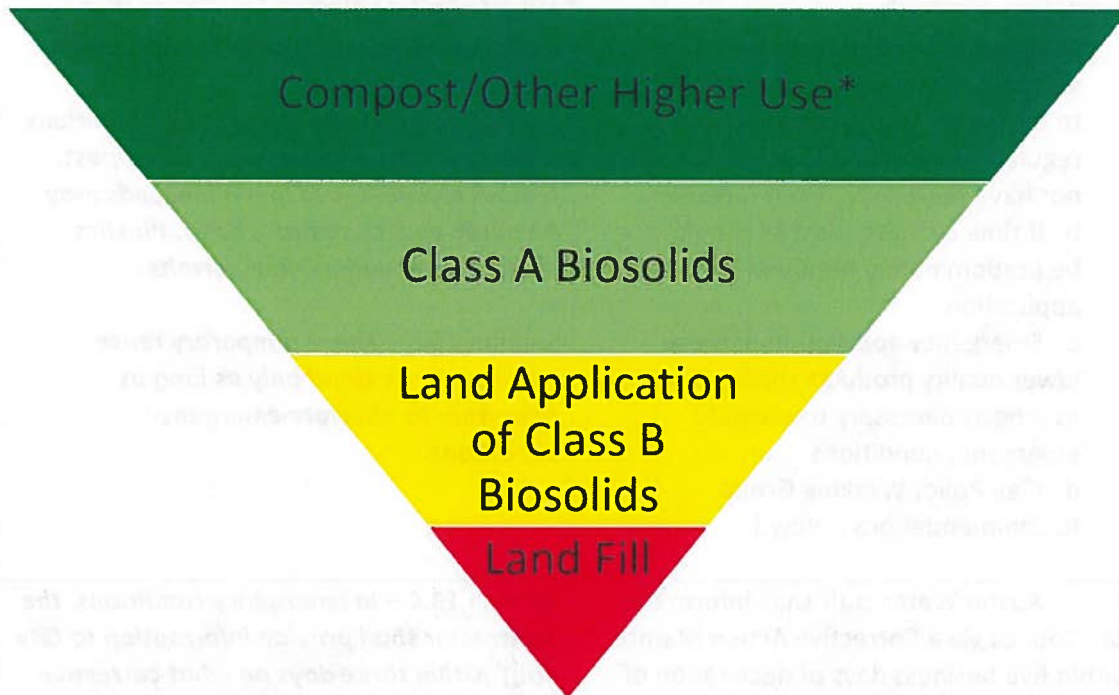


**WWW/ZWAC Joint Working Group
Biosolids Management Policy Recommendations**



WWW/ZWAC Recommendations

Scope of Work

1. Biosolids management should honor the highest and best use hierarchy. The City will strive to treat all wastewater sludge to Class A designation prior to final distribution.	Section 2.0 – <i>Biosolids shall be treated to meet Class A pathogen reduction requirements through the composting process.</i>
2. Require production of compost that meets or exceeds United States Compost Council Seal of Test Assurance standards.	Section 4.4 – <i>Contractor shall produce a compost product the meets or exceeds the United States Compost Council Seal of Test Assurance Standards (STA).</i>
3. Plastics shall be predominately removed from all final products.	Section 4.3 – <i>Screen the compost to remove oversized and inert materials, in particular plastics, prior to distribution to the end user.</i>

<p>4. Under emergency conditions, land application of unscreened compost, Class A biosolids, or Class B biosolids may be made on a temporary basis.</p> <p>a. Emergency conditions are defined as severe fire risk, other imminent threats to health and safety, or imminent risk of regulatory non-compliance that could not have reasonably been foreseen.</p> <p>b. If time permits, plastics should still be predominately removed before land application.</p> <p>c. Emergency application of these lower quality products shall extend only as long as necessary to alleviate emergency conditions.</p> <p>d. (See Policy Working Group Recommendations below.)</p>	<p>Section 13.1 – <i>Emergency conditions are defined as severe fire risk, other imminent threats to health and safety, or imminent risk of regulatory non-compliance that could not have reasonably been foreseen.</i></p> <p>Section 13.2 – <i>Under emergency conditions, land application of unscreened compost, Class A biosolids, or Class B biosolids may be made on a temporary basis. Plastics shall be removed as time permits.</i></p> <p>Section 13.3 – <i>These temporary reuse options shall extend only as long as necessary to alleviate emergency conditions.</i></p>
<p>5. Austin Water staff shall inform the City Council via a Corrective Action Memo within five business days of declaration of emergency conditions.</p>	<p>Section 13.4 – <i>In emergency conditions, the Contractor shall provide information to City staff within three days on what corrective actions will take place after emergency conditions have been enacted.</i> (This will allow staff to respond within five days.)</p>
<p>6. Austin Water operations will be conducted in a manner that will keep odors and pests to a minimum.</p>	<p>Section 12.2 – <i>The Contractor’s specific Control Plans for Odor, Dust, Spill Response and Fire are required to be submitted to the City within 30 days of receiving the notice of award. The Contractor shall respond to all complaints and implement any practices or processes needed to remedy such complaints. The Contractor shall be prepared to address concerns and respond to questions in a public forum from City Staff, committee and commission members, stakeholders and citizens. Failure to manage the facility to minimize hazards, odors and dust, which result in citizen complaints and regulatory infractions, may cause the City to take corrective action for non-conformance.</i></p> <p>Section 12.3 – <i>The Contractor shall log all odor complaints as they come in, whether</i></p>

	<p><i>they come to the City or to the Contractor. The Contractor shall also log the site conditions at the time of the complaint. If the Contractor receives the complaint, they are to inform the City Site Contact within 12 hours of receiving the complaint. If the City receives the complaint the Site Contact will inform the Contractor who will characterize any reported odor and propose the proper corrective action. The Contractor will then implement the corrective action after approval by the City Site Contact. If there is a pattern of complaints the Contractor may be required to implement an odor treatment system.</i></p>
<p>7. All products produced using biosolids will be clearly labeled to inform the end user of that fact.</p>	<p><i>Section 4.5 – Label and/or include an information sheet with all products produced with City biosolids to inform the end user of that fact.</i></p>
<p>8. The Dillo Dirt trademark name and compost quality will remain in City of Austin control, regardless of who produces the product.</p>	<p><i>Section 4.6 – Produce Dillo Dirt that meets the requirements in Section 10 of this scope and Attachment C – Dillo Dirt Product Specification. Any deviations shall be submitted in writing and be approved by the City. Only compost meeting the Dillo Dirt specifications in Attachment C may be marketed and sold as Dillo Dirt.</i></p> <p>Attachment C – Dillo Dirt Product Specification</p> <p><i>Section 10.1 – Continue to make and market a product with the Dillo Dirt name. This product shall be kept available to the local market and wholesalers. The Dillo Dirt trademark name and compost quality will remain in the City of Austin control regardless of who produces the product. Dillo Dirt shall meet the requirements of this scope and the specifications in Attachment C. Dillo Dirt may be sold either bagged or in bulk.</i></p>

<p>9. Austin Water and Austin Resource Recovery should continue to vet and pilot new technologies and management strategies in line with active policies that will improve biosolids handling.</p>	<p>Section 3.4 – <i>The Contractor shall work with the City to allow piloting alternative methods of biosolids reuse during the term of this Contract. Piloting could include programs such as Thermo Hydrolysis (currently being piloted by San Francisco). These alternative methods will only be pilot tested and will not be expanded to the operations at Hornsby until the end of the subject Contract.</i></p>
<p>10. Austin Water and Austin Resource Recovery will continue to communicate with other city departments when contracts are being renewed or solicited to ensure any partnering opportunities are explored.</p>	<p>AW will continue to explore partnering opportunities with ARR and other Departments.</p>
<p>11. Bulking agents should be limited to by-products of other known activities.</p>	<p>Section 4.7 – <i>Disclose the source of any material used for bulking agents or amendments to compost products, whether used onsite or offsite, and obtain approval from AW prior to use. The Contractor is responsible for testing this material for contaminants and ensuring compatibility with the composting process if required by the City.</i></p>
<p>Additional Direction from the Policy Working Group</p>	
<p>100% of the biosolids will be converted to compost while allowing for a diverse range of composts in order to appeal to the widest range of potential markets.</p>	<p>Section 2 – <i>Biosolids shall be treated to meet Class A pathogen reduction requirements through the composting process.</i> Section 11.1 – <i>It is the Contractor's responsibility to create a Marketing Plan to identify and develop a reliable, sustainable and diverse range of compost products.</i></p>
<p>Representative samples of compost will be collected by City staff or an independent third party for stability and maturity.</p>	<p>Section 4.8 – <i>The City or its designated representative will spot check the compost piles for stability and maturity prior to removal from the site. Only stable and mature compost will leave the site. The approved methods are shown in Attachment F.</i></p>

<p>4 (d) Austin Water should develop plans to return to normal operations at the termination of "emergency condition."</p>	<p>Section 13.4 – <i>In emergency conditions, the Contractor shall provide information to City staff within three days on what corrective actions will take place after emergency conditions have been enacted. The information shall include a plan to return operations to normal and a timeframe in which that will be accomplished.</i></p>
<p>Check all draft solicitations for alignment with policy goals such as Zero Waste and create a process for the ZWAC and WWC to provide input on policy Alignment of the draft prior to issuing the solicitation.</p>	<p>AW Staff submits all biosolids draft solicitations to the director of ARR to review for compliance with the City's Zero Waste Ordinance. AW will continue with this practice and will also continue to take the bids and proposals Staff recommends to award to the Water and Wastewater Commission for approval prior to going to Council.</p>

1. BACKGROUND

The City of Austin (City) seeks to establish a Contract for the treatment and beneficial reuse of biosolids for the Austin Water Department (AW) Hornsby Bend Biosolids Management Plant, hereafter referred to as "Hornsby" or "site". Hornsby is located at 2210 South FM 973, Austin, Texas 78725. The biosolids are located in drying basins and in the belt press area at the Hornsby site.

AW currently has a Contract for removal of biosolids from Hornsby through composting and offsite land application.

2. PURPOSE

The Contractor shall treat and remove all Class B biosolids produced annually at Hornsby. Biosolids shall be treated to meet Class A pathogen reduction requirements through the composting process.

3. CONTRACTOR REQUIREMENTS – GENERAL

- 3.1. The Contractor, whether working onsite or offsite, shall be responsible for all work necessary to meet product quality and regulatory requirements for producing and marketing compost. This includes, but is not limited to, bulking agent/amendment supply and transport, feedstock preparation, premixing, creating windrows, turning windrows, daily temperature measurements, sampling and laboratory analysis, screening, curing, recordkeeping, marketing and distribution of compost products. In addition, this shall include services which are clearly necessary for the complete and legal operation of this Contract, though not specifically stated.
- 3.2. The City estimates that there will be approximately a 1 percent biosolids supply growth annually. However, it has been variable the last few years. The Class B production in dry tons for the last three years is listed in Attachment B - Belt Press Production.
- 3.3. The City will provide the Contractor green waste (brush, yard and tree trimmings) brought to the site by other City departments and Contractors. Austin Resource Recovery grinds this waste in Basin 2. Hornsby has received approximately 35,000 tons for each of the past two years. There will be a decrease of approximately 6,000 tons of green waste per year for four years when the new curbside organics/yard trimmings collection program expands to the rest of the City. This program will prevent the yard trimmings, which may contain organics, from going to Hornsby due to the proximity to the airport. In 2020, the amount may level out at approximately 10,000 tons per year; although the City cannot guarantee the availability of green waste. The Contractor is

responsible for the sourcing, grinding and transportation of additional green waste required for a successful biosolids composting operation.

- 3.4. The Contractor shall work with the City to allow piloting alternative methods of biosolids reuse during the term of this Contract. Piloting could include programs such as Thermo Hydrolysis (currently being piloted by San Francisco). These alternative methods will only be pilot tested and will not be expanded to the operations at Hornsby until the end of the subject Contract.

4. COMPOST QUALITY ASSURANCE

- 4.1. Biosolids from other sources are not permitted on the Hornsby site.

The Contractor shall:

- 4.2. Maintain records of each windrow activated. Windrow records shall include the following:
- Windrow identification number
 - Activation date
 - Ratio and amount of biosolids and green waste in dry tons and cubic yards
 - Daily temperature measurements
 - Date and number of turns
 - Chain of Custody for pathogen sample collection, testing and results
 - Curing date
- 4.3. Screen the compost to remove oversized and inert materials, in particular plastics, prior to distribution to the end user.
- 4.4. Produce a compost product that meets or exceeds the United States Compost Council Seal of Test Assurance Standards (STA).
- 4.5. Label and/or include an information sheet with all products produced with City biosolids to inform the end user of that fact.
- 4.6. Produce Dillo Dirt that meets the requirements in Section 10 of this scope and Attachment C – Dillo Dirt Product Specification. Only compost meeting the Dillo Dirt specifications in Attachment C may be marketed and sold as Dillo Dirt.
- 4.7. Disclose the source of any material used for bulking agents or amendments to compost products, whether used onsite or offsite, and obtain approval from AW prior to use. The Contractor is responsible for testing this material for

contaminants and ensuring compatibility with the composting process if required by the City.

The City or its designated representative will:

- 4.8. Spot check the compost piles for stability and maturity prior to removal from the site. Only stable and mature compost will leave the site. The approved methods are shown in Attachment F.

5. SAMPLING AND LABORATORY ANALYSIS

The Contractor shall:

- 5.1. Conduct regulatory sampling of compost for pathogens, metals and nutrients in the presence of the City's Site Contact. Sample collection shall take place Monday through Friday during normal business hours. Laboratories used for regulatory compliance documentation shall be accredited by the State of Texas under the National Environmental Laboratory Accreditation Program (NELAP).
- 5.2. Sample all the compost products, windrows and piles. Sample collection shall follow the procedures in the Test Methods for the Examination of Composting and Compost, Chapter 2.01 - Field Sampling of Compost Materials. A Sampling Plan must be submitted for approval to the City within 30 days of the notice of award.
- 5.3. Sample and analyze the compost products for the parameters required for the STA program, shown in Attachment G, and provide those results to the Site Contact.
- 5.4. Perform all soil sampling and analyses of onsite fields as required by the Hornsby Bend permit before December 15 of each year and provide results to the Site Contact within 30 days of sampling.
- 5.5. Be responsible for sample collection and laboratory analysis of the following:
 - Bulking agents and amendments as needed
 - Weekly basin samples for percent solids delivered to the Hornsby lab for analysis
 - Pathogen sampling of windrows for PFRP documentation
 - Monthly metals and nutrients of composted products
 - Quality testing of compost products for stability and maturity using an approved method listed in "The Methods for the Examination of Composting and Compost" (TMECC) Section 5.

- TCLP and PCB testing of compost products for inclusion with the Hornsby annual biosolids report to TCEQ (the results need to be to City no later than September 1 each year).

5.6. Collect representative samples of stored sludge in the basins for percent solids analysis prior to weighing. Samples shall be collected weekly and delivered to the Hornsby lab onsite for analysis following the procedures on Attachment E – Austin Water Chain of Custody. The Contractor shall give 24 hour notice to the Laboratory before collecting and submitting samples that are an exception to the daily requirement. The City reserves the right to request collection of additional samples to represent the biosolids being weighed.

The City will:

5.7. Be responsible for sample collection and laboratory analysis of Class B biosolids. Results for monthly testing will be made available to the Contractor by the 8th day of each month. Laboratory analysis of Class B biosolids shall include the following:

- Daily - Percent Total Solids of pressed biosolids and basin solids
- Monthly - Pathogen and Vector reduction
- Monthly - Metals and Nutrients
- Annually – Toxicity Characteristic Leaching Procedure (TCLP) and PCB's

6. REGULATORY COMPLIANCE/RECORD KEEPING

The Contractor shall:

6.1. Comply with all Federal, State, County and City rules and regulations during the execution of this Contract. The Contractor is also responsible for obtaining all insurance, permits, and licenses necessary to perform services under this Contract. This shall include, but is not limited to, Occupational Safety and Health Administration (OSHA), Texas Department of Transportation (TXDOT), Environmental Protection Agency (EPA), Texas Commission on Environmental Quality (TCEQ), Travis and any other affected Counties, and requirements of the Hornsby Bend, Walnut Creek and South Austin Regional permits listed in Attachment A - Current Permits.

6.2. Maintain conditions necessary for the composting operation to be considered a Process to Further Reduce Pathogens (PFRP) under EPA 40 CFR Part 503 and TCEQ regulations. Upon completion of the PFRP process the treated Class B biosolids shall meet Class A pathogen reduction requirements.

- 6.3. Track, keep records and comply with all regulations throughout the processing, marketing and distribution of biosolids or biosolids derived products. Products that do not meet regulatory requirements or quality standards shall not be distributed. The Contractor shall immediately report to the City any regulatory noncompliance or failure to meet quality standards and provide procedures and corrective actions to address the issue. The Contractor will correct the issue in the time frame given to them by the City or they will be considered in non-compliance with the Contract.
- 6.4. Provide the City with all certification statements and regulatory compliance documentation to meet the requirements of the Hornsby permit no later than September 15th of each Contract year for inclusion with the annual biosolids report to TCEQ.

7. SITE REQUIREMENTS

The City will:

- 7.1. Provide access to the Hornsby site for the Contractor to utilize two concrete compost pads totaling 22 acres and 4 of the 5 concrete basins. Each basin is approximately three feet deep with 5 acres of surface area, see Attachment D - Site Layout. Austin Resource and Recovery (ARR) operates in Basin 2; the Contractor shall not interfere with the operations of ARR. One of the 4 basins shall remain open and available at all times for sludge storage in the event of process upsets and/or emergency conditions.
- 7.2. Allow the Contractor to utilize approximately 3 acres onsite to receive and grind bulking materials for the Contractor's composting operations at Hornsby. The bulk drop-off site shall include an all-weather access road and be enclosed with an opaque fence. The Contractor is responsible for permits, registrations, site improvements, maintenance, runoff and security of the drop-off site. The City shall have access to the drop-off site at all times.

The Contractor shall:

- 7.3. Conduct operations only Monday through Saturday sunup to sundown unless approved otherwise by the City's Site Contact. An example of an exception which could be requested would be working on an occasional Sunday if additional time is needed to move product offsite.
- 7.4. Follow the Contractor's approved Control Plans for maintenance of the biosolids processing and storage areas and as directed by the City's Site Contact. 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, maintaining the basins and other work needed to ensure the areas are neat, safe and usable.

- 7.5. Provide inventory control and management of materials including green waste, curing piles and screened "overs". Piles shall be constructed and maintained in accordance with the approved Control Plans listed in Section 12 - ODORS/DUST/SPILLS/FIRE. The Contractor shall store biosolids such that the oldest biosolids can be tracked and accessed first. The Contractor shall maintain consistent movement of products and not store compost other than Dillo Dirt at Hornsby for more than 90 DAYS after completion of PFRP requirements.
- 7.6. Inventory the site no later than the 10th day of each month with the City Site Contact to total the amount of Class B biosolids and compost onsite. If the inventory increases by more than 20 percent in any one month the Contractor will submit a written plan within three business days for lowering the inventory to a level acceptable to the City. The plan shall include timelines, which will be enforced by the City Site Contact.
- 7.7. Keep the following on the Hornsby site: premixing biosolids and green waste, biosolids composting to meet PFRP requirements and sample collection for PFRP requirements. Unless otherwise approved by the City, all work associated with the production of Dillo Dirt must take place at Hornsby, including but not limited to: premixing, composting, curing, screening, bagging, testing and loading of the final Dillo Dirt product. Only bulk sales of compost products in excess of 6 cubic yards are allowed from the Hornsby site.
- 7.8. Continue selling Dillo Dirt to the City's registered vendors from the Hornsby site. The Contractor will track all sales to the vendors and report to the Site Contact the amount of Dillo Dirt sold each month.
- 7.9. May perform work and activities at an offsite facility such as grinding of green waste prior to mixing with biosolids, curing, STA sample collection for products other than Dillo Dirt, blending, bagging and loading of the final product other than Dillo Dirt. The Contractor is required to disclose to the City the location of any and all offsite work locations used to provide services under this Contract throughout the term of the Contract. Offsite locations shall be located within 100 miles of Hornsby and be accessible to the City's representative during normal business hours.
- 7.10. Designate for each work site an Operations Manager or Contractor's representative to be available during normal business hours for coordination and communication with City staff. The names and contact information shall be provided to the City's Site Contact. The Operations Manager must have decision-making authority to immediately address operational, health and safety concerns.

8. ONSITE MATERIALS

- 8.1. Compost onsite – All respondents are required to give a price for purchasing the Dillo Dirt onsite at the time the Contract starts. The amount of Dillo Dirt the Contractor must purchase will be estimated by the City and listed in the proposal sheet. The Dillo Dirt purchased by the Contractor will be accounted for as it is moved offsite and reported to the City Site Contact each month.

9. TRANSPORTATION REQUIREMENTS

The Contractor shall:

- 9.1. Ensure all vehicles providing transportation services under emergency or regular operating conditions for the Contractor, whether owned and operated by the Contractor or a Subcontractor, shall follow entry/exit and access routes designated in Attachment D.
- 9.2. Ensure transportation equipment is sealed to prevent leakage. Transportation equipment shall include a tarp or other cover to prevent blowout or spillage while transporting. All loads shall be covered before leaving any site.
- 9.3. Clean all trucks and trailers used for transporting compost or biosolids to prevent spillage. The truck washing area will be designated by the City's Site Contact. The City reserves the right to stop hauling activities if trucks and equipment are not kept clean. The City shall be the final judge as to the condition of the trucks and equipment.
- 9.4. Ensure all personnel and vehicles hauling Class B biosolids are registered to haul in compliance with Texas Administrative Code Title 30, Part 1, Chapter 312, Subchapter G.
- 9.5. Equip all equipment used at Hornsby with rubber tires designed to operate on a concrete surface.

10. DILLO DIRT

The Contractor shall:

- 10.1. Continue to make and market a product with the Dillo Dirt name. This product shall be kept available to the local market and wholesalers but can and should be marketed elsewhere. The Dillo Dirt trademark name and compost quality will remain in the City of Austin control regardless of who produces the product. Dillo Dirt shall meet the requirements of this scope and the specifications in

Attachment C. Dillo Dirt may be sold either bagged or in bulk. Records of the amount of Dillo Dirt sold and/or donated will be kept by the Contractor and given to the City monthly with the invoice. This includes representative sample results showing the Dillo Dirt compost meets all the requirements of Attachment C.

- 10.1.1. Dillo Dirt is a 100% compost product. Blended products containing Dillo Dirt shall not be marketed and distributed as Dillo Dirt. Dillo Dirt and blended products containing Dillo Dirt shall follow the labeling requirements for biosolids derived products.
- 10.2. Have 6-months after the notice of award to have the US Composting Council Seal of Testing Assurance (STA) registration for Dillo Dirt transferred to the Contractor. The Contractor is responsible for maintaining Dillo Dirt's STA certification. Testing frequency, parameters, sample collection and lab analysis shall comply with the requirements of the STA program.
- 10.3. Have a sufficient amount of Dillo Dirt available every calendar year to sell to the local vendors and donate to charitable organizations and other City Departments. Previous year's sales can be used as a guideline for how much the Contractor shall have available. The City sold approximately 10,000 cubic yards in 2016, and 16,000 cubic yards in 2015. The Contractor can assume the first year's quantity will be already onsite from City staff's production, and the second year requirements will be agreed upon by the City and Contractor at the end of the first complete year of operations.
- 10.4. The Contractor shall allow for the donation of up to 3,000 cubic yards a calendar year for use by charitable organizations and other City Departments. The charitable organizations will be approved by the City. Charitable donations exceeding the 3,000 cubic yards per year may be made by the Contractor at its sole discretion. The 3,000 cubic yards will be part of the total cubic yards agreed on as stated in Section 10.3.
- 10.5. The City reserves the right to discontinue Contractor's use of the Dillo Dirt name at any time and at its sole discretion.

11. MARKETING

The Contractor shall:

- 11.1. Create a Marketing Plan to identify and develop a reliable, sustainable and diverse range of compost products. The Contractor is free to establish appropriate prices and make adjustments in response to market conditions. The Contractor shall have a Marketing Plan that reflects the City's stated goal

to make all biosolids into a Class A compost and achieve 100 percent beneficial reuse of biosolids. In keeping with the City's goal of diversification it is the responsibility of the Contractor to strive to generate products for suitable market uses. The Marketing Plan will be a submittal with the Contractor's proposal.

- 11.2. Submit an Annual Marketing, Distribution and Sales Report to the City by October 31st of each year. The report shall align with the City's fiscal year (October 1 – September 30) and include at minimum: targeted markets, volume and production rates, donations and sales (local, in state and out state) for each product derived from City of Austin biosolids. Should it appear to the City that the Contractor is not complying with appropriate marketing and end use of the product, the City may take corrective actions.

12. ODOR/DUST/SPILLS/FIRE

The Contractor shall:

- 12.1. Be responsible for managing their operation in a manner that shall prevent hazardous conditions and minimize nuisance conditions created by vectors, odor and dust. The Contractor is responsible for all spills of material associated with the loading, processing, transporting, land application, or any use of the biosolids and/or compost.
- 12.2. Submit specific Control Plans for Odor, Dust, Spill Response and Fire to the City within 30 days of receiving the notice of award. The Contractor shall respond to all complaints and implement any practices or processes needed to remedy such complaints. The Contractor shall be prepared to address concerns and respond to questions in a public forum from City Staff, committee and commission members, stakeholders and citizens. Failure to manage the facility to minimize hazards, odors and dust that result in citizen complaints and regulatory infractions may cause the City to take corrective action for non-conformance.
- 12.3. Log all odor complaints as they come in, whether they come to the City or to the Contractor. The Contractor shall also log the site conditions at the time of the complaint. If the Contractor receives the complaint, they are to inform the City Site Contact within 12 hours of receiving the complaint. If the City receives the complaint the Site Contact will inform the Contractor who will characterize any reported odor and propose the proper corrective action. The Contractor will then implement the corrective action after approval by the City Site Contact. If there is a pattern of complaints the Contractor may be required to implement an odor treatment system.

- 12.4. Have Control Plans that at a minimum:

- Comply with all City, County, State and Federal requirements
- Provide the address and location for all sites where work is being performed
- Contact information for Contractor's site representative with decision-making authority to immediately address health and safety issues
- Include specific and preventative measures
- Perform material management and inventory control including storage and pile size limitations
- Provide Access for equipment and emergency vehicles
- Include training requirements such as frequency, method and documentation of training
- Identify equipment required to ensure the success of the plans
- Outline procedures for halting and responding to the problem and reporting the incident to the City and State

13. EMERGENCY CONDITIONS

- 13.1. Emergency conditions are defined as severe fire risk, other imminent threats to health and safety, or imminent risk of regulatory non-compliance that could not have reasonably been foreseen. The Contractor shall receive approval from AW to proceed with the performance of any emergency options.
- 13.2. Under emergency conditions, land application of unscreened compost, Class A biosolids or Class B biosolids may be made on a temporary basis. Plastics shall be removed as time permits.
- 13.3. These temporary reuse options shall extend only as long as necessary to alleviate emergency conditions.
- 13.4. In emergency conditions, the Contractor shall provide information to City staff within 3 days on what corrective actions will take place after emergency conditions have been enacted. The information shall include a plan to return operations to normal and a timeframe in which that will be accomplished. The Contractor will be held to that plan, and failure to adhere to the plan may result in the City taking corrective action.
- 13.5. In the event land application of Class B is required, the following shall apply:
- 13.5.1. The Contractor shall be registered with the TCEQ to legally haul and land apply Class B biosolids on fields permitted by TCEQ. The Contractor is responsible for acquiring, permitting and maintaining land application sites and permits for the term of the Contract as an emergency contingency for Class B biosolids. The Contractor shall provide loading, spreading and any other equipment and personnel necessary to complete this task.

13.5.2. The Contractor shall land apply biosolids, if directed by the City, onsite at Hornsby. 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 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.

13.5.3. The Contractor is responsible for all materials, labor and lab analysis for soil sampling of each land application field as required in the applicable TCEQ permits.

13.5.4. The Contractor shall document each onsite and offsite land application load with a trip ticket or receipt as proof of loading and delivery. The Contractor shall review and approve the tickets or receipts before submitting them with an invoice. The trip ticket or receipt shall include, but is not be limited to the following information:

- Name of company and driver name
- Time and date of haul and application
- Volume and/or weight of biosolids hauled
- Class of biosolids
- TCEQ permitted site number (if hauled for land application)

13.5.5. The Contractor shall land apply biosolids in a uniform manner and at a rate not to exceed the TCEQ permitted application rates. The Contractor shall perform application with a calibrated spreader designed for biosolids application. Land application shall comply with all requirements in the Texas Administrative Code, Title 30, Chapter 312 Sludge Use, Disposal and Transportation.

13.5.6. The City will not authorize biosolids to go to a landfill except in extreme circumstances. If the option is exercised, the City's Site Contact will direct the Contractor on the amount of biosolids to be disposed of at a TCEQ and EPA-approved landfill. Wastewater sludge is classified as special waste. Requirements for disposal in a municipal solid waste landfill are in the Hornsby permit. A Type I landfill shall be utilized. The Contractor shall provide proof the landfill is in compliance with EPA and TCEQ requirements for accepting Class B biosolids before any hauling to the landfill takes place. Copies of the Landfill ticket receipts and a monthly report shall be submitted with each invoice to the City's Site Contact. It is the City's intent to use the landfill option in the event of an emergency situation as defined by the City's Site Contact.

14. TRACKING AND REPORTING

The Contractor shall:

- 14.1. Accept all dewatered Class B biosolids from the belt press. The City will provide the Contractor with the monthly dry weight of biosolids produced from the belt press. The Contractor is responsible for tracking the volume of biosolids used in composting or stored in basins.
- 14.2. Be permitted to install and maintain onsite certified truck scales as required for their operations. Placement of the truck scale shall be coordinated with the City's Site Contact and not interfere with plant operations. The Contractor is responsible for maintenance, certification and calibration of the scale. The City reserves the right to view certification and calibration documents for the truck scale upon request.

15. Deliverables¹

Deliverable	Contractor or City	Due Date	Scope Section
Windrow Records Showing PRFP was met	Contractor	Monthly with Invoice	4.2 & 5.5
Bulking Agent Source	Contractor	Identify any sources not provided by ARR	4.7 & 5.5
Belt Press Class B Lab Results for % Solids	City	Daily	5.7
Belt Press Class B Lab Results for Pathogen and Vector Reduction	City	Monthly	5.7
Belt Press Class B Lab Results for metals and nutrients	City	Monthly	5.7
Belt Press Class B Lab Results for TCLP and PCB's	City	Annually	5.7

Revision Date September 6, 2017

Onsite soil sampling results	Contractor	By January 15 th each year	5.4
Dillo Dirt Compliance Samples	Contractor	Monthly with Invoice	10.1
Compost Testing Results – (Metals and Nutrients)	Contractor	Monthly with Invoice	5.5
Compost Testing Results – (STA Dillo Dirt)	Contractor	Monthly with Invoice	10.2
Compost Testing Results (STA other than Dillo Dirt)	Contractor	Monthly with Invoice	5.3
Basin Sludge Percent Solids - Contractor collects sample weekly from any Basin with stored sludge.	Contractor	Monthly with Invoice	5.6
TCLP and PCB Compost testing results	Contractor	Results reported annually to City by September 1	5.5
Stability and Maturity Results	City	Monthly with invoice	5.5
Regulatory Noncompliance Information	Contractor and City	Immediately	6.3
Certification Statements for inclusion in the annual report to TCEQ	Contractor	Before September 15	6.4
Plan to decrease inventory if needed	Contractor	3 business days after discovery	7.6
Information on any donations or sales of Dillo Dirt	Contractor	Monthly with Invoice	10.1 & 8.1
Names and Contact information for City and Contractor Site Contacts	Contractor/City	At the kick-off meeting for the Contract and ASAP if they change	7.10

Revision Date September 6, 2017

Marketing Plan	Contractor	With Response to RFP	11.1 & SP
Marketing, Distribution, and Sales Report	Contractor	Annually on October 31	11.2
Odor Control Plan	Contractor	30 Days after award	12.2
City's Fire Prevention Plan	City	At the time of award	12.2
Contractor's Fire Prevention Plan	Contractor	30 Days after award	12.2
Dust Control Plan	Contractor	30 Days after award	12.2
Spill Response Plan	Contractor	30 Days after award	12.2
Log of Odor complaints and conditions at the time	Contractor	Within 12 hours of the complaint and notify City	12.3
Propose a Course of Action to Alleviate Odors	Contractor	As directed by City	12.3
Install Truck Scales – Certified	Contractor	Before Start of Work	14.2
Invoices	Contractor	Monthly by the 10 th	SP

1. There are more deliverables if the contract goes into emergency conditions as stated in Section 13 of the Scope of Work.

ATTACHMENT B - BELT PRESS PRODUCTION
Hornsby Bend BMP

DOC 3

Year	Month	Avg % TS	Dry Tons	Wet Tons	Approx. Volume Cubic Yards
2014	Jan	15.7	1,850	11,783	13,986
	Feb	15.1	1,600	10,596	12,577
	Mar	15.2	1,434	9,434	11,198
	Apr	15.5	1,672	10,787	12,804
	May	15.4	1,399	9,084	10,783
	Jun	16.0	1,361	8,506	10,096
	Jul	16.0	1,116	6,975	8,279
	Aug	16.6	1,489	8,970	10,647
	Sep	18.0	1,393	7,739	9,186
	Oct	18.0	1,670	9,278	11,012
	Nov	17.3	1,458	8,428	10,003
	Dec	18.1	1,539	8,503	10,092
Total		16.4	17,981	110,083	130,663

Year	Month	Avg % TS	Dry Tons	Wet Tons	Approx. Volume Cubic Yards
2016	Jan	17.3	1,239	7,160	8,498
	Feb	17.5	1,413	8,076	9,586
	Mar	17.2	1,395	8,111	9,627
	Apr	16.6	1,589	9,570	11,360
	May	16.1	1,569	9,748	11,570
	Jun	16.7	1,260	7,547	8,958
	Jul	16.6	1,421	8,561	10,162
	Aug	17.1	1,468	8,585	10,190
	Sep	17.0	1,575	9,265	10,997
	Oct	17.6	1,638	9,305	11,045
	Nov	17.6	1,385	7,870	9,341
	Dec	16.3	1,544	9,472	11,243
Total		17.0	17,497	103,271	122,576

Year	Month	Avg % TS	Dry Tons	Wet Tons	Approx. Volume Cubic Yards
2015	Jan	17.4	1,275	7,328	8,697
	Feb	18.3	1,147	6,268	7,439
	Mar	17.8	1,393	7,826	9,289
	Apr	17.6	1,391	7,903	9,381
	May	18.0	1,326	7,367	8,744
	Jun	19.2	1,404	7,313	8,680
	Jul	19.2	1,625	8,464	10,046
	Aug	20.7	1,651	7,976	9,467
	Sep	19.7	1,762	8,944	10,616
	Oct	18.2	1,483	8,148	9,672
	Nov	18.8	1,608	8,553	10,152
	Dec	18.3	1,429	7,809	9,269
Total		18.6	17,494	93,898	111,451

Year	Month	Avg % TS	Dry Tons	Wet Tons	Approx. Volume Cubic Yards
2017	Jan	16.8	1,522	9,060	10,761
	Feb	15.8	998	6,316	7,502
	Mar	16.4	1,770	10,793	12,817
	Apr	15.7	1,506	9,592	11,389
	May	15.0	1,490	9,933	11,794
	Jun	15.3	1,370	8,954	10,635
	Jul				
	Aug				
	Sep				
	Oct				
	Nov				
	Dec				
Total		17.0	8,656	54,649	64,898

ATTACHMENT C - DILLO DIRT PRODUCT SPECIFICATION
TEXAS ELEMENT INC. for AUSTIN WATER
HORNSBY BEND BIOSOLIDS PLANT

Analyte - Parameter	Dillo Dirt Minimum	Dillo Dirt Maximum	Dillo Dirt Average	TX DOT Item 161 Compost
Retained on 5/8" Sieve (%)	0.90	3.16	1.97	95% Passing 5/8"
Retained on 3/8" Sieve (%)	2.50	7.90	4.98	70% Passing 3/8"
Arsenic (mg/kg)	1.50	16.10	13.01	<41*
Cadmium (mg/kg)	1.50	3.17	2.56	<39*
Copper (mg/kg)	123	263	157	<1200*
Chromium (mg/kg)	9.23	15.80	13.13	<1500*
Lead (mg/kg)	7.50	17.70	14.10	<300*
Mercury (mg/kg)	1.39	1.61	1.51	<17*
Molybdenum (mg/kg)	1.50	8.08	4.79	Report Only*
Nickel (mg/kg)	6.57	13.70	10.68	<420*
Selenium (mg/kg)	1.50	16.10	10.87	<36*
Zinc (mg/kg)	210	341	288	<2800*
Total Nitrogen (%)	0.93	2.28	1.83	-
Phosphorus (%)	0.57	1.00	0.78	-
Potassium (%)	0.30	0.84	0.50	-
Calcium (%)	4.68	13.80	8.31	-
Magnesium (%)	0.37	0.75	0.51	-
Moisture Content (%)	28.50	38.00	33.67	-
Soluble salts (dS/m)	1.20	4.10	2.57	5 Max
Salinity (mmho/cm)	1.20	4.10	2.54	5.0 Max
pH	6.60	7.84	7.05	5.5 - 8.5
Organic Matter (%)	55	60	58	25 - 65
Maturity - Germination (%)	85	93	88	>80
Maturity - Root Elongation (%)	85	93	88	>80
CO2 Evolution rate (mg CO ₂ -C/g TS/Day)	2	3	2.81	≤8
Stability Index	Very Stable	Very Stable	Very Stable	-
Bioassay	Very Mature	Very Mature	Very Mature	-
Fecal Coliform (MPN/g)	0	376	159	<1000

Notes:

Data compiled from monthly Dillo Dirt STA analysis between October 2014 and December 2016.

* EPA/TCEQ Table 3 Metal Ceiling Concentrations

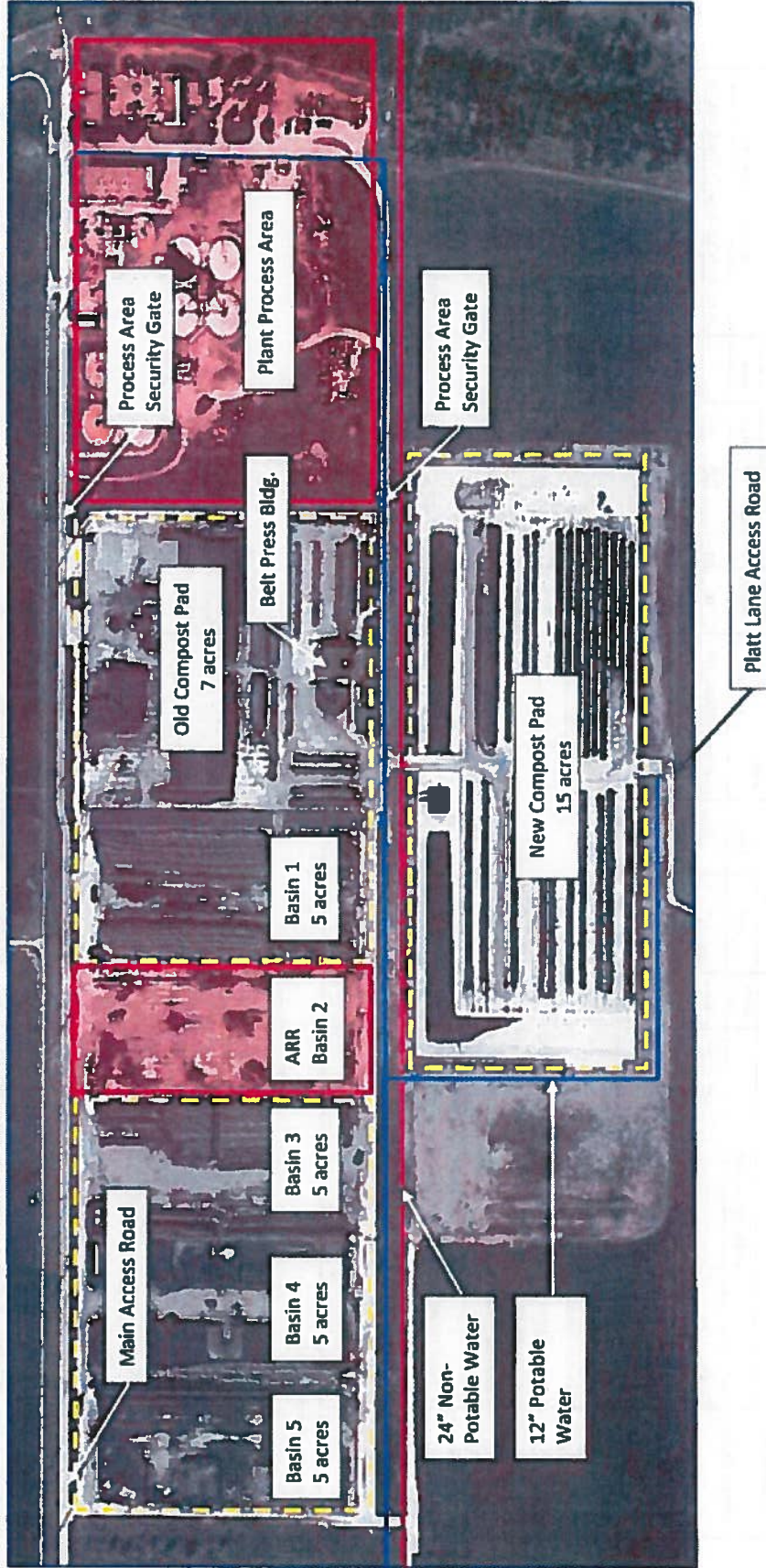
Attachment D – Site Layout



Area available for Contractor Operations



Area off limits to Contractor Operations



[illegible]

ATTACHMENT F – METHODS AND REQUIREMENTS FOR STABLE COMPOST

Stability

Testing Methods for the Examination of Composting and Compost:

5.08 A – Compost Stability Index – Specific Oxygen Uptake Rate – The rate of O₂ consumption is quantitatively measured

5.08 B – CO₂ Evolution Rate - The amount of CO₂ released biologically from a compost sample as a result of incubation

5.08 D – Dewar Self-heating Test – a standardized procedure used to measure self-heating as an indicator of biological activity.

5.08 E – Slovicita Maturity Index – A semi-quantitative (scaling) procedure used to determine carbon-dioxide (CO₂) and ammonia (NH₃N) released into the closed headspace above a volumetric compost sample.

5.08 F – Biologically Available Carbon

ASTM D5975 – Determining the Stability of Compost by Measuring Oxygen Consumption

Maturity

Testing Methods for the Examination of Composting and Compost:

5.05 A – Seedling Emergence and Relative Growth – Report percentage of emerged seedlings and percentage of vigorous seedlings. Report percent emergence for both positive and negative controls:

5.05 B – In-Vitro Germination and Root Elongation – Report delayed germination and reduction in root length related to deionized control

5.05 C – Earthworm Bioassay: The Minnesota “Z” Test – Report the percent change in earthworm weight for each of the two test aliquots for the 7-day and 14 –day test periods.

ATTACHMENT G

Sampling Procedures and Test Methods

Sampling Methods:

Sampling procedures to be used for purposes of the Seal of Testing Assurance program are as provided in 02.01 Field Sampling of Compost Materials, 02.01-B Selection of Sampling Locations for Windrows and Piles of The Test Methods for the Examination of Compost and Composting (TMECC), Chapter 2 Sample Collection and Laboratory Preparation, Jointly published by the USDA and USCC (2002 publishing as a part of the USDA National Resource Conservation Technical Bulletin Series). The sample collection section is available online at <http://tmecc.org/tmecc/>.

Test Methods:

Test Methods to be used for purposes of the Seal of Testing Assurance program are as provided in The Test Methods for the Examination of Compost and Composting (TMECC), Jointly published by the USDA and USCC (2002 publishing as a part of the USDA National Resource Conservation Technical Bulletin Series). A list of such methods is provided in the table below and online at <http://tmecc.org/tmecc/> and in Appendix

Parameters List (with Test Method name):

Compost Parameters	Reported as	Test Method
pH		TMECC 04.11-A
Soluble salts	dS/m (mmhos/cm)	TMECC 04.10-A
Primary plant nutrients:	%, as-is (wet) & dry weight basis	
Nitrogen	Total N	TMECC 04.02-D
Phosphorus	P ₂ O ₅	TMECC 04.03-A
Potassium	K ₂ O	TMECC 04.04-A
Calcium	Ca	TMECC 04.05-Ca
Magnesium	Mg	TMECC 04.05-Mg
Moisture content	%, wet weight basis	TMECC 03.09-A
Organic matter content	%, dry weight basis	TMECC 05.07-A
Particle size	Screen size passing through	TMECC 02.02-B
Stability (respirometry)	mg CO ₂ -C per g TS per day mg CO ₂ -C per g OM per day	TMECC 05.08-B
Maturity (Bioassay)		TMECC 05.05-A
Percent Emergence	% (average)	
Relative Seedling Vigor	% (average)	
Select Pathogens	(PASS/FAIL) Limits: Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <10000 MPN/gram	TMECC 07.01 B/ Fecal Coliforms or 07.02 Salmonella
Trace Metals*	(PASS/FAIL) Limits: As 41ppm, Cd 39ppm, Cu 1500ppm, Pb 300ppm, Hg 17ppm, Ni 420ppm, Se 100ppm, Zn 2800ppm	TMECC 04.06

* Composts produced from manure, food residuals and yard trimmings may test for pathogens and trace metals at half the frequency required in section IV.A.2.a of the Program Rules. The frequency of such testing for composts produced from other feedstocks may be similarly reduced upon demonstration by the Participant to the Program Manager and Technical Review Committee that the source and character of the feedstock is consistent, and that test results for pathogens and trace metals have been consistently below applicable limits.