improvements in dewatering have generated volume and cost reductions. Synagro has sampled the City’s liquid biosolids and performed testing in our specialized Baltimore dewatering laboratory, where we test and provide biosolids dewatering optimization for hundreds of clients per year. Our testing indicates further improvements are possible to the performance of the City’s dewatering equipment. At no-cost to the City, Synagro will perform a dewatering optimization review with the goal of securing additional operating savings. Savings potential from improved performance is highlighted below:

Table 4.1 Example Savings Potential

20,000 Annual Dry Tons
\$15 Per Wet Ton Processing Savings

	Current	Potential Improvement					
Percent Solids	18.6%	20%	21%	22%	23%	24%	25%
Wet Tons	107,527	100,000	95,238	90,909	86,957	83,333	80,000
Tonnage Reduction	\$0	7,527	4,762	4,329	3,953	3,623	3,333
Annual Savings	\$0	\$112,903	\$184,332	\$249,267	\$308,555	\$362,903	\$412,903

Legislation and Regulation Monitoring – Synagro employs full time staff focused on tracking biosolids related legislation at the state and federal levels. When an item is identified that has the potential to impact our customers, Synagro works with its clients, industry organizations (e.g. WEAT, NACWA, WEF), and directly with elected/appointed officials to ensure that the regulations under which we work remain protective of the environment and public health as well as efficient and practical for operators.

Safety and Environmental Compliance – No exceptions or shortcuts are acceptable in the eyes of either the City or Synagro regarding safety and environmental compliance. As such, Synagro brings full time staff and other resources to the project, routinely conducting audits of our own operations to identify and correct any issues before an incident occurs.

Technical Resources – Technical challenges are likely to occur during the course of performance of any contract of up to 10 years in length. City upstream wastewater plant processes change, digesters become upset, regulations change, or other unanticipated circumstances may arise at Hornsby Bend.





Under this proposal, the City will be supported by Synagro and its staff of 750 full time employees focused on biosolids solutions. The company has a deep pool of resources to bring to bear for the City including operators, engineers, agronomists, soil scientists, product marketing experts, program managers, legal, financial and other professionals. This translates to lower costs over time and a more stable biosolids program.

B. COMPOST MARKETING

Synagro markets more biosolids compost than any one entity in the U.S. In 2015, we distributed more than 400,000 cubic yards of biosolids based compost, including about 48,000 cubic yards from the Hornsby Bend facility.

Product quality and matching the product characteristics to the intended market are keys to building a diversified, sustainable and high value compost marketing program. As is the case with all products, consumers are constantly seeking the highest value options for dollars spent. Ideally, while the desire is always to sell all production to high value markets from day one practical experience suggests that a combination of many outlets will be necessary in achieving a successful program. Synagro's marketing plan will include a focus on developing as many outlets and markets as may be necessary in achieving reliable, steady sales of material from the Hornsby facility. Synagro will first target the following markets:

- Direct Sales to the Landscape and Nursery Market Segments
- Agriculture and reclamation projects.

The nursery and landscape markets will require a product meeting the specifications historically associated with the City's Dillo Dirt product. Austin's Dillo Dirt program is an icon of the biosolids industry; everyone who has been involved in the business knows of the program, its success and the value that this recycling process has afforded the City. It has been a model emulated by numerous communities and companies.

Ideally, we would be able to utilize the Dillo Dirt trade name, allowing us to continue to supply this well-known and highly desirable product to the marketplace. We see continued use of Dillo Dirt as a way to facilitate increased distribution into commercial wholesale and retail outlets while not "re-inventing the wheel" by developing a new trade name and service marks. Our goal is to avoid confusing the marketplace by trying to supplant the value inherent in the name with something new and unknown to already satisfied existing customers. It is understood that the City may or may not





make use of the Dillo Dirt brand available to the contractor and we have not planned on using the name.

With or without access to the Dillo Dirt name, we recognize and appreciate the fact that we will be seen as representing the City in the eyes of the marketplace. Therefore, attention to customer service and responsiveness to issues will be a focus of our marketing program. This focus is in keeping with standard practices we utilize at all of our compost facilities nationwide. Synagro's AllGro branded products have already been introduced to the agricultural market and the use of that brand line will be expanded.

Extension of the AllGro brand starts with proper registration and labeling of the products; assuming that we cannot use Dillo Dirt, we will utilize our national brand for compost (AllGro) and create a local AllGro label based on analytical results and in keeping with Texas State standards. AllGro is a registered fertilizer in the State of Texas. Labels will offer guidance on proper product storage and use and will be provided to each customer and on each load or package of compost distributed. Included on the label will be a contact phone number and e-mail address by which a customer can contact Synagro with questions and issues. Our product marketing team will respond to these contacts expeditiously.

Synagro will endeavor to sustain and expand the current Dillo Dirt customer base. Our expectation is that we will grow the Dillo Dirt market year-over-year. We will do this by continuing many of the efforts the undertaken by the City staff (attendance at local trade/garden shows, demonstration plantings, etc.). Additionally, because we will be able to deliver Dillo Dirt to customers, we anticipate an expanded ability to distribute product to potential purchasers who previously may not have wanted to drive to Hornsby Bend.



Synagro's AllGro brand of compost can be used as a bagged product, or directly for application on crops, as we've done in the past for the City of Austin.

Our goal in managing the compost production will be to develop a suite of diversified outlets. Developing and maintaining distribution relationships to a diverse set of consumers ensures outlets





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for compost products, creating a more reliable and stable market during seasonal fluctuations. To that end, we will also plan on distributing both unscreened and screened compost to local landscapers/soil blenders and continuing to build our regional agricultural market segment.

The commercial landscaper/soil blender market sector includes a diverse collection of customers. Landscapers, planners, homebuilders, contractors, material yards, golf courses, and private recreational facilities are just a few of the potentially high volume compost users. In their efforts to present a more environmentally conscious image for their businesses, many of these entities are using compost products at their own facilities or jobsites. Many project specifications require the use of compost (e.g. TxDOT highway projects) and this further increases the demand for landscape compost, soil amendments, and mulches. Commercial customers demand a product of consistent quality that is both competitively priced and available in small or large quantities.

Competition from compost produced from food scraps collected by ARR will negatively impact marketing of biosolids based compost from Hornsby Bend.

Over the past several years, Synagro has supported the City's Dillo Dirt compost program by producing and developing markets for an agricultural grade product. The agricultural markets are largely high volume, lower revenue markets in which the very high quality of Dillo Dirt is not required. In this manner, the City's existing marketing program with local retail and commercial wholesale and retailers (including baggers and landscapers) was protected from over-supply while any excess compost was timely moved into new beneficial use markets.

Development of the agricultural market has resulted in a substantial increase in the overall size of the market for compost in the area as a whole new segment of users has been introduced to the product.

Commitment to the build and maintain the agricultural market reduces short term product sales revenue, but builds diversification and long term stability in the City's program.

These users were almost completely unfamiliar with the benefits of compost, but have now seen the product produce improved soil conditions and crop yields through full growing cycles, ensuring repeat and loyal buyers.

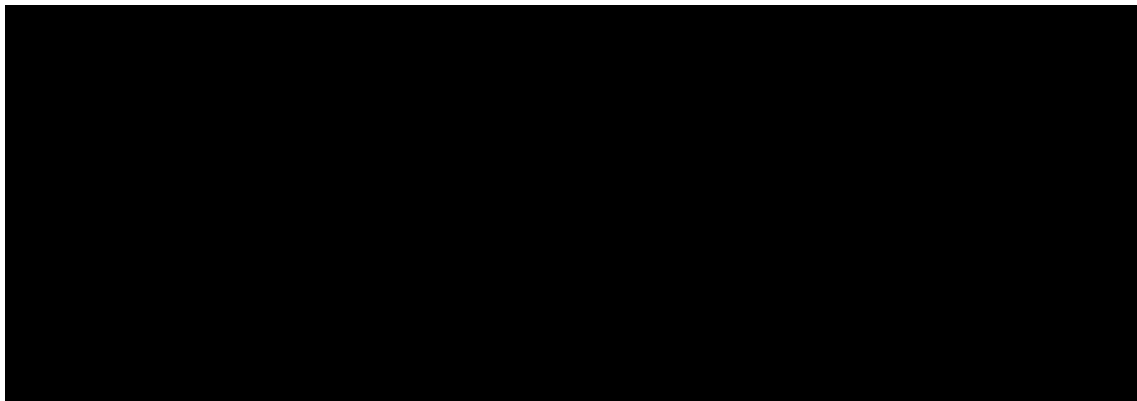
While the agricultural market is not typically as lucrative as the Dillo Dirt sales, it does represent a reliable, high volume market segment that is far less subject to the short term changes in the commercial and retail markets.





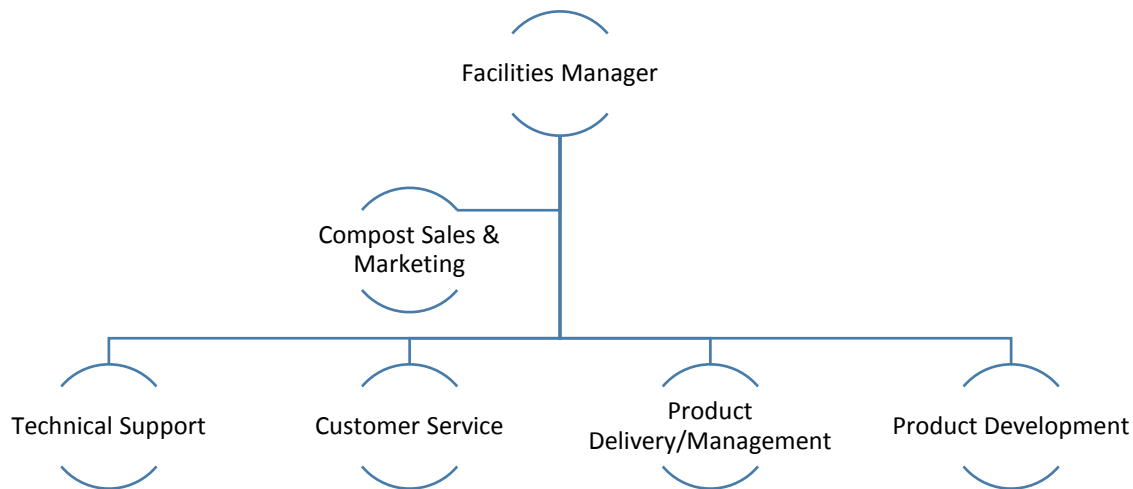
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Production of organic compost from food scraps collected by Austin Resource Recovery and others in the area is expected to increase over time. It is therefore imperative that a diversified marketing strategy be developed that includes the agricultural sector. Composts that contain biosolids are generally not as favorably viewed as favorably in the marketplace as food and other organics based composts.



Organization of Marketing Function

The product marketing function of the project begins with the project manager. The project operations must understand and have objectives tied to producing compost with specifications aligned to the planned end use and timing of market needs, including the duration of curing and recognition of any constraints on the Hornsby Bend site. Focused resources for customer service, logistics, technical support and new product development are all key components of the proposed program.



Functional Roles within the Product Marketing Function

The **Facilities Manager** oversees the complete cycle of the compost production, from feedstock delivery to curing, screening and delivery of the finished product.

The **Compost Sales and Marketing Representative** is responsible for customer acquisition, sales and follow-on customer management.

Technical Support oversees quality control, testing and mixing.

Customer Service is responsible for day-to-day sales tasks such as coordinating pick-up and delivery, billing, attending to tactical customer inquiries and needs.

Product Delivery/Management is responsible for deliveries and pick-ups, management of orders and inventory control.

Product Development is responsible for developing new products based on market requirements, collaborating with the Facilities Manager, Technical Support and Sales to ensure product quality and consistency.



Proprietary – This Page Contains Proprietary Information

C. LOCAL BUSINESS AND M/WBE PARTICIPATION

Utilization of local businesses and active participation in the local community are key concepts for long term success of the program proposed by Synagro. The tenets of our Local Business and M/WBE Participation program include:

Service from an Austin Branch Office - Synagro services the City from our Austin Branch Office at the Hornsby Bend facility. Our current on-site employees are residents of Austin. Four new employees will be hired with preference given to Austin residents.

Utilization of local M/WBE subcontractor – Though “no goals” were established for this project, Synagro is committed to pursuing the opportunity to partner with qualified MBE/WBE firm(s) for provision of subcontract transportation and other services under the project, where appropriate. We have been in contact with the City of Austin’s Small and Minority Business Resource Department representative for this project (Lavonia Williams-Horne) and, if selected, will work with the City to identify potential partners.

Local Partnership – Though “no goals” were established for this project, Synagro is committed to pursuing the opportunity to partner with qualified MBE/WBE firm(s) for provision of subcontract transportation and other services under the project, where appropriate. We have been in contact with the City of Austin’s Small and Minority Business Resource Department representative for this project (Lavonia Williams-Horne) and, if selected, will work with the City to identify and contract with local MBE/WBE partners.

Charitable Donations – Synagro will commit to a minimum of \$10,000 in corporate giving per year in donations to Austin based charitable causes.

Compost Donation – Synagro will make available to the City 2,000 cubic yards per year of finished compost for use in City projects. This will offset some City costs as well as building public visibility to the City’s recycling programs in action!

D. EQUIPMENT

Synagro will supply all equipment, materials and supplies required to perform the composting and land application services.





Composting equipment of new manufacture will be acquired and dedicated to the project, including:

- One Windrow Turner
- Three Front End Loaders (John Deere 744, or equal)
- An Office Trailer (replacement of existing)
- One Bobcat
- A Load Scanner
- Radios and other misc. equipment

The trommel screen (one) and on-site dump trucks (two) already located on the City's site will continue to be dedicated to the project. No grinding equipment will be required, as amendment materials will either be supplied by Austin Resource Recovery or collected and prepared off-site, delivered ready to use at Hornsby Bend.

Equipment for on and/or off site land application of the City's biosolids will include a John Deere front-end loader and tractor and a Kuhn 8132 pull-behind type spreader(s), or equal, to be mobilized on an as-scheduled basis from Synagro's large fleet of land application equipment.

E. ODOR & DUST CONTROL PLAN

Attention to odor control during composting, curing, and screening will be a paramount consideration in our work. Focused operational controls when composting biosolids via the windrow method is the key to mitigating odor issues; these include prompt mixing and windrow formation, followed by tightly controlled aeration to promote as rapid as possible organic matter decomposition. An oxygen meter can be used to monitor windrow oxygen content in the active windrows on a daily basis. This identifies and prevents formation of anaerobic conditions within the windrows, which conditions can lead to formation of nuisance odors once the windrow is agitated and aerated during the turning process.

Our Odor Impact Minimization Plan includes the following elements:

1. **An odor monitoring protocol which describes the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors.**





Prevention is the key to managing odor potential. Maintaining operational parameters in the composting mass in the optimum ranges will minimize production and persistence of odors: for instance moisture (40% to 60% moisture), appropriate C:N ratio (between 10:1 and 30:1), and adequate aeration (>15% oxygen concentration in windrows). Good housekeeping measures such as cleaning of any spilled materials and eliminating ponding between windrows or in the City's basins will be practiced.

Each day the site foreman will evaluate odors conditions and the potential for planned operations to release objectionable odors. If the operator detects an objectionable on-site odor, they will follow the following protocols:

- a. Investigate and determine the likely source of odor.
- b. Determine if on-site management practice could remedy the problem and immediately take steps to remedy the situation.
- c. Determine whether or not the odor is traveling beyond the site by patrolling the site perimeter and noting existing wind conditions.
- d. Determine whether or not the odor event is significant enough to warrant contacting the adjacent receptors and the local enforcement agency, including the City.

2. Recognize meteorological conditions effecting migration of odors and/or transport of odor causing material off-site and modify operations to avoid odor issues.

The Facility will use an on-site weather station which monitors wind speed and direction, ambient air temperature, humidity, and rainfall. The on-site weather monitoring station will be consulted daily by the site foreman prior to scheduling material handling activities.

3. A complaint response protocol.

Upon receipt of an odor complaint, Synagro staff will record the following information on an odor complaint form:

- a. Complainant's name, address, and telephone number
- b. Date and specific time the complaint was received
- c. Specific nature of the complaint, including type of odor, time odor observed, duration of odor, and odor intensity
- d. Any other relevant information

Synagro staff will notify the City and respond to the complaint immediately if possible, and no later than the next business day following receipt of the complaint. When possible, Synagro staff will review the area where the complaint was observed by the complainant to assess the complaint. If the composting facility is found to be the cause of the odor,





appropriate corrective actions will be taken. At the conclusion of the investigation, the complainant will be notified of the results of the investigation in writing by Synagro. A record of all complaints and field notes/observations and corrective actions taken will be maintained in the Synagro project office.

Similarly, dust control must be a key area of operational consideration for any viable composting facility operating outdoors. Dust can be generated from a number of activities, including transport of materials, grinding of bulking agents, windrow turning, and screening. Mitigation of dust issues is routinely accomplished by attention to housekeeping (e.g., sweeping and/or water roadways) and good composting practices such as maintaining proper moisture in the composting windrows. Grinding and screening activities can generally be managed in a manner that allows those operations to be conducted during periods with low wind. When it is not possible to postpone these operations, dust can be controlled by setting up water misting around the equipment. For this project, Synagro intends to collect and prepare amendment at an off-site location, eliminating a potential source of dust.

F. OPERATIONS MANAGEMENT PLAN

Operations Management Plan

Synagro's Maintenance and Operations Plan for the City of Austin is provided in Exhibit 4.1.

Community Response Program

Synagro's Community Response Program for the City of Austin is provided in Exhibit 4.2.

G. FIRE PREVENTION PLAN

A detailed copy of Synagro's Guidance Document for Fire Prevention and Fire Handling Measures at Compost Facilities is included in Exhibit 4.3.

H. SPILL RESPONSE PLAN

Synagro's Spill Response Plan is provided in Exhibit 4.4.





Exhibit 4.I

Maintenance and Operations Plan





Maintenance and Operations Plan

for

**City of Austin
Hornsby Bend
Biosolids Management Plant**

May 2016

CITY OF AUSTIN
HORNSBY BEND BIOSOLIDS COMPOSTING
MAINTENANCE & OPERATIONS PLAN

A. *General Project Description*

Synagro of Texas-CDR, Inc. (Synagro), a subsidiary of Synagro South, LLC, intends to operate the biosolids composting facility at the City of Austin's Hornsby Bend Biosolids Management Plant. The facility utilizes the standard aerated windrow method of biosolids composting and utilizes bulking agents (carbon sources) to mix with the biosolids such as yard debris and ground, clean wood wastes. These products are blended together and windrow composted to produce a soil conditioner or low grade fertilizer for agricultural, horticulture, silviculture and domestic uses. The finished compost is sold in bulk and may be sold in bags for beneficial use. Each bulking agent source is monitored for inorganic (non-compostable) materials. Additionally, all biosolids beneficially used at the composting facility are tested for both metal and agronomic constituents as described herein.

The finished compost products are tested to ensure quality and stability of the materials. During the composting process, monitoring of windrow temperature is conducted to ensure pathogen and vector attraction reduction in accordance with 40 CFR 503 regulations, TCEQ regulations and the applicable Hornsby Bend facility permits.

Process elements for the composting operation consist of initial mixing and formation of the windrows, turning of the compost piles during the active composting cycle, monitoring and logging temperature data for each windrow, and the monitoring and distribution of finished product.

Each bulking agent load is transported to the composting facility from the producer (e.g. green waste receiving and processing facility or grinding operation) using tractor/trailer rigs. The bulking agents are placed on the bulking agent storage area and blended with biosolids as needed, forming windrows. Recycled compost is also used as bulking agents. After the mixture is bulked to approximately 30 to 40 percent solids, the material is formed into windrows for composting. The composting process is a windrow process with mechanical mixing equipment for turning. The complete composting process is performed in approximately 3 to 4 weeks the finished compost is stored in a designated area on-site until sale or distribution. Quality control testing is performed to ensure the compost meets the pathogen reduction, vector attraction reduction, and metals requirements associated with the final use of the product in accordance with 40 CFR 503 regulations. Water is available at the site and is used for dust control and moisture conditioning of the compost as needed.

The composted product is marketed by Synagro's Product Sales staff and is transported from the site to customers using tractor/trailer rigs.

B. *Ownership and Responsible Parties*

Personnel associated with the composting site have extensive experience in bulking agent and biosolids handling, dewatering and composting operations, as well as regulatory requirements, marketing and distribution of composted products.

C. *Operating Capacity and Hours*

Composting operations are designed to receive and process up to 135,000 cubic yards of dewatered biosolids annually. The typical operating hours are from 7 a.m. to 5 p.m., Monday through Saturday. However, the facility can operate up to 7 days per week and will always limit its operations to those hours specified by the City.

D. *Transportation and Facility Access*

Tractor/trailer rigs capable of transporting between 20 and 126 cubic yards of material are used to convey the bulking agent materials to the composting facility from the producer(s) (e.g. green waste receiving and processing facility and grinding operation). The same type of trucks will be used to deliver the finished composted to the appropriate market. The trucks are covered with a tarp to prevent dry material from blowing, mitigating dust and other associated potential hazard conditions.

E. *Composting Operations*

The composting methodology employed at the Hornsby site is the aerated windrow method wherein biosolids (organic rich, nitrogen material) is mixed with a bulking agent(s) (carbon rich material) and formed into windrows wherein the biological composting process occurs, aided by mechanical aeration (i.e. turning) of the windrows all in accordance with 40 CFR 503 regulations.

The biosolids materials are anaerobically digested and dewatered by the City prior to acceptance for composting and are expected to range from between 15% to 20% dry solids content. All biosolids materials accepted for composting at the facility are pre-screened and meet TCEQ and US EPA 40 CFR 503 pollutant levels and are non-hazardous. Bulking agents utilized at the facility are also non-hazardous. The promptness of overall operations will reduce the potential for odor and vector problems and to this end, biosolids are typically mixed/processed into windrows, as received.

The use of a bulking agent such as green waste, recycled compost, or wood chips has been found to be essential for proper adjustment of the biosolids moisture content; to provide an additional source of carbon; and/or to improve the porosity allowing an adequate and uniform penetration of air. Various mixture rates of different bulking agents and biosolids have been successfully used in presently operating systems. Based on Synagro's, experience in Austin, the mixture rate for the windrow process is between 2:1 to 3:1, bulking agent to biosolids on a volume basis. The composting operation may require adjustment in the blend or type of bulking agent used due to seasonal variations in climatic conditions, moisture content, biosolids type, and the availability of organic materials.

Typical windrow pile construction during the composting cycle occurs as follows: Upon receipt of biosolids from the dewatering area or from storage, the delivery vehicle discharges the load directly on the composting pad on pre-staged green waste. The biosolids are then mixed with the bulking agent via a front-end loader in the appropriate volume ratio and formed into a windrow with typical measurements of Twenty (20) feet wide at the base, and eight (8) feet tall (trapezoidal cross-sectional shape). Windrows are typically constructed to an overall length of 200 to 260 feet. After the windrow is completely formed, the windrow is further mixed via a pass of the windrow turning machine. If necessary, the windrow can be re-bulked with suitable bulking agent.

and mixed again. The windrow pile is maintained throughout the active composting phase and will become reduced in height due to the naturally occurring volatile solids reduction of the composting process. At the completion of the active composting phase, the windrow may be removed to the storage area for further curing before screening, sale and distribution.

During the active composting phase, and to confirm compliance with 40 CFR 503 pathogen and vector attraction reduction time/temperature requirements, monitoring and recording of windrow temperature occurs daily by inserting a portable thermometer probe into the windrow at various distances down the length of the windrow. In accordance with the 40 CFR 503 regulations and the City's permit, the windrows are maintained at a temperature of 55°C or higher for at least 15 days. The windrow is turned a minimum of 5 times when the compost is maintained at 55°C or higher. After the active composting phase, material is typically cured for an additional period prior to being shipped for sale and/or distribution. Compost will typically be cured for a minimum of 30 days and for as long as eight months, depending on the intended market for sale. Prior to the sale of compost it is normally screened creating a higher quality product to sell as well as allowing for the reuse of the overs in the composting process.

F. Employee Safety

The following provisions will be enforced at the site to ensure the health and safety of the employees:

- Wash hands before eating, drinking and/or smoking.
- Wash hands before returning home after work.
- Avoid storing food in close proximity to biosolids or compost samples taken for analyses.
- On-site clothing, e.g., coveralls and safety shoes, are used by employees.
- Facilities are available to allow workers to change on-site clothing to street clothes at the end of each day.
- During periods of dry weather, the area is watered periodically to minimize the workers' inhalation of dust. During such dusty conditions, workers are encouraged to wear dust masks.

G. Monitoring Program

The objectives of monitoring are:

- 1) Provide guidance for the operation and management of the composting cycle;
- 2) Ensure the quality of the finished compost.

The monitoring of active compost is done regularly. The compost pile maintains a statistically representative minimum temperature of 55°C with a minimum aeration of five times while the minimum temperature of 55°C is maintained.

Monitoring of both the composting activities and product quality is done regularly. Monitoring includes:

- 1) Logging the materials received;
- 2) Operations monitoring of the high temperature phase; and
- 3) Analysis of the finished compost.

The biosolids contain a variety of materials such as plant nutrients, organic matter, and trace elements. Synagro will secure information and analysis in accordance with US EPA 40 CFR 503 requirements and the applicable facility permit prior to acceptance of biosolids at the composting facility.

The monitoring program of the composting operation will include:

- 1) Daily checks on temperature and aeration of windrows in the high temperature phase
- 2) Periodic checks for the moisture content of windrowed material
- 3) Daily recording of material received
- 4) Individual windrow information (construction date, mixing components, amount of biosolids included)
- 5) Metals analysis of the finished product
- 6) Pathogen testing of the finished product

Monitoring provides information on the progress of each windrow and serves as an indicator that the composting process is proceeding correctly. Synagro uses a laboratory that maintains a Quality Assurance/Quality Control program in accordance with EPA standards for all sample analysis.

Additionally, all finished product is sampled prior to distribution. The bulk distribution and marketing of the compost product is under the control of Synagro Inc. It is unlikely that bagging of compost at Austin will occur, as an adequate bulk market exists in the local area.

H. Record-Keeping

Regular analyses of the incoming City biosolids are used to ensure that a quality end product is achieved. Monitoring of the composted product verifies the quality of the material. Operating parameters, weather data, compost product quality, and delivery and sale of the product material are maintained at the site and available for review.

I. Odor and Dust Control

Attention to odor control during composting, curing, and screening will be a paramount consideration in our work. Focused operational controls when composting biosolids via the windrow method is the key to mitigating odor issues; these include prompt mixing and windrow formation, followed by tightly controlled aeration to promote as rapid as possible organic matter decomposition. An oxygen meter can be used to monitor windrow oxygen content in the active windrows on a daily basis. This identifies and prevents formation of anaerobic conditions within the windrows, which conditions can lead to formation of nuisance odors once the windrow is agitated and aerated during the turning process.

Our Odor Impact Minimization Plan includes the following elements:

1. **An odor monitoring protocol which describes the proximity of possible odor receptors and a method for assessing odor impacts at the locations of the possible odor receptors.**

Prevention is the key to managing odor potential. Maintaining operational parameters in the composting mass in the optimum ranges will minimize production and persistence of odors: for instance moisture (40% to 60% moisture), appropriate C:N ratio (between 10:1 and 30:1), and adequate aeration (>15% oxygen concentration in windrows). Good housekeeping measures such as cleaning of any spilled materials and eliminating ponding between windrows or in the City's basins will be practiced.

Each day the site foreman will evaluate odors conditions and the potential for planned operations to release objectionable odors. If the operator detects an objectionable on-site odor, they will follow the following protocols:

- a. Investigate and determine the likely source of odor.
 - b. Determine if on-site management practice could remedy the problem and immediately take steps to remedy the situation.
 - c. Determine whether or not the odor is traveling beyond the site by patrolling the site perimeter and noting existing wind conditions.
 - d. Determine whether or not the odor event is significant enough to warrant contacting the adjacent receptors and the local enforcement agency, including the City.
2. **Recognize meteorological conditions effecting migration of odors and/or transport of odor causing material off-site and modify operations to avoid odor issues.**

The Facility will use an on-site weather station which monitors wind speed and direction, ambient air temperature, humidity, and rainfall. The on-site weather monitoring station will be consulted daily by the site foreman prior to scheduling material handling activities.

3. **A complaint response protocol.**

Upon receipt of an odor complaint, Synagro staff will record the following information on an odor complaint form:

- a. Complainant's name, address, and telephone number
 - b. Date and specific time the complaint was received
 - c. Specific nature of the complaint, including type of odor, time odor observed, duration of odor, and odor intensity
 - d. Any other relevant information

Synagro staff will notify the City and respond to the complaint immediately if possible, and no later than the next business day following receipt of the complaint. When possible, Synagro staff will review the area where the complaint was observed by the complainant to assess the complaint. If the composting facility is

found to be the cause of the odor, appropriate corrective actions will be taken. At the conclusion of the investigation, the complainant will be notified of the results of the investigation in writing by Synagro. A record of all complaints and field notes/observations and corrective actions taken will be maintained in the Synagro project office.

Similarly, dust control must be a key area of operational consideration for any viable composting facility operating outdoors. Dust can be generated from a number of activities, including transport of materials, grinding of bulking agents, windrow turning, and screening. Mitigation of dust issues is routinely accomplished by attention to housekeeping (e.g., sweeping and/or water roadways) and good composting practices such as maintaining proper moisture in the composting windrows. Grinding and screening activities can generally be managed in a manner that allows those operations to be conducted during periods with low wind. When it is not possible to postpone these operations, dust can be controlled by setting up water misting around the equipment. For this project, Synagro intends to collect and prepare amendment at an off-site location, eliminating a potential source of dust.



Exhibit 4.2

Community Response Program



SYNAGRO - Austin, TX Compost Manufacturing Facility Community Response Program

The following Community Response Program has been developed to understand, respond and follow up on complaints received by the facility. The program consists of a Facility Contact Sheet, a Community Complaint and Response Form as well as an Employee/Community Response Training Program.

The Facility Contact Sheet (attached) has been designed for distribution to the community to allow for ease in answering questions about the facility as well as for reporting of complaints. The sheet contains the names and phone numbers for a citizen to properly report an event to the facility. The form also contains a list of information which will be recorded by the facility during the reporting of a complaint.

The Complaint and Response Form (attached) will be maintained by Austin, TX Compost Manufacturing Facility with copies available at the facility for public review. This form will be completed by a trained employee who receives the phone call. The form will request information to accurately identify the caller, time of the event, place of the event, duration of the event, weather conditions and facility operation at the time of the event. The form will also contain information for the employee to properly report the event to management for additional investigation.

The employee odor response training program consists of training for new responsible employees and annual refresher training for all responsible employees. Specifically, the training will involve a complete understanding of the Community Response Program, identification of where the complaint log book is maintained and the proper procedures for recording and responding to a complaint. Training will also include the identification of facility operating conditions which may lead to a complaint.

The Site Manager will oversee the Community Response Program and ensure that the facility is proactive in identifying the cause and providing a follow up to community complaints received at the facility. The Technical Services Manager will be involved in all community complaints and the response thereof.

Rod Grant
Operations Manager

Chuck Simmons
Technical Services

December 2011

SYNAGRO – AUSTIN, TX COMPOST MANUFACTURING FACILITY CONTACT SHEET

For general information or to phone in a complaint, please call Monday through Friday between the hours of 8:00 am to 5:00 pm. PST.

ROD GRANT – OPERATIONS MANAGER

If the call is related to a complaint, please ask for the Site Manager or the General Manager during normal business hours. If you do not reach an employee, please leave your name and phone number on the facility's voicemail system. During off hours, you may contact the following individual's 24-hours a day:

ROD GRANT – OPERATIONS MANAGER (512) 745-4051

CHUCK SIMMONS – TECHNICAL SERVICES MANAGER (256) 565-3374

When reporting a complaint, providing the following information will assist the facility in conducting a complete investigation:

- name, address and phone number of caller
- nature of event (odor, noise...)
- location of event
- time/duration of event
- description/characteristics

The facility will investigate all complaints reported and notify the person reporting the event of the results of the facility investigation.

If there is any trouble in reporting a complaint, please notify:

CHUCK SIMMONS – TECHNICAL SERVICES MANAGER
501 WOODALL ROAD
DECATUR, AL. 35601
(256) 565-3374

SYNAGRO – AUSTIN, TX COMPOST FACILITY COMMUNITY COMPLAINT AND RESPONSE FORM

Employee Handling Call

Date/Time

1. Ask the caller for the following information:
- | | |
|----------|-------|
| Name: | _____ |
| Address: | _____ |
| Phone: | _____ |

2. Ask the caller the following questions and fill in the space provided:

What is the complaint about? Odor _____, Noise _____, Other (describe)_____

Where did you first detect the (odor, noise, other)? _____

At what time did you first notice the (odor, noise, other)? _____ Is it still present? _____

3. If the complaint concerns an odor, continue with the following:

Ask the caller does the odor smell like any of the following? I will read a list, please answer yes or no.

	Yes	No		Yes	No		Yes	No
Sweet	___	___	Garlic	___	___	Ammonia	___	___
Smoky	___	___	Diesel Fuel	___	___	Septic Tank	___	___
Sharp	___	___	Bleach	___	___	Dead Animal	___	___
Rotten Eggs	___	___	Soap	___	___	Manure	___	___
Low Tide	___	___	Perfume	___	___	Burnt Rubber	___	___
Fishy	___	___	Kerosene	___	___	Gasoline	___	___
Damp Earth	___	___	Paint Thinner	___	___	Garbage	___	___
Bacon Grease	___	___	Other (describe)					

4. Thank you for calling the Arizona Soils Compost Manufacturing Facility. The complaint will be referred to management for further investigation. The management will contact you after the investigation has been completed.

5. Record the following information corresponding to the time of the (odor, noise, other) complaint:

Wind Direction _____ Wind Speed _____ Temperature _____
Weather Conditions (Rain, Fog, Sun, Clouds...) _____

6. Conduct an immediate facility walk through identifying any of the following:

Biosolids spills (describe): _____

Other relevant facility information:

7. Any employee must notify the Site Manager immediately of a facility complaint and provide the Site Manager with this completed Form.

- 8. Corrective and Preventive Actions** - Site Manager and Technical Services Manager will provide a memo report, in addition to this Completed Form, indicating actions taken in response to the complaint, verification of effectiveness of actions taken, as well as any feedback from the complainant after corrective action was taken.

POINTS TO REMEMBER WHEN DEALING WITH A COMMUNITY COMPLAINT

1. The individual that is calling is concerned about an odor, noise or other nuisance which they have detected in their home/neighborhood.
2. Refrain from sounding annoyed by the call.
3. If the caller is upset, **remain calm and be professional at all times.**
4. Inform the individual that in order to accurately assess the cause of the problem, you will need to obtain some information.
5. Proceed to the **Community Complaint and Response Form** and fill out as accurately as possible.
6. If the caller terminates the call, please complete the form as accurately as possible with the information obtained.

****NOTES****

Handling of complaint calls should be performed in the order listed below, depending upon who is available at the time of the call.

1. Site Manager
2. Lead Operator
3. Technical Services Manager
4. Administrative Staff

In any event, the Site Manager and Technical Services Manager must be immediately notified of a community complaint.



Exhibit 4.3

Fire Prevention and Handling Measures



Purpose

This document establishes guidelines for fire prevention and fire handling measures at compost facilities.

Policy

No regulatory upper threshold is identified but in most instances biological activity is replaced by chemical decomposition by 80 degrees Celsius (175 F). Fires result from the rapid oxidation of compostable materials and Operators must “provide prevention, protection and control measures” including temperature monitoring [14 CCR 17867(a)(8)].

Four elements must be present at the same time for a fire to occur:

1. Fuel – if a material is compostable, as it dries it may become combustible.
2. Oxygen – respiration of combustible material requires oxygen and as it does fire, <5% oxygen will sustain the fire.
3. Heat – rise in temperature of a combustible material indicates a build-up of heat.
4. Chemical reaction – an accumulation of combustible material.

Wet/dry interface starts most compostable material fires. A pile that has dry spots which come in contact with a portion of the pile that is wet (and composting robustly) has an increasing chance of catching on fire. The robustly composting material reaches temperatures that support chemical oxidation and the fuel from the dry portion continues the chemical oxidation and eventually combusts.

Combustion occurs between 205 and 400 degrees F. Two possible scenarios illustrate this.

1. Some very old, dry material comes in contact underground with wet material after a rain. A hot wind blows and starts a fire.
2. On hot days dust suppression water gets on the edge of a drying pile. The wet area heats up and starts a fire. The water encourages vigorous biological activity, raise the temperature and the drying portion of the pile ignites. Moisture is a crucial requirement for composting and spontaneous combustion.

In both cases, proper moisture is a matter of balance. The critical moisture range that supports spontaneous combustion is 20-45 percent. Above 45% there is enough moisture available for evaporation to hold down temperatures. Below 20% there is not enough moisture to sustain enough biological activity that initiates temperature rise.

Fire Prevention Procedures

1. Consider setting up a meeting with the local fire department to discuss compost fires, and agree on the guidelines on how to handle compost fires once they begin.
2. Assure adequate ventilation of the pile to release heat and increase evaporation of water, a heat absorbing process. Ventilation can be achieved by turning the pile or using a mechanical aeration system. Ventilation can also be improved by constructing narrower, shallower windrows or piles. Pile size dictates heat retention. Avoid pile depths greater than 12 feet and watch for vents in deep piles. Use these vents to monitor internal pile temperatures. Periodically turn the stored material, particularly after a rainy season.
3. Locate the hot spot before it turns into a fire.

Unground or partially processed material, variable moisture containing grass or wet fines in large piles (>500 cubic yards – over 10 feet high).

Keep temperature <80 degrees Celsius (176F)

Unground or partially processed material, variable moisture containing grass or wet fines in small piles (<200 cubic yards – over 6 feet high).

Keep temperature <90 degrees Celsius (194F)

Uniformly ground material, uniform in moisture and temperature containing fines in large piles (>500 cubic yard – over 10 feet high)

Keep temperature <90 degrees Celsius (194F)

Uniformly ground material, uniform in moisture and temperature containing fines in large piles (<200 cubic yard – over 6 feet high)

Keep temperature <95 degrees Celsius (203F)

4. If you have a fire, it will most likely be located within the pile. Carefully open up the pile, usually with a large wheel loader. A fire hose or water truck with water cannon should be available as the loader removes material to spray directly onto an open fire or a burning loader. After open flames are controlled, the material in question should be removed, smothered, then added back into the pile and turned immediately. The fire department or an in-house fire brigade should be on stand-by as the pile is opened, Don't underestimate the damage –physical or political –a smoking fire can do.
5. Other factors that can prevent fires:
 - A) Weeds should be contained on and around sites.
 - B) Equipment should be inspected to ensure sparks are not being generated.
 - C) Equipment that inherently creates a fire risk (welding equipment) should be used in a designated area. Hot Work permit SOPs should be followed.
 - D) Material should be maintained at a safe distance from building and equipment.
 - E) If hot work (welding) repairs are required (due to downed equipment) in an area where material is located, ensure fire extinguishing equipment if available during the repair or move the material.

Responsibilities

The requirements established in this procedure apply to all site personnel.

Site Operators
Site Management
Laborers

Additional Notes

Questions regarding this document should be address to Site Management, Environmental Compliance and/or the Regional Technical Service Director.

EHS&T Incident Reporting Form

The following incident is being reported:

<u>Facility or Project Name</u>
<u>Person Completing the Form</u>
<u>Description of the Event</u>
<u>Occurrence</u>
<u>Date:</u>
<u>Time:</u>
<u>Duration:</u>
<u>Cause of Event or Exceedance (if known)</u>
<u>Immediate Action Taken</u>
<u>Incident # (EHS&T Department Use Only)</u>



Exhibit 4.4

Spill Response Plan



Synagro of Texas-CDR, Inc.

Subject: Biosolids Spill Response Plan	Effective Date: March 27, 2007
Approved by: EHS&T Manager; Technical Services Manager	Last Revision Date: February 3, 2014

A copy of this document shall be maintained at all times in all transport vehicles carrying biosolids on behalf of Synagro and/or its subsidiaries and be readily available in the event of a spill.

Biosolids Spill Response Plan

Biosolids are non-hazardous and non-toxic. If a spill occurs, there is no need for special equipment or emergency procedures beyond those outlined in this plan. Biosolids are processed solids, primarily organic, that are used for agricultural fertilizers and soil amendments. Biosolids are produced in water reclamation or wastewater treatment plants and transported to farms or to composting facilities.

Biosolids spilled onto pavement pose a potential road hazard because they can create wet, slick conditions for motor vehicles, and/or can obstruct traffic flow. If biosolids remain on the surface for a sufficient time they could be a source of potential contamination of nearby storm drains, waterways, or ground water. Biosolids should be thoroughly removed so that no significant residues remain to be washed into any storm drain or waterway by surface water (rain, runoff, etc.). All spilled biosolids must be returned to the trailer from which they spilled, or be loaded into another appropriate transport vehicle and delivered to an approved location.

GENERAL INFORMATION

- A. Biosolids characteristics are:
 - a. Solids content: 2% - 95%
 - b. Consistency: Moist to dry paste or mush up to about 40% solids: dirt-like when solids exceed 45%. Can also be in liquid form.
 - c. Volatile solids: 40% - 60+% (percentage of total solids)
 - d. pH: 5 – 10, most commonly about 7.5
 - e. Chemical character: NON-HAZARDOUS - Processed organic residual solids from domestic wastewater treatment facilities, containing nitrogen, phosphorous, trace metals, and some pathogenic organisms.
- B. Drivers should make sure they always have the following safety equipment in/on their vehicle at all times while transporting biosolids:
 - a. First Aid Kit
 - b. Reflective triangles
 - c. Fire Extinguisher
 - d. Push Broom (to sweep up debris and biosolids from roadway)
 - e. Shovel (use to prevent biosolids from draining into waterways / ditches)
- C. Personnel cleaning up a spill must follow basic personal hygiene procedures in handling biosolids.
 - a. Wear gloves for shoveling, sweeping, or handling biosolids.
 - b. Wash hands (and, as necessary, arms, face, etc.) with waterless anti-bacterial hand cleaner or mild soap and water following spill clean up and prior to eating or drinking.

QUICK REFERENCE GUIDE TO BIOSOLIDS SPILL CLEANUP PROCEDURES

- 1) **INFORMATION ABOUT BIOSOLIDS:** Biosolids are the non-hazardous organic material remaining from the wastewater treatment process. The material is highly treated, nutrient-rich, mud-like, black/brown in color, organic fertilizing material which is considered **Non-hazardous material per EPA and state law.**
- 2) **SAFE HANDLING PRECAUTIONS:** You may be exposed to biosolids during loading, unloading and spills through inhalation or ingestion. To prevent this, the following precautions are recommended:
 - Wear personal protective equipment (PPE)
 - Leather gloves
 - Boots (*optional, but recommended during spill cleanup*)
 - Liquid repellant coveralls (*optional, but recommended during spill cleanup*)
 - Wash hands with soap after handling biosolids
 - Disinfect and cover cuts
 - Don't eat, smoke, or chew around biosolids

- 3) **MANAGEMENT OF CLEAN UP ACTIVITIES:** **CALLS TO MAKE IMMEDIATELY AFTER SPILL-** Immediately notify your Supervisor. Independent carriers (IC) must also notify the appropriate Synagro Project Manager immediately. Then notify highway patrol (911) if spill occurred on public right-of-way. Give location and amount of spill to individual(s) contacted. If the spill occurs on State Highways or Interstates, the state DOT offices will most likely take the lead on providing equipment and crew to clean up the spill, however, check with your Supervisor. If possible, SYNAGRO labor and equipment are to be utilized. The Project Manager shall also communicate with the authorities and the public on the scene, answering questions and advising of the clean up activities.

If hauling truck and trailer are not disabled -

1. Minimum of 2 laborers (more depending on size of spill).
2. Class B, rubber tire front-end loader (this may not be required if spill is 2 cubic yards or less).
3. Dump truck with sand
4. Shovels
5. Brooms
6. Traffic Cones

If hauling truck and/or trailer are disabled -

- Same as above, plus a hauling truck and/or trailer as required.

- 4) **HALT SOURCE OF SPILL:** Such as a ruptured container or damaged transport unit. The first SYNAGRO representative (whether IC, operator, or manager) at the scene will begin procedures to halt the spill and initiate clean up activities.

- 5) **CONTAIN SPILL:** Form a barrier. Sufficient quantities of straw shall be used for such purposes. Earthen barriers may be constructed to augment the straw bale containment area. The Project Manager or the person in charge on the spill site will advise the clean up personnel where to get the straw or other items necessary to complete the clean up operation, i.e. local farmers, farm supply center, nursery, etc.

- 6) **CLEAN UP:** At the spill site, the driver and/or clean-up crew shall perform the following clean-up procedures:
 1. Park the hauling truck on the side of the road, if possible.
 2. Administer emergency first aid, as appropriate, if personal injuries are encountered.
 3. Place traffic cones, reflectors, and/or flares to divert traffic around the spill site.
 4. Determine the extent of the spill and take photos of spill and final clean-up.
 5. Spread sand over and around biosolids to absorb moisture and prevent movement into storm drains or other waterway inlets.
 6. Move biosolids into a pile using shovels and brooms.
 7. Using the front end loader, reload piled biosolids into the hauler's truck (if not disabled) or into another available truck (if the hauler's truck is disabled). If the trailer is disabled, transfer to new trailer. For very small spills (2 cubic yards or less) use of the front end loader may not be necessary; biosolids can be shoveled into a small truck for transport back to the plant.
 8. Final clean-up is by means of shovels and brooms. **At no time should any biosolids be hosed down into any storm drains. Do not wash off tools or trucks at the spill location.**
 9. Cooperate with law enforcement and/or fire department personnel responding to the spill. Inform them of the non-hazardous nature of the spilled material and actions to be carried out according to this plan.

- 7) **FINAL CLEAN UP:** Disposal of spilled biosolids following clean-up shall be as follows:

1. If not disabled, the hauler's truck may proceed to the original destination.
2. Any biosolids that have been loaded into a pick-up truck are to be returned to the Plant and loaded into the next available trailer or taken to the original destination.
3. Following clean-up and disposal of the spilled biosolids, all equipment used for spill response is to be returned to its originating location for cleaning.
4. The ultimate goal will be to restore the spill area to its original condition, if possible.

SPILL RESPONSE - NOTIFICATION & RESPONSIBILITIES

Driver - The following assumes the driver is unhurt and is able to contact the Facility's Spill Response Coordinator (see definition below).

1. The driver will park the truck on the side of the road if possible and place traffic cones and reflectors to divert traffic around the spill.
2. The driver will remain with the truck and spilled material, unless it is necessary to leave temporarily in order to contact the Facility Spill Response Coordinator.
3. The driver will contact the Facility Spill Response Coordinator immediately. The driver will also complete the "Driver's Vehicle Accident" report form and provide the Spill Response Coordinator with the information on the form to record details of the accident. Be sure to diagram and photograph and describe the accident or spill.
4. The driver will assist with traffic control and clean-up and will NOT leave the scene of any spill, not even a small one, until it is reported to the Spill Response Coordinator and cleaned up. Note: Call the Spill Response Coordinator first; then notify the Dispatcher and/or Project Manager; then call 911.
5. If the spill occurs on State Highways or Interstates, then the state DOT office will most likely take the lead on providing equipment and crew to clean up the spill. However, check with your Supervisor.
6. Do not move equipment if its position is helpful to traffic control or containment unless leaving it where it is will create a hazard.
7. While awaiting police and/or cleanup crew, help the other party (or parties), if safely able to do so.
8. Don't give statements or sign anything other than bona fide papers presented by a law enforcement officer or public health officials.
9. In accidents involving a fatality, don't talk or give any statements until you are represented by an attorney. You have this right by law.
10. Don't admit responsibility or agree to pay for anything.
11. Don't argue responsibility for the accident. Be courteous.
12. **Contract Hauler Responsibilities** - Hauler is required to notify Synagro immediately after a spill and upon completion of clean-up of all spills. Hauler is required to complete and forward a copy of the spill response form to Synagro.

Clean-Up Crew -The *clean-up crew* will perform the following clean-up procedures:

1. Place traffic cones, reflectors, and/or flares, as appropriate, to divert traffic around the spill site.
2. Spread sand around biosolids to absorb moisture and prevent movement into storm drains or other waterways. Place sandbags at storm drains and other waterway inlets. Clean un-weathered wheat or other small grain straw can also be used as an absorbent and temporary drain block.
3. Move biosolids into a pile using shovels and brooms.
4. Using the rubber-tired loader or equivalent, reload piled biosolids into the truck, if it isn't disabled, or into a replacement truck for hauling to the appropriate destination. For small spills, use of the loader may not be necessary. Biosolids can be shoveled into a truck for transport to the reuse site.
5. Final clean-up is by means of shovels and brooms for small spills and a street sweeper for larger spills. Pick up all accumulations of biosolids. Police the area and pick up all biosolids. Do not hose down or wash significant amounts of biosolids into any storm drain, drainage ditch, stream, or other waterway. Do not wash off tools or trucks at the spill location. Follow instructions from the local health official(s) on site at the spill location.

Spill Response Coordinator - The Spill Response Coordinator will normally be the Project Manager(s) for the facility of destination. He/she will notify the state police or local jurisdiction officials, the State Department of Transportation, or any other agencies as appropriate, as well as the customer. The Project Manager will also notify the project area Technical Services Manager who will, in turn will notify the County Health Department, EPA or other regulatory agencies.

The Spill Response Coordinator assumes complete responsibility for directing all activities associated with the clean-up of a spill. He/she will:

1. Designate and dispatch a clean-up crew plus necessary equipment to the spill site to clean-up the spill and notify the appropriate agencies.
2. Photograph the spill and final clean up.
3. Inform the producing facility's contact person of the spill, as well as the project area's Technical Services Manager and the Regional EHS&T Director.
4. Load spilled biosolids back into the haul vehicle, if it is operable. If the vehicle is unable to complete the trip to the delivery destination, load the spilled material into an alternate vehicle.
5. Dispatch another truck and/or trailer to the spill location if the hauling truck and/or trailer is/are disabled.
6. Dispatch some or all of the following to the spill location:
 - a. Minimum of two-person clean-up crew (more personnel as needed; dependent on size of spill).
 - b. An appropriate rubber-tired loader or equivalent to pick up spilled material (may not be required for a small spill). Coordinator will have discretion to select the most efficient loading option based on equipment availability and spill size.
 - c. Sand and sandbags and/or fresh small-grain straw (e.g., wheat straw), or alternative absorbents and drain blocking material
 - d. Street sweeper
 - e. Additional shovels, brooms, traffic cones and/or flares
7. Oversee and coordinate retrieval of any damaged or disabled transportation equipment involved in the spill.
8. Contact the project area Technical Services Manager during the clean-up if any unusual situations arise, or if the Spill Response Coordinator requires special assistance.
9. Provide liaison and coordinate with agencies that may respond to the spill whether expressly notified by Synagro or not. Such agencies may include:
 - f. Highway Patrol or State Police
 - g. Local (municipal or county) law enforcement
 - h. Local fire department(s)
 - i. State Department of Transportation
 - j. State Department of Fish and Game
 - k. State Department of Forestry
 - l. Others as deemed required
10. After clean-up, transport spilled biosolids to the designated use or processing site, whether the original vehicle or a substitute truck / trailer is used.
11. Transport all equipment used for spill response to the wastewater plant or to the destination site, whichever is nearer, for cleaning after completing clean-up and removal of the spilled biosolids. Truck beds and other equipment should be hosed down at the field or the processing site.
12. The ultimate goal will be to restore the spill area to its original condition, if possible.

FOLLOW UP NOTIFICATION AND REPORTS

Additional responsibilities of the Spill Response Coordinator require that he/she:

1. Notify the Senior Operations Manager immediately following completion of the spill clean-up, and ensure the load data and spill response section of the “Driver’s Vehicle Accident Report” is completed.
2. Inspect the site after clean-up and attest to the adequacy of the clean-up. Take necessary photos.
3. Maintain a log of pertinent information about the biosolids spill.
4. Complete a descriptive incident report and forward copies to the Regional Vice President, EHS&T Manager, project area Technical Services Manager and the producing plant’s contact person within 24 hours of any spill.
5. **Immediate Notification:** Synagro must notify the affected Plant Superintendent in the event of a spill if 1) someone is seriously injured or killed, 2) if there is a public health concern, 3) if 2 tons or more is spilled or (4) if there is media coverage of the spill.
6. The project area Technical Services Manager will complete and transmit the required information to the appropriate regulatory agency, within five (5) days of spills involving entry of biosolids into storm drains (unless other requirements supersede this time-frame) and include the following additional information:
 - a. Waterways or ground water affected
 - b. Written confirmation of the previous telephone notifications

Date: _____

Local Project Manager Name: _____

RECEIPT OF ACKNOWLEDGEMENT:

By signing below, I hereby acknowledge that I have received a copy of the Synagro Biosolids Spill Response Plan and understand that I am to carry a copy of this plan at all times while transporting biosolids on behalf of Synagro.

	Driver's Name	Motor Carrier Name	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

Once signed, please return this form to EHS&T Manager for recordkeeping.



Tab 5 – Schedule & Timeline

A. MOBILIZATION SCHEDULE

Synagro is currently mobilized and on-site at the Hornsby Bend facility. Upon notice of award the new equipment referenced in Tab 4 – Proposed Solutions will be purchased and/or leased and delivered to the site. The existing equipment and staffing is sufficient to meet biosolids processing obligations in the event of any gap between delivery and the planned December 1 start date.

B. SCHEDULE FOR PROCESSING STORED BIOSOLIDS

Synagro's intent will be to limit to less than 10 days production the amount of biosolids stored on the Hornsby Bend site at the end of the current contract term. Given that the current contract ends in the late fall when the demand for biosolids for land application and the access to field sites is highest, we do not anticipate a problem meeting this objective. At the planned volume, Class B biosolids stored on site at the end of the current contract term will be incorporated into the proposed solutions within 60 days. Any composted biosolids that remain on site at the end of the current contract term will be removed within 90 days if Synagro is not the successful contractor. If Synagro is the successful contractor, additional curing and screening time may be utilized.

C. SCHEDULE FOR PROCESSING BELT PRESS BIOSOLIDS

Processing of City biosolids at 100% of the annual production will begin immediately upon commencement of the new contract.





Tab 6 – Proposed Cost

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Synagro's core business purpose is focused on the management of municipal biosolids, including

A. ATTACHMENT F-COST PROPOSAL FORM - COST CALCULATIONS FOR UNIT PRICE PER CUBIC YARDS

See attached Attachment F – Cost Proposal form.

B. PRICING FOR LAND APPLICATION ONSITE AND EMERGENCY DISPOSAL

See attached Attachment F – Cost Proposal form.

OPTIONAL COST PROPOSAL

A. ADDITIONALLY, PROVIDE ITEMIZED RELATED SERVICES OR PRODUCTS YOUR COMPANY IS OFFERING AND THE ASSOCIATED PRICES AND/OR DISCOUNTS OFFERED TO THE CITY.

As indicated on the cost proposal forms, Synagro will provide contingency loading, hauling and off-site land application at the rate of \$28.00 per cubic yard of biosolids.

The following additional service offerings and potential cost savings are also made available to the City:

Table 6.1 Optional Cost Proposal Offerings

Optional Cost Proposal Category	Description	Estimated City Savings Potential
Dewatering Optimization	Small gains in performance of the City's dewatering equipment can generate significant long term operating savings.	\$110,000 to \$410,000 per year. There is no cost to the City for the dewatering optimization program. Some modification of the contract terms may be required to accommodate volume reduction achieved by dewatering optimization. See Tab 4 for additional details.





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Optional Cost Proposal Category	Description	Estimated City Savings Potential
Amendment Supply Credit	The attached proposal anticipates reductions in the amount of amendment materials supplied by the City (via ARR). To the extent that the City provides amendment materials in excess of the amounts stated in the RFP, Synagro is willing to credit the City on a per cubic yard of amendment supplied basis.	\$2.45 to \$3.05 per cubic yard of acceptable amendment provided by the City.
Minimum Volume Guarantees	The attached proposal is based on receipt of the volume of biosolids on the bid forms – 100,000 cubic yards per year. Should the City be willing to guarantee a higher amount, cost savings are available.	TBD, based on volume.
On-Site Land Application Offsets	The proposed composting equipment and staffing are capable of managing 100% of the City's biosolids. On site land application has been included to provide diversification and redundancy of solutions. Should the City request, these costs can be removed without impacting the long term reliability of the program or Synagro's confidence in the proposed solution.	\$0.55 to \$0.95 per cubic yard of biosolids.
City Equipment Purchase	The attached proposal includes all costs associated with acquisition of new composting equipment, as provided in Tab 4. It is understood that the City may send its existing composting equipment to auction. Should the City elect to enter into a sale agreement with Synagro for all or specific pieces of equipment, savings will be shared.	TBD, based on equipment made available for sale. The City would be assured of receiving a fair market price and save transactions costs associated with auctioning the equipment.





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Optional Cost Proposal Category	Description	Estimated City Savings Potential
Contract Term	The attached proposal is based on the contract term described in the RFP. Should the City be willing to consider a longer contact term, (including a base term of 10 years vs 5+5 one year options) savings will be available.	TBD, based on term available.

B. OPPORTUNITIES FOR REVENUE GENERATION

Should the City be interested in sharing market risks in exchange for a revenue stream from the sale of compost produced at Hornsby Bend, Synagro is prepared to offer examples of potential structures that would be mutually beneficial.



Cost Proposal Form
RFP CDL2003 - Beneficial Reuse of Biosolids

Vendor: Synagro of Texas-CDR, Inc.

1. REQUIRED PRICING

Instructions: Provide pricing for the items identified below. An amount of '0' (zero) will be interpreted by the City as a no-charge (free) item and the City will not expect to pay for that item. A 'no bid' or information left blank will be interpreted by the City that the Proposer does not wish to bid on that item.

The pricing provided for line items 1-2 will be used to evaluate "Cost".

The pricing provided for line item 3 will be used in emergencies only.

Item No.	Description	Unit of Measure	Annual Estimates	Unit Pricing	Extended Pricing
1	Beneficial reuse of biosolids. The quantity shall be invoiced from the load scan quantities.	Cubic Yards	100,000	15.85	1,585,000.00
2	Land Application onsite to Hornsby Bend property	Cubic Yards	12,000	15.85	190,200.00
Total Annual Estimate					1,775,200.00
3	Transport and application to a landfill	Cubic Yards	EMERGENCY ONLY	45.00	

2. OPTIONAL ADDITIONAL SERVICES OR PRODUCTS

Instructions: The City may have a future need to purchase additional related services and/or products under this Contract. Purchase of these services/items would be on an "as needed" basis at the prices offered in the list below, and the City makes no guarantee of purchase. List any additional services or products related to the Scope of Work.

The information and pricing provided in the list below will not be used to evaluate "Cost".

Service or Product Description (if any)	HOW MUCH WILL YOU CHARGE THE CITY FOR THESE SERVICES OR PRODUCTS? (list price per service/item below)	
	Unit of Measure	Unit Pricing
Off Site Land Application	Cubic Yards	\$28.00

OPTIONAL ADDITIONAL SERVICES OR PRODUCTS

Instructions: The City may have a future need to purchase additional related services and/or products under this Contract. Purchase of these services/items would be on an "as needed" basis at the prices offered in the list below, and the City makes no guarantee of purchase. List any additional services or products related to the Scope of Work.

The information and pricing provided in the list below will not be used to evaluate "Cost".

Service or Product Description (if any)	WHAT DISCOUNT WILL YOU PROVIDE THE CITY FOR THESE SERVICES OR PRODUCTS? (list discount per service/item below)	
	Discount Amount	
SeeTab 6, Table 6.1		%
		%
		%
		%

*Offerors may submit alternate revenue calculations/formulas that are mutually advantageous to the Offeror and City. Include the alternate calculation/formula and a brief explanation in Tab 6-Proposed Cost for consideration. Submit a separate document for alternate calculations/formulas; do not include them on this form. Alternate calculations/formulas will not be considered without the "Required Pricing" line items on this form.

Page 1 of 1



Tab 7 – Business Exceptions

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ATTACHMENT G



CITY OF AUSTIN PURCHASING OFFICE EXCEPTIONS

Solicitation Number: CDL2003 Beneficial Reuse of Biosolids

The City will presume that the Offeror is in agreement with all sections of the solicitation unless the Offeror takes specific exception as indicated below. The City, at its sole discretion, may negotiate exceptions to the sections contained in the solicitation documents or the City may deem the Offer non-responsive. The Offeror that is awarded the contract shall sign the contract with the accepted or negotiated sections.

Place this attachment in Tab 7-Business Exceptions of your Proposal. Copies of this form may be utilized if additional pages are needed.

☐ Accepted as written.

☐ Not accepted as written. See below:

Indicate:

- ☒ **0300 Standard Purchase Terms & Conditions**
- ☐ **0400 Supplemental Purchase Provisions**
- ☐ **0500 Scope of Work**

Page Number 1 Section Number 9 Section Description Place and Condition of Work

Alternative Language:

Synagro requests that the discovery of any hazardous substances/materials (as defined by applicable law) at the site that were not identified in the RFP be excepted from Section 0300, Condition 9.

Justification:

For this scope of work, proposer has had neither the opportunity nor the need to examine the site sufficiently to determine whether hazardous substances exist on site. If hazardous substances/materials do exist on site, the proposer should not be responsible for addressing the issue

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