LIQUID ENVIRONMENTAL SOLUTIONS OF TEXAS, LLC
BURLESON ROAD FACILITY,
AUSTIN, TRAVIS COUNTY, TEXAS

MSW TYPE V REGISTRATION APPLICATION NO. 40285

Part III

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22 July 2016

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STATE OF TEXAS

7-22-2016
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3. **CLOSURE PLAN**

4. **CLOSURE COST ESTIMATE**

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Signature: Wade M. Wheatley
Date: 7-22-2016
3.0 §330.63 CONTENTS OF PART III OF THE APPLICATION

The Supplementary Technical Report (§305.45) can be found in Part I, Attachment 1 of the application.

3.1 §330.63(a) SITE DEVELOPMENT PLAN

This Site Development Plan (SDP) includes details specific to the proposed Municipal Solid Waste (MSW) Type V Facility for which this registration application is being prepared. This SDP addresses criteria providing for the safeguarding of the health, welfare, and physical property of the people and environment through consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads, and other considerations as the site dictates were used in the selection of the site and design of the facility.

3.2 §330.63(b) GENERAL FACILITY DESIGN

3.2.1 §330.63(b)(1) Facility Access

The facility will provide access control by fences and lockable gates. These measures are suitable access control to prevent the entry of livestock, to protect the public from exposure to potential health and safety hazards and to discourage unauthorized entry or uncontrolled disposal of solid waste or hazardous waste.

LES is developing the facility in two phases. The two phases will impact building size, available equipment and the extent of recycling performed on-site. This application has been written to show the initial (Phase I) and final (Phase II) facility design. Waste acceptance rate, waste storage, and closure cost estimates are based on final facility design at maximum capacity.

The Site Layout Plans for Phases I and II are shown in Part III, Figures 1A and 1B.

3.2.2 §330.63(b)(2) Waste Movement

Phase I

The initial treatment process in Phase I begins as liquid waste is delivered to the facility via tanker truck/hauling truck. Before off-loading the waste and discharging the material into the Storage/Processing Tanks, the waste load manifest is checked to determine acceptability of the
waste. If the material is identified as an unauthorized or a prohibited waste, it will not be accepted at the facility.

The tanker truck/hauling truck will back into the truck bay for off-loading. The waste is off-loaded from the tanker truck/hauling truck with a hose that is connected to a Rock Box. The waste passes through the Rock Box to a Storage/Processing Tank. Any large solids, such as spoons or forks, caught by the Rock Box will be disposed off-site at an authorized disposal facility.

From the Storage/Processing Tanks, the liquid is pumped into a Dissolved Air Flotation (DAF) Batch Tank. Liquid is then sent to the DAF for removal of suspended matter such as oil and solids. Wastewater from the DAF is sent to a DAF wastewater Batch Tank prior to discharge to the City of Austin sanitary sewer. Grease/float and some solids from the DAF are transferred back to a Storage/Processing Tank prior to transfer off-site for further processing into product.

A Process Flow Diagram for Phase I is shown in Part III, Figure 2A. Additionally, a Waste Processing Schematic for Phase I is shown in Part III, Figure 3A.

Phase II

The Phase II treatment process begins as liquid waste is delivered to the facility via tanker truck/hauling truck. Before off-loading the waste and discharging the material into the Storage/Processing Tanks, the waste load manifest is checked to determine acceptability of waste. If the material is identified as an unauthorized or a prohibited waste, it will not be accepted at the facility.

The tanker truck/hauling truck will back into the truck bay for off-loading. The waste is off-loaded from the tanker truck/hauling truck with a hose that is connected to a Rock Box. The waste passes through a Rock Box and Shaker Screen to remove any large solids before entering a Storage/Processing Tank.

Separated water is then sent to the DAF for removal of suspended matter such oil and solids. Wastewater from the DAF is sent to a wastewater DAF Batch Tank prior to discharge to the City of Austin sanitary sewer. Grease/float and some solids from the DAF are transferred to
the Sludge Holding Tank for further processing while solids are dewatered by filter press or
dewatering box prior to off-site disposal.

Liquid from the Sludge Holding Tank is sent to an Equalization Tank where pH of the liquid may
be adjusted prior to being sent back to the DAF. Grease/float from the DAF is sent to the
sludge holding tank and may be further processed on-site by centrifuge or transferred off-site for
further processing. The separated grease is stored in the Grease Product Storage Tank for
removal off-site. Wastewater from the centrifuge is transferred to the Centrifuge Batch Tank
prior to discharge to the City of Austin sanitary sewer. Solids not passing the paint filter test will
be dewatered through centrifuge, filter press or dewatering box.

A Process Flow Diagram for Phase II is shown in Part III, Figure 2B. Additionally, a Waste
Processing Schematic for Phase II is shown in Part III, Figure 3B.

The equipment identified in Tables 1A and 1B includes a listing of all storage units, processing
units, and ancillary equipment routinely used at the facility. Tanker trucks/hauling trucks are
used to move materials in and out of the site and for temporary storage. Although these trucks
may be staged on site for these purposes they are typically parked off-site when empty; they are
not part of the active process and they are not used to add storage volume to the facility. The
Equipment Lists (Tables 1A and 1B) provide information regarding the general type, minimum
number of units, typical size, function, contents, material of construction, vents, covers,
enclosures and protective coatings. LES may supplement this basic equipment with other
similar equipment as needed to operate the facility in the event of a failure or breakdown of
existing equipment, to improve operational efficiency, or to meet special needs. The TCEQ will
be consulted if new equipment may require an amendment to the facility registration.

3.2.2.1 §330.63(b)(2)(A) Flow Diagram

Process Flow Diagrams indicating the storage, processing and disposal sequences for the
waste types received at the facility are shown in Part III, Figures 2A and 2B.

3.2.2.2 §330.63(b)(2)(B) Schematic View

Waste Processing Schematics showing the various phases of collection, separation, processing
and disposal for the waste streams received at the facility are shown in Part III, Figures 3A and
3B.
3.2.2.3 §330.63(b)(2)(C) Ventilation and Odor Control

Portions of the waste management activity will take place within an enclosed building with doors opening to the interior of the property which prevent odor from leaving the property boundary. Storage/Processing Tanks located outside the processing building will be enclosed and vented back into the building to insure odor control. Building openings such as doors, windows, and louvers will be controlled for ventilation and to prevent the release of nuisance odors from leaving the property boundary of the facility. Odor will also be controlled by minimizing contact between unprocessed waste and air and by following good housekeeping practices. Wastes will be transferred through hoses and pipes and stored in enclosed tanks. Under these conditions, airflow is limited over the surfaces of liquid as the waste is transferred and processed. Odors will not be mixed with large volumes of air and widely distributed in the building or throughout the site. If odor is detected past the registration boundary, other odor control measures may be implemented as necessary. These may include the restricting of off-loading of waste to include but not limited to restricting off loading of waste, air scrubbers or odor masking sprays until odors are not detected past the registration boundary.

Because of the nature of the waste material handled at the facility, the facility is permitted by rule and does not require a site-specific air permit (30 TAC §106.532). Further discussion of ventilation and odor control is contained in the Part IV, Site Operating Plan.

3.2.2.4 §330.63(b)(2)(D) Generalized Construction Details-Storage and Processing Units

Generalized construction details can be found in Part III, Attachment 1. This attachment contains building elevation view drawings for Phases I and II, a facility cross section showing a typical sump, containment wall/curb detail drawings, a vendor supplied typical DAF drawing, and vendor supplied typical tank drawings.

3.2.2.5 §330.63(b)(2)(E) Generalized Construction Details-Slab and Subsurface Supports

All concrete slabs, curbs and walls will include steel reinforcement and will provide the required spill storage capacity. Minimum curb dimensions and spill containment calculations are presented in Part III, Attachment 2.
3.2.2.6 §330.63(b)(2)(F) Location and Engineering Design Details

A summary and layout for the individual containment areas and calculations for secondary containment are included in Part III, Attachment 2.

3.2.3 §330.63(b)(2)(G) Storage of Grease, Oil and Sludge Plans

Storage times for waste can be found in Part IV, Section 4.5.2.2. Grease product will be sent off-site to an approved processor or end user and all wastewater will be discharged to the City of Austin publicly owned treatment works (POTW).

All solids sent for landfill disposal will pass the Paint Filter Liquids Test (EPA Method 9095). Solids not passing the paint filter test will be dewatered through a centrifuge or dewatering box as shown in Part III, Figures 4A and 4B. Landfilled solids will also be sampled as needed by approved EPA methods and analyzed annually for benzene, lead and total petroleum hydrocarbons (TPH). The solids will not exceed the following standards set in the MSW regulations:

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Total Limit</th>
<th>TCLP Limit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>10 mg/kg</td>
<td>0.5 mg/L</td>
<td>EPA8021B</td>
</tr>
<tr>
<td>Lead</td>
<td>30 mg/kg</td>
<td>1.5 mg/L</td>
<td>EPA6020</td>
</tr>
<tr>
<td>TPH</td>
<td>1500 mg/kg</td>
<td>Not Applicable</td>
<td>Texas Method 1005/1006</td>
</tr>
</tbody>
</table>

Any additional testing required by individual landfills or composting sites for waste classification will be followed and all records of analysis will be retained on-site for a minimum of three years.

3.2.4 §330.63(b)(2)(H) Disposition of Effluent

Wastewater from the operations is held in the Batch Tank, where pH can be adjusted to meet City of Austin discharge requirements. This wastewater will typically be continuously
discharged to the City of Austin sewer as wastes are being processed. The wastewater may also be batch discharged to the sewer or transported to another authorized treatment or disposal facility.

3.2.5 §330.63(b)(2)(I) Noise Pollution Control

Noise pollution is controlled by having the waste processing operations take place within the processing building. Building openings will be controlled to prevent noise pollution from leaving the property boundary of the facility. The facility will comply with the City of Austin noise ordinance.

3.2.6 §330.63(b)(3) Sanitation

The processing facility and equipment will be inspected regularly and cleaned as required in Part IV of this application. Wash waters will not be allowed to accumulate on-site without proper treatment to prevent the creation of odors or an attraction to vectors. Wash water from sumps will be pumped back to the processing tanks.

Washdown equipment and water connections will be provided for the process and unloading areas. Floors and walls adjacent to unloading areas, operating areas and equipment which require frequent washdown will be constructed of reinforced concrete, steel or other non-porous hard-surfaced material.

3.2.7 §330.63(b)(4) Water Pollution Control

All waste unloading areas, waste storage areas and waste processing areas will have secondary containment (Part III, Attachment 2). There will be no surface water discharge from the waste storage and processing areas. The building slab will be designed to allow collection of any minor spills and facility washdown water which will be routed through the processing equipment prior to discharge to the City of Austin. Wastewater effluent from the dewatering process will be discharged to the City of Austin sewer. Disposal of process liquids will be in a manner that will not cause surface or groundwater pollution.
3.2.8  §330.63(b)(5) Endangered Species Protection

The proposed site was evaluated using the U.S. Fish and Wildlife Critical Habitat Portal for the occurrence of threatened, endangered, and candidate listed species for Travis County. An annotated list of threatened, endangered and candidate listed species for Travis County is provided in Part II, Attachment 3. There were no critical habitat(s) identified using the Critical Habitat Portal for the proposed property.

In the unlikely event critical habitat of an endangered or threatened species or the identification of a threatened or endangered species is encountered during construction, LES will coordinate with local and federal agencies regarding an action plan.

3.2.9  §330.63(c) and §330.303 Facility Surface Water Drainage Report

The facility design complies with the requirements of 30 TAC §330.303 (related to Surface Water Drainage for Municipal Solid Waste Facilities). The requirements found in 30 TAC §330.63(c)(1) and 30 TAC §330.63(c)(2) are not applicable to this type of MSW facility.

3.2.10  §330.303 Surface Water Drainage for Municipal Solid Waste Facilities

3.2.10.1  §330.303(a) Facility Management of Run-On and Run-Off

The facility will be constructed, maintained and operated to manage run-on and run-off during the peak discharge of a 25-year rainfall event and prevent off-site discharge of waste. Waste storage will occur in enclosed transport trucks and/or tanks located inside and outside the processing building. Secondary containment curbing for the outside tank farm area has been designed to manage run-on and run-off during peak discharge of a 25-year rainfall event (Part III, Attachment 2).

The site operator will monitor the activities at the facility to ensure that no pollutants, solid waste, or non-point source pollution of the waters of the United States or Waters of the State, or adjacent to, occurs at any time.

3.2.10.2  §330.303(b) Surface Water Drainage

Waste will be stored in enclosed transport trucks, tanks located inside and outside the processing building and/or roll-off containers. Transport trucks are elevated which prevents
surface water from running onto or into them. The facility is designed so that surface water drainage, in and around the facility, will not run onto, into, or off the storage area from outside the building or within the enclosed building (Part III, Attachment 1).

3.3 §330.63(d) WASTE MANAGEMENT UNIT DESIGN

3.3.1 §330.63(d)(1) Storage and Transfer Units

The number and size of tanks used for processing and storage have been selected to provide the facility with the capacity to process all the waste received each day. With equipment that can process the daily maximum receipt of 150,000 gallons, the holding time of solid waste is minimized. The liquid waste, which may be capable of creating public health hazards or nuisances, will be stored in enclosed tanks and transferred promptly. The management of waste will not be allowed to result in nuisances or public health hazards.

Anticipated processing rates and storage times for unprocessed and processed materials are described in Part II, Section 2.2 Waste Acceptance Plan.

Storage tanks are typically enclosed steel or fiber reinforced plastic (FRP) tanks with a working capacity of up to 17,000 gallons each. Tanks may be phased in according to processing needs.

The Dewatering Boxes are generally modified roll-off containers, which are open at the top. The facility will utilize standard industry containers that are readily available. While typical container sizes are provided in Part III, Table 1B, the facility will use containers sized according to waste processing needs. The facility may have up to two dewatering boxes at the facility at any one time.

The facility is designed to control and contain spills. The spill prevention and control measures layout for the individual containment areas and calculations for secondary containment are included in Part III, Attachment 2.

3.4 §330.63(d)(2) - §330.63(d)(9)

Not applicable. This section applies to incineration units, surface impoundments, landfill units, mobile liquid waste units, Type IX and IV facilities and compost units.
3.5 §330.63(e) GEOLOGY REPORT
Not applicable. This section applies to landfill units and compost units.

3.6 §330.63(f) GROUNDWATER AND SAMPLING ANALYSIS PLAN
Not applicable. This section applies to landfill units.

3.7 §330.63(g) LANDFILL GAS MANAGEMENT PLAN
Not applicable. This section applies to landfill units.

3.8 §330.63(h) CLOSURE PLAN
The closure plan, provided in Part III, Attachment 3, has been prepared in accordance with 30 TAC §330, Subchapter K relating to Closure and Post Closure of a processing facility.

3.9 §330.63(i) POST-CLOSURE PLAN
All waste and waste residue will be removed from the site during closure, and there are no applicable required monitoring programs. Therefore, a post-closure care plan is not required for this MSW Type V Facility.

3.10 §330.63(j) COST ESTIMATE FOR CLOSURE AND POST-CLOSURE CARE
A cost estimate for closure prepared in accordance with 30 TAC §330.505 (Closure Cost Estimate for Storage and Processing Units) is provided in Part III, Attachment 4. A post-closure care cost estimate is not required for this Type V MSW Facility. The cost estimate has been prepared based on final (Phase II) facility design at maximum capacity.

Demonstration of financial assurance as specified in Chapter 37, Subchapter R (related to Financial Assurance for Solid Waste Facilities) will be provided within 60 days prior to the initial receipt of waste. In accordance with 30 TAC §330.505(b)(2), continuous financial assurance coverage for closure will be provided until all requirements of the closure plan have been completed and the site is determined to be closed in writing by the Executive Director.

In accordance with 30 TAC §330.505(a)(3), an increase in closure cost estimate and the amount of financial assurance will be made if changes to the facility conditions increase the maximum cost of closure at any time during the active life of the facility.
In accordance with 30 TAC §330.505(a)(4), if the closure cost estimate exceeds the maximum cost of closure at any time during the remaining life of the facility, the owner or operator of the facility may submit a registration modification request with detailed justification to reduce the closure cost estimate and the amount of financial assurance.
## TABLE 1A
### PHASE I EQUIPMENT LIST

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Equipment Type</th>
<th>No. of Items (minimum)</th>
<th>Typical Size</th>
<th>Unit</th>
<th>Content</th>
<th>Function</th>
<th>MOC**</th>
<th>Vents</th>
<th>Covers</th>
<th>Enclosure**</th>
<th>Protective Coatings**</th>
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</thead>
<tbody>
<tr>
<td>1-5</td>
<td>Storage/Processing Tank</td>
<td>5</td>
<td>17,000</td>
<td>Gallons</td>
<td>Liquid/Grease</td>
<td>Storage/Processing</td>
<td>Minimum 3/16 Carbon Steel</td>
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<td>No</td>
<td>Painted</td>
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<tr>
<td>15-16</td>
<td>DAF Batch Tank</td>
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<td>17,000</td>
<td>Gallons</td>
<td>Liquid</td>
<td>Processing</td>
<td>Minimum 3/16 Carbon Steel</td>
<td>Fixed Roof Vented</td>
<td>Indoors</td>
<td>Yes</td>
<td>Painted</td>
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<tr>
<td>17</td>
<td>Bulk Lime Tank</td>
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<td>10,000</td>
<td>Gallons</td>
<td>Lime Chemical</td>
<td>Storage</td>
<td>Minimum 3/16 Carbon Steel</td>
<td>Outdoors</td>
<td>No</td>
<td>No</td>
<td>Painted</td>
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<tr>
<td>27-28</td>
<td>Rock Box</td>
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<td>NA</td>
<td>Large Solids</td>
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<td>Indoors</td>
<td>Yes</td>
<td>No</td>
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<td>Dissolved Air Flotation (DAF)</td>
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<td>Gallons</td>
<td>Liquid/Grease</td>
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<td>FRP</td>
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<td>Air Compressor*</td>
<td>1</td>
<td>60+</td>
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<td>NA</td>
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<tr>
<td>43</td>
<td>Pump*</td>
<td>2</td>
<td>125</td>
<td>Gal/Min</td>
<td>Liquid/Sludge/Solid</td>
<td>Material Transfer</td>
<td>Minimum Gray Iron</td>
<td>NA</td>
<td>NA</td>
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</table>

* Portable Equipment - placement not shown on Facility Floor Plan (Part III, Figure 4A).
** Typical.
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Equipment Type</th>
<th>No. of Items (minimum)</th>
<th>Typical Size Unit (minimum)</th>
<th>Content</th>
<th>Function</th>
<th>MOC**</th>
<th>Vents</th>
<th>Covers</th>
<th>Enclosure**</th>
<th>Protective Coatings**</th>
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<td>17,000 Gallons</td>
<td>Liquid/Grease</td>
<td>Storage</td>
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<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>3-6</td>
<td>Processing Tank</td>
<td>4</td>
<td>17,000 Gallons</td>
<td>Liquid/Grease</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>7-8</td>
<td>Sludge Holding Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Sludge/Grease</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>9-10</td>
<td>Grease Product Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Grease Product</td>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>11-12</td>
<td>Equalization Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Liquid/Biological</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>13-14</td>
<td>Centrifuge Batch Tank</td>
<td>2</td>
<td>10,000 Gallons</td>
<td>Liquid/Sludge/Solid</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>15-16</td>
<td>DAF Batch Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Liquid</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>18</td>
<td>Bulk Caustic Tank</td>
<td>1</td>
<td>6,000 Gallons</td>
<td>Sodium Hydioxide Chemical</td>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>19-20</td>
<td>Used Cooking Oil (UCO) Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Used Cooking Oil</td>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Painted</td>
</tr>
<tr>
<td>21-23</td>
<td>Shaker Screen</td>
<td>3</td>
<td>NA Gallons</td>
<td>Solid</td>
<td>Processing</td>
<td>FRP</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>24-26</td>
<td>Waste Bin</td>
<td>3</td>
<td>64 Cubic Feet</td>
<td>Solid/Sludge</td>
<td>Storage</td>
<td>FRP</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>27-30</td>
<td>Rock Box</td>
<td>4</td>
<td>NA Cubic Feet</td>
<td>Large Solids</td>
<td>Processing</td>
<td>FRP</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>31</td>
<td>Dissolved Air Floation (DAF)</td>
<td>1</td>
<td>13,025 Gallons</td>
<td>Liquid/Solid/Grease</td>
<td>Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>32</td>
<td>Centrifuge</td>
<td>1</td>
<td>Variable Gallons</td>
<td>Liquid/Solid/Grease</td>
<td>Processing</td>
<td></td>
<td></td>
<td>Indoor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>33</td>
<td>Boiler</td>
<td>1</td>
<td>350 HP</td>
<td>Water</td>
<td>Heat</td>
<td></td>
<td></td>
<td>Indoor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>34-35</td>
<td>Dewatering Box</td>
<td>2</td>
<td>40 Cubic Yards</td>
<td>Liquid/Sludge/Solid</td>
<td>Storage/Processing</td>
<td>Minimum 3/16 Carbon Steel</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>36</td>
<td>Air Scrubber Vent Tank</td>
<td>1</td>
<td>8,000 Gallons</td>
<td>Deodorant</td>
<td>Odor Control</td>
<td>FRP</td>
<td>Fixed Roof Vented</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>37</td>
<td>Scrubber Intake Tank</td>
<td>1</td>
<td>2,000 Cubic Feet</td>
<td>Deodorant</td>
<td>Odor Control</td>
<td>FRP</td>
<td>Fixed Roof Vented</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>38</td>
<td>Scrubber Fan</td>
<td>1</td>
<td>NA Cubic Feet</td>
<td>NA</td>
<td>Odor Control</td>
<td>NA</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>39</td>
<td>Filter Press</td>
<td>1</td>
<td>100 Cubic Feet</td>
<td>Liquid/Solid/Grease</td>
<td>Processing</td>
<td>Minimum 3/16 Carbon Steel</td>
<td>Fixed Roof Vented</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>40-41</td>
<td>Roll-Off Box</td>
<td>2</td>
<td>20 Cubic Yards</td>
<td>Liquid/Sludge/Solid</td>
<td>Storage</td>
<td>FRP</td>
<td>NA</td>
<td>Indoor</td>
<td>Yes</td>
<td>Painted</td>
</tr>
<tr>
<td>42</td>
<td>Air Compressor*</td>
<td>1</td>
<td>60+ HP</td>
<td>Air</td>
<td>Air Supply</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>43</td>
<td>Pump*</td>
<td>3</td>
<td>125 Gal/Min</td>
<td>Liquid/Sludge/Solid</td>
<td>Material Transfer</td>
<td>Minimum Gray Iron</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Portable Equipment - placement not shown on Facility Floor Plan (Part III, Figure 4B).
** Typical.
Waste Delivery By Truck

ROCK BOX (27-28)

PUMP

STORAGE / PROCESSING TANK (1-5)

OFF-SITE PROCESSING

OFF-SITE DISPOSAL

DAF BATCH TANK (15-16)

DAF (31)

CITY OF AUSTIN SANITARY SEWER

LEGEND

| Liquid | Grease/Float | Solids/Sludge |

NOTES:
1. NUMBERS BELOW EQUIPMENT NAME CORRESPOND WITH EQUIPMENT LIST FOUND IN PART III, TABLE 1A.
20 10 0

~

_____

l J

(Scale in feet)

NOTE:
1. All floors in containment areas slope min. 1% to sumps.
2. All surfaces, including outside tank farm area, are concrete.
3. Equipment locations are approximate.
4. See Part III, Attachment 2, figures 2-6 & 2-7 for secondary containment minimum curb height by area.
ATTACHMENT 1

GENERALIZED CONSTRUCTION DETAILS
TANK PAD

BUILDING PROCESSING AREA

BY - PASS SIDING BY METAL BLDG. MFR.

#4 DOWELS @ 12" O.C. x 4'-0" L.G. CENTERED IN WALL w/3 - #4 BARS CONT.

CONT. 1½" (D) x 3½" (W) KEYWAY w/ADEKA ULTRASEAL WATERSTOP

½CLR.

3 - #6 CONT. TOP & BOT. w/#4 STIRRUPS @ 16" O.C.
FURNISH #6 BARS IN LONGEST LENGTHS PRACTICAL. LAP TOP BARS 3'-0" AT MIDSPAN BETWEEN PIERS. LAP BOT.
BARS 3'-0" AT PIERS.

1½CLR.

2CLR.

1'4"

2CLR.

2CLR.

2CLR.

2'6"

15 MIL POLYOLEFIN VAPOR BARRIER

COMPACTED SELECT STRUCTURAL FILL

CONTAINMENT WALL BETWEEN TANK PAD AND BUILDING PROCESSING AREA

DETAIL

3/4" = 1'-0"

DATE: 01/29/16
PROJECT: LIQUID ENVIRONMENTAL SOLUTIONS
PROJ. NO: 001-4157
CAD FILE: S-1.dwg

BY: JES
TITLE: CONTAINMENT WALL DETAIL BETWEEN TANK PAD AND BUILDING PROCESSING AREA

PAGE: S-1
BY - PASS SIDING BY METAL BLDG. MFR.

#4 DOWELS @ 12" O.C. x 4'-0" LG. CENTERED IN WALL w/ 1 - #4 BAR CONT.

CONT. 1 1/2" (D) x 3 1/4" (W) KEYWAY w/ ADEKA ULTRASEAL WATERSTOP

3 - #6 CONT. TOP & BOT. w/ #4 STIRRUPS @ 16" O.C. FURNISH #6 BARS IN LONGEST LENGTHS PRACTICAL. LAP TOP BARS 3'-0" AT MIDSSPAN BETWEEN PIERS. LAP BOT. BARS 3'-0" AT PIERS.

BUILDING PROCESSING AREA

T.O. CURB EL.
- +0'-7"

#4 @ 12" O.C. EA. WAY

FIN. FLOOR EL. VARIES

15 MIL POLYOLEFIN VAPOR BARRIER

COMPACTED SELECT STRUCTURAL FILL

CONTAINMENT CURB AT PROCESSING AREA

3/4"=1'-0"

DATE: 01/29/16  PROJECT: LIQUID ENVIRONMENTAL SOLUTIONS
PROJ. NO: 001-4157  CAD FILE: S-2.dwg

BY: JES  TITLE: CONTAINMENT CURB DETAIL AT PROCESSING AREA

PAGE: S-2

III-31
B

EM

NO.

E

DES

CRI

PTION

QTY.

112.11

T-E

X

NUT

2J

NC

FINISH

76

2

12. 11

HE

XBOLT

2JNCFINISH

76

3

1Z-0 "

U

C"AL

TOP

0.25 "

It

256

4

1Z.0" "

RIN

3 SEGMENT

0.181:5" As6 It

5

1Z.0"

TANK

BOnOU

82

6

H.'U"CH

FR~E

HATCH FRAME

82

7

HATCH GASKET

HATCH GASKET

82

8

NAME PLATE

API 12P

12

9

NAME PLATE MOUNT

NAME PLATE MOUNT

12

10

STRIKE PLATE

20 X 0.25"

20 X 0.25"

12

11

WALKWAY BRACKET

WALKWAY BRACKET

12

12

4" FITTING

4" X 4.5" FITTING

7

13

AYCO THIEF HATCH

AYCO AT-8

12

14

HATCH, MAIN

4" X 2.5"

12

15

HATCH, TOP PLATE

4" X 2.5"

12

16

LIFTING LUG

LIFTING LUG THICKNESS

12

17

LIFT EYE (STD.)

58.0" LIFTING EYE

3

VENDOR SUPPLIED DRAWING
FOR PERMITTING PURPOSES ONLY

STORAGE TANK

HEIGHT OF SHELL: 220"
DIAMETER (O.D.) 12'-0"
(D.I.D) 11'-8"

DESIGN PRESSURE MAX. SECTIONS 2-3 VACUUM PRESSURE MIN.

PSI SPEC. 410 DEL.ERCTO, OCT 2008, AIR TEST PRESSURE 76 PSI

NOTE:

INTERIOR:
WEIGHT: 641.7 POUNDS

CUSTOMER:

PRODUCT:

SCALE: 1:50

APPROVED BY:

DATE:

SHEET:

DRAWN BY:

DATE: 01/17/13

III-33
SECONDARY CONTAINMENT CALCULATIONS

Secondary containment heights for both Phases I and II layouts have been determined. The required secondary containment calculations for the Phase I Processing Area (Area A), Phase I Outside Tank Farm Area (Area B), Phase II Processing Area (Area C), Phase II Offloading Area (Area D), and Phase II Outside Tank Farm Area (Area E) are as follows.

Presented in Figure 2-1 of this attachment are secondary containment calculations for Area A. This area has been designed to contain a spill equal to the volume of the area’s largest tank, which is 17,000 gallons. Rainfall is not considered as this area is located within an enclosed building. The equipment within this area is assumed to sit at grade and has been subtracted from the available containment capacity. Area A will be constructed a minimum 7-inches below the perimeter surface, which will provide the required containment volume with approximately 2,391 gallons of excess capacity. The driveway will be sloped away from the overhead roll-up doors to prevent stormwater from entering the building. Trucks entering Area A through the roll-up overhead doors will roll down a gentle ramp and stairs will be provided to all other doors entering Area A as necessary.

Presented in Figure 2-2 of this attachment are secondary containment calculations for Area B. Since this area is located outside of the enclosed building and will not be covered, this area has been designed to contain a spill equal to the volume of the area’s largest tank plus the rainfall from a 25-year, 24-hour rainfall event. Rainfall data was obtained from Department of Commerce Technical Report No. 40 and is presented in Exhibit A of this attachment. The five Storage/Processing Tanks are not subtracted from the available containment capacity of this area since these tanks are cone bottom tanks that do not sit flush against the floor. The building roof will have gutters, which will direct stormwater on the roof away from the Tank Farm Area. Area B will have a minimum 24-inch curb around the perimeter, which will provide the required containment volume with approximately 1,855 gallons of excess capacity.

Presented in Figure 2-3 of this attachment are secondary containment calculations for Area C. This area has been designed to contain a spill equal to the volume of the area’s largest tank, which is 17,000 gallons. Rainfall is not considered as this area is located within an enclosed building. The equipment within this area is assumed to sit at grade and has been subtracted from...
the available containment capacity. Area C will be constructed a minimum 7-inches below the perimeter surface, which will provide the required containment volume with approximately 2,391 gallons of excess capacity. The driveway will be sloped away from the overhead roll-up doors to prevent stormwater from entering the building. Trucks entering Area C through the roll-up overhead doors will roll down a gentle ramp and stairs will be provided to all other doors entering Area A as necessary.

Secondary containment calculations for Area D are presented in Figure 2-4 of this attachment. The design conditions assume that the largest tanker delivery truck loses all of the liquid volume, which is 7,000 gallons. Rainfall is not considered as this area is located within an enclosed building. The equipment within this area is assumed to sit at grade and has been subtracted from the available containment capacity. Area D will be constructed a minimum 4-inches below the perimeter surface, which will provide the required containment volume with approximately 18 gallons of excess capacity.

Presented in Figure 2-5 of this attachment are secondary containment calculations for Area E. Since this area is located outside of the enclosed building and will not be covered, this area has been designed to contain a spill equal to the volume of the area’s largest tank plus the rainfall from a 25-year, 24-hour rainfall event. Rainfall data was obtained from Department of Commerce Technical Report No. 40 and is presented in Exhibit A of this attachment. The six Storage and Processing Tanks are not subtracted from the available containment capacity of this area since these tanks are cone bottom tanks that do not sit flush against the floor. The building roof will have gutters, which will direct stormwater on the roof away from the Tank Farm Area. Area E will have a minimum 18-inch curb around the perimeter, which will provide the required containment volume with approximately 5,925 gallons of excess capacity.

Figures 2-6 and 2-7 of this attachment illustrate the overall secondary containment curb height for Phases I and II by area throughout the footprint of the facility.

As shown by the calculations presented in Figures 2-1 through 2-5, each area has sufficient spill storage capacity to contain the failure of the largest container within that area.
NOTES:
1. ALL FLOORS IN CONTAINMENT AREAS SLOPE MIN. 1% TO SUMPS.
2. ALL SURFACES, INCLUDING OUTSIDE TANK FARM AREA, ARE CONCRETE.
3. EQUIPMENT CAPACITIES CAN BE FOUND IN PART III, TABLES 1A & 1B.

Phase I Secondary Containment: AREA A - Processing Area

<table>
<thead>
<tr>
<th>Item</th>
<th>Area (square ft.)</th>
<th>Storage Depth (ft.)</th>
<th>Volume (cu. ft.)</th>
<th>Volume (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7) Processing Area</td>
<td>6,388.97</td>
<td>0.10</td>
<td>638.89</td>
<td>3,540.44</td>
</tr>
<tr>
<td>A3) Minus 3 Tanks (12 ft. diam. [15-16,36])</td>
<td>-339.30</td>
<td>0.50</td>
<td>-169.65</td>
<td>-1,269.07</td>
</tr>
<tr>
<td>A8) Minus 1 Scrubber Intake Tank (8 ft. diam.)</td>
<td>-50.30</td>
<td>0.50</td>
<td>-25.15</td>
<td>-188.13</td>
</tr>
<tr>
<td>A6) Minus 1 Scrubber Fan (8B)</td>
<td>-25.00</td>
<td>0.50</td>
<td>-12.50</td>
<td>-93.51</td>
</tr>
</tbody>
</table>

Total Available: 19,390.84 Gallons
Total Required: 17,000.00 Gallons

ASUMPTIONS:
1. Area of all equipment was calculated using the projected footprint, not the capacity of the largest tank.
2. All facility floor space is assumed to be flat in the calculations (floors slope min. 1% to sums).
3. Area/depth of floor sumps were not included in the calculations.

CHECK FOR ADEQUATE STORAGE
AVAILABLE = REQUIRED
19,390.84 GALLONS > 17,000 GALLONS

LEGEND:
- CONTAINMENT WALL (8" WIDTH)
- CONTAINMENT CURB (8" WIDTH)
- CONTAINMENT HUMP
- CONCRETE SLAB FOR OUTSIDE TANK FARM AREA
- OFFICE SPACE (NO CONTAINMENT)
NOTES:
1. ALL FLOORS IN CONTAINMENT AREAS SLOPE MIN. 1% TO SUMPS.
2. ALL SURFACES, INCLUDING OUTSIDE TANK FARM AREA, ARE CONCRETE.
3. EQUIPMENT CAPACITIES CAN BE FOUND IN PART III, TABLES 1A & 1B.

**Phase I Secondary Containment: AREA B - Tank Farm Area**

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Equipment Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Storage/Processing Tank</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Storage/Processing Tank</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Storage/Processing Tank</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Storage/Processing Tank</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Storage/Processing Tank</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>DAF Batch Tank</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>DAF Batch Tank</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Bulk Line Tank</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Rock Box</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Rock Box</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Dissolved Air Floation (DAF)</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Air Scrubber Vent Tank</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Scrubber Intake Tank</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Scrubber Pen</td>
<td></td>
</tr>
</tbody>
</table>

**ASSUMPTIONS:**
1. Area of tanks 1-3 were not subtracted from the total floor space as these tanks are cone bottom and will not sit flush against the floor.
2. All facility floor space is assumed to be flat in the calculations (floors slope min. 1% to sumps).
3. Area/length of floor sumps were not included in the calculations.
4. Tank Farm area is not covered by a roof. Building roof will have gutters, which will direct stormwater on roof away from the Tank Farm containment area.

**CHECK FOR ADEQUATE STORAGE**

**AVAILABLE > REQUIRED**

26,288.93 GALLONS > 26,434 Gallons

**LEGEND:**
- CONTAINMENT WALL (8" WIDTH)
- CONTAINMENT CURB (8" WIDTH)
- CONTAINMENT HUMP
- OFFICE SPACE (NO CONTAINMENT)
Phase II Secondary Containment: AREA C - Processing Area

<table>
<thead>
<tr>
<th>Item</th>
<th>Area</th>
<th>Storage Depth</th>
<th>Volume (no. ft³)</th>
<th>Volume (Gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS Processing Area</td>
<td>8,005.08</td>
<td>0.60</td>
<td>4,803.51</td>
<td>20,237.89</td>
</tr>
<tr>
<td>CS minus 9 Tanks (107 ft³) (14.15-16.38)</td>
<td>8,407.30</td>
<td>0.70</td>
<td>5,885.15</td>
<td>3,167.20</td>
</tr>
<tr>
<td>CS minus 1 Waste Bin (3ft³)</td>
<td>11.00</td>
<td>0.60</td>
<td>6.60</td>
<td>99.84</td>
</tr>
<tr>
<td>CS minus 1 Water Screen (70)</td>
<td>11.00</td>
<td>0.40</td>
<td>4.40</td>
<td>11.94</td>
</tr>
<tr>
<td>CS minus 1 Scrubbing Intake Tank (48 ft³)]</td>
<td>13.00</td>
<td>0.80</td>
<td>10.40</td>
<td>376.13</td>
</tr>
<tr>
<td>CS minus 3 DAF (15)</td>
<td>15.00</td>
<td>0.20</td>
<td>3.00</td>
<td>2,130.42</td>
</tr>
<tr>
<td>CS minus 1 Holi Off Lines (40-41)</td>
<td>40.00</td>
<td>0.20</td>
<td>8.00</td>
<td>5,926.20</td>
</tr>
<tr>
<td>CS minus 1 Scrubbing Fans (38)</td>
<td>38.00</td>
<td>0.20</td>
<td>7.60</td>
<td>592.60</td>
</tr>
<tr>
<td>CS minus 1 Decanting Boxes (38-20)</td>
<td>20.00</td>
<td>0.20</td>
<td>4.00</td>
<td>2,960.00</td>
</tr>
<tr>
<td>CS minus 1 Filter Press (36)</td>
<td>36.00</td>
<td>0.20</td>
<td>7.20</td>
<td>1,296.00</td>
</tr>
<tr>
<td>CS minus 1 Centrifuge (62)</td>
<td>62.00</td>
<td>0.20</td>
<td>12.40</td>
<td>592.80</td>
</tr>
</tbody>
</table>

*Rainfall is not considered as AREA C is covered.

Minimum required containment is equal to the capacity of the largest tank.

See Figures 3-2 and 3-7 for attachment for secondary containment minimum curb height.

ASSUMPTIONS:
1. Area of all equipment was calculated using the projected footprint, not actual area in contact with the facility floor.
2. All facility floor space is assumed to be flat in the calculations (floors slope min. 1% to sumps).
3. Area/depth of floor sumps were not included in the calculations.
4. Area of boiler room was not included in the calculation as this area contains no waste and is contained by walls.

CHECK FOR ADEQUATE STORAGE

AVAILABLE = REQUIRED

14,957.49 gallons + 17,000 gallons

Total: 31,957.49 gallons

Required: 17,000 gallons

GDS Associates, Inc.
Texas Registered Engineering Firm
F-40293

FOR PERMITTING PURPOSES ONLY

PHASE II SECONDARY CONTAINMENT CALCULATIONS - AREA C

LEGAL ENVIRONMENTAL SOLUTIONS
BURLINGTON ROAD FACILITY

WASE M. WHEATLEY
**Phase II Secondary Containment: AREA D - Offloading Area**

<table>
<thead>
<tr>
<th>Item</th>
<th>Area (square ft)</th>
<th>Storage Depth (feet)</th>
<th>Volume (cu. ft.)</th>
<th>Volume (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17) Offloading Area</td>
<td>2,484.04</td>
<td>0.34</td>
<td>840.07</td>
<td>7,335.20</td>
</tr>
<tr>
<td>18) Minus 2 Shaker Screens (21-22)</td>
<td>-50.01</td>
<td>0.36</td>
<td>-18.08</td>
<td>-145.61</td>
</tr>
<tr>
<td>19) Minus 4 Rock Bases (27-30)</td>
<td>-30.00</td>
<td>0.34</td>
<td>-10.24</td>
<td>-81.56</td>
</tr>
<tr>
<td>20) Minus 2 Waste Bases (4A-25)</td>
<td>-42.00</td>
<td>0.36</td>
<td>-15.28</td>
<td>-121.39</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,018.30</strong></td>
<td></td>
<td><strong>2,881.00</strong></td>
<td><strong>24,770.00</strong></td>
</tr>
</tbody>
</table>

**Assumptions:**

1. Area of all equipment was calculated using the projected footprint, not actual area in contact with the facility floor.
2. All facility floor space is assumed to be flat in the calculations (floors slope min. 3% to sumps).
3. Area/depth of floor sumps were not included in the calculations.
4. Area of boiler room was not included in the calculations as this area contains no waste and is contained by walls.

**Check for Adequate Storage**

Available > Required

7,018.30 Gallons > 7,000 Gallons

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**Notes:**

1. All floors in containment areas slope min. 1% to sumps.
2. All surfaces, including outside tank farm area, are concrete.
3. Equipment capacities can be found in Part III, Tables 1A & 1B.
Phase II Secondary Containment: AREA E - Tank Farm Area

**ASSUMPTIONS:**

1. Area of tanks 1-6 were not subtracted from the total floor space as these tanks are cone bottom and will not sit flush against the floor.
2. All facility floor space is assumed to be flat in the calculations (floors slope min. 1% to sumps).
3. Area/depth of floor sumps were not included in the calculations.
4. Tank Farm area is not covered by a roof. Building roof will have gutters, which will direct stormwater on roof away from the Tank Farm containment area.

**CHECK FOR ADEQUATE STORAGE**

**AVAILABLE > REQUIRED**

46,362.92 GALLONS > 40,437.59 GALLONS

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**P00510000/1/0D 3C01/As_Figs 3-3_2-2-2-5_20160720.dwg 7/20/2016 6:07:58 PM**
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OFFICE SPACE

CONCRETE SLAB FOR OUTSIDE TANK FARM AREA

--- AREA A (7" SECONDARY CONTAINMENT MINIMUM) ---

--- AREA B (24" SECONDARY CONTAINMENT MINIMUM) ---

NOTE:
1. ALL FLOORS IN CONTAINMENT AREAS SLOPE MIN. 1% TO SUMPS.
2. ALL SURFACES, INCLUDING OUTSIDE TANK FARM AREA, ARE CONCRETE.
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Equipment Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Storage Tank</td>
</tr>
<tr>
<td>2</td>
<td>Storage Tank</td>
</tr>
<tr>
<td>3</td>
<td>Processing Tank</td>
</tr>
<tr>
<td>4</td>
<td>Processing Tank</td>
</tr>
<tr>
<td>5</td>
<td>Processing Tank</td>
</tr>
<tr>
<td>6</td>
<td>Processing Tank</td>
</tr>
<tr>
<td>7</td>
<td>Sludge Holding Tank</td>
</tr>
<tr>
<td>8</td>
<td>Sludge Holding Tank</td>
</tr>
<tr>
<td>9</td>
<td>Grease Product Tank</td>
</tr>
<tr>
<td>10</td>
<td>Grease Product Tank</td>
</tr>
<tr>
<td>11</td>
<td>Equalization Tank</td>
</tr>
<tr>
<td>12</td>
<td>Equalization Tank</td>
</tr>
<tr>
<td>13</td>
<td>Centrifuge Batch Tank</td>
</tr>
<tr>
<td>14</td>
<td>Centrifuge Batch Tank</td>
</tr>
<tr>
<td>15</td>
<td>DAF Batch Tank</td>
</tr>
<tr>
<td>16</td>
<td>DAF Batch Tank</td>
</tr>
<tr>
<td>17</td>
<td>Bulk Causic Tank</td>
</tr>
<tr>
<td>18</td>
<td>Used Cooking Oil (UCO) Tank</td>
</tr>
<tr>
<td>19</td>
<td>Used Cooking Oil (UCO) Tank</td>
</tr>
<tr>
<td>20</td>
<td>Used Cooking Oil (UCO) Tank</td>
</tr>
<tr>
<td>21</td>
<td>Shaker Screen</td>
</tr>
<tr>
<td>22</td>
<td>Shaker Screen</td>
</tr>
<tr>
<td>23</td>
<td>Shaker Screen</td>
</tr>
<tr>
<td>24</td>
<td>Waste Bin</td>
</tr>
<tr>
<td>25</td>
<td>Waste Bin</td>
</tr>
<tr>
<td>26</td>
<td>Waste Bin</td>
</tr>
<tr>
<td>27</td>
<td>Rock Box</td>
</tr>
<tr>
<td>28</td>
<td>Rock Box</td>
</tr>
<tr>
<td>29</td>
<td>Rock Box</td>
</tr>
<tr>
<td>30</td>
<td>Rock Box</td>
</tr>
<tr>
<td>31</td>
<td>Dissolved Air Floatation (DAF)</td>
</tr>
<tr>
<td>32</td>
<td>Centrifuge</td>
</tr>
<tr>
<td>33</td>
<td>Boiler</td>
</tr>
<tr>
<td>34</td>
<td>Dewatering Box</td>
</tr>
<tr>
<td>35</td>
<td>Dewatering Box</td>
</tr>
<tr>
<td>36</td>
<td>Air Scrubber Vent Tank</td>
</tr>
<tr>
<td>37</td>
<td>Scrubber Intake Tank</td>
</tr>
<tr>
<td>38</td>
<td>Scrubber Fan</td>
</tr>
<tr>
<td>39</td>
<td>Filter Press</td>
</tr>
<tr>
<td>40</td>
<td>Roll-Off Box</td>
</tr>
<tr>
<td>41</td>
<td>Roll-Off Box</td>
</tr>
</tbody>
</table>

**Note:**

1. ALL FLOORS IN CONTAINMENT AREAS SLOPE MIN. 1% TO SUMPS.
2. ALL SURFACES, INCLUDING OUTSIDE TANK FARM AREA, ARE CONCRETE.
EXHIBIT A

25-YEAR 24-HOUR RAINFALL (INCHES)
(Technical Paper No. 40)
ATTACHMENT 3

CLOSURE PLAN
ATTACHMENT 3
CLOSURE PLAN

The facility’s closure plan is prepared in accordance with the applicable portions of Chapter 330, Subchapter K (§330.451 through §330.465) relating to Closure and Post Closure.

§330.459 Closure Requirements for Municipal Solid Waste Storage and Processing

§330.459(a)
Upon closure, the owner or operator will remove all waste, waste residue, and any recovered materials. All facility units will be dismantled and removed off-site or decontaminated.

§330.459(b)
The owner or operator will evacuate all unprocessed waste materials on-site to a TCEQ authorized facility and disinfect all receiving, processing and post-processing areas.

§330.459(c)
In the event of a release from the facility, the Executive Director may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct an impact to the environment.

§330.459(d)
The facility will not recycle or store combustible material. Therefore, this section is not applicable.

§330.461 Certification of Final Facility Closure

§330.461(a)
No later than 90 days prior to the initiation of final facility closure, the owner or operator will, through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility, provide public notice for final facility closure. The notice will provide the name, address, and physical location of the facility; the registration number; and the last date of intended receipt of
waste. The owner or operator will also make available an adequate number of copies of the approved final closure plan for public access and review.

The owner or operator will also provide written notification to the Executive Director of the intent to close the facility and place the notice of intent in the site operating record.

§330.461(b)

Upon notification to the Executive Director of the intent to close the site, the owner or operator will post a minimum of one sign at the main entrance and all other frequently used points of access for the facility. Signage will notify all persons who may utilize the facility/site of the date of closing for the entire facility/site and the prohibition against further receipt of waste materials after the stated date. Further, suitable barriers will be installed at all gates or access points to adequately prevent the unauthorized dumping of solid waste at the closed facility or site.

§330.461(c)

Within 10 days after completion of final closure activities of the facility, the owner or operator shall submit to the Executive Director by registered mail the following:

(1) A certification, signed by an independent licensed professional engineer, verifying final closure has been completed in accordance with the approved closure plan. The submittal to the Executive Director will include all applicable documentation necessary for the Commission's certification of final facility closure; and

(2) A request for a voluntary revocation of the registration.

No waste will be left on-site. Therefore an Affidavit to the Public in accordance with 330.19 and 330.457(g) are not required.

§330.461(d)

A certified notation on the deed to the facility property is not required for this Type V MSW facility since waste will not be left on-site. Therefore, this section is not applicable.
§330.463 Post-Closure Care Requirements

Post-closure care requirements are not applicable to this Type V MSW Facility. All waste and waste residue will be removed from the site during closure and there are no applicable post-closure monitoring programs.
ATTACHMENT 4

CLOSURE COST ESTIMATE
LIQUID ENVIRONMENTAL SOLUTIONS, LLC
CLOSING COST ESTIMATE

1. Estimated General Administrative Cost

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Units</th>
<th>Cost Per Unit</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Newspaper Notice</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 1,500.00</td>
<td>$ 1,500.00</td>
</tr>
<tr>
<td>2</td>
<td>TCEQ Notification</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 150.00</td>
<td>$ 150.00</td>
</tr>
<tr>
<td>3</td>
<td>Sign at Entrance</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 250.00</td>
<td>$ 250.00</td>
</tr>
<tr>
<td>4</td>
<td>Securing all building and access gates</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 200.00</td>
<td>$ 200.00</td>
</tr>
<tr>
<td>5</td>
<td>Closure Certification</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 2,300.00</td>
<td>$ 2,300.00</td>
</tr>
</tbody>
</table>

Estimated General Administrative Cost Total: $ 4,400.00

2. Estimated Facility Clean-up Cost

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Units</th>
<th>Cost Per Unit</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equipment Cleaning</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 75,000.00</td>
<td>$ 75,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Facility Cleaning/Disinfection</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 125,000.00</td>
<td>$ 125,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Waste Disposal</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 75,000.00</td>
<td>$ 75,000.00</td>
</tr>
<tr>
<td>4</td>
<td>Sampling/Analytical</td>
<td>1</td>
<td>LUMP SUM</td>
<td>$ 15,000.00</td>
<td>$ 15,000.00</td>
</tr>
</tbody>
</table>

Estimated Clean-up Cost Total: $ 290,000.00

3. Equipment List (Cleaning, Transportation and Disposal of Waste Contained)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Unit ID</th>
<th>No. of Items</th>
<th>Capacity Size</th>
<th>Unit</th>
<th>Waste Contained</th>
<th>Total Units of Disposal</th>
<th>Cost Per Unit</th>
<th>Tank Placement</th>
<th>Estimated Disposal Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Storage Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Liquid Grease Trap Waste</td>
<td>34,000.00</td>
<td>$ 0.60</td>
<td>on ground</td>
<td>$ 20,400.00</td>
</tr>
<tr>
<td>2</td>
<td>Equilization Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Liquid Waste/Sludge/Biological Tank</td>
<td>34,000.00</td>
<td>$ 0.35</td>
<td>on ground</td>
<td>$ 11,900.00</td>
</tr>
<tr>
<td>3</td>
<td>DAF Batch Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Liquid Waste</td>
<td>34,000.00</td>
<td>$ 0.35</td>
<td>on ground</td>
<td>$ 11,900.00</td>
</tr>
<tr>
<td>4</td>
<td>Processing Tank</td>
<td>4</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Liquid Waste</td>
<td>68,000.00</td>
<td>$ 0.60</td>
<td>on ground</td>
<td>$ 40,800.00</td>
</tr>
<tr>
<td>5</td>
<td>Sludge Holding Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Sludge</td>
<td>34,000.00</td>
<td>$ 1.25</td>
<td>on ground</td>
<td>$ 42,500.00</td>
</tr>
<tr>
<td>6</td>
<td>Grease Product Tank</td>
<td>2</td>
<td>17,000 Gallons</td>
<td>Gallons</td>
<td>Grease Product for off-site use</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
</tbody>
</table>

3-1-2016

T160301_ATT 4_CLOSURE COST EST

III-53
# Closing Cost Estimate

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Unit ID</th>
<th>No. of Items</th>
<th>Capacity/Size</th>
<th>Unit</th>
<th>Waste Contained</th>
<th>Total Units of Disposal</th>
<th>Cost Per Unit</th>
<th>Tank Placement</th>
<th>Estimated Disposal Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>NA</td>
<td>Shaker Screen</td>
<td>Solids</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>3</td>
<td>2 Cubic Yards</td>
<td>Waste Bin</td>
<td>Solids/Sludge Material</td>
<td>6.00 $85.00</td>
<td>$510.00</td>
<td>on ground</td>
<td>$510.00</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>4</td>
<td>NA</td>
<td>Rock Box</td>
<td>Large Solid Material</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>NA</td>
<td>Dissolved Air Floatation (DAF)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>1 Variable</td>
<td>Centrifuge</td>
<td>Liquids/Solids</td>
<td>13,025.00</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>1 350 HP</td>
<td>Boiler</td>
<td>Water</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>2</td>
<td>40 Cubic Yards</td>
<td>Dewatering Box</td>
<td>MSW Solids</td>
<td>80.00 $45.00</td>
<td>$3,600.00</td>
<td>on ground</td>
<td>$3,600.00</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>2</td>
<td>20 Cubic Yards</td>
<td>Roll off Box</td>
<td>MSW Solids</td>
<td>40.00 $45.00</td>
<td>$1,800.00</td>
<td>on ground</td>
<td>$1,800.00</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>1 8,000 Gallons</td>
<td>Air Scrubber Vent Tank</td>
<td>Deodorant</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td>1 2,000 Gallons</td>
<td>Scrubber Intake Tank</td>
<td>Deodorant</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td>1 30 HP</td>
<td>Scrubber Fan</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>1</td>
<td>4 Cubic Yards</td>
<td>Filter Press</td>
<td>MSW Solids</td>
<td>4.00 $45.00</td>
<td>$180.00</td>
<td>on ground</td>
<td>$180.00</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>1</td>
<td>5,000 Gallons</td>
<td>Bulk Caustic Tank</td>
<td>Caustic Solids</td>
<td>NA</td>
<td>NA</td>
<td>on ground</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Estimated Disposal Cost Total:** $133,590.00

**Assumptions:**
1. All waste tanks are full.
2. Total waste volume at facility is 240,000 Gallons
3. Total waste volume includes (2) trucks on-site (7,000 gallons each)
4. Waste is being transported/disposed off-site and tanks are cleaned/disinfected by pressure washing.
5. Facility surfaces that may have been in contact with waste are cleaned/disinfected by pressure washing.
6. Facility footprint to be cleaned/disinfected is approximately 14,900 square feet.
7. Closure estimates are based on third party proposal/estimate. Additional estimates may be requested to ensure sufficient coverage is maintained and those costs are commensurate and not overly conservative with facility operations and equipment.
8. Equipment not listed are portable and specific cleanup cost are not identified due to a general estimate identified in Item 1 of Box 2 relating to equipment cleaning.

**CLOSURE:** $427,990.00