



Final
**Environmental Assessment
Construction and Operation
of
Defense Logistics Agency
General Purpose Warehouse
for
Consolidation, Containerization and Palletization**

78th Civil Engineer Group, Environmental Management Division
Robins Air Force Base, Georgia

August 16, 2007

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**FINDING OF NO SIGNIFICANT IMPACT
CONSTRUCTION AND OPERATION OF DEFENSE LOGISTICS AGENCY
GENERAL PURPOSE WAREHOUSE FOR
CONSOLIDATION, CONTAINERIZATION, AND PALLETIZATION
ROBINS AIR FORCE BASE**

Pursuant to the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] 1500-1508), Department of Defense Directive 6050.1 and Air Force Regulation 32 CFR Part 989, the 78th Civil Engineer Group, Environmental Management Division (78 CEG/CEV) has prepared an Environmental Assessment (EA) to identify and assess potential effects of the Defense Logistics Agency (DLA) construction and operation of a new General Purpose Warehouse (GPW) for a Consolidation, Containerization and Palletization (CCP) operation at Defense Distribution Depot Warner Robins (DDWG), Georgia located at Robins Air Force Base (AFB). This EA is incorporated by reference into this finding.

PURPOSE AND NEED

DLA proposes to construct a 167,575-square-foot GPW for CCP operations at DDWG located at Robins AFB. Base Realignment and Closure (BRAC) 2005 directed establishing a multi-service supply, storage and distribution system that enhances strategic deployment and sustainment of expeditionary joint forces worldwide by the end of 2010. DDWG was designated as one of four Strategic Distribution Platforms, which are automated material processing centers that would service the continental United States (CONUS) and overseas customers. (EA Section 1.1)

DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action consists of construction of a new 167,575 square-foot GPW by DLA; implementation of CCP operations in the new GPW; and construction of new tractor-truck queuing spaces and associated pavement and travel lane at the base's commercial truck gate (Gate 4) at Peacekeeper Way. Gate 4 modifications might not occur as part of the Proposed Action, so a Gate 4 modification "no action" aspect of the Proposed Action was also evaluated in the EA. (EA Section 2.2)

DESCRIPTION OF THE NO-ACTION ALTERNATIVE

Under the No-Action Alternative, a new GPW for CCP operations would not be constructed at DDWG. DLA would not be able to implement BRAC 2005 directions to achieve improved workload distribution, reduced redundant inventory, and associated savings. (EA Section 2.3)

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

Alternatives evaluated included preliminary assessments of existing buildings for CCP operations and alternative sites for new GPW construction and operation. No existing buildings were identified at Robins AFB that would meet the project requirement to provide warehouse space by FY2010, so none were evaluated in this EA. Five site locations where a new GPW could be constructed were identified and were considered as part of the alternatives evaluation. Four alternative sites were eliminated from consideration due to failure to meet the requirements of this project, which included inability to identify demolition timeframes for existing buildings

located on the alternative sites and distance from existing DDWG facilities and core operations. The site identified as the Proposed GPW Site was the only alternative site evaluated that met all of the requirements for the project. (EA Section 2.4)

ANTICIPATED ENVIRONMENTAL EFFECTS

Physical Environment: Implementation of the Proposed Action would result in no or minimal impacts on the following physical resources: topography, surface waters, floodplains and wetlands, geology and soils, and groundwater. Insignificant impacts would result to storm water and water supply and drinking water. Best Management Practices (BMPs) per the Georgia Soil and Water Conservation Commission's Manual for Sediment and Erosion Control in Georgia, 5th Edition will be implemented as part of the Proposed Action. (EA Section 4.1.1 to 4.1.7)

Air Quality: Construction activities would increase emissions of carbon monoxide, hydrocarbons and nitrogen oxides from construction employee traffic and operation of heavy equipment. The increase in commutation trips and emissions from construction worker vehicles would be temporary and insignificant; emissions from heavy vehicles also would be relatively limited in quantity and duration and thus insignificant. (EA Section 4.2)

Waste Management and Toxic Materials: The Proposed Action could temporarily increase the generation of solid waste from the removal of pavement (concrete) at the Proposed GPW Site. Since the USEPA states that legally applied chlordane is not required to be remediated, onsite soils can be managed in place. However, if the soils or onsite pavement require removal from the site, sampling would be conducted by the contractor to identify proper disposal methods to be followed. If concentrations of chlordane exceed the facility's background concentrations, 78 CEG/CEV would submit notification, as necessary, pursuant to Robins AFB's Hazardous Waste Management Permit No. HW-064(S), to the Georgia EPD Hazardous Waste Management Branch. Removal of chlordane-contaminated pavement and soils, if present, would be a positive effect of the project. (EA Section 4.3)

Noise: No significant positive or negative effects to the noise environment would occur since construction activities would be short-term, localized, and sufficiently distanced from the nearest sensitive receptor elements. Noise from future operations would be generally consistent with noise from the surrounding areas, as Peacekeeper Way is a major commercial vehicle route at Robins AFB. (EA Section 4.4)

Biological Environment: No endangered, threatened, or sensitive species would be affected by the Proposed Action. No significant impact to wildlife and vegetation due to modification or removal of the minimal amount of existing vegetation at the sites where construction is proposed would occur. The mature pecan trees on the Proposed GPW Site would not be disturbed through site development. Base BMPs outlined in the Erosion, Sediment and Pollution Control Plan will be implemented as designed to avoid potential adverse effects from disturbance of the soil. (EA Section 4.5)

Cultural Resources: Based on previous survey findings, 78 CEG/CEV determined that no archaeological resources would be affected by implementation of this aspect of the Proposed Action. In accordance with Sections 106 and 110 of the National Historic Preservation Act (NHPA), as amended, 78 CEV/CEG provided a copy of the Draft Final EA to and consulted with the Georgia SHPO regarding the project as planned; the SHPO responded in a letter,

9 August 2007. 78 CEG/CEV also determined that the Proposed Action would not directly affect the residential structures in Chief's Circle, which are eligible for listing on the National Register of Historic Places. The new GPW would be located within the viewshed of the Chief's Circle structures, resulting in an indirect impact. In their letter, 9 August 2007, the SHPO stated they believe the proposed project will have no adverse effect on the eligible Chief's Circle, as defined in 36 CFR 800.5(d)(1). Consultation with SHPO is complete. However, if renovation plans change, notification to the Robins AFB Cultural Resource Manager will be required and 78 CEG/CEV will further review the project changes with the SHPO as necessary. (EA Section 3.6, EA Section 4.6)

Socioeconomics: The Proposed Action would produce a positive effect on the socioeconomic environment. Construction expenditures would provide short-term stimulus to the region's economy and the operations would provide long-term economic stimulus. The Proposed Action would not result in adverse health impacts to children or significant impacts to low-income and/or minority populations. (EA Section 4.7.2)

Transportation and Safety: Less than optimal traffic conditions exist at Gate 4 and associated Security Forces Search Pit. CCP operations would increase tractor-truck activity at DDWG by approximately 47 percent, and total commercial vehicle activity through Gate 4 by 12.5 percent between the hours of 0700 to 1700. Due to the minimal 0.25-mile distance from Gate 4 to the Proposed GPW Site and the planned enhancements to Gate 4, the increase in commercial vehicle traffic would not result in significant effects to transportation or safety at Robins AFB. Additionally, an increase of 30 new DLA commercial vehicles and 100 new DLA employee vehicles is insignificant (less than a 1 percent increase) compared to the total number of vehicles traveling off-base roads, as determined by average annual daily traffic counts on State Route (SR) 247/United States (US) 129 near the Peacekeeper Way/Gate 4 intersection. The Proposed Action modifications consisting of additional truck queuing spaces, additional pavement, and a new travel lane at the Search Pit would alleviate some of the less than optimal conditions at Gate 4 and the Search Pit. The proposed modifications; however, would not fully alleviate backups in the Search Pit or at Gate 4 and SR 247/US 129 during infrequent vehicle arrival surges or potential future heightened base security threat level conditions. (EA Section 4.8.2)

CUMULATIVE IMPACTS

Construction and operation of the GPW would not produce significant short-term or long-term cumulative effects. The environmental resources and elements including topography, floodplain, wetland, groundwater, hazardous materials and waste, toxic materials, biological resources, and cultural resources would not be significantly affected or positively affected on a cumulative level because these resources and elements would not be significantly affected under the Proposed Action, and other listed projects were not identified as impacting these resources. Although the Proposed Action would impact or potentially impact hazardous materials and waste, no other projects at Robins AFB were identified as impacting these elements. Thus, a significant cumulative effect would not occur.

Several projects are in progress, planned, or proposed at Robins AFB. However, only the Watson Street Extension project and proposed new Security Forces Facility on Eastman Street (northeast of the Robins Parkway/Peacekeeper Way intersection) were identified as potentially producing cumulative environmental effects in the immediate vicinity of the Proposed GPW Site. The Watson Street Extension will convert a parking lot into a road. Minimal

environmental effects could occur through utility relocation. The new Security Forces Facility project will convert an approximately 3-acre parcel to a building and pavement. Potential cumulative effects of these projects will be addressed through existing permit requirements or by obtaining permit modifications as necessary. (EA Section 4.9)

PUBLIC NOTICE

A notice was published on 13 July 2007 in the *Houston Home Journal* inviting the public to review and comment upon the Draft Final EA; no comments were received within the 30-day review period. A request was also submitted to the Georgia State Clearinghouse on 13 July 2007 requesting review by various state agencies with a review period of 30 days. Responses were received from the Georgia Department of Natural Resources Historic Preservation Division, the Hazardous Waste Management Branch of the Georgia Environmental Protection Division, and the Georgia Department of Transportation, and are addressed in the Final EA; all agency consultation is complete.

FINDING OF NO SIGNIFICANT IMPACT

The Proposed Action consists of construction of a new GPW; implementation of CCP operations in the new GPW; and construction of new tractor-truck queuing spaces and associated pavement and travel lane at the base's commercial truck gate (Gate 4) at Peacekeeper Way. Based upon my review of the facts and analyses contained in the EA, which is hereby incorporated by reference, I conclude that the Proposed Action will not have a significant impact on the natural or human environment. An environmental impact statement is not required for this action. This analysis fulfills the requirements of the NEPA, the President's Council on Environmental Quality, and 32 CFR Part 989.


TIMOTHY K. BRIDGES, SES
Director of Communications,
Installations and Mission Support

Date: 12 Sep 07

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for
78th Civil Engineer Group, Environmental Management Division
Warner Robins Air Logistics Center
Robins Air Force Base, Georgia
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EXECUTIVE SUMMARY

The Defense Logistics Agency (DLA) proposes to construct a General Purpose Warehouse (GPW) for a Consolidation, Containerization and Palletization (CCP) operation at Defense Distribution Depot Warner Robins, Georgia (DDWG) located at Robins Air Force Base (AFB). The proposed GPW is required to meet Base Realignment and Closure (BRAC) 2005 recommendations, which sought to establish a multi-service supply, storage and distribution system that enhances strategic deployment and sustainment of expeditionary joint forces worldwide. Under BRAC, existing DLA operations at DDWG were to be expanded to include an automatic material processing center to serve the continental United States and overseas customers.

78th Civil Engineer Group, Environmental Management Division (78th CEG/CEV) has conducted an Environmental Assessment (EA) to identify and assess potential effects of the Proposed Action: construction and operation of a new GPW for CCP operations at Robins AFB.

The proposed site for the new GPW contains 12.5 acres located at the northwest corner of Martin Luther King, Jr. Boulevard and Robins Parkway. It consists of three paved lots used for surge storage for existing DLA operation or parking; and two grass-covered fields used for soccer. A small temporary storage shed belonging to Base Honor Guard 78th Services is located on the northwestern-most paved lot.

The new GPW would consist of a 167,575-square-foot one-story building, primarily as warehouse space and a small annex for administrative space. CCP operations would involve receiving and breaking down pallets of commodities and building up and shipping out new pallets of commodities, or receiving and shipping out built-up pallets as a whole. One hundred new employees would be hired for the GPW, which would operate 24 hours a day, 7 days a week. All truck staging and parking would occur onsite, and existing parking areas on or adjacent to the site would be available for personal vehicle parking.

The Proposed Action could also include modifications to the existing Robins AFB commercial truck gate at Gate 4 / Peacekeeper Way, including new truck queuing spaces and a new travel lane. The Gate 4 modifications site currently consists of grass and three mature oak trees adjacent to existing pavement. Both the Proposed Action modifications and the “no action” regarding the Gate 4 modifications have been evaluated in this EA.

The No-Action or “status quo” alternative evaluated herein involves no project implementation - the GPW would not be constructed and DLA would be unable to implement directions in the BRAC 2005 recommendations, enhance support to United States and overseas customers, or achieve the associated savings that the realignment would afford.

Neither the Proposed Action nor the No-Action Alternative was determined to cause significant adverse short-term or long-term impacts to the environment. **Table 2-1** in **Section 2.6** compares the alternatives that received detailed evaluation in the EA. In summary, constructing and operating the GPW at the Proposed GPW Site would satisfy the BRAC mandate, and provide positive socioeconomic impacts.

The Proposed Action includes following the appropriate environmental permits and Best Management Practices, so adverse impacts to surface water and air quality would be insignificant.

Based on a traffic study performed in support of this EA, less than optimal traffic conditions exist at Gate 4 and at the associated Security Forces Search Pit. CCP operations would increase tractor-truck activity by approximately 47 percent, and total commercial vehicle activity through Gate 4 by 12.5 percent between the hours of 0700 to 1700. Due to the minimal 0.25-mile distance from Gate 4 to the site and the Proposed Action’s planned enhancements to Gate 4, the increase in commercial vehicle traffic would not result in significant effects to transportation or safety at Robins AFB. Additionally, an increase of 30 new DLA commercial vehicles and 100 new DLA employee vehicles is insignificant (less than a 1 percent increase) considering the total number of vehicles traveling off-base roads, based on average annual daily traffic counts

on State Route (SR) 247 / United States (US) 129 near the Peacekeeper Way/Gate 4 intersection. The Proposed Action modifications consisting of additional truck queuing spaces, additional pavement and a new travel lane at the Search Pit would alleviate some of the less than optimal conditions at Gate 4 and the Search Pit such as backups at Gate 4 and potential idling of vehicles awaiting entry to the Search Pit. The proposed modifications, however, would not fully alleviate backups in the Search Pit or at Gate 4 and SR 247/US 129 during infrequent vehicle arrival surges or potential future heightened base security threat level conditions.

Under “no action” for the Gate 4 modifications aspect of the Proposed Action, the less than optimal existing traffic conditions at Gate 4 and the Search Pit would continue, and commercial vehicle traffic could backup at Gate 4 and possibly onto SR 247/US 129, creating an adverse safety and transportation impact.

Cumulative impacts were also assessed and were determined to be insignificant, as also summarized in **Table 2-1**. The cumulative impact evaluation assessed several projects that are in progress, planned or proposed at Robins AFB. Cumulative increases in storm water runoff, air emissions, solid waste generation, noise and transportation at the Proposed Action sites would occur. However, adverse impacts would be insignificant. The proposed projects would cumulatively create a positive socioeconomic impact to Robins AFB.

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C	Guidance for Addressing Chlordane Contamination at Department of Defense Sites (Public Works Technical Bulletin 200-1-31, 30 September 2004) prepared by the United States Army Corps of Engineers (USACE)

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ABBREVIATIONS & ACRONYMS

78 th CEG/CEV	78 th Civil Engineer Group, Environmental Management Division
ACM	asbestos-containing material
AFB	Air Force Base
AFI	Air Force Instruction
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
ALOC	Air Lines of Communication
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CCP	Consolidation, Containerization and Palletization
CE	Civil Engineering
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CONUS	Continental United States
CRM	Cultural Resources Manager
DDWG	Defense Distribution Depot Warner Robins, Georgia
DLA	Defense Logistics Agency
DoD	Department of Defense
EA	Environmental Assessment
EPD	Environmental Protection Division
FDP	Forward Distribution Point
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FY	fiscal year
GDOT	Georgia Department of Transportation
GPW	General Purpose Warehouse
HABS	Historic American Building Survey
HPD	Historic Preservation Division
HWRP	Hazardous Waste Reduction Plan
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
ISWMP	Integrated Solid Waste Management Plan
LBP	lead-based paint
MGD	million gallons per day
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

ABBREVIATIONS & ACRONYMS (continued)

NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PCB	polychlorinated biphenyl
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
SDP	Strategic Distribution Platform
SHPO	State Historic Preservation Office
USAF	United States Air Force
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
WR-ALC	Warner Robins – Air Logistics Center

1.0 PURPOSE AND NEED FOR PROPOSED ACTION

78th Civil Engineer Group, Environmental Management Division (78th CEG/CEV) has conducted this Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to identify and assess potential effects of the Proposed Action and the No-Action Alternatives as described in **Section 2** and evaluated in **Sections 3 and 4**. The Proposed Action includes construction and operation of a Defense Logistics Agency (DLA) General Purpose Warehouse (GPW) for Consolidation, Containerization and Palletization (CCP) to enhance the existing Defense Distribution Depot Warner Robins, Georgia (DDWG) operations located at Robins Air Force Base (AFB).

The purpose and need for action of the project are described in the following sections.

1.1 PURPOSE OF PROPOSED ACTION

DDWG is responsible for receiving, storing, issuing and shipping Department of Defense (DoD)-owned commodities to all branches of the Armed Forces, as well as supporting other Federal agencies. Among the commodities are medical material; clothing; textiles; subsistence; and industrial, construction and electronic parts required for maintenance support of Armed Forces equipment.

A major intent of Base Realignment and Closure (BRAC) 2005 recommendations was to establish a consolidated multi-service supply, storage and distribution system that enhances strategic deployment and sustainment of expeditionary joint forces worldwide. Under BRAC 2005, DDWG was designated a Strategic Distribution Platform (SDP), which is an automated material processing center that would serve the continental United States (CONUS) and overseas customers. DDWG is one of four newly designated SDPs.

Recommendations of the BRAC 2005 include downsizing approximately 12 Distribution Depots located on other military installations and designating them as Forward Distribution Points (FDPs). These FDPs would have a regional mission, meaning they would support the maintenance depot with which they are co-located. All of the general

commodities not directly in support of the military installations' missions would be relocated to the four SDPs, including DDWG. Additionally per the BRAC 2005 decision, co-located supply, storage, distribution functions and inventories at maintenance centers, aviation depots, Air Logistics Centers and Army Depots would be transferred to the SDPs. The centralization of commodities could free up approximately 50 percent of the warehouse space currently occupied for depot operations at the FDP Installations and eliminate approximately \$630 million of redundant inventory at these operations.

1.2 NEED FOR PROPOSED ACTION

The BRAC 2005 recommendation to downsize FDPs and relocate general commodities to the four SDPs, would cause each of the SDPs' missions to increase dramatically and to continue to increase in the foreseeable future. The Proposed Action facility would serve as a mission-critical facility that is capable of handling routine as well as wartime CCP surges of commodities.

DDWG currently lacks existing facilities for CCP operations to accomplish its mission as a SDP. Operation Iraqi Freedom, Operation Enduring Freedom and other worldwide American military efforts have required supply surges that have resulted in backlogged depots. Greater efficiencies and more timely delivery to global customers are required. Therefore, to meet the BRAC 2005 decision to establish a SDP at DDWG, a general purpose warehouse at DDWG is needed to consolidate, containerize and palletize outbound stock shipments. The size of the general purpose warehouse was determined by BRAC 2005.

The Proposed Action makes possible this essential function.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter presents the considerations used for selecting alternatives, describes the Proposed Action and No-Action Alternatives and summarizes the environmental consequences of implementing the Proposed Action and No-Action Alternative.

2.1 REQUIREMENTS

The DDWG identified several requirements that were based on fulfilling the purpose of the action for the facility to be configured for CCP operations. Alternatives that merited detailed evaluation must meet the following criteria that support the purpose and need for action.

- Compliance with DoD minimum force protection construction standards as outlined in *DoD Minimum Antiterrorism Standards for Buildings* (DoD, 2003):
 - a building greater than 150 feet from the controlled perimeter, and
 - a site large enough for a 30-foot standoff distance from the structure.
- Ability to provide a 167,575-square-foot GPW for CCP operations space near existing DDWG warehouse space and DLA's core operations by year 2010. DLA's core operations and warehouses are located mainly in the area from Byron Street to Warner Robins Street along Peacekeeper Way and Martin Luther King, Jr. Boulevard.
- Ability to provide a building that includes the following space characteristics (DLA, 2006b):
 - 165,000-square-foot area configured for CCP operations:
 - Clear stacking height of 25 feet;
 - Small parcel and multi-pack breakdown area;
 - Mechanized material handling area;
 - Air Lines of Communication (ALOC) pallet building area with 6 ALOC pits;
 - Standard cargo doors equipped with dock levelers and weather seals;
 - Receiving (inbound) side with approximately 26 overhead doors, 20 standard cargo doors, 2 small parcel processing doors, 2 transporter dock doors, a truck well door and a ramp door;

- Shipping (outbound) side with approximately 24 overhead doors, 20 standard cargo doors, 2 ALOC pallet doors, a truck well door and a ramp door; and
- Stand-alone heating system, lighting, receptacles, mechanical ventilation, a high volume fire protection system with alarms, water, intercom and intrusion detection system with an alarm tied to the Base Security Office/Dispatch Center;
- 1,325-square-foot area for Administrative Area with office space, employee lunch/break area, restrooms and locker rooms;
- 1,250-square-foot Utility Annex;
- 250,000-square-foot Parking and Maneuvering Area; and
- 80,000-square-foot replacement surge storage lot.
- Based on funding availability, sufficient modifications of the base's commercial vehicle entrance area would be completed to accommodate the increased truck traffic associated with the Proposed Action.

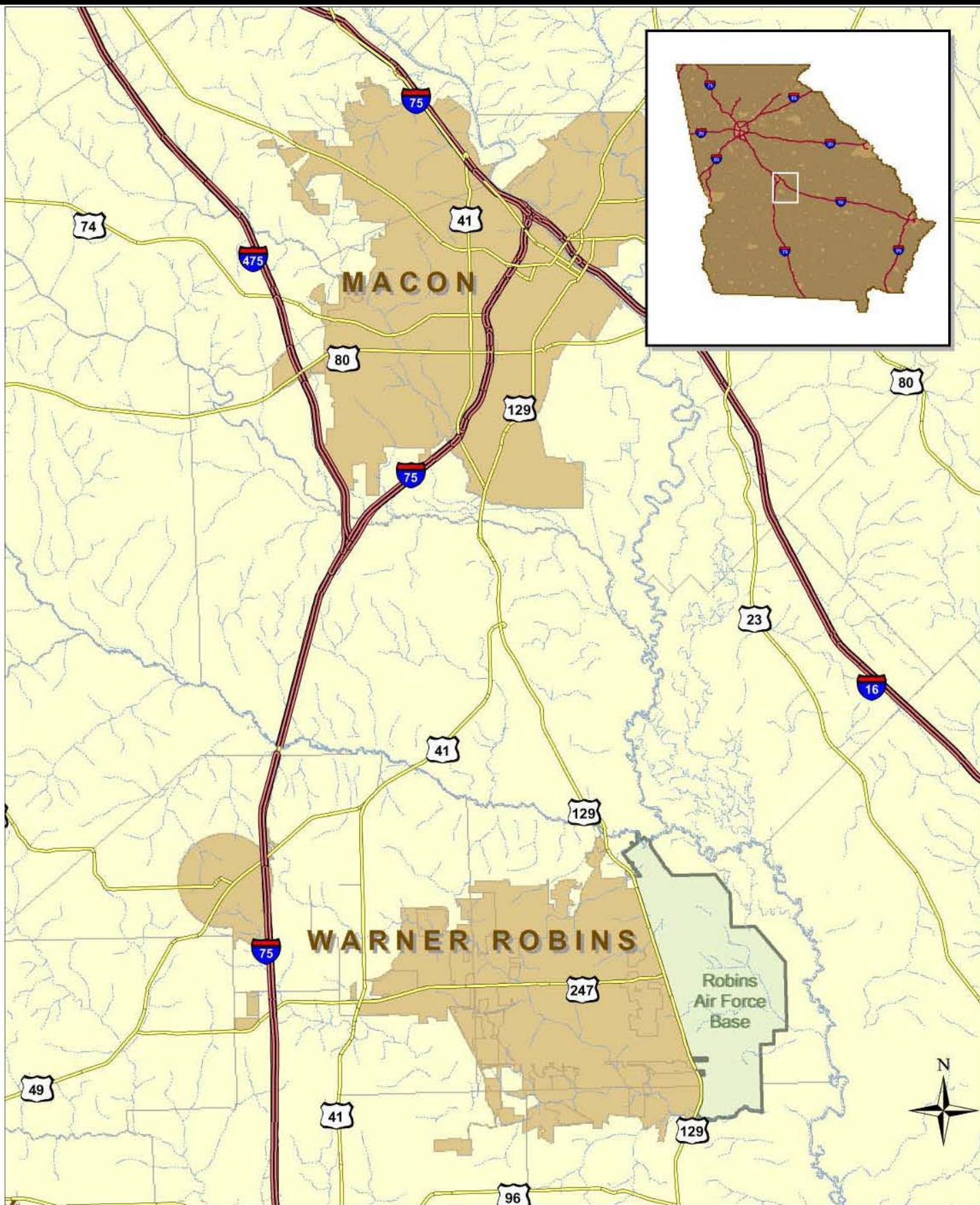
2.2 PROPOSED ACTION DESCRIPTION

This EA addresses the BRAC 2005 DLA-related action at Robins AFB. Robins AFB is located in Houston County in central Georgia, approximately 100 miles southeast of Atlanta, 18 miles south of Macon and immediately east of the city of Warner Robins (**Figures 1 and 2**).

Components of the Proposed Action include:

- Construction of a new GPW. The site selected for the new GPW, referred to herein as "Proposed GPW Site" is a 12.5-acre lot located at the northwest corner of the intersection of Martin Luther King, Jr. Boulevard and Robins Parkway, within the central portion of Robins AFB (**Figures 3 and 4**). The site is bound on the north by Peacekeeper Way and on the west by Building 364.
- CCP operations in the new GPW.
- Construction of new tractor truck queuing spaces and associated pavement and travel lane at the base's commercial truck gate at Peacekeeper Way.

Since Gate 4 modifications might not occur as part of the Proposed Action, "no action" for this aspect of the Proposed Action has also been evaluated herein.

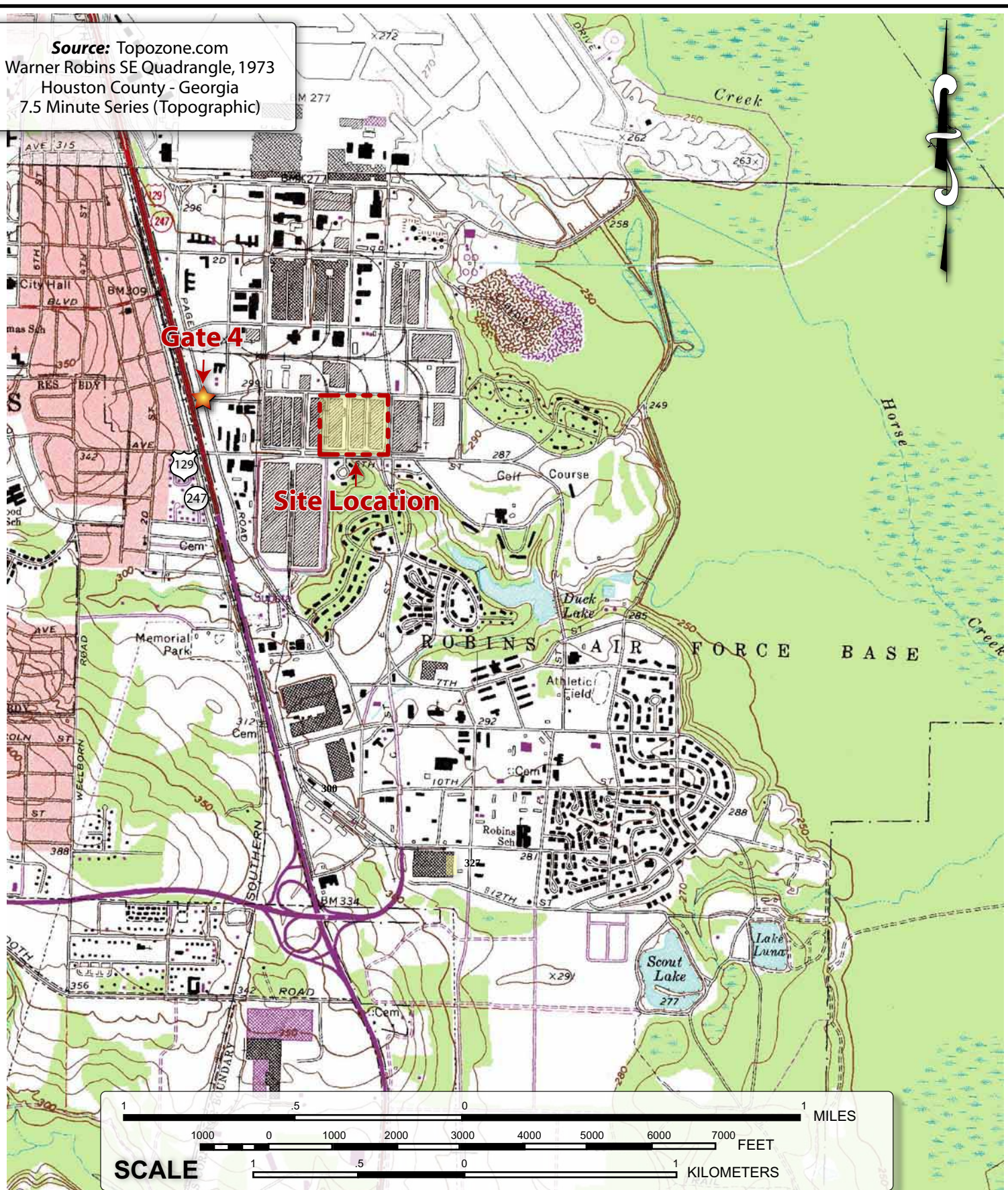


CLIENT:	Robins Air Force Base		
PROJECT:	Environmental Assessment, Construction & Operation of DLA, General Purpose Warehouse for CCP		
DATE:	October 2006	DESIGNED BY:	
SCALE:	Not to Scale	DRAWN BY:	J. Anderson
FILE:	H:\proj\RAFB\EA DLA for CCP\Figure 1VicinityMap.ai	CHECKED BY:	A. Yarnell



TITLE:	Vicinity Map	
PROJ NO.:	15268128.16000	FIG.:
		1

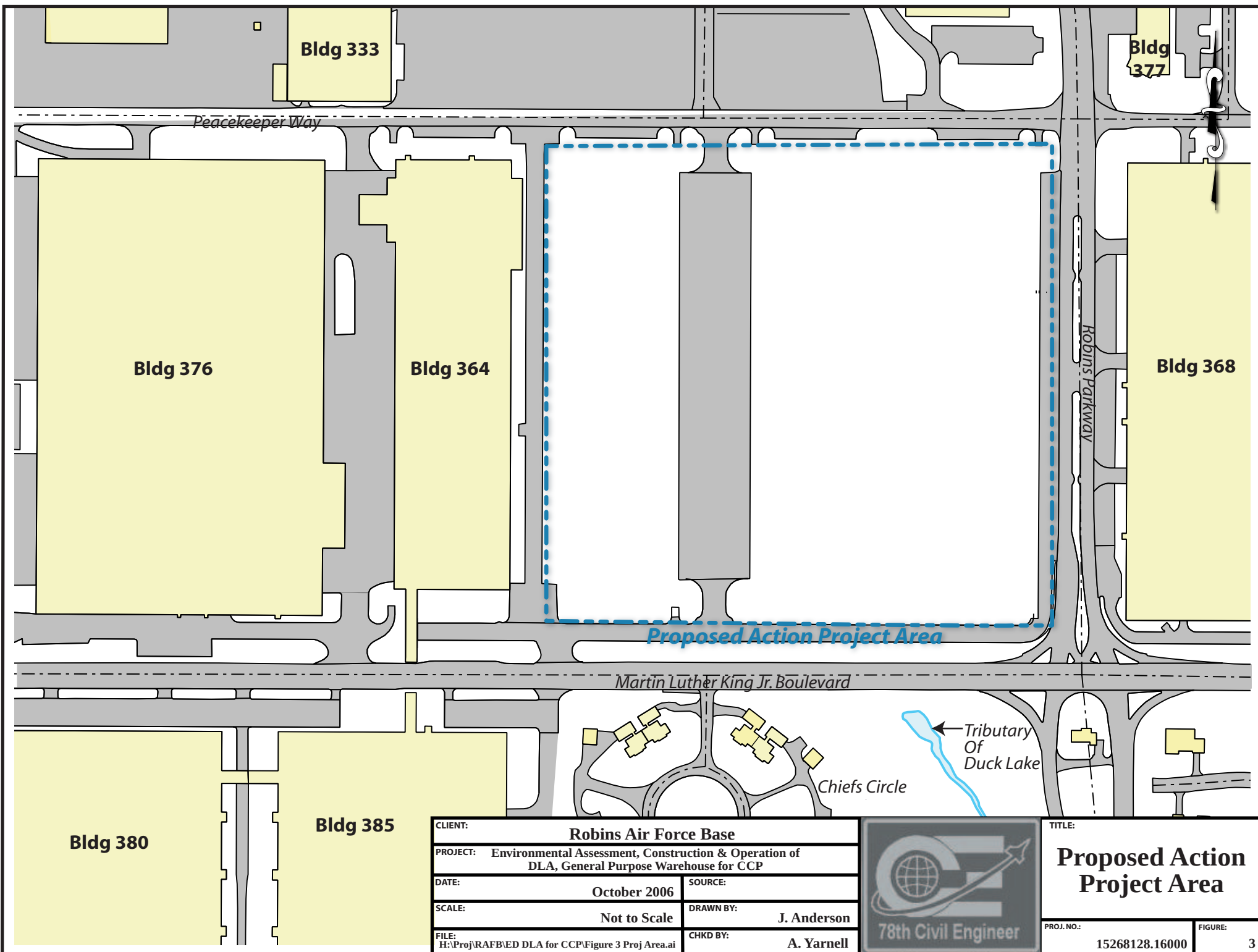
Source: Topozone.com
 Warner Robins SE Quadrangle, 1973
 Houston County - Georgia
 7.5 Minute Series (Topographic)

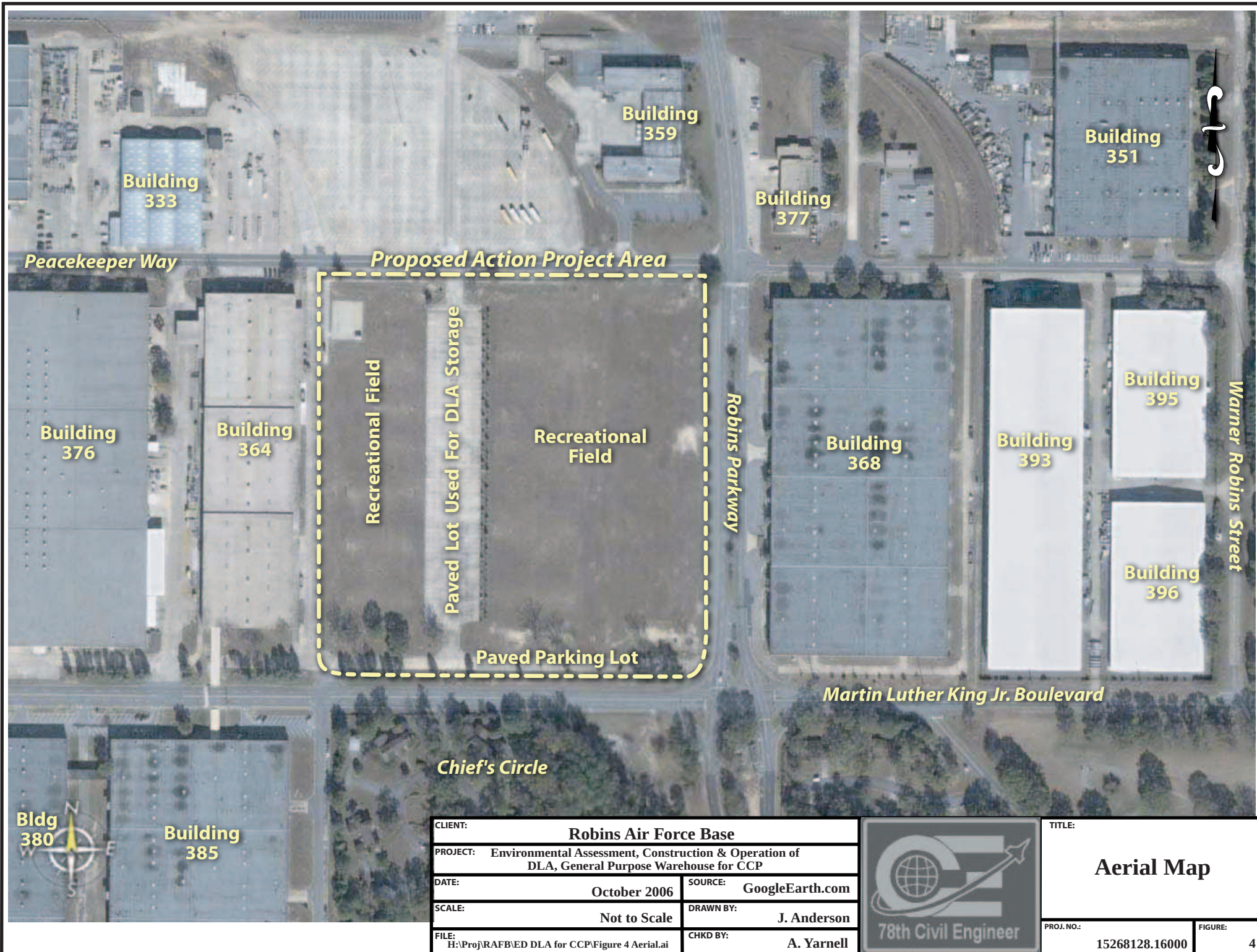


CLIENT: Robins Air Force Base	
PROJECT: Environmental Assessment, Construction & Operation of DLA, General Purpose Warehouse for CCP	
DATE: October 2006	DESIGNED BY:
SCALE: 1:24000	DRAWN BY: J. Anderson
FILE: H:\Proj\RAFB\EA DLA for CCP\Fig 2 Topo.ai	CHECKED BY: A. Yarnell



TITLE: Site Location Map	
PROJ NO.: 15268128.16000	FIG.: 2





CLIENT: Robins Air Force Base	
PROJECT: Environmental Assessment, Construction & Operation of DLA, General Purpose Warehouse for CCP	
DATE: October 2006	SOURCE: GoogleEarth.com
SCALE: Not to Scale	DRAWN BY: J. Anderson
FILE: H:\Proj\RAFB\ED DLA for CCP\Figure 4 Aerial.ai	CHKD BY: A. Yarnell



TITLE: Aerial Map	
PROJ. NO.: 15268128.16000	FIGURE: 4

The Proposed Action does not include any changes to existing DLA operations at DDWG. Materiel from existing DDWG storage warehouses located mainly in the area from Byron Street to Warner Robins Street along Peacekeeper Way and Martin Luther King, Jr. Boulevard would be transferred by trucks, tugs and transporters to the GPW for CCP on an as-needed basis.

A description of each of the Proposed Action components is presented in the following subsections.

GPW Construction at Proposed GPW Site

The Proposed GPW Site currently contains a concrete parking lot measuring approximately 120 feet by 315 feet that is used for DDWG storage; a smaller concrete lot that houses a small temporary storage shed belonging to Base Honor Guard 78th Services; a paved parking lot; and two grass-covered fields used for soccer (see **Figure 4**). The site previously contained warehouse buildings; the buildings were demolished and their foundations were removed, based on Robins AFB personnel observations made during building demolition. It is not known if all of the utility piping associated with the warehouses was removed; if utility piping is encountered during construction, it will be removed and disposed of in accordance with applicable regulations, or relocated as necessary.

Construction of the new facility would begin in fiscal year (FY) 2008 and be completed in FY 2010. As state above, any existing utilities traversing the site would be removed. Existing transformers located along the perimeter of the site would remain in place. The concrete-paved lots in the northwestern and central portions of the site would be removed. The Base Honor Guard temporary storage shed would be relocated to an offsite location. The areas used as recreational fields by Robins AFB youth center leagues would be absorbed by the new facility. The youth center would work with 78th CEG/CE to find a new practice field area on base. The paved parking lot in the southern portion of the Proposed GPW Site would be retained and used as a contractor's equipment laydown and staging area during construction.

All of the Proposed Action requirements listed in **Section 2.1** would be incorporated into the new facility on the Proposed GPW Site, including construction of a 167,575-square foot permanent, non-combustible GPW with a minimum 25-foot clear stack height, weather-sealed truck doors, loading/unloading docks with dock levelers, paved roadways, hardstand aprons and connection to all utilities as directed by the BRAC 2005. CCP operations would occupy 165,000 square feet of the facility. An annex would house a 1,325-square foot administrative area with office space, employee lunch/break area, restrooms and locker rooms; and a 1,250-square foot utility annex would support all utility functions of the facility. The facility would comply with DoD force protection requirements per unified facilities criteria and incorporate conservation elements to meet LEED certification requirements. All electrical, mechanical and fire protection systems would meet national, state and local code requirements. The GPW would have handicap access.

The majority of the site would be paved with concrete or occupied by the new GPW. The new facility would occupy the north-central portion of the site, with receiving operations located on the building's southern side and shipping operations located on the building's northern side. A small area for vehicle parking (approximately 7 regular spaces and 2 handicap spaces) would be constructed at the northwest corner of the new building, near the annex. Landscaping would be installed adjacent to the parking area and annex. Approximately 80,000 square feet of pavement south of the building would be used for DLA surge storage. A trailer staging area would be located east of the building along Robins Parkway, and a truck hardstand would be constructed adjacent to the shipping and receiving docks to support CCP operations. A storm water detention area would be constructed along the southern perimeter of the site, and connected to an existing outfall at the southeastern corner of the site that empties into the unnamed tributary of Duck Lake located south of the site.

CCP Operations at New GPW

A CCP facility consolidates orders and either containerizes them (load items into a seagoing van container) for ground transportation or palletizes them for air transportation.

Approximately 100 new employees would be hired to support CCP operations (receiving, repackaging if necessary, and shipping commodities offsite) at the new GPW, with operations beginning in FY 2010. A mechanized material handling system would be installed to assist with repackaging or combining of multiple packages on one pallet. Repackaging of commodities would not typically generate solid waste as the commodities would be maintained in their original shipping packaging. Containers would be parked at a majority of the loading doors for some time before the containers are filled with consolidated orders.

The majority of CCP operations would occur in the warehouse portion of the new GPW. The annex's office space would be utilized by CCP operations management and administrative staff.

The CCP would operate approximately 24 hours a day, 7 days a week. No deliveries would occur on weekends.

As previously stated, materiel from existing DDWG warehouses would be transferred to the GPW for CCP on an as-needed basis. Approximately 25 to 30 incoming trucks would deliver commodities from off-base locations to the GPW each day, and approximately 26 outbound trucks would take commodities from the GPW to offsite shipping locations each day. All trucks would enter and exit Robins AFB at Gate 4, the base's commercial truck gate. The 100 new employees could enter and exit Robins AFB through any of the other access gates.

Truck Queuing Lane Site Modifications

Proposed Action Modifications - The Proposed Action would include construction of a minimum of six and up to eight parallel-configured tractor truck and four smaller commercial vehicle staging spaces, additional pavement and a new travel lane, as the Proposed Action would increase traffic through the base's commercial truck gate at Peacekeeper Way (Gate 4). The queuing lane would also involve paving a travel lane south of Peacekeeper Way and Building 253, west of Perry Road and east of Page Street

(Figure 5). An additional area would be paved to enlarge the existing truck queuing area west of Building 253. These areas currently contain grass and three mature oak trees.

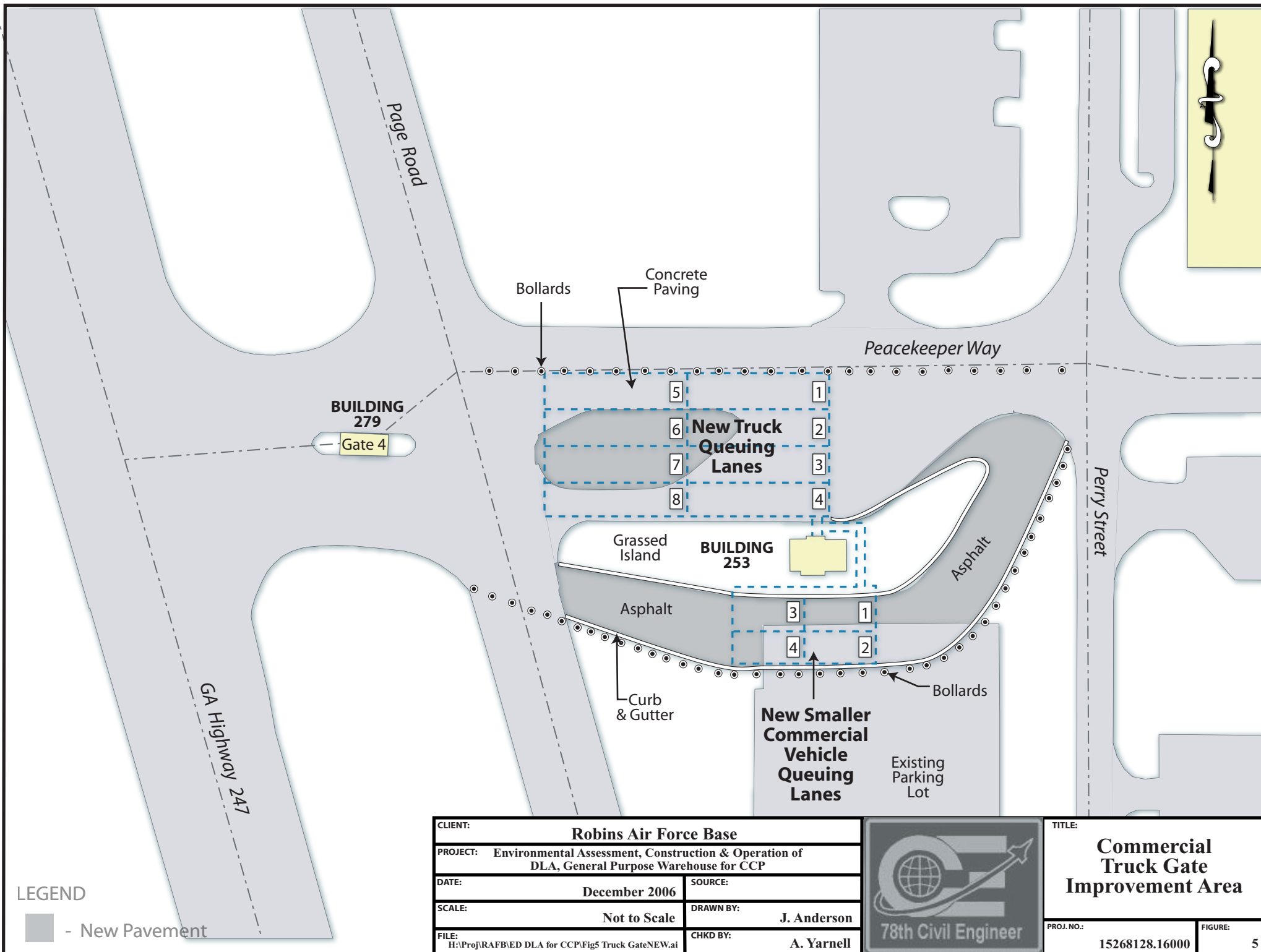
No Action - Under “no action” for Gate 4 modifications, the Proposed Truck Queuing Lane Site component of the Proposed Action would not be completed, and existing commercial vehicle Gate 4 inspection facilities would be used.

2.3 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, no construction would occur at Robins AFB related to the DLA operations and Gate 4 operations. All DLA operations at DDWG and Gate 4 operations would continue as they do at present. DLA would not be able to implement BRAC 2005 directions and achieve improved workload distribution, reduced redundant inventory and associated savings.

2.4 ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER CONSIDERATION

The alternatives evaluated included preliminary assessments of existing buildings for CCP operations and alternative sites for new GPW construction and operation. No existing buildings were identified at Robins AFB that would meet the project requirement to provide warehouse space by FY 2010, so none were evaluated in this EA. Five site locations where a new GPW could be constructed were identified and were considered as part of the alternatives evaluation. Four alternative sites were eliminated from consideration due to failure to meet the requirements of this project, which included inability to identify demolition timeframes for existing buildings located on the alternative sites and distance from existing DDWG facilities and core operations.



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Alternate Site 1 was identified as the area between Peacekeeper Way to the north, Martin Luther King, Jr. Boulevard to the south and Page Road to the west. The area is currently occupied by several buildings (253, 261, 262, 263, 265, 267, 268, 270, 271, 272, 273, 275 and 20270) used for industrial activities, which are part of the Civil Engineer complex or are occupied by 116th Air Control Wing. These buildings are identified for demolition but at an unknown future date. Because construction of the new GPW would need to start in FY 2008, Alternative Site 1 did not meet the Proposed Action requirement to provide space for a GPW by FY 2010. Alternative Site 1 was therefore eliminated from further evaluation.

Alternate Site 2 was identified as two separate areas on the east and west sides of Robins Parkway, with the western area being bound by Page Road to the southwest. Alternative Site 2 is currently occupied by the Pine Oak residential area and portions of the Lakeside residential area. These areas would become available for other uses once the proposed Robins AFB housing privatization initiative is implemented, but the timeframe for removal of the structures in these two areas was uncertain during the alternatives evaluation. Construction of the GPW at these locations would also require relocation of two holes on the golf course. Site selection for the GPW had to occur early in the process in order for development of the Request for Proposal and Bid Package preparation to occur by 30 September 2007 and construction of the new GPW in FY 2008. During GPW site selection the timeframe for housing privatization was uncertain, so Alternative Site 2 did not meet the requirement to provide space for a GPW by FY 2010. Alternative Site 2 was therefore eliminated from further evaluation.

Alternate Site 3 was identified as an undeveloped area in the southern portion of the base, south of Luna Lake and north of Marchbanks Road. This site is far from DLA's core operations and would require trucks to travel across base, including past the commissary. If this site was selected, several cross-streets along Robins Parkway, Macon Street and Marchbanks Road would require roadway alterations to handle the increased traffic. Alternative Site 3 did not meet the requirements for the project because it is not located

near existing DDWG warehouses and core operations; it was therefore eliminated from further evaluation.

Alternate Site 4 was identified as an undeveloped area in the southern portion of base, south of Scout Lake and north of Marchbanks Road. This site is also far from DLA's core operations and would require trucks to travel across base, including past the commissary, a highly congested area that is not conducive to increased truck traffic. If this site were selected, several cross-streets along Robins Parkway, Macon Street and Marchbanks Road would require alterations to handle the increased traffic. Alternative Site 4 did not meet the requirements for the project because it is not located near existing DDWG warehouses and core operations. Alternative Site 4 was therefore eliminated from further evaluation.

Alternative Sites 1, 2, 3 and 4 are not discussed further in this EA. The site identified herein as the Proposed GPW Site was the only alternative site evaluated that met all the requirements for the project, and thus is further assessed in this EA.

2.5 COMPARISON OF POTENTIAL EFFECTS

Table 2-1 presents a summary comparison of alternatives receiving detailed evaluation in this EA, which are the Proposed Action (construction of a new GPW and CCP operations at the Proposed Action site and Proposed Truck Queuing Lane Modifications), Proposed Truck Queuing Lane "No Action," and the No-Action Alternative. Implementation of the Proposed Action or the No-Action Alternative, as detailed in **Section 4** of this document, would result in no significant adverse effect.

Table 2-1. Comparison of Alternatives Receiving Detailed Evaluation

		Proposed Action Proposed GPW		Proposed Truck Queuing Lane Site Modifications	Proposed Truck Queuing Lane Site “No Action”	No-Action Alternative
Phase of Action (C = Construction; O = Operation)		C	O	C & O	C & O	N/A
Environmental Component		+ = Beneficial Effect, --- = Insignificant Adverse Effect, O = No Effect				
Physical Environment	Topography	O	O	O	O	O
	Surface Waters	O	O	O	O	O
	Floodplains and Wetlands	O	O	O	O	O
	Storm Water	---	---	---	O	O
	Geology and Soils	O	O	O	O	O
	Groundwater	O	O	O	O	O
	Water Supply and Drinking Water	O	---	O	O	O
Air Quality		---	---	---	---	O
Waste Management and Toxic Materials	Wastewater	O	---	O	O	O
	Solid Waste	---	---	O	O	O
	Hazardous Materials and Waste	---	---	O	O	O
	Toxic Materials	O	O	O	O	O
Noise Environment		---	---	---	---	O
Biological Environment		---	---	---	O	O
Cultural Resources		O	O	O	O	O
Socioeconomic Environment		+	+	+	---	---
Safety		O	O	+	---	O
Transportation		---	---	+	---	O
Cumulative Impacts		---	---	O	---	O

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3.0 AFFECTED ENVIRONMENT

This section describes the existing environment within the area potentially affected by the Proposed Action and No-Action Alternative. A brief description of the action site is followed by descriptions of the physical environment, air quality, waste management and toxic materials, noise environment, biological environment, cultural resources, socioeconomic environment, and transportation and safety.

Discussion of the described elements and resources provides the basis for analysis of potential effects to the environment from the Proposed Action and No-Action Alternative. Relevant background information related to Robins AFB is presented in **Appendix A**. Site-specific information presented in this section is derived from onsite evaluation and information obtained from 78th CEG/CEV and other Robins AFB personnel.

Proposed GPW Site. The Proposed GPW Site is a 12.5-acre parcel located within the central portion of Robins AFB (see **Figure 2**). It is situated southwest of the intersection of Peacekeeper Way and Robins Parkway, north of Martin Luther King, Jr. Boulevard and east of Building 364 (see **Figures 3 and 4**).

Potable water lines and the base's storm water collection system traverse the Proposed GPW Site. The sanitary wastewater collection system, natural gas lines and electrical lines are located at the periphery of the site.

The Proposed GPW Site was previously developed with three warehouses as is shown on the 1973 United States Geological Survey 7.5-minute topographic quadrangle map (see **Figure 2**). The warehouses were demolished in the late 1990s to early 2000s and their foundations are believed to have been removed, based on Robins AFB personnel observations made during building demolition. Some or all of the paved areas associated with these buildings remain onsite. The small concrete-paved lot in the northwest corner of the site contains a small temporary storage shed belonging to Base Honor Guard 78th Services, the larger 120-foot by 315-foot concrete-paved lot near the west-central portion

of the site is currently used by DLA as a commodities surge storage lot, and the paved lot along the southern perimeter of the site is available for parking but was unused during recent site visits. The remaining areas of the site are covered with grass and are used as soccer fields (**Figure 4**).

Proposed Truck Queuing Lane Site. The Proposed Truck Queuing Lane Site is located east of and adjacent to Building 279/Gate 4 (the base's commercial truck gate) along the western perimeter of the central portion of Robins AFB (see **Figures 2 and 5**). The site is situated along Peacekeeper Way between Page Road and Perry Street. It is currently a grassy area with three mature oak trees in the southern portion. The current truck queuing/parking area is adjacent to the proposed site. The Proposed Truck Queuing Lane Site is located on both sides of Building 253, which is used by Security Forces personnel, and it is not known to have been previously developed, although it was likely graded during adjacent construction activities.

3.1 PHYSICAL ENVIRONMENT

The following description of the physical environment of the study areas is based on its principal components: topography, surface waters, floodplains, storm water, wetlands, geology and soils, groundwater and water supply and drinking water.

3.1.1 Topography

Proposed GPW Site. Topography at the Proposed GPW Site is relatively flat; it was previously graded and developed with pavement and buildings. Elevation ranges from approximately 295 feet above mean sea level (msl) at the northwest corner to approximately 290 feet above msl at the southeast corner.

Proposed Truck Queuing Lane Site. Topography at the Proposed Truck Queuing Lane Site is relatively flat, with an approximate elevation of 305 feet above msl.

3.1.2 Surface Waters

Proposed GPW Site. No surface water is located on the Proposed GPW Site, and current operations at the Proposed GPW Site do not significantly directly or indirectly impact surface waters. An unnamed, intermittent tributary to Duck Lake is located just south of the site, southwest of the intersection of Martin Luther King, Jr. Boulevard and Robins Parkway (**Figure 3**). The 8.3-acre Duck Lake was created in the 1940s by the construction of a dam (Warner Robins Street) across a natural drainage that empties into the Ocmulgee floodplain. Duck Lake acts as a retention/detention basin and is recharged solely by storm water.

Proposed Truck Queuing Lane Site. No surface water is located on or adjacent to the Proposed Truck Queuing Lane Site and current operations at the site do not directly impact surface waters. The closest surface water to this site is the major swale to Duck Lake that is located just south of the Proposed GPW Site.

3.1.3 Floodplains and Wetlands

Based on review of flood insurance rate maps of the Federal Emergency Management Agency (FEMA, 1996) and site observations, neither the Proposed GPW Site nor the Proposed Truck Queuing Lane Site is located within the 100-year floodplain or contains jurisdictional wetlands. Nor do any activities or operations at the sites directly impact floodplains and wetlands.

3.1.4 Storm Water

Proposed GPW Site. The Proposed GPW Site does not currently receive storm water runoff from offsite sources. No storage was observed onsite at the time of the August 2006 site reconnaissance; however, local DLA representatives indicated that the large onsite concrete-paved lot is used as a surge supply storage lot on an as-needed basis. During DLA surges, some commodities may be stored on this lot and exposed to

precipitation. Commodities stored onsite and the paved lots are maintained to avoid degradation and/or inadvertent leakage of contaminants to the environment.

Precipitation falling onto the Proposed GPW Site infiltrates the vegetated areas surrounding the paved areas and sheet flows into storm drains located adjacent to the large onsite paved area, Peacekeeper Way and Martin Luther King, Jr. Boulevard. The drains are part of the base's storm water collection system. Storm water discharges to an unnamed tributary of Duck Lake that is south of the Proposed GPW Site; Duck Lake discharges through Patton Pond and eventually into Ocmulgee floodplain wetlands.

Proposed Truck Queuing Lane Site. The Proposed Truck Queuing Lane Site does not currently receive storm water runoff from offsite sources. Precipitation falling onto the Proposed Truck Queuing Lane Site infiltrates the onsite vegetated areas or flows to Robins AFB storm water system inlet drains located nearby.

3.1.5 Geology and Soils

Proposed GPW Site. Many of the soils in the vicinity of the Proposed GPW Site have been disturbed due to construction, including the former onsite buildings and former and existing onsite paved lots. Lucy sand, 0 to 5 percent slopes, was mapped on the Proposed GPW Site (USDA, 1967). The areas of the site that are not covered by pavement are covered with grass with little exposed soil. Current site activities and operations do not significantly adversely impact onsite or offsite soils.

Due to past uses of chlordane in the vicinity of the Proposed GPW Site, chlordane-containing soils might be present onsite. Chlordane is a man-made chemical that was used as a pesticide for termites from 1948 to 1988 (ATSDR, 2004), at which time it was banned and no longer used at the base. Either when the previous warehouse buildings were constructed or thereafter, chlordane was likely applied to the surrounding soils as termite treatment. No soil testing for the presence of chlordane or other pesticides has been conducted at the Proposed GPW Site. United States Environmental Protection Agency (USEPA) states that soils containing legally applied chlordane are not required to

be remediated. Soils contaminated with pesticide used for its intended purpose can be managed in place.

Proposed Truck Queuing Lane Site. Many of the soils in the vicinity of the Proposed Truck Queuing Lane Site have been disturbed due to nearby construction activities. Norfolk loamy fine sand, 0 to 2 percent slopes, was mapped on the Proposed Truck Queuing Lane Site (USDA, 1967). The site is covered with grass and three mature oak trees with little to no exposed soil. Current site operations do not adversely impact onsite or offsite soils.

3.1.6 Groundwater

Proposed GPW Site. Depth to groundwater at the Proposed GPW Site fluctuates at approximately 40 feet below ground surface (bgs).

Current and past operations at the Proposed GPW Site are not known to have adversely impacted groundwater conditions at the site. The nearest known groundwater contamination is located north of the site, north of Building 359.

Proposed Truck Queuing Lane Site. Depth to groundwater at the Proposed Truck Queuing Lane Site fluctuates at approximately 40 feet bgs.

Current and past operations at the Proposed Truck Queuing Lane Site are not known to have adversely impacted groundwater conditions at the site. Nor is groundwater contamination known to exist in the vicinity of the Proposed Truck Queuing Lane Site.

3.1.7 Water Supply and Drinking Water

The base's current water usage is approximately a quarter of the available capacity.

Proposed GPW Site. No groundwater drinking wells are located within the boundaries of the Proposed GPW Site. Potable water distribution pipes are located under the central

portion of this site, adjacent to the large concrete-paved lot. Potable water is not currently used onsite.

Proposed Truck Queuing Lane Site. No groundwater drinking wells are located within the boundaries of the Proposed Truck Queuing Lane Site. No potable water distribution pipes are located onsite. Potable water is not currently used onsite.

3.2 AIR QUALITY

3.2.1 Regional Air Quality

Robins AFB is located in an attainment area, indicating that the National Ambient Air Quality Standards (NAAQS) are being met in Houston County.

3.2.2 Air Emission Sources

Robins AFB is compliant with its Title V permit issued on November 14, 2003 (Air Quality Permit #9711-153-0033-V-01-2). Air emissions are not currently produced at the Proposed GPW Site or the Proposed Truck Queuing Lane Site.

3.3 WASTE MANAGEMENT AND TOXIC MATERIALS

3.3.1 Wastewater

Base-generated sanitary sewage is treated at Robins AFB's sanitary sewage treatment plant, and effluent is monitored for biological oxygen demand, chemical oxygen demand, coliform bacteria, pH, oil and grease, ammonia, metals, suspended solids and chlorine. Discharges currently are within National Pollutant Discharge Elimination System permit limits.

Proposed GPW Site. Sanitary sewer lines parallel the Proposed GPW Site along Peacekeeper Way. Sanitary sewer service is not currently provided to the Proposed GPW

Site. Portable toilets are located on the Proposed GPW Site for visitors to the onsite soccer fields. Industrial wastewater is not currently generated at the Proposed GPW Site.

Proposed Truck Queuing Lane Site. Sanitary sewer lines are not located on the Proposed Truck Queuing Lane Site and sanitary sewer service is not currently provided to the site. Industrial wastewater is also not currently generated at the Proposed Truck Queuing Lane Site. Industrial wastewater sewer lines are not located on the Proposed Truck Queuing Lane Site.

3.3.2 Solid Waste

Houston County has committed to providing solid waste disposal services to Robins AFB and has a permitted facility with 40 years of useful life. Approximately 50 years of additional capacity could be acquired through expansion of the landfill if needed.

Proposed GPW Site. Minimal solid waste is generated at the Proposed GPW Site by visitors to the soccer fields.

Proposed Truck Queuing Lane Site. No solid waste is generated at the Proposed Truck Queuing Lane Site.

3.3.3 Hazardous Materials and Waste

Robins AFB has implemented a *Hazardous Waste Reduction Plan* (HWRP; 2006) that focuses on reducing or eliminating the use of hazardous materials. Hazardous materials are stored and handled in accordance with Occupational Safety and Health Administration (OSHA) regulations 29 Code of Federal Regulations (CFR) 1910.1200(e) through (h), *Hazard Communication*. Hazardous waste is managed under the Resource Conservation and Recovery Act (RCRA) *Standards Applicable to Generators of Hazardous Waste* (40 CFR Part 262), Georgia Rule 391-3-11, *Hazardous Waste Management*, and Robins AFB's Hazardous Waste Management Permit No. HW-064(S). Universal waste is stored and handled in accordance with the *Standards for Universal*

Waste Management (40 CFR Part 273). All hazardous waste is handled and disposed of in accordance with Robins AFB's *Hazardous Waste Management Plan* and all local, state and Federal regulations.

No hazardous materials are stored and no hazardous waste is currently generated at either the Proposed GPW Site or the Proposed Truck Queuing Lane Site.

As stated in **Section 3.1.5**, chlordane-containing soils may exist onsite. While in place, the soils are not considered a waste.

3.3.4 Toxic Materials

Asbestos-containing materials (ACM) and lead-based paint (LBP) are not known to be located on the Proposed GPW Site or on the Proposed Truck Queuing Lane Site. In addition, no polychlorinated biphenyl (PCB)-containing equipment is located within the boundaries of these sites. However, ACM and LBP could be associated with abandoned utility piping that might traverse the Proposed GPW Site.

3.4 NOISE ENVIRONMENT

Proposed GPW Site. No significant noise is currently being generated from this site. Offsite noise is generated by vehicles on the adjacent roadways. Based on the most recent noise contour data, the Proposed GPW Site is located on the edge of the area subject to 65 and 69 decibel day/night levels (Middle Georgia Regional Development Center, 2004). The nearest residences, Chief's Circle, are no longer used for housing and are being used for offices. No other potential sensitive receptors are located near the Proposed GPW Site.

Proposed Truck Queuing Lane Site. No significant noise is currently being generated from this site. Vehicular noise is generated by the adjacent roadways and Gate 4, the base's commercial truck gate. Based on the most recent noise contour data, the Proposed Truck Queuing Lane Site is located in an area subject to below 65 decibel day/night

levels (Middle Georgia Regional Development Center, 2004). No potential sensitive receptors are located near the Proposed Truck Queuing Lane Site.

3.5 BIOLOGICAL ENVIRONMENT

3.5.1 Flora

Proposed GPW Site. Areas around the Proposed GPW Site have been disturbed by previous construction activities and contain mostly developed, impervious surfaces. Onsite flora includes approximately 11 acres of landscaped grasses; approximately 30 young trees, including Leyland cypress, magnolia and maple trees along the concrete-paved lot; and approximately ten mature pecan trees along the site perimeter.

Proposed Truck Queuing Lane Site. Areas around the Proposed Truck Queuing Lane Site have been disturbed by construction activities and contain mostly developed, impervious surfaces. Flora located at the site includes landscaped grasses and three mature oak trees.

3.5.2 Fauna

The Proposed GPW Site and Proposed Truck Queuing Lane Site are located within heavily developed portions of base, and consist mainly of pavement and mowed, grass-covered areas. The two sites offer minimal habitat for fauna, mainly limited to a few trees, which small mammals and birds could use. No fauna was observed at either site during the site visits performed in support of this EA.

3.5.3 Endangered, Threatened and Sensitive Species

No threatened, endangered or sensitive plant or animal species or their habitats are located on or adjacent to the Proposed GPW Site or the Proposed Truck Queuing Lane Site.

3.6 CULTURAL RESOURCES

The archeological and cultural resources of Robins AFB are summarized in the *Integrated Cultural Resources Management Plan* (ICRMP) for Robins AFB that was finalized December 2005. The base has been completely surveyed for archaeological sites and historic structures/districts, and the survey work has been reviewed and accepted by the Georgia Department of Natural Resources Historic Preservation Division (HPD) / State Historic Preservation Office (SHPO). In 2003, an archaeological evaluation and soil survey mapped areas on the base with intact soil profiles for future archaeological investigations. This report showed that the soil over the entire airfield and many adjacent areas was found to have been significantly disturbed by construction activities that took place between the mid 1940s and early 1960s. All upland Phase II archaeological testing has been completed and Robins AFB has a total of 15 archaeological sites eligible for listing on the National Register of Historic Places (NRHP). The historical/architectural survey of the base examined all structures on base and Robins AFB has a total of 26 buildings eligible for the NRHP.

In addition to the general requirements for any Air Force facility to preserve cultural resources, Robins AFB is currently finalizing a Programmatic Agreement (PA) with the Georgia SHPO regarding maintenance activities on historic structures or in historic districts. Once the PA is finalized and signed, Robins AFB will be obligated to follow its requirements.

Proposed GPW Site. No buildings are located on the Proposed GPW Site. The residential structures located in Chief's Circle, which is located south of and adjacent to the Proposed GPW Site (see **Figures 3 and 4**), have been determined to be eligible for listing on the NRHP. Chief's Circle consists of five two-story residential buildings (Buildings 500-502, 504, 505) constructed in 1942 in the Colonial Revival style.

No other NRHP-listed or -eligible structures are located within the viewshed of the Proposed GPW Site. No archaeological sites have been recorded in the vicinity of the Proposed GPW Site

Proposed Truck Queuing Lane Site. No buildings are located on the Proposed Truck Queuing Lane Site, and no NRHP-listed or -eligible structures are located within the viewshed of the site. No archaeological sites have been recorded in the vicinity of the Proposed Truck Queuing Lane Site.

3.7 SOCIOECONOMIC ENVIRONMENT

Socioeconomic resources include the basic attributes and resources associated with the human environment. In particular, this includes population and economic activity. Economic activity typically encompasses employment, personal income and industrial growth. No operations occur at the Proposed GPW Site or at the Proposed Truck Queuing Lane Site; therefore, no employees or expenditures are currently associated with the Proposed GPW Site or the Proposed Truck Queuing Lane Site.

3.8 TRANSPORTATION AND SAFETY

Background information on the transportation system at Robins AFB is presented in **Section 11.10 of Appendix A.**

Approximately 300 personnel are associated with DDWG, working in office and warehouse space located in several buildings mainly situated from Byron Street to Warner Robins Street along Peacekeeper Way and Martin Luther King, Jr. Boulevard. All commercial vehicles associated with existing operations enter Robins AFB at Gate 4 and travel to existing DDWG spaces along Peacekeeper Way and side streets.

At Robins AFB, safety issues are those that directly affect protection of human life and property, and principally involve aviation, munitions and fire prevention. DDWG personnel are protected by observing DoD, DLA, OSHA and Air Force Occupational Safety and Health (AFOSH) standards, Robins AFB safety requirements and RCRA (see **Section 3.3.3**).

Proposed GPW Site. Peacekeeper Way to the north and Martin Luther King, Jr. Boulevard to the south provides access to the Proposed GPW Site. The paved lot along the southern perimeter of the site is available for parking and storage; also, perpendicular pull-in parking spaces are located along Peacekeeper Way. These two parking areas were not being used for parking during the EA site visits but are used by visitors to the soccer fields. A large parking lot is also located on the north side of Peacekeeper Way with ample available parking. Sidewalks are located along the northern perimeter of the site along Peacekeeper Way. Currently no safety issues are associated with the site or surrounding roadways.

Proposed Truck Queuing Lane Site. Peacekeeper Way to the north provides access to the Proposed Truck Queuing Lane Site, which is adjacent to Robins AFB's commercial truck gate (Gate 4). A large parking lot is located adjacent to the Proposed Truck Queuing Lane Site to the south.

According to 2005 recorded Average Annual Daily Traffic counts by Georgia Department of Transportation (GDOT), 19,730 vehicles travel SR 247/US 129 near the Peacekeeper Way/Gate 4 intersection daily.

All commercial vehicles entering and exiting Robins AFB are required to use Gate 4 on SR 247/US 129 at Peacekeeper Way; no personal vehicles enter through Gate 4. Recent traffic count data for Gate 4 indicate that, on average, approximately 66 tractor trailer trucks enter the base through Gate 4 per day between the hours of 0700 to 1700 (timeframe during which CCP operations expect to receive deliveries). DDWG's current operations account for approximately 26 inbound tractor trailer trucks and 16 outbound tractor trailer trucks per day through Gate 4.

All commercial vehicles are searched by Security Forces prior to entering base. Five truck queuing spaces (or "bays") are currently located in the "Search Pit" at Building 253, but due to the tight configuration, only two of the spaces are useable for all sizes of commercial vehicles at all times. Commercial vehicles turn off their engines while waiting for the vehicle inspection to be completed in the Search Pit; Security Forces

personnel estimate that the average wait time for vehicle searches is currently 5 to 10 minutes. The traffic engineering and operational analysis conducted in support of this EA found that the Search Pit is less than optimal but still sufficient for the current number of commercial vehicles entering base. Occasionally, however, commercial traffic entering base backs up on SR 247/US 129 at Gate 4 due to an insufficient northbound right-turn lane on SR 247/US 129, as it does not meet current GDOT standards, and due to the short distance between SR 247/US 129 and Gate 4.

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4.0 ENVIRONMENTAL EFFECTS

This chapter describes potential environmental effects of implementing the Proposed Action and the No-Action Alternative. Potential effects of actions are based on the description of the actions as presented in **Section 2** and existing environmental conditions of each site as presented in **Section 3**. Environmental effects from the No-Action Alternative address effects as they currently occur or could occur in the future.

4.1 PHYSICAL ENVIRONMENT

4.1.1 Topography

4.1.1.1 No-Action Alternative

Under the No-Action Alternative, the topography of Robins AFB would remain unchanged because no construction would occur. Implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to topography at or near Robins AFB.

4.1.1.2 Proposed Action

No significant positive or significant adverse impacts to topography would result from implementation of the Proposed Action.

Proposed GPW Site

Implementation of the Proposed Action would require no significant alterations to existing topography at the Proposed GPW Site, as previous grading activities have occurred onsite and the site is relatively flat.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Implementation of this aspect of the Proposed Action would require no significant alterations to existing topography at the Proposed Truck Queuing Lane Site, as previous grading activities have occurred onsite and the site is relatively flat.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, no impacts to topography would occur.

4.1.2 Surface Waters

4.1.2.1 No-Action Alternative

Implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to surface waters near Robins AFB because no construction would occur. Surface waters would remain unchanged and surface waters are not currently being significantly impacted by the subject sites or activities at those sites.

4.1.2.2 Proposed Action

No significant positive or significant adverse impacts to surface waters associated with or located near the Proposed GPW Site or Proposed Truck Queuing Lane Site would result from implementation of the Proposed Action. This is because the Proposed Action includes implementation of Best Management Practices (BMPs) designed to protect surface waters. See **Section 4.1.4.2** for potential impacts to surface waters from soil erosion and storm water runoff, and additional BMP information.

Under “no action” for the Proposed Truck Queuing Lane Site, soil erosion would not occur at the site, as no construction would occur. No changes to surface waters would

occur, and surface waters would not be significantly positively or significantly adversely affected.

4.1.3 Floodplains and Wetlands

4.1.3.1 No-Action Alternative

Under the No-Action Alternative, floodplain characteristics would remain unchanged and wetlands would not be impacted. Implementation of the No-Action Alternative would cause neither significant positive nor significant negative effects to floodplain characteristics and wetlands near Robins AFB.

4.1.3.2 Proposed Action

Implementation of the Proposed Action would result in neither significant positive nor significant negative effects to floodplains or wetlands. No changes to the 100-year floodplain or to existing wetland areas near or receiving storm water runoff from the Proposed GPW Site or Proposed Truck Queuing Lane Site would occur under the Proposed Action, and these resources are not currently significantly impacted by the sites or activities on those sites.

Under “no action” for the Proposed Truck Queuing Lane Site, floodplains or wetland areas would not be significantly positively or significantly adversely affected.

4.1.4 Storm Water

4.1.4.1 No-Action Alternative

Implementation of the No-Action Alternative would cause neither significant positive nor significant negative effects to storm water near Robins AFB because no changes to storm water or the storm water conveyance system would occur, and storm water is not currently being significantly impacted by the subject sites or activities on those sites.

4.1.4.2 Proposed Action

Proposed GPW Site

Implementation of the Proposed Action would not significantly impact storm water. Care would be taken during removal of pavement and construction of the GPW, and the storm water collection system that traverses the Proposed GPW Site would be relocated to accommodate the new GPW. BMPs per the Georgia Soil and Water Conservation Commission's *Manual for Sediment and Erosion Control in Georgia, 5th Edition* will be implemented as part of the Proposed Action, and the impacts to storm water would be insignificant. Existing storm water collection system pipes would be used until new pipes were installed; service would be interrupted for an insignificant time period.

The proposed construction would impact approximately 11 of the 12.5 acres at the Proposed GPW Site, with the new facility and associated paved parking, maneuvering and staging areas covering almost the entire site. As a result, impervious area at the Proposed GPW Site would increase, as a greater percentage of the site's surface area would be covered by buildings and pavement, thus potentially increasing the rate and volume of storm water runoff. The construction project design will include permanent BMPs to sufficiently delay runoff of surface water during rain events to prevent downstream erosion in the tributary to Duck Lake. The design post-construction flow rate will be developed in accordance with guidelines in the Georgia Soil and Water Conservation Commission's *Manual for Sediment and Erosion Control in Georgia, 5th Edition*. The design will ensure that the storm water collection system piping possesses adequate flow capacity to prevent flooding and not overwhelm the storm water conveyance system.

In addition to meeting applicable building codes for the construction of the new GPW facility, the building contractor will be required to satisfy the following environmental requirements, submittals and permits related to the proposed project. The permit process includes submission of Notice of Intent for permit coverage under National Pollutant Discharge Elimination System (NPDES) General Permit 100001 to discharge storm water

associated with construction activity; development and approval of an Erosion, Sediment and Pollution Control Plan that meets the requirements of the Permit, while written in accordance with Georgia Soil and Water Conservation Commission's *Manual for Sediment and Erosion Control in Georgia, 5th Edition*; following of the applicable county water protection ordinance; obtaining a Houston County Sediment and Erosion Control Permit; submittal of land disturbance fees to Georgia Environmental Protection Division (EPD) and Houston County; obtaining of a dig permit from 78th CEG to identify underground utilities; implementation of BMPs; and submission of a Notice of Termination to Georgia EPD following completion of work when site conditions meet the definition of "final stabilization." Permit requirements also include performing periodic site inspections, sampling storm water discharges from the construction site, and analyzing turbidity of storm water runoff, performed in accordance with 40 CFR 136.

All permit applications would be submitted to 78th CEG/CEV for review prior to final submittal to governing authorities.

Implementation of BMPs would also reduce the potential for releases of contaminants from the outdoor surge storage area that could adversely impact storm water. BMPs would be implemented as necessary to control inadvertent releases of equipment liquids and hazardous materials being stored onsite, and for clean up before they could adversely affect storm water. Hence, implementation of the Proposed Action would result in neither significant adverse nor significant positive impacts to storm water related to the CCP operations.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Construction of the queuing lane would convert currently grassed/pervious surface to impervious surface, thus potentially increasing the rate and volume of storm water runoff. The construction project would be designed to sufficiently delay runoff of surface water from high-intensity storms. The design would ensure that the storm water collection system piping possesses adequate flow capacity.

Hence, the subject Proposed Action would not result in significant impacts to surface waters.

Construction of the proposed queuing lane would also be subject to the requirements outlined above under the “Proposed GPW Site” heading. All requirements would be implemented.

No Action - Under “no action” for the Truck Queuing Lane Site, impervious area at the subject site would not increase as no construction would occur. Storm water would not be significantly positively or significantly adversely affected.

4.1.5 Geology and Soils

4.1.5.1 No-Action Alternative

No changes to geology or soils at any of the subject sites or Robins AFB would occur under the No-Action Alternative because construction would not occur. Conducting no action would produce neither significant positive nor significant negative effects.

4.1.5.2 Proposed Action

Proposed GPW Site

As discussed previously in **Section 4.1.4.2**, as a result of construction and removal of pavement associated with the Proposed Action, the potential for soil erosion and the potential for eroded soil to adversely affect the quality of storm water runoff would increase. BMPs per the *Manual for Sediment and Erosion Control in Georgia* will be employed as part of the Proposed Action, and the impacts of the action would be insignificant.

If site development activities require removal of soil from the site, sampling would be conducted by the contractor to identify proper disposal methods to be followed for the

potentially chlordane-contaminated soils. Removal of chlordane-contaminated soils, if present, would be a positive effect of the project.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - BMPs per the *Manual for Sediment and Erosion Control in Georgia* will be employed to control soil erosion during construction, and adverse effects would be insignificant.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, no construction would occur at this site, and onsite soil would not be impacted. Conducting “no action” would produce neither significant positive nor significant negative effects to groundwater.

4.1.6 Groundwater

4.1.6.1 No-Action Alternative

Implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to groundwater because no changes to groundwater resources would occur and groundwater is not currently being significantly impacted by the subject site conditions.

4.1.6.2 Proposed Action

Proposed GPW Site

Implementation of the Proposed Action would not impact groundwater at the Proposed GPW Site, as the new construction would not be deep enough to impact or intersect groundwater. Conducting the Proposed Action would produce neither significant positive nor significant negative effects to groundwater.

Proposed Truck Queuing Lane Site

Proposed Action Modifications – Implementation of the Proposed Action would not impact groundwater at the Proposed Truck Queuing Lane Site, as the new construction would not be deep enough to impact or intersect groundwater. Conducting the Proposed Action would produce neither significant positive nor significant negative effects to groundwater.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, no impacts to groundwater would occur at the subject site, and “no action” would produce neither significant positive nor significant negative effects to groundwater.

4.1.7 Water Supply and Drinking Water

4.1.7.1 No-Action Alternative

No changes to existing water supply impacts and drinking water resources and usage would occur under the No-Action Alternative. Implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to water supply and drinking water.

4.1.7.2 Proposed Action

Proposed GPW Site

Additional potable water would be used by the 100 new employees at the GPW, increasing usage of the base’s water supply by approximately 0.5 percent. Water would not be required for CCP operations. Implementation of the Proposed Action would not affect the existing water supply at Robins AFB to a significant degree and the overall drinking water consumption at Robins AFB would not increase to a significant degree as a result of the Proposed Action.

Existing water pipes located beneath the Proposed GPW Site construction area would be relocated as a result of the Proposed Action. Existing pipes would be used until new pipes were installed; service would be interrupted for an insignificant time period and could occur over a weekend to further minimize disruption to customers.

Proposed Truck Queuing Lane Site

Proposed Action Modifications – Significant amounts of water would not be required in association with an enlarged Gate 4 truck queuing area. Implementation of this aspect of the Proposed Action would not affect the existing water supply at Robins AFB to a significant degree and the overall drinking water consumption at Robins AFB would not increase to a significant degree as a result of the Proposed Action.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, no impacts to water supply or drinking water would occur at the subject site, and “no action” would produce neither significant positive nor significant negative effects to drinking water.

4.2 AIR QUALITY

Potential air emissions resulting from the Proposed Action and No-Action Alternatives have been evaluated based on the Clean Air Act as amended. Effects of an action are considered significant if they increase ambient air pollution concentrations above NAAQS, contribute to an existing violation of NAAQS, or interfere with or delay attainment of NAAQS.

4.2.1 No-Action Alternative

No changes to air emissions would occur under the No-Action Alternative. Implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to air emissions.

4.2.2 Proposed Action

Proposed GPW Site

Pavement removal and construction activities at the Proposed GPW Site would generate fugitive dust. BMPs would limit the emissions to an insignificant amount.

Construction activities would increase emissions of carbon monoxide, hydrocarbons and nitrogen oxides from construction employee traffic and operation of heavy equipment. The increase in commutation trips and emissions from construction worker vehicles would be temporary and insignificant; emissions from heavy vehicles also would be relatively limited in quantity and duration and thus insignificant.

Since there are currently no employees associated with the Proposed GPW Site and the approximate 100 employees required for the new GPW would be newly hired employees, the amount of air emissions from employee vehicles and the approximate maximum of 30 additional commercial trucks associated with the new GPW would increase mobile emission sources. The mobile emission sources would not change air emissions at Robins AFB to a significant degree when compared to the current total emissions associated with Robins AFB and would not increase ambient air pollution concentrations above NAAQS.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Construction activities at the Proposed Truck Queuing Lane Site could generate fugitive dust. BMPs as outlined in the Erosion, Sediment and Pollution Control Plan would include procedures for wetting disturbed portions of the project areas during periods of excessive dryness and the increase in fugitive dust would be insignificant.

Construction activities associated with Gate 4 modifications would also generate carbon monoxide, hydrocarbons and nitrogen oxides emissions from heavy equipment and vehicles. These emissions would not result in significant adverse impacts to air quality

because of their limited duration and the small number of vehicles and equipment that would be needed for construction.

The proposed new queuing lane would allow for an increased number of commercial vehicles to enter base and eliminate idling in the Search Pit while awaiting their vehicle searches. DLA-related truck traffic would increase truck traffic at Robins AFB between the hours of 0700 and 1700 by 47 percent. An associated increase in commercial vehicle emissions during this timeframe would not result in significant adverse impacts to air quality as vehicle engine idling would not occur, and the number of new commercial vehicles (30) is not a significant number when compared to the total number of vehicles traveling SR 247/US 129 on a daily basis and compared to the number of vehicles associated with Robins AFB and the surrounding area.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, air emissions would increase due to an insufficient number and orientation of useable truck parking spots and the resulting backup and idling of trucks at Gate 4 and potentially on SR 247/US 129.

4.3 WASTE MANAGEMENT AND TOXIC MATERIALS

4.3.1 Wastewater

4.3.1.1 No-Action Alternative

Under the No-Action Alternative, sanitary and industrial wastewater would not be affected.

4.3.1.2 Proposed Action

Proposed GPW Site

The proposed new GPW would connect to the existing sanitary sewer system. The approximately 100 new employees at the GPW would generate an estimated 1,500 gallons of sanitary wastewater per day. The impact to the SWTP would not be significant based on the plant's capacity of 3.3 million gallons per day (MGD) and the current average of approximately 2.5 MGD.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - No wastewater would be generated by the Proposed Action modifications to the Proposed Truck Queuing Lane Site and operation of the expanded Gate 4.

No Action - Wastewater would not be generated under the "no action" aspect for this site, and wastewater would not be significantly positively or significantly adversely affected.

4.3.2 Solid Waste

4.3.2.1 No-Action Alternative

No significant adverse or significant positive impacts would occur to solid waste and the physical environment as it relates to solid waste because no change in the volume or handling of solid waste would occur at Robins AFB, and existing solid waste handling and disposal does not significantly impact the physical environment.

4.3.2.2 Proposed Action

Implementation of the Proposed Action would result in no significant positive or significant negative impacts to solid waste or to the physical environment as it relates to solid waste. Adequate space is available in the Houston County landfill for the solid waste that would be generated from this project.

Proposed GPW Site

Conducting the Proposed Action could temporarily increase the generation of solid waste from the removal of pavement (concrete) at the Proposed GPW Site. Since the USEPA states that legally applied chlordane is not required to be remediated, onsite soils can be managed in place. However, if the soils or onsite pavement require removal from the site, sampling would be conducted by the contractor to identify proper disposal methods to be followed. Removal of chlordane-contaminated pavement and soils, if present, would be a positive effect of the project.

Building construction would also produce solid waste. Waste materials will be recycled to the extent possible. Waste that is not recyclable will be disposed by the building contractor in approved local landfill facilities.

Waste would be generated on a long-term basis from operation of the proposed GPW, and include office waste, paper, plastics, metal and glass containers, and standard housekeeping materials generated by or associated with the additional 100 new employees, or approximately 0.5 percent of the current workforce.. This solid waste would be handled in accordance with Robins AFB's Integrated Solid Waste Management Plan (ISWMP); office wastes will be recycled to the extent possible and would not cause significant environmental effects.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - No to minimal amounts of road construction waste (estimated at less than 1 dump truck) would be generated at the Proposed Truck Queuing Lane Site during construction. Vegetation waste (onsite trees) would be removed by the contractor and disposed of in accordance with applicable regulations. The same amount of solid waste currently generated by operations in Buildings 279 and 253 that are associated with Gate 4 and the Search Pit would be generated in the future.

No Action - No waste would be generated from “no action” at the Proposed Truck Queuing Lane Site.

4.3.3 Hazardous Materials and Waste

4.3.3.1 No-Action Alternative

Under the No-Action Alternative, use of hazardous materials and generation of hazardous waste would not be affected. The No-Action Alternative would cause neither significant positive nor significant negative environmental effects related to hazardous materials and hazardous waste.

4.3.3.2 Proposed Action

Implementation of the Proposed Action would cause neither significant positive nor significant negative environmental effects related to hazardous materials and hazardous waste.

Proposed GPW Site

As previously discussed, chlordane could be present in soils at the Proposed GPW Site. If onsite soils or pavement require removal from the site, sampling would be conducted by the contractor to identify proper disposal methods to be followed. If concentrations of

chlordane exceed the facility's background concentrations, 78th CEG/CEV would submit notification, as necessary, pursuant to Robins AFB's Hazardous Waste Management Permit No. HW-064(S), to the Georgia EPD Hazardous Waste Management Branch. If any hazardous waste were generated during the excavation/construction activities, this would result in a negative effect on the environment. However, removal of chlordane-contaminated pavement and soils, if present, would be a positive effect of the project.

Hazardous materials, such as fuels for construction equipment and vehicles, would be used during the construction activities at the Proposed GPW Site. Propane tanks would be used at the new GPW for operating forklifts used in CCP operations. Hazardous materials could also be included in commodities handled at the facility. Materials will be managed in accordance with all applicable regulations and their usage and/or handling would not result in significant adverse impacts to the environment. Hazardous waste would not be generated on a long-term basis from operations at the new GPW.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Hazardous materials, such as fuels for construction equipment and vehicles, would be used during the construction activities at the Proposed Truck Queuing Lane Site. Materials will be managed in accordance with all applicable regulations and their usage and/or handling would not result in significant adverse impacts to the environment. Hazardous materials would not be stored at the Proposed Truck Queuing Lane Site on a long-term basis.

Hazardous waste would not be generated on a long-term basis from operations at the Gate 4 truck queuing lane.

No Action - Hazardous materials would not be used at the Proposed Truck Queuing Lane Site, as no construction would occur.

4.3.4 Toxic Materials

4.3.4.1 No-Action Alternative

The No-Action Alternative would cause neither significant positive nor significant negative environmental effects related to toxics and toxic waste because toxic materials would not be affected and these materials are not currently significantly impacting the environment.

4.3.4.2 Proposed Action

Implementation of the Proposed Action would not significantly adversely or significantly positively impact toxic materials or toxic waste or the environment as it relates to these materials because no known ACMs, LBPs, PCBs or PCB-containing equipment would be disturbed by construction under the Proposed Action or under the Truck Queuing Lane Site “no action”. Furthermore, if encountered, any materials and waste would be managed and disposed of per applicable regulations and disposal is a permitted activity.

4.4 NOISE ENVIRONMENT

4.4.1 No-Action Alternative

Implementation of the No-Action Alternative would not result in significant positive or significant negative effects to the noise environment because the noise environment would not change and the existing noise environment is not significantly impacted by the subject site.

4.4.2 Proposed Action

Proposed GPW Site

Implementation of the Proposed Action would not result in significant positive or significant negative effects to the noise environment because construction activities would be short-term, localized, and sufficiently distanced from the nearest sensitive receptor elements. Furthermore, noise from future operations would be generally consistent with noise from the surrounding areas, as Peacekeeper Way is a major commercial vehicle route at Robins AFB, and would consist primarily of noise generated by the increased truck traffic at the sites.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Noise impacts as a result of the Proposed Action Modifications to this site would be similar to those described above for the Proposed GPW Site.

No Action - Under “no action” for the Proposed Truck Queuing Lane Site, the noise environment at the site would not be significantly adversely impacted. Adverse noise from idling vehicles could increase at Gate 4 and along SR 247/US 129 if inbound traffic were to backup due to not enough queuing lanes in the Search Pit.

4.5 BIOLOGICAL ENVIRONMENT

4.5.1 No-Action Alternative

The No-Action Alternative would have neither significant positive nor significant negative impacts on the biological environment. Natural resources would not be disturbed.

4.5.2 Proposed Action

No endangered, threatened, or sensitive species would be affected by the Proposed Action at either site or under “no action” at the Proposed Truck Queuing Lane Site. The Proposed Action would not result in a significant impact to wildlife and vegetation due to modification or removal of the minimal amount of existing vegetation at the sites where construction is proposed. The mature pecan trees on the Proposed GPW Site would not be disturbed through site development. Base BMPs outlined in the Erosion, Sediment and Pollution Control Plan will be implemented as designed to avoid potential adverse effects from disturbance of the soil, and adverse effects would, therefore, be insignificant. Removal of trees on the Proposed Truck Queuing Lane Site would not result in a significant positive or significant adverse impact on biological resources. Under “no action” for the Proposed Truck Queuing Lane Site, onsite trees would not be removed.

4.6 CULTURAL RESOURCES

4.6.1 No-Action Alternative

Conducting no action would have no effect on cultural resources. Cultural resources on Robins AFB would continue to be managed and protected as required by federal and state agencies.

4.6.2 Proposed Action

In accordance with Sections 106 and 110 of the National Historic Preservation Act (NHPA), as amended, 78 CEV/CEG provided a copy of the Draft Final EA to and consulted with the Georgia SHPO regarding the project as planned; the SHPO responded in a letter dated 9 August 2007 (see **Appendix B** for a copy of SHPO’s response letter).

Proposed GPW Site

Based on previous survey findings, 78 CEG/CEV determined that no archaeological resources would be affected by implementation of this aspect of the Proposed Action; the SHPO's 9 August 2007 response letter provided SHPO's concurrence with this determination (see **Appendix B**).

Inadvertent Discoveries: When cultural resources are inadvertently discovered, project personnel are directed to avoid the site of discovery and immediately contact the Robins AFB Cultural Resources Manager (CRM). All work in the area of discovery must stop until it can be investigated. The CRM will send a qualified representative to visit the discovery site. The resource will then be recorded, evaluated, and the effects mitigated as necessary.

78 CEG/CEV determined that the Proposed Action would not directly affect the residential structures in Chief's Circle, which have been determined to be eligible for listing on the NRHP (see **Section 3.6**). The new GPW would be located within the viewshed of the Chief's Circle structures, resulting in an indirect impact. However, the surrounding area is already developed with some warehouse structures and the Proposed GPW Site was previously developed with warehouses. Additionally, the increased traffic would remain mainly along Peacekeeper Way, north of the Chief's Circle structures. The proposed alteration to the viewshed and increased traffic would not affect the structures' historic associations or their NRHP-eligibility characteristics.

In their letter dated 9 August 2007, the SHPO stated that they believe the proposed project will have no adverse effect on the eligible Chief's Circle, as defined in 36 CFR 800.5(d)(1) (see **Appendix B**). Consultation with SHPO is complete. However, if renovation plans change, notification to the Robins AFB CRM will be required and 78 CEG/CEV will further review the project changes with the SHPO as necessary.

Cultural resources on Robins AFB would continue to be managed and protected as required by federal and state agencies.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - No effect on archaeologic or historic resources on Robins AFB would occur due to construction at this site. SHPO concurred with this determination in their letter dated 9 August 2007. If inadvertent discoveries of artifacts are identified, the steps outlined above will be followed to address the resource.

No Action - No effect on archaeological or historical resources on Robins AFB would occur under “no action”; no such resources are associated with the Proposed Truck Queuing Lane Site.

4.7 SOCIOECONOMIC ENVIRONMENT

4.7.1 No-Action Alternative

The socioeconomic environment would not change under the No-Action Alternative. Robins AFB would continue to exert a significant positive impact on the economy of the Middle Georgia region of influence. However, the benefits of construction and operating dollars associated with the new GPW, and the tax revenues and salaries associated with approximately 100 CCP operations jobs would not be realized. Minority populations and low-income populations would not be significantly adversely or significantly positively impacted. Nor would significant environmental health risks and safety risks to children occur. Hence, implementation of the No-Action Alternative would result in neither significant positive nor significant negative effects to the socioeconomic environment.

4.7.2 Proposed Action

The Proposed Action would provide additional economic stimulus to the regional economy through new construction expenditures and increased annual expenditures associated with staffing, operating and maintaining the new GPW. Construction is expected to cost approximately \$24 million in the form of construction labor salaries, equipment, materials, site improvements, pavements, communications and utilities. The

construction would positively impact the economy, with expenditures mostly in the local area with local contractors, in FY 2008 through FY 2010, as the construction would take approximately 25 months to complete.

An estimated 100 new employees would be hired to support the CCP operations starting in FY 2010. New salary compensation would be approximately \$6.9 million in FY 2010, providing a significant addition to the local economy. These new employees would live in the Warner Robins area, and hence, increase the tax revenues and spending base in the local area. Operating and maintenance expenditures for the new GPW would also directly benefit the local economy.

No significant adverse environmental impacts would occur as a result of the Proposed Action and no populations (minority, low-income, or otherwise) would be disproportionately impacted; therefore, no significant impacts with regard to environmental justice would occur. Construction impacts would be insignificant, and the future operations under the Proposed Action would otherwise not result in significant adverse impacts to the environment.

Under “no action” for the Proposed Truck Queuing Lane Site, no additional funding associated with this aspect of the action would accrue to the local economy.

4.8 TRANSPORTATION AND SAFETY

4.8.1 No-Action Alternative

Under the No-Action Alternative, there would be no significant positive or significant adverse effects to transportation or safety. Search Pit size and orientation would remain insufficient as they do at present. The traffic evaluation performed in support of this EA revealed that existing conditions would continue to be less than optimal. Only 2 of the 5 bays are useable for all sizes of commercial vehicles at all times because of the tight configuration. The traffic and safety improvements at Gate 4 would not be realized under the No-Action Alternative.

4.8.2 Proposed Action

Proposed GPW Site

As stated previously, construction contractors would be required to follow appropriate Robins AFB and OSHA safety rules during transit to the new GPW Site. Construction vehicles would enter base through Gate 4 and travel on Peacekeeper Way approximately 0.25 mile to the Proposed GPW Site, while construction workers in non-commercial vehicles could enter base through any of the other entrance gates.

The base will require the construction contractor to implement actions consistent with governing regulations to ensure worker health and safety during construction. The potential for encountering chlordane-contaminated soils and pavement and the safety of construction workers would be considered. The *Guidance for Addressing Chlordane Contamination at Department of Defense Sites* (Public Works Technical Bulletin 200-1-31, 30 September 2004) prepared by the United States Army Corps of Engineers (USACE) provides guidance on how to properly manage chlordane-contaminated media following regulations (see **Appendix C**). The contractor could either take preventative measures to avoid exposure to the potentially chlordane-contaminated soils or investigate the levels of chlordane present in these areas. If preventative measures are chosen, these would include the proper use of fugitive dust prevention methods and personal protective equipment (PPE) for workers such as gloves, suits and masks. Sampling would not need to be conducted if the soils and pavement are not expected to be excavated or removed from the site, or if the potentially chlordane-containing soils remain on-site and are covered with top soil.

The 100 new personnel hired to work in the GPW would be required to follow Robins AFB driving rules and park their vehicles in parking spaces in existing parking lots surrounding the Proposed GPW Site. Ample space is available onsite and in the surrounding area.

The 100 new employees would also be required to follow DoD, DLA, AFOSH, OSHA, and RCRA regulations; by following these regulations, no significant safety concerns are associated with the Proposed Action.

On a daily basis, approximately 30 inbound trucks would enter Robins AFB via Gate 4 and travel east approximately 0.25 mile on Peacekeeper Way to the new GPW. The new GPW would receive two to four trucks at a time and would not receive any trucks after 1700. All inbound trucks would have a scheduled arrival time to avoid more than four deliveries at a time.

The Proposed Action, depending on workload, would generate an estimated maximum of 25 trips of new truck, tug and transporter trips on side streets (Collins, 2007), mainly including Peacekeeper Way, Warner Robins Street, Robins Parkway, Martin Luther King, Jr. Boulevard, Byron Street and Page Road, between existing DDWG warehouse space and the new GPW. Due to the limited number of trips expected per day and proximity of the majority of existing warehouse space to the new GPW, this increase in traffic would not result in a significant impact.

Based on GDOT's 2005 recorded Average Annual Daily Traffic count of 19,730 vehicles on SR 247/US 129 at the Peacekeeper Way/Gate 4 intersection, the increase of 30 commercial vehicles and 100 new employee vehicles would be insignificant (less than 1 percent) to the total number of vehicles traveling nearby off-base roads.

Proposed Truck Queuing Lane Site

Proposed Action Modifications - Gate 4 would remain operational during construction related to this aspect of the Proposed Action; delays for commercial vehicles entering at Gate 4 could occur during installation and striping of the new pavement but this would not result in a significantly adverse impact to transportation and safety due to its short duration and limited scope.

CCP operations would increase truck traffic through Gate 4. As previously stated, implementation of the Proposed Action would increase truck traffic entering (inbound) base through this gate by a maximum of 30 additional DLA commercial vehicles per day. Based on the recent traffic count data, this could increase Gate 4 inbound tractor-truck activity by approximately 47 percent, and total commercial vehicle activity through Gate 4 by 12.5 percent between the hours of 0700 to 1700.

Increased commercial truck traffic would increase Security Forces' workload, as Security Forces does not plan to increase their number of search personnel at this time. The traffic study found that the Proposed Action minimum of six truck queuing lanes reconfigured to a parallel configuration in the Search Pit would reduce adverse effects such as backups at Gate 4 and potential idling of vehicles awaiting entry to the Search Pit. The Proposed Action's truck queuing lane modifications would alleviate adverse impacts from existing truck traffic and increased DLA truck traffic at Gate 4, and not result in significant positive or significant adverse effects to transportation. However, the proposed modifications would not fully alleviate backups in the Search Pit or at Gate 4 and SR 247/US 129 during infrequent vehicle arrival surges or potential future heightened base security threat level conditions.

No Action - Under "no action" for the Proposed Truck Queuing Lane Site, the Proposed Action-related benefits as a result of the transportation and safety improvements identified above would not be realized. Less than optimal conditions at the Search Pit would continue to exist. Commercial vehicle traffic would backup at Gate 4 and possibly onto SR 247/US 129, creating adverse safety and transportation impacts.

4.9 CUMULATIVE IMPACTS

Council on Environmental Quality (CEQ) regulations stipulate that potential environmental impacts resulting from cumulative impacts should be considered within an EA. A cumulative impact is the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions. In accordance with NEPA, a discussion of cumulative impacts

resulting from projects that are proposed, currently under construction, recently completed, or anticipated to be implemented in the near future is presented below.

Several projects are in progress, planned, or proposed at Robins AFB. However, only the Watson Street Extension project and proposed new Security Forces Facility on Eastman Street (northeast of the Robins Parkway/Peacekeeper Way intersection) were identified as potentially producing cumulative environmental effects in the immediate vicinity of the Proposed GPW Site. The Watson Street Extension will convert a parking lot into a road. Minimal environmental effects could occur through utility relocation. The new Security Forces Facility project will convert an approximately 3-acre parcel to a building and pavement. Potential cumulative effects of these projects will be addressed through existing permit requirements or by obtaining permit modifications as necessary.

Cumulative increases in storm water runoff due to increased impermeable area at the Proposed Action sites would occur. The construction contractor will be required to implement practices under an approved Erosion, Sediment and Pollution Control Plan, designed for effects on storm water and surface water quality to be insignificant. Also, the cumulative effect of numerous construction projects on storm water will be addressed, as appropriate, under an approved Erosion, Sediment and Pollution Control Plan. The Plan will be designed and implemented to ensure that effects on storm water and surface water quality are insignificant.

The construction phase of these actions would increase carbon monoxide, hydrocarbons and nitrogen oxides from construction employee traffic and operation of heavy equipment. However, the increase in emissions from construction worker vehicles would be temporary and insignificant to the environment when considered in the context of Robins AFB and the nearby areas. Operation of the new GPW and truck queuing lanes would emit minimal air emissions and result in insignificant adverse cumulative effects to air quality.

Cumulative increases in the generation of solid waste would occur from pavement removal and construction activities. Waste materials will be recycled as feasible and

would not be significant when compared to the total solid waste generation for Robins AFB.

The effects of noise generation by the proposed projects would be temporary and insignificant. Noise would not have a cumulative adverse effect on the environment.

The cumulative effect of the actions would result in significant beneficial economic impacts to the local economy.

Increases to cumulative effects on transportation at Robins AFB and surrounding off-base areas would occur through the increased truck and personal vehicle traffic associated with the new GPW. The increased traffic in on- and off-base areas would be minimal (less than a 1 percent increase) for the Proposed Action compared to existing conditions. If the Proposed Truck Queuing Lane Modifications are completed, less than optimal existing Gate 4/Search Pit conditions and those associated with increased DLA-related inbound commercial truck traffic and security screening would be improved. The Proposed Truck Queuing Lane Modifications would lessen existing and future DLA truck-related negative effects to off-base traffic at this location. However, if the “no action” for the Gate 4 modifications aspect of the Proposed Action is implemented, commercial vehicle traffic would have a greater potential to backup at Gate 4 and onto SR 247/US 129, creating an adverse safety and transportation impact.

Construction and operation of the GPW would not produce significant adverse or significant positive short-term or long-term cumulative effects. The remainder of environmental resources and elements, including topography, floodplain, wetland, groundwater, hazardous materials and waste, toxic materials, biological resources and cultural resources would not be significantly adversely affected or positively affected on a cumulative level because these resources and elements would not be significantly affected under the Proposed Action, and the other listed projects were not identified as impacting these resources. Although the Proposed Action would impact or potentially impact hazardous materials and waste, no other projects at Robins AFB were identified as impacting these elements. Thus, a significant cumulative effect would not occur.

5.0 LIST OF PREPARERS

Charles Allen, P.E. – Independent Technical Reviewer, URS - Mr. Allen has a B.S. in Civil Engineering, and is a Professional Engineer with over 35 years experience on a variety of NEPA environmental impact assessments, civil, geotechnical, and seismic engineering projects, Phase I and II Environmental Site Assessments, waste stream and pollution prevention projects, environmental permitting, and hazards analysis. He has served as the Independent Technical Reviewer for several NEPA EAs prepared on behalf of 78 CEG/CEV and for several other Federal agencies including U.S. Department of Veterans Affairs, U.S. Department of Justice, U.S. Army Corps of Engineers, U.S. Postal Service, among others.

Kenneth Branton – Program Manager, URS - Mr. Branton has a B.S. in Mining and Petroleum Engineering. He is a retired Lieutenant Colonel (LtCol) from the U.S. Air Force with 22 years of service as a Bioenvironmental Engineer. LtCol Branton served as the Deputy Director of Environmental Management at Robins AFB and the Chief of the Environmental Restoration Division from 1991-96. He also served as the Deputy Director of the Air Force Environmental Research Laboratory at Tyndall AFB from 1996-98. He completed the Shipley course on “*How to Manage the EIAP/NEPA Process: Air Force Specific (EIAP)*” in 1992 and has conducted environmental impact assessments and served as the Independent Technical Reviewer on numerous Air Force and FEMA projects. Mr. Branton has nine years’ experience as a consultant environmental engineer of which seven years has been at Robins AFB as a Senior Program Manager managing all types of environmental projects for the conservation, compliance, remediation, and pollution prevention programs.

Patricia Slade – Project Manager, URS - Ms. Slade has a B.S. in geology and more than 20 years of experience in NEPA documentation, environmental planning, environmental due diligence, and geological studies. She has served as the NEPA Project Manager for previous projects completed for the Air Force, U.S. Army Corps of Engineers, Federal Emergency Management Agency, U.S. Department of Justice, U.S. Department of Veterans Affairs, U.S. Postal Service, among others. She works on a

variety of inter-disciplinary projects, including storm water/NPDES permitting, Phase I ESAs and Phase II investigations, geotechnical investigations, asbestos and lead-based paint surveys, cultural resources surveys, indoor air quality surveys, county-wide flood damage reduction projects, and regulatory compliance projects. She has performed or managed completion of numerous NEPA documents for a variety of federal and state agencies.

Ann Yarnell – Ecologist/Environmental Scientist, URS - Ms. Yarnell is an environmental scientist with a Bachelor's degree in environmental resource management and 7 years of relevant environmental and NEPA experience. She has prepared several NEPA EAs on behalf of 78 CEG/CEV and several other federal authorities for proposed development projects; and conducted over 200 NEPA screenings to evaluate the potential for significant effects of projects on endangered species and wetlands. Ms. Yarnell has assisted with multiple aspects of regulatory compliance from hazardous waste, air, waste water, storm water, spill response, and environmental compliance audits.

Daniel B. Dobry, Jr., P.E. - Senior Traffic Engineer, URS - Mr. Dobry has more than 29 years experience managing and performing traffic engineering studies and transportation planning, which include traffic impact studies, traffic modeling and simulation, signal warrant studies, safety studies, parking demand studies, concept plan development, circulation studies, access management, and town center master planning. He has worked with a variety of traffic related software, including: CORSIM, Synchro, Highway Capacity Software, VISSIM, and trip generation software.

6.0 PERSONS CONTACTED AND PUBLIC / AGENCY COORDINATION

The following individuals provided information that was used in preparation of this EA:

John Adams – 778 CES/CECE

Russell Adams – 78th CEG/CEVQ

Rebecca Crader – 78th CEG/CEVOS

Robert Collins - DDWG

MSgt Earl George – 78 SFS/SFOS

Ron Hayes – Robins AFB Youth Center, Sports Director

George A. Kruger, Jr. – DLA Enterprise Support (DES-DDC-EI)

Richard Lamb – 78th CEG/CEVP

Dan Matibe - DDWG

Fred Otto – 78th CEG/CEVP

Capt Nicholas Phillips – 78 SFS/AT

Mark Summers – 78th CEG/CEVQ

Stephen Welch – U.S. Army Corps of Engineers, Savannah District

78th CEG/CEV provided an opportunity for public and agency review of and comment on the Draft Final EA prior to completion of this Final EA. A public notice was published in the local newspaper, the Houston Home Journal, on 13 July 2007 to announce the availability of the Draft Final EA and copies of the Draft Final EA were sent to the Georgia State Clearinghouse for their receipt on 16 July 2007 and distribution to relevant state regulatory agencies. No comments were received from the public during the 30-day review period. Copies of the responses received from the Georgia Department of Natural Resources Historic Preservation Division, Georgia Environmental Protection Division Hazardous Waste Management Branch, and Georgia Department of Transportation are incorporated into this Final EA and consultation is complete. No other state agencies provided responses on the Draft Final EA. Copies of the public notice and agency correspondence are presented in Appendix B of this Final EA.

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7.0 REFERENCES

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APPENDIX A

ROBINS AIR FORCE BASE BACKGROUND INFORMATION

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This appendix presents relevant background information on Robins Air Force Base. Only sections relevant to the subject EA are included.

1.0 INTRODUCTION

This appendix describes the existing environment in the area potentially affected by the alternatives being evaluated. The chapter begins with a description of the location, history, and current missions of Robins AFB. The remainder of the chapter is organized based on descriptions of the components of the environment that may be affected, in the following order: physical environment, air quality, biological environment, cultural resources, land use, noise environment, safety, socioeconomic resources, infrastructure, and waste management. The effects of the alternatives on the baseline conditions of each environmental component are evaluated in Chapter 4, Environmental Consequences.

2.0 BASE DESCRIPTION, HISTORY, AND CURRENT MISSIONS

Not relevant to this EA.

3.0 PHYSICAL ENVIRONMENT

Not relevant to this EA.

4.0 AIR QUALITY

Not relevant to this EA.

5.0 BIOLOGICAL ENVIRONMENT

Not relevant to this EA.

6.0 CULTURAL RESOURCES

Not relevant to this EA.

7.0 LAND USE

Not relevant to this EA.

8.0 NOISE ENVIRONMENT

Not relevant to this EA.

9.0 SAFETY

Not relevant to this EA.

10.0 SOCIOECONOMIC RESOURCES

Not relevant to this EA.

11.0 INFRASTRUCTURE

The infrastructure of Robins AFB provides an overview of existing utilities (water supply, wastewater collection and treatment systems, and energy distribution systems) and transportation systems.

11.1 Water Supply System

Not relevant to this EA.

11.2 Sanitary Sewer System

Not relevant to this EA.

11.3 Industrial Wastewater System

Not relevant to this EA.

11.4 Electrical System

Not relevant to this EA.

11.5 Central Heating and Cooling Systems

Not relevant to this EA.

11.6 Natural Gas System

Not relevant to this EA.

11.7 Liquid Fuels Systems

Not relevant to this EA.

11.8 Air-Propane Mixing System

Not relevant to this EA.

11.9 Utility Systems Summary

Not relevant to this EA.

11.10 Transportation Systems

11.10.1 Off-Base Transportation System

The following discussion of off-base transportation is based on the *Year 2020 Transportation Plan for the Warner Robins Area Transportation Study* conducted in 1996 by the Warner Robins Metropolitan Planning Organization. Warner Robins was officially designated an urbanized area following the 1980 U.S. Census. This designation required the local governments to participate in a transportation planning process. The Warner Robins transportation study area encompasses Houston County, including Robins AFB, and a small portion of eastern Peach County.

Roadways

Typical of many military-oriented cities, the Warner Robins area has experienced rapid growth and development. This has resulted in a transportation system lacking continuity and adequate arterials, the reduced vitality of some commercial areas, and the absence of a centralized business district. Robins AFB is the dominant traffic generator in the area and is located in the northeastern corner of the Warner Robins transportation study area. All of the street connections between Robins AFB and the civilian community are located along SR 247 and Russell Parkway in Houston County, within the city of Warner Robins.

Because the base is accessible only on its western side, traffic flows from west to east and from north or south into the five entrance gates on the west side of the base. With a workforce of approximately 25,584 people, military and civilian, Robins AFB generates a large volume of traffic during the morning, noon, and evening rush hours. This traffic pattern results in a highly directional and inefficient use of the local street system that results in congestion in inbound lanes during the morning and outbound lanes in the evening. In addition, because the city of Warner Robins lies between the base and outlying areas where the Robins AFB workforce lives, a large part of the commuter traffic to and from the base must pass through the city.

The three major routes in the Warner Robins transportation study area are Interstate 75 (I-75), US 129/SR 247, and SR 247C/Watson Boulevard. I-75, located approximately ten miles west of Robins AFB, is classified as an interstate/expressway, which is a controlled access highway devoted entirely to traffic movement. It is the most heavily traveled highway in the area, with an average daily traffic (ADT) volume of over 53,000 vehicles. I-75 provides northward access to Macon, Atlanta, and beyond and southward access to Georgia and Florida.

The two other major routes in the area, US 129/SR 247, and SR 247C/Watson Boulevard, are classified as principal arterials, i.e., roads designed to handle large volumes of traffic and that generally serve as the major route for the movement of goods and services through an area. US

129/SR 247 provides access to the city of Macon and Bibb County, and is used mainly as a commuting route to Robins AFB. It has an ADT of almost 24,420 vehicles. SR 247C/Watson Boulevard is the major thoroughfare, or “main street,” in the city of Warner Robins. With an ADT of 31,180 vehicles, it connects Warner Robins, Centerville, and northern Houston County with I-75 and serves many of the area’s commercial enterprises. Several other arterial routes cross the area. Many collector roads feed into these arterials, providing a connection between local streets and the arterials.

Several other arterials cross the Warner Robins transportation study area, including US 41 and Houston Lake Road (north-south) and SR 96 and SR 127 (east-west). The city of Warner Robins has the most heavily traveled roads in the area. The major arterials in the city are SR 247, Watson Boulevard, Houston Lake Road, and Russell Parkway. Houston Lake Road and Russell Parkway also serve as access routes to Robins AFB.

Mass Transit

The Warner Robins area currently has no public transit system. Limited transportation services are available, including private services such as taxi and special-purpose buses and human service agency transportation for specific client groups. Three private bus lines operate commuter buses between Robins AFB and outlying communities, but the volume of ridership generally is low.

Air Transportation

The nearest commercial airline terminal serving Robins AFB is the Middle Georgia Regional Airport, owned and operated by the city of Macon and located approximately four miles north of the base in Bibb County. Middle Georgia Regional Airport is served by Atlantic Southeast Airline (ASA). Minimal air cargo and passenger services also are available from Zantop Airline and Lowe Aviation. The airport has been experiencing a steady decline in passenger ridership since improvement of the Atlanta International Airport, and it has turned for revenue to service of aircraft. Another nearby, civilian airport is Warner Robins Air Park, a very small, unimproved facility accommodating only small aircraft that is located southwest of Robins AFB on SR 96.

Rail Transportation

The Warner Robins transportation study area is served by one rail line, Norfolk Southern, which crosses the eastern portion of the area parallel to SR 247. It serves Warner Robins and Robins AFB. Norfolk Southern has no train stations, depots, or railyards in the study area. Most of the rail facilities and switching yards are in Macon.

11.10.2 On-Base Transportation System

This section discusses the transportation system on Robins AFB. Transportation data were collected from prior reports and studies, as presented in the Base Comprehensive Plan (RAFB, 1990), as well as from ongoing transportation planning activities at the base.

Roadways

The general layout of the system consists of streets running east-west and north-south, concentrated in the administrative/industrial area between First and Fifth Streets and in the community center area between Seventh and Twelfth Streets. Perimeter Road extends northward from Gate 1 around to the east side of the airfield, with Hannah Road continuing southward to Seventh Street. South Perimeter Road wraps around the southern end of the base, and Page Road parallels SR 247 on the eastern border of the base.

Approximately 88 percent of Robins AFB employees live off-base. Therefore, about 22,465 people enter and leave the base on an average workday, not including other vehicle trips associated with base activities. Access to the base is through six gates along the western perimeter of the base. All gates are controlled by military personnel during hours of operation. The gates are located at the major east-west streets: First Street (Gate 1), Watson Blvd (Gate 3), Peacekeeper Way (Gate 4), Fifth Street (Gate 5), and the south end of Robins Parkway (Gate 14). Two additional gates provide access to the West Robins Housing Development across SR 247 from the main base. Gate 3 is classified as the main entrance gate and is open 24 hours daily. The visitors' center is located adjacent to this gate.

Robins Parkway is the major north-south artery within the Robins AFB street system, connecting at its south end with Russell Parkway at Gate 14. Gate 3 is located on the west end of Watson Blvd at Byron Street. Traffic control on Robins AFB is maintained by signalized intersections, base security police, and signage. The access road that carries the largest traffic volume entering and leaving the base is SR 247, followed by Watson Boulevard, Green Street, and Russell Parkway.

A relatively high demand is placed on the base parking system since private automobiles represent nearly 90 percent of all work trips made on the base. A shortage of conveniently located parking currently exists, with the greatest deficiencies concentrated in the central portion of the base along the western boundary.

12.0 WASTE MANAGEMENT

Not relevant to this EA.

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APPENDIX B

AGENCY/PUBLIC CORRESPONDENCE

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13 JULY 2007 HHP

**PUBLIC NOTICE
FOR THE
DRAFT FINAL ENVIRONMENTAL ASSESSMENT
FOR THE CONSTRUCTION AND OPERATION OF THE DEFENSE LOGISTICS
AGENCY GENERAL PURPOSE WAREHOUSE FOR CONSOLIDATION,
CONTAINERIZATION AND PALLETIZATION**

Robins Air Force Base (AFB) announces the availability for public review and comment of the Draft Final Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) for the Construction and Operation of the Defense Logistics Agency General Purpose Warehouse (GPW) for Consolidation, Containerization and Palletization (CCP) at Robins AFB Georgia.

The new GPW would consist of a 167,575 square-foot one-story building, primarily as warehouse space and a small annex for administrative space. CCP operations would involve receiving and breaking down pallets of commodities and building up and shipping out new pallets of commodities, or receiving and shipping out built-up pallets as a whole. One hundred new employees would be hired for the GPW, which would operate 24 hours a day, 7 days a week. The proposed GPW is required to meet Base Realignment and Closure 2005 recommendations, which proposed adding to the Base a regional multi-service supply, storage and distribution center that enhances strategic deployment and sustainment of expeditionary joint forces worldwide.

A copy of the Draft Final EA and proposed unsigned FONSI are available for public viewing and comment for the next 30 days in the Nola Brantley Memorial Library (also known as the Houston County Library), 721 Watson Blvd., Warner Robins, GA, 478-923-0128. For questions or comments, please contact the 78 Air Base Wing Office of Public Affairs at FAX 478-926-9597 or the address below:

78 ABW/PA

215 Page Rd, Suite 106

Robins AFB GA 31098-1662

50523



DEPARTMENT OF THE AIR FORCE

78th Air Base Wing (AFMC)
Robins Air Force Base Georgia

Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, 8th Floor
Atlanta, GA 30334
(404) 656-3855

78 CEG/CEVP
755 Macon Street, Building 1555
Robins AFB, GA 31098-2201

SUBJECT: Draft Final Environmental Assessment (EA), Construction and Operation of
Defense Logistics Agency General Purpose Warehouse for Consolidation,
Containerization and Palletization

1. Request you please review the attached document by 12 Aug 07. We ask that you make your comments specific and note them on a separate sheet of paper rather than on the pages of the document. Negative replies should also be in writing to ensure continuity of documentation. If we do not receive your comments by 12 Aug 07, we will assume that the document is accepted as written.
2. Our point of contact is Mr. Sam Rocker at (478) 327-8373.

ROBERT SARGENT
Acting Chief, Environmental Programming Branch
Environmental Management Division

Attachments:

1. Draft Final EA (5 copies)

**GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS**

TO: Sam Rocker
Environmental Management Div.
Dept. of the Air Force

FROM: Barbara Jackson

DATE: 7/16/2007

SUBJECT: Executive Order 12372 Review

APPLICANT: Dept. of the Air Force - Robins AFB, GA

PROJECT: Draft Final EA: Construction and Operation of Defense Logistics Agency
General Purpose Warehouse for Consolidation, Containerization and
Palletization

CFDA #:

STATE ID: GA070716008

FEDERAL ID:

Correspondence related to the above project was received by the Georgia State Clearinghouse on 7/16/2007. The review has been initiated and every effort is being made to ensure prompt action. The proposal will be reviewed for its consistency with goals, policies, plans, objectives, programs, environmental impact, criteria for Developments of Regional Impact (DRI) or inconsistencies with federal executive orders, acts and/or rules and regulations, and if applicable, with budgetary restraints.

The initial review process should be completed by 8/13/2007 (*approximately*). If the Clearinghouse has not contacted you by that date, please call (404) 656-3855, and we will check into the delay. We appreciate your cooperation on this matter.

In future correspondence regarding this project, please include the State Application Identifier number shown above. If you have any questions regarding this project, please contact us at the above number.

Form SC-1
Nov. 2006

Georgia Department of Natural Resources

Noel Holcomb, Commissioner

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
34 Peachtree Street NW, Suite 1600, Atlanta, Georgia 30303-2316
Telephone (404) 656-2840 Fax (404) 657-1040 <http://www.gashpo.org>

August 9, 2007

Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

RE: Robins Air Force Base: Construct Defense Logistics Agency General Purpose Warehouse
Federal Agency: US Air Force
Houston County, Georgia
GA-070716-008

Dear Ms. Jackson:

The Historic Preservation Division (HPD) has reviewed the information submitted regarding the above referenced project. Our comments are offered to assist the US Air Force (USAF) and its applicants in complying with the provisions of Section 106 and Section 110 of the National Historic Preservation Act, as amended.

Based on the information provided, HPD believes that the proposed undertaking will have **no effect** on archaeological properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP), as defined in 36 CFR Part 800.4(d)(1). The proposed construction of the warehouse building will be located immediately north of Chief's Circle, which is eligible for inclusion in the NRHP. It appears that the proposed project will have **no adverse effect** on the eligible Chief's Circle, as defined in 36 CFR Part 800.5(d)(1). Please note that historic and/or archaeological resources may be located within the project's area of potential effect (APE), however, at this time it has been determined that they will not be impacted by the above-referenced project. Furthermore, any changes to this project as proposed will require further review by our office for compliance with Section 106 and Section 110.

Please refer to the project number referenced above in any future correspondence regarding this matter. If we may be of further assistance, please contact Elizabeth Shirk, Environmental Review Coordinator at (404) 651-6624, or Jackie Horlbeck, Environmental Review Historian at (404) 651-6777.

Sincerely,



Karen Anderson-Cordova
Unit Manager, Planning and Local Assistance Unit

KAC:jph

cc: Kristina Harpst, Middle Georgia RDC



OFFICE OF PLANNING AND BUDGET

Sonny Perdue
Governor

Trey Childress
Director

GEORGIA STATE CLEARINGHOUSE MEMORANDUM EXECUTIVE ORDER 12372 REVIEW PROCESS

TO: Sam Rocker
Environmental Management Div.
Dept. of the Air Force

FROM: Barbara Jackson *BA*
Georgia State Clearinghouse

DATE: 8/10/2007

SUBJECT: Executive Order 12372 Review

PROJECT: Draft Final EA: Construction and Operation of Defense Logistics Agency General Purpose Warehouse for Consolidation, Containerization and Palletization

STATE ID: GA070716008

The applicant/sponsor is advised that DNR's Environmental Protection Division was included in this review but did not comment within the review period. Should they later submit comments, we will forward to you.

The applicant/sponsor is advised to note additional comments from DNR's Historic Preservation Division.

Provided that positive comments are forthcoming from DNR/EPD, the State level review of the above-referenced proposal will have been completed, and the proposal will have been found to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for Developments of Regional Impact (DRI), environmental impacts, federal executive orders, acts and/or rules and regulations with which the state is concerned.

/bj

Enc.: DOT, July 30, 2007
HPD, Aug. 10, 2007

Form NCC
January 2004

AUG. -10' 07(FRI) 07:52 GA. DEP. NATURAL. RESOR

TEL:404 657 1040

P. 002

Georgia Department of Natural Resources

Noel Holcomb, Commissioner

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
34 Peachtree Street NW, Suite 1600, Atlanta, Georgia 30303-2316
Telephone (404) 656-2840 Fax (404) 657-1040 <http://www.gashpo.org>

August 9, 2007

Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

RE: Robins Air Force Base: Construct Defense Logistics Agency General Purpose Warehouse
Federal Agency: US Air Force
Houston County, Georgia
GA-070716-008

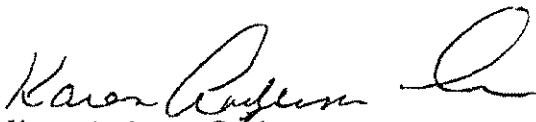
Dear Ms. Jackson:

The Historic Preservation Division (HPD) has reviewed the information submitted regarding the above referenced project. Our comments are offered to assist the US Air Force (USAF) and its applicants in complying with the provisions of Section 106 and Section 110 of the National Historic Preservation Act, as amended.

Based on the information provided, HPD believes that the proposed undertaking will have no effect on archaeological properties that are listed in or eligible for listing in the National Register of Historic Places (NRHP), as defined in 36 CFR Part 800.4(d)(1). The proposed construction of the warehouse building will be located immediately north of Chief's Circle, which is eligible for inclusion in the NRHP. It appears that the proposed project will have **no adverse effect** on the eligible Chief's Circle, as defined in 36 CFR Part 800.5(d)(1). Please note that historic and/or archaeological resources may be located within the project's area of potential effect (APE), however, at this time it has been determined that they will not be impacted by the above-referenced project. Furthermore, any changes to this project as proposed will require further review by our office for compliance with Section 106 and Section 110.

Please refer to the project number referenced above in any future correspondence regarding this matter. If we may be of further assistance, please contact Elizabeth Shirk, Environmental Review Coordinator at (404) 651-6624, or Jackie Horlbeck, Environmental Review Historian at (404) 651-6777.

Sincerely,



Karen Anderson-Cordova
Unit Manager, Planning and Local Assistance Unit

KAC:jph

cc: Kristina Harpst, Middle Georgia RDC

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AUG 10 2007

GEORGIA
STATE CLEARINGHOUSE

**GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS**

TO: Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

FROM: MS. ANGELA ALEXANDER
GA DOT OFC OF TRANSPORTATION PLANNING

SUBJECT: Executive Order 12372 Review

APPLICANT: Dept. of the Air Force - Robins AFB, GA

PROJECT: Draft Final EA: Construction and Operation of Defense Logistics Agency
General Purpose Warehouse for Consolidation, Containerization and Palletization

STATE ID: GA070716008

FEDERAL ID:

DATE:

- ☐ This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

This notice is not consistent with:

- ☐ The goals, plans, policies, or fiscal resources with which this organization is concerned. (Line through inappropriate word or words and prepare a statement that explains the rationale for the inconsistency. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).
- ☐ The criteria for developments of regional impact, federal executive orders, acts and/or rules and regulations administered by your agency. Negative environmental impacts or provision for protection of the environment should be pointed out. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).

- ☒ This notice does not impact upon the activities of the organization.

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STATE CLEARINGHOUSE

Form SC-3
May 2007

GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS

TO: Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

FROM: MARK SMITH *JS (barms)*
DNR/EPD/HAZARDOUS WASTE MANAGEMENT BRANCH

SUBJECT: Executive Order 12372 Review

APPLICANT: Dept. of the Air Force - Robins AFB, GA

PROJECT: Draft Final EA: Construction and Operation of Defense Logistics Agency
General Purpose Warehouse for Consolidation, Containerization and Palletization

STATE ID: GA070716008

FEDERAL ID:

DATE:

- ☒ This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

However, the attached comments should be addressed in the final document:

This notice is not consistent with:

- ☐ The goals, plans, policies, or fiscal resources with which this organization is concerned. (Line through inappropriate word or words and prepare a statement that explains the rationale for the inconsistency. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).
- ☐ The criteria for developments of regional impact, federal executive orders, acts and/or rules and regulations administered by your agency. Negative environmental impacts or provision for protection of the environment should be pointed out. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).
- ☐ This notice does not impact upon the activities of the organization.

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GEORGIA
STATE CLEARINGHOUSE

Form SC-3
May 2007

**GA EPD Comment on Draft Final EA: Construction and Operation of Defense Logistics
Agency General Purpose Warehouses for Consolidation, Containerization, and
Palletization, dated June 15, 2007, received July 16, 2007, State ID# GA070716008**

The Hazardous Waste Management Branch of the Georgia Environmental Protection Division has completed review of the above document. From that review, we have the following comments:

Comment #1

Section 3.3.3 Hazardous Materials and Waste

This section states that hazardous waste generated by the facility is managed in accordance with the Resource Conservation and Recovery Act (RCRA) and the Georgia Rules for Hazardous Waste Management. Robins Air Force Base is also regulated by the facility's Hazardous Waste Permit. Certain requirements are stipulated in that permit. Therefore, that permit should be referenced in this section of the EA.

Comment #2

Section 3.1.5 Geology and Soils, Section 3.3.3 Hazardous Materials and Waste, and Section 4.1.5 Geology and Soils, and 4.3.3 Hazardous Materials and Waste

These sections all reference the potential for chlordane contamination in the soils that may be excavated as part of the proposed construction. Please clarify in the document that should the concentrations of chlordane in these soils exceed the facility's background concentrations for chlordane, notification, pursuant to the facility's Hazardous Waste Permit No. HW-064(S), and further investigation will be necessary.

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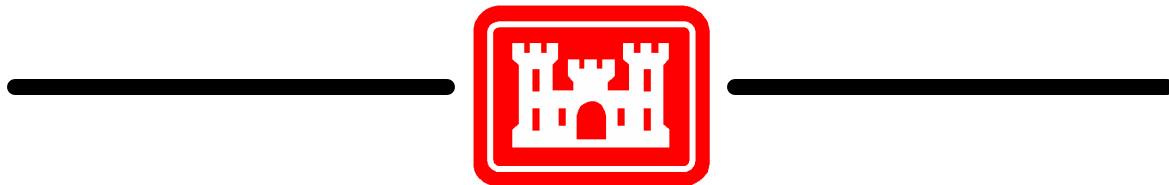
APPENDIX C

***GUIDANCE FOR ADDRESSING CHLORDANE CONTAMINATION AT DEPARTMENT
OF DEFENSE SITES (PUBLIC WORKS TECHNICAL BULLETIN 200-1-31, 30
SEPTEMBER 2004) PREPARED BY THE UNITED STATES ARMY CORPS OF
ENGINEERS (USACE)***

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PUBLIC WORKS TECHNICAL BULLETIN 200-1-31
30 SEPTEMBER 2004

**GUIDANCE FOR ADDRESSING CHLORDANE
CONTAMINATION AT
DEPARTMENT OF DEFENSE SITES**



Public Works Technical Bulletins are published by the U. S. Army Corps of Engineers, Washington, DC. They are intended to provide information on specific topics in areas of Facilities Engineering and Public Works. They are not intended to establish new DA policy.

DEPARTMENT OF ARMY
U. S. Army Corps of Engineers
441 G Street, NW
Washington, DC 20314-1000

CEMP - CE

Public Works Technical Bulletin
No 200-1-31

30 September 2004

FACILITIES ENGINEERING
ENVIRONMENTAL

GUIDANCE FOR ADDRESSING CHLORDANE CONTAMINATION AT
DEPARTMENT OF DEFENSE (DoD) SITES

1. Purpose. This Public Works Technical Bulletin (PWTB) transmits information regarding management of chlordane contaminated soil on DoD property. It explains the difference in management requirements for chlordane which was intentionally applied as a pesticide as opposed to chlordane which was improperly disposed or released into the environment.

2. Applicability. This PWTB applies to chlordane contaminated soil at Army facilities.

3. References.

a. FIFRA, Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136-136y.

b. CERCLA, Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. 9601-9657.

c. RCRA, Resource Conservation and Recovery Act, 42 U.S.C. 6901-6992.

d. 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan.

e. 40 CFR 302, Designation, Reportable Quantities and Notification.

f. 40 CFR 260, Hazardous Waste Management System: General.

g. 40 CFR 261, Identification and Listing of Hazardous Waste.

h. 40 CFR 268, Land Disposal Restrictions.

i. 49 CFR 172, Hazardous Materials Table.

4. Discussion.

a. When used for its intended purpose, the pesticide chlordane was commonly applied to the soil to control termites. This resulted in soil contamination. Appendix A of this PWTB provides guidance for determining environmental regulations applicable to chlordane contaminated soil and assists in determining the need for a response action.

b. Not all chlordane in the environment is required to be remediated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA). The requirements for managing chlordane contaminated soil will depend upon whether it was legally applied or whether it was illegally disposed or "released" into the environment.

5. Points of Contact. HQUSACE is the proponent for this document. The POC at HQUSACE is Mr. Malcolm E. McLeod, CEMP-II, 202-761-0632, or e-mail: malcolm.e.mcleod@usace.army.mil.

1. Questions and/or comments regarding this subject should be directed to the technical POC:
U.S. Army Corps of Engineers; Hazardous, Toxic, and Radioactive Waste Center of Expertise
ATTN: CENWO-HX-T (VanCleeef)
12565 W. Center Road
Omaha, NE 68144
Tel. (402) 697-2559
Beverly.D.VanCleeef@usace.army.mil.

FOR THE COMMANDER:



DONALD L. BASHAM, P.E
Chief, Engineering and
Construction
Directorate of Civil Works

Appendix A

Executive Summary

Not all chlordane in the environment is required to be remediated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA). The requirements for managing chlordane contaminated soil will depend upon whether it was legally applied or whether it was illegally disposed or "released" into the environment.

Concentrations of chlordane detected should not be used as the basis for concluding whether a spill occurred. It was DoD practice to periodically reapply pesticide, thus chlordane may have accumulated without being indicative of a spill. The location of the chlordane, rather than its concentration, should be used as the basis for determining whether it is reasonably present due to intentional use. For example, chlordane found around foundations of buildings is likely present because it was intentionally applied for termite control.

Chlordane present due to spills or improper disposal may require remediation under either the National Contingency Plan (NCP) (also known as CERCLA process) or RCRA corrective action requirements. Both the CERCLA and RCRA remediation processes provide methodical approaches to delineating contamination, evaluating alternatives for addressing the contamination, involving the public in the decision making process, and documenting the decision.

Legally applied chlordane is not required to be remediated under either CERCLA or RCRA. Soil contaminated with pesticide used for its intended purpose can be managed in place. Remediation of these soils and/or actions to prevent or minimize exposure would be on a voluntary basis. However, when undertaking voluntary actions, there may be situations where it might be preferable to follow the CERCLA process as outlined by the NCP. Office of Counsel should be able to provide advice regarding site-specific situations.

**GUIDANCE FOR ADDRESSING CHLORDANE CONTAMINATION AT
DEPARTMENT OF DEFENSE SITES**

1. Purpose. There has been much confusion regarding when it is necessary and appropriate to remediate chlordane contamination found at DoD installations. The purpose of this document is to clarify when cleanup action is required under Federal environmental statute and when it is not. This document also addresses the environmental requirements that may apply when managing chlordane contaminated wastes.

2. This document is divided into three parts. Part I contains general information on chlordane. It addresses issues such as how chlordane was used, health effects, and current status. Part II, entitled "Remediation Status", addresses three general categories of response - (1) no action required, (2) action required, and (3) voluntary actions. In addition, this section also discusses chlordane encountered during demolition and construction activities and during property transfer. Part III addresses transportation, treatment, and disposal of chlordane. This section addresses items such as determining whether the chlordane is regulated as a hazardous waste, complying with land disposal restrictions, and shipping chlordane waste under hazardous material regulations.

PART I - GENERAL INFORMATION

1. Background

a. What is Chlordane? Chlordane was a registered use pesticide applied from around 1948 until 1988. Its primary use was for termite control, but other known uses include application to prevent nesting of fire ants around power transformers; as a herbicide to control weeds in turf; and to control insects on lawns, gardens, and food crops (such as corn). So there are potentially many areas on DoD property, including family housing units, where chlordane may be found as a result of lawful application.

b. How Was Chlordane Used? High concentrations of chlordane may be found around military housing as a result of lawful application for termite control. To control termites, the chlordane was initially applied to soil prior to construction beneath building foundations. Then it was

DoD's pest management practice to routinely reapply chlordane every three to five years thereafter by methods such as treating the perimeter of the foundation by spraying with a rod inserted into the soil, by applying via a small trench dug along the foundation, or by injecting the chlordane through holes drilled in flooring at the periphery of walls. Thus relatively high concentrations of chlordane may have accumulated in these areas over time.

c. Legal Status. Application of chlordane at DoD installations and the rest of the United States ceased well over a decade ago. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), chlordane was registered for use and could be legally applied from around 1948 until 1988. During this timeframe, uses of chlordane were gradually restricted due to mounting concern over its toxicity and persistence in the environment. In 1978 its use on food crops was cancelled. In 1980, DoD self-imposed restrictions on application at DoD housing units where below ground air ducts could allow chlordane to enter homes through heating and cooling systems. In 1983, EPA banned all uses of chlordane except for termite control. Ultimately in 1988 all uses of chlordane, including termite control, were prohibited by EPA.

d. Health Effects of Chlordane. Currently chlordane is classified by EPA as a B2; probable human carcinogen. This classification is based upon studies of liver tumors occurring in many species of mice given chlordane in the diet, and human epidemiology studies of people exposed to chlordane through dermal contact and/or inhalation showing excess non-Hodgkin's lymphoma in farmers exposed to chlordane, and case reports of aplastic anemia. Short-term exposures to high levels of chlordane causes neurological effects such as tremors and convulsions in humans and in animals. Long-term exposure to chlordane, by ingestion and inhalation, have been documented to produce liver toxicity in animals; long-term effects on humans are not so clear. There is no evidence that chlordane affects the liver in humans, but some studies suggest that chlordane may cause neurophysiological and neuropsychological effects in humans. Other studies contradict this report. There is also limited evidence which suggests the potential for reproductive effects in animals. (ATSDR, 1994, EPA 1998)

e. Chlordane as a Persistent, Bioaccumulative and Toxic Chemical.

(1) There continues to be much concern regarding chlordane in the environment. Though intentional releases of chlordane have been effectively controlled by banning use, halting production, and collecting much of the remaining supply of chlordane for disposal, it continues to persist in the environment. It has been found to stick to surface soil and to persist for over 20 years. Chlordane can volatilize to the air and thus can enter housing units through subsurface ventilation systems.

(2) In an August 2000 draft document entitled, *The Persistent, Bioaccumulative, and Toxic (PBT) National Action Plan for Level 1 Pesticides*, EPA identifies chlordane as a level 1 priority PBT chemical and states that a strategy will be developed to identify and reduce risks posed by chlordane remaining in the environment.

PART II - REMEDIATION STATUS

1. Relevant Laws, Regulations, and Guidance

a. There are several key environmental laws and corresponding regulations that relate to chlordane in the environment. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) controls distribution, sale, and use of pesticides in commerce. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) establishes the process for responding to hazardous substances, pollutants, or contaminants released or disposed into the environment. The Resource Conservation and Recovery Act (RCRA) addresses management of chlordane contamination constituting hazardous wastes. It also imposes corrective action requirements at RCRA permitted facilities. Each is discussed below.

b. The Federal Insecticide, Fungicide, and Rodenticide Act. FIFRA controls the sale, distribution, and use of pesticides. Under FIFRA, pesticides must be registered. In general, it is unlawful to sell or distribute a pesticide which is not registered or for which the registration has been cancelled or suspended. Chlordane was a registered pesticide under FIFRA. As of 1988, all registrations for chlordane were cancelled.

c. The Comprehensive Environmental Response,
Compensation, and Liability Act.

(1) The CERCLA response process is outlined in the National Contingency Plan, 40 CFR 300. It establishes a systematic approach to addressing hazardous substances released or improperly disposed into the environment. Because chlordane is a CERCLA hazardous substance (40 CFR 302.4), a CERCLA response can be initiated for chlordane which was spilled or improperly disposed into the environment.

(2) It is not appropriate to undertake a CERCLA response for legally applied chlordane. This is because courts have found that normal application of pesticide does not constitute a release or disposal under CERCLA. Section 107(i) of CERCLA specifically addresses application of a registered pesticide product by stating, "No person may recover under the authority of this section for any response costs or damages resulting from the application of a pesticide product registered under FIFRA...". This has been found to mean that contamination caused by the application of a pesticide product registered under FIFRA, such as chlordane, is explicitly exempted from CERCLA liability. So not only is a CERCLA response not required for legally applied chlordane, but because there is no liability, there is no ability to expend environmental restoration funds under CERCLA for legally applied chlordane.

d. The Resource Conservation and Recovery Act.

(1) Cleanup Action Under RCRA. Under RCRA, installations with hazardous waste treatment, storage, or disposal facility (TSDF) permits are required to conduct corrective action at solid waste management units (SWMUs) throughout their facility. Chlordane disposal areas would qualify as SWMUs requiring investigation, but chlordane application and storage areas would not. This is because legally applied pesticide and pesticide product are not solid waste and thus are not subject to RCRA.

(2) Hazardous waste. RCRA also regulates management of hazardous waste. If a decision is made to dig up chlordane contamination, regardless of whether or not it was legally applied, it is potentially regulated as

hazardous waste under RCRA. This is discussed in detail in Part III of this document.

2. No Action Required

a. As explained above, no cleanup action is required under CERCLA or RCRA for chlordane used for its intended purpose.

b. Here are some recommendations for evaluating whether chlordane is likely to be present as a result of application as opposed to spill or disposal.

(1) Check maintenance records and contract specifications to determine probable application areas.

(2) Attempt to interview employees and residents that were present during the 1948 to 1988 time frame. Document their recollection of pest control practices for the area in question.

(3) Justification for determining whether chlordane was legally applied is best done on the basis of location rather than concentration. In the absence of records or knowledgeable individuals, evaluate the location of the chlordane with respect to areas where chlordane was known to be commonly applied. For example, it is reasonable to assume that chlordane found near building foundations, as well as in and below footings, was intentionally applied. Do not assume chlordane was spilled or improperly disposed on the basis of concentration alone. Recurrent maintenance applications may have led to significant accumulations of chlordane and does not necessarily indicate improper disposal.

3. Action Required

a. Only in those rare, limited situations where it is determined that chlordane was spilled, improperly stored, or improperly disposed, is an action under CERCLA or RCRA warranted. Even then, the chlordane may not necessarily need to be cleaned up. Both the CERCLA and RCRA corrective action processes use a methodical approach for assessing risk, evaluating response alternatives, and deciding what action, if any, should be taken to address the contamination. It may be possible to manage waste in place if risk is within acceptable limits.

b. Generally speaking the major components of response processes can be summarized as described below.

(1) The suspected chlordane release is discovered. Notification occurs consistent with regulatory requirements.

(2) An assessment is made to confirm whether a chlordane release has indeed occurred and whether additional action may be required. This is called a CERCLA Preliminary Assessment or RCRA Facility Assessment. If risk is considered acceptable, no further response action is taken. For example, if there is no pathway for chlordane exposure, further action may not be needed. If further action is necessary, the investigation proceeds to the next stage.

(3) A CERCLA Remedial Investigation/Feasibility Study or RCRA Facility Investigation is conducted to define the extent of the contamination, evaluate risk, and assess alternatives for minimizing risk. Various alternatives for protecting human health and the environment from the chlordane are identified. Alternatives, for example may be (1) conduct no action; (2) remove exposure pathways by providing barriers to chlordane exposure; (3) impose land use restrictions to prevent exposure of sensitive receptors; or (4) excavation and disposal of areas elevated above cleanup levels to minimize overall concentrations. Each alternative is evaluated to determine whether it will be protective of human health and the environment and whether it will comply with regulatory requirements. Those alternatives that meet these threshold criteria are then screened based on implementability, cost, and effectiveness. Further detailed evaluation of retained alternatives eventually lead to a "preferred remedy".

(4) A "Proposed Plan" or "Statement of Basis" is prepared and made available to the public which explains the proposed action.

(5) Responses to public comments are prepared and a formal decision document is signed.

(6) The remedy is designed and implemented.

c. So the cleanup process under CERCLA or RCRA can be a lengthy, expensive endeavor. Thus, it should not be

undertaken unless there is authority to do so as required by law.

4. Voluntary Actions

a. Even though chlordane was legally applied and does not require remediation under CERCLA or RCRA, there may be situations where an installation may want to take voluntary actions to ensure exposures are controlled and hazards, if present, are mitigated.

b. Airborne Exposures in Residential Housing.

(1) Chlordane is a semi-volatile compound, but volatilization is not expected to be significant after it has been applied to the soil. In the extraordinary circumstances where a hazard is suspected to be present inside a building, an air sampling effort could be undertaken under the direction of a qualified chemist to determine whether chlordane exposure is occurring. The air sampling scheme should insure that samples are analyzed for not only volatilized chlordane, but also for chlordane associated with any dust in the air (attached to dust particles). If significant levels of chlordane are present in the interior air, mitigation measures should be considered that are appropriate to the source and migration pathway into the house. Such measures could include repairing or sealing ductwork and sealing openings between the house and subslab soils.

(2) Establishing whether chlordane levels are significant requires a site specific evaluation. There is no pre-established reference concentration considered safe. The National Research Council's (NRC) Committee on Toxicology was asked to review toxicity data on chlordane and to suggest an airborne concentration guideline. The NRC could not determine a level of exposure which did not produce a biological effect under prolonged exposure conditions, but they recommended $5 \mu\text{g}/\text{m}^3$ as an interim guideline for exposures not exceeding three years. (NRC, 1979).

c. Actions That Can Be Taken To Minimize Risk. There are several common sense measures that can be taken to minimize exposure to legally applied chlordane.

- (1) Reduce or limit exposures to soils within one foot of building foundations.
- (2) Exterior play areas should be placed away from housing foundations.
- (3) Growing fruit and vegetable crops in soils adjacent to foundations should be discouraged, as there is evidence that some types of plants may take up chlordane from the soil and translocate it to edible portions (Incorvia Mattina et al., 2000).
- (4) Plant bushes and other cover around perimeter of buildings to keep human activities more distant from chlordane.
- (5) If surface soil is contaminated, cover with clean fill to prevent contact.

5. Non-Remediation Related Demolition and Construction

a. Managing Chlordane During Demolition/Renovation Activities.

(1) During normal construction activities, chlordane contamination can be moved and replaced onsite. Just because it is disturbed does not mean that it must be remediated nor does it mean that it must be characterized to determine whether it is hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA has gone on record via a June 11, 1992 memo regarding contamination encountered during normal construction activities. It states as follows:

"... The particular situation which you presented in your letter involved excavation of soils, such as trenching operations for pipeline installation, where the soils may be hazardous by characteristic, or may contain listed hazardous waste. We understand that your questions specifically relate to the excavations being conducted on public roadways or at other similar locations that are not associated with or are part of a RCRA regulated treatment, storage, or disposal facility.

In the example which you cite in your letter, the soils from the excavation or construction activities are temporarily moved within the area of contamination, and

subsequently redeposited into the same excavated area. In these situations we agree that such activity does not constitute treatment, storage, or disposal of a hazardous waste under RCRA. The activity of placing waste in the ground would not normally meet the regulatory definitions of "treatment" or "storage" (40 CFR 260.10). In addition, as you noted in your letter, movement of wastes within an area of contamination does not constitute "land disposal" and thus does not trigger RCRA hazardous waste disposal requirements (55 FR 8666, March 8, 1990). Thus RCRA requirements such as land disposal restrictions would not apply.

With respect to generator requirements, as you indicated, a hazardous waste "generator" is one, by site, who produces a hazardous waste or first causes the waste to be regulated as hazardous (40 CFR 260.10). In the circumstances you described, the excavation does not "produce" the hazardous waste, nor does it subject the waste to hazardous waste regulation since, as discussed above, the activity you described is not "treatment", "storage", or "land disposal" of hazardous waste. Therefore, we agree that the activity is not subject to any generator requirements."

(2) In extraordinary circumstances, if a known endangerment is posed by legally applied chlordane, contractor personnel and other persons in the area should be notified that a chlordane hazard is present so that necessary worker protection may be implemented. Government specifications should require that the construction site be kept moist to minimize fugitive dust, in these circumstances. Include in contract specifications that contractors are to comply with the requirements in 29 CFR 1926 Safety and Health Regulations for Construction, except for 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response (HAZWOPER). Because the chlordane was used for its intended purpose, the site is not considered an uncontrolled hazardous waste site and as such, HAZWOPER does not apply to demolition and construction activities impacting chlordane, and no extraordinary measures are required.

b. Post-Construction Management of Chlordane. At project completion, exposed contaminated soil should be covered with clean soil to prevent direct contact. Steps

should be taken to prevent erosion of the cover such as seeding with grass.

6. Property Transfer Issues. Another factor that should be evaluated when deciding whether to undertake cleanup of chlordane is whether the property is going to be transferred.

a. Notification of Hazardous Substance Activity.

(1) When transferring Federal property, CERCLA 120(h) may require notification regarding chlordane because it is a CERCLA hazardous substance. The notification applies where a complete search of agency files indicates chlordane was stored on the property for one year or more in amounts greater than or equal to 1,000 kilograms (see implementing regulations in 40 CFR 373.2) or when chlordane is known to have been released or disposed on the property. However, lawfully applied chlordane alone does not constitute a release or disposal for purposes of the CERCLA 120(h) notification.

(2) Where the CERCLA 120(h) notification applies, it also requires the deed entered into for the property transfer to contain a covenant warranting that all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer. It also requires a commitment to conduct additional remedial action if found necessary after the date of transfer. Therefore, if remedial action is anticipated, it may be preferable to undertake such action prior to transferring the property. Also, if levels of chlordane are acceptable for certain types of property use, but not all uses, deed restrictions may be needed to ensure changes in future use will not trigger a need to remediate. For example, if concentrations are acceptable for industrial use, but unacceptable for residential use, then placing a deed restriction prohibiting residential use may be sufficient to prevent having to remediate to residential levels in the future.

b. Notification of Uncontaminated Property. Another property transfer notification requirement in CERCLA 120(h)(4) requires identification of uncontaminated property. The head of the department, agency, or instrumentality of the United States with jurisdiction over

the property is required to identify the real property on which no hazardous substances and no petroleum products or their derivatives were known to have been released or disposed of. Because legally applied chlordane is not considered to be released or disposed, the presence of legally applied chlordane does not disqualify a property from being considered "uncontaminated" under CERCLA 120(h)(4).

PART III - TRANSPORTATION, TREATMENT, AND DISPOSAL OF CHLORDANE CONTAMINATED WASTE

1. Regardless of whether chlordane was legally applied or spilled, if removed for offsite disposal, there may be transportation, treatment, and disposal regulations applicable to the management of that waste. For example, the chlordane may or may not be regulated as hazardous waste or it may or may not require treatment prior to disposal because of land disposal restrictions (LDRs). Because impacts of these regulations can be significant, it is important to understand these factors when making management decisions. This section explains these technical requirements.

2. There are several key environmental regulations to be aware of. They are referenced in the matrix below.

Description	Value	Reference
Threshold Characteristic Hazardous Waste Value for Chlordane	0.03 mg/L by TCLP (D020)	40 CFR 261.23
Listed Waste Code for Chlordane	U036 - Not applicable to applied pesticides. Applies to spills of commercial chemical product.	40 CFR 261.33
LDR Treatment Standard for Non-Wastewaters	0.26 mg/kg chlordane and meet 268.48, Universal Treatment Standards (UTS)	40 CFR 268.40
LDR Treatment Standard for Wastewater	0.0033 mg/L chlordane and meet 268.48	40 CFR 268.40
UTS Value for Chlordane, Non-Wastewater	0.26 mg/kg	40 CFR 268.48
UTS Value for Chlordane, Wastewater	0.0033 mg/L	40 CFR 268.48
Alternative Treatment Standard for Soil	10 x UTS or 90% reduction	40 CFR 268.49

3. Determining if Chlordane is Regulated as Hazardous Waste.

a. Listed Hazardous Waste.

(1) The disposal of commercial chemical product chlordane is regulated as hazardous waste with the listed waste code U036. However, this designation only applies to unused product in which chlordane is the sole active ingredient and to spill residues of such product. The U036 listed waste code does not apply to chlordane that has been applied for its intended purpose. 40 CFR 261.2(c)(1)(B)(ii) specifically states that commercial chemical products listed in Section 261.33 are not solid wastes (and thus not hazardous wastes) if they are applied to the land and that is their ordinary manner of use. Therefore, soil and debris intentionally treated with chlordane should not be classified as U036 listed hazardous waste.

(2) U036 hazardous waste at military installations is expected to be rare. The U036 classification would apply to waste generated from spilled commercial chemical product. Conceivably it could also be generated if old abandoned drums of product are discovered and require disposal. Otherwise, it is highly unlikely that chlordane waste from a military installation will be listed waste. It is more likely to be regulated as characteristic hazardous waste.

b. Characteristic Hazardous Waste.

(1) The threshold value at which EPA regulates chlordane as hazardous waste is 0.03 mg/L by the Toxicity Characteristic Leaching Procedure (TCLP) per 40 CFR 261.23. When an extract of a representative sample of the waste contains this level of chlordane, it is said to exhibit a hazardous characteristic for chlordane and is given the waste code D020.

Example: Two waste streams are generated during building demolition. A representative sample of the building foundation is determined to contain 0.005 mg/L chlordane by TCLP and contaminated soil under the foundation is determined to contain 0.04 mg/L by TCLP. Are either of these hazardous waste?

Answer: Yes, the soil is hazardous waste because it is above the threshold concentration of 0.03 mg/L. The concrete foundation is not hazardous waste because it is below the threshold value. Note however, that the soil is only hazardous waste if it is to be discarded. If it remains onsite, in other words not generated, then it would not be subject to RCRA regulation and would not be hazardous waste.

(2) For solids, the TCLP analytical method involves an extraction step with a solvent to waste ratio of 20:1. This in effect dilutes the total concentration by a factor of 20. To save time and money, sometimes total concentration data is used to calculate whether it is theoretically possible to exhibit a hazardous characteristic. Then if needed, the actual TCLP analysis is performed. This is because the TCLP test is typically much more expensive than analysis for total concentration.

Example: Chlordane in soil is tested and determined to contain a total of 0.5 mg/kg chlordane. Can this soil exhibit a hazardous characteristic due to the chlordane concentration?

Answer: No. Because of the dilution factor in the extraction procedure, even if 100% of the chlordane extracted out of the soil, the resultant TCLP analysis would only be $0.5/20 = 0.025$ mg/L. This is below the threshold hazardous waste value of 0.03 mg/L TCLP for chlordane.

(3) Because of the dilution factor in the TCLP method, solids containing less than 0.6 mg/kg total chlordane will not meet defining criteria for D020. On the other hand, merely having a total concentration above at or above 0.6 mg/kg does not mean the waste is hazardous waste. It will depend upon the amount of chlordane which actually leaches into the extract when performing the TCLP analysis.

Example: Soil is determined to contain a total of 0.8 mg/kg total chlordane. Is this hazardous waste?

Answer: This is not enough information to make a determination. Theoretically, this may be hazardous waste because $0.8 / 20 = 0.04$ mg/L which is greater than the threshold value of 0.03 mg/L, but it will depend upon the amount of chlordane which actually leaches out of the waste during the TCLP test. If only 50% of the chlordane is leachable, the resultant TCLP test would only indicate $[0.5 \times 0.8] / 20 = 0.02$ mg/L TCLP and it would not be hazardous waste. So TCLP analysis data is needed in order to determine if this is hazardous waste.

(4) The above calculation only applies to solids. Liquids do not have a dilution factor. When classifying waste streams such as ground water, the TCLP method requires the liquid to be filtered and analyzed directly to obtain the TCLP result. When the waste is a mixture of liquids and solids, a more complicated calculation can be performed to determine whether total concentration of chlordane present is sufficient to potentially fail TCLP.

(5) Chlordane may meet other characteristic waste criteria besides D020. Though pure chlordane is a powder, it was often mixed into solutions with flash points sufficiently low to be considered ignitable waste (D001).

4. Characterizing Hazardous Debris. Depending upon the manner in which debris is generated, it may or may not be regulated as hazardous waste. For example, if chlordane is present on a building foundation, but the entire building is being demolished along with the foundation, the "representative sample" used for waste classification purposes would be based on collection of debris from each component of the waste in the same proportions as will be in the actual waste going for disposal. The representative sample could conceivably be below the TCLP threshold regulatory value because the "representative sample" would include proportional amounts of uncontaminated debris. This could effectively and legitimately lower the overall TCLP concentration of the waste stream to below the regulatory threshold. On the other hand, if the foundation and building are separated for disposal, such that these are separate waste streams, then they would be analyzed independent of one another. If a representative sample of the entire waste stream is expected to fail TCLP, it may be preferable to segregate uncontaminated debris from contaminated debris to minimize the volume of waste that must be managed as hazardous.

5. Looking for Underlying Hazardous Constituents. When waste exhibits a hazardous characteristic due to chlordane, underlying hazardous constituents (UHCs) must also be evaluated. This is because RCRA LDRs restrict disposal until not only the chlordane meets LDR treatment standards, but also UHCs. UHCs are defined in 40 CFR 268.2 as "any constituent listed in 40 CFR 268.48, Table UTS - Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste at a concentration above the constituent - specific UTS treatment standards." This is a list of over 200 constituents. If any of these contaminants are in the waste, though they did not cause the waste to be classified as hazardous waste, they must still be below UTS values before land disposal.

6. Treatment of Chlordane Contaminated Waste

a. Land Disposal Restrictions. Some chlordane contaminated hazardous wastes will be required to be treated prior to land disposal because of LDRs which prohibit waste from being placed into or on the land until certain standards have been met. There are options for satisfying LDRs. The first is to meet the general standards specified in 40 CFR 268.40. Another option, known as the alternative treatment standard for soil, is available in some states and allows levels an order of magnitude higher at the point of land disposal. And finally, for hazardous debris, there is yet another standard. Another approach to dealing with LDRs is to avoid actions which trigger LDRs treatment requirements. Each of these options are discussed below.

(1) General LDR Treatment Standards.

(a) General LDR treatment standards are in 40 CFR 268.40 and are listed for wastewaters and non-wastewaters. To be a wastewater, the waste must contain less than 1% total suspended solids and less than 1% total organic carbon. Thus, most chlordane wastes encountered are typically classified as non-wastewaters.

Example: Chlordane contaminated soil contains 1.0 mg/kg total chlordane and 0.04 mg/L by TCLP analysis. Is this a hazardous waste? If so, to what level must the chlordane be treated prior to land disposal?

Answer: Yes this is hazardous waste because it is above the 0.03 mg/L TCLP threshold. LDRs in 40 CFR 268.40 requires this "non-wastewater" to be treated to 0.26 mg/kg total chlordane before land disposal. (In addition, UHCs must also be meet standards in 40 CFR 268.48.)

Example: Chlordane contaminated soil contains 1.0 mg/kg total chlordane and 0.02 mg/L by TCLP analysis. Is this a hazardous waste? Must it meet LDRs prior to land disposal?

Answer: No this is not hazardous waste because it is below the TCLP threshold of 0.03 mg/L. The 0.26 mg/kg treatment standard does NOT apply because LDRs are only applicable to hazardous waste. This waste qualifies for disposal without treatment.

(b) It is very important to understand that chlordane hazardous waste must not only meet treatment standards for chlordane, but must also meet treatment standards for underlying hazardous constituents. This is because the LDR standard listed in 40 CFR 268.40 refers to "... and meet 268.48". This means that any of the contaminants listed in 40 CFR 268.48 that are reasonably expected to be present in the waste, must also meet corresponding treatment requirements prior to land disposal.

Example: Soil fails TCLP for chlordane and the soil also contains naturally occurring arsenic. What criteria must be met to satisfy LDRs?

Answer: Because the soil fails TCLP for chlordane, it is hazardous waste and LDRs apply. The LDR treatment standard for non-waste water in 40 CFR 268.40 is "0.26mg/kg and meet 268.48". This means treat the chlordane to 0.26 mg/kg and treat the arsenic (the UHC) to 5.0 mg/L TCLP as specified in 40 CFR 268.48 before land disposal.

(2) Alternative Land Disposal Restriction Treatment Standards for Soil.

(a) EPA has decided that soil should not be required to meet the same LDR treatment standard as process waste, and they provide alternative treatment standards for soil in 40 CFR 268.49. Because this is a less stringent

standard, it is not available in an authorized state unless that state has chosen to adopt this less stringent standard.

(b) The alternative LDR treatment standard for soil can be satisfied by either reducing all hazardous constituent concentrations:

- to 90% of their original concentration or
- to 10 times their corresponding UTS values.

(c) Note, either of these criteria satisfy the treatment requirement, it is not necessary to meet both. Therefore if 90% reduction results in numbers exceeding 10 times UTS, then LDRs have been satisfied. Similarly, if 10 x UTS is met, but resultant concentrations have not been decreased 90%, that too meets LDRs.

Example: Soils fails TCLP for chlordane and contains arsenic as an underlying hazardous constituent. What concentrations must be attained under the alternative treatment standard to satisfy LDRs?

Answer: Using the 10 x UTS option, chlordane must be 2.6 mg/kg (10×0.26) and arsenic must be 50 mg/L TCLP (10×0.5). Note, however, that though this then qualifies for land disposal, the levels of arsenic would be sufficiently high that it would have to be disposed as hazardous waste.

(3) Alternative Treatment Standards for Debris.

(a) Because contaminated debris is sometime non-homogeneous, EPA realized that determining a concentration of a "representative" sample may sometimes be difficult. To provide relief, they provided alternative treatment standards for debris in 40 CFR 268.45 which are based on applying specific types of treatment technologies rather than attaining specific concentrations.

(b) Debris is defined as solid material exceeding a 60 mm particle size (2.5 inches) that is intended for disposal. It includes items such as concrete, wood, and personal protective equipment. Alternative treatment standards specified consist of extraction, destruction, and immobilization technologies. These can be used in lieu of meeting general standards in 40 CFR 268.40 to satisfy LDRs.

Example: Maintenance applications of chlordane were periodically injected under a building through holes drilled into perimeter wood flooring. Discrete areas of the wood have elevated chlordane concentrations which may cause the flooring to be regulated as hazardous waste if removed for disposal during building renovation. The contaminated portions of the wood are segregated for disposal. Can an alternative treatment standard for debris be used to manage the chlordane contaminated wood?

Answer: Yes. 40 CFR 268.45 lists several types of technologies that could be used to treat wood debris. For example, an immobilization technology could be used to prevent leaching. This would be in lieu of attaining the concentration based standard that would otherwise be applicable.

(c) When determining whether to utilize an alternative treatment standard for debris, consideration should be given to potential permit requirements. When actions are conducted onsite under CERCLA, there is a permit exemption that allows hazardous debris to be treated without obtaining a RCRA permit. Under other circumstances, a permit is required if the treatment occurs after the point of generation of the hazardous waste. With proper planning, it may be possible to remove the contaminant from the debris prior to the point of generation to avoid a RCRA permit requirement.

Example 1: Chlordane was injected into a building foundation via a hole drilled in the concrete. The surrounding concrete is known to be contaminated. The foundation is not going to be demolished, but the contaminated portion will be cut out and then patched with new concrete. Because the foundation is not a "solid waste", it is not hazardous debris. The contaminated portion could legitimately be removed without a RCRA treatment permit. This activity would be viewed as generating a hazardous waste, not as treatment of hazardous debris.

[Note: This is a hypothetical scenario to illustrate a point. There is no requirement that mandates removal of legally applied chlordane.]

Example 2: Same scenario as above but the foundation will be demolished. Now it is considered a solid waste and if concentrations are sufficiently high, it can be hazardous debris. Removal of the contaminated portion would be viewed as treatment of hazardous debris and would be subject to applicable permit requirements.

b. Actions Which Do Not Require Treatment.

(1) There are several options for managing chlordane contaminated waste which will avoid triggering LDR treatment requirements.

(a) LDRs do not apply unless hazardous waste is "generated." By managing chlordane hazardous waste in place, such as by capping contaminated soil in place or treating it in situ, LDR treatment standards do not apply.

(b) Chlordane contaminated waste could be managed under the "area of contamination" concept. EPA has taken the position that when waste is moved around solely within a single AOC and is not placed into a RCRA regulated unit, then LDRs do not apply to that waste. This would facilitate relocating chlordane contamination to minimize exposures without triggering LDRs.

7. Disposal of Chlordane Contaminated Waste.

a. Disposal as Non-Hazardous Waste. Waste can be disposed of as non-hazardous under the following circumstances.

(1) When excluded from hazardous waste regulation. Potential exclusions are in 40 CFR 261.4 for household waste, in 40 CFR 261.5 for conditionally exempt small quantity generator waste, and in 40 CFR 268.45 for debris which has been treated via an extraction or destruction technology.

(2) When at the point of generation, the waste exhibits no hazardous characteristic and is not listed waste. In other words, assuming chlordane is the only hazardous constituent of concern and it is less than 0.03 mg/L TCLP, then it is not hazardous waste and can be directly disposed in a non-hazardous waste landfill without treatment.

(3) At the point of generation, chlordane exceeds the regulatory threshold of 0.03 mg/L TCLP, but has been subsequently treated such that it meets all applicable LDR treatment standards and does not exhibit any hazardous characteristic and does not contain listed hazardous waste.

(4) Concurrence has been obtained from the overseeing regulatory agency that soil that once contained U036 listed chlordane no longer contains listed waste.

(5) Contaminated debris which has been treated by an extraction or destruction method per 40 CFR 268.45 and thus rendered the debris non-hazardous.

b. Disposal as Hazardous Waste. Offsite disposal of chlordane contaminated waste must be at a hazardous waste landfill for the following.

(1) Waste exhibits a hazardous characteristic at the point of generations, has been treated to meet LDRs, but still exhibits a characteristic of hazardous waste. For example, if the alternative treatment standard for soil is used and resultant levels of UHCs are still above regulatory threshold for hazardous waste.

(2) Chlordane contaminated hazardous debris has been immobilized to meet LDRs, but still contains the hazardous waste.

(3) Chlordane contaminated waste classified as listed waste and has not been determined to no longer contain the chlordane.

8. Treatment of Chlordane

Chlordane is classified by EPA as a persistent, bioaccumulative, and toxic (PBT) chemical. Incineration is the most effective means of destroying it. Landfilling is a common method of containing it. Low temperature thermal desorption can be used to recover reduce concentrations in treated soil and debris.

9. Managing Containerized Chlordane Hazardous Waste. If hazardous waste is containerized for offsite disposal, the generator of the chlordane waste must comply with the following RCRA requirements:

- Obtain an EPA ID number
- Use a hazardous waste manifest to track the shipment
- Provide LDR notification
- Keep containers closed unless adding or removing the waste
- Mark the containers with a statement "Hazardous waste - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. EPA."
- Mark the container with the generators name and address
- Mark the container with the Manifest document number prior to transporting offsite.
- Mark the containers with the accumulation start date
- Transfer the waste to a permitted TSDF within 90 days (if a large quantity generator)
- Inspect the containers weekly
- Provide hazardous waste training for employees
- Prepare and distribute a contingency plan
- Make arrangements with local emergency response authorities
- Keep records of training, manifests, LDR notifications, waste analysis, exception reports, and biennial reports.

10. Transportation. Chlordane contaminated waste may be regulated by the Department of Transportation under hazardous materials regulations as well as by EPA under hazardous waste regulations.

a. Transporting Chlordane Hazardous Waste. When chlordane is regulated as a hazardous waste, it must be shipped using a hazardous waste manifest. In addition to tracking the hazardous waste as required by EPA, the manifest serves as the Department of Transportation (DOT) shipping paper. A proper shipping name from the hazardous materials table in 49 CFR 172.101 must be used to describe the shipment. Depending upon specific characteristics of the waste, there are several potential shipping names which could apply. Chlordane has the potential to meet defining criteria for a poisonous material, hazard class 6.1 or for a flammable liquid, hazard class 3. When present in soil and debris such that it does not have a flash point and does not exhibit a 6.1 hazard class, but is still hazardous waste, then chlordane waste would be regulated as a Class 9 miscellaneous hazardous material.

b. Transporting Chlordane as a Non-Hazardous Waste But as a Hazardous Material. When not a hazardous waste, there are still situations under which DOT will continue to regulate chlordane as a DOT hazardous material. This includes:

(1) When a reportable quantity (1 lb of chlordane) is present in a single container;

(2) When chlordane is regulated as a marine pollutant (1% in bulk shipments in any mode or in non-bulk packaging by vessel)

(3) When it meets defining criteria for a DOT hazardous class (class 6.1 poisonous material or class 3 flammable liquid)

11. Summary and Conclusion.

a. In summary, the manner in which chlordane is addressed will depend upon whether it was legally applied or whether it was illegally disposed or "released" into the environment. The determination as to whether it was spilled should not be based on concentration. Rather, it should be based on location of the chlordane and whether it is reasonable that it is present due to intentional use.

b. Legally applied chlordane is not required to be remediated under either CERCLA or RCRA.

c. Where action is required because of improper disposal or accidental release, the methodical approach required by CERCLA or RCRA should be undertaken to identify and evaluate alternative approaches. This also ensures the decision is properly documented.

d. Voluntary actions can be taken to minimize exposures to legally applied chlordane. Depending upon site specific circumstances, it may be prudent to follow the CERCLA process to document and implement cleanup or land use restrictions, but it may not always be necessary. Office of Counsel should be able to advise regarding these concerns.

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