



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
PO BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

November 28, 2014

Environmental Engineering and Compliance Section
Planning and Environmental Center

Mr. R. Stuart Goldsmith, P.G.
Texas Commission on Environmental Quality
Building F
Waste Permits Division
MC-124
Municipal Solid Waste Permits Section
12100 Park 35 Circle
Austin, TX 78753

Re: Response to Comments
Fort Hood Biotreatment Facility – Coryell County
Municipal Solid Waste (MSW) – Application No. 42040
Registration Application – First Technical Notice of Deficiency (NOD) Response to Comments
Tracking Nos. 18090338, 18105382, and 18571046; RN105463475/CN600126262

Dear Mr. Goldsmith:

On behalf of the United States Army III Corps and Fort Hood Directorate of Public Works-Environmental Division, please find enclosed one original and two copies of the redline-strikeout (Attachment A) and clean replacement pages (Attachment B) for the referenced registration application. The attached replacement pages were developed to incorporate comments included in your letter dated August 12, 2014. A copy of the redline-strikeout (Attachment A) and clean replacement pages (Attachment B) has also been submitted to the Texas Commission on Environmental Quality (TCEQ) Waco Regional Office. Please note that certain clean pages that had no changes have been included with this submittal due to revisions in page numbering that resulted from preceding text modifications.

This response letter contains each item identified in the TCEQ comment letter (in bold) and a response to each item in the same order as listed in the comment letter.

A response to each of the TCEQ comments is described below.

Part II

- 1. In Section 2.0, the incoming waste is described as municipal solid waste; however, the type of waste is petroleum contaminated soil, which appears to be special waste as defined in 30 TAC 330.3(148)(N). Please revise the references to municipal solid waste throughout the application.**

The registration application has been revised throughout to identify the incoming waste stream to be processed by the Fort Hood Biotreatment Facility as Special Waste. Special Waste, as defined by 30 TAC §330.3(148)(N), will consist of soils contaminated by petroleum products, crude oil, or chemicals in concentration greater than 1,500 mg/kg Total Petroleum Hydrocarbons (TPH).

- 2. The maximum volume of waste to be accepted is described as 2,500 cubic yards per year, or 7 cubic yards per day; however, the statement is made that the facility "will accommodate the incoming waste stream on an as needed basis as long as adequate space is available". Please revise this statement to clarify that the maximum volume of waste will not be exceeded, or revise the maximum volume to be accepted in accordance with 30 TAC 330.203(b).**

Upon further investigation, it has been determined that the maximum volume of waste to be accepted by the Fort Hood Biotreatment Facility will not exceed 3,000 cubic yards per year or approximately 8 cubic yards per day. Additional clarification has been included in the registration application to state that the Fort Hood Biotreatment Facility will accommodate the incoming waste stream on an as needed basis as long as adequate space is available and the maximum quantity of 3,000 cubic yards is not exceeded. The registration application has been revised throughout to include this new information.

- 3. In Section 2.2 the analyses of incoming wastes are not discussed in detail. Lead, total petroleum hydrocarbons (TPH) and benzene are the minimum analytes for waste acceptance listed in 30 TAC 330.203(c)(2); however the sources and characteristics of the wastes to be accepted should be identified as required in 30 TAC 330.203(a). Please provide a table of the sources of waste to be received (particularly spills) and the chemicals of concern for each source.**

Section 2.2 has been revised to include Table 2-1 that identifies the waste sources and their respective COCs. The COCs have been expanded to now include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, TPH, Benzene, and Polychlorinated Biphenyls (PCBs).

- 4. In Section 8.0, the statement is made that although the buffer zone between the storage area and the processing area is less than the 50 feet prescribed in 30 TAC 330.543(b)(1), there is adequate access for emergency response, maintenance and monitoring. Please specify the size of the buffer zone and clarify how the adequacy of access for emergency response, maintenance and monitoring was determined.**

The buffer zone at the Fort Hood Biotreatment Facility varies from approximately 25 ft to 70 ft. Figure II.11 has been revised to identify the approximate maximum distance of the buffer zone to be 70 feet.

Through field verification and review of the proposed registration application, the Fort Hood Fire Department Inspector determined that adequate access exists within the prescribed buffer zone for emergency response. Section 8.0 of Part II has been revised to include this information.

- 5. In Section 10.0, it is indicated that no coordination with Texas Department of Transportation (TxDOT) is required since the roads are controlled by the Fort Hood Directorate of Public Works (FHDPW). Please clarify whether vehicles bringing in waste will be using public-use roadways. If so, there should be coordination with the Texas Department of Transportation in accordance with 30 TAC 330.61(i)(4). Please also indicate whether there have been discussions with the portion of FHDPW that controls the roads**

regarding this issue.

Vehicles that will be transporting waste and processed material to and from the facility will never leave the confines of the Fort Hood installation boundary. Therefore, the operation associated with the Fort Hood Biotreatment Facility will not utilize a public-use roadway. All roads utilized by the operation of the Fort Hood Biotreatment Facility fall under the responsibility of the Fort Hood Directorate of Public Works. As such, no coordination with TxDOT is required. Discussions have occurred with the entity within the Fort Hood Directorate of Public Works that has responsibility over the roads and they had no concerns. Section 10.0 of Part II has been revised to include this information.

Part III

- 6. In Section 2.2, please explain in more detail the end-use of the processed material. In Part I, Section 1.2, a reference is made to beneficial re-use; however in Part III Section 2.2 the end use is only described as being outside the west, north, and main cantonments of Fort Hood. Please clarify whether the processed material is being disposed or re-used. For soils that are to be disposed, TCEQ guidance document RG-003 should be used as a guideline for the number of analytes. For material being reused, the material should be protective of the new use. The proposed criterion for re-using the processed material is that it meets 0.5 acre Tier I Residential Soil protective concentration levels (PCLs) under 30 TAC 350 based on direct exposure. Please address how other exposure pathways (for example, the soil to groundwater pathway) will be protected using the proposed PCLs. Please also note that the end use should be protective for all chemicals of concern identified in the incoming waste.**

The end-use of processed material that is below the critical PCL for the identified COCs (i.e., Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, TPH, Benzene, and PCBs) will be reused as general fill to include but not limited to grading and drainage improvements at areas within Fort Hood, but are outside of the west, north, and main cantonments and areas containing endangered species. Processed material that does not have all COC concentrations below the critical PCL for each respective COC will be disposed of offsite at permitted disposal facility.

The 0.5 acre Tier I Residential Soil critical PCL used to determine whether processed material is able to be reused in the manner described in the paragraph above is the more conservative value between the $^{Tot}Soil_{Comb}$ and $^{GW}Soil_{Ing}$ PCL. The $^{Tot}Soil_{Comb}$ PCL considers the combined ingestion, dermal contact, inhalation of volatiles and particulates, and ingestion of aboveground and below-ground vegetables with COCs in the soil medium. $^{GW}Soil_{Ing}$ PCL considers the soil-to-groundwater leaching of COCs to a Class 1 groundwater.

The Section 1.1 of Part I, Section 2.2 of Part II, Section 2.2 and Figure III.2 of Part III, and Sections 6.1, 6.2, and 6.3 of Part IV have been revised to provide more detailed information regarding the waste acceptance criteria and waste processing thresholds for reuse that will be observed by the Fort Hood Biotreatment Facility.

- 7. Please also discuss why windblown soil or dust particles from the onsite stock piles will not be an issue, or how that issue will be addressed in accordance with 30 TAC 330.233.**

Windblown soil or dust particles will not be an issue at Fort Hood Biotreatment Facility because

onsite stockpiles will have water applied as necessary to keep material damp while not creating a saturated material that can produce runoff. Section 2.2 of Part III and Section 18 of Part IV have been revised to include this information.

- 8. Wash water and runoff from precipitation is intended to collect on the west end (sump area) of the facility, where it will either be allowed to evaporate or be discharged to the off-site closed loop water recirculation system. Please describe the recirculation system in more detail (including location, capacity, ultimate use of the water, and any regulatory restrictions). Also, please discuss whether the closed loop recirculation system has the capacity to handle drainage from the 25 year, 24 hour storm event.**

The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from discharges associated with a vehicle wash facility that is located north of the Fort Hood Biotreatment Facility (see Figure III.1). The water is ultimately recycled within the close loop system and stored in a large pond (see "Large Basin" on Figure III.1). The water in the Large Basin serves as the water source for the vehicle wash facility whose discharges are reintroduced into the recirculation system for treatment. The water in this closed loop water recirculation system is not and does not discharge to the water of the state. There are no regulatory restrictions associated with the closed loop water recirculation system. Figure III.1 has been revised to identify the "Large Basin" within the closed loop water recirculation system.

The closed loop water recirculation system cannot handle the entire volume of potential discharge associated with the Fort Hood Biotreatment Facility during a 25-year 24-hour storm event. As such, the discharge from the Fort Hood Biotreatment Facility will be controlled utilizing an existing 6-inch valve (see Figure III.6) to ensure the holding capacity of the "Large Basin" of the closed loop water recirculation system is not exceeded. The "Large Basin" has a holding capacity of approximately 500,000 gallons while the Fort Hood Biotreatment Facility produces approximately 360,900 gallons of potential discharge from a 25-year 24-hour storm event.

Section 2.4 of Part III has been revised to include the information described above.

Part IV

- 9. In Section 6.2, the statement that the facility "will accommodate the incoming waste stream on an as needed basis as long as adequate space is available" should be clarified, as discussed in Comment 2 in accordance with 30TAC 330.203(b).**

Upon further investigation, it has been determined that the maximum volume of waste to be accepted by the Fort Hood Biotreatment Facility will not exceed 3,000 cubic yards per year or approximately 8 cubic yards per day. Additional clarification has been included to state that the Fort Hood Biotreatment Facility will accommodate the incoming waste stream on an as needed basis as long as adequate space is available and the maximum quantity of 3,000 cubic yards is not exceeded. The registration application has been revised throughout to include this new information.

10. In order to meet the end-use criteria as discussed in Comments 6, post-processing sampling and analysis may require a larger number of analytes than those proposed.

The number of analytes that will be sampled to facilitate the processing of special waste by the Fort Hood Biotreatment Facility has been expanded to include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, TPH, Benzene, and PCBs.

Section 2.2 of Part II, Section 2.2 and Figure III.2 of Part III, and Sections 6.1, 6.2, and 6.3 of Part IV have been revised to provide more detailed information regarding the waste acceptance criteria and waste processing thresholds for reuse that will be observed by the Fort Hood Biotreatment Facility.

11. The initial sampling and analysis described in Section 6.3.1 appears to be intended for the purpose of establish a baseline "pre-processing"; however it is also described (for spills) as being for characterization. Please clarify whether this sampling is intended to characterize the incoming waste streams or whether this is to establish a baseline for wastes that have been homogenized for processing.

Sections 6.1, 6.2, and 6.3 of Part IV have been revised to provide more detailed information regarding the waste acceptance criteria and waste processing thresholds for reuse that will be observed by the Fort Hood Biotreatment Facility.

During the course of your review, if you need additional information or have any questions, please contact Dave Bowersock at 817-886-1881 or at Robert.D.Bowersock@usace.army.mil.

Sincerely,

A handwritten signature in blue ink that reads "Bobby L. Shelton". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bobby L. Shelton, P.E.
Chief, Environmental Compliance and Engineering
Section

ATTACHMENT A

**FORT HOOD TYPE V MSW REGISTRATION APPLICATION
REPLACEMENT PAGES**

(REDLINE/STRIKEOUT COPY)

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

**TYPE V MSW
REGISTRATION APPLICATION**

PART I-IV

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

April 2014 November 2014

Executive Summary

Fort Hood is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

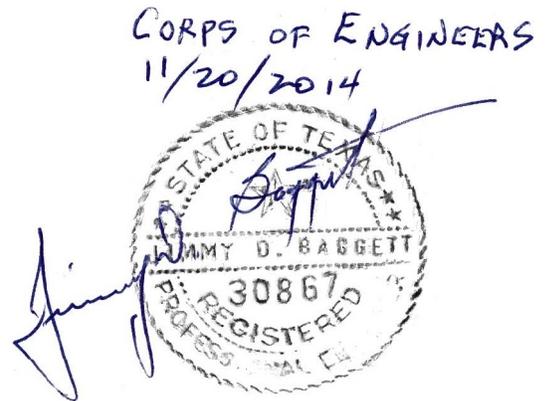
In February 2007, the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) submitted an initial application for a biotreatment facility to the Texas Commission on Environmental Quality (TCEQ) to meet the requirements of 30 Texas Administrative Code (TAC) §332 (Composting rules). After a series of subsequent submittals, the TCEQ determined that the composting rules were not applicable and recommended that FHDPW-ED submit a Type V Municipal Solid Waste (MSW) application in accordance with 30 TAC §305 (Consolidated Permits) and §330 Municipal Solid Waste (MSW) rules. FHDPW-ED submitted its Type V application in December 2011 which the TCEQ subsequently rejected, stating in a letter dated March 21, 2012 that the submission was significantly deficient in meeting the Consolidated Permits and MSW rules.

III Corps, the Fort Hood headquarters command group, and the FHDPW recognize the benefits of diverting waste materials from the permitted Fort Hood Type I MSW landfill and are pursuing registration as a Type V Biotreatment Facility in accordance with 30 TAC §330.9(f). The purpose of the facility is to properly manage two types of waste sources: (1) soils and spill clean up material contaminated with petroleum, oils, and lubricants and (2) dry sediments from Fort Hood grit-chambers, oil-water separators, and stormwater structures. III Corps and FHDPW-ED will own and operate the registered facility which will be known as the Fort Hood Biotreatment Facility.

The following presents the information requested in Subchapter B of 30 TAC 330. The application is divided into four parts as defined in the regulations.

- Part I - General Information
- Part II - Existing Conditions
- Part III - Facility Design Information
- Part IV - Site Operating Plan

FHDPW-ED will process up to 2,5003,000 cubic yards per year of waste and intends to reuse 100% of the processed waste material. The reusable material will meet levels that are below the Tier I Residential Soil protective concentration limits. FHDPW-ED proposes to process this material five days per week, Monday through Friday, between 7:30 a.m. and 4:15 p.m.



Facility Name:
Permittee/Registrant Name:
MSW Authorization #:
Initial Submittal Date:
Revision Date:



Texas Commission on Environmental Quality

Part I Form

New Permit/Registration and Amendment Applications for an MSW Facility

1. Reason for Submittal

- Initial Submittal Notice of Deficiency (NOD) Response

2. Authorization Type

- Permit Registration

3. Application Type

- New Major Amendment
 Major Amendment (Limited Scope)

4. Application Fees

- Pay by Check Online Payment

If paid online, e-Pay Confirmation Number:

5. Application URL

Is the application submitted for Type I Arid Exempt (AE) and/or Type IV AE facility?

- Yes No

If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted.

http://

6. Application Publishing

Party Responsible for Publishing Notice:

- Applicant Agent in Service Consultant

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

| | |
|--|-----------------------------|
| 7. Alternative Language Notice | |
| Is an alternative language notice required for this application? (For determination refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste) | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |

| | | | |
|--|---------|--------|-----------|
| 8. Public Place Location of Application | | | |
| Name of the Public Place: | | | |
| Physical Address: | | | |
| City: | County: | State: | Zip Code: |
| (Area code) Telephone Number: | | | |

| | | |
|---|-----------------------------|---|
| 9. Consolidated Permit Processing | | |
| Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33? | | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not Applicable |
| If "Yes", state the other TCEQ program authorizations requested: | | |

| | |
|--|-----------------------------|
| 10. Confidential Documents | |
| Does the application contain confidential documents? | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL." | |

| 11. Permits and/or Construction Approvals | | | |
|--|--------------------------|--------------------------|--------------------------|
| Select all that apply | Received | Pending | Not Applicable |
| Hazardous Waste Management Program under the Texas Solid Waste Disposal Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Underground Injection Control Program under the Texas Injection Well Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

| Select all that apply | Received | Pending | Not Applicable |
|--|--------------------------|--------------------------|--------------------------|
| Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Dredge or Fill Permits under the CWA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Licenses under the Texas Radiation Control Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other Environmental Permits | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12. General Facility Information

Facility Name:
MSW Authorization No. (if available):
Regulated Entity Reference No. (if issued)*: RN
Physical or Street Address (if available):
City: County: State: Zip Code:
(Area Code) Telephone Number:
Latitude (Degrees, Minutes Seconds):
Longitude (Degrees, Minutes Seconds):
Benchmark Elevation (above mean sea level): ft.

Provide a description of the location of the facility with respect to known or easily identifiable landmarks:
Detail access routes from the nearest United States or state highway to the facility:

*If this number has not been issued for the facility, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Facility as the Regulated Entity.

13. Facility Type(s)

Type I Type IV Type V
 Type I AE Type IV AE Type VI

14. Activities Conducted at the Facility

Storage Processing Disposal

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Operator Name¹:

Customer Reference No. (if issued)*:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E! mail Address:

TX SOS Filing Number:

¹If the Operator is the same as Site Operator/Permittee type "Same as "Site Operator (Permittee/Registrant)".

*If the Operator does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Operator as the customer.

Consultant Name (if applicable):

Texas Board of Professional Engineers Firm Registration Number:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

Agent in Service Name (required only for out-of-state):

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

18. Facility Supervisor's License

Select the Type of License that the Solid Waste Facility Supervisor, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, will obtain prior to commencing facility operations.

Class A Class B

19. Ownership Status of the Facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Limited Partnership | <input type="checkbox"/> Federal Government |
| <input type="checkbox"/> Individual | <input type="checkbox"/> City Government | <input type="checkbox"/> Other Government |
| <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> County Government | <input type="checkbox"/> Military |
| <input type="checkbox"/> General Partnership | <input type="checkbox"/> State Government | <input type="checkbox"/> Other (Specify): |

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Does the Site Operator (Permittee/Registrant) own all the facility units and all the facility property?

Yes No

If "No", provide the information requested below for any additional ownership.

Owner Name:

Street or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E! mail Address (optional):

20. Other Governmental Entities Information

Texas Department of Transportation District:

District Engineer's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

The Local Governmental Authority Responsible for Road Maintenance (if applicable):

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

City Mayor Information

City Mayor's Name:

Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

City Health Authority:

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

County Judge Information

County Judge's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

County Health Authority:

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

State Representative Information

District Number:

State Representative's Name:

District Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

State Senator Information

District Number:

State Senator's Name:

District Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Council of Government (COG) Name:

COG Representative's Name:

COG Representative's Title:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

River Basin Authority Name:

Contact Person's Name:

Watershed Sub-Basin Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

Yes No

U.S. Army Corps of Engineers

The facility is located in the following District of the U.S. Army Corps of Engineers:

Albuquerque, NM Galveston, TX
 Ft. Worth, TX Tulsa, OK

Local Government Jurisdiction

Within City Limits of:

Within Extraterritorial Jurisdiction of:

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

Yes No

(If "Yes", provide a copy of the ordinance or order as an attachment):

Facility Name: Fort Hood Biotreatment Facility
MSW Authorization #:

Initial Submittal Date: 02/27/2014
Revision Date: 11/20/2014

Signature Page

I, Brian L. Dosa, Director, Fort Hood Public Works
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

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

Signature: *Brian L. Dosa* Date: 24 Nov 2014

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said *Emely R. Silva*

On this 24th day of November,

My commission expires on the 6 day of November, 2016

Notary Public in and for Bell County County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)



Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Part I Attachments

(See Instructions for P.E. seal requirements.)

Required Attachments

Attachment No.

Supplementary Technical Report

Property Legal Description

Property Metes and Bounds Description

Facility Legal Description

Facility Metes and Bounds Description

Metes and Bounds Drawings

On-Site Easements Drawing

Land Ownership Map

Land Ownership List

Electronic List or Mailing Labels

Texas Department of Transportation (TxDOT) County Map

General Location Map

General Topographic Map

Verification of Legal Status

Property Owner Affidavit

Evidence of Competency

Additional Attachments as Applicable- Select all those apply and add as necessary

TCEQ Core Data Form(s)

Signatory Authority Delegation

Fee Payment Receipt

Confidential Documents

Waste Storage, Processing and Disposal Ordinances

Final Plat Record of Property

Certificate of Fact (Certificate of Incorporation)

Assumed Name Certificate

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

**TYPE V MSW
REGISTRATION APPLICATION**

PART I

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

April 2014
November 2014

CORPS OF ENGINEERS
11/20/2014

A circular professional engineer seal for the State of Texas. The seal contains the text 'STATE OF TEXAS', 'JIMMY D. BAGGETT', '30867', and 'REGISTERED PROFESSIONAL ENGINEER'. There is a handwritten signature over the seal and the date '11/20/2014' written above it.

**Fort Hood Biotreatment Facility
Part I
Table of Contents**

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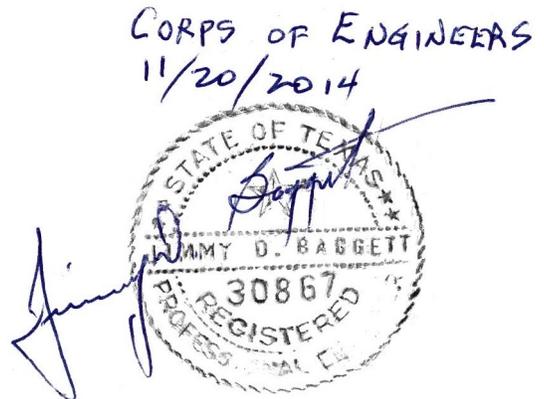
Table 6-1-Fort Hood Landfill

List of Figures

- Figure I.1-General Location Map**
- Figure I.2-Detailed Location Map**
- Figure I.3-Land Ownership Map**
- Figure I.4-Material End Use Locations Map**

List of Attachments

- Attachment A-Property Owner Information**
- Attachment B- Signature Certification**
- Attachment C-Application Fees**
- Attachment D- Property Owner Affidavit**



1.0 SUPPLEMENTARY TECHNICAL REPORT

30 TAC §305.45(a)(8)

1.1 General Description

Fort Hood, named after Confederate General John Bell Hood, is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Fort Hood is a training facility which also provides a high quality of life for a diverse community of over 71,000 soldiers and family members living on post. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

This application presents the information the Texas Commission on Environmental Quality (TCEQ) requires for the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) to operate a registered Municipal Solid Waste Processing Facility (MSW Type V) pursuant to 30 Texas Administrative Code (TAC) §330.9(f). This section of the code references transfer stations, however this facility will not operate as a transfer station as defined in 30 TAC §330.3(157) but will meet the requirements of 30 TAC §330.9(f)(1) and (2).

The proposed Fort Hood Biotreatment Facility is located at Building 1955, 37th Street and North Avenue, Coryell County, Texas 76544. Figure I.1 shows the general location of the facility. The III Corps and FHDPW-ED will own and operate the facility which will process waste material consisting of petroleum, oil, and lubricants (POL) spill cleanup material and dry sediments from grit-chambers, oil-water separators, and stormwater structures originating from within the Fort Hood installation. Processed material ~~with whose~~ contaminant concentrations ~~are reduced~~ below the 0.5-acre Tier I Residential Soil ~~levels (i.e., protective concentration levels or the background/method quantitation levels)~~ critical Protective Concentration Levels (PCLs) (see Attachment A in Part III) will be transported to areas outside the main cantonment (but not in areas impacting endangered species) for reuse as general fill. Processed material with contaminant concentrations equal to or above the 0.5-acre Tier I Residential Soil ~~levels~~ critical PCLs will be disposed at the Fort Hood Landfill ~~(when proper levels are achieved in accordance~~

~~with~~ MSW Permit No. 1866). Figure I.1 shows the location of the landfill. Figure I.4 shows the end use locations for the treated soil that meets the 0.5-acre Tier I Residential Soil levels.

This registration application is being submitted under the provisions of 30 §TAC 330.9(f) such that a minimum of 10% of the incoming waste material will be recovered for reuse.

Additionally, the remaining non-reusable material will be delivered to a landfill within 50 miles of the facility (unless specifically granted a variance).

1.2 Characteristics of Material

Material will consist of ~~municipal solid waste~~special waste as defined in 30 TAC §330.3(88)~~148~~(N). FHDPW-ED proposes to process the waste material with an admixture of wood chips, manure, fertilizer (if needed) and water. The waste material consists of soil contaminated with petroleum, oil, and lubricants (POLs), POL spill clean-up material (e.g., POL-contaminated natural fiber absorbents, etc.) and dry sediment from grit-chambers, oil-water separators and stormwater structures originating from within the Fort Hood installation. Processed material to be reused will meet the definition of recyclable material (i.e., material diverted from a non-hazardous waste stream for purposes of reuse) found in 30 TAC §330.3(122) and will not be considered solid waste. ~~Any processed soil or sediment will become solid waste at such time it is determined that the material cannot be processed to meet Tier I Residential Soil levels.~~

FHDPW-ED will receive up to ~~2,500~~3,000 cubic yards (CY) of waste material per year for processing. A minimum of 10% (~~250~~300 CY/year) of the material brought to the site will be recovered for beneficial reuse.

FHDPW-ED will keep records of the total number of loads and estimated cubic yardage accepted at the facility and the number of loads reused or disposed. The quantity of material will be recorded and converted to a weight equivalent.

Attachment B
Signatory Certification

Fort Hood DPW-ED USACE-Fort Worth
Fort Hood Biotreatment Facility ~~Rev. 0, February 2014~~ ~~Prelim Tech Review~~ ~~Revision #1, Rev. 1, April 2014~~ ~~November~~
2014
Part I-Type V Registration

~~T:\Environmental_Design_Br\Military\Fort Hood\Type V Treatment Facility\In-House Effort\Permit Application\Application\Part I\Part I-Rev2 (RL-SO).Docx~~
~~T:\Military\Fort Hood\Type V Treatment Facility\In-House Effort\Permit Application\Application\Part I\Part I-Rev2 (RL-SO).Docx~~

Signatory Certification

I, Brian Dosa, certify under penalty of law, have the authority to sign this registration application in accordance with 30 Texas Administrative Code (TAC) §305.44(a)(3).

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



24 Nov 2014

Brian Dosa, Director, Fort Hood Directorate of Public Works

Date



**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

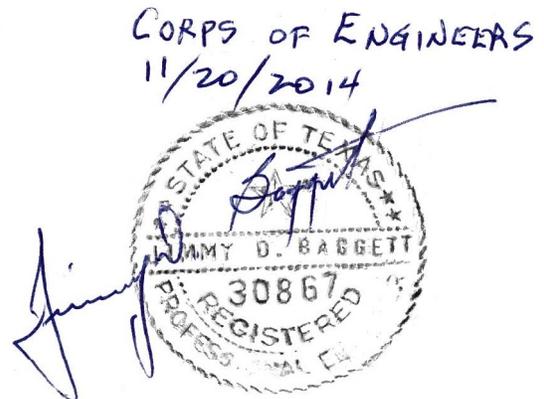
**TYPE V MSW
REGISTRATION APPLICATION**

PART II

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

April 2014
November 2014

**Fort Hood Biotreatment Facility
Part II
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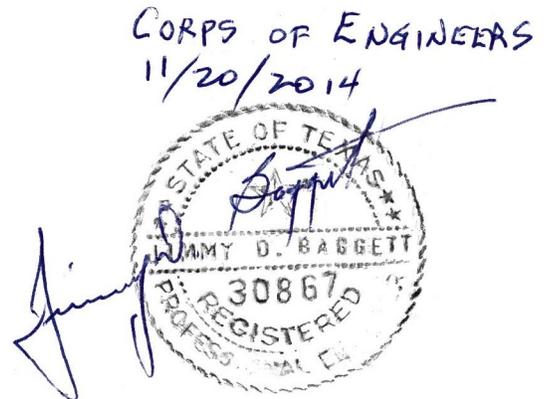
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- Figure II.10 – Utility Alignment
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- Table 2-1 – Waste Sources

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- Attachment A-Soil Information
- Attachment B-Endangered or Threatened Species Statement
- Attachment C-Historical Property Review
- Attachment D-Wetlands Statement



2.0 WASTE ACCEPTANCE PLAN

30 TAC §330.61(b)

2.1 General

The Fort Hood Biotreatment Facility will receive POL spill clean-up material and dry sediment from Fort Hood grit-chambers, oil-water separators, and stormwater structures. The material will be exposed to an admixture of common vegetative debris, horse manure, and water to promote biodegradation. Processed material with contaminant levels less than the Tier I Residential Soil ~~levels~~ Critical Protective Concentration Levels (PCLs) will be reused. See Attachment A of Part III for more information. Processed material with contaminant levels equal to or exceeding the Tier I Residential Soil ~~levels~~ Critical PCLs will be disposed of off-site at a permitted off-site location.

2.2 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- POL ~~C~~contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will

also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility. Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood. Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training ~~will occur during various military activities which~~ will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of ~~municipal solid waste~~ special waste as defined in ~~30 TAC §330.3(88)~~ 30 TAC §330.3(148)(N). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil ~~levels~~ Critical PCLs (see Attachment A in Part III) for the following Chemicals of Concern (COCs): Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbons (TPH), Benzene, and Polychlorinated Biphenyls (PCBs). The processed waste that is below the critical PCL from all identified COCs will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered ~~solid waste~~ special waste. However, processed material may still be considered special waste when TPH and/or Benzene concentrations are not reduced below the critical PCLs and/or the metal COCs concentrations of the accepted special waste are equal to or above the critical PCL but below hazardous levels. Table 2-1 provides a summary of the sources of waste and each of their COC's.

Table 2-1
Waste Sources

| <u>Waste Sources</u> | <u>COC's</u> |
|--|--|
| <u>Dried Oil-Water Separator Sediments</u> | <u>Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs)</u> |
| <u>Dried Grit Chamber Sediments</u> | <u>Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs)</u> |
| <u>POL Impacted Dried Sediments from Storm Water structures or POL Contaminated Soils from Petroleum Storage Tanks or Leaking Petroleum Storage Tank sites</u> | <u>Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs)</u> |
| <u>POL Spill Clean Up Material and Soil</u> | <u>Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs)</u> |

The facility will not be able to ~~successfully~~ process all of the incoming ~~Spill Cleanup~~ waste material. No regulated hazardous waste will be accepted at the facility for processing. If PCB concentrations exceed the critical PCLs, that waste stream will also be rejected. The Fort Hood Biotreatment Facility can only reduce the concentration of TPH and Benzene in the accepted waste stream. This material will originate from sediments that exceed Tier I Residential Soil levels for Resource Conservation and Recovery Act (RCRA) regulated lead. See Section 2.2 of Part III for additional information. Any waste material that is received will become solid waste and disposed if the material cannot be processed to meet 0.5-acre Tier I Residential Soil levels.

2.3 Quantity of Waste

~~The amount of material that will be received at the facility will be a maximum of 2,500~~The maximum waste received at the facility will not exceed 3,000 cubic yards per year ~~of POL contaminated waste material~~. On a per daily basis, the facility will receive approximately ~~7-8~~ cubic yards per day. However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility ~~will accept the maximum quantity previously specified but~~ will accommodate the incoming waste stream on an as needed basis as long as adequate space is available and the maximum quantity of 3,000 cubic yards is not exceeded. The Fort Hood ~~Biotreatment~~ Facility will operate five days per week, Monday through Friday, 7:30 a.m. to 4:15 p.m. and will receive a maximum of ~~2,500~~3,000 cubic yards per year.

3.0 QUALIFICATION FOR REGISTRATION

30 TAC §330.61(b)(2)

The Fort Hood Biotreatment Facility will be a Type V municipal solid waste facility that will receive and process up to ~~2,500~~3,000 cubic yards per year of ~~solid waste~~special waste. However, this facility will not operate as a transfer station as defined in 30 TAC §330.3(157), but will meet the registration requirements of 30 TAC §330.9(f)(1) and (2). The facility is qualified to be registered in accordance with provisions 30 TAC §330.9(f)(1) by recovering a minimum of 10% by weight or weight equivalent for reuse. The facility is qualified to be registered in accordance with provisions in 30 TAC §330.9(f)(2) by disposing of municipal solid waste unsuccessfully processed at a permitted landfill no more than 50 miles from the facility, as shown on Figure I.1 of Part I.

8.0 LAND-USE MAP

30 TAC §330.61(g); §330.543

A Land-Use Map is presented on Figure II.6 and Figure II.1. Figure II.6 shows the existing land uses within one mile of the facility. The land usage presented on this map was obtained from the Fort Hood Directorate of Public Works and is believed to be accurate as of the date of its preparation (2013). This land use information was checked by aerial map investigation and revisions made where applicable based on current use.

All of the land within one mile of the site is located within the Fort Hood military installation. Access roads serving the facility are shown. The primary access route for traffic using the facility will be 37th Street via North Avenue and South Range Road. The most recent land use around the facility boundary consists of vehicle maintenance facility and warehouses.

No solid waste unloading, storage, and processing will occur within an easement or right-of-way. All pipeline and utility easements will be marked with a post that extends at least 6 feet above the ground, and spaced no greater than 300 feet apart, in accordance with 30 TAC §330.543(a). The buffer distances at this facility will be predominantly less than the prescribed off-set distance of 50 feet between solid waste storage and processing areas and the facility boundary. Figure II.11 shows the buffer distance that vary from approximately 25 ft to 70 ft. However, in accordance with 30 TAC §330.543(b)(3), the variance of the buffer zone distance does not reduce the performance goal of visual screening, odor, drainage and sediment control at the facility. Through field verification and review of the proposed registration application, the Fort Hood Fire Department inspector determined that adequate~~Adequate~~ access will still be provided for emergency response, maintenance, and monitoring, with a buffer distance that is less than 50 feet. Figures II.10 and 11 contain the layout of utilities, drainage, and buffer separation distances at the facility, respectively.

10.0 TRANSPORTATION

30 TAC §330.61(i)

All traffic associated with the Fort Hood Biotreatment Facility will approach and leave the facility on 37th Street. 37th Street is a two-lane, 24-foot wide, asphalt paved road surface without turning lanes with a 30-miles-per-hour speed limit. In between the eastern perimeter of the Fort Hood Biotreatment Facility and 37th Street are two roads that predominantly run parallel to 37th Street between Murphy Avenue and South Range Road. The road directly adjacent to 37th Street is an unpaved tank trail that is approximately 20-feet wide. To the west of the unpaved road is a 20-foot wide one-way (south bound) concrete road. Roads on Fort Hood are typically designed to exceed the Texas Department of Transportation (TxDOT) standards given the heavy vehicular traffic associated with military operations (e.g., infantry fighting vehicles, armored personnel carriers, light armored vehicles, etc.). Two roads consisting of asphalt and/or concrete connect 37th Street and the site access road to the facility. See Figure II.9 for more information.

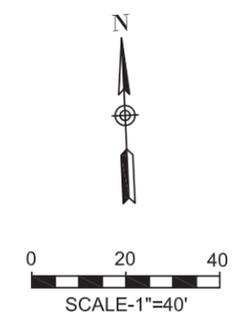
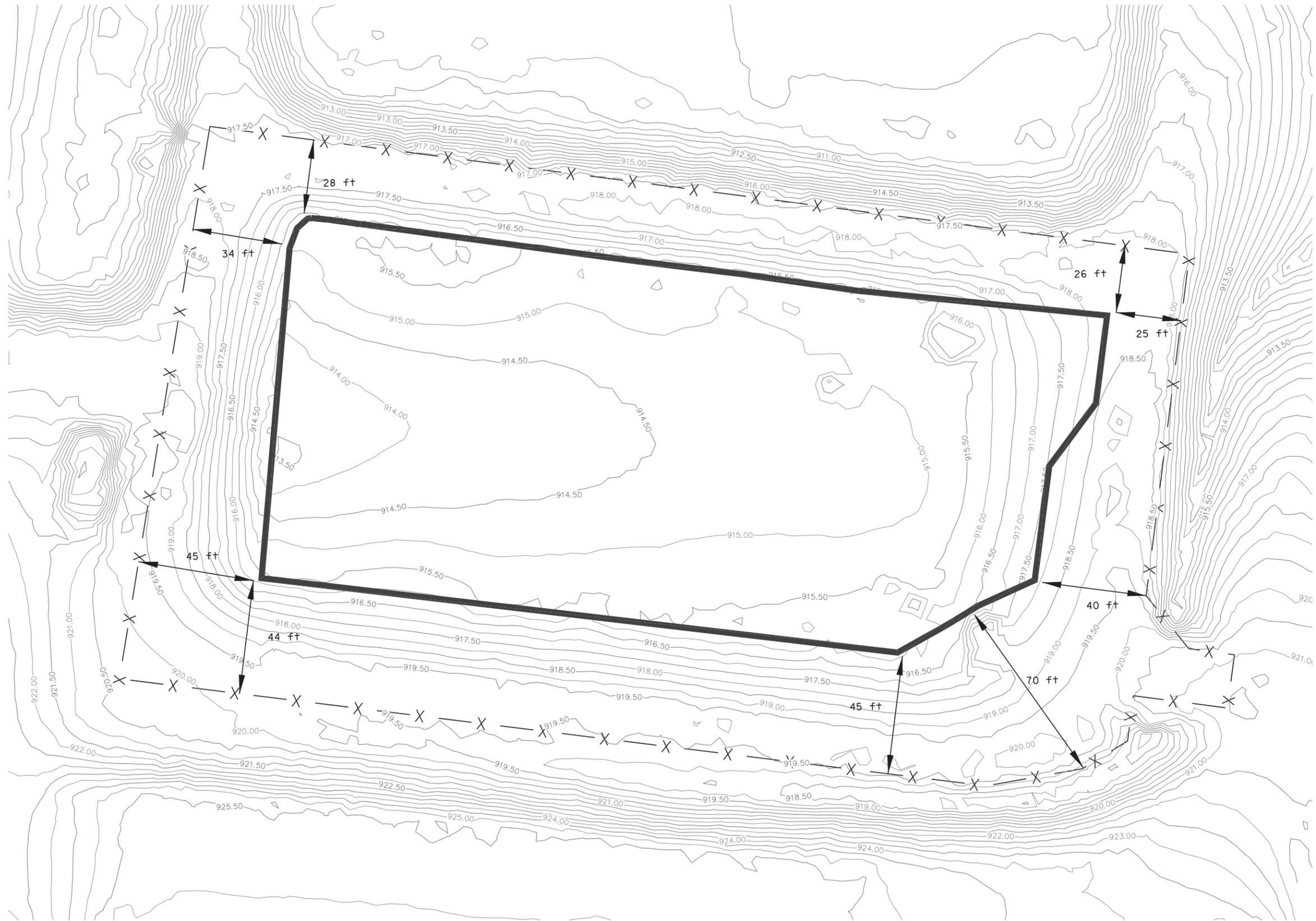
The vehicular traffic expected on the access road to the facility is approximately 25 vehicles per day. Most site access road traffic is from the adjacent FHDPW-ED satellite office.

At the maximum waste acceptance rate of ~~2,500~~3,000 cubic yards per year, the expected volume of traffic associated with the facility is expected to be less than 1 trip per day (1 truck delivery for every 10 cubic yards of soil). The actual numbers of vehicular traffic will vary depending on the amount of space available at the Fort Hood Biotreatment Facility to treat the material and the frequency of spills and cleanups that are occurring at the Fort Hood installation.

No coordination with TxDOT is necessary since all installation roads are managed by Fort Hood Directorate of Public Works. Internal coordination within the Fort Hood Directorate of Public Works confirmed no public roadways (i.e., roads managed by TxDOT) will be utilized to transport waste and processed material to and from the Fort Hood Biotreatment Facility.

Figures

H:\Fort_Hood\Design\Biotreatment_Facility_2012\11-2014\111_Rev1



LEGEND

— X — X — EXISTING FENCE LINE/REGISTRATION BOUNDARY

— — — APPROXIMATE LIMITS OF SOLID WASTE STORAGE AND PROCESSING AREA

— 920.00 — SURFACE CONTOURS (SEE NOTE 1)

NOTES:

1. SURFACE CONTOUR DATA BASED ON A MARCH 9, 2011 LIDAR AERIAL SURVEY PROVIDED BY THE FORT HOOD DIRECTORATE OF PUBLIC WORKS.

CORPS OF ENGINEERS
11/20/2014

Jammy D. Baggett



| Symbol | Description | Rev. 1 | Date |
|--------|-------------------------|--------------|----------|
| - | TECH REVISION #1 UPDATE | | 11/20/14 |
| - | | Revising No. | Author |

| | | | |
|---------------|-----------------------|---------------|---------------|
| Designed by: | ABRAM PINON, P.E. | Date: | FEBRUARY 2014 |
| Drawn by: | CLIFTON MACK | Revision No.: | |
| Reviewed by: | DAVID BOWERSOCK, P.E. | Contract No.: | |
| Submitted by: | ABRAM PINON, P.E. | File Name: | |

CESWF
PEC-TE

CORVELL COUNTY TEXAS
FORT HOOD BIOTREATMENT FACILITY
PN:0000

BUFFER ZONE LAYOUT

FOR PERMITTING PURPOSES ONLY

FIGURE
II.11

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

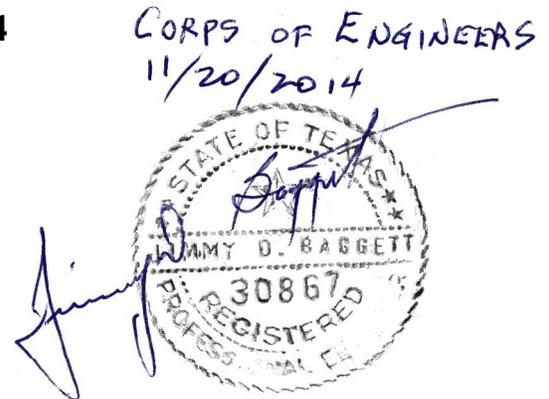
**TYPE V MSW
REGISTRATION APPLICATION**

PART III

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

April 2014
November 2014

**Fort Hood Biotreatment Facility
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Figure III.3 – Traffic Flow Diagram

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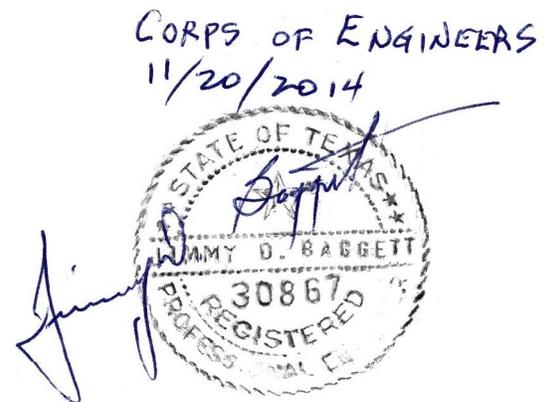
Figure III.7 – Construction Details of Concrete Slab and Subsurface System

Figure III.8 – Construction Details of Concrete Slab and Subsurface System

List of Attachments

Attachment A – 0.5 Acre Tier I Residential Soil **Levels**PCLs

Attachment B – Hydrologic Analysis



2.2 Waste Movement

§330.63(b)(2)

The amount of waste that will be received at the facility will be approximately ~~less than 78~~ cubic yards per day. However, this quantity is only an estimate, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will ~~accept up to 2,500 cubic yards per year, but will~~ accommodate the incoming waste stream on an as needed basis as long as adequate space is available at the facility and the maximum quantity of 3,000 cubic yards is not exceeded. It is intended 100% of incoming waste will be processed and reused, and will at a minimum process more than 10% of the incoming waste stream.

Figures III.2 and III.3 shows how the incoming waste will be brought to the facility by dump trucks, front-end loaders, and other collection vehicles and off-loaded at the Staging Area. The unloading time will be minimal given the low volume of waste to be processed. As such, no congestion issues are expected to be encountered as a result of ingress and egress of vehicles. However, in the event that queuing is necessary, incoming vehicles will be able to line up on the asphalt access road that is approximately 200 feet long, without impacting adjacent base operations.

As necessary, the five concrete bins will be replenished with the required amount of admixtures to include common vegetative debris (e.g., wood chips), manure, and fertilizer (if needed). The volume of stored admixtures will not exceed the storage capacity available of the five concrete bins. However, the amount of each particular admixture will fluctuate based on the operational needs of the facility. It is expected each concrete bin can store approximately 45 cubic yards of material. Fertilizer will be stored inside the storage sheds, with approximately 50 bags retained onsite.

Department of Army (DA) Form 3161 will accompany each incoming waste load to document the material source. A copy of this form is included in Part IV, Attachment A of the Registration Application. After material confirmation by Fort Hood Biotreatment Facility personnel, waste

material will be unloaded at the Staging Area by the transporter of the waste. If necessary, Fort Hood Biotreatment Facility personnel will assist transporters in unloading the waste.

Incoming waste material will be originating from the adjacent off-site Drying Pad (i.e., oil-water separator sediments), dried grit-chamber sediments, dried sediments from stormwater structures, and POL spill-cleanup material and soil. ~~Dried grit-chamber sediments~~ With the exception of POL spill cleanup material and soil, incoming waste material -that ~~has~~ have no exceedances of the Tier 1 Residential Soil ~~levels for TPH, benzene, or lead~~ critical PCLs for all COCs (see Part III Attachment A); will by-pass the Fort Hood Biotreatment Facility as shown in Figure III.2. POL spill cleanup material and soil will still be processed through the Fort Hood Biotreatment Facility even if all applicable COCs are below the Tier 1 Residential Soil critical PCLs. Material waiting processing at the Staging Area may be mixed to promote volatilization. A Trommel material screener may be used on an as needed basis to segregate and remove any unwanted debris (e.g., rocks) from the waste material at the Staging Area.

For all incoming waste streams prior to biotreatment processing, the following sampling analysis will be performed:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method 6010B for RCRA Total Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, and Silver
- EPA Method 7471A for Total Mercury
- EPA Method SW 846/8021B for Benzene
- EPA Method 1668A for Total Polychlorinated Biphenyls (PCBs)

A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility if incoming waste material will not be processed to meet the Tier I Residential Soil critical PCLs for all COCs listed Attachment A. A detailed description of the sampling and recording protocol is described in Part IV, Section 6.0.

Once a sufficient quantity, typically 75 cubic yards, of waste material accumulates at the Staging Area, it will be moved to the Windrow Area and placed in a windrow with a front-end loader. Before admixture addition, the waste material in each windrow will be mixed with a windrow turner which will generate a windrow height of 1 to 3 ft high; each windrow will be approximately 100 feet long. After each windrow has been placed or after Staging Area mixing as described above, initial measurements will be taken to record pretreatment conditions. The following analysis will be performed for each windrow:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method SW 846/8021B for Benzene

~~However, for Spill-cleanup material, the following analysis will be performed at the Staging Area prior to placement into a windrow:~~

~~TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)~~

~~EPA Method 6010B for RCRA Total Lead~~

~~EPA Method SW 846/8021B for Benzene~~

~~If the RCRA total lead results identify any exceedance of the Tier 1 Residential Soil levels, the Spill-cleanup material will be disposed at a permitted off-site disposal facility. The Fort Hood Biotreatment Facility does not have the ability to reduce metal contamination concentrations; therefore FHDPW-ED will not attempt to degrade the TPH concentration in the waste material. A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility. If the RCRA total lead results do not exceed the Tier 1 Residential Soil levels, the Spill-cleanup material is suitable for processing at the Fort Hood Biotreatment Facility and will be relocated to the Windrow Area for processing. A detailed description of the sampling and recording protocol is described in Part IV, Section 6.0. Attachment A contains the 0.5-acre Tier I Residential Soil level thresholds that will be of concern.~~

Once the waste material is screened, is acceptable to undergo biotreatment, and has been placed in a windrow, the biotreatment process will commence. For a windrow that contains 30 cubic yards of waste material, the initial vegetative debris quantity added will be approximately 30 cubic yards. Vegetative debris will be added to increase the bulk of the mix thus maximizing macropore distribution. Vegetative debris will include wood chips that do not exceed 2-inches in length and more than 1/2-inch in any other dimension. Other vegetative debris will include landscape wastes (e.g., grass, brush, etc.) and demolition debris that is properly mulched if the wood has not been treated with any wood preservatives. Natural fiber absorbent pads (i.e., part of the POL spill-cleanup material waste) maybe part of the incoming waste stream; however, when placed in the windrow this material will also act as a vegetative admixture. The natural fiber absorbent pads will be shredded prior to placement in the windrow.

The second type of admixture will be manure from the Fort Hood horse stables. Manure will serve as a catalyst providing the necessary nutrients and microbial populations to facilitate the bioremediation process. An alternative or addition to the manure will be a standard agricultural fertilizer that contains a nitrogen/phosphorous mixture. For a windrow that contains 30 cubic yards of waste material, the initial manure quantity added will be approximately 30 cubic yards. All admixtures, waste, and moisture addition will be thoroughly mixed using the windrow turner to establish a homogeneous windrow. The following describes the biotreatment process that will take place at the facility.

- **Phase I Active Biotreatment**

The initial biotreatment phase is the most active during this process. Lasting approximately four weeks, the windrow will be turned every 3 to 4 days using a windrow turner, or as determined by temperature, to promote homogeneity. Temperature and moisture will be monitored regularly to assure microbial activity is occurring. Ideal temperatures will be between 110°F and 140°F near the center of the windrow. If the temperature falls below range, additional admixtures will be added to increase the microbial populations. When temperatures exceed the specified range, the windrow will

be mixed to lower the temperature of the windrow. Moisture will be maintained between 40% and 60%. When moisture falls below 40%, water will be added to bring the moisture content to 60%.

- **Phase II Active Biotreatment**

The continued biotreatment process will proceed for a minimum of four additional weeks after Phase I is completed. The windrow will be turned approximately every 7 days using a windrow turner. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

- **Phase III Batch Curing and Maturation**

After approximately eight weeks, active biotreatment will slow to a more stable rate. The curing windrow will be formed once again using a windrow turner to break any remaining large materials and homogenize the windrows. Phase III will last approximately one to three months. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

Monitoring of moisture and temperature will occur at an established frequency (see Part IV, Section 6.0) to ensure proper biological conditions exist while ensuring temperature are held in check to prevent the development of a fire. After the windrow has completed Phase III, the windrow will be sampled for TPH and Benzene. Six grab samples will produce one composite sample that will be analyzed for TPH and Benzene. Each grab sample will be from within the core and equally spaced along the entire length of the windrow. If results indicate that the levels for all COCs are below Tier 1 Residential Soil ~~levels~~critical PCLs, the material is ready for use in areas outside the west, north, and main cantonments of Fort Hood (but outside the areas containing endangered species) for reuse as general fill to include but not limited to grading and drainage improvements. Processed material that does not meet the 0.5-acre Tier I Residential Soil ~~levels~~critical PCLs for all COCs will be disposed of at ~~the Fort Hood Landfill (MSW~~

Permit No. 1866) a permitted landfill. - Figure III.2, Process Flow Diagram, provides a graphical representation of the waste movement process.

The operation of the Fort Hood Biotreatment Facility is entirely outdoors, therefore adequate ventilation will not be a concern. Prevailing winds at the site are from the south (see Figure II.1 in Part II), which direct odors from waste material and admixtures to the north. The area north of the facility is part of a closed loop water recirculation system designed to capture and treat waste water from an adjacent vehicle washing facility. It is not anticipated that odors will become a nuisance during the operation of the facility. However, if odors are bothersome to adjacent inhabitants, the facility will take measures to reduce the odorous impact to neighbors, to include but not limited to a reduction in waste processing or the use of an odor control spray system along the northern perimeter fence line. Onsite stockpiles will be controlled to eliminate windblown soil or dust by applying water as necessary to dampen the material but not create a saturated material so that that can lead to runoff. See Part IV, Section 22.0, for more information.

General Construction details of all storage and processing units are shown in Figures III.4 and III.5. General Construction details of the existing slab and subsurface components are shown in Figures III.6 through III.8. No sludge, oil, or grease will be stored at the facility.

FHDPW-ED will conduct a washdown after a windrow has been removed from the windrow area. Facility washdown will remove any residual soil material from the concrete surface. Any cracks in the concrete or unsealed joints will be repaired within 7 business days or before the next rain event, whichever comes first, and before placement of new windrows. All washdown water and stormwater will flow to the west until it reaches the sump area, located along the toe of the west central bank of the concrete pad.

All surface water collected will be allowed to evaporate, while ensuring vector populations will be controlled to minimize risk to human health and the environment. The Fort Hood Biotreatment Facility has the ability to discharge through an existing 6-inch cast iron collection

pipe which connects to a 12-inch reinforced concrete pipe that conveys the collected surface water to the closed loop water recirculation system located to the north of the facility. The closed loop water recirculation system does not discharge to waters of the state. The invert of the collection pipe is approximately 1-foot above the low point of the sump. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Benzene, PCBs, TPH, fats, oils, and grease, and pH, in accordance with 30 TAC §330.203(c). Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

2.3 Sanitation

§330.63(b)(3)

The Fort Hood Biotreatment Facility will receive waste material and admixtures that will be stored on-site to facilitate the processing of the incoming waste stream. Surface drainage to the facility is controlled by the existing grades on site which eliminate run-off impacted by the waste processing operation. See Figure IIIB.1 in Attachment B for more information.

The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. A 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the vehicle wash facility waste water. Below the concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. Figures III.4 through III.8 in Part III display the components of the Fort Hood Biotreatment Facility.

Eight hose bibs located along the crest of the northern and southern banks of the concrete pad will provide access to potable water that can be used by a pressure washer. See Figure II.10 for

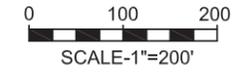
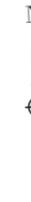
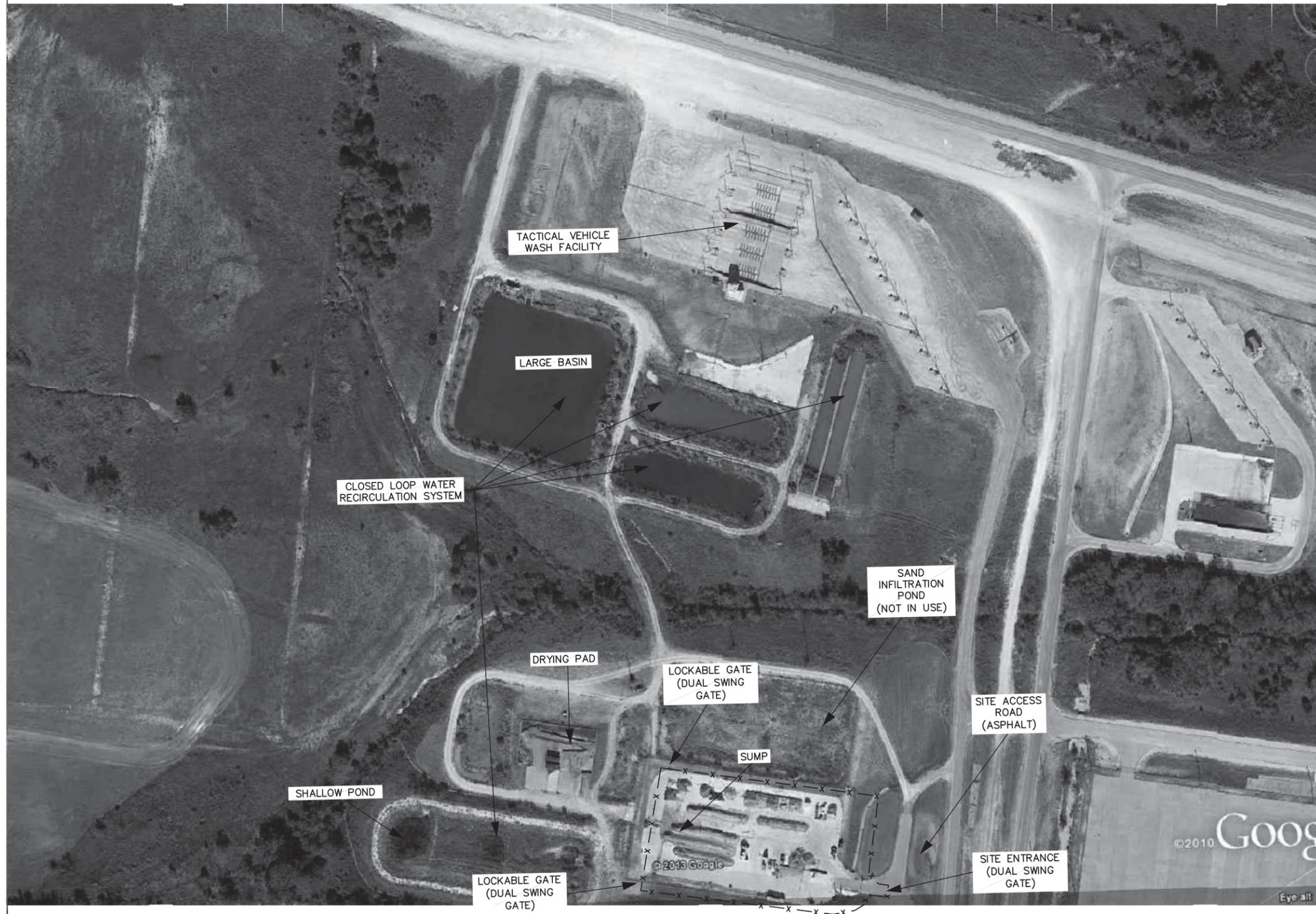
the location of the hose bibs. The pressure washer will be used to rinse any residual soils that remain after a windrow is moved. The cleaning of the area previously occupied by the windrow will allow for the inspection of the concrete surface, which will then be repaired if necessary. All water used as part of the sanitation process will drain to the sump area within the facility. Water will then be allowed to evaporate or will be discharged to the closed loop water recirculation system.

2.4 Water Pollution Control

§330.63(b)(4)

Cleaning the concrete surface at the Fort Hood Biotreatment Facility will result in the generation of wastewater. Additionally, any precipitation that is collected and retained within the Fort Hood Biotreatment Facility will also generate wastewater. However, the Fort Hood Biotreatment Facility is constructed in a way in which all surface water impacted by the waste processing operation ends up at a sump located along the toe of the west central perimeter of the concrete surface. The collected surface water will be allowed to evaporate; however, the facility has the option to discharge to a closed loop water recirculation system. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the waste water generated from Tactical Vehicle Wash Facility located north of the Fort Hood Biotreatment Facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. If the Fort Hood Biotreatment Facility were to discharge to the closed loop water recirculation system, the water would collect in the Large Basin shown on Figure III.1, which serves as the water source for the Tactical Vehicle Wash Facility. The Large Basin can hold approximately 500,000 gallons of water when full. Therefore, the potential 360,900 gallons (i.e., 57,941 cubic feet, see Part III Attachment B) from the Fort Hood Biotreatment Facility will be discharged at a controlled rate utilizing the existing 6-inch valve (see Figure III.6) to ensure not to exceed the Large Basin's holding capacity. The testing protocol described in Part IV, Section 6.0 will be performed prior to discharging off-site. All cracks and joints of the concrete surface will be repaired and sealed.

Figures



LEGEND
 —x—x— EXISTING FENCE LINE/REGISTRATION BOUNDARY



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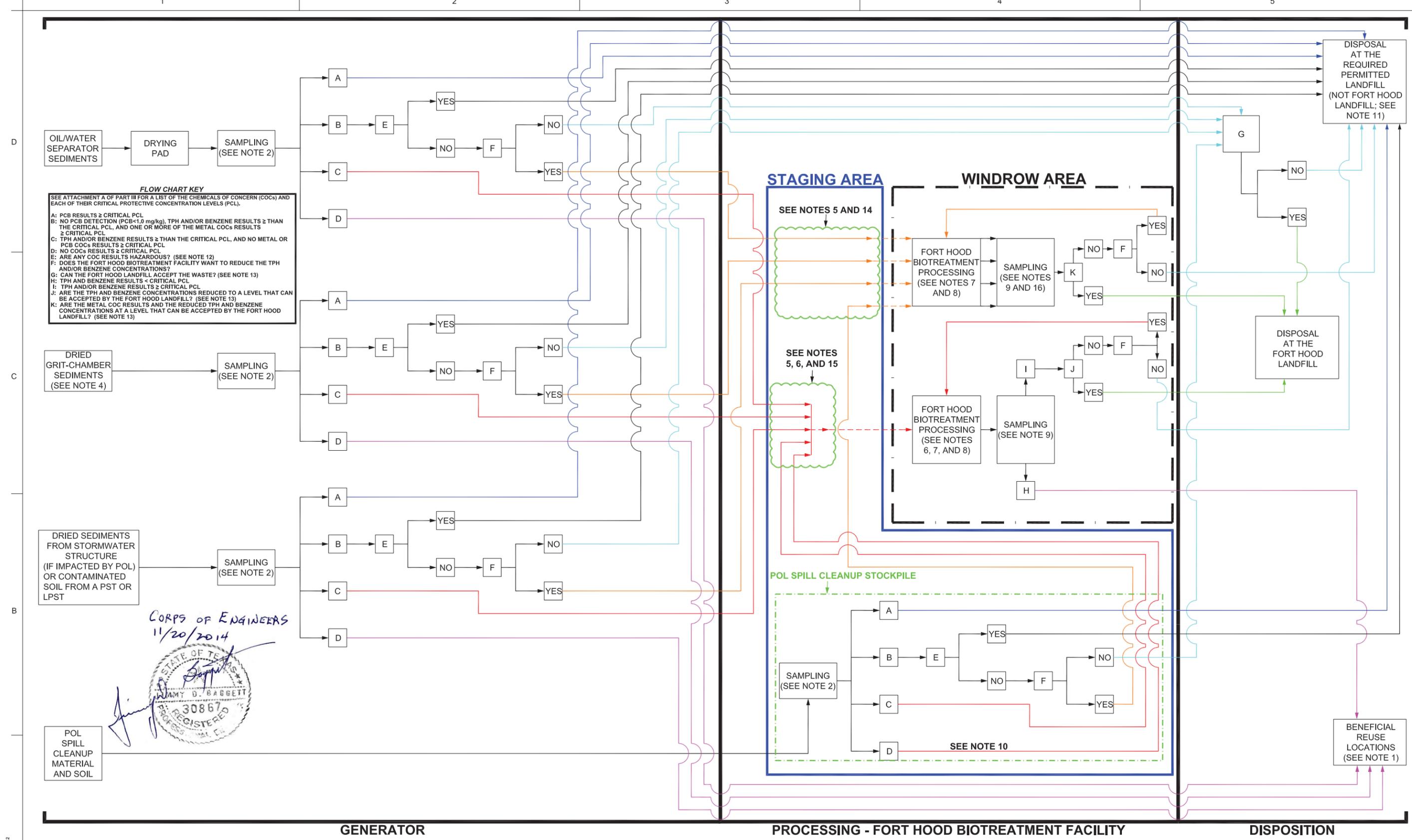
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| Designed by: ABRAM PINON, P.E. | Date: FEBRUARY 2014 |
| Drawn by: CLIFTON MACK | Revision No.: |
| Reviewed by: DAVID BOWENSOCK, P.E. | Contract No.: |
| Submitted by: ABRAM PINON, P.E. | File Name: |

CORYELL COUNTY TEXAS
 FORT HOOD BIOTREATMENT FACILITY
 PN:0000
 FACILITY LAYOUT PLAN
 FOR PERMITTING PURPOSES ONLY

FIGURE
 III.1

CORPS OF ENGINEERS
 11/20/2014

 AMY D. BAGGETT
 REGISTERED PROFESSIONAL ENGINEER



NOTES:

- END USE LOCATION FOR MATERIAL WILL BE OUTSIDE THE WEST, NORTH, AND MAIN CANTONMENTS OF FORT HOOD AND OUTSIDE AREAS CONTAINING ENDANGERED SPECIES. MATERIAL WILL BE REUSED FOR GENERAL FILL PURPOSES TO INCLUDE BUT NOT LIMITED TO GRADING AND DRAINAGE IMPROVEMENTS.
- MATERIAL WILL ANALYZED FOR TOTALS FOR THE FOLLOWING COCs: ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER, TPH, BENZENE, AND PCBs.
- SAMPLE'S RESULTS ARE COMPARED TO THE 0.5-ACRE TIER 1 RESIDENTIAL SOIL CRITICAL PROTECTIVE CONCENTRATION LEVELS. SEE ATTACHMENT A OF PART III.
- GRIT-CHAMBER SEDIMENTS WILL BE DRIED AT LOCATION IN ACCORDANCE WITH TCEQ RG-029.
- A TROMMEL MATERIAL SCREENER MAY BE USED TO SEGREGATE AND REMOVE UNWANTED TRASH AND DEBRIS, (E.G., ROCKS)
- WASTE MATERIAL WILL SUBSEQUENTLY BE SAMPLED TO ESTABLISH PRETREATMENT CONDITIONS IF ACCEPTED WASTE STREAMS ARE COMBINED AND NOT LEFT IN SEGREGATED PILES OR WINDROWS AT THE STAGING AREA OF WINDROW AREA, RESPECTIVELY. WASTE MATERIAL WILL BE SAMPLED FOR TPH AND BENZENE PRIOR TO ADMIXTURE ADDITION. SAMPLING TO ESTABLISH PRETREATMENT CONDITIONS MAY TAKE PLACE AT THE STAGING AREA OR WINDROW AREA.
- ADMIXTURES (E.G., WOODCHIPS, MANURE, AND FERTILIZER) WILL BE ADDED ON AN AS NEEDED BASIS.
- WINDROWS WILL BE MONITORED FOR TEMPERATURE AND MOISTURE CONTENT.
- MATERIAL WILL BE SAMPLED FOR TPH AND BENZENE ONLY.
- MATERIAL WILL BE DIRECTED TO WINDROW AREA EVEN IF ALL COC RESULTS ARE BELOW THE CONCENTRATIONS SPECIFIED IN NOTE 3.
- A WASTE CHARACTERIZATION WILL BE CONDUCTED PRIOR TO DISPOSAL TO DETERMINE THE WASTE CLASSIFICATION (I.E., HAZARDOUS, CLASS 1, CLASS 2, CLASS 3).
- A SEPARATE TCLP ANALYSIS MAY NEED TO BE PERFORMED IF THE TOTAL RESULTS CAN NOT CONCLUSIVELY DETERMINE WASTE CLASSIFICATION IN ACCORDANCE WITH EPA METHOD 1311.
- AS DOCUMENTED IN SECTION 1 AND 3.2 OF APPENDIX B-SPECIAL WASTE ACCEPTANCE PLAN OF THE FORT HOOD LANDFILL MSW PERMIT 1866, THE FORT HOOD LANDFILL CAN ACCEPT SOIL CONTAMINATED BY COCs THAT EXCEED THE CONCENTRATIONS LISTED IN TABLE 1 OF §335.521(a)(1) AND SOILS CONTAMINATED WITH POLs. TPH RANGES OF <600 mg/kg CAN BE ACCEPTED BY THE LANDFILL FOR USE AS DAILY COVER, \geq 600 mg/kg BUT <1,500 mg/kg CAN BE ACCEPTED INTO A SPECIAL WASTE TRENCH, AND \geq 1,500 mg/kg SHALL BE REJECTED.
- WASTE STREAMS WILL REMAIN SEGREGATED AT THE STAGING AREA AND THROUGHOUT THE BIOTREATMENT PROCESS.
- WASTE STREAMS MAY BE COMBINED OR LEFT SEGREGATED AT THE STAGING AREA AND DURING THE BIOTREATMENT PROCESS.
- ANALYTICAL RESULTS FOR EACH WASTE STREAM FOR ALL COCs EXCEPT TPH AND BENZENE WILL BE CARRIED FORWARD FOR WASTE CLASSIFICATION PURPOSES (E.G., IF LEAD RESULTS INDICATE 15 mg/kg PRIOR TO UNDERGOING THE BIOTREATMENT PROCESS, THE WASTE WILL STILL REPORT 15 mg/kg AT THIS POINT).



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| | TECH REVISION #1 UPDATE | | | 11/20/14 |

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| Reviewed by: | DAVID BOWENSOCK, P.E. | Contract No.: | |
| Submitted by: | ABRAM PINON, P.E. | File Name: | |

CESWF
PEC-TE

CORVELL COUNTY TEXAS
FORT HOOD BIOTREATMENT FACILITY
PN:0000
PROCESS FLOW DIAGRAM
FOR PERMITTING PURPOSES ONLY

FIGURE
III.2

N:\Fort_Hood\Design\Biotreatment_Facility_2013\JAN_2014\11.2

Attachment A

0.5-acre Tier I Residential Soil ~~Levels~~PCLs

0.5-Acre Tier 1 Residential Soil PCLs¹

| Chemical of Concern | ^{Tot} Soil _{Comb} (mg/kg) | ^{GW} Soil _{Ing} (mg/kg) | Crtical PCL (mg/kg) ² |
|-----------------------|--|--|-------------------------------------|
| Arsenic | 20 | 5 | 5 |
| Barium | 8,100 | 440 | 440 |
| Cadmium | 52 | 1.5 | 1.5 |
| Chromium (total) | 33,000 | 2,400 | 2,400 |
| Lead | 500 | 3 | 3 |
| Mercury | 3.6 | 0.0078 | 0.0078 |
| Selenium | 310 | 2.3 | 2.3 |
| Silver | 97 | 0.48 | 0.48 |
| TPH, TX1005, C6-C12 | 1,600 | 65 | 65 |
| TPH, TX1005, >C12-C28 | 2,300 | 200 | 200 |
| TPH, TX1005, >C12-C35 | 2,300 | 200 | 200 |
| TPH, TX1005, >C28-C35 | 2,300 | 200 | 200 |
| | | | |
| Benzene | 120 | 0.026 | 0.026 |
| | | | |
| PCBs | 1.1 | 11 | 1.1 |

¹Values based on the September 10, 2014 Tier 1 Residential Soil PCLs. Values are subject to change.

²Critical PCL is the more conservative value between the ^{Tot}Soil_{Comb} and ^{GW}Soil_{Ing} PCLs for each Chemical of Concern.

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

**TYPE V MSW
REGISTRATION APPLICATION**

PART IV

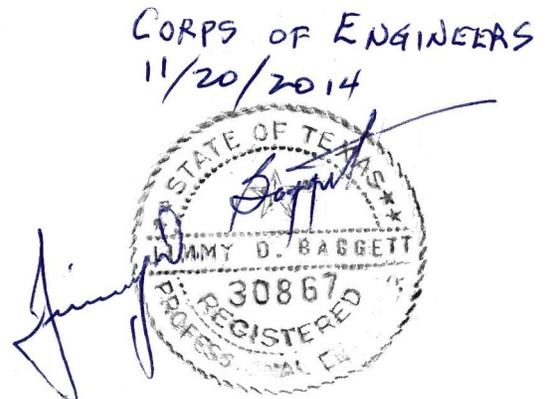
Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**



**Fort Hood Biotreatment Facility
Part IV
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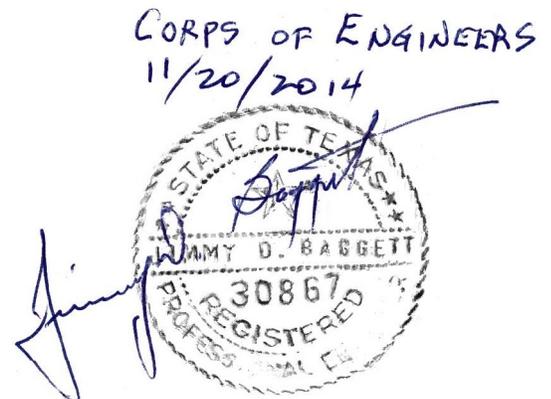
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6.0 WASTE ACCEPTANCE AND ANALYSIS

30 TAC §330.203

6.1 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- ~~EPOL~~ contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility. Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood.

~~Dried grit chamber sediments that have no exceedances of the Tier 1 Residential Soil levels for TPH, benzene, or lead, will by pass the Fort Hood Biotreatment Facility.~~ Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training ~~will occur during various military activities which~~ will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank

locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of ~~municipal solid waste~~ special waste as defined in ~~30 TAC §330.3(88)~~ 30 TAC §330.3(148)(N). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil ~~levels~~ critical PCLs (see Attachment A in Part III) for the following Chemicals of Concern (COCs): Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbons (TPH), Benzene, and Polychlorinated Biphenyls (PCBs). The processed waste that is below the critical PCL from all identified COCs will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered ~~special waste~~ solid waste. However, processed material may still be considered special waste when TPH and/or Benzene concentrations are not reduced below the critical PCLs and/or the metal COCs concentrations of the accepted special waste are equal to or above the critical PCL but below hazardous levels. Table 2-1 in Part II provides a summary of the sources of waste and each of their COC's.

The facility will not be able to successfully process all of the incoming Spill Cleanup waste material. No regulated hazardous waste will be accepted at the facility for processing. If PCB concentrations exceed the critical PCLs, that waste stream will also be rejected. The Fort Hood Biotreatment Facility can only reduce the concentration of TPH and Benzene in the accepted waste stream.

FHDPW-ED will process at least 10% of the waste material that is received at the Fort Hood Biotreatment Facility on annual basis. FHDPW-ED intends to process 100% of the received waste material. The processed material will be placed at areas outside the west, north, and main cantonments of Fort Hood (but not in areas impacting endangered species) for reuse. Material will be reused for general fill purposes to include but not limited to grading and drainage improvements.

6.2 Quantity and Processing of Waste

The amount of material that will be received at the facility will be a maximum of ~~2,500~~3,000 cubic yards per year of POL contaminated waste material. On a per daily basis, the facility will receive approximately ~~7-8~~ cubic yards per day. With the listed above daily and yearly incoming waste stream amounts, this facility will be within the parameter of 30TAC 330.203(b).

However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accept ~~the maximum quantity previously specified up to 3,000 cubic yards per year,~~ but will accommodate the incoming waste stream on an as needed basis as long as adequate space is available at the ~~Fort Hood Biotreatment Facility~~facility and the maximum quantity of 3,000 cubic yards is not exceeded. At full capacity, the facility will have an estimated total of 700 and 250 cubic yards of waste material at the Windrow Area and Staging Area, respectively, at any given time. The average length of time waste material will be at the facility is 8 months. However, the waste material can remain at the facility up to 12 months (7 months at the Staging Area and 5 months at the Windrow Area). Average waste processing times (i.e., after admixture addition) are approximately 4 months, with a maximum of about 5 months. When grit-chamber sediments are being processed, this waste stream will not remain at the Staging Area for more than 72 hours, in accordance with 30 TAC §330.241(a)(1).

6.3 Sampling, Analysis, and Monitoring

All sampling collection and analysis performed as part of this registration will be conducted in accordance 30 TAC §330 Subchapter F, Analytical Quality Assurance and Quality Control. The facility will retain records of each analysis for a minimum of 3 years.

Incoming waste material will be originating from the adjacent off-site Drying Pad (i.e., oil-water separator sediments), dried grit-chamber sediments, dried sediments from stormwater structures, and POL spill-cleanup material and soil. With the exception of POL spill cleanup material and soil, incoming waste material that has no exceedances of the Tier 1 Residential Soil critical PCLs for all COCs (see Part III Attachment A), will by-pass the Fort Hood Biotreatment Facility as shown in Figure III.2. POL spill cleanup material and soil will still be processed through the

Fort Hood Biotreatment Facility if all applicable COCs are below the Tier 1 Residential Soil critical PCLs. Material waiting processing at the Staging Area may be mixed to promote volatilization. A Trommel material screener may be used on an as needed basis to segregate and remove any unwanted debris (e.g., rocks) from the waste material at the Staging Area.

For all incoming waste streams prior to biotreatment processing, the following analysis will be performed:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method 6010B for RCRA Total Arsenic, Barium, cadmium, Lead, Selenium, and Silver.
- EPA Method 7471A for total Mercury
- EPA Method SW 846/8021B for Benzene
- EPA Method 1668A for Total Polychlorinated Biphenyl (PCBs)

A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility if incoming waste material will not be processed to meet the Tier I Residential Soil critical PCLs for all COCs listed in Attachment A of Part III.

Incoming waste streams that have analytical results indicating Total PCBs equal to or exceeding the Tier I Residential Soil critical PCLs will not be accepted by the Fort Hood Biotreatment Facility to undergo processing. Additionally, if one or more of the metals COCs are equal to or greater than their Tier I Residential Soil critical PCL and one of those metal COC are determined to be hazardous waste (e.g., EPA Method 1311), that waste stream will also be rejected. All rejected waste streams will be redirected to a permitted landfill that can accept the waste (i.e., not the Fort Hood Landfill).

A waste stream that has no PCB detection (i.e., < 1.0mg/kg), TPH and/or Benzene results equal to or greater than the Tier I Residential Soil critical PCL, and one or more of the metal COCs that are equal to or greater than the critical PCLs but not hazardous, can be accepted by the Fort

Hood Biotreatment Facility to reduce the TPH and/or Benzene concentrations to levels that are acceptable by the Fort Hood Landfill. Fort Hood Landfill can accept COC concentrations that do not exceed the concentrations listed in Table 1 of §335.521(a)(1) and soils contaminated with POLs. TPH ranges of less than 600 mg/kg can be accepted by the Fort Hood Landfill as daily cover. TPH ranges greater than or equal to 600 mg/kg but less than 1,500 mg/kg can be accepted into the special waste trench at the Fort Hood Landfill. TPH ranges of greater than or equal to 1,500 mg/kg cannot be accepted by the Fort Hood Landfill.

Waste streams that have all PCB and metal COCs less than the Tier I Residential Soil critical PCLs, but the TPH and/or Benzene COC are equal to or greater than the Tier I Residential Soil critical PCL, can be accepted by the Fort Hood Biotreatment Facility to reduce the TPH and Benzene concentrations to levels below the Tier I Residential Soil critical PCLs. Once the TPH and Benzene concentrations have been reduced below the critical PCL by the Fort Hood Biotreatment Facility, the waste material is acceptable for beneficial reuse outside the west, north, and main cantonments of Fort Hood and outside areas containing endangered species. Material will be reused for general fill purposes to include but not limited to grading and drainage improvements.

The sampling, analysis, and monitoring described below explains the procedures taken by the Fort Hood Biotreatment Facility after the waste streams have been accepted by the facility and are to be processed. Figure III.2 provides a graphical representation of the information presented above in Section 6.3 and in Sections 6.3.1 through 6.3.3.

6.3.1 Initial Sampling and Analysis

~~For all waste material except Spill Cleanup material~~Any accepted waste streams that have any metal COCs exceeding the Tier I Residential Soil critical PCL will remain segregated from one another and not combined during the biotreatment process. However, waste streams that have no metal COCs exceeding the Tier I Residential Soil critical PCL, may be combined with one another to facilitate the biotreatment process. If waste streams are combined, initial measurements of the waste material will take place either shortly after

windrow placement or at the Staging Area after mixing to promote volatilization has occurred. The intent of this sampling and analysis is to establish pre-processing conditions. Six grab samples will produce one composite sample that will be analyzed for an estimated volume of waste between approximately 75 and 100 cubic yards.

However, this volume may be smaller depending on the incoming waste rate and space availability. The composite sample will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene (EPA Method SW 846/8021B)

~~For Spill Cleanup waste material, characterization samples of the material will take place at the Staging Area after mixing to promote volatilization has occurred. The intent of this sampling and analysis is to determine whether the Spill Cleanup waste material can be processed at the Fort Hood Biotreatment Facility and to establish pre-processing conditions. Fort Hood Biotreatment Facility does not have the ability to reduce lead contamination concentrations. Therefore, for any Tier I Residential Soil Levels lead exceedances, samples will be analyzed in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility. Six grab samples will produce one composite sample that will be analyzed for the following.~~

- ~~• TPH (TCEQ Method 1005)~~
- ~~• RCRA Total Metals for Lead (EPA Method 6010B)~~
- ~~• Benzene (EPA Method SW 846/8021B)~~

Composite samples will consist of grab samples taken from the interior core of the stockpile, at an equally spaced distance along the base of the stockpile, and at an accessible height off the ground.

For any waste streams that are not combined, the analytical results of the incoming waste stream will serve as the pre-processed conditions of that waste.

6.3.2 Waste Processing Monitoring

When waste material is in the Windrow Area and undergoing biotreatment (i.e., after admixture addition), no sampling and analysis will be required. However, temperature and moisture content will be monitored to ensure ideal conditions are in-place for biotreatment to occur.

6.3.2.1 *Moisture Monitoring*

Using a calibrated moisture probe, the moisture content will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each moisture reading will be recorded, in which the average of all ten readings will serve as the overall moisture content of the windrow. If the moisture content is below 40%, additional water will be added to restore moisture conditions to approximately 60%. Dates when water was added to the windrow will be recorded.

6.3.2.2 *Temperature Monitoring*

Using a calibrated temperature probe, the temperature will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each temperature reading will be recorded, in which the average of all ten readings will serve as the overall temperature of the windrow. If the overall temperature is below the optimal range of 110°F to 140°F, admixture and/or moisture addition is required to increase the microbial populations. If temperatures rise above 140°F, the windrow requires mixing to lower the temperature. Any modifications to the windrow will be recorded with a description of the changes made and the date it was done.

6.3.3 Post-Processing Sampling and Analysis

At the completion of Phase III Batch Curing and Maturation, as described in Section 2.2 of Part III, a sampling of the processed material will be taken. The intent of this sampling and analysis is to determine whether the TPH and Benzene levels in the processed waste have been reduced below the 0.5-acre Tier I Residential Soil

levelscritical PCLs. Six grab samples will produce one composite sample that will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene ((EPA Method SW 846/8021B)

Each grab sample will be taken from within the core of windrow and equally spaced along the entire length of the windrow. If results indicate that the levels for all COCs are below Tier 1 Residential Soil critical PCLs, the material is ready for use in areas outside the west, north, and main cantonments of Fort Hood (but outside the areas containing endangered species) for reuse as general fill to include but not limited to grading and drainage improvements. Processed material that does not meet the 0.5-acre Tier I Residential Soil critical PCLs will be disposed of at a permitted landfill. Analytical results from waste streams that have remain segregated (i.e., not mixed with other waste streams) for all COCs except TPH and Benzene will be carried forward for waste classification purposes (e.g., if lead results indicate 15 mg/kg prior to undergoing the biotreatment process, the work will still report 15 mg/kg for lead).

6.3.4 Effluent Sampling and Analysis

All surface water will either be allowed to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Benzene, PCBs, TPH, fats, oils, and grease, and pH. Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

7.0 FACILITY-GENERATED WASTES

30 TAC §330.205

Wastes generated at the facility will be limited to (1) liquid waste resulting from stormwater and washing of the facility and operating equipment; and/or (2) material that exceeds the Tier 1 Residential Soil ~~Levels-critical PCLs~~ as outline in Section 2.2 of Part III. For liquid wastes that will be removed prior to evaporation taking place, wastewater will be discharged to an off-site closed-loop water recirculation system located north of the facility. The Fort Hood Biotreatment Facility will be required to obtain a discharge permit under the Texas Pollutant Discharge Elimination System (TPDES). The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system does not discharge to the waters of the state. Wastes that cannot be processed will be hauled off-site to an appropriate solid waste facility. It is anticipated all non-liquid solid waste generated by the facility will be redirected to the Fort Hood Landfill (MSW Permit No. 1866). The Fort Hood Landfill can accept MSW and special waste ~~(e.g., POL contaminated soils with less than 1500 ppm TPH)~~. The operation of the Fort Hood Biotreatment Facility will not produce sludges, as defined in 30 TAC §330.3(143).

9.0 STORAGE REQUIREMENTS

30 TAC §330.209

All ~~solid waste~~special waste will be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and will be contained or bundled so as not to result in litter.

An on-site storage area (i.e., concrete bins) for source-separated admixtures will be provided that is separate from the Staging or Windrow Areas. Control of odors, vectors, and windblown waste from the storage area will be maintained.

**Table 11-1
Operating Record**

| Records To Be Maintained | Rule Citation |
|---|-----------------------|
| 1. Logs a. Access Control Inspection Maintenance Log b. Incoming Waste Inspection Log c. Dust Nuisance Control Log d. Fire Extinguisher Maintenance Log | 30 TAC §330.223 |
| 2. All location-restriction demonstrations | 30 TAC §330.219(b)(1) |
| 3. Inspection Records and Training Procedures | 30 TAC §330.219(b)(2) |
| 4. Closure Plans and any monitoring, test, or analytical data relating to closure requirements | 30 TAC §330.219(b)(3) |
| 5. Copies of all correspondence and responses relating to the operations of the facility, modifications to the registration, approvals, and other matters pertaining to technical assistance. | 30 TAC §330.219(b)(5) |
| 6. All documents, manifests, shipping documents, trip tickets, DA Form 3161, etc. | 30 TAC §330.219(b)(6) |
| 7. Any other documents as specified by the approval registration or by the TCEQ. | 30 TAC §330.219(b)(7) |
| 8. Records on a monthly basis to document the amount of waste stream accepted and the amount diverted from landfill disposal (i.e. treated to exceed Tier I Residential <u>Soil critical</u> PCLs) to meet a beneficial use. FHDPW-ED will submit an annual report to the executive director by March 1 st summarizing the material recovery activities and the percentage of received wastes that were recovered during the past calendar year. | 30 TAC §330.219(b)(9) |
| 9. All documents and forms associated with the Fire Protection Plan (see Section 12.0). | 30 TAC §330.221 |
| 10. Records of any alternative operating hours, if applicable | 30 TAC §330.229(b) |

No cost estimate and financial assurance information is required because the Fort Hood Biotreatment Facility is exempt as outlined in 30 TAC §37.8001 [30 TAC §330.219(b)(4)]. Records retention associated with sludge use, disposal, and transportation is not applicable (30 TAC §330.219(b)(8)). The signatories to any reports submitted to the TCEQ will be in compliance with the conditions listed in §330.219(c). All information contained in the operating record shall be furnished upon request to the TCEQ and will be made available for inspection at any time, as required in §330.219(e). The owner will retain all information contained within the operating record and any required plans for the life of the facility, in accordance with §330.219(f).

14.0 UNLOADING OF WASTE

30 TAC §330.225

The unloading of ~~solid waste~~special waste will be confined to the area identified as the Staging Area, as shown on Figure III.1. The Staging Area will be limited to an area as small as practicable in order to maintain site access and minimize dust generation.

The unloading of waste in unauthorized areas is prohibited. Waste that is deposited in unauthorized locations will be removed immediately and properly placed back in the Staging Area. The Site Supervisor or authorized representative will be present during regular operating hours to direct the unloading of waste in appropriate areas. If needed, the Site Supervisor will assist in the unloading of waste. Appropriate signage will be utilized to identify authorized areas of disposal. The Fort Hood Biotreatment Facility is not required to accept any ~~solid waste~~special waste that is determined to cause or may cause problems in maintaining full and continuous compliance with this registration.

Not all waste streams are accepted at the Fort Hood Biotreatment Facility. The Waste Acceptance and Analysis, Section 6.0, describes the wastes that can be collected at the Fort Hood Biotreatment Facility. The Site Supervisor will observe incoming waste, and if based upon observation, has the authority and responsibility to reject unauthorized waste loads. Any prohibited waste not discovered until after unloading will be placed back in the offending transporter's vehicle, if possible, otherwise returned to the transporter or generator of the waste. The driver may be advised where the waste may be managed or disposed of legally, and will be responsible for the proper handling of the rejected waste.

In the event the unauthorized waste is not discovered until after the delivery vehicle is gone, the waste will be segregated and controlled as necessary. The Site Supervisor will make an effort to identify the entity that deposited the prohibited waste and have them return to the facility and properly dispose of the waste. In the event that identification is not possible, the Site Supervisor will notify the TCEQ and seek guidance on how to remove and dispose of the waste as soon as practical. A record of unauthorized material removal will be maintained in the operating record.

18.0 CONTROL OF WINDBLOWN MATERIAL AND LITTER

30 TAC §330.233

It is not anticipated that windblown material and litter will be an issue at the Fort Hood Biotreatment Facility. However, certain measures will be in place in case such issues arise. Windblown material and litter will be controlled by following proper unloading procedures.

Onsite stockpiles will be controlled to eliminate windblown soil or dust by applying water as necessary to dampen the material but not create a saturated material that that can lead to runoff.

Personnel will police the facility including fences, access roads, and the entrance gate, every operating day to pick up and return windblown material and litter to the facility and perform such other litter control measures, as necessary. The entrance signs will advise that all vehicles hauling waste must be covered.

21.0 OVERLOADING AND BREAKDOWN

30 TAC §330.241

The design capacity of the ~~solid waste~~special waste facility will not be exceeded during operation. The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harborage of other vectors. If such accumulations occur, additional ~~solid waste~~special waste will not be received until the adverse conditions are abated. When the facility accepts grit-chamber sediment wastes that have been adequately dried, the material will not be stored at the Staging Area for more than 72 hours. Within 72 hours, the material will be relocated from the Staging Area and placed in a windrow in the Windrow Area.

The facility is sized to accept approximately ~~7-8~~ cubic yards per day with an estimated maximum temporary storage of 250 cubic yards of waste material. Once this storage volume has been received, no additional material will be accepted until the material is transferred from the Staging Area to the Windrow Area. The anticipated amounts of waste to be accepted during normal operations will be significantly less than this amount (see Section 6.0). Front-end loaders and other equipment described in Section 4.0 will be used to move waste and admixtures within the facility. If a front-end loader does break down, waste will either be stored until it is repaired or until the remaining loader catches up with material removal or the facility will obtain other equipment.

If a significant work stoppage should occur, the owner or operator will restrict additional ~~solid waste~~special waste receipt. If the work stoppage is anticipated to last long enough to create objectionable odors, insect breeding, or harborage of vectors, steps will be taken to remove the accumulated ~~solid waste~~special waste from the facility to an approved backup storage, processing, or disposal facility within 72 hours.

22.0 SANITATION

30 TAC §330.243

The Fort Hood Biotreatment Facility will process ~~solid waste~~special waste that is POL spill clean-up material and dry sediment from grit-chambers, oil-water separators, and stormwater structures. Typically, once the ~~solid waste~~special waste is placed in a windrow, the biodegradation process of the waste will take approximately 3 to 5 months. As such, not all waste surfaces that come in contact with waste can be washed down on a weekly basis.

However, the areas around the windrows, concrete bins, and Staging Area will be swept daily.

~~Once~~ Once the windrow is ready for removal, as described in Section 2.2 of Part III, the surface area which the windrow used to occupy will be washed down.

The amount of water used to wash down the area of the facility will be kept to a minimum to prevent excessive waste water generation. All water used as part of the sanitation process will drain to the sump area within the facility. The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. Other discharges from the facility will be managed in accordance with the TPDES TXR050000 Multi-Sector General Permit. In order to mitigate any potential odor issues during facility operation, an odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation. An environmentally friendly surfactant may be used to control fly and mosquito populations.

ATTACHMENT B

**FORT HOOD TYPE V MSW REGISTRATION APPLICATION
REPLACEMENT PAGES**

(CLEAN COPY)

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

**TYPE V MSW
REGISTRATION APPLICATION**

PART I-IV

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

November 2014

Executive Summary

Fort Hood is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

In February 2007, the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) submitted an initial application for a biotreatment facility to the Texas Commission on Environmental Quality (TCEQ) to meet the requirements of 30 Texas Administrative Code (TAC) §332 (Composting rules). After a series of subsequent submittals, the TCEQ determined that the composting rules were not applicable and recommended that FHDPW-ED submit a Type V Municipal Solid Waste (MSW) application in accordance with 30 TAC §305 (Consolidated Permits) and §330 Municipal Solid Waste (MSW) rules. FHDPW-ED submitted its Type V application in December 2011 which the TCEQ subsequently rejected, stating in a letter dated March 21, 2012 that the submission was significantly deficient in meeting the Consolidated Permits and MSW rules.

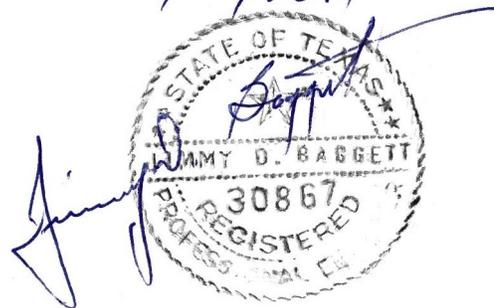
III Corps, the Fort Hood headquarters command group, and the FHDPW recognize the benefits of diverting waste materials from the permitted Fort Hood Type I MSW landfill and are pursuing registration as a Type V Biotreatment Facility in accordance with 30 TAC §330.9(f). The purpose of the facility is to properly manage two types of waste sources: (1) soils and spill clean up material contaminated with petroleum, oils, and lubricants and (2) dry sediments from Fort Hood grit-chambers, oil-water separators, and stormwater structures. III Corps and FHDPW-ED will own and operate the registered facility which will be known as the Fort Hood Biotreatment Facility.

The following presents the information requested in Subchapter B of 30 TAC 330. The application is divided into four parts as defined in the regulations.

- Part I - General Information
- Part II - Existing Conditions
- Part III - Facility Design Information
- Part IV - Site Operating Plan

FHDPW-ED will process up to 3,000 cubic yards per year of waste and intends to reuse 100% of the processed waste material. The reusable material will meet levels that are below the Tier I Residential Soil protective concentration limits. FHDPW-ED proposes to process this material five days per week, Monday through Friday, between 7:30 a.m. and 4:15 p.m.

CORPS OF ENGINEERS
11/20/2014



Facility Name:
Permittee/Registrant Name:
MSW Authorization #:
Initial Submittal Date:
Revision Date:



Texas Commission on Environmental Quality

Part I Form

New Permit/Registration and Amendment Applications for an MSW Facility

1. Reason for Submittal

- Initial Submittal Notice of Deficiency (NOD) Response

2. Authorization Type

- Permit Registration

3. Application Type

- New Major Amendment
 Major Amendment (Limited Scope)

4. Application Fees

- Pay by Check Online Payment

If paid online, e-Pay Confirmation Number:

5. Application URL

Is the application submitted for Type I Arid Exempt (AE) and/or Type IV AE facility?

- Yes No

If the answer is "No", provide the URL address of a publicly accessible internet web site where the application and all revisions to that application will be posted.

http://

6. Application Publishing

Party Responsible for Publishing Notice:

- Applicant Agent in Service Consultant

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

| | |
|--|-----------------------------|
| 7. Alternative Language Notice | |
| Is an alternative language notice required for this application? (For determination refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste) | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |

| | | | |
|--|---------|--------|-----------|
| 8. Public Place Location of Application | | | |
| Name of the Public Place: | | | |
| Physical Address: | | | |
| City: | County: | State: | Zip Code: |
| (Area code) Telephone Number: | | | |

| | | |
|---|-----------------------------|---|
| 9. Consolidated Permit Processing | | |
| Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33? | | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Not Applicable |
| If "Yes", state the other TCEQ program authorizations requested: | | |

| | |
|--|-----------------------------|
| 10. Confidential Documents | |
| Does the application contain confidential documents? | |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| If "Yes", cross-reference the confidential documents throughout the application and submit as a separate attachment in a binder clearly marked "CONFIDENTIAL." | |

| 11. Permits and/or Construction Approvals | | | |
|--|--------------------------|--------------------------|--------------------------|
| Select all that apply | Received | Pending | Not Applicable |
| Hazardous Waste Management Program under the Texas Solid Waste Disposal Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Underground Injection Control Program under the Texas Injection Well Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| National Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under Texas Water Code, Chapter 26 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA). Nonattainment Program under the FCAA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

| Select all that apply | Received | Pending | Not Applicable |
|--|--------------------------|--------------------------|--------------------------|
| Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Dredge or Fill Permits under the CWA | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Licenses under the Texas Radiation Control Act | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other Environmental Permits | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12. General Facility Information

Facility Name:
 MSW Authorization No. (if available):
 Regulated Entity Reference No. (if issued)*: RN
 Physical or Street Address (if available):
 City: County: State: Zip Code:
 (Area Code) Telephone Number:
 Latitude (Degrees, Minutes Seconds):
 Longitude (Degrees, Minutes Seconds):
 Benchmark Elevation (above mean sea level): ft.

Provide a description of the location of the facility with respect to known or easily identifiable landmarks:
 Detail access routes from the nearest United States or state highway to the facility:

*If this number has not been issued for the facility, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Facility as the Regulated Entity.

13. Facility Type(s)

Type I Type IV Type V
 Type I AE Type IV AE Type VI

14. Activities Conducted at the Facility

Storage Processing Disposal

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Operator Name¹:

Customer Reference No. (if issued)*:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E! mail Address:

TX SOS Filing Number:

¹If the Operator is the same as Site Operator/Permittee type "Same as "Site Operator (Permittee/Registrant)".

*If the Operator does not have this number, complete a TCEQ Core Data Form (TCEQ-10400) and submit it with this application. List the Operator as the customer.

Consultant Name (if applicable):

Texas Board of Professional Engineers Firm Registration Number:

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

Agent in Service Name (required only for out-of-state):

Mailing Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address:

18. Facility Supervisor's License

Select the Type of License that the Solid Waste Facility Supervisor, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, will obtain prior to commencing facility operations.

Class A Class B

19. Ownership Status of the Facility

- | | | |
|--|--|---|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Limited Partnership | <input type="checkbox"/> Federal Government |
| <input type="checkbox"/> Individual | <input type="checkbox"/> City Government | <input type="checkbox"/> Other Government |
| <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> County Government | <input type="checkbox"/> Military |
| <input type="checkbox"/> General Partnership | <input type="checkbox"/> State Government | <input type="checkbox"/> Other (Specify): |

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Does the Site Operator (Permittee/Registrant) own all the facility units and all the facility property?

Yes No

If "No", provide the information requested below for any additional ownership.

Owner Name:

Street or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E! mail Address (optional):

20. Other Governmental Entities Information

Texas Department of Transportation District:

District Engineer's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

The Local Governmental Authority Responsible for Road Maintenance (if applicable):

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

City Mayor Information

City Mayor's Name:

Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

City Health Authority:

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

County Judge Information

County Judge's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

County Health Authority:

Contact Person's Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

State Representative Information

District Number:

State Representative's Name:

District Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

State Senator Information

District Number:

State Senator's Name:

District Office Address:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Council of Government (COG) Name:

COG Representative's Name:

COG Representative's Title:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

River Basin Authority Name:

Contact Person's Name:

Watershed Sub-Basin Name:

Street Address or P.O. Box:

City: County: State: Zip Code:

(Area Code) Telephone Number:

E-Mail Address (optional):

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

Yes No

U.S. Army Corps of Engineers

The facility is located in the following District of the U.S. Army Corps of Engineers:

Albuquerque, NM Galveston, TX
 Ft. Worth, TX Tulsa, OK

Local Government Jurisdiction

Within City Limits of:

Within Extraterritorial Jurisdiction of:

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing or disposal of municipal or industrial solid waste?

Yes No

(If "Yes", provide a copy of the ordinance or order as an attachment):

Facility Name: Fort Hood Biotreatment Facility
MSW Authorization #:

Initial Submittal Date: 02/27/2014
Revision Date: 11/20/2014

Signature Page

I, Brian L. Dosa, Director, Fort Hood Public Works
(Site Operator (Permittee/Registrant)'s Authorized Signatory) (Title)

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

Signature: *Brian L. Dosa* Date: 24 Nov 2014

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said *Emely R. Silva*

On this 24th day of November,

My commission expires on the 6 day of November, 2016

Notary Public in and for Bell County County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)



Facility Name:
MSW Authorization #:

Initial Submittal Date:
Revision Date:

Part I Attachments

(See Instructions for P.E. seal requirements.)

Required Attachments

Attachment No.

Supplementary Technical Report

Property Legal Description

Property Metes and Bounds Description

Facility Legal Description

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Evidence of Competency

Additional Attachments as Applicable- Select all those apply and add as necessary

TCEQ Core Data Form(s)

Signatory Authority Delegation

Fee Payment Receipt

Confidential Documents

Waste Storage, Processing and Disposal Ordinances

Final Plat Record of Property

Certificate of Fact (Certificate of Incorporation)

Assumed Name Certificate

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

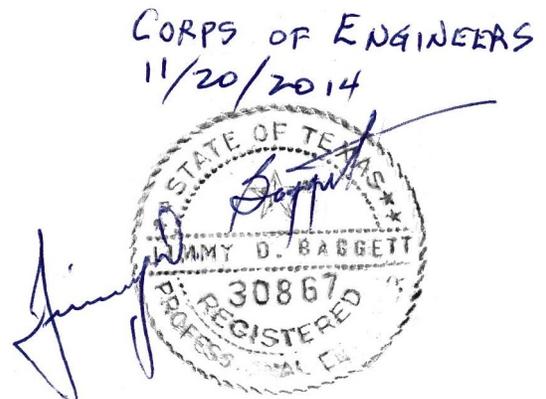
**TYPE V MSW
REGISTRATION APPLICATION**

PART I

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

November 2014

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Part I
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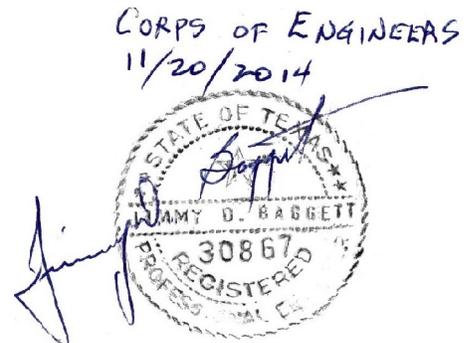
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1.0 SUPPLEMENTARY TECHNICAL REPORT

30 TAC §305.45(a)(8)

1.1 General Description

Fort Hood, named after Confederate General John Bell Hood, is a 340 square mile U.S. Department of Army installation that occupies parts of Bell and Coryell Counties. Fort Hood is located in the hill country of Texas, approximately 60 miles north of Austin and 50 miles southwest of Waco. Fort Hood is a training facility which also provides a high quality of life for a diverse community of over 71,000 soldiers and family members living on post. Average temperature is 94°F in the summer and 49°F in the winter; annual precipitation is 30-35 inches.

This application presents the information the Texas Commission on Environmental Quality (TCEQ) requires for the Fort Hood Directorate of Public Works-Environmental Division (FHDPW-ED) to operate a registered Municipal Solid Waste Processing Facility (MSW Type V) pursuant to 30 Texas Administrative Code (TAC) §330.9(f). This section of the code references transfer stations, however this facility will not operate as a transfer station as defined in 30 TAC §330.3(157) but will meet the requirements of 30 TAC §330.9(f)(1) and (2).

The proposed Fort Hood Biotreatment Facility is located at Building 1955, 37th Street and North Avenue, Coryell County, Texas 76544. Figure I.1 shows the general location of the facility. The III Corps and FHDPW-ED will own and operate the facility which will process waste material consisting of petroleum, oil, and lubricants (POL) spill cleanup material and dry sediments from grit-chambers, oil-water separators, and stormwater structures originating from within the Fort Hood installation. Processed material whose contaminant concentrations are reduced below the 0.5-acre Tier I Residential Soil critical Protective Concentration Levels (PCLs) (see Attachment A in Part III) will be transported to areas outside the main cantonment (but not in areas impacting endangered species) for reuse as general fill. Processed material with contaminant concentrations equal to or above the 0.5-acre Tier I Residential Soil critical PCLs will be disposed at the Fort Hood Landfill when proper levels are achieved in accordance with MSW Permit No. 1866. Figure I.1 shows the location of the landfill. Figure I.4 shows the end use locations for the treated soil that meets the 0.5-acre Tier I Residential Soil levels.

This registration application is being submitted under the provisions of 30 §TAC 330.9(f) such that a minimum of 10% of the incoming waste material will be recovered for reuse.

Additionally, the remaining non-reusable material will be delivered to a landfill within 50 miles of the facility (unless specifically granted a variance).

1.2 Characteristics of Material

Material will consist of special waste as defined in 30 TAC §330.3(148)(N). FHDPW-ED proposes to process the waste material with an admixture of wood chips, manure, fertilizer (if needed) and water. The waste material consists of soil contaminated with petroleum, oil, and lubricants (POLs), POL spill clean-up material (e.g., POL-contaminated natural fiber absorbents, etc.) and dry sediment from grit-chambers, oil-water separators and stormwater structures originating from within the Fort Hood installation. Processed material to be reused will meet the definition of recyclable material (i.e., material diverted from a non-hazardous waste stream for purposes of reuse) found in 30 TAC §330.3(122) and will not be considered solid waste.

FHDPW-ED will receive up to 3,000 cubic yards (CY) of waste material per year for processing. A minimum of 10% (300 CY/year) of the material brought to the site will be recovered for beneficial reuse.

FHDPW-ED will keep records of the total number of loads and estimated cubic yardage accepted at the facility and the number of loads reused or disposed. The quantity of material will be recorded and converted to a weight equivalent.

1.3 Other Information

This registration application has been prepared to demonstrate compliance with the requirements established in 30 TAC §330.57 through §330.65 (Subchapter B). The application is formatted to include Parts I through IV as specified in the Municipal Solid Waste Management Regulations.

Attachment B
Signatory Certification

Fort Hood DPW-ED
Fort Hood Biotreatment Facility
Part I-Type V Registration

USACE-Fort Worth
Tech-Revision #1, November 2014

Signatory Certification

I, Brian Dosa, certify under penalty of law, have the authority to sign this registration application in accordance with 30 Texas Administrative Code (TAC) §305.44(a)(3).

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



24 Nov 2014

Brian Dosa, Director, Fort Hood Directorate of Public Works

Date



**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

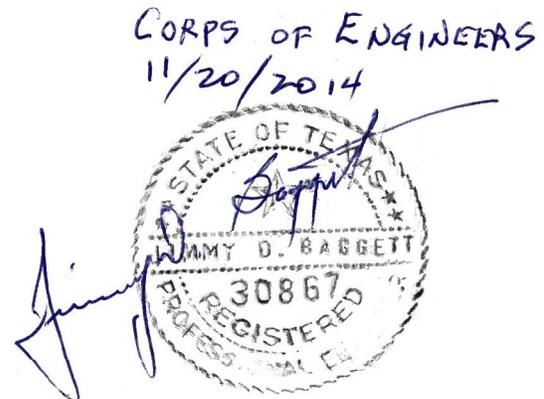
**TYPE V MSW
REGISTRATION APPLICATION**

PART II

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

November 2014

**Fort Hood Biotreatment Facility
Part II
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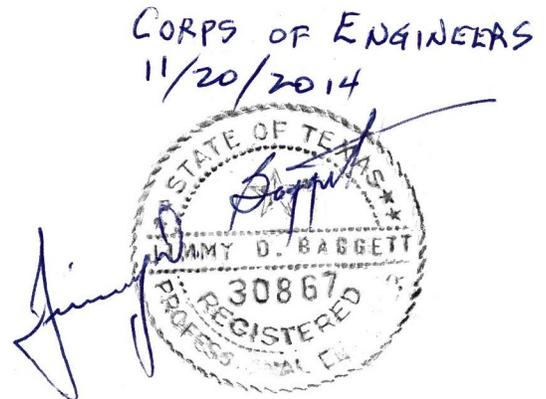
- Figure II.1 – USGS Quadrangle Map**
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- Attachment C-Historical Property Review**
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2.0 WASTE ACCEPTANCE PLAN

30 TAC §330.61(b)

2.1 General

The Fort Hood Biotreatment Facility will receive POL spill clean-up material and dry sediment from Fort Hood grit-chambers, oil-water separators, and stormwater structures. The material will be exposed to an admixture of common vegetative debris, horse manure, and water to promote biodegradation. Processed material with contaminant levels less than the Tier I Residential Soil Critical Protective Concentration Levels (PCLs) will be reused. See Attachment A of Part III for more information. Processed material with contaminant levels equal to or exceeding the Tier I Residential Soil Critical PCLs will be disposed of off-site at a permitted off-site location.

2.2 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- POL contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will

also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility. Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood. Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of special waste as defined in 30 TAC §330.3(148)(N). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil Critical PCLs (see Attachment A in Part III) for the following Chemicals of Concern (COCs): Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbons (TPH), Benzene, and Polychlorinated Biphenyls (PCBs). The processed waste that is below the critical PCL from all identified COCs will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered special waste. However, processed material may still be considered special waste when TPH and/or Benzene concentrations are not reduced below the critical PCLs and/or the metal COCs concentrations of the accepted special waste are equal to or above the critical PCL but below hazardous levels. Table 2-1 provides a summary of the sources of waste and each of their COC's.

**Table 2-1
Waste Sources**

| Waste Sources | COC's |
|---|---|
| Dried Oil-Water Separator Sediments | Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs) |
| Dried Grit Chamber Sediments | Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs) |
| POL Impacted Dried Sediments from Storm Water structures or POL Contaminated Soils from Petroleum Storage Tanks or Leaking Petroleum Storage Tank sites | Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs) |
| POL Spill Clean Up Material and Soil | Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbon (TPH), Benzene, and Polychlorinated Biphenyls (PCBs) |

The facility will not be able to process all of the incoming waste material. No regulated hazardous waste will be accepted at the facility for processing. If PCB concentrations exceed the critical PCLs, that waste stream will also be rejected. The Fort Hood Biotreatment Facility can only reduce the concentration of TPH and Benzene in the accepted waste stream.

2.3 Quantity of Waste

The maximum waste received at the facility will not exceed 3,000 cubic yards per year. On a per daily basis, the facility will receive approximately 8 cubic yards per day. However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accommodate the incoming waste stream on an as needed basis as long as adequate space is available and the maximum quantity of 3,000 cubic yards is not exceeded. The Fort Hood Biotreatment Facility will operate five days per week, Monday through Friday, 7:30 a.m. to 4:15 p.m. and will receive a maximum of 3,000 cubic yards per year.

3.0 QUALIFICATION FOR REGISTRATION

30 TAC §330.61(b)(2)

The Fort Hood Biotreatment Facility will be a Type V municipal solid waste facility that will receive and process up to 3,000 cubic yards per year of special waste. However, this facility will not operate as a transfer station as defined in 30 TAC §330.3(157), but will meet the registration requirements of 30 TAC §330.9(f)(1) and (2). The facility is qualified to be registered in accordance with provisions 30 TAC §330.9(f)(1) by recovering a minimum of 10% by weight or weight equivalent for reuse. The facility is qualified to be registered in accordance with provisions in 30 TAC §330.9(f)(2) by disposing of municipal solid waste unsuccessfully processed at a permitted landfill no more than 50 miles from the facility, as shown on Figure I.1 of Part I.

4.0 GENERAL LOCATION MAPS

30 TAC §330.61(c)

The following information is presented on figures submitted as part of this registration application.

- The prevailing wind direction with a wind rose is presented on Figure II.1.
- Known water wells within 500 feet of the registration boundary are shown on Figure II.8.
- Figure II.4 shows the locations of all structures and inhabitable buildings within 500 feet of the proposed facility, and include 8 structures, of which none are residences Two buildings that have occupancy during the typical work day are identified in Figure II.4 as well.
- Schools (2), licensed day-care facilities (2), churches (2), hospitals (0), cemeteries (0), ponds and lakes, and residential, commercial and recreational areas within one mile of the facility are shown on Figure II.1.
- Location of roads and surface type within 1 mile that will be used for facility access are shown on Figure II.9.

These include:

- 37th Street (asphalt)
- Western parallel access road to 37th Street (concrete)
- Central parallel access road to 37th Street (unpaved tank trail)
- North Avenue (asphalt)
- Murphy Road (concrete-asphalt)
- South Range Road (asphalt)
- The latitude and longitude of two corners of the facility are shown on Figure I.2.
- Area streams are shown on Figures II.3 and II.4.
- There are three airports within 6 miles of the facility as shown on Figure I.1 of Part I.
- The Fort Hood installation and Fort Hood Biotreatment Facility registration boundaries are shown on various maps.
- Drainage, pipeline, and utility easements within and adjacent to the facility are shown on Figure II.10.

- Facility access control features are shown on Figure II.2.

The Fort Hood Historical Old Chapel is a historical site with exceptional aesthetic quality adjacent to the facility. The chapel's location is shown on Figure II.1.

5.0 FACILITY LAYOUT MAPS

30 TAC §330.61(d)

A Facility Layout Map is provided as Figure II.2. This map provides information on:

- The outline of the material process and storage areas.
- Interior roadways
- Locations of buildings
- Fencing
- Site entrance from public access roads

Ground water monitoring wells do not exist and are not proposed for the Fort Hood Biotreatment Facility.

6.0 GENERAL TOPOGRAPHIC MAPS

30 TAC §330.61(e)

A General Topographic Map is presented as Figure II.3. Additionally, a USGS quadrangle map has been used as the basis for Figure II.1. This map is at a scale of one inch equals 2,000 feet.

7.0 AERIAL PHOTOGRAPH

30 TAC §330.61(f)

An aerial photograph of the required size and scale is provided as Figure II.5. The site boundaries and an area within a one-mile radius are shown on the figure.

8.0 LAND-USE MAP

30 TAC §330.61(g); §330.543

A Land-Use Map is presented on Figure II.6 and Figure II.1. Figure II.6 shows the existing land uses within one mile of the facility. The land usage presented on this map was obtained from the Fort Hood Directorate of Public Works and is believed to be accurate as of the date of its preparation (2013). This land use information was checked by aerial map investigation and revisions made where applicable based on current use.

All of the land within one mile of the site is located within the Fort Hood military installation. Access roads serving the facility are shown. The primary access route for traffic using the facility will be 37th Street via North Avenue and South Range Road. The most recent land use around the facility boundary consists of vehicle maintenance facility and warehouses.

No solid waste unloading, storage, and processing will occur within an easement or right-of-way. All pipeline and utility easements will be marked with a post that extends at least 6 feet above the ground, and spaced no greater than 300 feet apart, in accordance with 30 TAC §330.543(a). The buffer distances at this facility will be predominantly less than the prescribed off-set distance of 50 feet between solid waste storage and processing areas and the facility boundary. Figure II.11 shows the buffer distance that vary from approximately 25 ft to 70 ft. However, in accordance with 30 TAC §330.543(b)(3), the variance of the buffer zone distance does not reduce the performance goal of visual screening, odor, drainage and sediment control at the facility. Through field verification and review of the proposed registration application, the Fort Hood Fire Department inspector determined that adequate access will still be provided for emergency response, maintenance, and monitoring, with a buffer distance that is less than 50 feet. Figures II.10 and 11 contain the layout of utilities, drainage, and buffer separation distances at the facility, respectively.

9.0 IMPACT ON SURROUNDING AREA

30 TAC §330.61(h)

The proposed Fort Hood Biotreatment Facility will not have an adverse impact on human health or the environment. There is no existing zoning that would prohibit the facility, and no approval or special permit is required from any local government. Fort Hood Directorate of Public Works has already granted authority for the development of the facility, which reflects the current conditions at the site.

9.1 Potential Impact to the Human or Natural Environment

Adverse impacts to the environment are not anticipated from this facility. All operations at the Fort Hood Biotreatment Facility will occur within the fenced perimeter. The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. A 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed to capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the vehicle wash facility waste water. Below the concrete surface is ballast material consisting of sand and/or rock of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. Figures III.4 through III.8 in Part III display the components of the Fort Hood Biotreatment Facility.

Noise generated by the periodic operation of facility equipment will be minimal and will include front-end loaders and windrow turners, as well as trucks used to deliver material to the facility.

The facility is located within an area of the Fort Hood installation that contains vehicle maintenance facilities and warehouses. The operating hours of the Fort Hood Biotreatment Facility will be in general conformance with the operating hours of adjacent area operations.

9.2 Compatibility with the Surrounding Area

The Fort Hood Biotreatment Facility is located on the northern perimeter of the main cantonment of Fort Hood. The location of the facility is suitable with adjacent operations which are part of the maintenance and warehouse area of the Fort Hood main cantonment. The facility is located near North Avenue and Old Ironsides Avenue, which experiences constant vehicular traffic, to include oversized military vehicles. In addition, East Range Road lies north of the facility, which serves as a major access route for military vehicles participating in activities at the military ranges located north of the facility.

Development within one mile of the facility is infrequent. The majority of the area to the south is already developed with a variety of services in place. These services include two museums, one lodging establishment, one post office, two banks, two dental clinics, six community services buildings, two swimming pool facilities, one theater, three fitness centers, two recreation centers, and three restaurants.

Residential use includes multifamily and single family subdivisions located to the south and southeast of the facility, respectively. The closest housing unit is approximately 4,100 ft to the south of the Fort Hood Biotreatment Facility. There are approximately 550 residents who live within one-mile of the site.

Two educational facilities within the project vicinity exist within 1-mile from the facility. A satellite campus of St. Mary's University lies approximately 3,800 feet south of the facility, while Meadows Elementary School is situated approximately 4,200 feet to the southeast. The Fort Hood Child Development Center and Meadows Child Development Center lie approximately 4,000 feet southwest and 4,400 feet southeast of the facility, respectively. Approximately 4,200 feet southwest of the facility rests the Historical Old Post Chapel. The Spirit of Fort Hood Chapel is situated approximately 4,800 feet south of the facility.

The Fort Hood Historical Old Post Chapel is a historical site with exceptional aesthetic quality within one-mile of the facility. See Figure II.1 for more information.

The nearest residents cannot see the facility operations due to the presence of existing structures scattered over a minimum of 3,700 feet between the facility and the closest residence.

Additionally, noises associated with the operation of the facility will not be discernible to the occupants of the residence because of the infrequent occurrence and significant separation distance.

Through a physical site investigation and a Texas Water Development Board (TWDB) database search, it has been determined that there are no water wells within the facility boundary.

Additionally, no water wells were found to exist within 500 feet of the facility as shown on Figure II.8. The closest water well to the facility is approximately 8,500 feet to the southwest.

10.0 TRANSPORTATION

30 TAC §330.61(i)

All traffic associated with the Fort Hood Biotreatment Facility will approach and leave the facility on 37th Street. 37th Street is a two-lane, 24-foot wide, asphalt paved road surface without turning lanes with a 30-miles-per-hour speed limit. In between the eastern perimeter of the Fort Hood Biotreatment Facility and 37th Street are two roads that predominantly run parallel to 37th Street between Murphy Avenue and South Range Road. The road directly adjacent to 37th Street is an unpaved tank trail that is approximately 20-foot wide. To the west of the unpaved road is a 20-foot wide one-way (south bound) concrete road. Roads on Fort Hood are typically designed to exceed the Texas Department of Transportation (TxDOT) standards given the heavy vehicular traffic associated with military operations (e.g., infantry fighting vehicles, armored personnel carriers, light armored vehicles, etc.). Two roads consisting of asphalt and/or concrete connect 37th Street and the site access road to the facility. See Figure II.9 for more information.

The vehicular traffic expected on the access road to the facility is approximately 25 vehicles per day. Most site access road traffic is from the adjacent FHDPW-ED satellite office.

At the maximum waste acceptance rate of 3,000 cubic yards per year, the expected volume of traffic associated with the facility is expected to be less than 1 trip per day (1 truck delivery for every 10 cubic yards of soil). The actual numbers of vehicular traffic will vary depending on the amount of space available at the Fort Hood Biotreatment Facility to treat the material and the frequency of spills and cleanups that are occurring at the Fort Hood installation.

No coordination with TxDOT is necessary since all installation roads are managed by Fort Hood Directorate of Public Works. Internal coordination within the Fort Hood Directorate of Public Works confirmed no public roadways (i.e., roads managed by TxDOT) will be utilized to transport waste and processed material to and from the Fort Hood Biotreatment Facility.

11.0 GENERAL GEOLOGY AND SOILS STATEMENT

30 TAC §330.61(j)

The Fort Hood Biotreatment Facility is located in the Walnut Formation (Reference: **USGS Mineral Resources On-line Spatial Data**). This depositional sequence of Phanerozoic, Mesozoic, and Cretaceous-Early age are comprised of clay and limestone. The clay is calcareous while the limestone is chalky, marly, nodular, thick bedded, a few hard beds with sparry calcite, and massive beds of *Texigryphaea* common in the lower part. Shale is comprised of thin beds most common in the upper part. Thickness of the formation ranges between 125 and 175 feet.

Soils at the facility are mapped in the Topsey clay loam associations. Areas around the facility consist of Topsey clay loam and Krum silty clay associations (USDA Natural Resource Conservation Resources, *Web Soil Survey of Coryell County, Texas, Version 8, September 20, 2012*). Part II, Attachment A contains the Web Soil Survey mapping for the Fort Hood Biotreatment Facility and surrounding areas. According to the mapping, the entire facility is in the Topsey clay loam association. Part II, Attachment A also contains summaries of physical and engineering soil properties for the soils mapped in the area of the Fort Hood Biotreatment Facility.

12.0 GROUNDWATER AND SURFACE WATER

30 TAC §330.61(k)

The major aquifer that underlies Fort Hood is the Trinity Aquifer. Parts of both the outcrop and the downdip are deeply buried below Fort Hood. The Trinity Aquifer extends through parts of 55 counties of central Texas. The Glen Rose, Paluxy, Walnut Clay, Comanche Peak, Edwards Group, and Fort Worth Group limestones are the primary stratigraphic units that occur in the Fort Hood area. The Paluxy and Walnut Clay units are exposed on the rolling lowlands above major creeks and the Glen Rose unit is exposed in the benthic along major creeks. The Comanche Peak, Edwards Group, and Fort Worth Group units are exposed on mesas.

The Travis Peak formation, which does not outcrop at the surface in Fort Hood, is the deepest and hydrologically the most important stratigraphic unit in the Fort Hood Region. No major groundwater resources outside the installation are affected by recharge from within Fort Hood, and recharge that occurs within the installation affects only the small, shallow groundwater supplies that remain on the installation.

Potentially sensitive groundwater areas of the Fort Hood region are the outcrop areas of the Paluxy formation and recent alluvial materials within and adjacent to Cowhouse Creek, Henson Creek, and the Leon River, as well as the karst or cave systems found on mesas throughout the installation. (Reference: **October 2011 Fort Hood Integrated Natural Resource Management Plan**, Section 2.1.6.1)

Records from the Texas Water Development Board (TWDB) identified no wells within 500 feet of the registered boundary. However, Figure II.8 shows wells that are currently in TWDB databases within approximately 5 miles of the facility.

Fort Hood is located in the Brazos River Basin. Surface water resources consist of numerous small to moderate sized streams, which generally flow in a southeasterly direction. Fort Hood has approximately 200 miles of named intermittent and perennial streams with numerous additional tributaries of those features. Fort Hood contains more than 200 water impoundments

constituting approximately 692 surface-acres. Most of these are used for flood control, sediment retention, wildlife and livestock water, and fish habitat. Wetlands exist across the installation and range from small emergent wetlands associated with ephemeral streams to large, forested wetland complexes adjacent to perennial channels.

Fort Hood is located directly upstream of two man-made reservoirs: Belton Lake, a sole source water supply for Fort Hood and surrounding communities, and Stillhouse Hollow Lake, a water supply source for several surrounding communities. Both reservoirs function as fish and wildlife habitat and provide flood control and recreation opportunities for the public.

Fort Hood can be divided into portions of six large watersheds and several smaller subwatersheds. The six main watersheds are the Belton Lake watershed, Cowhouse Creek watershed, Lampasas River watershed, Leon River watershed, Nolan Creek watershed, and Owl Creek watershed. These watersheds can be further divided into minor subwatersheds, which include portions of the main stems and tributaries of the major water bodies listed above.

(Reference: **October 2011 Fort Hood Integrated Natural Resource Management Plan**, Section 2.1.6.1.2). The Fort Hood Biotreatment Facility is located in the Nolan Creek watershed.

Upstream portions of the Nolan Creek watershed lie in the southeastern portion of Fort Hood. Most of the headwaters of Nolan Creek originate within the installation and flow in a southeasterly direction into the creek. Eventually, Nolan Creek flows into the Leon River below Belton Lake. The portion of the Nolan Creek watershed that is within Fort Hood contains several tributaries, including North Nolan Creek, South Nolan Creek, Shaw Branch, Hay Branch, and several unnamed tributaries. In addition to training areas, this watershed contains most of the urban areas on Fort Hood.

The Fort Hood Biotreatment Facility will operate under the Texas Pollutant Discharge Elimination System (TPDES) General Permit for storm water discharges associated with industrial activities. A Storm Water Pollution Prevention Plan (SWP3) will be prepared for the facility that will comply with all permit requirements. Drainage within the waste processing

area of the Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. The four other drainage areas of the Fort Hood Biotreatment Facility discharge off-site, but are not impacted by the waste processing operation of the facility. See Figure IIIB.1 in Attachment B of Part III for more information.

13.0 ABANDONED OIL AND WATER WELLS

30 TAC §330.61(l)

There are no abandoned oil or water wells within the facility boundary.

14.0 FLOODPLAINS AND WETLANDS STATEMENT

30 TAC §330.61(m); §330.547; §330.553

The Fort Hood Biotreatment Facility is not located within the 100-year flood plain, as shown on Figure II.7.

A wetlands determination was conducted and it was determined that no wetlands or waters of the state exist within or directly adjacent to Fort Hood Biotreatment Facility. . The result of this determination is presented in Attachment D.

15.0 ENDANGERED OR THREATENED SPECIES

30 TAC §330.61(n)

The Fort Hood Biotreatment Facility will not result in the destruction or adverse modification of critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. A copy of correspondence with the Texas Parks and Wildlife Department and a species determination is included in Attachment B.

16.0 TEXAS HISTORICAL COMMISSION REVIEW

30 TAC §330.61(o)

The Fort Hood Cultural Resources program has determined that the location and operation of the Fort Hood Biotreatment Facility will not impact any historical properties. A copy of this confirmation is included in Attachment C.

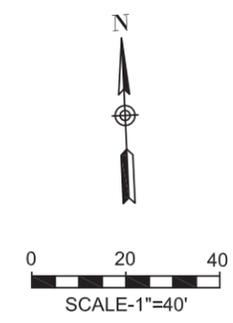
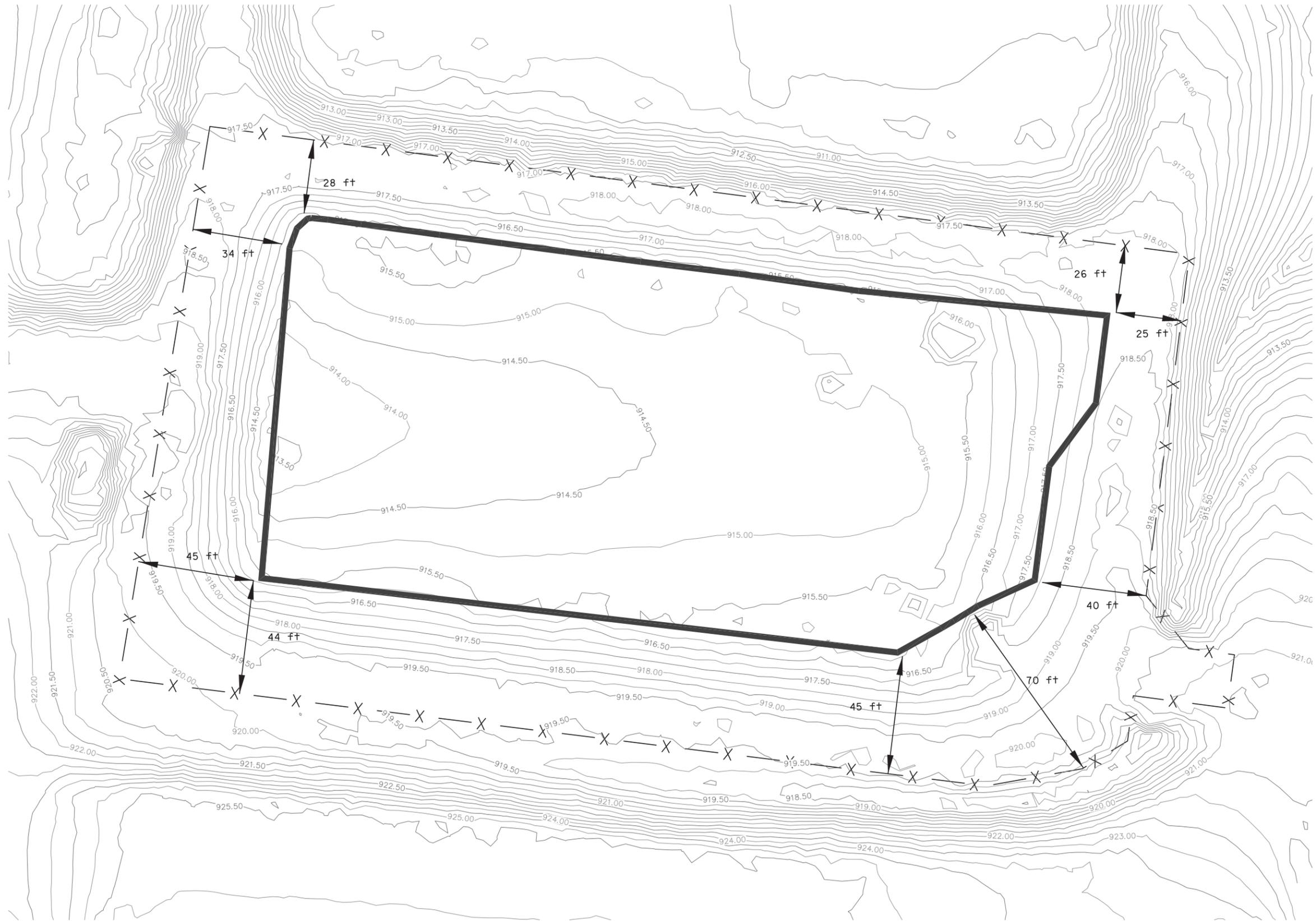
17.0 COUNCIL OF GOVERNMENTS AND LOCAL GOVERNMENT REVIEW

30 TAC §330.61(p)

The registration application will be reviewed by FHDPW-ED, which serves as the local government entity who is responsible for overseeing compliance with regional solid waste plans that affect the Fort Hood military installation.

Figures

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LEGEND

— X — X — EXISTING FENCE LINE/REGISTRATION BOUNDARY

— — — APPROXIMATE LIMITS OF SOLID WASTE STORAGE AND PROCESSING AREA

— 920.00 — SURFACE CONTOURS (SEE NOTE 1)

NOTES:

1. SURFACE CONTOUR DATA BASED ON A MARCH 9, 2011 LIDAR AERIAL SURVEY PROVIDED BY THE FORT HOOD DIRECTORATE OF PUBLIC WORKS.

CORPS OF ENGINEERS
11/20/2014



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| - | | Revising No. | Author |

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| Designed by: | ABRAM PINON, P.E. | Date: | FEBRUARY 2014 |
| Drawn by: | CLIFTON MACK | Revision No.: | |
| Reviewed by: | DAVID BOWERSOCK, P.E. | Contract No.: | |
| Submitted by: | ABRAM PINON, P.E. | File Name: | |

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CORVELL COUNTY TEXAS
FORT HOOD BIOTREATMENT FACILITY
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BUFFER ZONE LAYOUT

FOR PERMITTING PURPOSES ONLY

FIGURE
11.11

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

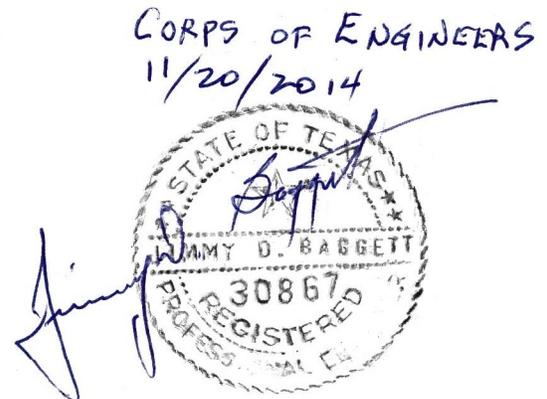
**TYPE V MSW
REGISTRATION APPLICATION**

PART III

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

November 2014

**Fort Hood Biotreatment Facility
Part III
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Figure III.2 – Process Flow Diagram

Figure III.3 – Traffic Flow Diagram

Figure III.4 – Facility Component Layout

Figure III.5 – Facility Component Layout Cross-Sections

Figure III.6 – Construction Details of Concrete Slab and Subsurface System

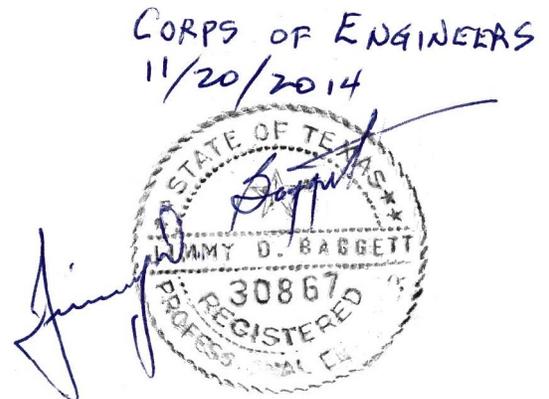
Figure III.7 – Construction Details of Concrete Slab and Subsurface System

Figure III.8 – Construction Details of Concrete Slab and Subsurface System

List of Attachments

Attachment A – 0.5 Acre Tier I Residential Soil PCLs

Attachment B – Hydrologic Analysis



2.2 Waste Movement

§330.63(b)(2)

The amount of waste that will be received at the facility will be approximately 8 cubic yards per day. However, this quantity is only an estimate, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accommodate the incoming waste stream on an as needed basis as long as adequate space is available at the facility and the maximum quantity of 3,000 cubic yards is not exceeded. It is intended 100% of incoming waste will be processed and reused, and will at a minimum process more than 10% of the incoming waste stream.

Figures III.2 and III.3 shows how the incoming waste will be brought to the facility by dump trucks, front-end loaders, and other collection vehicles and off-loaded at the Staging Area. The unloading time will be minimal given the low volume of waste to be processed. As such, no congestion issues are expected to be encountered as a result of ingress and egress of vehicles. However, in the event that queuing is necessary, incoming vehicles will be able to line up on the asphalt access road that is approximately 200 feet long, without impacting adjacent base operations.

As necessary, the five concrete bins will be replenished with the required amount of admixtures to include common vegetative debris (e.g., wood chips), manure, and fertilizer (if needed). The volume of stored admixtures will not exceed the storage capacity available of the five concrete bins. However, the amount of each particular admixture will fluctuate based on the operational needs of the facility. It is expected each concrete bin can store approximately 45 cubic yards of material. Fertilizer will be stored inside the storage sheds, with approximately 50 bags retained onsite.

Department of Army (DA) Form 3161 will accompany each incoming waste load to document the material source. A copy of this form is included in Part IV, Attachment A of the Registration Application. After material confirmation by Fort Hood Biotreatment Facility personnel, waste

material will be unloaded at the Staging Area by the transporter of the waste. If necessary, Fort Hood Biotreatment Facility personnel will assist transporters in unloading the waste.

Incoming waste material will be originating from the adjacent off-site Drying Pad (i.e., oil-water separator sediments), dried grit-chamber sediments, dried sediments from stormwater structures, and POL spill-cleanup material and soil. With the exception of POL spill cleanup material and soil, incoming waste material that has no exceedances of the Tier 1 Residential Soil critical PCLs for all COCs (see Part III Attachment A) will by-pass the Fort Hood Biotreatment Facility as shown in Figure III.2. POL spill cleanup material and soil will still be processed through the Fort Hood Biotreatment Facility even if all applicable COCs are below the Tier 1 Residential Soil critical PCLs. Material waiting processing at the Staging Area may be mixed to promote volatilization. A Trommel material screener may be used on an as needed basis to segregate and remove any unwanted debris (e.g., rocks) from the waste material at the Staging Area.

For all incoming waste streams prior to biotreatment processing, the following sampling analysis will be performed:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method 6010B for RCRA Total Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, and Silver
- EPA Method 7471A for Total Mercury
- EPA Method SW 846/8021B for Benzene
- EPA Method 1668A for Total Polychlorinated Biphenyls (PCBs)

A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility if incoming waste material will not be processed to meet the Tier I Residential Soil critical PCLs for all COCs listed Attachment A. A detailed description of the sampling and recording protocol is described in Part IV, Section 6.0.

Once a sufficient quantity, typically 75 cubic yards, of waste material accumulates at the Staging Area, it will be moved to the Windrow Area and placed in a windrow with a front-end loader.

Before admixture addition, the waste material in each windrow will be mixed with a windrow turner which will generate a windrow height of 1 to 3 ft high; each windrow will be approximately 100 feet long. After each windrow has been placed or after Staging Area mixing as described above, initial measurements will be taken to record pretreatment conditions. The following analysis will be performed for each windrow:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method SW 846/8021B for Benzene

Once the waste material is screened, is acceptable to undergo biotreatment, and has been placed in a windrow, the biotreatment process will commence. For a windrow that contains 30 cubic yards of waste material, the initial vegetative debris quantity added will be approximately 30 cubic yards. Vegetative debris will be added to increase the bulk of the mix thus maximizing macropore distribution. Vegetative debris will include wood chips that do not exceed 2-inches in length and more than 1/2-inch in any other dimension. Other vegetative debris will include landscape wastes (e.g., grass, brush, etc.) and demolition debris that is properly mulched if the wood has not been treated with any wood preservatives. Natural fiber absorbent pads (i.e., part of the POL spill-cleanup material waste) maybe part of the incoming waste stream; however, when placed in the windrow this material will also act as a vegetative admixture. The natural fiber absorbent pads will be shredded prior to placement in the windrow.

The second type of admixture will be manure from the Fort Hood horse stables. Manure will serve as a catalyst providing the necessary nutrients and microbial populations to facilitate the bioremediation process. An alternative or addition to the manure will be a standard agricultural fertilizer that contains a nitrogen/phosphorous mixture. For a windrow that contains 30 cubic yards of waste material, the initial manure quantity added will be approximately 30 cubic yards. All admixtures, waste, and moisture addition will be thoroughly mixed using the windrow turner to establish a homogeneous windrow. The following describes the biotreatment process that will take place at the facility.

- **Phase I Active Biotreatment**

The initial biotreatment phase is the most active during this process. Lasting approximately four weeks, the windrow will be turned every 3 to 4 days using a windrow turner, or as determined by temperature, to promote homogeneity. Temperature and moisture will be monitored regularly to assure microbial activity is occurring. Ideal temperatures will be between 110°F and 140°F near the center of the windrow. If the temperature falls below range, additional admixtures will be added to increase the microbial populations. When temperatures exceed the specified range, the windrow will be mixed to lower the temperature of the windrow. Moisture will be maintained between 40% and 60%. When moisture falls below 40%, water will be added to bring the moisture content to 60%.

- **Phase II Active Biotreatment**

The continued biotreatment process will proceed for a minimum of four additional weeks after Phase I is completed. The windrow will be turned approximately every 7 days using a windrow turner. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

- **Phase III Batch Curing and Maturation**

After approximately eight weeks, active biotreatment will slow to a more stable rate. The curing windrow will be formed once again using a windrow turner to break any remaining large materials and homogenize the windrows. Phase III will last approximately one to three months. Temperature and moisture content monitoring will continue in accordance with the parameters specified in Phase I.

Monitoring of moisture and temperature will occur at an established frequency (see Part IV, Section 6.0) to ensure proper biological conditions exist while ensuring temperature are held in check to prevent the development of a fire. After the windrow has completed Phase III, the windrow will be sampled for TPH and Benzene. Six grab samples will produce one composite sample that will be analyzed for TPH and Benzene. Each grab sample will be from within the

core and equally spaced along the entire length of the windrow. If results indicate that the levels for all COCs are below Tier 1 Residential Soil critical PCLs, the material is ready for use in areas outside the west, north, and main cantonments of Fort Hood (but outside the areas containing endangered species) for reuse as general fill to include but not limited to grading and drainage improvements. Processed material that does not meet the 0.5-acre Tier I Residential Soil critical PCLs for all COCs will be disposed of at a permitted landfill. Figure III.2, Process Flow Diagram, provides a graphical representation of the waste movement process.

The operation of the Fort Hood Biotreatment Facility is entirely outdoors, therefore adequate ventilation will not be a concern. Prevailing winds at the site are from the south (see Figure II.1 in Part II), which direct odors from waste material and admixtures to the north. The area north of the facility is part of a closed loop water recirculation system designed to capture and treat waste water from an adjacent vehicle washing facility. It is not anticipated that odors will become a nuisance during the operation of the facility. However, if odors are bothersome to adjacent inhabitants, the facility will take measures to reduce the odorous impact to neighbors, to include but not limited to a reduction in waste processing or the use of an odor control spray system along the northern perimeter fence line. Onsite stockpiles will be controlled to eliminate windblown soil or dust by applying water as necessary to dampen the material but not create a saturated material so that that can lead to runoff. See Part IV, Section 22.0, for more information.

General Construction details of all storage and processing units are shown in Figures III.4 and III.5. General Construction details of the existing slab and subsurface components are shown in Figures III.6 through III.8. No sludge, oil, or grease will be stored at the facility.

FHDPW-ED will conduct a washdown after a windrow has been removed from the windrow area. Facility washdown will remove any residual soil material from the concrete surface. Any cracks in the concrete or unsealed joints will be repaired within 7 business days or before the next rain event, whichever comes first, and before placement of new windrows. All washdown

water and stormwater will flow to the west until it reaches the sump area, located along the toe of the west central bank of the concrete pad.

All surface water collected will be allowed to evaporate, while ensuring vector populations will be controlled to minimize risk to human health and the environment. The Fort Hood Biotreatment Facility has the ability to discharge through an existing 6-inch cast iron collection pipe which connects to a 12-inch reinforced concrete pipe that conveys the collected surface water to the closed loop water recirculation system located to the north of the facility. The closed loop water recirculation system does not discharge to waters of the state. The invert of the collection pipe is approximately 1-foot above the low point of the sump. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Benzene, PCBs, TPH, fats, oils, and grease, and pH, in accordance with 30 TAC §330.203(c). Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

2.3 Sanitation

§330.63(b)(3)

The Fort Hood Biotreatment Facility will receive waste material and admixtures that will be stored on-site to facilitate the processing of the incoming waste stream. Surface drainage to the facility is controlled by the existing grades on site which eliminate run-off impacted by the waste processing operation. See Figure IIIB.1 in Attachment B for more information.

The current site conditions consist of a concrete impervious surface that drains to a sump located along the western perimeter of the facility. A 6-inch to 8-inch thick 3,000 psi concrete slab was placed above an existing water filtration pond to facilitate the development of a biotreatment facility. The water filtration pond was originally constructed in the mid-1980's as part of a closed loop water recirculation system designed capture and treat waste water from vehicle washing that is currently ongoing north of the Fort Hood Biotreatment Facility. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the vehicle wash facility waste water.

Below the concrete surface is ballast material consisting of sand and/or rock of various thickness,

3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. Figures III.4 through III.8 in Part III display the components of the Fort Hood Biotreatment Facility.

Eight hose bibs located along the crest of the northern and southern banks of the concrete pad will provide access to potable water that can be used by a pressure washer. See Figure II.10 for the location of the hose bibs. The pressure washer will be used to rinse any residual soils that remain after a windrow is moved. The cleaning of the area previously occupied by the windrow will allow for the inspection of the concrete surface, which will then be repaired if necessary. All water used as part of the sanitation process will drain to the sump area within the facility. Water will then be allowed to evaporate or will be discharged to the closed loop water recirculation system.

2.4 Water Pollution Control

§330.63(b)(4)

Cleaning the concrete surface at the Fort Hood Biotreatment Facility will result in the generation of wastewater. Additionally, any precipitation that is collected and retained within the Fort Hood Biotreatment Facility will also generate wastewater. However, the Fort Hood Biotreatment Facility is constructed in a way in which all surface water impacted by the waste processing operation ends up at a sump located along the toe of the west central perimeter of the concrete surface. The collected surface water will be allowed to evaporate; however, the facility has the option to discharge to a closed loop water recirculation system. The closed loop water recirculation system incorporates the use of a series of basins, lagoons, chambers, and a small marsh to separate sediments and chemicals from the waste water generated from Tactical Vehicle Wash Facility located north of the Fort Hood Biotreatment Facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. If the Fort Hood Biotreatment Facility were to discharge to the closed loop water recirculation system, the water would collect in the Large Basin shown on Figure III.1, which serves as the water source for the Tactical Vehicle Wash Facility. The Large Basin can hold approximately 500,000 gallons of water when full. Therefore, the potential 360,900 gallons (i.e., 57,941 cubic feet, see Part III Attachment B) from the Fort Hood Biotreatment Facility will be discharged at a

controlled rate utilizing the existing 6-inch valve (see Figure III.6) to ensure not to exceed the Large Basin's holding capacity. The testing protocol described in Part IV, Section 6.0 will be performed prior to discharging off-site. All cracks and joints of the concrete surface will be repaired and sealed.

2.5 Endangered Species Protection

§330.63(b)(5)

Section 15.0 in Part II describes that the Fort Hood Biotreatment Facility will not provide a negative impact on endangered and threatened species or their habitat. As a result, no specific controls need to be implemented by the facility.

3.0 FACILITY SURFACE WATER DRAINAGE REPORT

30 TAC §330.63(c); §330.303

The Fort Hood Biotreatment Facility complies with the requirements of 30 TAC §330.303 and is not a landfill or composting unit. As identified in Technical Paper 40, a 25-year, 24-hour storm produces approximately 8-inches of precipitation, which correlates to approximately 58,000 cubic feet of surface water based on the drainage patterns displayed on Figure IIIB.1 of Attachment B. Utilizing the same drainage areas, 61,000 cubic feet of collected surface water inundates the concrete lined surface of the facility to an approximate elevation of 916.50 ft-msl. The 916.50 ft-msl level of inundation is a conservative representation of the volume of storm water produced by 8-inches of precipitation since it does not consider the presence of the 6-inch cast iron pipe that is located one-foot above the lowest elevation of the sump. The 6-inch cast iron pipe discharges to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in the closed loop water recirculation system is not and does not discharge to waters of the state.

4.0 WASTE MANAGEMENT UNIT DESIGN

30 TAC §330.63(d)

The Fort Hood Biotreatment Facility takes POL Spill Cleanup material and dry sediment from grit-chambers, oil-water separators, and stormwater structures and introduces an admixture to bio-degrade the hydrocarbons. The facility is designed for efficient material processing. The Staging Area can contain approximately 250 cubic yards of material. Typically, once the volume of waste material is 75 cubic yards or more, it will be transferred to the Windrow Area to begin processing. Waste material waiting processing at the Staging Area will typically be stored until a sufficient quantity is present. However, grit-chamber sediments will not be stored at the Staging Area for more than 72 hours from the receipt of waste, in accordance with 30 TAC §330.241(a)(1). Waste material will occupy the Windrow Area for approximately 9 to 11 weeks.

An odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation. An environmentally friendly surfactant may be used to control fly and mosquito populations.

The majority of the concrete surface of the facility serves as the processing area for the Fort Hood Biotreatment Facility. Sections 2.4 and 3.0 of Part III describe water pollution control and containment.

The following features do not apply to this facility:

- ***Incineration units.*** This facility does not use controlled flame combustion as part of the waste treatment process.
- ***Surface impoundments.*** Even though the processing operation takes place in a concrete lined man-made excavation, this excavation is not designed to treat an accumulation of liquids, such as an aeration basin or lagoon.
- ***Landfill units.*** The facility is not a landfill as defined in 30 TAC §330.3(75).
- ***Type V mobile liquid wash processing units.*** This facility does not process liquid waste.

- ***Type IX Energy, material, gas recovery for beneficial use, or landfill mining waste processing units.*** This facility does not create renewable energy or process landfill mined waste.
- ***Composting units.*** This facility does not use the processed material as a soil amendment, artificial top soil, growing medium amendment, or as a vegetative establishment catalyst.
- ***Type VI waste processing demonstration facilities.*** This facility does not process liquid or is not connected with an accredited university.

5.0 GEOLOGY REPORT

30 TAC §330.63(e)

The facility is not a landfill or compost unit, therefore, a Geology Report is not required, unless otherwise requested by the executive director of TCEQ.

6.0 GROUNDWATER SAMPLING AND ANALYSIS PLAN

30 TAC §330.63(f)

The facility is not a landfill, therefore, a Groundwater Sampling and Analysis Plan is not required, unless otherwise requested by the executive director of TCEQ.

7.0 LANDFILL GAS MANAGEMENT PLAN

30 TAC §330.63(g)

The facility is not a landfill, therefore, a Landfill Gas Management Plan is not required.

8.0 CLOSURE PLAN

30 TAC §330.63(h); 30 TAC §330.459; 30 TAC §330.461

This Closure Plan has been prepared in accordance with Subchapter K of Chapter 330 for Municipal Solid Waste Storage and Processing Units, specifically 30 TAC §330.459 and 30 TAC §330.461. During closure activities at the Fort Hood Biotreatment Facility, all waste material, waste residue, and admixture material will be taken off-site and disposed or relocated in accordance with all rules and regulations. All machinery and other facility supporting appurtenances will be removed from within the facility boundary. Once the entire confines of the Fort Hood Biotreatment Facility have been evacuated of all waste, materials, equipment, etc., the concrete surface will be disinfected to remove any residual waste and admixture material that may be on the exposed surface of the concrete. Generated waste water will be disposed off-site at a permitted facility. After the exposed concrete surface has been cleaned, the concrete, underlying sand, stone, 30-mil PVC liner, pipes, manhole, manhole covers, valves, valve boxes, hose bibs, and bollards will be removed and disposed in accordance with all rules and regulations.

If during demolition activities, there is evidence that seepage below the PVC liner has occurred, FHDPW-ED will immediately notify the executive director and coordinate with TCEQ to determine any requirements for further investigation to establish the nature and extent of the release and an assessment of measures to correct and impact of groundwater. Finally, the perimeter fence will disassemble and removed from the site.

The Fort Hood Biotreatment Facility will complete closure activities within 180 days following the most recent completed processing of waste unless otherwise directed or approved in writing by the executive director. No later than 90 days prior to the initiation of closure process, FHDPW-ED will provide public notice for final facility closure through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility. This public notice will provide the name, address, and physical location of the facility, the registration number, and the last date of intended receipt of waste. FHDPW-ED will provide an adequate number of copies of the approved final closure and post-closure plans for public access and review. FHDPW-ED will

also provide written notification to the executive director of the intent to close the facility and place this notice of intent in the operating record.

Upon submission of the notice of intent to the executive director, FHDPW-ED will post a sign at the main entrance notifying persons who may use the facility, the date of closing and the prohibition against further receipt of waste materials after the identified closure date. The existing perimeter fence will remain in place during closure activities to prevent unauthorized dumping at the facility. No wastes will remain at the closed facility, therefore, within 10 days after completion of final closure activities of the Fort Hood Biotreatment Facility, FHDPW-ED will submit to the executive director, by registered mail, a certification and all applicable documents, signed by an independent licensed professional engineer, verifying that final facility closure has been completed in accordance with the approved closure plan. Additionally, a request for voluntary revocation will also be submitted to the executive director within 10 days after completion of final closure activities.

9.0 POST-CLOSURE PLAN

30 TAC §330.63(i); 30 TAC §330.463

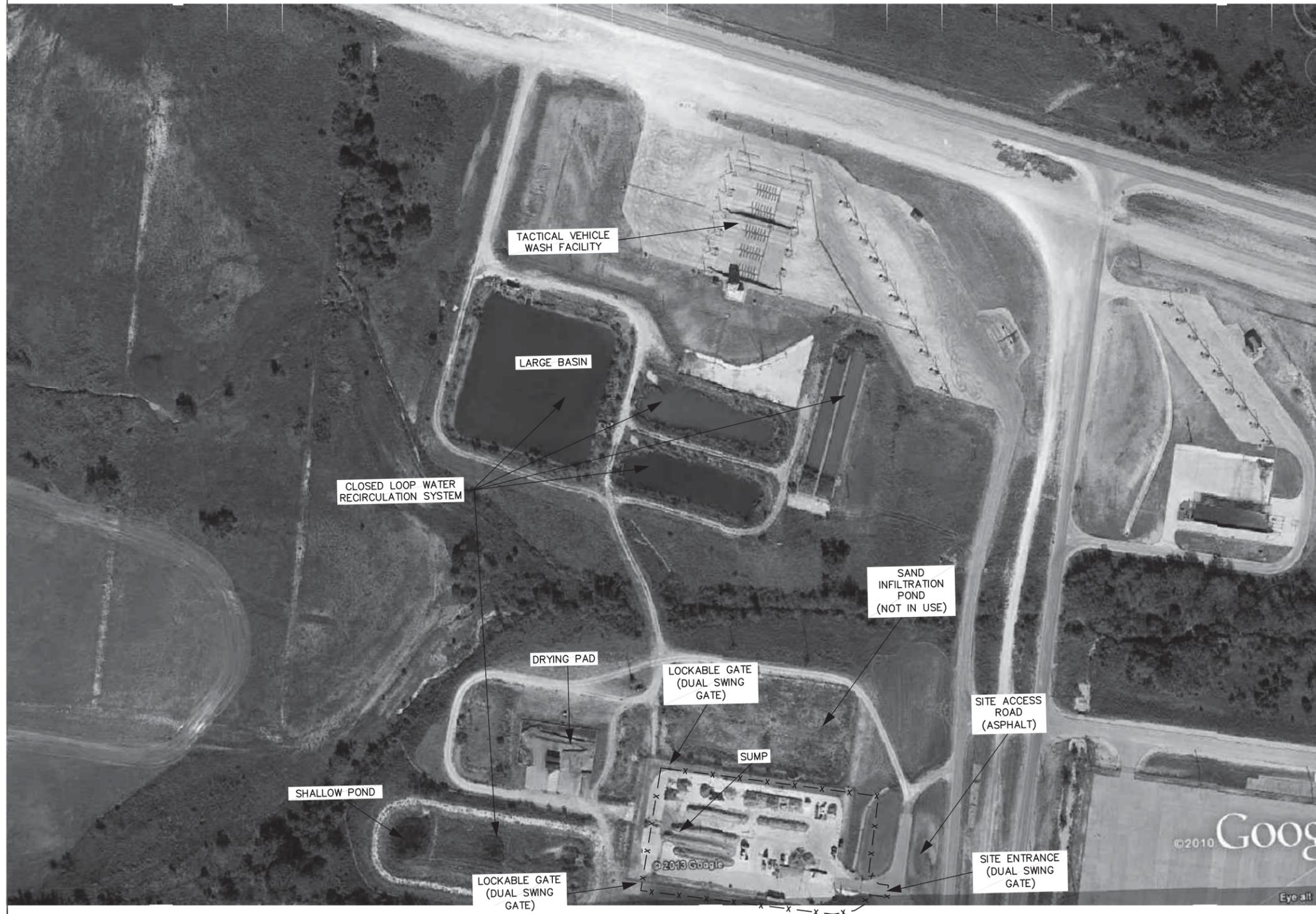
The Fort Hood Biotreatment Facility will not contain municipal solid waste on-site after closure activities are completed. Therefore, the facility is not subject to post-closure care activities described in 30 TAC §330.463.

10.0 COST ESTIMATE FOR CLOSURE AND POST-CLOSURE CARE

30 TAC §330.63(j); 30 TAC §330.501; 30 TAC §37.8001

30 TAC §330.501 states that facilities that are required to have financial assurance prepare closure and post-closure cost estimates. However, in accordance with 30 TAC §37.8001, financial assurance requirements do not apply to federal government entities whose debts and liabilities are debts and liabilities of the United States. As such, the Fort Hood Biotreatment Facility is not required to provide closure and post-closure care cost estimates.

Figures



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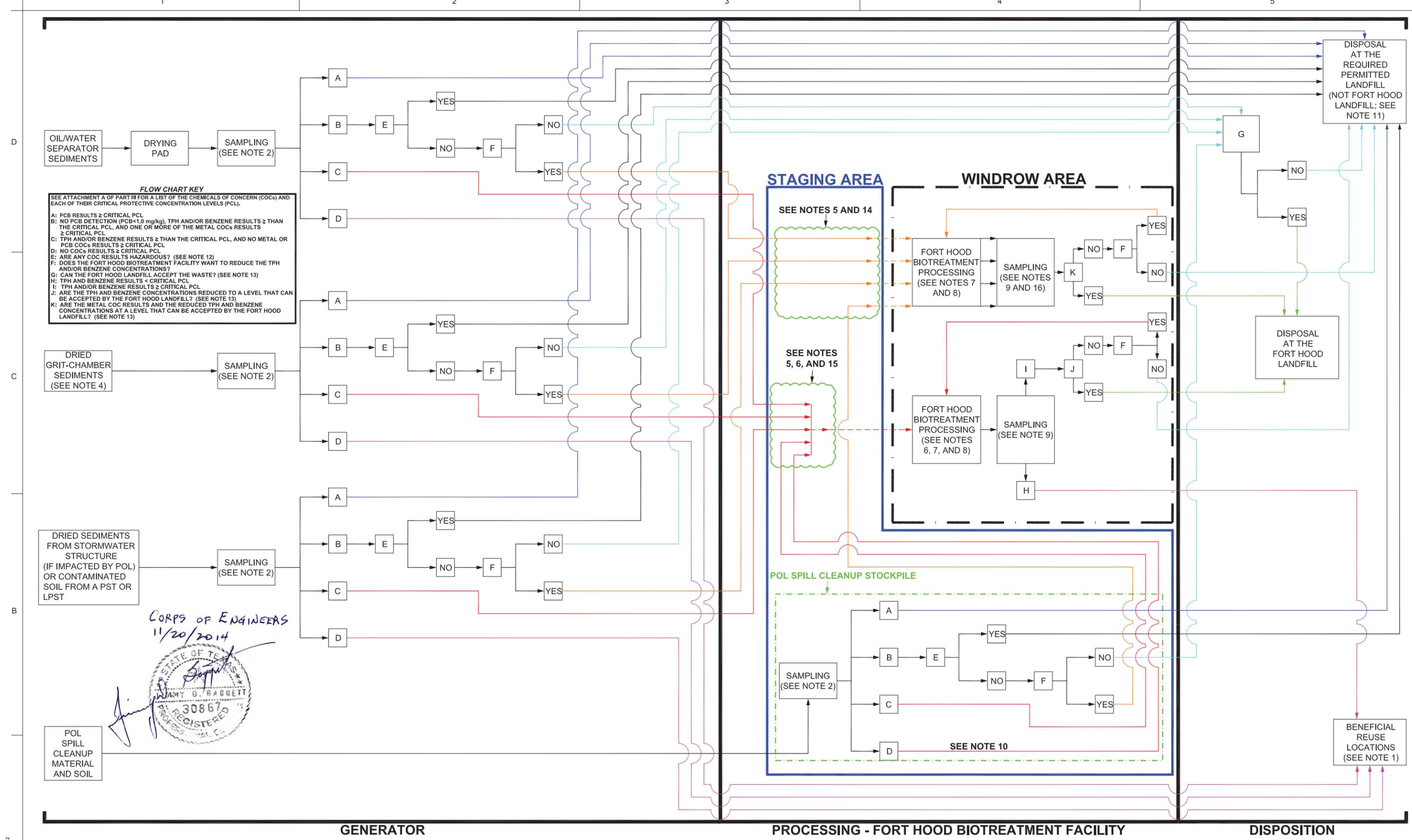
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| Reviewed by: DAVID BOWENSOCK, P.E. | Contract No.: | |
| Submitted by: ABRAM PINON, P.E. | File Name: | |

CORYELL COUNTY TEXAS
 FORT HOOD BIOTREATMENT FACILITY
 PN:0000
 FACILITY LAYOUT PLAN
 FOR PERMITTING PURPOSES ONLY

FIGURE
 III.1

CORPS OF ENGINEERS
 11/20/2014

 AMY D. BAGGETT
 REGISTERED PROFESSIONAL ENGINEER



NOTES:

- END USE LOCATION FOR MATERIAL WILL BE OUTSIDE THE WEST, NORTH, AND MAIN CANTONMENTS OF FORT HOOD AND OUTSIDE AREAS CONTAINING ENDANGERED SPECIES. MATERIAL WILL BE REUSED FOR GENERAL FILL PURPOSES TO INCLUDE BUT NOT LIMITED TO GRADING AND DRAINAGE IMPROVEMENTS.
- MATERIAL WILL ANALYZED FOR TOTALS FOR THE FOLLOWING COCs: ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER, TPH, BENZENE, AND PCBs.
- SAMPLE'S RESULTS ARE COMPARED TO THE 0.5-ACRE TIER 1 RESIDENTIAL SOIL CRITICAL PROTECTIVE CONCENTRATION LEVELS. SEE ATTACHMENT A OF PART III.
- GRIT-CHAMBER SEDIMENTS WILL BE DRIED AT LOCATION IN ACCORDANCE WITH TCEQ RG-029.
- A TROMMEL MATERIAL SCREENER MAY BE USED TO SEGREGATE AND REMOVE UNWANTED TRASH AND DEBRIS, (E.G., ROCKS)
- WASTE MATERIAL WILL SUBSEQUENTLY BE SAMPLED TO ESTABLISH PRETREATMENT CONDITIONS IF ACCEPTED WASTE STREAMS ARE COMBINED AND NOT LEFT IN SEGREGATED PILES OR WINDROWS AT THE STAGING AREA OF WINDROW AREA, RESPECTIVELY. WASTE MATERIAL WILL BE SAMPLED FOR TPH AND BENZENE PRIOR TO ADMIXTURE ADDITION. SAMPLING TO ESTABLISH PRETREATMENT CONDITIONS MAY TAKE PLACE AT THE STAGING AREA OR WINDROW AREA.
- ADMIXTURES (E.G., WOODCHIPS, MANURE, AND FERTILIZER) WILL BE ADDED ON AN AS NEEDED BASIS.
- WINDROWS WILL BE MONITORED FOR TEMPERATURE AND MOISTURE CONTENT.
- MATERIAL WILL BE SAMPLED FOR TPH AND BENZENE ONLY.
- MATERIAL WILL BE DIRECTED TO WINDROW AREA EVEN IF ALL COC RESULTS ARE BELOW THE CONCENTRATIONS SPECIFIED IN NOTE 3.
- A WASTE CHARACTERIZATION WILL BE CONDUCTED PRIOR TO DISPOSAL TO DETERMINE THE WASTE CLASSIFICATION (I.E., HAZARDOUS, CLASS 1, CLASS 2, CLASS 3).
- A SEPARATE TCLP ANALYSIS MAY NEED TO BE PERFORMED IF THE TOTAL RESULTS CAN NOT CONCLUSIVELY DETERMINE WASTE CLASSIFICATION IN ACCORDANCE WITH EPA METHOD 1311.
- AS DOCUMENTED IN SECTION 1 AND 3.2 OF APPENDIX B-SPECIAL WASTE ACCEPTANCE PLAN OF THE FORT HOOD LANDFILL MSW PERMIT 1866, THE FORT HOOD LANDFILL CAN ACCEPT SOIL CONTAMINATED BY COCs THAT EXCEED THE CONCENTRATIONS LISTED IN TABLE 1 OF §335.521(a)(1) AND SOILS CONTAMINATED WITH POLS. TPH RANGES OF <600 mg/kg CAN BE ACCEPTED BY THE LANDFILL FOR USE AS DAILY COVER, ≥ 600 mg/kg BUT <1,500 mg/kg CAN BE ACCEPTED INTO A SPECIAL WASTE TRENCH, AND ≥ 1,500 mg/kg SHALL BE REJECTED.
- WASTE STREAMS WILL REMAIN SEGREGATED AT THE STAGING AREA AND THROUGHOUT THE BIOTREATMENT PROCESS.
- WASTE STREAMS MAY BE COMBINED OR LEFT SEGREGATED AT THE STAGING AREA AND DURING THE BIOTREATMENT PROCESS.
- ANALYTICAL RESULTS FOR EACH WASTE STREAM FOR ALL COCs EXCEPT TPH AND BENZENE WILL BE CARRIED FORWARD FOR WASTE CLASSIFICATION PURPOSES (E.G., IF LEAD RESULTS INDICATE 15 mg/kg PRIOR TO UNDERGOING THE BIOTREATMENT PROCESS, THE WASTE WILL STILL REPORT 15 mg/kg AT THIS POINT).



US Army Corps of Engineers
Fort Worth District

| Rev. | Date | Description |
|------|----------|-------------------------|
| 1 | 11/20/14 | TECH REVISION #1 UPDATE |

| | |
|---------------|-----------------------|
| Designed by: | ABRAM PINON, P.E. |
| Drawn by: | CLIFTON MACK |
| Reviewed by: | DAVID BOWENSOCK, P.E. |
| Submitted by: | ABRAM PINON, P.E. |
| Date: | FEBRUARY 2014 |
| Revision No.: | |
| Contract No.: | |
| File Name: | |



CORVELL COUNTY TEXAS
FORT HOOD BIOTREATMENT FACILITY
PN:0000
PROCESS FLOW DIAGRAM
FOR PERMITTING PURPOSES ONLY

FIGURE III.2

N:\Fort_Hood\Design\Biotreatment_Facility_2013\JAN_2014\11.2

Attachment A
0.5-acre Tier I Residential Soil PCLs

0.5-Acre Tier 1 Residential Soil PCLs¹

| Chemical of Concern | ^{Tot} Soil _{Comb} (mg/kg) | ^{GW} Soil _{Ing} (mg/kg) | Crtical PCL (mg/kg) ² |
|-----------------------|--|--|-------------------------------------|
| Arsenic | 20 | 5 | 5 |
| Barium | 8,100 | 440 | 440 |
| Cadmium | 52 | 1.5 | 1.5 |
| Chromium (total) | 33,000 | 2,400 | 2,400 |
| Lead | 500 | 3 | 3 |
| Mercury | 3.6 | 0.0078 | 0.0078 |
| Selenium | 310 | 2.3 | 2.3 |
| Silver | 97 | 0.48 | 0.48 |
| TPH, TX1005, C6-C12 | 1,600 | 65 | 65 |
| TPH, TX1005, >C12-C28 | 2,300 | 200 | 200 |
| TPH, TX1005, >C12-C35 | 2,300 | 200 | 200 |
| TPH, TX1005, >C28-C35 | 2,300 | 200 | 200 |
| | | | |
| Benzene | 120 | 0.026 | 0.026 |
| | | | |
| PCBs | 1.1 | 11 | 1.1 |

¹Values based on the September 10, 2014 Tier 1 Residential Soil PCLs. Values are subject to change.

²Critical PCL is the more conservative value between the ^{Tot}Soil_{Comb} and ^{GW}Soil_{Ing} PCLs for each Chemical of Concern.

**UNITED STATES ARMY III CORPS AND FORT HOOD
DIRECTORATE OF PUBLIC WORKS-ENVIRONMENTAL
DIVISION**



FORT HOOD BIOTREATMENT FACILITY

CORYELL COUNTY, TEXAS

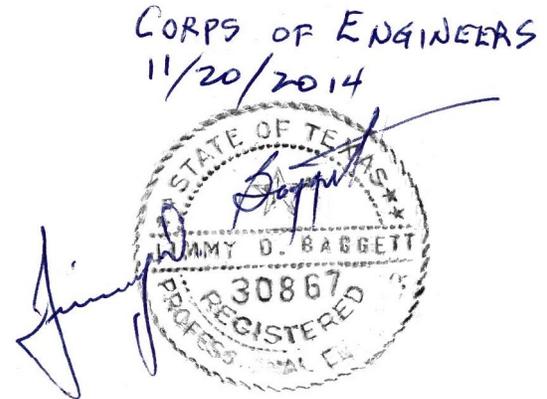
**TYPE V MSW
REGISTRATION APPLICATION**

PART IV

Submitted by:

**UNITED STATES ARMY III CORPS AND FORT HOOD DIRECTORATE
OF PUBLIC WORKS ENVIRONMENTAL DIVISION
BLDG 4622, ENGINEER DRIVE
FORT HOOD, TEXAS 76544**

Prepared by:



**US ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

November 2014

**Fort Hood Biotreatment Facility
Part IV
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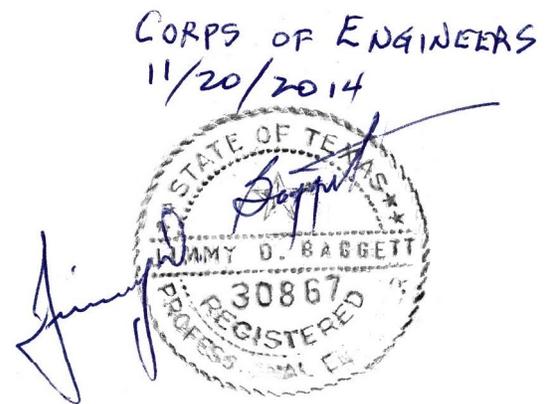
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6.0 WASTE ACCEPTANCE AND ANALYSIS

30 TAC §330.203

6.1 Sources and Characteristics of Waste

Waste delivered to the Fort Hood Biotreatment Facility will be exclusively from Coryell and Bell counties within the Fort Hood military installation.

Wastes that will be processed at the Fort Hood Biotreatment Facility will include:

- Soil contaminated from POL spills that occurred during military training and other installation activities;
- Non-crystalline absorbents or sorbents used to clean-up POL spills;
- POL contaminated soils from petroleum storage tank (PST) or leaking petroleum storage tank (LPST) sites;
- Dried grit-chamber sediment;
- Dried oil-water separator sediment; and
- Dried sediment from stormwater structures (if impacted by POL).

Various military organizations will be generating the waste stream that will be processed by the Fort Hood Biotreatment Facility. Among these, some major contributions will be the oil-water separators that are located at maintenance facilities which are scattered throughout the installation. Additionally, sediments from the grit-chambers of five vehicle wash facilities will also be the source of waste stream that will be processed by the Fort Hood Biotreatment Facility. Three of these vehicle wash facilities are located within the main cantonment of Fort Hood, while a separate vehicle wash facility is located at both North Fort Hood and West Fort Hood. Figure I.4 shows these three areas of Fort Hood. Soil contaminated from military training will tend to occur in the training areas of Fort Hood, which are located north of the main cantonment. PST and LPST contaminated soil will originate from tank locations that are stationed throughout the installation. Sediment accumulation from storm water collection controls will originate from locations that are scattered throughout Fort Hood as well.

Waste material will consist of special waste as defined in 30 TAC §330.3(148)(N). Material that will be reused will have analytical results that are below the 0.5-acre Tier I Residential Soil critical PCLs (see Attachment A in Part III) for the following Chemicals of Concern (COCs): Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Total Petroleum Hydrocarbons (TPH), Benzene, and Polychlorinated Biphenyls (PCBs). The processed waste that is below the critical PCL from all identified COCs will meet the definition of recyclable material found at 30 TAC §330.3(122) and will not be considered special waste. However, processed material may still be considered special waste when TPH and/or Benzene concentrations are not reduced below the critical PCLs and/or the metal COCs concentrations of the accepted special waste are equal to or above the critical PCL but below hazardous levels. Table 2-1 in Part II provides a summary of the sources of waste and each of their COC's.

The facility will not be able to process all of the incoming waste material. No regulated hazardous waste will be accepted at the facility for processing. If PCB concentrations exceed the critical PCLs, that waste stream will also be rejected. The Fort Hood Biotreatment Facility can only reduce the concentration of TPH and Benzene in the accepted waste stream.

FHDPW-ED will process at least 10% of the waste material that is received at the Fort Hood Biotreatment Facility on annual basis. FHDPW-ED intends to process 100% of the received waste material. The processed material will be placed at areas outside the west, north, and main cantonments of Fort Hood (but not in areas impacting endangered species) for reuse. Material will be reused for general fill purposes to include but not limited to grading and drainage improvements.

6.2 Quantity and Processing of Waste

The amount of material that will be received at the facility will be a maximum of 3,000 cubic yards per year of POL contaminated waste material. On a per daily basis, the facility will receive approximately 8 cubic yards per day. With the listed above daily and yearly incoming waste stream amounts, this facility will be within the parameter of 30TAC 330.203(b).

However, these quantities are only estimates, and the facility does not accept incoming waste on a set schedule. The Fort Hood Biotreatment Facility will accept up to 3,000 cubic yards per year, but will accommodate the incoming waste stream on an as needed basis as long as adequate space is available at the facility and the maximum quantity of 3,000 cubic yards is not exceeded. At full capacity, the facility will have an estimated total of 700 and 250 cubic yards of waste material at the Windrow Area and Staging Area, respectively, at any given time. The average length of time waste material will be at the facility is 8 months. However, the waste material can remain at the facility up to 12 months (7 months at the Staging Area and 5 months at the Windrow Area). Average waste processing times (i.e., after admixture addition) are approximately 4 months, with a maximum of about 5 months. When grit-chamber sediments are being processed, this waste stream will not remain at the Staging Area for more than 72 hours, in accordance with 30 TAC §330.241(a)(1).

6.3 Sampling, Analysis, and Monitoring

All sampling collection and analysis performed as part of this registration will be conducted in accordance 30 TAC §330 Subchapter F, Analytical Quality Assurance and Quality Control. The facility will retain records of each analysis for a minimum of 3 years.

Incoming waste material will be originating from the adjacent off-site Drying Pad (i.e., oil-water separator sediments), dried grit-chamber sediments, dried sediments from stormwater structures, and POL spill-cleanup material and soil. With the exception of POL spill cleanup material and soil, incoming waste material that has no exceedances of the Tier 1 Residential Soil critical PCLs for all COCs (see Part III Attachment A), will by-pass the Fort Hood Biotreatment Facility as shown in Figure III.2. POL spill cleanup material and soil will still be processed through the Fort Hood Biotreatment Facility if all applicable COCs are below the Tier 1 Residential Soil critical PCLs. Material waiting processing at the Staging Area may be mixed to promote

volatilization. A Trommel material screener may be used on an as needed basis to segregate and remove any unwanted debris (e.g., rocks) from the waste material at the Staging Area.

For all incoming waste streams prior to biotreatment processing, the following analysis will be performed:

- TCEQ Method 1005 for Total Petroleum Hydrocarbons (TPH)
- EPA Method 6010B for RCRA Total Arsenic, Barium, cadmium, Lead, Selenium, and Silver.
- EPA Method 7471A for total Mercury
- EPA Method SW 846/8021B for Benzene
- EPA Method 1668A for Total Polychlorinated Biphenyl (PCBs)

A waste classification will be made in accordance with EPA Method 1311 to facilitate the disposal of the material at an approved off-site facility if incoming waste material will not be processed to meet the Tier I Residential Soil critical PCLs for all COCs listed in Attachment A of Part III.

Incoming waste streams that have analytical results indicating Total PCBs equal to or exceeding the Tier I Residential Soil critical PCLs will not be accepted by the Fort Hood Biotreatment Facility to undergo processing. Additionally, if one or more of the metals COCs are equal to or greater than their Tier I Residential Soil critical PCL and one of those metal COC are determined to be hazardous waste (e.g., EPA Method 1311), that waste stream will also be rejected. All rejected waste streams will be redirected to a permitted landfill that can accept the waste (i.e., not the Fort Hood Landfill).

A waste stream that has no PCB detection (i.e., < 1.0mg/kg), TPH and/or Benzene results equal to or greater than the Tier I Residential Soil critical PCL, and one or more of the metal COCs that are equal to or greater than the critical PCLs but not hazardous, can be accepted by the Fort Hood Biotreatment Facility to reduce the TPH and/or Benzene concentrations to levels that are acceptable by the Fort Hood Landfill. Fort Hood Landfill can accept COC concentrations that do

not exceed the concentrations listed in Table 1 of §335.521(a)(1) and soils contaminated with POLs. TPH ranges of less than 600 mg/kg can be accepted by the Fort Hood Landfill as daily cover. TPH ranges greater than or equal to 600 mg/kg but less than 1,500 mg/kg can be accepted into the special waste trench at the Fort Hood Landfill. TPH ranges of greater than or equal to 1,500 mg/kg cannot be accepted by the Fort Hood Landfill.

Waste streams that have all PCB and metal COCs less than the Tier I Residential Soil critical PCLs, but the TPH and/or Benzene COC are equal to or greater than the Tier I Residential Soil critical PCL, can be accepted by the Fort Hood Biotreatment Facility to reduce the TPH and Benzene concentrations to levels below the Tier I Residential Soil critical PCLs. Once the TPH and Benzene concentrations have been reduced below the critical PCL by the Fort Hood Biotreatment Facility, the waste material is acceptable for beneficial reuse outside the west, north, and main cantonments of Fort Hood and outside areas containing endangered species. Material will be reused for general fill purposes to include but not limited to grading and drainage improvements.

The sampling, analysis, and monitoring described below explains the procedures taken by the Fort Hood Biotreatment Facility after the waste streams have been accepted by the facility and are to be processed. Figure III.2 provides a graphical representation of the information presented above in Section 6.3 and in Sections 6.3.1 through 6.3.3.

6.3.1 Initial Sampling and Analysis

Any accepted waste streams that have any metal COCs exceeding the Tier I Residential Soil critical PCL will remain segregated from one another and not combined during the biotreatment process. However, waste streams that have no metal COCs exceeding the Tier I Residential Soil critical PCL, may be combined with one another to facilitate the biotreatment process. If waste streams are combined, initial measurements of the waste material will take place either shortly after windrow placement or at the Staging Area after mixing to promote volatilization has occurred. The intent of this sampling and analysis is to establish pre-processing conditions. Six grab samples will produce one

composite sample that will be analyzed for an estimated volume of waste between approximately 75 and 100 cubic yards. However, this volume may be smaller depending on the incoming waste rate and space availability. The composite sample will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene (EPA Method SW 846/8021B)

Composite samples will consist of grab samples taken from the interior core of the stockpile, at an equally spaced distance along the base of the stockpile, and at an accessible height off the ground.

For any waste streams that are not combined, the analytical results of the incoming waste stream will serve as the pre-processed conditions of that waste.

6.3.2 Waste Processing Monitoring

When waste material is in the Windrow Area and undergoing biotreatment (i.e., after admixture addition), no sampling and analysis will be required. However, temperature and moisture content will be monitored to ensure ideal conditions are in-place for biotreatment to occur.

6.3.2.1 *Moisture Monitoring*

Using a calibrated moisture probe, the moisture content will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each moisture reading will be recorded, in which the average of all ten readings will serve as the overall moisture content of the windrow. If the moisture content is below 40%, additional water will be added to restore moisture conditions to approximately 60%. Dates when water was added to the windrow will be recorded.

6.3.2.2 *Temperature Monitoring*

Using a calibrated temperature probe, the temperature will be monitored in ten locations, with five sample locations on each side of the windrow. The probe will be inserted to a depth of 24 to 36-inches into the core of the windrow. Each temperature reading will be recorded, in which the average of all ten readings will serve as the overall temperature of the windrow. If the overall temperature is below the optimal range of 110°F to 140°F, admixture and/or moisture addition is required to increase the microbial populations. If temperatures rise above 140°F, the windrow requires mixing to lower the temperature. Any modifications to the windrow will be recorded with a description of the changes made and the date it was done.

6.3.3 Post-Processing Sampling and Analysis

At the completion of Phase III Batch Curing and Maturation, as described in Section 2.2 of Part III, a sampling of the processed material will be taken. The intent of this sampling and analysis is to determine whether the TPH and Benzene levels in the processed waste have been reduced below the 0.5-acre Tier I Residential Soil critical PCLs. Six grab samples will produce one composite sample that will be analyzed for the following.

- TPH (TCEQ Method 1005)
- Benzene ((EPA Method SW 846/8021B)

Each grab sample will be taken from within the core of windrow and equally spaced along the entire length of the windrow. If results indicate that the levels for all COCs are below Tier 1 Residential Soil critical PCLs, the material is ready for use in areas outside the west, north, and main cantonments of Fort Hood (but outside the areas containing endangered species) for reuse as general fill to include but not limited to grading and drainage improvements. Processed material that does not meet the 0.5-acre Tier I Residential Soil critical PCLs will be disposed of at a permitted landfill. Analytical results from waste streams that have remain segregated (i.e., not mixed with other waste

streams) for all COCs except TPH and Benzene will be carried forward for waste classification purposes (e.g., if lead results indicate 15 mg/kg prior to undergoing the biotreatment process, the work will still report 15 mg/kg for lead).

6.3.4 Effluent Sampling and Analysis

All surface water will either be allowed to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. Before discharging to the closed loop water system, FHDPW-ED will annually sample and analyze the collected surface water for Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Benzene, PCBs, TPH, fats, oils, and grease, and pH. Other discharges from the facility (i.e., not from the waste processing area) will be sampled in accordance with the TPDES TXR050000 Multi-Sector General Permit.

7.0 FACILITY-GENERATED WASTES

30 TAC §330.205

Wastes generated at the facility will be limited to (1) liquid waste resulting from stormwater and washing of the facility and operating equipment; and/or (2) material that exceeds the Tier 1 Residential Soil critical PCLs as outline in Section 2.2 of Part III. For liquid wastes that will be removed prior to evaporation taking place, wastewater will be discharged to an off-site closed-loop water recirculation system located north of the facility. The Fort Hood Biotreatment Facility will be required to obtain a discharge permit under the Texas Pollutant Discharge Elimination System (TPDES). The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system does not discharge to the waters of the state. Wastes that cannot be processed will be hauled off-site to an appropriate solid waste facility. It is anticipated all non-liquid solid waste generated by the facility will be redirected to the Fort Hood Landfill (MSW Permit No. 1866). The Fort Hood Landfill can accept MSW and special waste. The operation of the Fort Hood Biotreatment Facility will not produce sludges, as defined in 30 TAC §330.3(143).

8.0 CONTAMINATED WATER MANAGEMENT

30 TAC §330.207; §330.331(b); §332.47(c)(i)

All liquids resulting from the operation of the Fort Hood Biotreatment Facility will be disposed of in a manner that will not cause surface or groundwater pollution. Contaminated water and leachate will be collected within the concrete surface of Fort Hood Biotreatment Facility.

The concrete surface serves as a collection unit, which provides a minimum of 1-foot of freeboard for the 25-year, 24-hour storm event, as shown in Figure IIIB.1 of Attachment B in Part III. The concrete floor of the facility is constructed of 6 to 8-inch 3,000 psi concrete. Below the concrete is a layer of sand of various thickness, 3-inches of bedding material, a 30-mil PVC liner, and a 3-inch thick layer of cushion material. A layer of rock spalls of various thickness exist on the side slopes of the concrete surface. Details of the concrete and subsurface system are shown on Figures III.6 through III.8 of Part III.

30 TAC §330.207(b) states that collection units must have a synthetic liner and the liner must be constructed in accordance with 30 TAC §330.331(b). 30 TAC §330.331(b) states a composite liner must consist of two components; the upper component must consist of a minimum 30-mil geomembrane liner and the lower component must consist of at least a two-foot layer of recompacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/s. However, prior to registration application submission, FHDPW-ED, the United States Army Corps of Engineers-Ft. Worth District (USACE), and the Texas Commission on Environmental Quality (TCEQ) participated in a teleconference on May 6, 2013 to discuss the unique circumstance associated with the Fort Hood Biotreatment Facility. Given the unusual site conditions, the TCEQ stated 30 TAC §332.47(c)(i) would supplant 30 TAC §330.207(b) and 30 TAC §331(b). The existing site conditions of the Fort Hood Biotreatment Facility already meet the requirements 30 TAC §332.47(c)(i)(III), which is an alternative design that utilizes an impermeable liner (i.e., concrete).

The Fort Hood Biotreatment Facility will not be performing any mining. Additionally, contaminated water will not discharge to a septic system.

9.0 STORAGE REQUIREMENTS

30 TAC §330.209

All special waste will be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and will be contained or bundled so as not to result in litter.

An on-site storage area (i.e., concrete bins) for source-separated admixtures will be provided that is separate from the Staging or Windrow Areas. Control of odors, vectors, and windblown waste from the storage area will be maintained.

10.0 APPROVED CONTAINERS

30 TAC §330.211

Food wastes are not part of the incoming waste stream of the Fort Hood Biotreatment Facility. However, food wastes may be generated by facility personnel. All solid food wastes will be stored in covered or closed containers that are leak proof, durable, and designed for safe handling and easy cleaning. Reusable containers will be maintained in a clean condition so that they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. Non-reusable containers will not be used. Containers that are emptied manually will be capable of being serviced without the collector coming into physical contact with the waste. Containers that are mechanically emptied will be designed to prevent spillage or leakage during storage handling, and transport.

11.0 RECORDKEEPING AND REPORTING REQUIREMENTS

30 TAC §330.219

A copy of the registration, the approved registration application and all other related or required plans or documents will be maintained at the facility during the active life of the site and shall be considered a part of the operating record of this facility. Additionally, a set of as-built construction plans for the facility will be maintained at the facility. Information and data shall be recorded, as appropriate, in the operating record to be retained at the site during the active life of the site. Upon request by the TCEQ, all such documents will be made available for inspection.

The items listed on Table 11-1 will be maintained and filed. This information will be placed in the operating record within seven working days of completion or upon receipt of analytical data, as appropriate.

**Table 11-1
Operating Record**

| Records To Be Maintained | Rule Citation |
|--|-----------------------|
| 1. Logs a. Access Control Inspection Maintenance Log b. Incoming Waste Inspection Log c. Dust Nuisance Control Log d. Fire Extinguisher Maintenance Log | 30 TAC §330.223 |
| 2. All location-restriction demonstrations | 30 TAC §330.219(b)(1) |
| 3. Inspection Records and Training Procedures | 30 TAC §330.219(b)(2) |
| 4. Closure Plans and any monitoring, test, or analytical data relating to closure requirements | 30 TAC §330.219(b)(3) |
| 5. Copies of all correspondence and responses relating to the operations of the facility, modifications to the registration, approvals, and other matters pertaining to technical assistance. | 30 TAC §330.219(b)(5) |
| 6. All documents, manifests, shipping documents, trip tickets, DA Form 3161, etc. | 30 TAC §330.219(b)(6) |
| 7. Any other documents as specified by the approval registration or by the TCEQ. | 30 TAC §330.219(b)(7) |
| 8. Records on a monthly basis to document the amount of waste stream accepted and the amount diverted from landfill disposal (i.e. treated to exceed Tier I Residential Soil critical PCLs) to meet a beneficial use. FHDPW-ED will submit an annual report to the executive director by March 1 st summarizing the material recovery activities and the percentage of received wastes that were recovered during the past calendar year. | 30 TAC §330.219(b)(9) |
| 9. All documents and forms associated with the Fire Protection Plan (see Section 12.0). | 30 TAC §330.221 |
| 10. Records of any alternative operating hours, if applicable | 30 TAC §330.229(b) |

No cost estimate and financial assurance information is required because the Fort Hood Biotreatment Facility is exempt as outlined in 30 TAC §37.8001 [30 TAC §330.219(b)(4)]. Records retention associated with sludge use, disposal, and transportation is not applicable (30 TAC §330.219(b)(8)). The signatories to any reports submitted to the TCEQ will be in compliance with the conditions listed in §330.219(c). All information contained in the operating record shall be furnished upon request to the TCEQ and will be made available for inspection at any time, as required in §330.219(e). The owner will retain all information contained within the operating record and any required plans for the life of the facility, in accordance with §330.219(f).

12.0 FIRE PROTECTION

30 TAC §330.221

The following section describes the content of the Fire Protection Plan.

12.1 Fire Protection Plan

The following steps are taken at the facility by designated personnel to prevent fires.

12.1.1 Routine Observation and Preventative Measures:

- Facility personnel will be alert for signs of burning waste such as smoke, steam, or heat being released from incoming waste loads.
- Equipment used to move waste will be routinely cleaned through the use of high pressure water. The high pressure water will remove combustible waste and caked material which can cause equipment overheating and increase fire potential. The amount of water needed to perform cleaning function will be minimized to the maximum extent possible.
- Equipment will not be allowed to remain in direct contact with any material either at the Windrow or Staging Area.
- Smoking is not permitted at the facility within the confines of the perimeter fence.
- Fort Hood Biotreatment Facility personnel will immediately remove dead trees, brush, and/or vegetation immediately adjacent to the facility. Grass height within the perimeter fence line will be maintained to a minimal height to reduce the possibility of a fire to spread.

12.1.2 Procedures in the Event of a Fire

- Immediately contact the Fort Hood Fire Department, by dialing 117 or (254) 287-3908 or (254) 287-7127.
- After notifying the Fire Department, the Emergency Coordinator (EC) will be made aware of the situation.

Primary EC

Position: Fort Hood Biotreatment Facility Site Supervisor

Phone: (254) 535-0658

Alternate EC

Position: Solid Waste Program Manager

Phone (1): (254) 287-9184

Phone (2): (254) 535-3501

- Access to the facility will be reduced to emergency response personnel and the EC and their authorized representatives.
- Assess extent of fire, possibilities for the fire to spread, and alternatives for extinguishing the fire.
- If it appears that the fire can be safely fought with available fire fighting devices until arrival of the Fort Hood Fire Department, attempt to contain or extinguish the fire.
- Upon arrival of the Fort Hood Fire Department, direct them to the fire and provide assistance as appropriate.
- Do not attempt to fight the fire alone. Do not attempt to fight the fire without adequate personal protective equipment. Be familiar with the use and limitations of firefighting equipment available onsite.
- Once the fire has been extinguished, the EC will ensure proper decontamination of any equipment used to fight the fire before returning it to its proper location.
- After responding to the incident, the EC will meet with the Fort Hood Fire Department senior official on scene to determine the cause of the fire. The identified causative agent will be removed from the vicinity of the facility, if the possibility of re-ignition exists. Appropriate actions (e.g., exclusion from the facility of the causative agent, more frequent equipment maintenance, etc.) will be developed to prevent its recurrence. All personnel involved with the handling, transport, and placement of the materials at the facility will be informed of resultant actions. Changes in operating protocol or procedures resulting from this meeting will be documented.

12.1.3 Fire Fighting Methods

Fire fighting methods for extinguishing waste material that is burning include separating burning material from other soil and spraying with water from the on-site hose bibs.

Small fires might be controlled with hand-held extinguishers. If possible, the burning

soil will be isolated or pushed away immediately before the fire can spread or firebreaks will be cut around the fire before it can spread. If moving the soil is not possible, or if it is unsafe, efforts will be made to smother the fire.

If a fire occurs on a vehicle or piece of equipment, the equipment operator will bring the vehicle or equipment to a safe stop. If safety of personnel will allow, the vehicle will be parked away from fuel supplies (if any), admixtures, waste material, and other vehicles. The engine will be shut off and the brake engaged to prevent movement of the vehicle or piece of equipment.

The site will be equipped with fire extinguishers of a type, size, location, and number as recommended by the Fort Hood Fire Department. Each fire extinguisher will be fully charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged as necessary. Each extinguisher will display a current inspection tag. Inspection and recharging will be performed following each use. All equipment and vehicles will be equipped with fire extinguishers.

12.1.4 Water Supply

The Fort Hood Biotreatment Facility contains a 2-inch pressurized water line that runs along the perimeter of the site. The line provides potable water to 8 hose bibs spaced approximately 100-feet along the southern and northern perimeter. These hose bibs are primarily used to provide the necessary water for the Windrow Area. However, these bibs can also be used to supply water for the purposes of fire fighting. Figure II.10 shows the location of the water line and hose bibs at the Fort Hood Biotreatment Facility.

12.1.5 Fire Equipment

The facility will be equipped with fire extinguishers of a type, size, location, and number as recommended by the Fort Hood Fire Department. Each fire extinguisher will be fully charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged as necessary. Records of this activity will be documented in a log or similar as specified in Section 11.0. Qualified personnel will perform these inspections, and all extinguishers will display a current inspection tag. Inspection and recharging will

be performed following each use. All waste management equipment and vehicles will be equipped with fully charged fire extinguishers.

12.1.6 Fire Protection Training

Training of facility personnel in firefighting techniques, fire prevention, response, and the fire protection aspects of this SOP will be provided, by established professionals, on an annual basis. Personnel will be familiar with the use and limitations of firefighting equipment available onsite. Records of this training will be included in the operating record for the facility.

12.2 TCEQ Notification

After any fire (related to waste management activities that cannot be extinguished within 10 minutes of discovery) occurs, the TCEQ regional office will be contacted. The notification to the regional office will include:

- Contacting by telephone as soon as possible, but no later than 4 hours following fire discovery, and
- Providing a written description of the cause and extent of the fire and the resulting fire response within 14 days of fire detection.

The facility will provide to the appropriate regional office as much information as possible regarding the fire and fire-fighting efforts, as soon as possible after the fire occurs.

The fire prevention and fire control procedures for the facility will be revisited following the occurrence of a significant fire to determine if modifications are warranted.

13.0 ACCESS CONTROL

30 TAC §330.223

Public access will be controlled to minimize unauthorized vehicular traffic, unauthorized and illegal dumping, and public exposure to hazards associated with waste management. Controlled access will be maintained by an 8-foot chain link fence that surrounds the entire perimeter of the facility.

The main point of access to the site will be from a site access road that runs almost perpendicular to 37th Street. A 20-foot wide, double gate, chain link fence will serve as the only access point (i.e., main entrance) for in-bound and out-bound traffic utilizing the facility. This gate, along with two other gates that are used only by facility personnel, will be closed and locked during non-operating hours. When the main entrance gate is opened, any person or vehicle entering the facility will be within the view of Fort Hood Biotreatment Facility personnel from within the facility or at an adjacent office building used by facility personnel. Fort Hood Biotreatment Facility will not allow any unauthorized entry or deposition of solid waste or hazardous materials.

A sign, indicating the type of site, the hours and days of operation, along with the registration number will be located at the main entrance. The main entrance and perimeter fence are shown on Figure III.1. Perimeter fences will be inspected at least on a quarterly basis and as described in Section 5.0. These inspections and any maintenance will be recorded in the site's operating record.

When there is an access breach, the regional TCEQ office, and any local pollution agency with jurisdiction that has been requested to be notified, will be notified within 24 hours of detection. The breach must be temporarily repaired within 24 hours of detection and must be permanently repaired by the time specified to the TCEQ regional office when it was reported in the initial breach report. If a permanent repair can be made within 8-hours of detection, no notice to the TCEQ's regional office is required. Otherwise, notification is required to the TCEQ's regional office when a permanent access control breach repair is completed.

The existing site entrance is a paved asphalt driveway. The access road is a two-way road consisting of asphalt and concrete pavement that is designed to accommodate the turning radii of all vehicles entering the site. Parking areas for employees and visitors (i.e., not waste delivery vehicles) will be located adjacent to the main entrance, off the shoulder of the facility access road. Equipment will be staged within the perimeter of the fenced boundary. Private citizens will not be allowed to deliver material to the Fort Hood Biotreatment Facility.

Dust and mud will be controlled on an as needed basis. Any mud that may accumulate will be removed as soon as practicable.

14.0 UNLOADING OF WASTE

30 TAC §330.225

The unloading of special waste will be confined to the area identified as the Staging Area, as shown on Figure III.1. The Staging Area will be limited to an area as small as practicable in order to maintain site access and minimize dust generation.

The unloading of waste in unauthorized areas is prohibited. Waste that is deposited in unauthorized locations will be removed immediately and properly placed back in the Staging Area. The Site Supervisor or authorized representative will be present during regular operating hours to direct the unloading of waste in appropriate areas. If needed, the Site Supervisor will assist in the unloading of waste. Appropriate signage will be utilized to identify authorized areas of disposal. The Fort Hood Biotreatment Facility is not required to accept any special waste that is determined to cause or may cause problems in maintaining full and continuous compliance with this registration.

Not all waste streams are accepted at the Fort Hood Biotreatment Facility. The Waste Acceptance and Analysis, Section 6.0, describes the wastes that can be collected at the Fort Hood Biotreatment Facility. The Site Supervisor will observe incoming waste, and if based upon observation, has the authority and responsibility to reject unauthorized waste loads. Any prohibited waste not discovered until after unloading will be placed back in the offending transporter's vehicle, if possible, otherwise returned to the transporter or generator of the waste. The driver may be advised where the waste may be managed or disposed of legally, and will be responsible for the proper handling of the rejected waste.

In the event the unauthorized waste is not discovered until after the delivery vehicle is gone, the waste will be segregated and controlled as necessary. The Site Supervisor will make an effort to identify the entity that deposited the prohibited waste and have them return to the facility and properly dispose of the waste. In the event that identification is not possible, the Site Supervisor will notify the TCEQ and seek guidance on how to remove and dispose of the waste as soon as practical. A record of unauthorized material removal will be maintained in the operating record.

Only those persons operating vehicles that comply with the following requirements will be authorized by the Site Supervisor to transport waste to and from this facility:

1. All vehicles and equipment used for the collection and transportation of waste will be operated, and maintained to prevent loss of waste material and to limit health and safety hazards to facility personnel and the public.
2. Collection vehicles and equipment will be maintained in a sanitary condition to preclude odors and fly breeding.
3. Collection vehicles not equipped with an enclosed transport body will use other devices such as nets or tarpaulins to preclude accidental spillage and windblown litter.

Facility personnel will keep vigilant watch for compliance with operating requirements. Signs with directional arrows and/or portable traffic barricades will help to restrict traffic to designated unloading locations. In addition, rules for waste receipt and prohibited waste will be prominently displayed on signs at the facility entrance.

15.0 SPILL PREVENTION AND CONTROL

30 TAC §330.227

The Fort Hood Biotreatment Facility is designed to control and contain spills and contaminated water from leaving the facility. The facility is designed to withstand a 25-year, 24-hour storm. See Part III, Section 3.0, for more information.

16.0 FACILITY OPERATING HOURS

30 TAC §330.229

The Fort Hood Biotreatment Facility will be authorized to accept waste and operate heavy equipment between 7:30 am and 4:15 pm, Monday through Friday. The facility does not anticipate ever needing to operate beyond the days and hours specified above.

17.0 FACILITY SIGN

30 TAC §330.231

A conspicuous sign measuring a minimum four feet by four feet with letters at least 3-inches in height will be maintained at the main entrance to the facility. The sign will state the following information:

- Name of Facility
- Type of MSW Facility: Type V Processing Facility
- Authorized by TCEQ Registration Number: MSW-xxxxx
- Hours of Operation: 0730 to 1615, Monday through Friday

Facility rules will be posted on the site signs. Facility rules will include, but are not limited to, the following:

- All loads must be covered prior to entering the facility.
- Loading/unloading in designated areas only.
- Follow all posted signs.

18.0 CONTROL OF WINDBLOWN MATERIAL AND LITTER

30 TAC §330.233

It is not anticipated that windblown material and litter will be an issue at the Fort Hood Biotreatment Facility. However, certain measures will be in place in case such issues arise. Windblown material and litter will be controlled by following proper unloading procedures. Onsite stockpiles will be controlled to eliminate windblown soil or dust by applying water as necessary to dampen the material but not create a saturated material that that can lead to runoff. Personnel will police the facility including fences, access roads, and the entrance gate, every operating day to pick up and return windblown material and litter to the facility and perform such other litter control measures, as necessary. The entrance signs will advise that all vehicles hauling waste must be covered.

19.0 MATERIALS ALONG THE ROUTE TO THE FACILITY

30 TAC §330.235

The Site Supervisor will take steps to encourage that vehicles hauling waste to the facility are enclosed with a tarpaulin, net, or other means to effectively secure the load in order to prevent the escape of any part of the load by blowing or spilling. The Site Supervisor will take actions such as posting signs, reporting offenders to the proper military chain of command, or similar measures.

The Fort Hood Biotreatment Facility will collect spilled materials along 37th and parallel access roads between the North Avenue and the South Range Road intersection on days the facility accepts waste. All vehicles will be required to ensure their loads are covered in compliance with vehicle laws.

20.0 FACILITY ACCESS ROADS

30 TAC §330.237

The only on-site road is all-weather surfaced (asphalt or concrete) to provide wet-weather operation capability. The roads will be free draining and passable in two directions, and free of excessive ruts. Tracked mud and associated debris at the entrance to the facility and on the public roadway at the entrance to the facility and trash on public roadways will be removed at least once per day on days when mud and associated debris are being tracked onto the public roadway, to the extent that mud can be reasonably considered to be associated with facility operation.

Dust from on-site and other access roadways will not become a nuisance to surrounding areas. A water source and necessary equipment will be provided on an as needed basis to prevent nuisance dust. All on-site and other access roadways will be maintained on a regular basis to minimize depressions, ruts, and potholes.

21.0 OVERLOADING AND BREAKDOWN

30 TAC §330.241

The design capacity of the special waste facility will not be exceeded during operation. The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harborage of other vectors. If such accumulations occur, additional special waste will not be received until the adverse conditions are abated. When the facility accepts grit-chamber sediment wastes that have been adequately dried, the material will not be stored at the Staging Area for more than 72 hours. Within 72 hours, the material will be relocated from the Staging Area and placed in a windrow in the Windrow Area.

The facility is sized to accept approximately 8 cubic yards per day with an estimated maximum temporary storage of 250 cubic yards of waste material. Once this storage volume has been received, no additional material will be accepted until the material is transferred from the Staging Area to the Windrow Area. The anticipated amounts of waste to be accepted during normal operations will be significantly less than this amount (see Section 6.0). Front-end loaders and other equipment described in Section 4.0 will be used to move waste and admixtures within the facility. If a front-end loader does break down, waste will either be stored until it is repaired or until the remaining loader catches up with material removal or the facility will obtain other equipment.

If a significant work stoppage should occur, the owner or operator will restrict additional special waste receipt. If the work stoppage is anticipated to last long enough to create objectionable odors, insect breeding, or harborage of vectors, steps will be taken to remove the accumulated special waste from the facility to an approved backup storage, processing, or disposal facility within 72 hours.

22.0 SANITATION

30 TAC §330.243

The Fort Hood Biotreatment Facility will process special waste that is POL spill clean-up material and dry sediment from grit-chambers, oil-water separators, and stormwater structures. Typically, once the special waste is placed in a windrow, the biodegradation process of the waste will take approximately 3 to 5 months. As such, not all waste surfaces that come in contact with waste can be washed down on a weekly basis. However, the areas around the windrows, concrete bins, and Staging Area will be swept daily. Once the windrow is ready for removal, as described in Section 2.2 of Part III, the surface area which the windrow used to occupy will be washed down.

The amount of water used to wash down the area of the facility will be kept to a minimum to prevent excessive waste water generation. All water used as part of the sanitation process will drain to the sump area within the facility. The Fort Hood Biotreatment Facility will either allow collected surface water to evaporate or discharge, through a gravity pipe, to a closed loop water recirculation system that is used to treat wash water originating from an adjacent vehicle wash facility. The water in this closed loop water recirculation system is not and does not discharge to the waters of the state. Other discharges from the facility will be managed in accordance with the TPDES TXR050000 Multi-Sector General Permit. In order to mitigate any potential odor issues during facility operation, an odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation. An environmentally friendly surfactant may be used to control fly and mosquito populations.

23.0 VENTILATION AND AIR POLLUTION CONTROL

30 TAC §330.245

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act. The Fort Hood Biotreatment Facility was a facility originally constructed for its current intended purpose in the mid-1990's. As such, the Fort Hood Directorate of Public Works has already granted authority for the development of the facility, which reflects the current conditions at the site. According to Form PI-7 found in Attachment B, the construction for the Fort Hood Biotreatment Facility commenced in September 1996; therefore 30 TAC §116 is not applicable. However, FHDPW-ED submitted and received authorization from the Texas Natural Resource Conservation Commission (TNRCC) to operate the facility in accordance with 30 TAC §106.533 and 30 TAC §106.262. Attachment B contains the facility air permit.

No burning of wastes is proposed for this processing facility. This facility will be operated in a manner that includes routine waste removal and facility cleaning to avoid the generation of objectionable odors becoming a nuisance.

Given that the facility is not within an enclosed structure, the facility provides adequate ventilation for odor control and employee safety. The operator will prevent nuisance odors from leaving the boundary of the facility. If nuisance odors are found to be passing the facility boundary, the facility operator will suspend operations until the nuisance is abated or immediately take action to abate the nuisance. In order to mitigate any potential odor issues during facility operation, an odor control spray system (e.g., Odoreze™ or similar) may be used to offset any offensive odors that may originate from facility operation.

The facility is surrounded by warehousing type facilities. Prevailing winds at the site are from the south, as shown on Figure II.1, which will direct odor to the north side of the facility, which is not occupied by residences or offices. All odorous material will be processed as quickly as possible to minimize the amount of time that the odorous material is exposed.

Any ponded water at the facility will be controlled to avoid becoming a nuisance. In the event that objectionable odors do occur as a result of ponding appropriate measures will be taken to alleviate the condition. These measures may include elimination of the ponded water or the use of an environmentally friendly surfactant to control fly and mosquito populations.

Other measures that will be taken to control air pollution at the facility include:

- No open burning will occur at the site except as approved by TCEQ.
- Accidental fires are controlled as outlined in the Fire Protection Plan.
- Periodic wash down of all surfaces that have come into contact with waste.

24.0 HEALTH AND SAFETY

30 TAC §330.247

Facility personnel will be trained in the proper procedures for maintaining health and safety at the Fort Hood Biotreatment Facility.

25.0 EMPLOYEE SANITATION FACILITIES

30 TAC §330.249

Potable water and sanitary facilities will be provided for all employees and visitors. Potable water and sanitary facilities are available at the Site Supervisor's office building, which is adjacent to the facility.

26.0 DISEASE VECTOR CONTROL

The need for extensive vector control (control of rodents, birds, flies, and mosquitoes) will be minimized through proper site operation. If insects or rodents become a problem, insecticides and/or pesticides will be used to eliminate the vector problem. If necessary, a licensed pest control professional will be utilized to apply pesticides for control of vectors, ensuring that proper chemicals are used and that they are properly applied. Any ponded water at the site will be controlled to avoid its becoming a nuisance and attracting vectors. An environmentally friendly surfactant may be used to control fly and mosquito populations.