PROPOSED FINAL
ENVIRONMENTAL ASSESSMENT

HUBBARD MEMORIAL GOLF COURSE

HILL AIR FORCE BASE, UTAH

OCTOBER 28, 2002

Prepared for:

HILL AIR FORCE BASE
ENVIRONMENTAL MANAGEMENT DIRECTORATE OO ALC/EMR
7274 WARDLEIGH ROAD, BLDG 5
HAFB, UT 84056

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Prepared by:

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CONTRACT F42650-98-D-0069
DELIVERY ORDER 5019
STANTEC PROJECT NO. 86000306
OCTOBER 28, 2002

FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED IMPROVEMENTS OF THE
HUBBARD MEMORIAL GOLF COURSE

1.0 NAME OF PROPOSED ACTION

Improvements of Hubbard Memorial Golf Course at Hill Air Force Base (Hill AFB), Utah.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Hill AFB proposes to improve the Hubbard Memorial Golf Course at Hill AFB, Utah. The Proposed Action includes construction of a new driving range and a new 9-hole golf course, replacement of entire irrigation system, removal of Building 711, and construction of a new maintenance building.

In addition to the proposed action, the No-Action Alternative and other available Alternatives were analyzed. Under the no-action alternative, none of the proposed golf course improvements would be made. Other available Alternatives include constructing the new driving range without the additional 9-hole golf course, constructing the additional 9-hole golf course without the new driving range, and maintenance of current irrigation system on an as-needed basis.

3.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

SURFACE WATER

Proposed Action: Construction activities associated with the proposed action would disturb existing ground cover thereby causing soil erosion and sedimentation in the storm water drainage system. The proposed construction will need a Utah Pollution Discharge Elimination Program (UPDES) construction permit and a storm water pollution prevention plan to minimize these effects. Temporary and short-term impact to surface water is expected.

Alternatives: Similarly, construction activities involved in the alternatives would disturb existing ground cover and would need a UPDES permit and a storm water pollution prevention plan.

No-Action Alternative: The proposed construction would not occur and there would be no impacts to surface water.

GROUND WATER

Proposed Action: Construction activities associated with shallow excavation and golf course operation would not alter groundwater conditions in the area.

Alternatives: Similarly, groundwater would not be altered by the alternatives.

No-Action Alternative: The proposed construction would not occur and there would be no impacts to groundwater.

GEOLOGICAL RESOURCES

Proposed Action: Construction activities would cause minor disturbances to surface soils in the vicinity of the project area. However, the construction is not expected to have an impact on the geology of the proposed area. Land restoration and re-vegetation of disturbed areas will be performed according to standard construction practices and Hill AFB specifications.

Alternatives: Similarly, construction activities involved in the alternatives would disturb existing ground cover. The disturbances are expected to be minor and temporary. These construction activities are not expected to have an impact on the geology of the proposed area.

No-Action Alternative: The proposed construction would not occur and there would be no impacts to geological resources.

BIOLOGICAL RESOURCES

Proposed Action: No adverse impacts on the local vegetation, wetlands and wildlife. A red-tailed hawk nest is located near the Hill AFB runway and within the area of the proposed action. However, it is not anticipated that the hawk nest will be disturbed or moved.

Alternatives: Similarly, construction activities involved in the alternatives have no adverse impact on the local vegetation, wetlands and wildlife.

No-Action Alternative: The proposed construction would not occur and there would be no impacts to biological resources.

AIR QUALITY

Proposed Action: The construction activities associated with the proposed action would have temporary impacts to air quality. There are no long-term impacts of air quality

under the proposed action. Hill AFB requires dust control measures for construction sites in the base. Construction emissions are not expected to exceed the minimum levels for VOCs and NOx outlined in the Conformity Rule. Asbestos survey and abatement plan are required prior to demolition of Building 711.

Alternatives: Similarly, there are no long-term impacts of air quality from the alternatives. Emissions from construction activities involved in the alternatives are not expected to exceed de minimus levels. Asbestos survey and abatement plan are required prior to demolition of Building 711.

No-Action Alternative: The proposed construction would not occur and there would be no impacts to air quality.

CULTURAL RESOURCES

Proposed Action: Impacts to cultural resources are not expected under the proposed action. No historic properties have been identified in the area. Any archaeological remains discovered during construction would be handled according to the Federal regulations.

Alternatives: Similarly, the alternatives have no adverse impact on cultural resources.

No-Action Alternative: There would be no changes to cultural resources.

NOISE

Proposed Action: Hill AFB is an active military facility that generates noise from aircraft operations and vehicle traffic. During construction, the proposed action would result in temporary minor increases of noise levels in the vicinity of the project area. Noise environment would be similar to typical construction activities, such as use of equipment for site preparation and construction. Impacts from construction-related noise are expected to be short-term, negligible, and confined to the Base.

Alternatives: Similarly, impacts from construction-related noise involved in the alternatives are expected to be short-term negligible and confined to the Base.

No-Action Alternative: There would be no impacts to noise environment.

LAND USE

Proposed Action: Adverse impacts on land use at Hill AFB are not anticipated from the proposed action. The proposed construction is consistent with the Hill AFB General Plan and there are no change in land management and ownership.

Alternatives: Similarly, adverse impacts on land use involved in the alternatives are not expected.

No-Action Alternative: There would be no change to land use.

HAZARDOUS MATERIALS AND WASTE

Proposed Action: Potential impacts on hazardous materials and waste include contaminated soils in the vicinity of Operable Unit (OU) 11 that is currently under investigation. Contaminated soils would be disposed of in accordance with CERCLA standards and Hill AFB requirements. Impacts to hazardous materials and waste management at Hill AFB are not expected.

Alternatives: Similarly, potential impacts on hazardous materials and waste management in the alternatives are not expected.

No-Action Alternative: There would be no change to hazardous materials and waste.

SAFETY AND HEALTH

Proposed Action: There would be a slight increased risk of injury to workers. Construction activities would be conducted in accordance with OSHA requirements, Air Force safety regulations, Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health requirements. Therefore, impacts to safety and health would be temporary and minimal.

Alternatives: Similarly, impacts to safety and health would be temporary and minimal.

No-Action Alternative: There would be no impacts to safety and health.

SOCIOECONOMIC IMPACT

Proposed Action: The new golf course would create new employment opportunities. Positive socioeconomic impacts are anticipated under the proposed action.

Alternatives: Similarly, impacts to socioeconomic would be positive.

No-Action Alternative: There would be no socioeconomic impact.

4.0 CONCLUSIONS

Based on the results of this Environmental Assessment, no significant adverse impacts are expected from the proposed Hubbard Golf Course improvements. Therefore, in accordance with Air Force Instruction 32-7061, a Finding of No Significant Impact (FONSI) may be issued. Preparation of an Environmental Impact Statement (EIS) is not necessary.

HILL AIR FORCE BASE, UTAH

_____ _____

AUTHORIZED SIGNATURE DATE

PROPOSED FINAL
ENVIRONMENTAL ASSESSMENT

HUBBARD MEMORIAL GOLF COURSE IMPROVEMENTS
HILL AIR FORCE BASE, UTAH

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) describes the potential environmental consequences resulting from the proposed improvements of the Hubbard Memorial Golf Course at Hill Air Force Base (AFB), Utah.

PURPOSE AND NEED

The existing driving range is built and operated on leased property outside the base. A new driving range is needed to reduce leasing costs, to provide a longer driving area, and to increase capacity of the range. The purpose and need of the new course is to increase capacity of the existing golf course. In addition, it will provide an easier course for the development of junior and beginner golfers, and allow play during tournament play on the existing 18-hole course.

The existing irrigation system was built in 1961 and has reached the end of its service life. The entire system needs to be replaced to reduce water loses and associated maintenance costs.

The existing golf course maintenance buildings are significantly undersized for storage and maintenance purposes. A new facility is needed to provide adequate size and nature for all equipment and material storage and maintenance activities indoors.

PROPOSED ACTION AND ALTERNATIVES

The proposed action includes construction of a new driving range and a new 9-hole golf course, replacement of entire irrigation system, removal of Building 711, and construction of a new maintenance building.

Alternatives available for the golf course improvement projects are limited. They include the following:

- Construct the new driving range without the additional 9-hole golf course.
- Construct it and continue to use the existing leased driving range.
- Continue repair and replacement of current irrigation system on an as-needed basis.
- No improvement would occur (no-action alternative).

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

It is expected that there would be negligible and temporary impacts associated with implementation of the proposed action at Hill AFB. A summary of these impacts is contained in **Table S-1**.

Table S-1 Environmental Impact Summary

Resource	Proposed Action	Alternatives
Surface Water	Temporary minor impacts are expected. Construction will disturb more than 5 acres of land. A UPDES construction permit and a storm water pollution prevention plan are needed to minimize these effects.	Similar impacts as the Proposed Action are expected for construction activities involved in the alternatives. Under no-action alternative, no change to surface water.
Groundwater	No impacts to groundwater are expected.	No impacts to groundwater are expected.
Geological Resources	Temporary minor impacts are expected due to site grading	Temporary minor impacts are expected. Under no-action alternative, no change to geology resources.
Biological Resources	No adverse impacts are expected.	No adverse impacts are expected. Under no-action alternative, no impacts to biological resources.
Air Quality	Emissions are temporary and are not expected to exceed the minimum Conformity levels. Fugitive dust control measures are required. Asbestos survey and abatement plan are required prior to demolition of Bldg. 711	Similar impacts as the Proposed Action are expected for construction and demolition activities involved in the alternatives. Under no-action alternative, no impacts to air quality.
Cultural Resources	No impacts to cultural resources are expected.	No impacts to cultural resources are expected.
Noise	Short-term negligible noise impacts during construction are expected.	Short-term negligible noise impacts during construction are expected. Under no-action alternative, there is no noise change.
Land Use	No adverse impacts are expected.	No adverse impacts are expected. Under no-action alternative, there is no land use change.
Hazardous Materials and Waste	No adverse impacts are expected.	No adverse impacts are expected. Under no-action alternative, no change to hazardous materials and waste.
Safety and Health	Temporary and negligible impacts due to construction activities.	Temporary and negligible impacts due to construction activities. Under no-action alternative, no impacts to safety and health.
Socioeconomic Impact	Positive impacts are expected.	Positive impacts are expected. Under no-action alternative, no impacts to socioeconomic in the area.

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

Hill Air Force Base (AFB) is an Air Force Materiel Command base located in Northern Utah approximately 25 miles north of Salt Lake City and approximately 5 miles south of Ogden (refer to **Figure 1**). Hill AFB was established by congressional order in 1935. The current mission of Hill AFB is to provide depot repair, modification, and maintenance support to major aircraft and weapon systems. This Environmental Assessment (EA) has been prepared to analyze the potential environmental consequences associated with the Hubbard Memorial Golf Course Improvement Projects, in accordance with the requirements of the National Environmental Policy Quality (NEPA), 42 U.S.C. 4321 et seq. and Air Force Instruction (AFI) 32-7061.

1.2 PURPOSE AND NEED

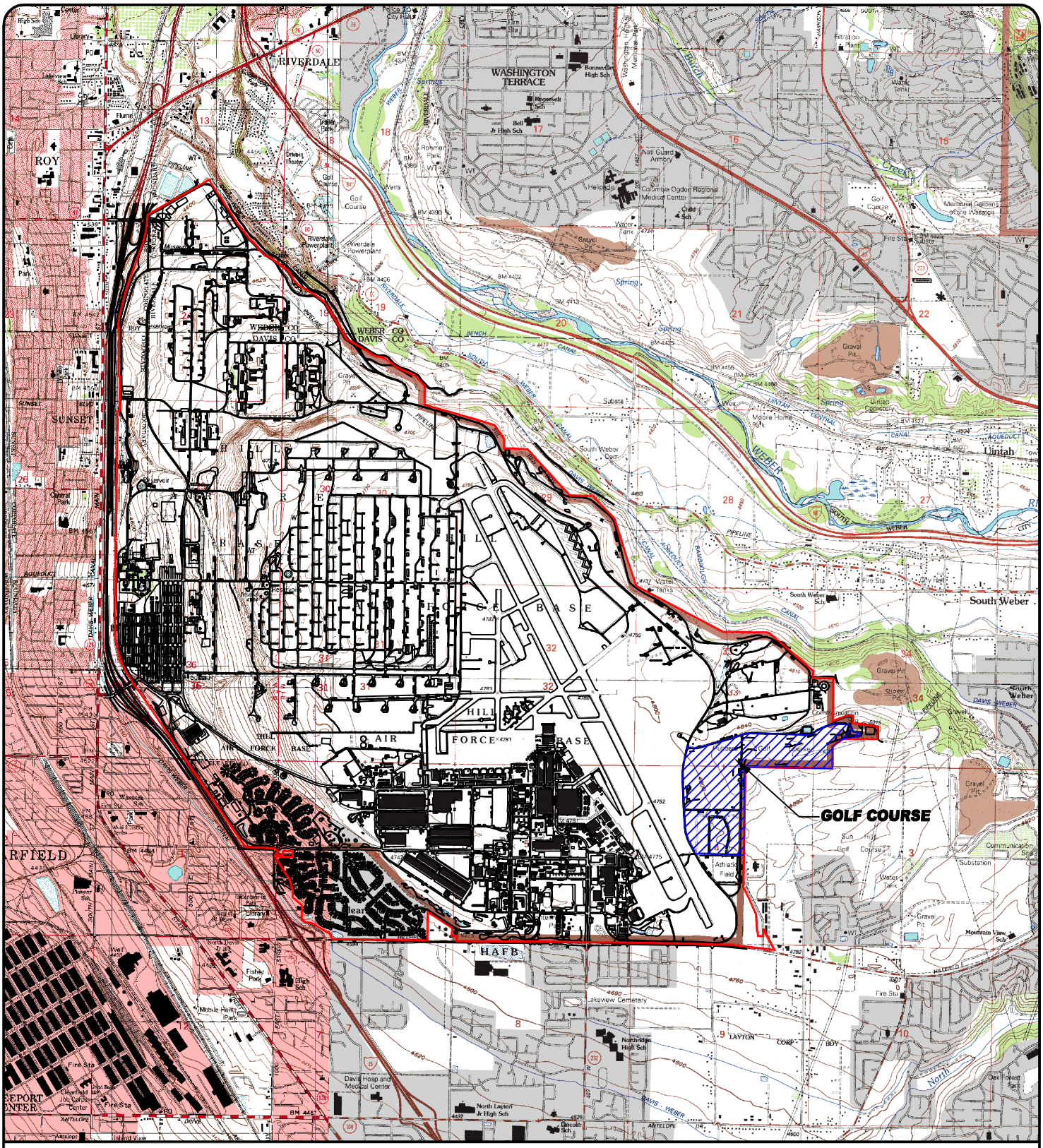
The Hubbard Memorial Golf Course is located on Hill AFB, along the eastern property boundary. The existing facility includes an 18-hole course, a halfway house (snack shop), a driving range, a pro shop and associated maintenance facilities. Hill AFB has identified three projects as critical to improving maintenance operations:

- reducing water loses due to the existing antiquated irrigation system,
- increasing driving range capacity,
- increasing the number of rounds that could be played at the facility.

The proposed golf course improvement includes three projects (refer to **Figure 2**):

Project 1. Construction of a New Driving Range and a New 9 Hole Golf Course

The existing 300-yard driving range is built and operated on leased property outside the Base. The lease is renewed annually and has limitations on what improvements to the land may be made. The length and width of the leased property limit the number of players, and inhibits the use of the existing range for players with long-drive abilities. The current geometry of the range results in increases of lost golf balls, decreased usage due to low capacity, and increasing leasing costs. The existing golf course is closed to public use during large golf events and tournaments. The new range will be built on property currently owned by Hill AFB. The new range will have a longer driving area, and allow for more players to hit at one time. In addition, the Base will save the money currently spent to lease the existing range.



CLEARFIELD, KAYSVILLE, OGDEN & ROY 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
SOURCE: UTAH DIVISION OF WATER RIGHTS (HTTP://NRWRT1.NR.STATE.UT.US/QUADS)

4000 2000 0 4000

SCALE: 1 IN. = 4000 FT.

SITE VICINITY MAP
ENVIRONMENTAL ASSESSMENT
HUBBARD GOLF COURSE IMPROVEMENTS
HILL AIR FORCE BASE, UTAH

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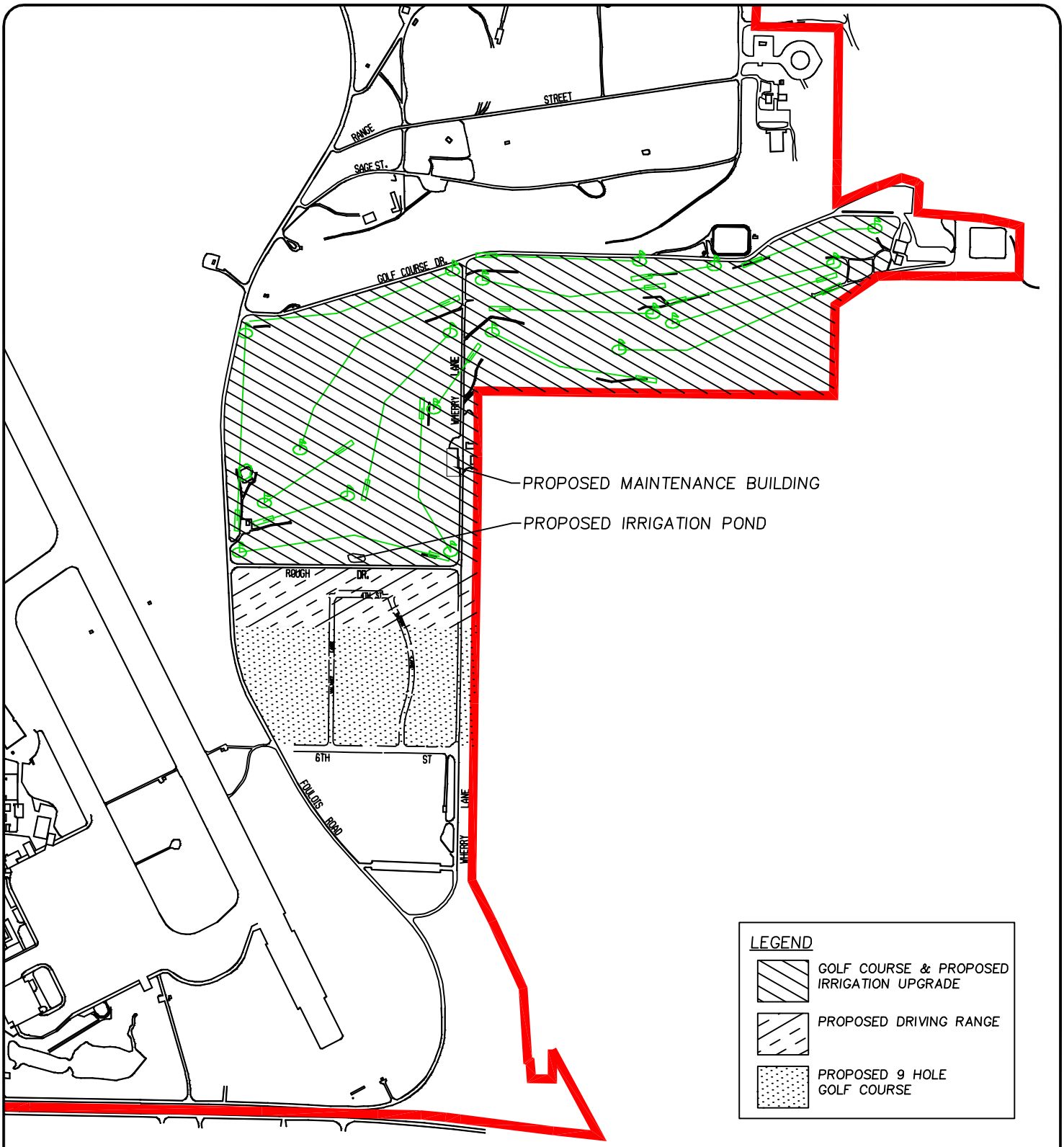
FIGURE NUMBER

1



1000 500 0 1000

SCALE: 1 IN. = 1000 FT.

SITE LOCATION MAP

ENVIRONMENTAL ASSESSMENT
HUBBARD GOLF COURSE IMPROVEMENT
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FIGURE NUMBER

2

A new irrigation system for the driving range and 9-hole course will include improvements to the existing pond, a new pump station and a new storage pond with pump station.

The new golf course will provide open play during large events on the existing golf course. In addition, the new course will provide an easier course for the development of junior and beginner golfers.

Project 2. Irrigation System Replacement

The existing irrigation system receives water into a pond and then pumps the water through a network of pipes with sprinklers. The present irrigation system has been in the ground since 1961, and was constructed using surplus metal pipe of varying size and diameter. Many different types of sprinklers and plastic pipes were also added to the system to irrigate additional areas as needed. Hill AFB personnel indicate that this system is currently leaking at an estimated rate of about 250 to 500 gallons per minute. The current capacity of the irrigation pond is inadequate due to sedimentation. As the piping in the existing system has reached the end of its service life, a new system is needed to reduce water loses and associated maintenance costs. A new system consists of new piping and sprinklers throughout the existing 18-hole golf course. The pipe system is complimented by remote weather stations and computer controls to stop or limit the amount of water used for irrigation, particularly during or after storm events. The new irrigation system will also include improvements to the existing pond.

Project 3. Construction of a Golf Course Maintenance Facility

The existing golf course maintenance facility includes two buildings, Building 710 and Building 711 and several outdoor areas. Building 710 occupies 2,470 square feet (SF) and is primarily used for personnel offices and equipment maintenance activities. Building 711 is an equipment storage building, constructed as an open bay facility of approximately 1,200 SF. Water, natural gas and electrical utilities are not available for Building 711. The two buildings are undersized for storage and maintenance purposes. Equipment and maintenance supplies are stored outside due to lack of building space. The new facility will provide adequate size for all equipment and material storage and maintenance activities indoors.

Building 711 will be demolished and a new facility will be constructed just west of the site. The new facility includes a 4,200 SF maintenance and storage area with an additional 1,200 SF exterior covered storage bin area. The building will be constructed of concrete masonry block with a metal roof.

1.3 ENVIRONMENTAL ISSUES AND SCOPE OF ANALYSIS

Based on the scope and nature of the proposed actions, the environmental issues to be evaluated include: surface water, ground water, geological resources, biological resources, air quality, cultural resources, noise, land use, hazardous materials and waste, safety and health, and socioeconomic impact.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The purpose of this section is to describe the reasonable alternatives for improvements at the Hubbard Memorial Golf Course. The proposed action and alternatives are described.

2.2 IDENTIFICATION OF ALTERNATIVES

2.2.1 Construction of a New Driving Range and a New 9-Hole Golf Course

The proposed action includes the construction, operation and maintenance of a new 150-yard by 440-yard driving range and an additional 9-hole golf course. A learning center with a practice tee will be built on the eastern side of the new driving range. A larger practice tee, approximately 60 yards wide by 100 yards long, will be built on the western side of the new range. The new 9-hole Par 3 Short Course golf course will be located south of the new range. A new holding pond and pump station will be constructed for irrigation.

Three alternatives were identified:

Alternative 1: No-Action

Under the No-Action Alternative, the new range and the new golf course would not be constructed. This alternative would not increase capacity of the course nor would leasing and operation costs of the existing range be reduced. Thus, the No-Action Alternative would not allow for improvement of the course.

Alternative 2: Construct New Driving Range

Alternative 2 consists of constructing the new driving range without the additional 9-hole golf course. The new range will reduce leasing costs and increase capacity of the range. However, capacity of the course would not increase and the course would still be closed during large golf events.

Alternative 3: Construct New 9-Hole Golf Course

Alternative 3 consists of constructing the new golf course and continues to use the existing leased driving range. This alternative would increase capacity of the course. However, improvement of the leased land would be limited and leasing costs may increase.

Alternative locations were considered during the formulation of alternatives. These alternatives were ruled out due to land availability and operational requirements of the golf course.

2.2.2 Irrigation System Replacement

The proposed action includes replacing and upgrading the existing irrigation system components, dredging the holding pond, installing an automatic shut-off valve for the pond, and installing electronic controls. The new network of laterals and pipes with sprinklers will begin at a point of connection to the holding pond. The pump station and the automatic shut-off valve for the ponds will control proper water pressure delivering to the system. The system will be equipped with state-of-the art electronic controls and an on-site weather station to monitor the need for irrigation, and to stop or limit the amount of water needed. The new system, incorporating with the irrigation systems for the pro-shop landscaped area and three practice tee areas, will irrigate the entire golf course in an eight-hour window.

Two alternatives were identified:

Alternative 1: No-Action

Under the No-Action Alternative, no replacement of the irrigation system would be performed. This alternative would not offer solutions to reduce water loses and associated maintenance costs of the irrigation system.

Alternative 2: Replace as Needed

This alternative was considered to replace portions of the existing irrigation system, as required. Components of the irrigation system would be replaced or upgraded as maintenance criteria dictate. To determine improvements as needed for the irrigation system, an assessment was performed in 1998. This study concluded that a new system is needed to replace entire irrigation system. Therefore, this alternative was eliminated.

2.2.3 Construction of a Golf Course Maintenance Facility

The proposed action includes building a new maintenance facility west of the existing supply shed across the maintenance road. Building 711 would be removed under the proposed action. The new facility would include a 4,200 SF golf course maintenance/equipment storage building and an additional 1,200 SF exterior covered storage bin area. The facility will provide adequate office space, maintenance and

storage space for lawn mowers, sand, fertilizer and other golf course maintenance items (refer to **Figure 3**).

Two alternatives were identified:

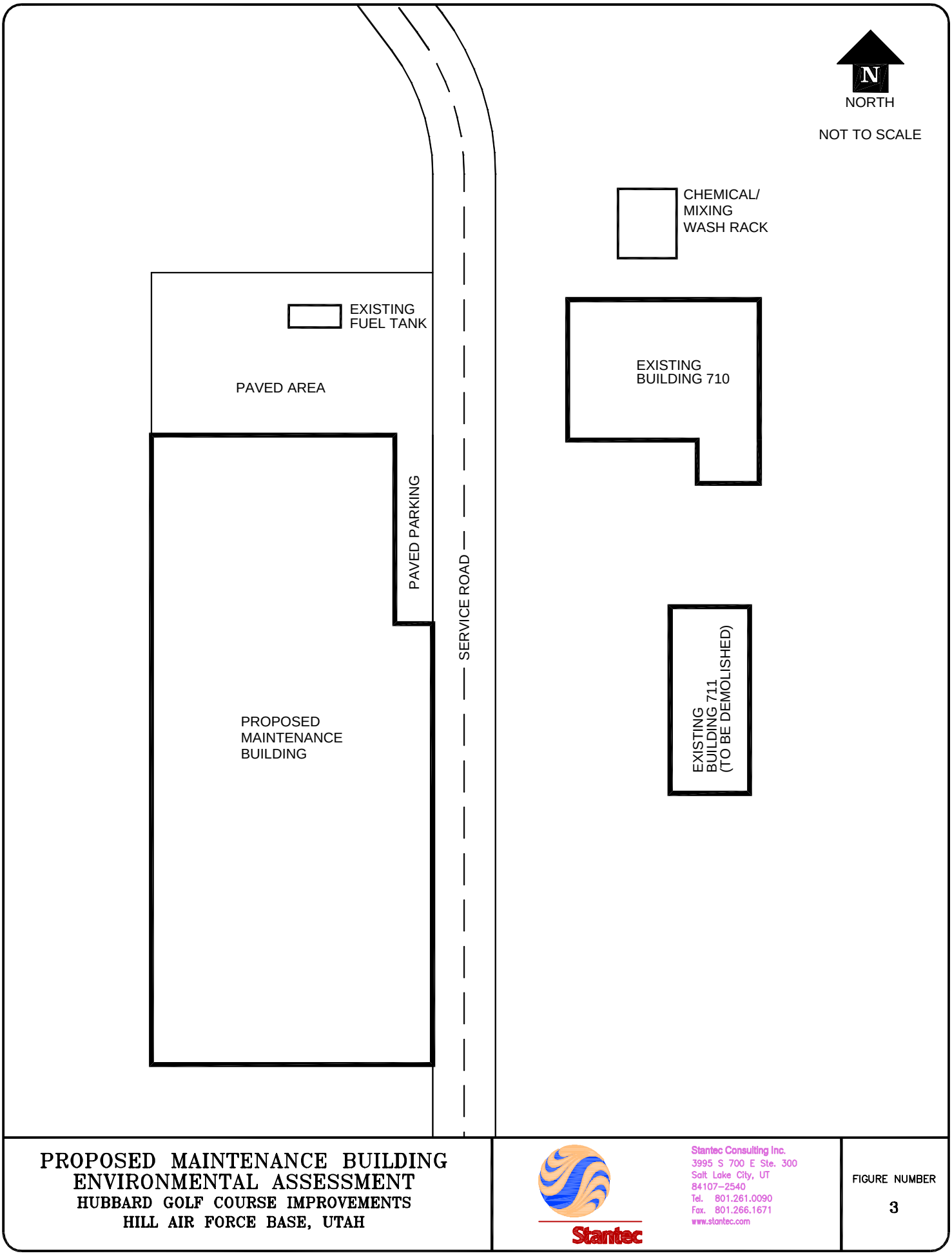
Alternative 1: No-Action

"No-action" alternative offers no replacement of the existing maintenance facilities. This alternative will not resolve the storage problems of the golf course. Equipment and maintenance supplies will be stored outside due to lack of building space.

Alternative 2: Improvement as Needed

This alternative offers improvement for the existing Building 711 and Building 710. Building 711 was built in 1973 and is currently in a severely deteriorated condition. This alternative was eliminated because the existing storage building is significantly undersized.

Alternative locations and use of other existing facilities were considered during the formulation of alternatives. These alternatives were ruled out due to operational requirements of the golf course.



PROPOSED MAINTENANCE BUILDING ENVIRONMENTAL ASSESSMENT

HUBBARD GOLF COURSE IMPROVEMENTS

HILL AIR FORCE BASE, UTAH

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FIGURE NUMBER

3

3.0 AFFECTED ENVIRONMENT

This section describes the existing environmental conditions at Hill AFB and surrounding affected areas.

3.1 SURFACE WATER

There are no lakes, rivers, or creeks located within the boundaries of Hill AFB (URS, 2001). The Davis-Weber Canal, a privately owned irrigation canal, is located approximately 0.3 miles northeast of the end of runway 32. One on-site surface impoundment located on Hole #1 at the east end of the golf course serves as the golf course holding pond. This pond serves as a main water source for the golf course irrigation system. A second pond located on Hole #14 serves as a water hazard.

3.2 GROUND WATER

Hill AFB is located within the Weber Delta hydrologic district, which extends from Farmington, Utah to North Ogden, Utah. The Weber Delta contains two principal aquifers, the Delta and the Sunset, which occur approximately 500 to 700 feet and 250 to 400 feet below the ground surface, respectively. Perched water bearing zones are locally present in the shallow aquifer system. Regional groundwater flows westerly from the principal recharge area near the mountain front to the Great Salt Lake (Stantec, 2000).

3.3 GEOLOGICAL RESOURCES

The geologic formations exposed at the surface in the area surrounding Hill AFB vary from Precambrian-age crystalline bedrock at the western margin of the Wasatch Mountain Range to Pleistocene and recent unconsolidated deposits forming benches, plateaus, and lowlands west of the Wasatch Mountain Range. Hill AFB is situated on a plateau that is an erosional remnant of a fan-delta that formed when sediments were transported from the Wasatch Range into late Pleistocene Lake Bonneville.

Coarse-grained sand and gravel deposits of the Provo Formation are the most common deposits exposed at and near the surface, within the boundaries of Hill AFB. These well drained soils are generally 10-30 feet thick. The Provo Formation at Hill AFB is underlain by the finer grained sediments of the Alpine Formation, which are exposed on the steep hillsides (Stantec, 2000).

3.4 BIOLOGICAL RESOURCES

Biological resources addressed in this EA include: wetlands, vegetation and wildlife, threatened, endangered, and special status species and communities.

Wetlands

There are about 20 acres of jurisdictional wetlands on Hill AFB (Geo-Marine, 2002). However, there are no wetlands in the vicinity of the proposed project area. There is a manmade holding pond in the golf course for irrigation water supply, which is not considered jurisdictional.

Vegetation and Wildlife

The project site includes an existing golf course on improved ground and a parcel of vacant land. The vegetation is mowed frequently to control vegetation of the site. Wildlife at Hill AFB includes large and small mammals, birds, amphibians, and reptiles common to the mountain-brush habitat of the western United States (Geo-Marine, 2002).

Threatened, Endangered, and Special Status Species and Communities

There are no resident Federally listed threatened or endangered species of plants or animals on Hill AFB (Geo-Marine, 2002). The bald eagle, one of listed threatened species, may occasionally enter the base boundaries. Hill AFB does not attempt to attract wildlife due to potential vehicle and aircraft hazards.

3.5 AIR QUALITY

Air pollution emission sources at Hill AFB include aircraft and vehicle operations and maintenance, and various industrial activities. Emissions from these sources include particulate matter smaller than ten microns (PM_{10}), sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs), carbon monoxide (CO), and hazardous air pollutants (HAPs). The current air quality trend at Hill AFB is one of decreasing emissions as Hill AFB implements programs for emission controls.

Davis County, which encompasses most of Hill AFB, is designated by the EPA as a maintenance area for ozone. The provisions of the Utah Ozone State Implementation Plan (SIP) for Davis County apply to emission sources at Hill AFB. A Title V permit application as a major stationary source of emissions is currently in review for Hill AFB (Hill AFB 2002).

Many of the facilities on base contain asbestos containing material (ACM) and lead-based paint (LBP). ACM and LBP surveys are required for most remodeling and demolish activities in the Base.

3.6 CULTURAL RESOURCES

There are no National Register of Historic Places (NRHP) on Hill AFB (HILL AFB, 2002). However, many potentially eligible historic architectural resources, primarily including historic building resources, have been identified within Hill AFB. Two NRHP districts were proposed to protect these historic architectural resources in Hill AFB. The Hubbard Memorial Golf Course is outside the proposed historic districts.

3.7 NOISE

Primary sources of noise at Hill AFB include aircraft operations and vehicle traffic. The most recently available data on aircraft operations indicate that maximum mission is approximately 127,000 annual operations at Hill AFB (Geo-Marine, 2002). Noise from aircraft is primarily generated during aircraft landings, departures and engine testing. Noise from surface traffic is generated by approximately 60,000 vehicle trips per day (Geo-Marine, 2002).

3.8 LAND USE

The area for the proposed action is considered as an improved land located along the eastern property boundary. Hill AFB lands are managed in accordance with the Airfield Installation Compatible Use Zone program. The land use closest to the runway is designated for safety and noise consideration with aircraft operation.

3.9 HAZARDOUS MATERIALS AND WASTE

Hazardous materials used on Hill AFB are controlled through the Ogden Air Logistics Center Hazardous Material Cell and the Hazardous Material Dispensing Facility. These operations provide centralized management of the procurement, handling, storage, and issuing of hazardous materials. Base Management Plans are provided to ensure compliance with applicable Federal, state, and local regulations.

Hazardous wastes are managed in accordance with the Hill AFB Hazardous Waste Management Plan. The base is registered as a large quantity generator by EPA and equipped with an RCRA-permitted Hazardous Waste Control and Recycling Facility (HWCF). Hazardous wastes were deposed in this facility.

3.10 SAFETY AND HEALTH

To address safety and health concerns associated with standard construction and/or demolition activities, Hill AFB personnel review all plans prior to any construction activities. All construction personnel are required to comply with Hill AFB policy, OSHA Safety and Health Regulations for Construction (29 CFR), and other relevant federal and state regulations.

3.11 SOCIOECONOMIC IMPACT

Counties included within a region of influence are Davis and Weber. The combined 2000 population for Davis and Weber Counties was 435,527. Hill AFB employs approximately 20,000 people, of whom 11,000 are civilians, 4,300 are military, 3,700 are contractors, and 1,100 are reservists. Consequently, Hill AFB represents a major employer in the two-county area. Approximately 53% of the workforce in Davis County and 27% of the workforce in Weber County are employed by the federal government (URS Corporation, 2001). The median household income in 2000 in Davis County was $53,726. Weber County had a median household income of $44,014 in 2000 (Geo-Marine, 2002).

4.0 ENVIRONMENTAL CONSEQUENCES

This section evaluates potential environmental impacts of the proposed action and the selected alternatives. The environmental impact analysis is designed to focus on those environmental resources that could potentially be affected.

4.1 SURFACE WATER

Proposed Action: Construction activities associated with the proposed action would have temporary and short-term impacts to surface water. Standard construction practices would be implemented to minimize potential effects. These include soil erosion control during construction and re-vegetating disturbed areas immediately after construction.

Under the current Utah Pollution Discharge Elimination Program (UPDES), construction activities disturbing more than 5 acres of land are required to obtain a UPDES permit for storm water discharge. In 2003, construction activities disturbing more than 1 acre will be required to obtain a UPDES construction permit. Therefore, construction of the new golf course and the driving range will need a UPDES permit (EWP, 1998).

Alternatives: Similarly, construction activities involved in the alternatives would disturb existing ground cover thereby causing soil erosion and sedimentation in the storm water drainage system. However, these effects would be temporary. Construction of the new golf course and the driving range would need a UPDES permit.

Under the no-action alternative, the proposed construction would not occur and there would be no effects to surface water.

Summary: It is expected that there would be negligible impacts to surface water associated with the proposed action at Hill AFB. A summary of the impacts to surface water is contained in **Table 4.1**.

Table 4.1. Surface Water Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	New construction of both golf course and driving range will disturb more than 5 acres of land. A UPDES construction permit and a storm water pollution prevention plan are needed to minimize these effects.	No change in surface water.	Construction of new golf course or new driving range will disturb more than 5 acres of land. A UPDES construction permit and a storm water pollution prevention plan are needed to minimize these effects.
Project 2 Irrigation System Replacement	Temporary minor impacts may result from construction activities. Construction practices will be employed to minimize these effects.	No change in surface water.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Temporary minor impacts may result from construction activities. Construction practices will be employed to minimize these effects	No change in surface water.	Other alternatives were eliminated from this project.

4.2 GROUND WATER

Proposed Action: Groundwater depths in the project areas commonly range from 20 to 40 feet below grade. Under the proposed action, construction activities associated with shallow excavation and golf course operation would not alter groundwater conditions in the area. If dewatering is required, a UPDES general permit from the State Division of Water Quality for dewatering activities will be required.

Alternatives: Similarly, groundwater would not be altered by the alternatives.

Under the no-action alternative, the proposed construction would not occur and there would be no effects to groundwater.

Summary: It is expected that there would be no impacts to groundwater associated with the proposed action at Hill AFB. A summary of the impacts to surface water is contained in **Table 4.2**.

Table 4.2. Groundwater Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	No impacts are expected due to site grading.	No change in groundwater.	No impacts are expected.
Project 2 Irrigation System Replacement	No impacts are expected.	No change in groundwater.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	No impacts are expected.	No change in groundwater.	Other alternatives were eliminated from this project.

4.3 GEOLOGICAL RESOURCES

Proposed Action: Construction of new golf course facilities would cause minor disturbances to surface soils in the vicinity of the project area. However, the construction is not expected to have an impact on the geology of the proposed area. Land restoration and re-vegetation of disturbed areas will be performed to prevent soil erosion according to standard construction practices and Hill AFB specifications.

Alternatives: Similarly, construction activities involved in the alternatives would disturb existing ground cover. The disturbances are expected to be minor and temporary. These construction activities are not expected to have an impact on the geology of the proposed area.

Under the no-action alternative, the proposed construction would not occur and there would be no effects to geology.

Summary: It is expected that there would be negligible impacts to surface soils in the project area. A summary of the impacts to geological resources is contained in **Table 4.3**.

Table 4.3. Geological Resources Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Temporary minor impacts to surface soils may occur during construction activities. Construction practices will be employed to minimize these effects. No change in geology.	No change in geology.	Temporary minor impacts to surface soils may occur during construction activities. Construction practices will be employed to minimize these effects. No change in geology.
Project 2 Irrigation System Replacement	Temporary minor impacts to surface soils may occur during construction activities. Construction practices will be employed to minimize these effects. No change in geology.	No change in geology.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Temporary minor impacts to surface soils may occur during construction activities. Construction practices will be employed to minimize these effects. No change in geology.	No change in geology.	Other alternatives were eliminated from this project.

4.4 BIOLOGICAL RESOURCES

Proposed Action: The project site includes an existing golf course facility and a parcel of vacant land. The vacant land is covered with native vegetation. A site visit was performed and photographs of the project areas were taken. There are no wetlands in the vicinity of the proposed project area.

There are no known threatened or endangered species and communities inhabiting Hill AFB (Hill AFB, 2002). However, according to Marcus Blood and Sanford Moss, Natural Resources Management of Hill AFB, a red-tailed hawk nest is located near the Hill AFB runway and within the area of the proposed action. The hawks have been in this area for several years and appear to be habituated to the activity of the runway. Hawks and their nests are regulated by federal and state code. Development and persistent use of the proposed area, especially March through September, may require a federal and state permit. Removal of the nest, if warranted, will require coordination and application for a depredation permit with the U.S. Fish and Wildlife Service and Utah Division of Wildlife. However, it is not anticipated that the hawk nest will be disturbed or moved.

Alternatives: Similarly, construction activities involved in the alternatives have no adverse impact on the local vegetation and wetlands. Impact to a hawk nest is expected.

Under the no-action alternative, the proposed construction would not occur and there would be no effects to biological resources.

Summary: It is expected that there would be negligible impacts to biological resources in the project area. A summary of the impacts is contained in **Table 4.4**.

Table 4.4. Biological Resources Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	No adverse impacts to wetlands, threatened and endangered species are expected.	No change in biological resources.	No adverse impacts to wetlands, threatened and endangered species are expected.
Project 2 Irrigation System Replacement	No change in biological resources.	No change in biological resources.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	No adverse impacts to wetlands, threatened and endangered species are expected.	No change in biological resources.	Other alternatives were eliminated from this project.

4.5 AIR QUALITY

Proposed Action: The construction activities associated with the proposed action would have temporary impacts to air quality. As a Federal facility in a designated maintenance area for ozone, any construction actions at Hill AFB must undergo a review in accordance with the Federal Conformity Rule (40 CFR 93.153).

A comment letter was received from Glenn L. Palmer with Project Environmental Engineering of Hill AFB. Mr. Palmer indicated that a fugitive dust control plan should be prepared and followed during the construction. Mr. Palmer stated that there are no other air quality concerns associated with the proposed action.

The Utah Division of Air Quality (UDAQ) personnel was contacted regarding VOCs and NO_x emissions associated with similar construction activities in the area. According to Ms. Jennifer He of the UDAQ, the emissions are estimated to be well below the minimum levels for VOCs and NOx specified in the Conformity Rule (50 tons per year for VOCs and 100 tons per year for NOx). Therefore, Hill AFB is not required to perform a full conformity determination.

Asbestos is regulated as a hazardous air pollutant by the Environmental Protection Agency (EPA) under the authority of the Clean Air Act. Building 711, built in 1973, would be demolished. Prior to demolition, asbestos survey and abatement plan would be required.

There are no long-term impacts of air quality under the proposed action. Hill AFB requires dust control measures for construction sites in the base. During the construction phase, best management practices, such as watering or chemical stabilization, would be utilized to control fugitive dust.

Alternatives: Similarly, there are no long-term impacts of air quality from the alternatives. Emissions from construction activities involved in the alternatives are not expected to exceed the minimum levels for VOCs and NOx outlined in the Conformity Rule.

Under the no-action alternative, the proposed construction would not occur and the air quality at Hill AFB would remain the same.

Summary: It is expected that there would be negligible impacts to air quality during the construction activities. A summary of the air quality impacts is contained in **Table 4.5**.

Table 4.5. Air Quality Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Emissions from construction activities are not expected to exceed the minimum Conformity levels. Fugitive dust control measures will be performed during the construction.	Air quality would remain the same.	Emissions from construction activities are not expected to exceed the minimum levels. Dust control measures will be performed during the construction.
Project 2 Irrigation System Replacement	Negligible impacts to air quality during construction.	Air quality would remain the same.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Emissions from construction activities are not expected to exceed the minimum Conformity levels. Fugitive dust control measures will be performed during the construction. Prior to demolish of Building 711, ACM survey will be performed to avoid activities that could disturb the ACM.	Air quality would remain the same.	Other alternatives were eliminated from this project.

4.6 CULTURAL RESOURCES

Proposed Action: Impacts to cultural resources are not expected under the proposed action. The project area has been significantly altered by construction and landscaping activities. No historic properties have been identified in the area. Any archaeological remains discovered during construction would be handled according to the Federal regulations.

Alternatives: Similarly, the alternatives have no adverse impact on cultural resources.

Under the no-action alternative, there would be no changes to cultural resources.

Summary: It is expected that there would be no impacts to cultural resources. A summary of the cultural resources impacts is contained in **Table 4.6**.

Table 4.6. Cultural Resources Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	No impacts to cultural resources are expected.	Cultural resources would remain the same.	No impacts to cultural resources are expected.
Project 2 Irrigation System Replacement	No impacts to cultural resources are expected.	Cultural resources would remain the same.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	No impacts to cultural resources are expected.	Cultural resources would remain the same.	Other alternatives were eliminated from this project.

4.7 NOISE

Proposed Action: Hill AFB is an active military facility that generates noise from aircraft operations and vehicle traffic. During construction, the proposed action would result in temporary minor increases of noise levels in the vicinity of the project area. Noise environment would be similar to typical construction activities, such as use of equipment for site preparation and construction. Impacts from construction-related noise are expected to be short-term, negligible, and confined to the Base.

Alternatives: Similarly, impacts from construction-related noise involved in the alternatives are expected to be short-term negligible and confined to the Base.

Under the no-action alternative, there would be no impacts to noise environment.

Summary: It is expected that there would be short-term increases of noise during construction. A summary of the noise impacts is contained in **Table 4.7**.

Table 4.7. Noise Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Short-term negligible noise impacts are expected.	Noise environment would remain the same.	Short-term negligible noise impacts are expected.
Project 2 Irrigation System Replacement	Short-term negligible noise impacts are expected.	Noise environment would remain the same.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Short-term negligible noise impacts are expected.	Noise environment would remain the same.	Other alternatives were eliminated from this project.

4.8 LAND USE

Proposed Action: Adverse impacts on land use at Hill AFB are not anticipated from the proposed action. The proposed construction is consistent with the Hill AFB General Plan and there are no change in land management and ownership.

Alternatives: Similarly, adverse impacts on land use involved in the alternatives are not expected.

Under the no-action alternative, there would be no change to land use.

Summary: It is expected that there would be no adverse impact to land use. A summary of the land use impacts is contained in **Table 4.8**.

Table 4.8. Land Use Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	No adverse impacts to land use are expected.	Land use would remain the same.	No adverse impacts to land use are expected.
Project 2 Irrigation System Replacement	No adverse impacts to land use are expected.	Land use would remain the same.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	No adverse impacts to land use are expected.	Land use would remain the same.	Other alternatives were eliminated from this project.

4.9 HAZARDOUS MATERIALS AND WASTE

Proposed Action: Under the proposed action, there is the potential to encounter ACM and LBP during removal of Building 711. Should ACM and LBP be present in the building, ACM and LBP will be abated and disposed of in accordance with applicable federal and state regulations.

The project area encompasses Operable Unit (OU) 11 that is currently under investigation (Hill AFB, 2001). If contaminated soils are encountered during construction activities, the Environmental Management Directorate personnel would be notified for approval of soil disturbance. Contaminated soils would be disposed of in accordance with CERCLA standards and Hill AFB requirements.

Alternatives: Similarly, potential impacts on hazardous materials and waste in the alternatives include ACM and LBP in Building 711 and contaminated soils in the vicinity of OU 11.

Under the no-action alternative, there would be no change to hazardous materials and waste.

Summary: It is expected that there would be negligible impact to hazardous materials and waste. A summary of the land use impacts is contained in **Table 4.9**.

Table 4.9. Hazardous Materials and Waste Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Negligible adverse impacts to hazardous materials and waste are expected.	Hazardous materials and waste would not change.	Negligible adverse impacts to hazardous materials and waste are expected.
Project 2 Irrigation System Replacement	Negligible adverse impacts to hazardous materials and waste are expected.	Hazardous materials and waste would not change.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Negligible adverse impacts to hazardous materials and waste are expected.	Hazardous materials and waste would not change.	Other alternatives were eliminated from this project.

4.10 SAFETY AND HEALTH

Proposed Action: Implementation of the proposed action would not substantially increase safety risks. Construction activities would be conducted in accordance with OSHA requirements (29 CFR). Day-to-day operations and maintenance activities conducted at Hill AFB are performed in accordance with Air Force safety regulations, Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health requirements. In addition, Hill AFB emergency services would be able to respond to any emergency situations occurring at the project site. Therefore, impacts to safety and health would be temporary and minimal under the proposed action.

Alternatives: Similarly, impacts to safety and health would be temporary and minimal.

Under the no-action alternative, there would be no impacts to safety and health.

Summary: It is expected that there would be negligible impact to safety and health. A summary of the safety and health impacts is contained in **Table 4.10**.

Table 4.10. Safety and Health Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Temporary and negligible impacts to safety and health conditions are expected.	Safety and health conditions would not change.	Temporary and negligible impacts to safety and health conditions are expected.
Project 2 Irrigation System Replacement	Temporary and negligible impacts to safety and health conditions are expected.	Safety and health conditions would not change.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Temporary and negligible impacts to safety and health conditions are expected.	Safety and health conditions would not change.	Other alternatives were eliminated from this project.

4.11 SOCIOECONOMIC IMPACT

Proposed Action: Positive socioeconomic impacts are anticipated under the proposed action. The new golf course would create new employment opportunities. Changes in population and housing in the area are not expected as a result of implementation of the proposed action.

Alternatives: Similarly, impacts to socioeconomic would be positive.

Under the no-action alternative, there would be no socioeconomic impact.

Summary: It is expected that there would be a positive socioeconomic impact. A summary of the socioeconomic impacts is contained in **Table 4.11**.

Table 4.11. Socioeconomic Impact Summary

Project	Proposed Action	No-Action	Other Alternatives
Project 1 Construction of New Driving Range and New 9 Hole Golf Course	Positive impacts to socioeconomic are expected.	Socioeconomic would not change.	Positive impacts to socioeconomic are expected.
Project 2 Irrigation System Replacement	No impacts to socioeconomic are expected.	Socioeconomic would not change.	Other alternatives were eliminated from this project.
Project 3 Construction of Golf Course Maintenance Facility	Positive impacts to socioeconomic are expected.	Socioeconomic would not change.	Other alternatives were eliminated from this project.

5.0 CUMULATIVE EFFECTS AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

Cumulative effects are most likely to arise when a relationship exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. OU 11 is currently under investigation in the vicinity of the project area. Protection of all monitoring well piezometers is required during the implementation of the proposed action.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Environmental consequences are short-term and temporary under the proposed action and alternatives. There would be no irreversible and irretrievable commitments of resources under the proposed action and alternatives discussed in this EA report.

6.0 REFERENCES

EWP Engineering (Stantec), July 1998, Environmental Assessment for Storm Drain, Sanitary Sewer and Water Supply Line Improvements, Ogden, Utah.

Geo-Marine, July 2002, Environmental Assessment for Modernization of the 729th Air Control Squadron at Hill AFB, Utah.

Hill AFB, October 2001, Areas of Groundwater Contamination and Active Remedial Actions at Hill AFB, Utah.

Hill AFB, April 2002, Environmental Assessment for Improving Family Housing Areas A&B, Hill AFB, Utah.

Montgomery Watson, December 2001, Environmental Assessment for the Construction of Modular Storage Munitions, Hill AFB, Utah.

Stantec, May 2000, Drinking Water Sources Protection, Hill AFB Well No.1, Utah.

URS Corporation, February 2001, Environmental Assessment for the Proposed Departure Route Changes at Hill AFB, Utah.

7.0 PERSONS AND AGENCIES CONTACTED

Hill AFB personnel were contacted for comments regarding potential environmental impacts on the proposed projects.

Marcus Blood and Sanford Moss, Natural Resources Management, OO-ALC/EMR, Hill AFB, Utah

Glenn Palmer, Environmental Management, Hill AFB, Utah

Dana McIntyre, Environmental Management, Hill AFB, Utah

Mike Peterson, Environmental Management, Hill AFB, Utah

Jeff Watkins, OU-1 Project Manager, Hill AFB, Utah

Sheri Rolfsness, OU-11 Project Manager, Hill AFB, Utah

Jim McCarthy, Civil Engineering, Hill AFB, Utah

Beverly Langue, Civil Engineering, Hill AFB, Utah

Bob Garland, Civil Engineering, Hill AFB, Utah

Bob James, Civil Engineering, Hill AFB, Utah

Russ Thompson, Civil Engineering, Hill AFB, Utah

Wayne Volk and Russ Burton, Hubbard Golf Course, Hill AFB, Utah

Allan Villanfana, Services, Hill AFB, Utah

Albert J. Whipple, Base Community Planner, Hill AFB, Utah

APPENDIX A

PHOTO ESSAY

Eastern portion of Hubbard Golf Course, facing northwest

Existing Driving Range on leased property

Existing irrigation system holding pond

Western portion of the golf course

Proposed area of new Driving Range and 9-hole golf course

Building 711 – to be demolished

Building 710

Proposed Maintenance Building area