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14. ABSTRACT Hill Air Force Base (AFB) proposes to construct a new child development center to provide a high-quality and safe developmental learning environment for up to 305 children of military and civilian families. The proposed child development center and associated parking lot would be located to the west of an existing undersized child development center. The findings of this EA indicate that the proposed action would not have significant adverse effects on the human environment or any of the environmental resources as described in the EA. Therefore, it is concluded that a Finding of No Significant Impact is justified.						
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16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 52	19a. NAME OF RESPONSIBLE PERSON Randal B. Klein - rbklein@streamlineut.com	
a. REPORT	b. ABSTRACT	c. THIS PAGE			19b. TELEPHONE NUMBER (Include area code) (801) 451-7872	
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FINDING OF NO SIGNIFICANT IMPACT

1. **NAME OF ACTION:** Construct a Child Development Center at Hill Air Force Base (AFB), Utah.

2. **DESCRIPTION OF THE PROPOSED ACTION:** Hill AFB proposes to accommodate current United States Air Force (USAF) missions by constructing a new child development center to provide a high-quality and safe developmental learning environment for up to 305 children of military and civilian families. The proposed child development center and associated parking lot would be located to the west of an existing undersized child development center. The proposed action comprises approximately five acres.

3. **SELECTION CRITERIA:** The following criteria were used to assemble alternatives. The facility that provides additional developmental learning capabilities on Hill AFB should:

- provide a high-quality and safe developmental learning environment for children between the ages of six weeks old and six years old;
- have sufficient space to accommodate up to 305 children of military and civilian families;
- be located on Hill AFB;
- be located near traffic routes providing both convenient and safe access;
- be located within one mile of on-base housing;
- be located within one mile of the on-base workplaces of most of the primary work force; and
- be protective of facilities, human health, and the environment.

4. **ALTERNATIVES CONSIDERED OTHER THAN THE PROPOSED ACTION:**

Under the no action alternative, the child development center would not be constructed, and severe space limitations would continue to exist. Approximately 230 children would remain on the waiting list for developmental learning services, and this number would be expected to increase over time.

Expanding the existing facility was considered and eliminated by the Hill AFB planners and engineers. The existing child development center is surrounded by parking lots, streets, and several buried utility lines. There is no feasible area into which the existing facility could be expanded. If expansion were to occur into existing parking lots, there would be a severe negative impact to operation of the child development center and the nearby Hill AFB officer's club.

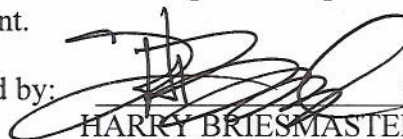
Other locations were considered, but eliminated due to not meeting the selection criteria.

5. SUMMARY OF ANTICIPATED ENVIRONMENTAL EFFECTS:

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	No effects	Construction equipment would create temporary emissions. Fugitive dust emissions would be mitigated. Air emissions from the natural gas fired furnace would be less than 0.3 tons per year for each criteria pollutant and for hazardous air pollutants (HAPs).
Solid and Hazardous Waste	No effects	If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes containing regulated substances would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would be treated by North Davis Sewer District (NDSD).
Biological Resources	No effects	Site habitat has been previously degraded by human activities. The proposed action would reduce available forage for birds and displace rodents. Without mitigation, construction activities would increase the chance of introducing additional invasive species. No trees would be removed. If any protected nesting birds should exist adjacent to construction activities, a certificate of registration would have to be obtained. Restoration planting (of any areas not occupied by structures, pavements, or irrigated turf) would include fire resistant plants, native grasses, and native shrubs.
Water Quality	No effects	During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved.

6. FINDING OF NO SIGNIFICANT IMPACT: Based on the above considerations, a Finding of No Significant Impact (FONSI) is appropriate for this assessment.

Approved by:

 FOR
HARRY BRIESMASTER III, YF-03, DAF
Director, 75th Civil Engineer Group

Date: 20090709



Hill Air Force Base, Utah

Final

**Environmental Assessment:
Proposed Child Development Center,
Hill Air Force Base, Utah**

July 9, 2009

Final
**Environmental Assessment (EA):
Proposed Child Development Center,
Hill Air Force Base, Utah**

Contract F42650-03-D-0007, Delivery Order #0033

**Department of the Air Force
Air Force Materiel Command
Hill Air Force Base, Utah 84056**

July 9, 2009

Prepared in accordance with the Department of the Air Force Environmental Impact Analysis Process (EIAP) 32 CFR Part 989, Effective July 6, 1999, which implements the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) regulations.

EXECUTIVE SUMMARY

Purpose and Need

The purpose of the proposed action is to provide a high-quality and safe developmental learning environment for up to 305 children of military and civilian families by constructing a second child development center on Hill Air Force Base (AFB).

The proposed action is needed to accommodate approximately 230 children who are currently on the waiting list for developmental learning. The existing facility is filled to capacity at its service level of 252 children. Accomplishing this project would increase overall on-base capacity to 577 children, meeting current and anticipated future demand.

No local off-base facility is accredited by the National Association for the Education of Young Children (NAEYC). No local off-base facility has available spaces for infant or pre-toddler care. The Hill AFB child development environment provides more stringent employee background checks, more sophisticated employee training, and a higher level of instructional curriculum for the children compared to local off-base facilities.

Scope of Review

During a scoping meeting and subsequent interactions, the following environmental issues were addressed:

- air quality,
- solid and hazardous wastes (including liquid waste streams),
- biological resources,
- geology and surface soils,
- water quality,
- cultural resources,
- occupational safety and health,
- air installation compatible use zone (AICUZ), and
- socioeconomic resources.

As explained in the body of this document, the issues that were identified for detailed consideration are: air quality, solid and hazardous wastes (including liquid waste streams), biological resources, and water quality.

Selection Criteria

The facility that provides additional developmental learning capabilities on Hill AFB described in this document should:

- provide a high-quality and safe developmental learning environment for children between the ages of six weeks old and six years old;
- have sufficient space to accommodate up to 305 children of military and civilian families;

- be located on Hill AFB;
- be located near traffic routes providing both convenient and safe access;
- be located within one mile of on-base housing;
- be located within one mile of the on-base workplaces of most of the primary work force; and
- be protective of facilities, human health, and the environment.

Alternatives Considered in Detail

Alternative A (No Action Alternative) - Under the no action alternative, the child development center would not be constructed, and severe space limitations would continue to exist. Approximately 230 children would remain on the waiting list for developmental learning services, and this number would be expected to increase over time.

Alternative B (Proposed Action - Construct the Child Development Center) - The proposed child development center and associated parking lot would be located to the west of an existing undersized child development center. The proposed action comprises approximately five acres near the southern boundary of Hill AFB. The components to be provided would include:

- a single story structure with classrooms, multi-purpose rooms, isolation rooms, storage rooms, a check-in desk, reception area, administrative offices, an employee lounge, a training room, bathrooms, and a full size kitchen;
- parking, a drive-through lane where children can be safely dropped off and picked up, and an area where delivery trucks can safely access the facility;
- outdoor playground areas;
- connections to existing buried utilities; and
- rerouting an existing natural gas line.

Decisions That Must Be Made

Hill AFB must decide whether to:

- not provide a child development center (no action),
- construct a child development center, or
- expand the existing child development center.
- If the decision is to construct a child development center, then a decision must be made as to where the facility will be located.

If Hill AFB decides to construct a child development center or to expand the existing child development center, the proponent and environmental managers would then decide what mitigation and/or monitoring measures, if any, should be implemented.

Results of the Environmental Assessment

Alternatives A and B were considered in detail. The results of the environmental assessment are summarized in the following table.

Summary Comparison of Alternatives

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	No effects	Construction equipment would create temporary emissions. Fugitive dust emissions would be mitigated. Air emissions from the natural gas fired furnace would be less than 0.3 tons per year for each criteria pollutant and for hazardous air pollutants (HAPs).
Solid and Hazardous Waste	No effects	If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes containing regulated substances would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would be treated by North Davis Sewer District (NDSD).
Biological Resources	No effects	Site habitat has been previously degraded by human activities. The proposed action would reduce available forage for birds and displace rodents. Without mitigation, construction activities would increase the chance of introducing additional invasive species. No trees would be removed. If any protected nesting birds should exist adjacent to construction activities, a certificate of registration would have to be obtained. Restoration planting (of any areas not occupied by structures, pavements, or irrigated turf) would include fire resistant plants, native grasses, and native shrubs.
Water Quality	No effects	During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved.

Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

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LIST OF ACRONYMS AND CHEMICAL TERMS

AFB	Air Force Base
AFOSH	Air Force Occupational Safety and Health
AICUZ	Air Installation Compatible Use Zone
ALC	Air Logistics Center
APE	Area of Potential Effect
bgs	Below the Ground Surface
BTU	British Thermal Unit
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
DAQ	Division of Air Quality (Utah)
dBA	Decibel (A-weighted)
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPA	Environmental Protection Agency (United States)
EUL	Enhanced Use Lease
FONSI	Finding of No Significant Impact
FQI	Floristic Quality Index
HAP	Hazardous Air Pollutant
MBTA	Migratory Bird Treaty Act
MILCON	Military Construction
MMSCF	Million Standard Cubic Feet
MS4	Municipal Separate Storm Sewer Systems
NAAQS	National Ambient Air Quality Standards
NAEYC	National Association for the Education of Young Children
NDSD	North Davis Sewer District

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	Oxides of Nitrogen
NRHP	National Register of Historic Places
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PM-10	Particulates Smaller Than 10 Microns in Diameter
PM-2.5	Particulates Smaller Than 2.5 Microns in Diameter
RCRA	Resource Conservation and Recovery Act
RHI	Range Health Index
ROD	Record of Decision
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SOC	Species of Concern (State of Utah)
SO _x	Oxides of Sulfur
SWPPP	Stormwater Pollution Prevention Plan
UAC	Utah Administrative Code
UPDES	Utah Pollutant Discharge Elimination System
USAF	United States Air Force
USC	United States Code
VOC	Volatile Organic Compound
WCI	Wildlife Community Index
WFRC	Wasatch Front Regional Council

1 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

Hill Air Force Base (AFB) is located approximately 25 miles north of downtown Salt Lake City and seven miles south of downtown Ogden, Utah (Figure 1). Hill AFB is surrounded by several communities: Roy and Riverdale to the north; South Weber to the northeast; Layton to the south; and Clearfield, Sunset, and Clinton to the west. The base lies primarily in northern Davis County with a small portion located in southern Weber County.

Hill AFB is an Air Logistics Center (ALC) that maintains aircraft, missiles, and munitions for the United States Air Force (USAF). In support of that mission, Hill AFB: provides worldwide engineering and logistics management for the F-16 Fighting Falcon and A-10 Thunderbolt; accomplishes depot repair, modification, and maintenance of the F-16, A-10 Thunderbolt, and C-130 Hercules aircraft; and overhauls and repairs landing gear, wheels and brakes for military aircraft, rocket motors, air munitions, guided bombs, photonics equipment, training devices, avionics, instruments, hydraulics, software, and other aerospace-related components.

The existing Hill AFB child development center (Figure 2) is a daycare and preschool center supporting 252 children of military and civilian families. The ages of these children range between six weeks old and six years old.

1.2 Purpose of the Action

The purpose of the proposed action is to provide a high-quality and safe developmental learning environment for up to 305 children of military and civilian families by constructing a second child development center (Figure 2) on Hill AFB.

1.3 Need for the Action

The proposed action is needed to accommodate approximately 230 children who are currently on the waiting list for developmental learning. The existing facility is filled to capacity at its service level of 252 children. Accomplishing this project would increase overall on-base capacity to 577 children, meeting current and anticipated future demand.

No local off-base facility is accredited by the National Association for the Education of Young Children (NAEYC). No local off-base facility has available spaces for infant or pre-toddler care. The Hill AFB child development environment provides more stringent employee background checks, more sophisticated employee training, and a higher level of instructional curriculum for the children compared to local off-base facilities.

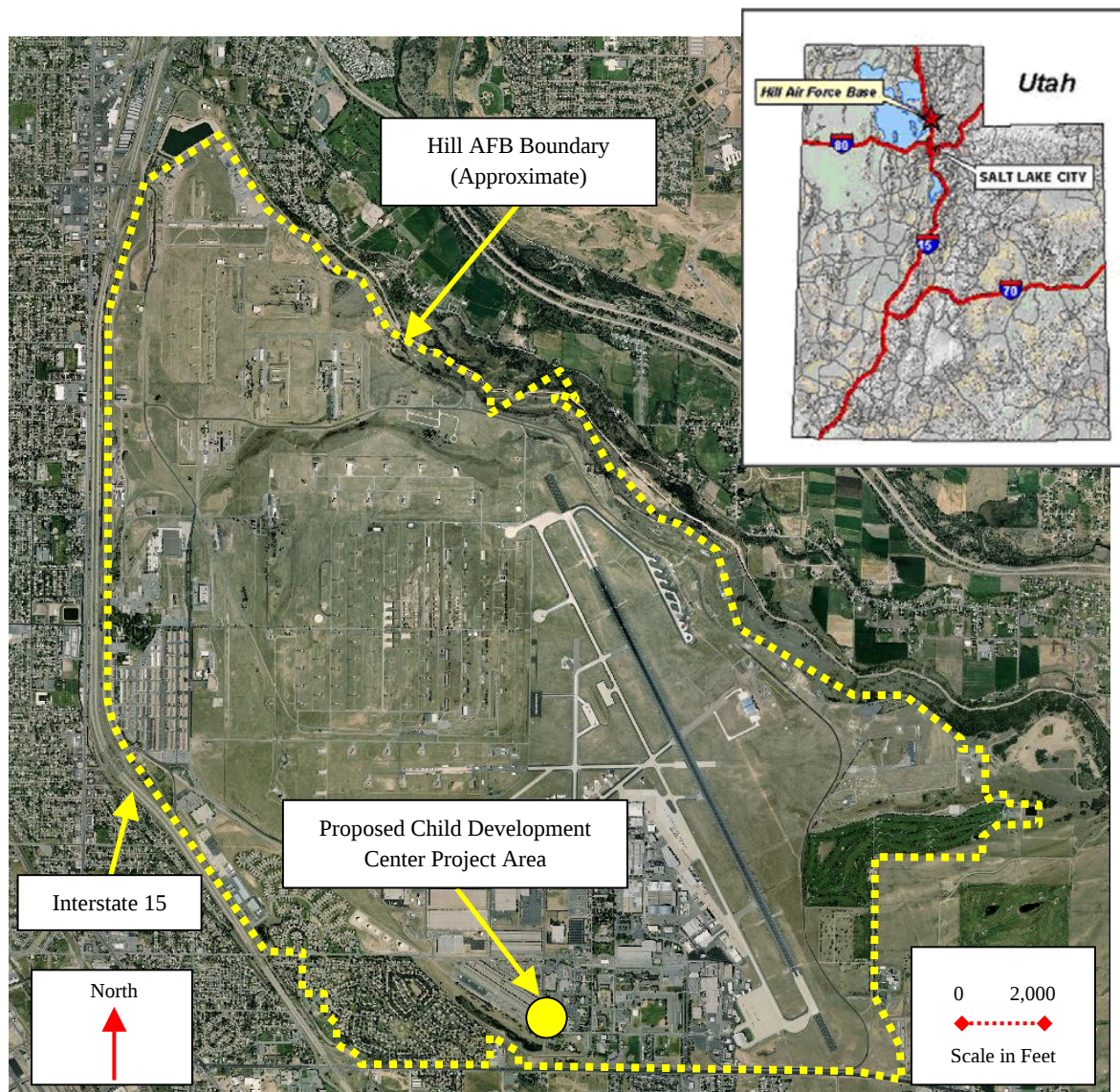


Figure 1: Location of the Proposed Action on Hill AFB

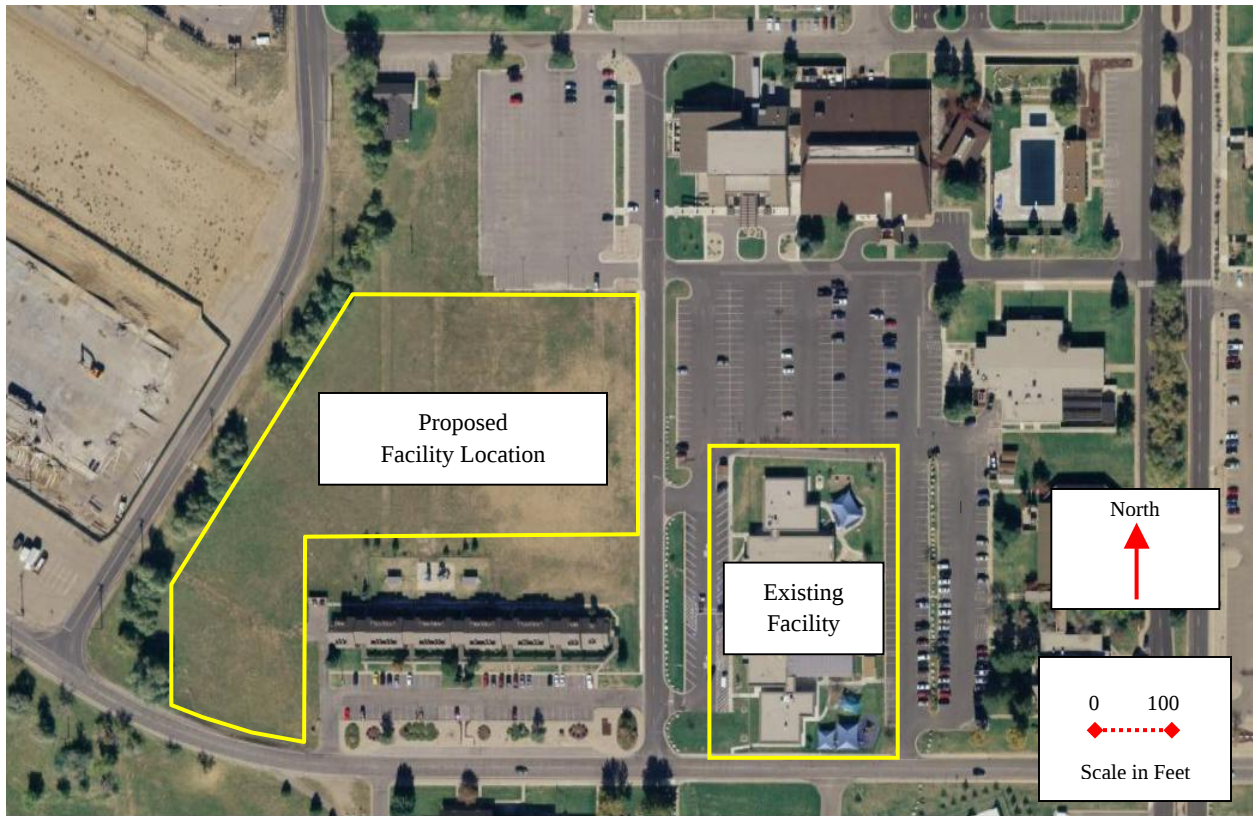


Figure 2: Proposed Child Development Center

1.4 Alternative Selection Criteria

Due to the considerations presented in the preceding sections, the following selection criteria were established. The facility that provides additional developmental learning capabilities on Hill AFB described in this document should:

- provide a high-quality and safe developmental learning environment for children between the ages of six weeks old and six years old;
- have sufficient space to accommodate up to 305 children of military and civilian families;
- be located on Hill AFB;
- be located near traffic routes providing both convenient and safe access;
- be located within one mile of on-base housing;

- be located within one mile of the on-base workplaces of most of the primary work force; and
- be protective of facilities, human health, and the environment.

1.5 Relevant Plans, EISs, EAs, Laws, Regulations, and Other Documents

During the scoping process, no relevant plans, environmental impact statements (EISs), or environmental assessments (EAs) were identified.

The following federal, state, and local laws, and regulations would apply to the proposed action:

- The National Environmental Policy Act (NEPA), Title 42 of the United States Code (USC) Section 4321 *et seq.*
- Council on Environmental Quality regulations, Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508.
- USAF-specific requirements contained in 32 CFR Part 989, Environmental Impact Analysis Process (EIAP).
- Safety guidelines of the Occupational Safety and Health Administration (OSHA).
- Relevant Air Force Occupational Safety and Health (AFOSH) standards.
- Utah's fugitive emissions and fugitive dust rules (Utah Administrative Code [UAC] Section R307-309).
- Utah's State Implementation Plan (UAC Section R307-110), which complies with the General Conformity Rule of the Clean Air Act (CAA), Section 176 (c).
- Determining Conformity of Federal Actions to State or Federal Implementation Plans, 40 CFR Part 93.154.
- US Air Force *Conformity Guide*, 1995.
- Utah Asbestos Rules, UAC, Section R307-801.
- The Resource Conservation and Recovery Act (RCRA), 42 USC Chapter 82, and regulations promulgated thereunder, 40 CFR Part 260 *et seq.*
- Federal facility agreement dated April 10, 1991 under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 USC Section 9601 *et seq.*
- Utah hazardous waste management regulations contained in UAC Section R315, and the Hill AFB *Hazardous Waste Management Plan* dated May, 2001, and subsequent versions.

- The Clean Water Act (CWA), 33 USC Section 1251 *et seq.*
- The Energy Independence and Security Act (EISA) of 2007, Sec. 438, Storm Water Runoff Requirements for Federal Development Projects, *et seq.*
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions.
- Migratory Bird Treaty Act (MBTA), 16 USC Sections 703-712 *et seq.*
- The Hill AFB *Integrated Natural Resources Management Plan*, dated August, 2007, and subsequent versions.
- The Hill AFB *Integrated Cultural Resources Management Plan*, dated January, 2007, and subsequent versions.
- The National Historic Preservation Act (NHPA), 16 USC Section 470 *et seq.*

During the scoping process, no other documents were identified as being relevant to the proposed action.

1.6 Decisions That Must Be Made

Hill AFB must decide whether to:

- not provide a child development center (no action),
- construct a child development center, or
- expand the existing child development center.
- If the decision is to construct a child development center, then a decision must be made as to where the facility will be located.

If Hill AFB decides to construct a child development center or to expand the existing child development center, the proponent and environmental managers would then decide what mitigation and/or monitoring measures, if any, should be implemented.

If Hill AFB decides to construct a child development center or to expand the existing child development center, the base would then decide if the selected alternative would or would not be a major federal action significantly affecting the quality of the human environment. If judged as not significantly affecting the quality of the human environment, then a finding of no significant impact (FONSI) would be prepared and signed, and the project would proceed. If judged as significantly affecting the quality of the human environment, then an EIS and a record of decision (ROD) would have to be prepared and signed before the project could proceed.

1.7 Scope of this Environmental Analysis

The scope of the current environmental analysis is to explore environmental issues related to the proposed action (construct a child development center) and the reasonable alternatives identified within this document.

1.7.1 History of the Planning and Scoping Process

Scoping discussions were held: to identify potential environmental concerns; to facilitate an efficient environmental analysis process; to identify issues and alternatives that would be considered in detail while devoting less attention and time to less important issues; and to save time in the overall process by helping to ensure that draft documents would adequately address relevant issues, thereby reducing the time required to proceed to a final document.

On January 14, 2009, an initial scoping meeting was conducted in Building 5, Hill AFB. Attendees included proponents of the proposed action, managers of Hill AFB's NEPA program, other environmental program managers, and the authors of this document.

During this meeting and subsequent scoping interaction, the following environmental issues were addressed:

- air quality,
- solid and hazardous wastes (including liquid waste streams),
- biological resources,
- geology and surface soils,
- water quality,
- cultural resources,
- occupational safety and health,
- air installation compatible use zone (AICUZ), and
- socioeconomic resources.

1.7.2 Issues Studied in Detail

The issues that have been identified for detailed consideration and are therefore presented in Sections 3 and 4 are:

- **Air Quality** (attainment status, emissions, Utah's state implementation plan [SIP])

Air emissions would be produced by construction equipment. Operating the proposed action would not create air emissions. Air quality effects are discussed in Section 4 of this document.

- **Solid and Hazardous Wastes** (materials to be used, stored, recycled, or disposed, including liquid waste streams; existing asbestos, lead-based paint, mercury, and polychlorinated biphenyls [PCBs])

During construction, solid wastes would be generated, and other hazardous wastes might be generated that would require proper treatment and/or disposal. Additional hazardous wastes could be generated if a spill of fuel, lubricants, or construction-related chemicals were to occur.

Operating the proposed action would be expected to create solid, but not hazardous wastes (to include solid and liquid wastes). Effects related to solid and hazardous wastes are discussed in Section 4 of this document.

- **Biological Resources** (flora and fauna including threatened, endangered, sensitive species; wetlands; floodplains)

Approximately five acres of undeveloped land would be disturbed by the proposed action. Effects related to biological resources are discussed in Section 4 of this document.

- **Water Quality** (surface water, groundwater, water quantity, wellhead protection zones)

Based on Hill AFB estimates, the land area to be disturbed would be approximately five acres in size. The proposed action would be subject to stormwater permit requirements both during the construction period and during operations.

Contamination of groundwater is known to exist approximately 350 feet north of the proposed action. Depth to groundwater is approximately 100 feet below the ground surface (bgs) in the vicinity of the proposed action. Since the proposed action would not require excavations deeper than four feet bgs, groundwater effects were not addressed in detail.

The scoping discussions did not identify any issues related to quantity of water or wellhead protection zones.

Effects related to water quality are discussed in Section 4 of this document.

Liquid waste streams created during construction and from operating the proposed action are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

1.7.3 Issues Eliminated From Further Study

The issues that were not carried forward for detailed consideration in Sections 3 and 4 are:

- **Geology and Surface Soils** (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination)

The scoping discussions did not identify any issues related to seismicity, topography, minerals, or geothermal resources.

Excavations would be necessary to install: footings; foundations; and buried utilities consisting of water, electricity, telephone/data, natural gas, sanitary sewer, and storm drains. Discussions related to preventing soil erosion (stormwater pollution prevention) are addressed under water quality effects (Section 4 of this document).

Contamination of shallow soil is not known to exist in the vicinity of the proposed action. Potential discovery of suspicious soils during excavation is addressed under solid and hazardous wastes (Section 4 of this document).

- **Cultural Resources** (archaeological, architectural, traditional cultural properties)

No significant cultural resources have been identified in the area of potential effect (APE) for the proposed action. Three previous inventories for archaeological resources were conducted on Hill AFB in 1991, 1995, and 2001, comprising 840 acres total. This has resulted in the survey of 12.5 percent of the total area of Hill AFB. Results from these projects included the recordation of one historic refuse dump and two prehistoric isolates, all determined ineligible for listing in the National Register of Historic Places (NRHP). None of the previous inventories included the APE of the proposed action. Given the lack of previous findings and the extensive development and disturbance of Hill AFB, the potential for historic properties is extremely low. However, if any are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and unanticipated discovery of archaeological deposits procedures will be implemented with direction from the Hill AFB Cultural Resources Program in accordance with Standard Operating Procedure 5 in the Hill AFB *Integrated Cultural Resources Management Plan* (Hill 2007a). The Utah State Historic Preservation Office (SHPO) concurred with a finding of no adverse effect after reviewing the proposed action (Appendix A). Hill AFB has determined formal consultation with American Indian Tribes is not warranted given the absence of resources that may be reasonably construed as being of interest to them.

- **Occupational Safety and Health** (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft)

Throughout the construction phase of the project, Hill AFB contractors would follow OSHA safety guidelines as presented in the CFR. Hazardous materials that could be used during construction are included in the discussions related to solid and hazardous wastes (Section 4 of this document).

Related to Hill AFB military personnel and civilian employees, the Bio-environmental Engineering Flight (75 AMDS/SGPB) is responsible for implementing AFOSH standards. The AFOSH program addresses (partial list): hazard abatement, hazard communication, training, personal protective equipment and other controls to ensure that occupational exposures to hazardous agents do not adversely affect health and safety, and acquisition of new systems.

The scoping discussions did not identify any issues related to occupational safety and health that would not be routinely addressed by OSHA rules and/or the Bio-engineering Flight.

- **AICUZ** (noise, accident potential, airfield encroachment)

The proposed action would be outside (less than) the 75 A-weighted decibel (dBA) noise level zone (documented in the current version of the Hill AFB AICUZ report).

The scoping discussions did not identify any issues related to aircraft accident potential or airfield encroachment.

- **Socioeconomic Resources** (local fiscal effects including employment, population projections, and schools)

Opportunities would exist for local construction workers if the proposed action is constructed. The proposed action is expected to create 100 to 150 additional permanent jobs at Hill AFB. The proposed action would provide facilities for children from six weeks old to the preschool level. The scoping discussions did not identify any other issues related to population projections or schools.

1.8 Applicable Permits, Licenses, and Other Coordination Requirements

Obtaining, modifying, and/or complying with the following permits would be required to implement the proposed action.

- The Hill AFB Title V Operating Permit (Permit Number: 1100007001, and subsequent versions).
- Industrial pretreatment permit number 110 issued by the North Davis Sewer District (NDSD), dated November 1, 2007, and subsequent versions.

- General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity permit number UTR000444, which expired December 2007 (but will be valid until a new permit is issued, the application for which has been submitted), and subsequent versions.
- Requirements specified in Utah's Storm Water General Permit for Construction Activities.
- The Hill AFB *Stormwater Management Plan - Municipal Stormwater Permit*, dated April, 2007, and subsequent versions.
- Utah Pollutant Discharge Elimination System (UPDES) General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), permit number UTR090028, which expired December 2007 (but will be valid until a new permit is issued, the application for which has been submitted), and subsequent versions.

The proponents would coordinate with the Hill AFB hazardous materials program manager (75 CEG/CEVC) to discuss hazardous materials brought on base to construct the proposed action.

2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1 Introduction

This section discusses the process used to develop the alternatives, describes the alternatives, and compares (in a brief summary fashion) the alternatives and their expected effects. Finally, this section states the Air Force's preferred alternative.

2.2 Process Used to Develop the Alternatives

As discussed in Sections 1.3 and 1.4 of this document, Hill AFB intends to provide a child development center. The proposed facility described in this document would comply with all relevant design standards and would have sufficient space to accommodate all child development program needs.

Hill AFB force support services managers investigated expanding the existing facilities (see Section 2.3.3.1), and other potential locations for siting the proposed child development center (see Section 2.3.3.2).

2.3 Description of Alternatives

2.3.1 Alternative A: No Action

Under the no action alternative, the child development center would not be constructed, and severe space limitations would continue to exist. Approximately 230 children would remain on the waiting list for developmental learning services, and this number would be expected to increase over time.

2.3.2 Alternative B: Proposed Action - Construct a Child Development Center

The proposed action is to construct a child development center near the southern boundary of Hill AFB (Figures 1 and 2). The proposed action would consist of:

- Constructing a single story 35,700 square foot steel frame structure with a concrete slab, masonry exterior walls, and a standing seam metal roof. Interior spaces would consist of classrooms, multi-purpose rooms, isolation rooms, storage rooms, a check-in desk, reception area, administrative offices, an employee lounge, a training room, bathrooms, and a full size kitchen. The kitchen would enable employees to prepare two hot meals and two snacks daily for children, employees, and at times, parents.
- Supplying approximately one acre of parking (150 spaces), a drive-through lane where children can be safely dropped off and picked up, and an area where delivery trucks can safely access the facility.
- Creating outdoor playground areas of approximately two acres for all age groups.

- Providing connections to existing buried utilities consisting of water, telephone/data, electricity, natural gas, sanitary sewer, and storm drains.
- Rerouting an existing natural gas line that currently crosses through the center of the proposed five-acre site.
- Preserving existing trees along the western boundary of the five-acre site.

2.3.3 Alternatives Eliminated From Detailed Study

2.3.3.1 Expansion

Expanding the existing facility was considered and eliminated by the Hill AFB planners and engineers. The existing child development center is surrounded by parking lots, streets, and several buried utility lines. There is no feasible area into which the existing facility could be expanded. If expansion were to occur into existing parking lots, there would be a severe negative impact to operation of the child development center and the nearby Hill AFB officer's club.

2.3.3.2 Other Locations

As discussed above in Section 1.3, there are no viable off-base options for providing similar services.

Hill AFB planners and engineers considered other potential locations for the child development center.

On the west side of the base, acreage exists in what is known as the 1200 area. However, available property in this area of the base will be occupied by a future 550-acre enhanced use lease (EUL) to private sector companies. Earlier in this document, justification was provided as to why the child development function should not be outsourced off base. After deducting the EUL acreage, existing explosive zones and anti-terrorism set back requirements prohibit constructing any additional habitable structures in the 1200 area.

On the east side of the runway and south of the existing Hill AFB golf course, a large area exists that was formerly occupied by on-base housing units. There are very few employees working in this area of the base. It is not located within or adjacent to any traffic routes that parents would use when dropping off, picking up, or visiting their children. It is reasonable that the child development center should be located within one mile of on-base housing and within the same distance of the on-base workplaces of most of the primary work force. The east side of the runway does not meet this criterion.

A site between Wardleigh Road and existing on-base housing units was considered. At this location, the required five-acre parcel encroached into an existing explosive zone, and constructing a habitable structure is prohibited. Additionally, site access from Wardleigh Road would have created unacceptable traffic hazards.

The three sites mentioned above were eliminated from detailed consideration. No other available locations were identified by Hill AFB planners or engineers.

2.4 Summary Comparison of Alternatives and Predicted Achievement of Project Objectives

2.4.1 Summary Comparison of Alternatives

The no action alternative would be to continue current operations using the existing child development center. Approximately 230 children would remain on the waiting list for developmental learning services, and this number would be expected to increase over time.

Under Alternative B (proposed action) a child development center would be constructed. Accomplishing this project would increase overall on-base capacity to 557 children, meeting current and anticipated future demand.

2.4.2 Summary Comparison of Predicted Achievement of Project Objectives

Description of the Project Objective	Alternative A (No Action)	Alternative B (Proposed Action)
Provide a high-quality and safe developmental learning environment for children between the ages of six weeks old and six years old	Yes	Yes
Have sufficient space to accommodate up to 305 additional children of military and civilian families	No	Yes
Be located on Hill AFB	Yes	Yes
Be located near traffic routes providing both convenient and safe access	Yes	Yes
Be located within one mile of on-base housing	Yes	Yes
Be located within one mile of the on-base workplaces of most of the primary work force	Yes	Yes
Be protective of facilities, human health, and the environment	Yes	Yes

Table 1: Summary Comparison of Predicted Achievement of Project Objectives

2.5 Identification of the Preferred Alternative

Hill AFB prefers Alternative B (the proposed action).

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Section 3 of this document discusses the existing conditions of the potentially affected environment, establishing a resource baseline against which the effects of the various alternatives can be evaluated. It presents relevant facilities and operations, environmental issues, pre-existing environmental factors, and existing cumulative effects due to human activities in the vicinity of the proposed action or the alternative locations.

Issues discussed during scoping meetings, but eliminated from detailed consideration (see Section 1.7.3) include:

- geology and surface soils (seismicity, topography, minerals, geothermal resources, land disturbance, known pre-existing contamination);
- cultural resources (archaeological, architectural, traditional cultural properties);
- occupational safety and health (physical and chemical hazards, radiation, explosives, bird and wildlife hazards to aircraft);
- AICUZ (noise, accident potential, airfield encroachment); and
- socioeconomic resources (local fiscal effects including employment, population projections, and schools).

3.2 Description of Relevant Facilities and Operations

The existing child development center is filled to capacity at its service level of 252 children. No other relevant facilities or operations were identified.

3.3 Description of Relevant Affected Issues

3.3.1 Air Quality

Hill AFB is located in Davis and Weber Counties, Utah. Neither county is in complete attainment status with federal clean air standards (Figures 3 and 4). Non-attainment areas fail to meet national ambient air quality standards (NAAQS) for one or more of the criteria pollutants: oxides of nitrogen (NO_x), sulfur dioxide (SO₂), ozone (O₃), particulates less than 10 microns in diameter (PM-10), particulates less than 2.5 microns in diameter (PM-2.5), carbon monoxide (CO), and lead. Davis County (the county in which the proposed action lies) is currently awaiting non-attainment designations for ozone and for PM-2.5. Due to the ozone designation, emission offsets are required for new sources emitting NO_x and volatile organic compounds (VOCs), which are precursors to ozone formation. Due to the PM-2.5 designation, Utah's Division of Air Quality (DAQ) must submit an implementation plan to the United States Environmental Protection Agency (EPA) for reducing concentrations of the five main types of

pollutants contributing to fine particle concentrations in the non-attainment areas (the pollutants are direct PM-2.5 emissions, SO₂, NO_x, ammonia, and VOCs).

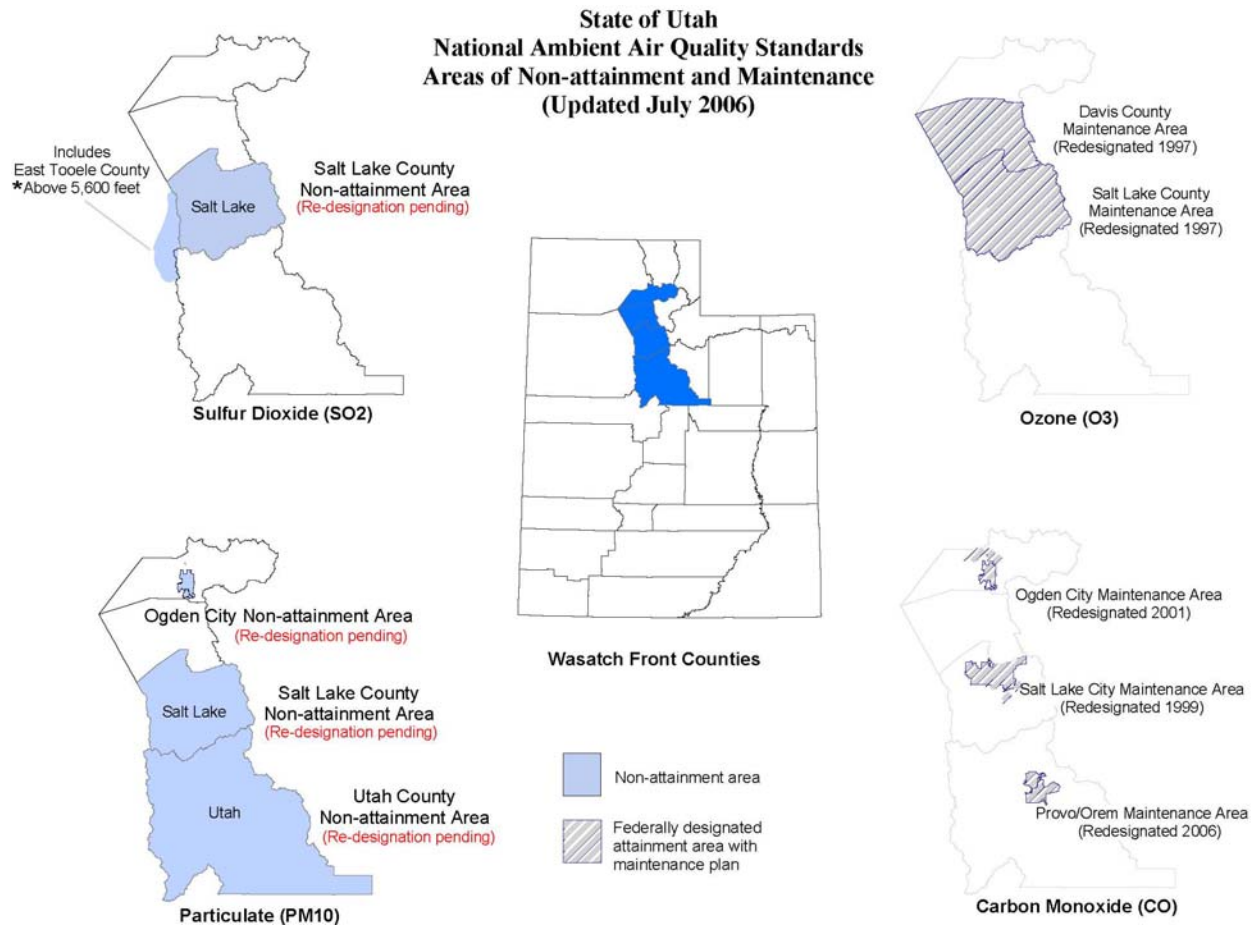


Figure 3: State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance

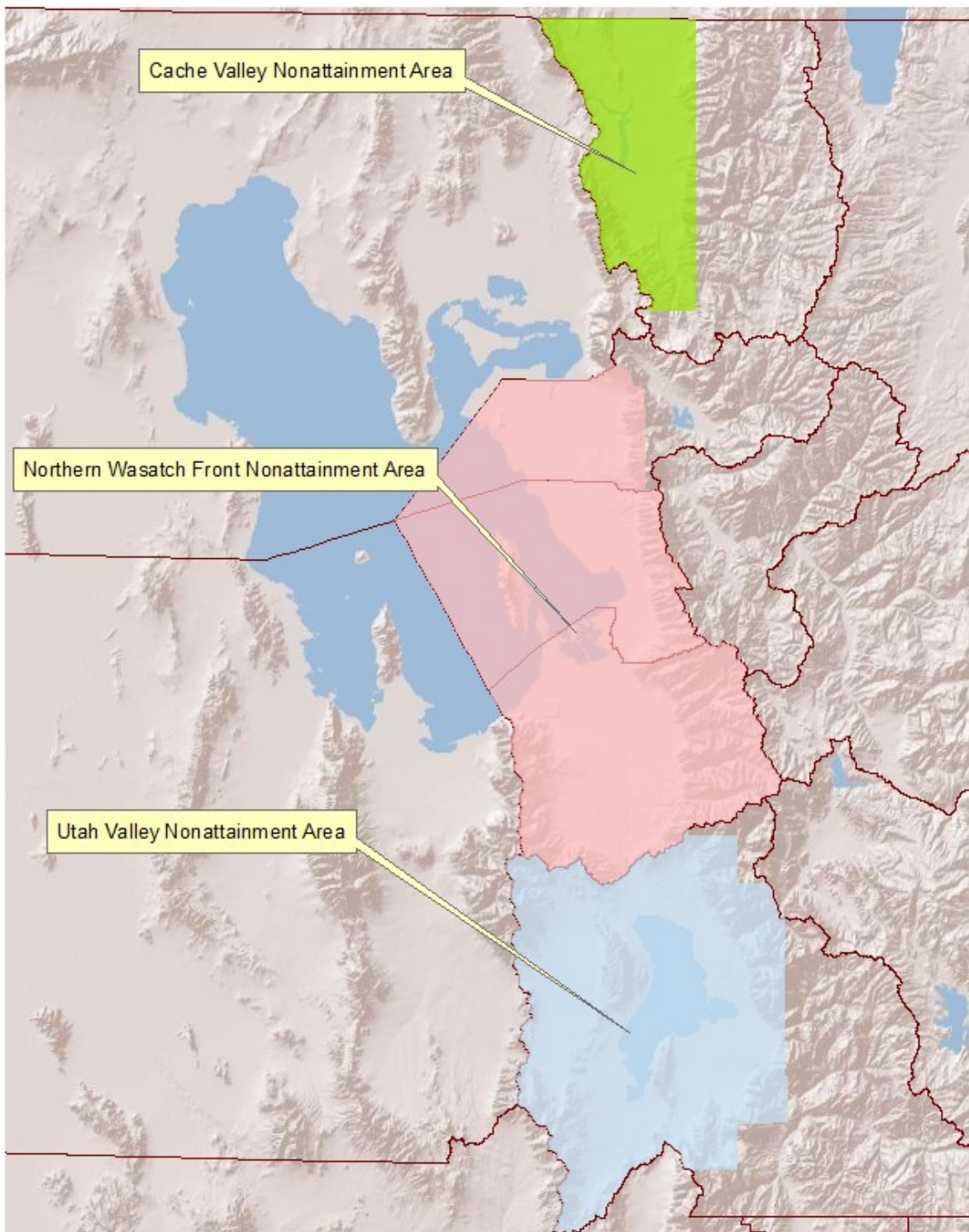


Figure 4: State of Utah Areas of Non-Attainment for PM-2.5

The current air quality trend at Hill AFB is one of controlling emissions as Hill AFB managers implement programs to eliminate ozone-depleting substances, limit use of VOCs, switch to lower vapor pressure solvents and aircraft fuel, convert internal combustion engines from gasoline and diesel to natural gas, and improve the capture of particulates during painting and abrasive blasting operations (in compliance with the base's Title V air quality permit).

Published emission estimates are available for criteria air pollutants and hazardous air pollutants (HAPs) for Hill AFB (Hill 2009), and criteria air pollutants for Davis and Weber Counties (DAQ 2009b). The estimates, shown below in Table 2 were based on data from calendar year 2007 for Hill AFB, and for calendar year 2005 for Davis and Weber Counties.

Location	VOC	CO	NO _x	PM-10	HAP	SO _x
Hill AFB	278	225	244	41	41	7
Davis County	16,958	63,439	10,720	3,641	not reported	3,480
Weber County	14,796	47,956	6,868	2,882	not reported	238

Table 2: Baseline Criteria Pollutants and HAPs (tons/year)

3.3.2 Solid and Hazardous Wastes

In general, hazardous wastes include substances that, because of their concentration, physical, chemical, or other characteristics, may present substantial danger to public health or welfare or to the environment when released into the environment or otherwise improperly managed.

Potentially hazardous and hazardous wastes generated at Hill AFB are managed as specified in the *Hill AFB Hazardous Waste Management Plan* with oversight by personnel from the Environmental Management Division and the Defense Reutilization and Marketing Office (DRMO). Hazardous wastes at Hill AFB are properly stored during characterization, and then manifested and transported off site for treatment and/or disposal.

Wastes created within the existing child development center are limited to uncontaminated office trash and domestic sewage. The child development center is connected to a sanitary sewer that flows to a sewage treatment plant operated by NDSD. A grease trap provides pretreatment for liquid effluent from the existing kitchen.

3.3.3 Biological Resources

No federal or state endangered or threatened species are known to occur on Hill AFB (Hill 2007b) and no likely habitat for any such species would be disturbed by the proposed action. Wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place automatically qualify for the Utah sensitive species list. The additional species on the Utah sensitive species list, "wildlife species of concern," are those species for which there is credible scientific evidence to substantiate a threat to continued population viability. Two species on Utah's species of concern (SOC) list have been sighted on Hill AFB, the Long Billed Curlew and the Bobolink. Those sightings were unusual for these

species and occurred during the fall migration. These species have not been observed in the vicinity of the proposed action. There are no wetlands or floodplains in the vicinity of the alternatives discussed in this document. The alternatives discussed in this document are located in or near developed areas on Hill AFB.

The habitat within this five-acre area is classified as semi-improved (Hill AFB habitat descriptions [Hill 2007b]). This habitat is characterized by open fields of grass and forbs that are periodically mowed. Periodic maintenance is performed primarily for reasons such as erosion and dust control, bird control, and visual clear zones. This land use classification can include areas adjacent to runways, taxiways, and aprons; runway clear zones; lateral safety zones; rifle and pistol ranges; weapons firing and bombing ranges; picnic areas; ammunition storage areas; antenna facilities; and golf course roughs.

Semi-improved areas are not irrigated, and the plant species that grow in these communities survive on natural precipitation. Typically, there is little to no over story and only a small number of wild trees exist. Mowing prevents new trees from establishing. The soil is coarse grained, with most moisture evaporating or percolating beneath the root zone. Plants growing in this habitat have adapted to sparse soil moisture and can withstand periods of drought as well as cold snowy conditions. The grassy areas provide food and cover for a limited number of wildlife species. Many of the grasses and forbs are invasive (Table 3). Insects living in this habitat provide food for a small diversity of birds.

Common name	Scientific name
Storksbill	<i>Erodium cicutarium</i>
Cheat Grass	<i>Bromus tectorum</i>
Russian Thistle	<i>Salsola kali</i>
Burr Buttercup	<i>Ranunculus testiculatus</i>

Table 3: Invasive Species Currently Present

When planted trees are present, the semi-improved areas are part of the urban forests of Hill AFB. Urban forests produced by man significantly out produce native species and provide foraging and nesting areas for birds and small mammals. Urban forests provide a cooling effect and aesthetic improvement. There are 33 trees consisting of seven species that exist along the western boundary of the proposed project area. These species are calculated to be worth \$35,749 in monetary value as determined by the Hill AFB natural resources program.

The natural resources program at Hill AFB has created models to measure components that indicate the health of the habitat at specific locations. The components that are measured include: the health of a range (range health index, or RHI), the ability of a habitat to support wildlife (wildlife community index, or WCI), and the encroachment of invasive species (floristic quality index, or FQI). Site surveys quantify the health of a range by producing calculated indices ranging from 0.01 to 1.00 with 1.00 being the optimal level at which a habitat can function. For the RHI scale, 0.80 and higher is considered pristine, and below 0.30 is considered highly degraded. The RHI for the five-acre site is 0.57, the WCI is 0.24, and the FQI is 0.55.

Several species of small mammals occupy the semi-improved habitats on Hill AFB. Various species of birds have been observed using the Hill AFB urban forest areas in the vicinity of the proposed action (see Table 4).

Common Name	Scientific Name
American Kestrel	<i>Falco sparverius</i>
American Robin	<i>Turdus migratorius</i>
Barn Swallow	<i>Hirundo rustica</i>
Black-billed Magpie	<i>Pica hudsonia</i>
Black-capped chickadee	<i>Poecile atricapilla</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Common Raven	<i>Corvus corax</i>
Dark-eyed Junco	<i>Junco hyemalis</i>
European Starling	<i>Sturnus vulgaris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Sparrow	<i>Passer domesticus</i>
Meadowlark	<i>Sturnella neglecta</i>
Morning Dove	<i>Zenaida macroura</i>
Northern Flicker	<i>Colaptes auratus</i>
Rock Pigeon	<i>Columba livia</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
various hummingbirds	

Table 4: Birds That Could Occupy Trees of Hill AFB Urban Forest

3.3.4 Water Quality

In areas of Hill AFB that are not heavily developed, runoff is allowed to infiltrate into the ground through overland flow or surface ditches, discharging to large unoccupied areas. In developed areas, stormwater is conveyed to 15 retention or detention ponds within Hill AFB boundaries. Stormwater from retention ponds percolates and evaporates, resulting in zero discharge. Detention ponds are checked for presence of an oil sheen prior to discharging stormwater by manually opening the outfall valves.

No surface water bodies are present within the area occupied by the exiting child development center or the area proposed for constructing the new child development center. Based on a review of the *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit* (Stantec 2007), storm drains convey surface runoff from this area of Hill AFB to Pond 3 (a detention pond).

3.4 Description of Relevant Pre-Existing Environmental Factors

The Wasatch Front Regional Council (WFRC 2003) assessed earthquake hazards for Davis County, Utah, including the portion of Hill AFB that includes the alternatives discussed in this document. The Davis County liquefaction potential map shows this area of Hill AFB to be in the

zone labeled as very low risk. The Davis County earthquake hazard map shows this area of Hill AFB to be outside of known fault zones. The Davis County landslide hazard map shows this area of Hill AFB to be outside of known landslide risk zones.

During scoping discussions and subsequent analysis, no other pre-existing environmental factors (e.g., hurricanes, tornados, floods, droughts) were identified for the proposed action.

3.5 Description of Areas Related to Cumulative Effects

For air quality, the area related to cumulative effects would include Hill AFB, Davis County, and Weber County.

For solid and hazardous wastes, the area related to cumulative effects would include Hill AFB.

For biological resources, the area related to cumulative effects would include Hill AFB.

For water quality, the area related to cumulative effects would include Hill AFB and waters downstream from the Hill AFB stormwater retention ponds.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This section discusses effects to the resources that were identified for detailed analysis in Section 1.7.2, and for which existing conditions were presented in Section 3.3. For each of these resources, the following analyses are presented:

- direct, indirect, and cumulative effects of the no action alternative; and
- direct, indirect, and cumulative effects of the proposed action (Alternative B).

4.2 Predicted Effects to Relevant Affected Resources of All Alternatives

4.2.1 Predicted Effects to Air Quality

4.2.1.1 Alternative A: No Action

The no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

4.2.1.2 Alternative B (Proposed Action): Construct a Child Development Center

Direct Effects Due to Construction

- **Fugitive Dust:** Fugitive emissions from construction activities would be controlled according to UAC Section R307-205, *Emission Standards: Fugitive Emissions and Fugitive Dust* and the Hill AFB *Fugitive Dust Plan*. Good housekeeping practices would be used to maintain construction opacity at less than 20 percent. Haul roads would be kept wet. Any soil that is deposited on nearby paved roads by construction vehicles would be removed from the roads and either returned to the site or placed in an appropriate on-base disposal facility.
- **Heavy Equipment:** The internal combustion engines of heavy equipment would generate emissions of VOCs, CO, NO_x, PM-10, PM-2.5, HAPs and oxides of sulfur (SO_x). Assumptions and estimated emissions for the construction period are listed in Table 5.

Data Assumptions							
Equipment Type	Diesel Emission Factor (lbs/hr)						
	VOC (HC)	CO	NOx	PM10	HAPs	SOx	
Asphalt Paver	0.28	1.24	2.96	0.24	0.05	0.25	
Bobcat Loader	0.14	0.67	1.00	0.10	0.01	0.08	
Cable Plow	0.59	3.75	4.49	0.59	0.08	0.38	
Compressor (boring)	0.25	1.62	1.94	0.25	0.04	0.16	
Concrete Truck	0.80	3.55	8.50	0.69	0.15	0.72	
Crane	2.14	6.96	17.08	2.39	0.33	1.54	
Dump Truck	0.63	2.04	6.98	0.58	0.16	0.65	
Flat Bed Truck	0.48	1.54	5.29	0.44	0.12	0.49	
Fork Lift	0.42	2.47	1.98	0.40	0.05	0.23	
Generator	0.02	0.10	0.12	0.02	0.00	0.01	
Loader/Backhoe	0.87	4.12	6.12	0.64	0.06	0.52	
Motored Grader	0.83	2.01	5.08	0.53	0.06	0.46	
Scraper	0.33	2.31	4.03	0.58	0.13	0.42	
Track Hoe	0.91	6.65	13.75	1.84	0.26	1.19	
Vibratory Compactor	0.38	1.44	4.31	0.36	0.09	0.46	
Water Truck	1.10	3.58	12.28	1.02	0.28	1.14	
Wheeled Dozer	0.46	1.48	5.08	0.35	0.08	0.49	
Note: VOCs = Hydrocarbons and HAPs = Aldehydes							
Source: Industry Horsepower Ratings and EPA 460/3-91-02							
Construct Child Development Center							
EQUIPMENT TYPE	HOURS OF OPERATION	Diesel Emissions (lbs)					
		VOC	CO	NOx	PM10	HAPs	SOx
Asphalt Paver	240	67.2	297.6	710.4	57.6	12.0	60.0
Bobcat Loader	120	16.8	80.4	120.0	12.0	1.2	9.6
Cable Plow	12	7.1	45.0	53.9	7.1	1.0	4.6
Compressor (boring)	8	2.0	13.0	15.5	2.0	0.3	1.3
Concrete Truck	32	25.6	113.6	272.0	22.1	4.8	23.0
Crane	120	256.8	835.2	2049.6	286.8	39.6	184.8
Dump Truck	8	5.0	16.3	55.8	4.6	1.3	5.2
Flat Bed Truck	8	3.8	12.3	42.3	3.5	1.0	3.9
Fork Lift	12	5.0	29.6	23.8	4.8	0.6	2.8
Generator	60	1.2	6.0	7.2	1.2	0.0	0.6
Loader/Backhoe	200	174.0	824.0	1224.0	128.0	12.0	104.0
Motored Grader	220	182.6	442.2	1117.6	116.6	13.2	101.2
Scraper	32	10.6	73.9	129.0	18.6	4.2	13.4
Track Hoe	260	236.6	1729.0	3575.0	478.4	67.6	309.4
Vibratory Compactor	12	4.6	17.3	51.7	4.3	1.1	5.5
Water Truck	8	8.8	28.6	98.2	8.2	2.2	9.1
Wheeled Dozer	8	3.7	11.8	40.6	2.8	0.6	3.9
TOTAL ESTIMATED EMISSIONS (lbs)		1011.4	4575.9	9586.7	1158.6	162.6	842.4
TOTAL ESTIMATED EMISSIONS (tons)		0.51	2.29	4.79	0.58	0.08	0.42

Source of Hours: Steve Weed, Hill AFB Engineering

Table 5: Calculated Heavy Equipment Emissions

Direct Effects Due to Operations

Based on information received during the scoping meeting held on January 14, 2009 and subsequent discussions with the proponent, the only air emissions due to operating the proposed action would be related to the natural gas fired furnace. Assumptions and estimated emissions for the operational period are listed in Table 6.

Data Assumptions						
Equipment Type	Natural Gas Emission Factor (pounds/MMSCF)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Furnace	5.5	40.0	94.0	7.6	0.01	0.6
Conversion Factors						
	Calculate Annual Fuel Consumption					
	Square Feet	BTU per hour per square foot	Heating hours per year	Million BTU per year	MMSCF per year	
	35,700	30	5,000	5,355	5.2	
	35,700	30	5,000	5,355	5.2	
	35,700	30	5,000	5,355	5.2	
	35,700	30	5,000	5,355	5.2	
	35,700	30	5,000	5,355	5.2	
	35,700	30	5,000	5,355	5.2	
Operate Child Development Center						
Equipment Type	Natural Gas Emissions (pounds)					
	VOC	CO	NOx	PM10	HAPs	SOx
Natural Gas Furnace	29	208	490	40	0.1	3
TOTAL ESTIMATED EMISSIONS (pounds/year)	29	208	490	40	0.1	3
TOTAL ESTIMATED EMISSIONS (tons/year)	0.01	0.10	0.24	0.02	0.00	0.00

Notes:

MMSCF = Million Standard Cubic Feet

BTU = British Thermal Unit

1 cubic foot natural gas = 1,028 BTU

Source: http://www.eia.doe.gov/kids/energyfacts/science/energy_calculator.html#natgascalc

Office Space (as opposed to warehouse space): 15-45 BTU per hour per square foot

There are approximately 5,000 heating hours in an average year

Source: Dale R. Scott, P.E., SAIN Engineering Associates, Inc., 75CES/CEEE, Hill AFB, UT

Assume 30 BTU per hour per square foot for new construction

Emission factors: EPA values for residential furnaces

For natural gas, SOx assumed equal to SO2

Table 6: Calculated Operational Emissions

If required, prior to operating the proposed action, Hill AFB air quality managers would submit notices of intent, seven day notifications, and modification requests to DAQ. Hill AFB would not be allowed to operate the facilities until DAQ concurs that federal and state requirements are being met. Hill AFB ensures conformity with the CAA by complying with EPA regulations, Utah's SIP, and USAF conformity guidance.

Indirect Effects

Since contaminated groundwater is not known to exist closer than 350 feet north of the proposed action and is approximately 100 feet bgs, vapor intrusion affecting indoor air quality would not be expected for the proposed action. During scoping and the detailed analysis, no other indirect effects related to air quality were identified for the proposed action.

Cumulative Effects

- **Construction:** Construction-related air emissions would be limited to a duration of several months. Comparing the magnitude of predicted construction-related air emissions (Table 5) to existing emissions for Hill AFB, Davis and Weber Counties (Table 2), there would not be significant cumulative effects to air quality associated with constructing the proposed action.
- **Operations:** Hill AFB air quality managers would ensure that long-term operation of the proposed action complies with the Hill AFB Title V Permit, any relevant approval orders, EPA regulations, and the Utah SIP. Any required air quality control devices would be installed and tested prior to allowing newly installed equipment to begin operating. Comparing the magnitude of predicted operational air emissions (Table 6) to existing emissions in Hill AFB, Davis and Weber Counties (Table 2), no significant cumulative effects to air quality were identified for operating the proposed action.

4.2.2 Predicted Effects to Solid and Hazardous Waste

4.2.2.1 Alternative A: No Action

With respect to solid and hazardous waste, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

4.2.2.2 Alternative B (Proposed Action): Construct a Child Development Center

Direct Effects Due to Construction

- **Waste Generation:** During the proposed construction activities, solid wastes expected to be generated would be construction debris consisting mainly of concrete, metal, and building materials. These items would be treated as uncontaminated trash and recycled when feasible. It is possible that equipment failure or a spill of fuel, lubricants, or construction-related chemicals could generate solid or hazardous wastes. In the event of a spill of regulated materials, Hill AFB environmental managers and their contractors would comply with all federal, state, and local spill reporting and cleanup requirements.
- **Waste Management:** Hill AFB personnel have specified procedures for handling construction-related solid and hazardous wastes in their engineering construction specifications. The procedures are stated in Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection. All solid non-hazardous waste is collected and disposed or recycled on a routine basis. Samples from suspect wastes are analyzed for hazardous vs. non-hazardous determination. The suspect waste is safely stored while analytical results are pending. Hazardous wastes are stored at sites operated in accordance with the requirements of 40 CFR 265. The regulations require the generator to characterize hazardous wastes with analyses or process knowledge. Hazardous wastes are eventually labeled, transported, treated, and disposed in accordance with federal and state regulations.

- **Excavated Soils:** There is no known soil contamination at the location of the proposed action. However, excavations near areas of industrial activity on Hill AFB could potentially encounter contaminated soil. If unusual odors or soil discoloration were to be observed during any excavation or trenching necessary to complete the proposed action, the soil would be stored on plastic sheeting and the remedial manager from the Hill AFB Environmental Restoration Branch (75 CEG/CEVR) would be notified (Ms. Shannon Smith at 801-775-6913). Any excess clean soil would either be used as fill for another on-base project or placed in the on-base landfill. Any soil determined to be hazardous would be eventually labeled, transported, treated, and disposed in accordance with federal and state regulations. No soil would be taken off base without prior 75 CEG/CEVR written approval.

Direct Effects Due to Operations

Based on information received during the scoping meeting held on January 14, 2009, two issues related to solid and hazardous waste were identified for operating the proposed action.

- **Non-Regulated Solid Waste:** Uncontaminated office trash would be generated. Unless recycled, these non-regulated items would be disposed as uncontaminated trash. Recycling opportunities are likely to exist for aluminum, paper, and plastic items.
- **Regulated Liquid Waste:** Domestic sewage would flow to a sewage treatment plant operated by NDSD. A grease trap would provide pretreatment for liquid effluent from the facility kitchen.

Indirect Effects

During scoping and the detailed analysis, no indirect effects related to solid and hazardous waste were identified for the proposed action.

Cumulative Effects

Proper handling of solid and hazardous waste eliminates releases of contaminants to the environment or reduces such releases in conformity with legal limits. There would be no significant cumulative solid or hazardous waste effects associated with the proposed action.

4.2.3 Predicted Effects to Biological Resources

4.2.3.1 Alternative A: No Action

With respect to biological resources, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects. The five-acre site would remain in its current, somewhat degraded, condition. Existing human activities, such as periodic mowing, would continue in the area.

4.2.3.2 Alternative B (Proposed Action): Construct a Child Development Center

Direct Effects Due to Construction

- **Construction:** Grading and covering the site with structures, pavements, and irrigated turf would reduce available forage for birds and displace rodents. Eliminating these grasses and forbs would not be a significant effect due to the small size of the proposed project and the low quality of existing forage (WCI of 0.24). Recent site observations confirmed the presence of invasive species listed in Table 3. Without mitigation, construction activities would increase the chance of introducing additional invasive species. This analysis assumes all existing trees on the western boundary of the proposed action would be preserved. Any deviation from this assumption would require compliance with the Hill AFB tree removal and replacement plan.
- **Mitigation:** If construction should occur during nesting season (usually April through August), a bird survey would be conducted, and an appropriate certificate of registration would be obtained to permit the taking of any protected species nesting in the trees along the western boundary of the proposed project area. Mitigation for loss of habitat would be accomplished by providing a functional lift to the habitat. This would be accomplished by restoration planting (of any areas not occupied by structures, pavements, or irrigated turf) that would include fire resistant plants, native grasses, and native shrubs as outlined in the Hill AFB *Integrated Natural Resources Management Plan* (Hill 2007b).

Direct Effects Due to Operations

Operating the proposed action would discourage nesting and foraging activities by birds. In addition, operations would discourage small mammals from establishing residency at the site.

Indirect Effects

Indirect effects of displaced mammals would result in increase of mammals occupying less semi-improved habitat on Hill AFB. Loss of foraging area would result in birds moving to other semi-improved habitat areas for food.

During scoping and the detailed analysis, no other indirect effects related to biological resources were identified for the proposed action.

Cumulative Effects

Past actions at this site include removal of native sagebrush by consistent mechanical mowing of the vegetation. The habitat has been changed from a native shrub dominated community to a degraded grass and forb plant community. Constructing the proposed action would reduce available forage for birds and displace rodents. Long-term existence of the proposed facilities would prevent succession of this area to a native state. However, due to the small size of the proposed project and already degraded biological indices, no significant cumulative effects to biological resources were identified for the proposed action.

4.2.4 Predicted Effects to Water Quality

4.2.4.1 Alternative A: No Action

With respect to water quality, the no action alternative would have no direct effects, no indirect effects, and no cumulative effects.

4.2.4.2 Alternative B (Proposed Action): Construct a Child Development Center

Direct Effects Due to Construction

Based on information provided by Hill AFB engineers, the land area to be disturbed would be approximately five acres in size. The proposed action would therefore be covered under Utah's general construction permit rule for stormwater compliance. Prior to initiating any construction activities, this permit must be obtained and erosion and sediment controls must be installed according to a stormwater pollution prevention plan (SWPPP). The SWPPP would specify measures to prevent soil from leaving the construction site on the wheels of construction vehicles, thereby controlling the addition of sediments to the storm drain system. The proponents would coordinate with the Hill AFB water quality manager (75CEV/CEGOC) prior to submitting an application for a Utah construction stormwater permit.

The SWPPP and Hill AFB construction specifications would require the contractor to restore the land to a non-erosive condition. All areas disturbed by excavation would be backfilled, and then either be covered by pavements, gravel, or re-planted, re-seeded, or sodded to prevent soil erosion.

Since the proposed action would convert nearly three acres currently occupied by open land to impermeable surfaces, increased stormwater runoff volume would be expected unless runoff controls were to be created during construction of the facility. EISA Section 438 specifies storm water runoff requirements for federal development projects. The sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet must use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. Compliance with this requirement (by designing and constructing detention and/or retention structures) would eliminate downstream effects due to creating impermeable surfaces.

Direct Effects Due to Operations

The proposed facility would be subject to Utah's general multi-sector permit rule for stormwater compliance. The *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit* establishes good housekeeping measures and other best management practices to prevent contamination of runoff. Pond 3 serves as a detention pond for this area of the base, and this pond is checked for an oil sheen prior to stormwater being discharged by manually opening the outfall valve.

Indirect Effects

During scoping and the detailed analysis, no indirect effects related to water quality were identified for the proposed action.

Cumulative Effects

On-base and off-base water quality would be protected during and after construction activities. Hill AFB water quality managers monitor the capacity of the retention and detention ponds relative to projected inflows from the 24-hour, 100-year storm event. Pond 3 would be dredged and/or expanded to provide additional capacity if necessary, or additional stormwater facilities would be constructed. There are no significant cumulative water quality effects associated with the proposed action.

4.3 Summary Comparison of Predicted Environmental Effects

Issue	Alternative A No Action	Alternative B Proposed Action
Air Quality	No effects	Construction equipment would create temporary emissions. Fugitive dust emissions would be mitigated. Air emissions from the natural gas fired furnace would be less than 0.3 tons per year for each criteria pollutant and for HAPs.
Solid and Hazardous Waste	No effects	If contaminated soils are identified, they would be properly handled during the construction process. Operational activities would generate uncontaminated trash and domestic sewage. Solid and liquid wastes containing regulated substances would all be properly contained, stored, transported, disposed, re-used, and/or recycled. Wastewater would be treated by NDSD.
Biological Resources	No effects	Site habitat has been previously degraded by human activities. The proposed action would reduce available forage for birds and displace rodents. Without mitigation, construction activities would increase the chance of introducing additional invasive species. No trees would be removed. If any protected nesting birds should exist adjacent to construction activities, a certificate of registration would have to be obtained. Restoration planting (of any areas not occupied by structures, pavements, or irrigated turf) would include fire resistant plants, native grasses, and native shrubs.
Water Quality	No effects	During construction and operations, water quality would be protected by implementing stormwater management practices. Predevelopment hydrologic characteristics would be preserved.

Table 7: Summary Comparison of Predicted Environmental Effects

5.0 LIST OF PREPARERS

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6.0 LIST OF PERSONS AND AGENCIES CONSULTED

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Select Engineering Services

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SAIN Engineering Associates, Inc.

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Dale Scott, P.E., Energy Consultant, (801) 777-3560

7.0 REFERENCES

CFR: *Code of Federal Regulations*, US Government Printing Office, Office of the Federal Register (various sections and dates).

DAQ 2007: *“Utah’s Area Designation Recommendation for the 2006 PM_{2.5} NAAQS”*, Utah Division of Air Quality, December, 2007.

DAQ 2009a: *State of Utah National Ambient Air Quality Standards, Areas of Non-Attainment and Maintenance (Updated July 2006)*, Utah Division of Air Quality Website, February, 2009.

DAQ 2009b: *Division of Air Quality Annual Report for 2008*, Utah Division of Air Quality, January, 2009.

Economic 2008: *Utah Labor Force: (Section 5 of the Utah Business & Economic Profile)*, Economic Development Corporation of Utah, January 31, 2008.

EPA 1991: *Nonroad Engine and Vehicle Emission Study - Report*, Table 2-07a, US Environmental Protection Agency, 1991.

EPA 1998: *National Air Pollutant Emission Trends, Procedures Document for 1900-1996*, US Environmental Protection Agency, Page 4-285, 1996.

Hill AFB: *Construction Specifications, Section 01000, General Requirements, Part 1, General, Section 1.24, Environmental Protection*, Hill AFB, UT, current version.

Hill 2007a: *Integrated Cultural Resources Management Plan*, Hill AFB, 2007.

Hill 2007b: *Integrated Natural Resources Management Plan*, Hill AFB, 2007.

Hill 2009: *2007 Annual Criteria and Toxic Pollutant Emission Inventory*, Hill AFB, provided by CH2M HILL, February, 2009.

Stantec 2007: *Hill AFB Stormwater Management Plan - Municipal Stormwater Permit*, Stantec Consulting, April, 2007.

WFRC 2003: *Natural Hazard Pre-Disaster Mitigation Plan, Utah’s Wasatch Front*, Wasatch Front Regional Council, December 2003.

APPENDIX A

CULTURAL RESOURCES FINDING OF NO ADVERSE EFFECT



State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Community and Culture

PALMER DePAULIS
Executive Director

State History

PHILIP F. NOTARIANNI
Division Director

February 19, 2009

Ms Jaynie Hirschi
Archaeologist
75th CEG/CEVOR
7274 Wardleigh Road
Hill Air Force Base UT 84056-5137

RE: Child Development Center and Maintenance Facility, Hill Air Force Base, Davis County, Utah

In Reply Please Refer to Case No. 09-0257

Dear Ms Hirschi:

The Utah State Historic Preservation Office received your request for our comment on the above-referenced project on February 17, 2009.

We concur with your determinations of No Historic Properties Affected.

This letter serves as our comment on the determinations you have made, within the consultation process specified in §36CFR800.4. If you have questions, please contact me at 801-533-3555 or Lhunsaker@utah.gov or Jim Dykman at 801-533-3523 or Jdykman@utah.gov

Sincerely,

Lori Hunsaker
Deputy State Historic Preservation Officer - Archaeology

UTAH STATE
HISTORY

UTAH STATE HISTORICAL SOCIETY
ANTIQUITIES
HISTORIC PRESERVATION
RESEARCH CENTER & COLLECTIONS

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DEPARTMENT OF THE AIR FORCE
75TH CIVIL ENGINEER GROUP (AFMC)
HILL AIR FORCE BASE UTAH

9 February 2009

Dr. W. Robert James
Chief, Environmental Management Division
75 CEG/CEV
7274 Wardleigh Road
Hill Air Force Base, Utah 84056-5137

Ms. Lori Hunsaker
State Historic Preservation Officer
300 Rio Grande
Salt Lake City, Utah 84101

Dear Ms. Hunsaker

Hill Air Force Base (AFB) is currently proposing to build a Child Development Center (CDC) and a new maintenance facility, both located in Davis County, Utah. The combined Area of Potential Effect (APE) is 15.4 acres of property (Attachment 1, Area of Potential Effect for the Proposed Child Development Center, Hill Air Force Base, Utah and Attachment 2, Area of Potential Effect for the Proposed Maintenance Facility, Hill Air Force Base, Utah). The purpose of the CDC is to provide a high-quality and safe developmental learning environment for children located on Hill AFB. The existing facility is filled to capacity and the new CDC would allow Hill AFB to increase overall capacity and meet current and anticipated future demand. The intent of the maintenance facility is to replace the existing outdated and undersized facility, accommodate current and projected workloads, increase readiness and reduce work flow time by consolidating operations in a single facility, closer to existing storage facilities.

Within Hill AFB, three previous inventories have comprised cultural resources survey of 840 acres (U-91-WC-687m, U-95-WC-280p, and U-01-HL-0164m). Results from these projects include the recordation of one historic refuse dump (42Dv51) and two prehistoric isolates, all determined ineligible for listing in the NRHP. Inventory efforts have resulted in the survey of 12.5 percent of the total area of Hill AFB. None of the previous inventories fall within the APE of the current proposed project.

Building development and associated infrastructure will encompass the entire APE of the current project. Given the lack of previous findings and the extensive development and disturbance of Hill AFB, the potential for archaeological historic properties is extremely low. However, if any archaeological resources are found during construction, ground-disturbing activities in the immediate vicinity will cease, the Hill AFB Cultural Resources Program will be notified, and the unanticipated discovery of archaeological deposits procedures shall be

implemented with direction from the Hill AFB Cultural Resources Program and in accordance with the Hill AFB Integrated Cultural Resources Management Plan (Attachment 3, Unanticipated Discovery of Archaeological Deposits).

Therefore, Hill AFB has determined the proposed project will have no effect to historic properties [36 CFR §800.4(d)(1)]. I request your concurrence in these determinations as specified in 36 CFR §800.

An Environmental Assessment has been prepared for the proposed CDC and maintenance facility. If you would like a copy of this document to review, or should you or your staff have any questions about the project, please contact our archaeologist, Ms. Jaynie Hirschi, 75 CEG/CEVOR, at (801) 775-6920 or at jaynie.hirschi@hill.af.mil.

Sincerely

A handwritten signature in dark ink, appearing to read 'W. Robert James', is positioned above the typed name.

W. ROBERT JAMES, Ph.D., P.E.
Chief, Environmental Management Division
75th Civil Engineer Group

Attachments:

1. Area of Potential Effect for the Proposed Child Development Center, Hill Air Force Base, Utah
2. Area of Potential Effect for the Proposed Maintenance Facility, Hill Air Force Base, Utah
3. Unanticipated Discovery of Archaeological Deposits

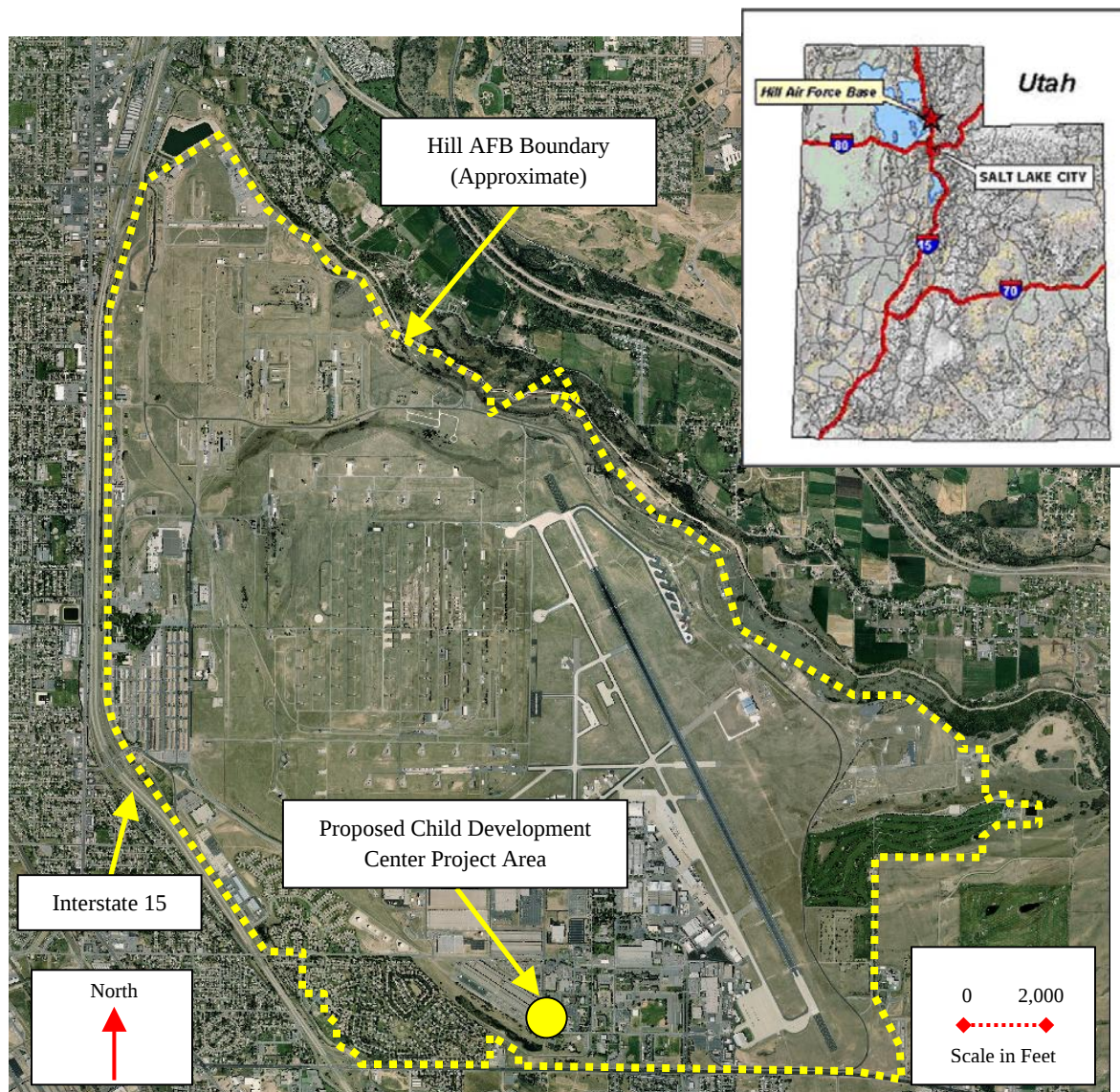


Figure 1: Location of the Proposed Action on Hill AFB

Standard Operating Procedure

UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL DEPOSITS

APPLICABLE LAWS AND REGULATIONS

- ◆ National Historic Preservation Act
- ◆ National Environmental Policy Act
- ◆ Native American Graves Protection and Repatriation Act
- ◆ AFI 32-7065 (June 2004), *Cultural Resources Management Program*

OVERVIEW

All undertakings that disturb the ground surface have the potential to discover buried and previously unknown archaeological deposits. The accidental discoveries of archaeological deposits during an undertaking can include but are not limited to:

- ◆ Undiscovered/undocumented structural and engineering features; and
- ◆ Undiscovered/undocumented archaeological resources such as foundation remains, burials, artifacts, or other evidence of human occupation.

POLICY

When cultural resources are discovered during the construction of any undertaking or ground-disturbing activities, Hill AFB shall:

- ◆ Evaluate such deposits for NRHP eligibility.
- ◆ Treat the site as potentially eligible and avoid the site insofar as possible until an NRHP eligibility determination is made.
- ◆ Make reasonable efforts to minimize harm to the property until the Section 106 process is completed.
- ◆ **The BHPO will ensure that the provisions of NAGPRA are implemented first if any unanticipated discovery includes human remains, funerary objects, or American Indian sacred objects (see SOP #6).**

PROCEDURE

Step 1: Work shall cease in the area of the discovery (Figure 5-5). Work may continue in other areas.

- ◆ The property is to be treated as eligible and avoided until an eligibility determination is made. Hill AFB will continue to make reasonable efforts to avoid or minimize harm to

Further construction activities in the vicinity of the site will be suspended until an agreed-upon testing strategy has been carried out and sufficient data have been gathered to allow a determination of eligibility. The size of the area in which work should be stopped shall be determined in consultation with the **BHPO**.

the property until the Section 106 process is completed.

Step 2: Immediately following the discovery, the **Project Manager** shall notify the installation **BHPO**.

Step 3: The **BHPO** or a professional archaeologist shall make a field evaluation of the context of the deposit and its probable age and significance, record the findings in writing, and document with appropriate photographs and drawings.

- ◆ If disturbance of the deposits is minimal and the excavation can be relocated to avoid the site, the **BHPO** will file appropriate site forms in a routine manner.
- ◆ If the excavation cannot be relocated, the **BHPO** shall notify the office of the **SHPO** to report the discovery and to initiate an expedited consultation.

The Section 106 review process is initiated at this point.

- ◆ If the deposits are determined to be ineligible for inclusion in the NRHP, then Hill AFB **BHPO** will prepare a memorandum for record and the construction may proceed.
- ◆ If the existing information is inadequate for an NRHP eligibility determination, Hill AFB **BHPO** shall develop an emergency testing plan in coordination with the SHPO.

Step 4: Hill AFB shall have qualified personnel conduct test excavations of the deposits to determine NRHP eligibility.

- ◆ Hill AFB BHPO, in consultation with the SHPO, will determine appropriate methodology for NRHP eligibility determination.
- ◆ If the SHPO and Hill AFB agree that the deposits are ineligible for inclusion in the NRHP, then work on the undertaking may proceed.
- ◆ If the deposits appear to be eligible, or Hill AFB and the SHPO cannot agree on the question of eligibility, then Hill AFB shall implement alternative actions, depending on the urgency of the proposed action.
 - Hill AFB may relocate the project to avoid the adverse effect.
 - Hill AFB may request the Keeper of the National Register to provide a determination.
 - Hill AFB may proceed with a data recovery plan under a MOA developed in coordination with the SHPO and possibly the ACHP and interested parties.
 - **Hill AFB may request comments from the ACHP and may develop and implement actions that take into account the effects of the undertaking on the property to the extent feasible and the comments of the SHPO, ACHP, and interested parties. Interim comments must be provided to Hill AFB within 48 hours; final comments must be provided within 30 days.**

