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FINAL ENVIRONMENTAL CLEANUP PLAN FOR LANDFILLS 4, 5 AND 8 AND WASTE
BURIAL AREA EXCAVATION NAS FORT WORTH TX
5/1/2000
INTERNATIONAL TECHNOLOGIES



**NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS**

**ADMINISTRATIVE RECORD
COVER SHEET**

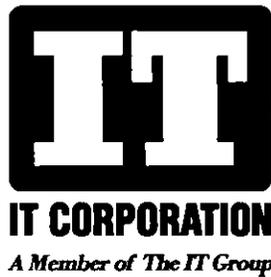
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**United States Air Force
NAS Fort Worth
(Former Carswell AFB)
Fort Worth, Texas**

**Final
Environmental Cleanup Plan**
Landfills LF-04, LF-05, and LF-08 Capping
and Waste Burial Area, WP-07 Excavation
NAS Fort Worth (Former Carswell AFB)
Fort Worth, Texas



**AFCEE Contract No. F41624-97-D-8024
Delivery Order 003
IT Project No. 774902
May 2000**

Environmental Cleanup Plan

Work Plan for Landfills LF-04, LF-05, LF-08, and Waste Burial Area No. 7 (WP-07) Excavation at NAS Fort Worth (Former Carswell AFB), Fort Worth, Texas

AFCEE Contract No. F41624-97-D-8024

Delivery Order 003

IT Project No. 774902

May 2000



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Acronyms and Abbreviations

ACM	asbestos-containing material
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCEE	Air Force Center for Environmental Excellence
CFR	Code of Federal Regulations
DO	delivery order
DOT	U.S. Department of Transportation
ECP	environmental cleanup plan
IT	IT Corporation
LDR	land disposal restriction
LF-04	Landfill No. 04
LF-05	Landfill No. 05
LF-08	Landfill No. 08
NAS	Naval Air Station
PCB	polychlorinated biphenyl
PE	polyethylene
PPE	personal protective equipment
RA	remedial action
TDH	Texas Department of Health
TNRCC	Texas Natural Resource Conservation Commission
TSCA	Toxic Substance Control Act
WP-07	Waste Burial Area No. 7

Section 1 Introduction

This environmental cleanup plan (ECP) has been prepared to implement the remedial action (RA) of Landfill No. 04 (LF-04), Landfill No. 05 (LF-05), Landfill No. 08 (LF-08), and Waste Burial Area No.7 (WP-07) at Naval Air Station (NAS) Fort Worth Joint Reserve Base, (former Carswell Air Force Base [AFB]) Fort Worth, Texas. IT Corporation (IT) prepared this document and will perform the work in accordance with Delivery Order (DO) No. 003 issued by the United States Air Force Center for Environmental Excellence (AFCEE) under the Remedial Action Contract No. F41624-97-D-8024.

This ECP has been prepared to complement the Final Design being prepared by Hydrogeologic, Inc. as approved by AFCEE and the Texas Natural Resource Conservation Commission (TNRCC). This ECP will be modified accordingly to agree with the approved Final Design.

1.1 Project Objectives

The objective for the RA of the soils at LF-04, LF-05, and LF-08 is to discourage human access to the landfill areas and to isolate the landfill mass and prevent direct contact with the landfill contents. The objective for the RA action for WP-07 is to reduce and eliminate the leaching of contaminants into subsurface soils and the groundwater.

1.2 Site Description

Carswell AFB was located on approximately 2,555 acres of land in Tarrant County, Texas, eight miles west of downtown Fort Worth. It consisted of the main Base and two noncontiguous parcels located west of the town of White Settlement. The main Base comprised 2,264 acres and was bordered by Lake Worth to the north, the West Fork of the Trinity River, River Oaks, and Westworth Village to the east, other urban areas of Fort Worth to the northeast and southeast, White Settlement to the west and southwest, and AF Plant 4 to the west (AFCEE, 1998).

Carswell AFB was first activated in 1918 as a combat training school. Pursuant to the Defense Base Closure Act and Realignment Act of 1990, Carswell AFB was selected for closure and associated property disposal during Round II Base Closure Commission deliberations. The Carswell AFB Disposal and Reuse Final Environmental Impact Statement was filed with the U.S. Environmental Protection Agency on April 29, 1992. A National Environmental Policy Act Record of Decision was issued on March 31, 1993. The Base officially closed on September 30, 1993.

The Air Force Base Conversion Agency is identifying and prioritizing the disposal and reuse of each parcel, based on market demand and reuse by the local community. Most of the property will be transferred to the U.S. Department of the Navy; therefore, Carswell AFB has been designated as the NAS Fort Worth (IT, 1998).

LF-04 includes approximately nine acres of land located east of the south end of Taxiway 197 (see Figure 1-2). It was the main landfill during much of the history of Carswell AFB. While in

active use, at least six large pits, approximately twelve feet deep, were filled with refuse that was burned and buried. It was reported that various potentially hazardous wastes including drums of waste liquids, partially full paint cans, and cadmium batteries were reportedly disposed of at this site (AFCEE, 1998).

LF-05 includes approximately three acres of land located northwest of LF-04 between Fire Training Areas 1 and 2 (see Figure 1-2). The site is also located adjacent to the western boundary of the Base golf course. LF-05 is adjacent to a small tributary leading to Farmers Branch Creek and was constructed by building a clay berm next to the creek and filling the area behind the berm. The landfill reportedly received all types of flightline waste and refuse, which was burned prior to covering (AFCEE, 1998).

LF-08 is located adjacent to the western boundary of the Base golf course (see Figure 1-2). LF-08 was operated from 1960 to 1969 and received nonhazardous material including landscape debris, construction debris, and metal (AFCEE, 1998).

Waste Burial Area WP-07 is located adjacent to the western boundary of the Base golf course (see Figure 1-2). WP-07 received drums containing cleaning solvents and leaded sludge from the flightline in the 1960s. A remedial soil removal action was conducted in 1991 to remove the drums (AFCEE, 1998).

1.3 Scope of Work

Approved municipal solid waste final cover systems will be constructed for LF-04, LF-05, and LF-08. Each cover system will consist of a low infiltration layer and a vegetative erosion layer. Lead and polyaromatic hydrocarbon impacted soils will be excavated at WP-07 and disposed of as nonhazardous waste. The excavation will be backfilled with clean fill material and compacted in lifts.

1.4 Project Organization

The project organization is shown on Figure 1-1.

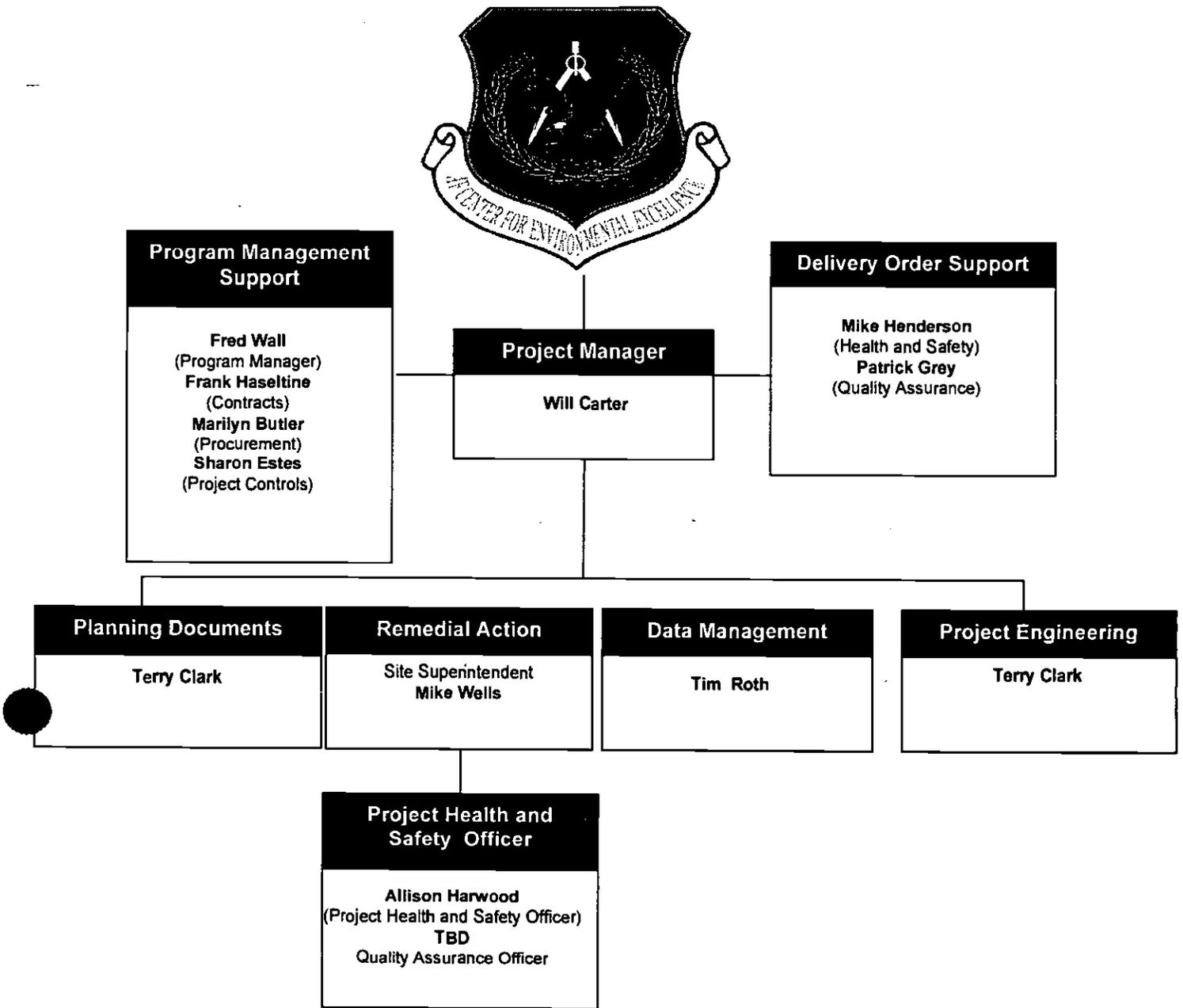


Figure 1-1: Project Organization

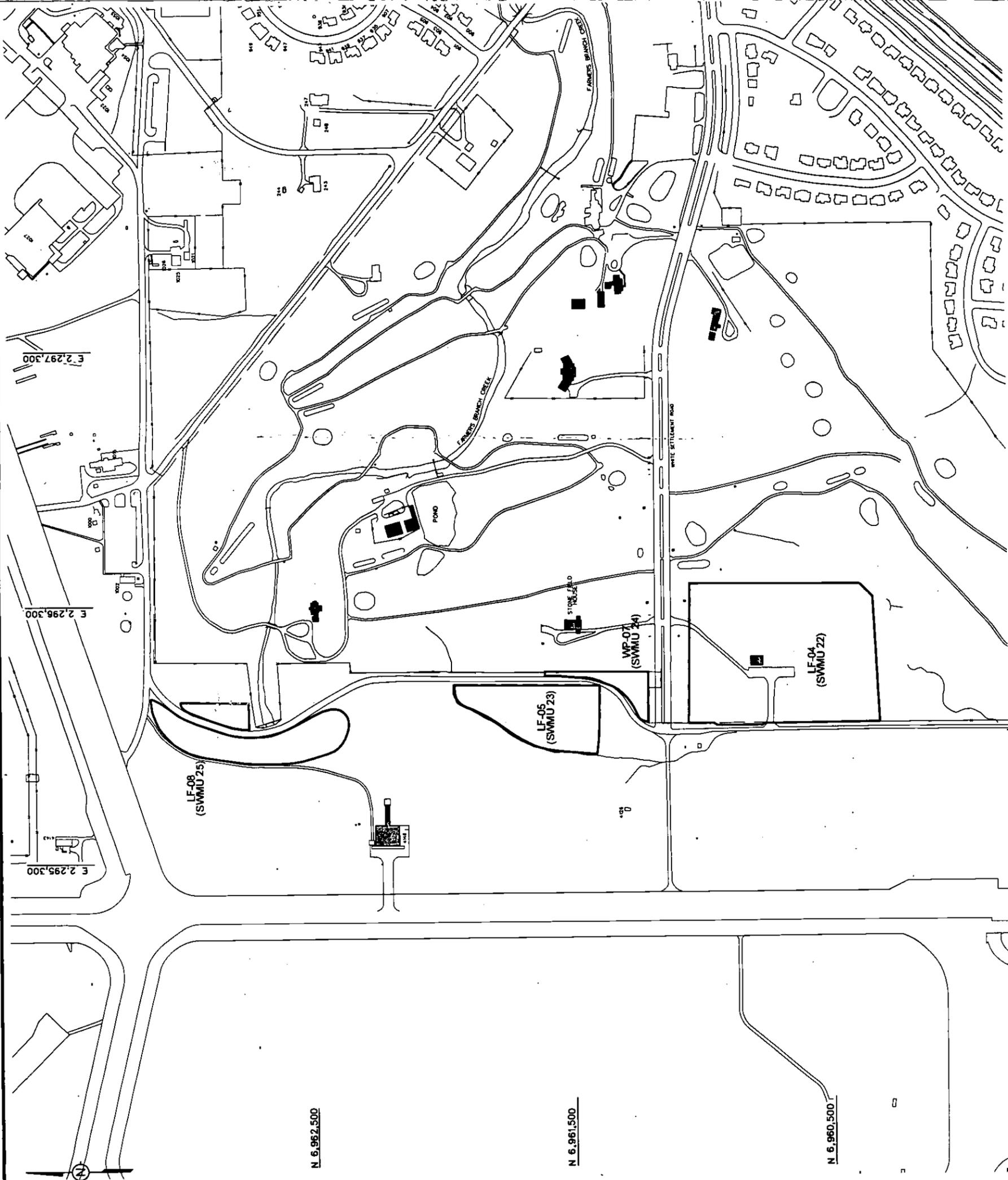
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**FIGURE 1-2
LANDFILL AND WASTE PIT
DISPOSAL AREA LOCATION MAP**

NAS FORT WORTH JRB
FORT WORTH, TEXAS



STARTING DATE: 4/14/00	DATE LAST REV: 05/30/00	DRAFT, CHCK, BY: D. HALL	INITIATOR: M. MAKI	DWG. NO.: 768579es.193
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Section 2 Project Activities

2.1 Design

HydroGeologic, Inc. will complete and submit the Final Design(s) for each site. Each design package will include drawings, specifications, and the design analysis report, which will include the design matrix and calculations.

2.2 Subcontracting

Procurement of subcontracted services, materials, and equipment will be completed prior to field construction activities in compliance with the contract. IT will subcontract to local suppliers with an emphasis on small business/small disadvantaged businesses. Subcontracts will be issued as firm, fixed price when possible. The following subcontracts are anticipated for this project:

- Environmental Assessment/Abatement Contractor
- Analytical Laboratory
- Transportation of Nonhazardous Material
- Nonhazardous Waste Disposal Facility
- Transportation of transformer and any polychlorinated biphenyl (PCB) contaminated materials
- Permitted disposal facility for transformer and any PCB-contaminated materials
- Borrow Source Material and Transportation
- Survey.

2.3 Site Preparation

Certain site preparation activities will be performed prior to construction and excavation activities. Site preparation activities for all other work will be performed in phases that relate to the phases of the field activities being performed. Site preparation activities will include:

- Mobilization activities (each site)
- Plans and permits (each site)
- Environmental assessment/abatement of former radar building (LF-04)
- Demolition and disposal of existing structures (LF-04)
- Phthalate impacted soil removal and disposal (LF-04)

- Transformer removal and disposal (LF-04)
- Site survey and controls (LF-04, LF-05, and LF-08).

2.4 Excavation, Transportation, and Disposal

There is the possibility that excavation activities will occur at each landfill and WP-07. This will be defined in the Final Design documents and added to this plan as an addendum. Phthalate contaminated soils will be excavated from LF-04 and transported for disposal as nonhazardous waste. Excavation activities at LF-04 will be performed in accordance with the demolition and associated activities work plan (IT, 2000a) and will be revised according to HydroGeologic, Inc.'s Final Design.

Previous sampling activities have indicated the presence of phthalate, lead, and poly-aromatic contaminated soils at concentrations below regulatory levels defining hazardous waste. Therefore, these soils will be disposed of as nonhazardous waste according to HydroGeologic, Inc.'s Final Design.

In the event additional "hot spots" are discovered at any landfill, they will be excavated and transported for disposal according to the procedures discussed in Section 4. However, these procedures will be modified, as necessary, based on the approval of the Final Design by AFCEE and TNRCC.

2.5 Confirmation Sampling

Following excavation activities, confirmation soil samples will be collected and analyzed at an off-site laboratory to ensure the cleanup goals presented in the Final Design have been achieved. In the event a soil sample exceeds the established cleanup goal, the associated area of the excavation will be overexcavated approximately 1 foot and resampled. This process of overexcavation and resampling will continue until all sample detections are below remediation goals.

2.6 Excavation Backfill

Upon receipt of analytical results indicating that all detections are below cleanup criteria, the excavations will be backfilled with certified clean soil from an off-site source. All backfill shall meet the specifications for the landfill cover. Backfill will be placed in 6-inch lifts and compacted thoroughly (IT, 2000a).

2.7 Cover Construction

The final cover systems for LF-04, LF-05, and LF-08 were developed in accordance with the requirements of the Texas Administrative Code, Section 330.251, since each landfill stopped receiving waste prior to October 1991 (Emcon/OWT, 2000).

Each cover will consist of an 18-inch low-infiltration layer and a 6-inch vegetative layer. The low-infiltration layer will consist of earthen material of the SC or CL classification as defined by the "United Soil Classification System." The vegetative layer will consist of 6 inches of topsoil capable of sustaining plant growth (Emcon/OWT, 2000).

The infiltration layer will be a relatively homogeneous clayey soil, placed in layers and compacted under controlled moisture-density conditions with appropriate compaction equipment. The thickness of the layers will be controlled to no more than six inches to minimize the potential for water infiltration. The low-infiltration layer will be a hard and uniform surface upon completion (Emcon/OWT, 2000).

The vegetative layer will be placed directly over the low-infiltration layer. The surface of the vegetative layer will be seeded, mulched, and watered as necessary to establish a vegetative cover. Vegetation will be established to provide at least 95 percent coverage of native and introduced grasses (Emcon/OWT, 2000).

2.8 Final Cover Testing Procedures

Each final cover system will be tested and evaluated during construction. The 18 inches of compacted low-infiltration material will be tested for coefficient of permeability at a frequency of at least one test per surface acre of final cover. Other testing (e.g., standard Proctor, Atterberg limits, moisture content, and density) will be conducted, as appropriate, to provide control and verification during construction of each final cover (Emcon/OWT, 2000).

Section 3 Site Security Plan

3.1 Objectives

IT and its subcontractors will conform to NAS Fort Worth rules for on-site contractors which include safety, security, and notification requirements. The specific rules and regulations will be discussed at the preconstruction meeting.

3.2 Security Procedures

The IT Site Superintendent will control construction area access during this project and will be responsible for directing construction activities. The normal work hours will be from 7:00 a.m. to 5:00 p.m., Monday through Friday. Base security will assist in controlling access to the construction site. Any changes to the site that effect security protocols will be coordinated with NAS Fort Worth.

During construction activities, barriers and road markers will be used to route traffic away from the construction activities, when necessary and after sufficient prior notification to NAS Fort Worth security. IT will further provide the means to secure equipment associated with this project. This includes securing staging areas and excavations

3.3 Security Violations

IT and all subcontractors will comply with the rules and regulations of NAS Fort Worth. Violations will be reported to the AFCEE and NAS Fort Worth representatives.

Section 4 Site Preparation Plan

4.1 Objectives

This section describes the preparatory activities required prior to beginning construction and excavation activities.

4.2 Mobilization for Construction

Mobilization of personnel and construction equipment will occur upon authorization by AFCEE. Temporary facilities, erosion controls, site security, H&S controls, and material management controls will be put in place during the mobilization phase. Existing IT offices at NAS Fort Worth will be used by IT personnel to support construction activities.

Mobilization activities will be performed one time for all sites.

4.3 Plans and Permits

All appropriate permits, including utility clearances, dig permits, demolition permits, etc., will be obtained prior to initiating demolition, excavation, or construction activities at NAS Fort Worth. IT will coordinate with local utility companies to ensure that utilities are marked and properly disconnected prior to beginning construction or demolition activities.

In accordance with the Texas Asbestos Health Protection Act, IT will provide written notification 10 working days prior to demolition activities to the Texas Department of Health (TDH). The TDH Demolition/Renovation Notification Form must be used in notifying the TDH of any demolition activities. Proper notification to the TDH is required regardless of the presence of asbestos or asbestos-containing material (ACM) (IT, 2000a).

4.4 Environmental Assessment

An environmental assessment will be conducted of the former radar building at LF-04 by a licensed abatement subcontractor. The purpose of the environmental assessment will be to identify the presence and extent of any lead based paint(s), PCBs, asbestos, and ACM within the former radar building. In the event asbestos or ACM is discovered, the environmental assessment will determine if the asbestos or ACM is friable.

Following the environmental assessment, any lead based paint, PCBs, asbestos, or ACM discovered during the assessment and exceeding allowable limits will be removed and properly disposed of.

All demolition activities will be done in accordance with 40 Code of Federal Regulations (CFR) 61.145, which requires notification of demolition activities and removal of certain ACM.

4.5 Demolition

Upon completion of the environmental assessment and subsequent removal of any lead-based paint, PCBs, asbestos, or ACM, the former radar installation building at LF-04 and all associated utilities will be demolished.

Demolition activities will be performed using bulldozers, backhoes, jackhammers, and other demolition equipment, as necessary, to reduce the building to manageable pieces.

4.5.1 Disposal

Following the demolition of the radar installation building, all associated construction debris and rubble will be loaded for transportation and disposed of in a permitted construction debris landfill.

4.5.2 Site Restoration

Site restoration will include rough grading, so that the area will drain properly. If the start date of the landfill cover construction is more than one month, temporary erosion control measures will be taken. These may include temporary grassing and silt fencing.

In the event demolition activities result in soil removal greater than one foot in depth, certified clean backfill will be placed in the specified areas. Since a landfill cover is planned for this site, all backfill will meet specifications for the landfill cover.

4.6 Phthalate Impacted Soil Removal and Disposal

A 9' x 9' x 9' deep area of phthalate contaminated soils located approximately 1,000 feet southwest of the former radar building will be excavated and disposed of as nonhazardous waste. The excavation area has been identified by survey and is staked in the field.

4.6.1 Soil Excavation

The soil from the 9' x 9' x 9' deep area will be excavated and loaded directly into trucks for transportation and disposal. If this is not possible, the soil will be staged for loading. No personnel shall be allowed in the excavation.

4.6.2 Soil Staging Areas

If the soil must be staged, the soil will be placed on polyethylene (PE) sheeting. The stockpile will be covered with PE to prevent exposure to rainfall, and the cover will be anchored with sandbags.

It is anticipated that the samples from previous investigations can be used for waste characterization.

In the event this is not possible and the soil must be staged, one composite waste characterization sample will be collected from the stockpile and analyzed for the parameters presented in the demolition and associated activities work plan (IT, 2000a).

4.6.3 Soil Confirmation Sampling

Upon removal of the soil from the excavation, one composite sample will be collected from the floor of the excavation. One sample will also be collected from each wall of the excavation. Typical sample locations are presented in the demolition and associated activities work plan (IT, 2000a). All samples will be sent to an off-site laboratory for analysis of the parameters presented in the demolition and associated activities work plan.

When a soil sample exceeds the clean up goals as presented in the Final Design, the associated area of the excavation will be overexcavated approximately 1 foot and resampled. All additional samples will also be sent off site for analysis. This process of overexcavation and resampling will continue until all sample detections are below remediation goals.

4.6.4 Soil Disposal

The phthalate-contaminated soils will be transported to a permitted facility for disposal.

All nonliquid cleaning materials and personal protective equipment (PPE) waste, including nonporous surfaces and other nonliquid materials such as rags, gloves, booties, and similar materials resulting from decontamination may be disposed of along with excavated soil or disposed of separately as construction debris.

4.6.5 Restoration

Upon receipt of analytical results that indicate all detections are below cleanup criteria, the site will be backfilled with certified clean soil from an off-site source. All backfill shall meet the specifications of the landfill cover. Backfill will be placed in 6-inch lifts and compacted thoroughly. The site will be seeded prior to demobilization, if the construction of the landfill cover will not be started within one month.

4.7 Transformer Removal Action

The following sections discuss the procedures to be utilized in removing the abandoned transformer, which is adjacent to the former radar building at LF-04. Prior to beginning work associated with the transformer removal action, the transformer will be de-energized.

4.7.1 Waste Characterization Sampling

Before removing transformer contents, the transformer will be inspected for the presence of a label identifying the contents of the transformer.

A sample will be collected from the transformer contents for waste disposal characterization. The sample will be sent to an off site laboratory for analysis of the parameters presented in the demolition and associated activities work plan (IT, 2000a).

4.7.2 Transformer Contents Removal and Disposal

In accordance with Title 40, CFR Part 761.60, free-flowing liquid contents of the transformer will be drained and contained in U.S. Department of Transportation (DOT)-approved 55-gallon drums for disposal. The transformer will be flushed with a decontamination solvent (i.e. kerosene) and allowed to stand for at least 18 continuous hours. After a period of at least 18 hours, the decontamination solvent will be thoroughly drained and contained in 55-gallon drums for disposal. It is anticipated that the transformer contents and decontamination solvent will be transported to a permitted chemical waste landfill for disposal.

4.7.3 Transformer Carcass Removal and Disposal

After the decontamination solvent is thoroughly flushed from the transformer, the transformer carcass will be lifted and secured on a wooden pallet in the upright position. It is anticipated that the transformer carcass will be transported to a permitted chemical waste landfill for disposal. Any steel members or other appurtenances associated with the transformer that conflict with the removal of the transformer, demolition of the concrete, or removal of the soil would likewise be removed. Such members or appurtenances will be cut off at the ground and disposed of as construction debris.

4.7.4 Concrete Transformer Pad Removal

The following procedures will be utilized in removing two concrete transformer pads, which are adjacent to the former radar building at LF-04.

4.7.4.1 Waste Characterization Sampling

Samples will be collected from the concrete pads for waste disposal characterization. Concrete chip samples will be collected from areas of visual staining. Where no visual staining is evident, one chip sample will be collected from the center of each concrete pad. In the case of the concrete pad on which the existing transformer is located, one concrete chip sample will be collected from beneath the transformer.

Waste characterization concrete samples (chip samples) will be collected prior to concrete demolition. Waste characterization sampling performed prior to concrete demolition will assist

with the determination of disposal facility alternatives and permit direct loading for transportation and disposal.

4.7.4.2 Concrete Demolition and Disposal

Each concrete pad will be cut or scored into sections measuring approximately 3-by-3- feet. Measures will be taken to minimize the amount of dust generated, thus minimizing the potential for airborne contamination. Measures may include the use of a light mist or water spray over the area being sawed or scored and a sweeping compound to control dust already generated.

It is anticipated the concrete rubble and steel reinforcement debris will be transported to a permitted facility for disposal.

4.7.4.3 Soil Excavation and Disposal

The soil surrounding and below the concrete pad may be excavated depending on the results of the soil characterization sampling. Characterization samples will be collected 1 foot beyond each side of the concrete pad and analyzed for the parameters presented in the demolition and associated activities work plan (IT, 2000a). Visually stained areas will also be excavated. The excavated PCB-contaminated soils will be loaded directly to the shipping containers and sealed to prevent the entry of rainwater. In the event that soil must be stockpiled, the soil will be placed on PE sheeting. The stockpile will be covered with PE to prevent exposure to rainfall, and the cover will be anchored with sandbags.

The PCB-contaminated soils will be transported in sealed containers to a permitted facility for disposal.

All nonliquid cleaning materials and PPE waste, including nonporous surfaces and other nonliquid materials such as rags, gloves, booties, other disposal PPE, and similar materials resulting from decontamination will be disposed of along with the excavated soil.

4.7.4.4 Soil Confirmation Sampling

If soil is required to be excavated below either concrete pad, one composite surface soil sample will be collected from beneath each concrete pad and one soil sample will be collected from each wall of the excavation. The samples will be sent to an off-site laboratory for analysis. If the analytical results for the samples are below the remediation goals presented in the Final Design, backfilling operations will begin. However, should sample results exceed the remediation goals, the section of the excavation that corresponds to the elevated detection will be overexcavated (approximately 1 foot) and an additional confirmation sample will be sent off-site for analysis. This process of overexcavation and resampling will continue until all sample detections are below the remediation goal.

4.7.4.5 Site Restoration

When analytical results indicate that all detections are below cleanup criteria, the site will be backfilled with certified clean soil from an off-site source. All backfill will meet the specifications of the landfill cover. Backfill will be placed in 6-inch lifts and compacted thoroughly. The site will be seeded prior to demobilization, if temporary erosion control measures are required.

4.8 Surveys

An early activity will be to establish the necessary survey ground controls required for the layout and construction of the landfills. Preconstruction surveys required for project monitoring will be accomplished. Work limits will be marked and layouts for the erosion and sediment controls will be established. Project benchmarks will be set and surveyed for location and elevation.

Surveys at various stages of construction will be performed. The required surveys are as follows:

- Survey to set grade stakes for select fill layer
- Final as-built survey.

The required surveys, listed above, may be modified according to the Final Design being prepared by Hydrogeologic, Inc.

Section 5 Excavation and Backfill Plan, WP-07

5.1 Objectives

The objective of this task is to excavate, load, and transport the nonhazardous contaminated soil from WP-07 to an appropriate disposal facility. All work will be performed in accordance with health and safety plan and all federal, state, and local regulations. Specific details of the excavation plan will be provided in the Final Design.

5.2 Excavation Procedures

All excavation procedures in regard to WP-07 will be performed in accordance with the procedures discussed in Section 4 concerning the phthalate contaminated soil excavation. However, these procedures may be modified, as necessary, based on approval of the Final Design.

Section 6 Erosion Control Plan

6.1 Objective

Temporary controls will be installed, as needed, to minimize erosion and sedimentation and prevent pollution of water and land at the site. Installation of temporary controls will be coordinated to maintain effective and continuous control of erosion and pollution.

6.2 Control Technologies

The primary erosion control techniques used will be silt fencing and hay bales. Silt fence and hay bales will be installed around the perimeter of each site, as conditions require.

6.2.1 Erosion Control Procedures

The following procedures will be employed during installation of the silt fence:

- Excavate a 6-inch by 6-inch trench along the proposed silt fence alignment.
- Unroll 100-foot bundles of silt fence and position posts against the downgradient wall of the trench with the reinforcement netting on the downstream side of flow direction.
- Drive posts into the ground using a sledgehammer until netting is approximately 2 inches from the trench bottom.
- Lay the toe-in flap of the fabric in the bottom of the trench, backfill the trench, and tamp the soil.
- Join silt fence sections using a coupler.

6.2.2 Surface Water Control Measures

Surface water controls will consist of grading, construction berms, and installing drainage ditches to control precipitation run-off. Work efforts will focus on maintaining access routes, and preventing stormwater run-off into active excavation, stockpile, and construction areas. Location of controls will be installed as shown in the construction drawings and as needed in the field.

Surface water collected by drainage swales or grading will be directed away from the construction area(s), encouraging flow to adjacent surfaces for percolation/infiltration into the soil. The need for additional controls will be evaluated as conditions require and corrective actions will be proposed.

6.2.3 Dust Control Measures

Dust control measures will be implemented beginning with site mobilization and will continue during all phases of the RA. These measures may include the following:

- Covering soil stockpiles with plastic sheeting
- Spraying potable water on roadways outside the exclusion zone and along access roads as necessary
- Spraying the surface of the area to be excavated, demolished, and backfilled with water or with a dust-suppressing agent, if required
- Using road materials such as gravel in high traffic areas to reduce dust generation.

Water used for dust control will be clear and free of salt, oil, and other deleterious wastes.

6.3 Inspection and Maintenance

Erosion control devices will be inspected following each rainfall, and daily during prolonged rainfall. Sediment deposits will be removed from the silt fence after each rainfall or when sediment reaches one-half of the barrier height. Hay bales will be inspected for depth of sediment and for secure installation. Permanent seeding and planting will be inspected for bare spots, washouts and healthy growth. Inspection activities, times, results, and actions will be included in the daily log. Damaged erosion control devices and damaged areas beneath them will be repaired immediately. Upon completion and acceptance of the project, erosion and sedimentation control devices will be removed.

Section 7 Spill and Discharge Plan

The RA activities will require handling, storage, and use of liquids. The predominant spill threat will be the presence of bulk storage tanks. The use of tanks and equipment containing oils and fuel pose a threat for discharge of these materials into the environment. Control and countermeasure actions will be implemented during the RA activities. Control actions addresses operational measures to minimize the potential of a spill, whereas the countermeasures actions address the means to minimize the spread of contamination in the event of a spill.

During operations, a daily walkdown inspection will be performed by the Site Superintendent or designee. Storage tanks and equipment will be inspected for leaks and spills. The visual inspections will involve close observation of the tank's exterior surface, as well as the conditions of valves, pipes, and appurtenances. If a concern is identified, the Site Superintendent will be notified immediately and the affected equipment will be repaired.

The health and safety plan provides additional details regarding spill control and countermeasures, and presents a contingency plan.

Section 8 Emissions Control Plan

8.1 Objective

The objective of this plan is to limit the emission of dust, odor, and volatile chemicals associated with construction activities at LF-04, LF-05, and LF-08 and excavation activities at WP-07. Emissions control shall be in accordance with the Final Design.

8.2 Dust Emissions

Building gravel roads for ingress and egress to each site, and access to any stockpiles will minimize dust emissions. Using water tank trucks to disperse water will also aid in dust control. If possible, all excavated soils will be loaded directly onto trucks from the excavator. Stockpiled soils will be covered with PE sheeting.

8.3 Chemical Emissions

Chemical and odor emissions will be monitored as described in the sampling and analysis plan (IT, 2000b).

Section 9 Transportation Plan

This section outlines the procedures for transporting hazardous and nonhazardous materials associated with DO No. 003 activities.

9.1 Objectives

The objective of this task involves the transportation of hazardous and nonhazardous wastes from NAS Fort Worth to the appropriate licensed disposal facilities.

9.2 Nonhazardous Waste Transportation Procedures

9.2.1 Equipment

Transporter vehicles will be inspected for structural integrity and regulatory compliance, as appropriate. Structural integrity concerns may include holes or cracks on floors and/or walls, liners and/or tarps, previous contamination and excessive oxidation (rusting). The vehicles used on this project will consist of 20-cubic yard capacity end dump trucks. Vehicles used for this project will have covers (i.e., automatic tarps) that do not require the worker to place or remove the cover by hand, thus minimizing contact with the soil. The vehicles will be decontaminated prior to initially arriving at the site. Although decontamination of the inside of the truck bed is not required between loads, the trucks will not be left in an unsecured area unless the truck has been decontaminated, including the inside of the bed.

9.2.2 Documentation

The U.S. Air Force (Air Force Base Conversion Agency [AFBCA]) will be identified as the generator of the wastes generated during this project. The AFBCA point of contact will provide the IT Project Manager with specific generator information that will include the generator's name, mailing address, site address, and telephone number necessary to complete the site waste profiles.

IT will prepare any waste profiles describing the waste stream's generator information, the process of generation, anticipated volumes, and DOT characterization and classification information. The appropriate supporting analytical data results and site historical information will be attached to the site waste profiles.

IT will obtain approval for waste acceptance at the licensed disposal facility and will finalize subcontracts with the disposal facility. The Air Force (AFBCA) will specify the disposal facility to be used.

IT will also prepare the final nonhazardous waste manifest forms and/or Bills of Lading. IT will submit the final manifests and/or Bills of Lading and the land disposal restriction (LDR) forms (as applicable) to the AFCEE point of contact for final approval and signature.

IT will schedule the removal of waste streams from the site with the transporters and disposal facility after receiving the signed manifests, Bills of Lading, and/or the LDR forms (as applicable) that have been approved by AFCEE.

IT will check to ensure that the vehicle leaving the site has the required regulatory compliance documents including:

- Signed manifest, Bill of Lading, and/or LDR form (as applicable)
- Driver's valid and current commercial driver's license
- Logbook
- Contingency Plan
- Placards
- Emergency response guidebooks
- Fire extinguishers
- Proof of current hazardous waste operations and emergency response training (as necessary).

9.2.3 Disposal Facility

Soil classified as nonhazardous waste will be delivered to the appropriate licensed disposal facility using the route coordinated with the transportation subcontractor and maintained on site.

Truck drivers will maintain radio contact while transporting materials and will immediately notify IT supervisory personnel of accidents, incidents, near misses, or dangerous traffic conditions.

The disposal facility will confirm the receipt of all shipments by faxing all received facility-signed manifests and or Bills of Lading to the IT Project Manager and by mailing the facility-signed manifest and/or Bills of Lading to the generator (AFCEE point of contact). IT will also obtain Certificates of Disposal for all manifests and/or Bills of Lading, as appropriate, to document final waste stream disposal.

9.3 Hazardous Waste Transportation Procedures

9.3.1 Equipment

IT will inspect transporter vehicles for structural integrity and regulatory compliance, as appropriate. Structural integrity concerns may include holes or cracks on floors and/or walls, liners and/or tarps, previous contamination and excessive oxidation (rusting). The vehicles used on this project will consist of 20-cubic yard capacity end dump trucks. Vehicles used for this project will have covers (i.e., automatic tarps) that do not require the worker to place or remove the cover. The vehicles will be decontaminated prior to initially arriving at the site. Although decontamination inside of the truck bed is not required between loads, the truck will not be left in an unsecured area unless the truck has been decontaminated, including the inside of the bed.

9.3.2 Documentation

Prior to beginning work, the transporter will supply a spill contingency plan.

The Air Force (AFBCA) will be identified as the generator of the wastes generated during this project. The AFCEE point of contact will provide the IT Project Manager with specific generator information that will include the generator's name, mailing address, site address, and telephone number necessary to complete the site waste profiles.

IT will prepare the site waste profiles describing the waste stream's generator information, the process of generation, anticipated volumes, and DOT characterization and classification information. The appropriate supporting analytical data results and site historical information will be attached to the site waste profiles.

IT will obtain approval for waste acceptance at the licensed treatment and disposal facility and will finalize subcontracts with the disposal facility. The Air Force (AFCEE) will specify the disposal facility to be used.

IT will also prepare the final hazardous waste manifest forms and/or Bills of Lading. IT will submit the final manifests and/or Bills of Lading and the LDR forms (as applicable) to the AFCEE point of contact for final approval and signature.

IT will schedule the removal of waste streams from the site with the transporters and disposal facility after receiving the signed manifests, Bills of Lading, and/or the LDR forms (as applicable) that have been approved by AFCEE.

IT will check to insure that the vehicle leaving the site has the required regulatory compliance documents including:

- Signed manifest, Bill of Lading, and/or LDR form (as applicable)
- Driver's valid and current commercial driver's license

- Logbook
- Contingency Plan
- Placards
- Emergency response guidebooks
- Fire extinguishers
- Proof of current hazardous waste operations and emergency response training (as necessary).

9.3.3 Notification

If the waste material meets any of DOT's definition for hazardous waste (49 CFR 173 Subpart D), a 24-hour response 800 number is to be documented on the manifests (49 CFR 172 Subpart G).

Before any shipment containing a hazardous material leaves the site, ChemTel is to be notified, via fax, of the shipment, the waste to be transported, and route to be traveled to the destination. This is to make ChemTel prepared for any possible accident.

The disposal facility is also to be notified of the shipment leaving the site.

9.3.4 Treatment and Disposal Facility

Soil classified as hazardous waste will be delivered to the licensed treatment and disposal facility using the route coordinated with the transportation subcontractor.

Truck drivers will maintain radio contact while transporting materials and will immediately notify IT supervisory personnel of accidents, incidents, near misses, or dangerous traffic conditions.

The disposal facility will confirm the receipt of all shipments by faxing all received facility-signed manifests and/or Bills of Lading to the IT Project Manager and by mailing the facility-signed manifest and/or Bills of Lading to the generator (AFCEE point of contact). IT will also obtain Certificates of Disposal for all manifests and/or Bills of Lading, as appropriate, to document final waste stream disposal.

Section 10 Demobilization and Closure Plan

The post-construction activities for this project include removing temporary facilities, demobilizing equipment and personnel, and preparing submittal documents.

10.1 Objective

The objective of these tasks is to leave each site in a condition acceptable for closure and provide the documentation of the RA actions performed.

10.2 Site Restoration

Activities to return the areas outside the limits of construction to its original or like condition will also be performed. Site restoration activities anticipated include filling equipment ruts and the seeding of soil stockpile and access areas.

10.3 Demobilization

Upon completion of construction activities, heavy equipment will be demobilized from each project site, trailers and storage units will be prepared for transportation, supplies will be removed from the site and all derived decontamination liquids will be disposed of. Construction equipment will be cleaned by pressure washing, broom cleaning, or a combination of cleaning methods. The goal of this work is to prevent debris or soil from being transported from each landfill and excavation site. Rental equipment and government equipment will be returned in good condition. Requirements for turning in government-provided equipment will be coordinated with AFCEE personnel.

10.4 Temporary Facility Removal

Temporary facilities, including sanitary and equipment storage areas, will be removed from each site at the completion of the project. The immediate area will be inspected by the Site Superintendent to verify that all project-related equipment, trash, and debris have been collected and properly disposed of at a refuse disposal site. Utility disconnects will be coordinated with Carswell AFB and off-site providers, and will comply with utility lockout/tag-out procedures.

10.5 Post Construction Submittals

Post-construction activities will include preparing a photographic record showing pre-construction conditions, field progress, and post-construction conditions at LF-04, LF-05, LF-08, WP-07, and borrow areas. Photographs will be taken with a camera equipped with a date stamp. The photographs will each have a short caption describing the phase of work, the location, and the activity shown. Photographs will be taken in accordance with the approved Final Design.

Upon completion of all work, the following reports may be submitted:

- Technical Report
- Analytical Data Report Package
- Environmental Site/Project Summary
- Production or Delivery Problem Report
- Still Photographic Records
- Technical Status Reports
- As-Built Drawings.

Section 11 References

Air Force Center for Environmental Excellence (AFCEE), 1998, *Statement of Work, Landfills LF-04, LF-05, and LF-08, and Waste Burial Area WP-07, Naval Air Station (NAS) Fort Worth Joint Reserve Base Carswell Field, Texas*, February.

Emcon/OWT, 2000, *Final Closure Plan for Landfills No. 4 and No. 5, NAS Fort Worth Joint Reserve Base, Texas*, April.

IT Corporation (IT), 2000a, *Demolition and Associated Activities Work Plan, NAS Fort Worth Joint Reserve Base Carswell Field, Texas*, April.

IT Corporation (IT), 2000b, *Sampling and Analysis Plan, NAS Fort Worth Joint Reserve Base Carswell Field, Texas*, April.

IT Corporation (IT), 1998, *Naval Air Station (NAS) Fort Worth Joint Reserve Base Carswell Field, Technical and Business Proposal for remedial Actions*, March.

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