1.0 INTRODUCTION

The Electronic Proving Ground (EPG), established at Fort Huachuca in 1954, is a command of White Sands Missile Range, New Mexico. The EPG's mission is to support materiel developers by planning, conducting, and reporting technical tests of new electronic systems including command, control, communications, computers, intelligence (C4I), and electronic warfare equipment. EPG provides services to developers through the acquisition development cycle. Early in the cycle, EPG answers questions through the use of modeling and simulation. Developers can address questions concerning frequency assignment, potential electromagnetic compatibility, and the effects of electronic warfare while the equipment is still in its early design stage. Late in the development, extensive measurement capabilities are available to satisfy the developer's data collection needs. EPG operates a number of test related facilities located throughout Fort Huachuca. The majority of EPG facilities are located within the cantonment area, but there are a few facilities located within the East and West Ranges. The physical characteristics of the desert Southwest, coupled with collocation of EPG and other major C4I organizations, makes Fort Huachuca an ideal place for testing ground and airborne electronics.

The National Environmental Policy Act (NEPA) requires that agencies of the federal government implement an environmental impact analysis program to determine whether proposed actions are "…major federal actions significantly affecting the quality of the human environment." Under NEPA, an action becomes a "major federal action significantly affecting the quality of the human environment" by virtue of the magnitude of its impact in various media areas. An Environmental Assessment (EA) documents the analysis to determine whether the implementation of a project will, by virtue of its impact, have significant impact on the human environment, and therefore, whether it is a "major federal action significantly affecting the quality of the human environment." Army Regulation (AR) 200-2 implements the NEPA process for Army commands and installations. This EA was prepared in compliance with NEPA (Public Law 91-190, 42 U.S.C. 4321-4347, as amended), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), and AR 200-2, Environmental Effects of Army Actions (USA 2002).

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

EPG is a significant tenant on Fort Huachuca, testing numerous electronic devices for the US Army and Department of Defense (DoD). Currently EPG's support facilities are dispersed throughout the installation, and many are in buildings slated for demolition. To improve mission command and control, and improve the safety and efficiency of the organization, EPG is proposing to construct and upgrade new facilities in the vicinity of their headquarters building in the cantonment area. The collocation and proposed improvements of EPG facilities will also allow the demolition of existing outdated facilities. The proposed improvements will allow for equipment storage, office and administration space, and new technology installations.

1.2 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT

In accordance with NEPA and AR 200-2, the Army has prepared this EA to assess the potential environmental impacts that may result from a proposed action to consolidate and collocate four major Electronic Proving Ground (EPG) facilities, and provide necessary site modifications and access at Fort Huachuca. The proposed activities will occur within the cantonment (urbanized) area of Fort Huachuca (the Fort). A complete description of these activities is provided in Section 2, *Description of Proposed Action and Alternatives*.

Upon completion of the preliminary environmental screening for this EA, the Army determined that this EA would evaluate the potential impacts on the human environment by focusing on the following environmental resources:

- Land Use (Sections 3.1, 4.1)
- Soil Properties and Conditions (Sections 3.2, 4.2)
- Air Quality (Sections 3.3, 4.3)
- Noise (Sections 3.4, 4.4)
- Socioeconomic Environment (Sections 3.5, 4.5)
- Water Resources (Sections 3.6, 4.6)
- Biological Resources (Sections 3.7, 4.7)
- Cultural Resources (Sections 3.8, 4.8)
- Public Services, Utilities, Energy (Sections 3.9, 4.9)
- Hazardous Materials and Wastes (Sections 3.10, 4.10)

In addition to the evaluation for potential direct and indirect impacts on the above resources, the proposed activities were also evaluated for cumulative impacts on the environment as described in Section 5, *Cumulative Impact Analysis*.

1.3 PUBLIC OUTREACH

CEQ and AR 200-2 regulations that implement NEPA recommend an early and open process for the preparation of an EA. In keeping with an open decision-making process, a public input notice was published in the *Sierra Vista Herald* and the *Mountain View News* newspapers at the beginning of the analysis process to assist in the scoping process. Comments on the preparation of the Draft EA were due by August 10, 2001. No scoping comments were received.

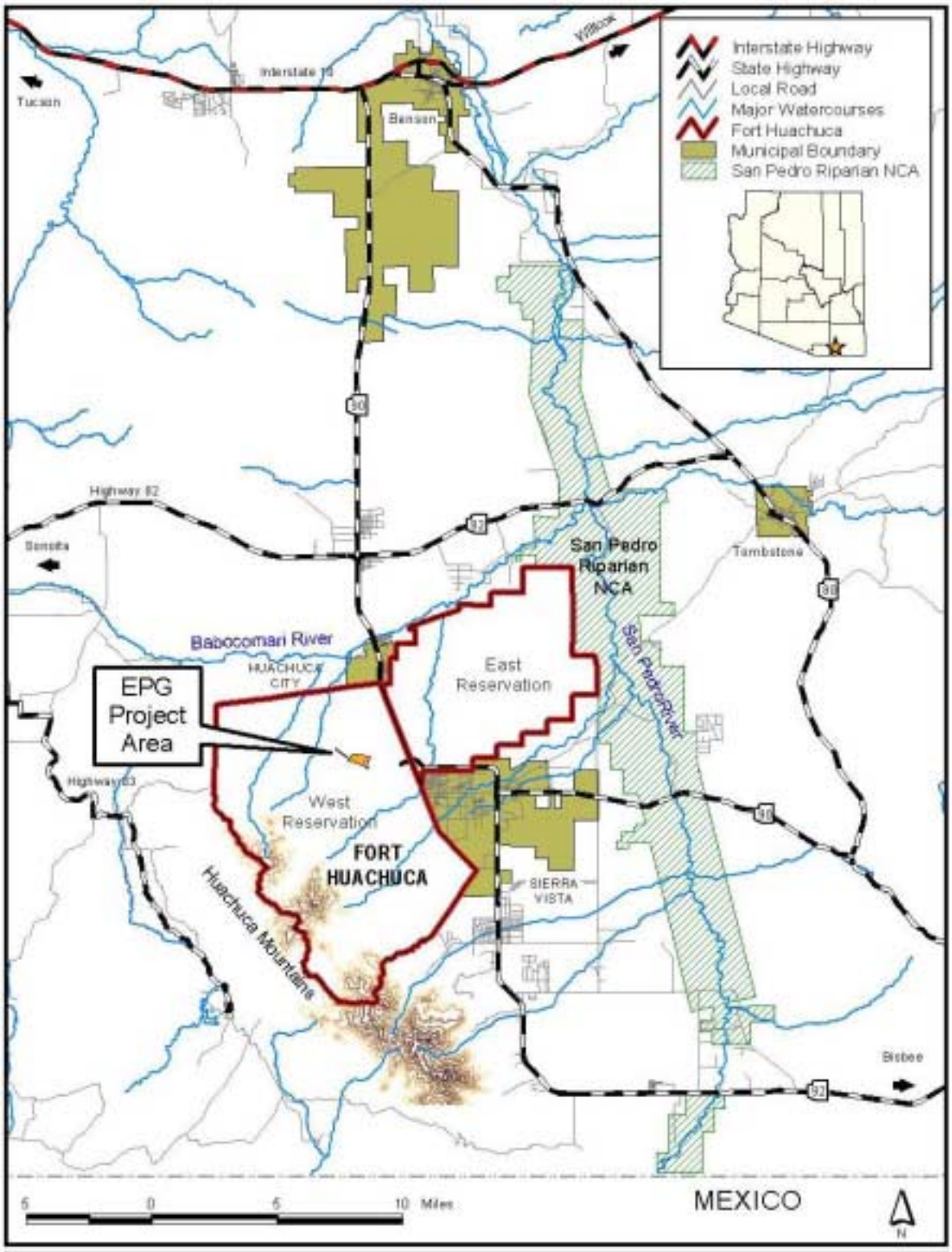


Figure 1: Site Location Map

Engineering and Environmental Consultants, Inc.
4625 Ft. Lowell Rd.
Tucson, Arizona 85712

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Under NEPA, the proponent for an action is responsible for considering all reasonable alternatives for achieving a goal or implementing a project or program. For this EA, three action scenarios were evaluated based on these project goals: 1) to improve EPG's command and control, and the safety and efficiency of the organization; 2) to facilitate demolition of existing outdated facilities; 3) provide infrastructure that is energy and water efficient and; 4) cap off old existing water infrastructure. In addition, the proposed improvements will be environmentally compliant, and will allow for new technologies, storage and personnel requirements. The evaluations were based on each scenario's potential to meet EPG's needs for more efficient operations with improved energy and water conservation. As a result, a preferred alternative was selected and is presented as the Proposed Action. The other two action scenarios were considered less effective in improving efficient operations or water conservation. The three action scenarios are:

- **Proposed Action:** Collocation of four EPG facilities and site modification.

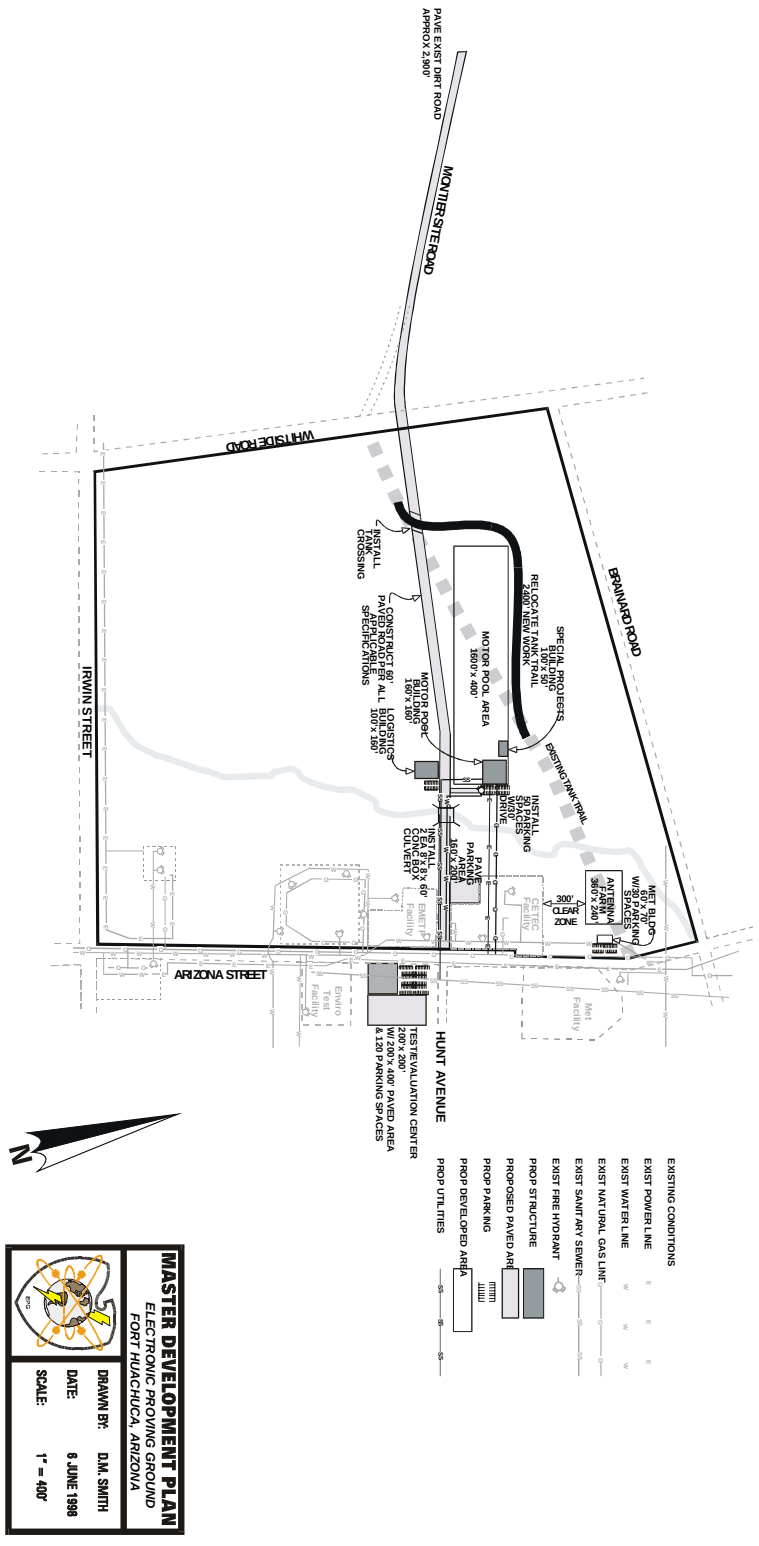
- **Alternative A—Phased Development:** Development of the Motor Pool Facility and site modifications will be constructed initially, while development of the remaining EPG facilities will be phased in over an extended period of time.

- **Alternative B—No Action:** Under CEQ regulations, a proponent must also evaluate the No Action scenario. Therefore, under Alternative B, EPG facilities will remain at their current locations and no facility improvements will occur.

2.1 PROPOSED ACTION

Under the Proposed Action, four major EPG facilities will be constructed in the area adjacent to the current EPG Headquarters. The project area is bordered by Monitor Site Road on the west, Brainard Road on the north, Arizona Street on the east, and a line 300 ft south of and parallel to the Tank Trail Road on the south. Also included is a parcel of approximately 2.75 acres located on the southeast corner of Hunt Avenue and Arizona Street. Figure 2-2 identifies the present location of the four EPG facilities being considered for collocation, these include: 1) Motor Pool Facility (Tracked and Wheeled Vehicle Maintenance); 2) Test/Evaluation Facility; 3) Logistics Facilities and 4) Meteorological Facility

The collocation and upgrade of these four EPG facilities will improve safety, water conservation, communications and energy efficiency. No new personnel authorizations will be added as part of the Proposed Action. To accommodate the proposed EPG facility layout design, the site modifications will be necessary to provide access and allow for existing activities on the site to continue. These include: Relocating 2,400 feet of an existing tank trail around the north and west side of the proposed Motor Pool Facility; constructing 6,600 feet of paved access roadway along Monitor Site Road; installing a concrete box culvert in a wash that runs north and south throughout the site under the new paved road; and constructing a paved parking area, located on the southwest side of EPG Headquarters building (Figure 2). The following sections provide a brief description of the existing locations and types of activities that occur at each facility.


MONTEZ STEROAD
PAVE EXIST DIRT ROAD APPROX 2,900'
WHITSIDE ROAD
IRVIN STREET
BRAINARD ROAD
ARIZONA STREET
HUNT AVENUE
INSTALL TANK CROSSING
CONSTRUCT 60' PAVED ROAD PER ALL SPECIFICATIONS
LOGISTICS BUILDING 100'X 180'
MOTOR POOL BUILDING 180'X 180'
MOTOR POOL AREA 160'X 400'
SPECIAL PROJECTS BUILDING 2,400' NEW WORK
RELOCATE TANK TRAIL
EXISTING TANK TRAIL
INSTALL PARKING SPACES
PAVE DRIVE
PAVE PARKING AREA 180'X 230'
INSTALL 2 EA 8'X 8'X 60' CULVERT
ANTENNA FARM 360'X 240'
300' CLEAR ZONE
WET BLDG 60'X 70' W/ 30 PARKING SPACES
TEST/EVALUATION CENTER 200'X 200' W/ 200'X 400' PAVED AREA & 120 PARKING SPACES
CETEC Facility
EMETF Facility
Enviro Test Facility
Met Facility
EXISTING CONDITIONS
EXIST POWER LINE
EXIST WATER LINE
EXIST NATURAL GAS LINE
EXIST SANITARY SEWER
EXIST FIRE HYDRANT
PROP STRUCTURE
PROPOSED PAVED AR
PROP PARKING
PROP DEVELOPED AREA
PROP UTILITIES
N
MASTER DEVELOPMENT PLAN
ELECTRONIC PROVING GROUND
FORT HUACHUCA, ARIZONA
DRAWN BY: D.M. SMITH
DATE: 6 JUNE 1998
SCALE: 1" = 400'

2.1.1 Motor Pool Facility

EPG's Motor Pool is located in an area scheduled for demolition. The Motor Pool Facility consists primarily of eight buildings dating back to WWII. EPG's Motor Pool Facility has a permanent fleet of various types and sizes of equipment. EPG also has engineering and construction support vehicles consisting of road graders, dump trucks, scrapers, scoop loaders, backhoes, and bulldozers. EPG is licensed by the State of Arizona to provide training and testing of personnel for acquiring a Commercial Drivers License. A testing area is required to conduct basic control skill training and testing.

To effectively and efficiently meet EPG's mission, the proposed fenced Motor Pool compound will require a total of 1,640,000 square feet (SF) and include the following:

- Space for fencing and parking/staging areas,
- Vehicle work bay area,
- Administration building,
- Special project building,
- Area for a concrete wash rack up to 70-ton capacity (with 350 to 500 gallon oil-water separator),
- Hazardous material storage facility, and
- Supply facility.

The proposed Motor Pool Facility will be constructed with both energy and water efficient infrastructure. These improvements will reduce energy costs and result in a water savings to Fort Huachuca.

2.1.2 Test/Evaluation Facility

The proposed Test/Evaluation Facility needs to be highly automated and capable of operating 24 hours a day. Test data will be collected, stored, analyzed, interpreted, and reported in "near real time" to test proponents or material developers. This continuous testing capability and prompt reporting will enable EPG to support a broader based community to include DoD, other federal departments, private industry, and allied countries. The proposed Test/Evaluation Facility will require a 40,000 SF two-story building and associated parking area to support the test beds and test mission. A perimeter fence will be installed around the building. A laboratory will be located on the first floor. A test Local Area Network (LAN) and administrative space for test personnel and project managers will be located on the second floor.

Collocation of the Test/Evaluation Facility into one building will enable EPG to: 1) Test different types of instrumentation equipment simultaneously; 2) exploit new workplace automation capabilities; and 3) reduce costs by reducing the number of instruments and lab areas. The proposed Test/Evaluation Facility will enable EPG to have all test beds networked to facilitate the exchange of test related information, data and scenarios, and to provide the capability for system-to-system compatibility and interoperability testing. Integration of these facilities will increase efficiency and effectiveness by providing 'one-stop testing' for EPG's clients. The proposed Test/Evaluation Facility will provide flexibility and state-of-the-art instrumentation capable of being modified to each project requirement in a more efficient manner.

2.1.3 Logistics Facility

The Logistics, Supply, Equipment Loan Pool, and Storage Warehouse are now temporarily collocated with the Fabrication and Maintenance Facility (Building 90201). The three buildings

that were previously occupied by these functions were turned over to the Garrison. These functions need to be combined in a single facility for better efficiency and line item management. The collocation of the logistic operations will require a single 16,000 SF facility, with a total of 184,000 SF for the building area, parking, and fencing. The collocation of the Logistics facilities into one location will enhance service capabilities and increase efficiency due to EPG's ability to shift manpower resources resulting from emergency situations or critical needs.

2.1.4 Meteorological Facility

The EPG Meteorological Team is responsible for providing meteorological and solar/geophysical support to all Army Research, Development, Test, and Evaluation activities performed at Fort Huachuca, as well as providing support to Instrumented Test Range operations. The proposed Meteorological Facility will require a total of 3,600 SF; 2,000 SF for instrumentation networking; a 20-ft high, 600 SF area for Rawinsonde weather balloon support; and 1,000 SF for six administration support personnel. A 260-ft by 460-ft fenced area is required for security of antenna instrumentation. The proposed Meteorological Facility will be developed with energy efficient, non-hazardous materials and water savings fixtures that will decrease energy and water costs to Fort Huachuca and EPG.

2.2 ALTERNATIVE A - PHASED DEVELOPMENT

Alternative A will evaluate the same proposed project development as discussed in the Proposed Action; however, portions of the development will be constructed in phases according to EPG mission priorities. According to EPG personnel (Brian Patrick, personal communication, August 8, 2001) the initial phase of development will include construction of the Motor Pool Facility, relocation of the existing tank trail, and construction of the paved road, culvert, and paving an existing unpaved parking area located southwest of the EPG Headquarters building. The initial construction will allow for current activities to continue and provide access to the site. The remaining EPG facilities will be phased over an extended period of time.

2.3 NO ACTION - ALTERNATIVE B

Under CEQ regulations, a No Action scenario must also be evaluated, presented as Alternative B in this document. Under the No Action Alternative, the existing EPG facilities will remain at their existing locations throughout the installation, with primary logistical support facilities on the northwest, east, and southwest parts of the cantonment area, on the West Range in Blacktail Canyon and on the East Range. No new facilities or upgrades to existing facilities will occur. This alternative represents the continuation of baseline environmental conditions with respect to consolidation of EPG facilities at Fort Huachuca. These conditions include:

2.3.1 Motor Pool Facility

EPG's Motor Pool has eight of the last remaining buildings in an area of old World War II temporary buildings scheduled for demolition. EPG's Motor Pool Facility has a permanent fleet of tactical wheeled vehicles including trucks, cargo vehicles, multi-purpose wheeled vehicles (HMMWV), up to 20-ton tractors, trailers, fork lifts, air compressors, water buffaloes, cranes (30-40 ton), and semi-trailer vans.. The Motor Pool Facility also is equipped with various power generation equipment, and engineering and construction support vehicles, such as road graders, dump trucks, scrapers, scoop loaders, backhoes, and bulldozers. EPG is licensed by the State of Arizona to provide training and testing of personnel for acquiring a Commercial Drivers License. A testing area is required to conduct basic control skill training and testing. The existing Motor Pool facilities are not able to support new technologies in the maintenance and vehicle area, and

the facilities are costly to maintain and upgrade. In addition, according to EPG and Fort Huachuca staff, upgrading the utilities (water, sewer, electric, and gas) in the existing facilities is feasible but not authorized, because the Motor Pool facilities are scheduled for demolition within two years. Because of their age, the existing facilities are inadequate to fully support all functional areas of the Motor Pool's mission, and the costs are increasing each year. Therefore, upgrading the existing Motor Pool facilities is not economically feasible.

2.3.2 Test/Evaluation Facility

EPG contractors currently lease 15 trailers at a cost of approximately $125,000 per year, and use 44 semi-vans to house instrumentation equipment and test personnel. EPG currently occupies 10 facilities located on the East and West ranges, as well as the main cantonment area, to support its test bed mission. EPG's Test Instrumentation Test Beds support training and testing of surveillance devices, navigation systems, communications test equipment, and other electronic guidance and control systems installed in aerial or ground based systems. Physical separation of the Test/Evaluation facilities results in duplication of supplies, lab areas, and instrumentation, as well as additional man-hours. Increasing costs in supplying the East Range Test Operations facility with utilities results in down time to EPG's mission. The water wells that currently supply these facilities are in constant need of repair.

2.3.3 Logistics Facility

The Logistics, Supply, Equipment Loan Pool, and Storage Warehouse are now temporarily collocated with the Fabrication and Maintenance Facility (Building 90201). The three buildings that were previously occupied by these functions were turned over to the Garrison, and are scheduled for demolition. The Supply Section houses the supply room, shipping and receiving, property book, some storage, and logistics management. Ten personnel currently work here. The Supply Section stores more than 4,400 line items of expendable supplies and parts for EPG use. Consolidation of storage is required for efficient service and line item control.

The shipping and receiving area lacks space to consolidate and pack items for shipment, to unpack and inspect received items, and to store packing and shipping supplies. Most packing supplies are currently stored outside, causing delays in shipment preparation. The Equipment Loan Pool Section provides storage for instrumentation and calibration services. The Storage Section provides storage for items being turned in to the Defense Reutilization and Marketing Office and for items required by test officers. The storage of excess or outdated instrumentation, electronic equipment, automated data processing equipment, furniture, and other items require an ample amount of space.

2.3.4 Meteorological Facility

Currently, the Meteorological Facility is located in a pre-fabricated 4,000 SF building with a separate 473 SF facility to support balloon operations. The HVAC system and roof on both buildings need repair. The facility supporting the balloon operations also needs to have the lead-based paint removed. Neither building is currently on the demolition list, but because of the age and composition of the existing facility, they may be on the list within the next few years. The maintenance of these existing facilities is costly, because they have outlived their design life. They have no insulation thus waste energy for heating and cooling; the infrastructure leaks thus wasting water; and roofs need major repair or replacement. There is also a cost to leaving the facilities idle, due to the inefficient leaking infrastructure.

2.4 ALTERNATIVES CONSIDERED BUT REJECTED

In addition to the alternatives described above, two alternatives were considered but dismissed, and are discussed below.

Dismissed Alternative 1: The Black Tower area was evaluated as a possible location for the Motor Pool facilities, while developing other EPG facilities at the location as described in the Proposed Action. However, Unmanned Aerial Vehicle (UAV) activities are currently being conducted at the Black Tower site that may conflict with Motor Pool operations and would; therefore, not be consistent with EPG's mission. In addition, this alternative would not meet the proposed project's purpose and need of providing a centralized facility that would be efficient and cost effective to EPG's activities. For these reasons, this alternative was eliminated from consideration.

Dismissed Alternative 2: Other locations at Fort Huachuca were examined for the collocation of the EPG facilities. EPG facilities on the East Range were considered to accommodate this expansion; however, EPG would lose the communication, command and control advantage of collocating with their existing Headquarters and test facilities located on Arizona Street. Also, lost time traveling between facilities is inefficient.

Dismissed Alternative 3: *:* This alternative is comprised of the construction of at least one but less than all four facilities (i.e., only one, two or three of the proposed four), and was considered but dismissed from further analysis. This alternative would result in environmental impacts similar to, but less than, the alternatives analyzed. All potential impacts associated with this alternative are addressed in the analysis of the Proposed Action, Alternative A, or the No-Action. Additionally, this alternative would not meet the proposed project's purpose and need of providing a centralized facility that would be efficient and cost effective for EPG's activities. For these reasons, this alternative was eliminated from consideration.

3.0 AFFECTED ENVIRONMENT

The affected environment descriptions in this section provide the context for understanding the environmental consequences described in Section 4, *Environmental Consequences*. For ore detailed information in each media area, a previous, but recent, baseline document is incorporated by reference for the reader's further review, if desired. These documents may be reviewed at the Environmental and Natural Resources Division at Fort Huachuca with prior notice. The descriptions that follow serve as existing conditions for comparing changes caused by implementation of the Proposed Action and alternatives. Fort Huachuca is located on the western side of the Upper San Pedro River Valley in Cochise County in southeastern Arizona, 75 miles southeast of Tucson and approximately 8 miles north of the Mexican border (see Figure 1). Fort Huachuca encompasses approximately 73,142 acres adjacent to the City of Sierra Vista and Huachuca City in the foothills of the Huachuca Mountains. The region of influence (ROI) studied is defined for each resource area affected by the Proposed Action and alternatives. The general ROI includes Fort Huachuca and surrounding environs.

3.1 LAND USE

This section provides information on the existing land uses and controls within the ROI. The section summarizes existing zoning and planned land uses within the Fort Huachuca military installation in its entirety, local cities and towns, and parts of Cochise and Santa Cruz counties.

3.1.1 Setting and Location

Cochise County encompasses approximately 6,219 square miles in the southeastern-most portion of Arizona. Forty-two percent of the land is privately owned and the remainder is held by the State of Arizona (34 percent), federal agencies (21 percent), and other public entities (3 percent) (UAV 2000). The major economic sectors in the county are farming, ranching, tourism, and government employment. The U.S. Forest Service (USFS) and Bureau of Land Management (BLM) manage much of the land adjacent to the fort on the west and south of the West Reservation, and east of the East Range. For additional information, the Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ March 2002. is incorporated by reference.

The open/operational areas on the West and East Reservations are used as training and test ranges and comprise approximately 93 percent of the installation. EPG facilities proposed for collocation are scattered throughout the Fort. The proposed EPG collocation area will be within the cantonment area, adjacent to EPG Headquarters. Within the cantonment area and other developed areas on Fort Huachuca, land use control, management activities, and maintenance fall under the direction of the Fort Huachuca Master Planner, Directorate of Installation Support (DIS). Future activities in the cantonment area are guided by the Fort Huachuca Real Property Master Plan (Nakata Planning Group, 1997). The existing and proposed EPG facilities are located within the cantonment area and have been addressed by the Fort Huachuca Real Property Master Plan.

3.2 SOIL PROPERTIES AND CONDITIONS

This section describes soils of the proposed project area and is intended to provide a baseline for use as a point of comparison when evaluating impacts potentially resulting from the proposed collocation of EPG facilities and site modifications discussed in this EA.

Soil management is a significant operational consideration at Fort Huachuca due to the potential for erosion. The proposed project area is located within the Terrarossa soil complex as identified in the Cochise County Soil Survey. This complex consists of a group of highly intermixed, similar soils. It is comprised of well-drained, sandy loams, gravelly loams, and very gravelly sand loams with slopes from 0 percent to 45 percent. Soil properties and characteristics of the Terrarosa complex include: slow permeability, high shrink-swell potential, clay texture, and high water erosion potential.

3.3 AIR QUALITY

This section identifies current ambient air quality conditions and policies affecting the Fort Huachuca area, located in the Southeast Arizona Air Quality Control region. This region encompasses the counties of Cochise, Graham, and Santa Cruz. Local air quality standards fall under the jurisdiction of the U.S. Environmental Protection Agency (EPA) and are regulated by the National AAQS as directed by the Clean Air Act of 1971 and the ADEQ. Available monitoring data indicates that air quality in the Fort Huachuca area meets AAQS for criteria air pollutants, and has met the standards since the inception of monitoring programs. The Environmental Assessment titled: Comprehensive Unmanned Aerial Vehicle Testing and Training at Fort Huachuca, AZ, June 2000 is incorporated by reference.

3.4 NOISE

The degree to which noise will disrupt an area is dependent on the perception of the people living in the affected area. By definition, noise is unwanted sound; when sound interrupts daily activities such as sleeping or conversation, it becomes noise. Typically, noise is measured as a nuisance; the more the noise interferes with daily activities, the greater the level of nuisance. The ROI for noise includes areas that could potentially be subject to noise levels in excess of 65 dB L_{dn} related to the Proposed Action and alternatives. The Environmental Assessment titled: Comprehensive Unmanned Aerial Vehicle Testing and Training at Fort Huachuca, AZ, June 2000 is incorporated by reference.

3.5 SOCIOECONOMIC ENVIRONMENT

The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002, is incorporated by reference.

3.5.1 Public Safety

The Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ, March 2002, is incorporated by reference.

3.5.2 Environmental Justice

The Environmental Assessment titled: Rehabilitation of Historic Adobe Structures, Fort Huachuca, AZ, March 2002, is incorporated by reference.

3.5.3 Children's Health and Safety

*Protection of Children From Environmental Health Risks and Safety Risks(*EO 13045), was introduced in 1997 to prioritize the identification and assessment of environmental health and safety risks that may affect children and to ensure that federal agencies' activities address environmental and safety risks to children.

3.5.4 Transboundary Issues

The southern-most boundary of Fort Huachuca is located eight miles north of the U.S.-Mexican international border. Naco, Arizona is the nearest border crossing and is an approximate 25-mile drive from Fort Huachuca via Arizona Highway 92.

3.5.5 Regional and Fort Huachuca Population and Economy

The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002, is incorporated by reference.

3.6 WATER RESOURCES

The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002, is incorporated by reference.

3.7 BIOLOGICAL RESOURCES

For the purpose of this evaluation, biological resources include wildlife and native vegetation found within the proposed project area, which encompasses approximately 150 acres within the cantonment area. The following subsections describe the vegetation, wildlife, Threatened and Endangered species, and other species of concern associated with the proposed project area.

3.7.1 Vegetation

The proposed project area is located in the Semidesert Grassland biotic community, as described by D.E. Brown (1994) at an average elevation of 4,735 ft above mean sea level (msl). Semidesert Grassland communities are typically perennial, grass-scrub dominated landscapes; however, within the project area, small-sized mesquite trees have invaded the scrub as an important associate species. The proposed project area is typical of an urban setting. Existing paved and unpaved roads, buildings, and other development and landscaping practices dominate the landscape. Many of the native species have been replaced with exotics such as Lehmann lovegrass (*Eragrostis lehmanniana*), burroweed (*Isocoma tenuisecta*) and snake weed (*Gutierrezia sarothrae*). *Agave palmeri,* an important forage species for the federally endangered lesser long-nosed bat, was not found in the project area. A dry wash crosses the eastern portion of the proposed project area, draining in a northeasterly direction. Wash vegetation is similar to that found in the surrounding upland plant community.

3.7.2 Wildlife

A large diverse group of wildlife species can be found in Semidesert Grassland communities. Mammals are well represented and include black-tailed jackrabbit (*Lepus californicus*), spotted ground squirrel (*Spermophilus spilosoma*), ord's kangaroo rat (*Dipodomys ordii*), banner-tailed kangaroo rat (*Dipodomys spectabilis*), merriam's kangaroo rat (*Dipodomys merriami*), southern grasshopper mouse (*Onychomys torridus*), collared peccary or javelina (*Tassayu tajacu*), coyote (*Canis latrans*), 14 species of bats, and a number of larger mammals including mountain lion (*Felis concolor*), desert mule deer (*Odocoileus hemionus*), and pronghorn antelope (*Antilocapra americana*). A variety of bird species are also well represented in Semidesert Grasslands and include: kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), scaled quail (*Callipepla squamata*), roadrunner (*Geococcyx californianus*), burrowing owl (*Athene cunicularia*), horned lark (*Eremophila alpestris*), gila woodpecker (*Melanerpes uropygialis*), curve-billed thrasher (*Toxostoma curvirostre*), ruby-crowned kinglet (*Regulus calendula*) in winter, turkey vulture (*Cathartes aura*) in summer, and a variety of hummingbirds, to name a few.

3.7.3 Federally-listed Threatened, Endangered, Proposed, and Candidate Species

The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ. July 2002, is incorporated by reference for additional information. None of the federally listed species occur at the project site. The *Agave palmeri*, a protected plant species, is found in the vicinity of the project, and may be used by the foraging lesser long-nosed bat (*L. curasoae).* Protected agave plant community areas have been identified in the northwest, west, and southwest of the project area. The closest protected area is located approximately 1.6 miles to the northwest.

3.8 CULTURAL RESOURCES AND HISTORIC PROPERTIES

The baseline information for evaluating the cultural resource impacts that may be caused by the Proposed Action and alternatives discussed in this EA is the Fort Huachuca Integrated Cultural Resources Management Plan (ICRMP) of September 2001. The 2001 ICRMP is incorporated by reference, and may be reviewed at the Sierra Vista Public Library.

The proposed project for collocation of facilities would occur in an undeveloped area within the cantonment area, near the EPG headquarters. This area is relatively undisturbed with respect to cultural resources, although portions of this area have been disturbed by the unpaved road and tank trail.

3.9 PUBLIC SERVICES, UTILITIES, ENERGY

This section describes the utilities and energy resources that may be affected by the Proposed Action or any of the alternatives. The ROI for these resources is confined to Fort Huachuca.

3.9.1 Potable Water

The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002, is incorporated by reference for additional information.

3.9.2 Electricity

Primary electrical power for the Fort is obtained from a Tucson Electric Power Company (TEP) 138/46/14 kV Substation, located 800 ft west of Greely Hall. Electricity is delivered from TEP's Vail Substation via a 54-mile long 138 kV transmission line. Aboveground power lines distribute electricity within the cantonment area.

3.10 HAZARDOUS MATERIALS AND WASTES

The ROI for hazardous materials is confined to areas where construction activities would take place. Therefore, the ROI considered for the purposes of this evaluation is limited to the area within the Fort's boundaries.

3.10.1 Hazardous Materials

Fort Huachuca operates a Hazardous Material Control Center (HMCC), which allows for collection and withdrawal of usable hazardous materials on the installation. Additionally, the Fort Huachuca *Installation Spill Contingency Plan* (ISCP) describes the response procedures for an accidental spill of hazardous substances or petroleum, oil, and lubricants (POL). Hazardous materials are currently stored at the existing EPG Motor Pool Facility. These hazardous materials are stored within a containment area to minimize risk of leaks or spills.

3.10.2 Hazardous Waste

Fort Huachuca is a large quantity generator of hazardous wastes, but does not maintain a Part B permit to operate a treatment, storage, and disposal facility under RCRA. The Fort operates one 90-day accumulation point and approximately 20 satellite accumulation points established by the DIS Environmental and Natural Resources Division (ENRD). The Fort implements several environmental plans and programs for hazardous waste management and monitoring.

In the case of a hazardous waste release, the Fort Huachuca Fire Department has first responder responsibilities at Fort Huachuca, with the DIS maintenance contractor responsible for cleanup once imminent danger to life and health has passed. Under agreement with Cochise County and the City of Sierra Vista, backup for response to accidental spills of hazardous substances or POL on the Fort is available.

3.10.3 Wastewater

Wastewater at Fort Huachuca is collected and treated at WWTP #2, a tertiary treatment facility. The Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002, is incorporated by reference for additional information.

4.0 ENVIRONMENTAL CONSEQUENCES

This section describes the potential environmental consequences associated with the Proposed Action and Alternatives A–Phased Development, and Alternative B–No Action (fully described in Section 2, *Description of Proposed Action and Alternatives*). To determine whether an impact is considered significant as it relates to NEPA, the following assessment considers both the context and intensity of impact. The context of an impact relates to the project setting. The intensity of an impact is related to the magnitude of the change over the existing conditions. Consistent with the discussion in Section 3, *Affected Environment*, this section has been organized by resource area to provide a comparative framework for evaluating the impacts of the Proposed Action and alternatives on the individual resources. Each resource section discusses the impact criteria used to determine significance.

4.1 LAND USE

Potential land use impacts were projected based on compatibility of land uses associated with the Proposed Action and alternatives with adjacent land uses and zoning, and consistency with general plans and other applicable land use plans and regulations. A determination of significant impact on land use could result if the action is incompatible with surrounding land use or if activities on military land are inconsistent or in conflict with the applicable environmental goals, objectives, or guidelines of the surrounding non-military community land use plans.

4.1.1 Proposed Action

The proposed project area is approximately 150 acres within the cantonment area. The majority of the project area is situated west of and adjacent to the EPG Headquarters building. The proposed site development includes paving 6,600 feet of access roadway along Monitor Site Road. The paved road will provide the only access to the proposed EPG facilities, and vehicle traffic volumes on this road are not expected to be significant. The Proposed Action will not significantly impact traffic or parking near the proposed EPG facilities, on Fort Huachuca, or within the surrounding communities.

The construction of the EPG facilities and site modifications will not result in any conflicting land use at the proposed site location. The proposed facilities are already within an area designated for EPG program activity, as delineated in the Real Property Master Plan (Nakata Planning Group, 1997). New construction within these areas will concentrate similar land uses across the installation. All activities associated with the proposed action are consistent with surrounding land uses, are within the scope of applicable land use controls, and do not exceed thresholds of significance. Therefore, no significant impacts to land use will occur within the ROI as a result of implementation of the Proposed Action.

4.1.2 Alternative A – Phased Development

Alternative A has the same activities and potential to affect land use within the ROI as described above under the Proposed Action. However, the impact of the project will be spread out over several years, but will eventually be equivalent to those of the proposed action.
Therefore, Alternative A will have no significant impact on land use within the ROI.

4.1.3 Alternative B – No Action

Based on the Real Property Master Plan for the installation, the existing Motor Pool Facility's land use classification is designated for industrial uses. However, the future land use

classification for this area is for residential land uses. Leaving the existing Motor Pool in place would impede future development in this area. All other EPG facilities being considered for collocation are located in areas where the land use classifications are the same for existing and future uses; and would not impact future land use. Implementation of Alternative B will have no significant impact on land use within the ROI.

4.2 SOIL PROPERTIES AND CONDITIONS

Impacts to soils resulting from project implementation are related to the amount and type of projected soil disturbance that can be attributed to the Proposed Action and alternatives. A determination of significant impact on soils could result if either of the following criteria is met:

- Construction activities or field operations result in additional erosion (either short-term or long-term)
- Construction activities or site use have a high potential for soil contamination.
-

4.2.1 Proposed Action

Up to 62 acres will be disturbed during construction activities associated with the EPG improvements. Construction activities will include clearing and grading of the proposed site area. Surface disturbance from excavation and construction will be limited. The Proposed Action will, however, disturb soil, so a Stormwater Pollution Prevention Plan (SWPPP) to minimize erosion through the use of Best Management Practices (BMPs) is required prior to implementation. These BMP's will be followed to ensure that construction-related soil erosion is kept to a minimum. No significant impact to soils would occur from the Proposed Action.

4.2.2 Alternative A – Phased Development

Some erosion control and stormwater management projects will be implemented, and impacts to soil will be spread over time. The methods for managing the proposed activities will be similar to those outlined for the Proposed Action, although at a smaller scale, during the initial phase of development. There will be no significant impacts to soils under this alternative.

4.2.3 Alternative B – No Action

Under the No Action Alternative there will be no changes in soil conditions on or off the installation. Existing conditions will remain as they are with no construction disturbance. There will be no significant impacts to soil resources under this alternative.

4.3 AIR QUALITY

Impacts on air quality can be divided into both short-term and long-term. Short-term impacts are usually associated with construction and grading activities, and long-term impacts are typically associated with build-out conditions. Most long-term emissions will be due to increased vehicle use. A determination of significant impact on air quality could result if activities release criteria pollutants that exceed the federal primary and secondary standards for pollutant species adopted by the State of Arizona, and/or the activities are not in conformity with Section 176 of the Federal Clean Air Act for federal actions. The area within which the proposed activities will occur is an attainment area, the activities associated with the Proposed Action or any of the alternatives will not result in a violation of the general conformity rule.

4.3.1 Proposed Action

4.3.1.1 Temporary Construction Vehicle Activity

Annual criteria pollutant emissions from vehicle operations were estimated for construction related activities. Estimates were derived as a function of the number and type of vehicles and their corresponding emission factors, and proposed number of miles driven. Vehicle emission factors were obtained from the U.S. Air Force (U.S. Air Force 1994)

Under the Proposed Action, several types of heavy-duty diesel vehicles would be used in EPG construction. Pollutants from equipment and vehicle engine exhaust include NO_x, CO, PM_{10} and Volatile Organic Compounds (VOCs). Vehicle exhausts would be temporary with no long-term impacts. The construction period required for the Motor Pool Facility would be approximately 2-4 years. The estimated emissions for the equipment used during the construction of the EPG facilities and site modifications are shown in Table 4.3.

4.3.1.2 Temporary Construction Dust Activity

Minor, temporary air quality impacts would occur during construction of the proposed facilities and site modifications. Fugitive dust would be generated by: 1) construction activity; 2) equipment traffic; and 3) entrainment of dust particulates by the action of the wind on exposed soil surface and debris. Emissions would vary daily depending on the type of operation, level of activity, prevailing weather conditions an distance from the site. Some fugitive dust control measures would be implemented to prevent or reduce PM_{10} emissions. Reasonable precautions include wetting dusty road or work surfaces, covering stockpiles; and planting vegetation.

4.3.1.3 Total Emissions

As shown in Table 4.3, none of the construction activities or fugitive dust levels will release criteria pollutants in quantities that exceed federal standards; therefore, a SIP Conformity Analysis does not have to be prepared. In addition, estimated emissions would not be considered regionally significant, as they would be less than 10 percent of regional emissions. Therefore, no significant impact to air quality is anticipated as a result of the Proposed Action.

Table 4.3 Estimated Total Emissions with Implementation of the Proposed Action

Activity Type	Estimated Emissions (tons)			
	CO	NO_x	HC	PM_{10}
Construction Vehicle Activity	0.71	0.19	0.09	0.003
Fugitive Dust Emissions	N/A	N/A	N/A	0.047
Total =	**0.71**	**0.19**	**0.09**	**0.05**

Source: Brian Patrick, personal conversation, EPG, Fort Huachuca, 2001.
Note: N/A = Not Applicable

4.3.2 Alternative A – Phased Development

The levels of construction involved with this alternative are similar to the Proposed Action, but would be spread over time. Therefore, like the Proposed Action, Alternative A will not result in any significant impacts on air quality following the implementation of the dust control measures.

4.3.3 Alternative B – No Action

No construction or other emitting activities will occur. The proposed project area is located within an area of air quality attainment for criteria air pollutants. There would be no significant impact to air quality anticipated as a result of the No Action Alternative.

4.4 NOISE

The effects of noise can be divided into short-term and long-term impacts. Short-term impacts are usually associated with construction and grading activities, where long-term impacts are associated with increased vehicle noise within the ROI. A determination of significant noise impact on the human environment could result if activities (more than one per week) result in frequent noises at very high levels (in excess of 110 dB) in areas not already designated for such noise events or activity-generated noise emissions expose offsite receptors to long-term noise levels in excess of the 65 dB as specified in AR 200-1.

4.4.1 Proposed Action

After construction, long-term noise impacts from the Proposed Action would relate to noise emissions from additional street traffic on the new paved access road to the proposed EPG facilities. This increase in daily or annual traffic is insignificant within the existing daily and projected future traffic volumes on-post and within the ROI. The majority of the increase traffic activity will occur during daytime hours, Monday through Friday. Vehicle noise levels would be comparable to other vehicles used at Fort Huachuca. No significant noise impact is anticipated as a result of the increase in vehicular activity in the Proposed Action.

Additional temporary noise would occur during the construction phase of the proposed action. Construction noise levels may range from 85-90 dB at a distance of 50 feet from the equipment, for short periods during site preparation, grading and paving. Typically, a distance of 890 feet will be necessary to reduce construction noise to a normally acceptable level of 65 dB (UAV 2000). The nearest sensitive noise receptors are significantly farther than 890 feet from the site. Construction activity will be temporary, during the day and will not be near human population areas, so no significant impacts from construction noise are anticipated. Wildlife populations present during daytime hours are accustomed to regular human activities, so it is not anticipated that wildlife will experience significant impacts from noise.

4.4.2 Alternative A – Phased Development

Alternative A is identical to the Proposed Action with the exception of a reduced level of construction activity. The reduced level of construction activity and traffic under this alternative will create even less of a noise impact within the ROI during the first phase of development. Therefore, similar to the Proposed Action, implementation of Alternative A will have no significant noise impact to the human environment.

4.4.3 Alternative B – No Action

Under the No Action Alternative, which maintains the status quo, there will be no change in noise conditions at Fort Huachuca or the surrounding area. Therefore, under this alternative there will be no significant noise impact on the human environment.

4.5 SOCIOECONOMIC ENVIRONMENT

4.5.1 Proposed Action

4.5.1.1 Public Safety

The Proposed Action will not result in the need for additional police, fire, or security services. The evaluated activities will not generate or increase the public's exposure to any hazardous or biological wastes or materials; result in the likelihood of an uncontrolled release of any hazardous materials, nor create a situation that could expose the public to unusual risk. No significant impacts to public safety are anticipated.

4.5.1.2 Environmental Justice

The Proposed Action is wholly contained in existing built-up areas on the Fort. This action will not produce a significant increase in air emission or hazardous waste. The minimal daytime noise generated by demolition or construction operations will not be audible off-installation. No impact on local minority or low-income communities is anticipated. No significant impact in the area of environmental justice is anticipated.

4.5.1.3 Children's Health and Safety

To comply with Executive Order 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, the distribution of children and location of children population relative to the location of the Proposed Action was analyzed for environmental risks and safety risks to children. The facilities for children's residences and for the majority of children's activities on the fort are located approximately three (3) miles south of the proposed project area. Scouting activities on post use building 80812, near the proposed facility. Because this facility is used sporadically, most activities occur within a building, and the building is within another fenced area, no impact on children participating in scouting activities is anticipated from this action. Implementation of the Proposed Action would not result in environmental health or safety risks to children based on the distance to the facilities. Potential health or safety impacts to children playing in the vicinity of the Proposed Action area would be minimal. Therefore, no significant impacts to children from health or safety risks would result.

4.5.1.4 Transboundary Issues

The Mexican border is approximately eight miles south of Fort Huachuca and no EPG activities are expected to affect or require traveling across the border. Proposed EPG work activities will remain the same, only the location of the facilities on-installation will change. No significant impacts to transboundary issues would result from implementation of the Proposed Action.

4.5.1.5 Regional and Fort Huachuca Population and Economy

The estimated value of the EPG construction project over the life of the plan is approximately $20 million. Of that, approximately $12 million (or 80 percent) would be spent on materials, while the remaining $8 million (or 20 percent) will be used for labor costs. This is a one-time expenditure. A short-term minor local increase in construction and demolition jobs, salaries and expenditures are anticipated from the Proposed Action. No new personnel to accomplish the EPG mission are required as a result of the Proposed Action. Any temporary employment increase resulting from the Proposed Action is not anticipated to have a significant impact on the local or regional economy.

4.5.2 Alternative A – Phased Development

Impacts in this resource area will be similar to those of the proposed action, but at a lower intensity for a longer period of time. Therefore, no significant impact in these resource areas is anticipated.

4.5.3 Alternative B – No Action

No significant impacts to environmental justice, homeless, public safety, transboundary issues, health or safety issues to children, and, regional and Fort Huachuca population and economy are anticipated.

4.6 WATER RESOURCES

Analysis of impacts of the Proposed Action and alternatives on water resources considers groundwater quality and quantity, surface water quality, surface water drainage diversion, and non-point source surface runoff. Impacts to surface or groundwater resources could be direct, indirect, short-term, or long-term. A determination of significant impact to surface water could result if grading or other construction activities affect drainage facilities or watercourses; or stormwater and/or runoff constituents significantly degrade downstream surface water quality. A determination of significant impact to groundwater could result if a usable groundwater aquifer is adversely affected from depletion or contamination; an increase in soil settlement or ground swelling results from inundation and/or changes in the groundwater level; and/or an unmitigated net increase in annual water use is created at the Fort.

4.6.1 Proposed Action

The Proposed Action consists of constructing the four major EPG facilities and site modifications. These activities will require grading, clearing, paving roads and parking areas, and installing a concrete box culvert over a wash area. Potential impacts that could result from these activities to surface and groundwater resources are described below.

4.6.1.1 Surface Water

Proposed construction activities would create additional impermeable surfaces including buildings and parking facilities. The additional impermeable surfaces would increase local runoff volumes by reducing infiltration into the ground during storm events. There would not be a significant impact because of the relatively small area of proposed new construction, the permeability of topsoil in the ROI, and the normally small quantities of local annual precipitation. A SWPPP for all activities that involve the disturbance of one or more acres will be required. The best management practices (BMPs) for erosion control and stormwater management will be included in the SWPPP (Thomas Webb, personal conversation, Environmental and Natural Resources Division, Fort Huachuca, August 2001). Conformance with the erosion control requirements associated with the plan will reduce potential water quality impacts to below a level of significance. The potential construction area is not considered subject to hazards associated with 100-year flood events. No significant impacts related to floodplains or associated hazards are anticipated for the Proposed Action.

Project-related construction activities may involve the short-term use and storage of hazardous substances such as vehicle fuels and lubricants. Accidental discharges of such substances during operation or maintenance activities (e.g., while refueling or changing vehicle fluids) could result in significant impacts to surface water quality, especially in areas within or adjacent to drainage courses. The Fort Huachuca ISCP describes the procedures to be implemented in the event of

hazardous materials or POL spill, on- or off-post. Those potential impacts would be reduced below a level of significance through the employment of applicable BMP's.

4.6.1.2 Ground Water

The Proposed Action is not anticipated to impact groundwater supply conditions. An estimated net decrease of 0.60 ac-ft in annual groundwater pumping is anticipated from the Proposed Action. No impact on groundwater quality is anticipated from the Proposed Action.

The existing and proposed water consumption associated with the EPG evaporative cooling systems, restrooms, faucets, wash racks, and recharge systems are:

Evaporative Cooling represents a large consumptive use of water for both the existing EPG facilities. According to water industry standards, typical water use for efficient evaporative coolers varies between 8.5 to 22 gallons per SF per year (Dziegielewski, 2000). The water savings of a more efficient evaporative cooling system are offset by the increase in square area of the proposed facilities. These will have a total of 82,600 SF, of which 36,000 SF will have evaporative coolers. Assuming consumptive water use for cooling to be 12 gallons per SF per year, the estimated annual water used for cooling for the proposed facilities will be 432,200 gallons per year (1.33 ac-ft per year). Water savings for evaporative cooling is estimated to be 144,500 gallons per year (0.44 ac-ft per year). The existing EPG facilities use an estimated 17.4 gallons per SF of water, while the proposed EPG facilities will use an estimated 5.2 gallons per SF of water. This represents a 330 percent improvement in efficiency.

Restrooms

Based on the current number of EPG employees using the new facilities, water savings from the use of modernized, low or no- flow fixtures in the restroom is estimated to be 109,728 gallons per year (0.34 ac-ft per year).

Faucets

Faucets are used for hand washing, cleaning lunch utensils, and cleaning some types of office equipment. Motor Pool faucet use is assumed to be mainly washing of hands. Newer, more energy-efficient design faucets with automatic shut-off features that result in a decrease in water consumption rates will be used. Water savings for these faucets with automated conservation features in restrooms and break areas is estimated to be 126,000 gallons per year (0.39 ac-ft).

Wash Racks

For the purposes of this analysis, the wash racks are assumed to wash 2 vehicles per day, 250 work days per year. The proposed EPG Motor Pool wash rack is assumed to be at least twice as efficient as the current wash rack system and would use 30 gallons per vehicle. With 500 vehicles washed per year, results in 15,000 gallons of water used per year (0.05 ac-ft per year). This water is also available for return to the sewer system and could be recharged. Water savings for wash racks is estimated to be between 15,000 to 30,000 gallons per year (0.05 to 0.09 ac-ft per year) depending on the type of system installed in the proposed EPG facilities.

Recharge

Large amounts of water used at either the existing or proposed EPG facilities can be returned to the wastewater collection system, reducing the net consumption of the facilities. At present, 1.33 ac-ft would be available for recharge, approximately 1.06 ac-ft per year could be recharged. The

net use can be calculated by taking the annual water use for existing facilities of 3.10 ac-ft per year, subtracting the 1.06 ac-ft of recharge to equal 2.04 ac-ft per year of net water use. With the proposed EPG facilities, 0.56 ac-ft would be available for recharge, or approximately 0.45 ac-ft per year could be recharged. The net annual water use for existing facilities is calculated: 1.89 ac-ft per year water used – 0.45 ac-ft recharged =1.44 ac-ft per year net water use. The overall net savings from the proposed facilities is estimated at 0.60 ac-ft per year. This amount does not include savings from stopping infrastructure leaks in the old facilities. Table 4.6 shows a breakdown of water use by proposed EPG facilities used in these estimates.

Table 4.6. Proposed Facilities Water Use (gal/yr)

Facility	Logistics	Meteorology	Motor Pool	Test/Evaluation	Category Total
Square Footage	16,000	3,600	23,000	40,000	**82,600**
Evap. Cooling[1]	0	0	192,000	240,000	**432,000**
Toilets[2]	-	-	-	-	**41,472**
Faucets[3]	-	-	-	-	**126,000**
Wash Racks [4]	-	-	15,000	-	**15,000**
				Facility Total =	**614,472 (1.89 ac-ft)**

[1] Assume 12 gal/sq ft/yr for evaporative cooling, 0 gal/sq ft/yr for air conditioning
[2] Assume 1.6 gal/use 3 times a day for 24 people times 240-workday year and 1.6 gal/use 1 time a day for 36 people times 240-workday year
[3] Assume 3.5 gal/min for 5 min for 60 people for 240 days
[4] Assume 30 gal/vehicle for 2 vehicles per day for 250 days (for closed loop systems, assume a 1,500 gal initial storage)

The Proposed Action is not anticipated to significantly impact the aquifer through accelerated depletion. The Proposed Action will not result in an increase in soil settlement or ground swelling that damages structures, utilities, or other facilities caused by changes in the groundwater level. In addition, the water supplies to the existing EPG facilities will be capped off to prevent further water usage and leakage from these facilities. The Proposed Action will not result in any significant impact to local or regional groundwater resources.

4.6.2 Alternative A – Phased Development

Alternative A would be developed over time, and no significant impacts to surface or ground water resources is expected. When the older existing EPG facilities are demolished, the older leaky piping will be capped and/or removed from the water distribution system, resulting in a water savings to the Fort. Therefore, there will be no significant impact to local or regional water resources as a result of Alternative A. Beneficial impacts would occur over time similar to the Proposed Action.

4.6.3 Alternative B – No Action

No significant impact to surface water resources is anticipated as a result of the No Action Alternative. Leaving the existing EPG facilities in place with its leaking infrastructure will result in unnecessary water pumping, which could increase over time as leaks become larger and harder to fix. No significant impact to groundwater resources is anticipated as a result of the No Action Alternative, but the beneficial impacts of water use reduction in the proposed action would not occur.

4.7 BIOLOGICAL RESOURCES

Impacts on biological resources would be considered significant if there is: 1) loss or disturbance of individuals or populations of a federally-listed threatened or endangered species; 2) substantial loss of individuals or populations of a federal-candidate, regionally-rare, or otherwise sensitive species; 3) adverse modification of designated critical habitat; 4) loss of a critical, yet limited resource used by a federally-listed threatened or endangered species; and/or 5) permanent disruption of heavily-used wildlife movement areas, such as international migratory bird routes.

4.7.1 Proposed Action

Four EPG facilities will be collocated and constructed in the area adjacent to the current EPG Headquarters, in the cantonment area. Vegetation in the cantonment area is typically disturbed, and most wildlife either avoid the area, or become accustomed to human activities. Site modifications will be necessary to provide access and allow for existing activities at the site to continue. The following subsections discuss anticipated impacts of the proposed action on vegetation, wildlife, federally-listed threatened, endangered, proposed, and candidate species, and other species of concern.

4.7.1.1 Vegetation

Construction will disturb approximately 62 acres of mostly exotic and invasive vegetation. In relation to the total grassland foraging area for most animals, this is minimal. The surrounding habitat west of the project site is similar in composition and density. To the east, the cantonment area is relatively urbanized with traffic, structures, and landscaped vegetation. The installation of the concrete box culvert may disturb some wash vegetation over a rocky substrate. Construction activities will disturb approximately 100 linear feet of wash vegetation, that could be used by wildlife for cover and travel corridors; however, this is not anticipated to be significant because the vegetation was previously disturbed in 1992. The culvert is not expected to restrict flow rates of the wash or result in any significant impacts to biological resources. Use of soil erosion BMPs and stormwater management projects will be implemented in order to lessen the potential impacts to the wash due to construction of the culvert.

4.7.1.2 Wildlife

A minor, temporary impact on wildlife is likely to occur during construction activities, where noise and human activity may disturb wildlife. This impact will most likely be minimal, and will not result in a significant impact on wildlife within the project area.
Common wildlife affected by construction activities are birds, deer, small mammals and reptiles. These may be temporarily displaced during construction, but will likely relocate to similar habitat exists in the immediate vicinity. After construction is completed, some of the displaced animals will return to the general area where habitat still exists. Fencing may disrupt movement corridors and/or daily activities of wildlife, in particular, larger mammals. Smaller animals will be able to move through the openings of the fence undisturbed. The loss of acreage due to construction will result in a reduction of breeding and foraging habitat for wildlife using the area. In total, approximately 62 acres of previously disturbed, moderate quality habitat will be lost due to construction activities. Any additional temporary ground disturbance will be revegetated with native species, where appropriate, upon project completion. When the existing EPG structures elsewhere on the installation are demolished, subsequent revegetation should help the areas return to a natural state, so there will be compensation of habitat for wildlife use.

4.7.1.3 Federally-listed Endangered, Threatened, Proposed, and Candidate Species

The Proposed Action has the potential to directly impact federally-listed, proposed, and candidate species only if these species:

- Occur at the same place as activities associated with the Proposed Action,
- Occur in the immediate proximity of activities associated with the Proposed Action
- Occur immediately downstream of activities associated with the Proposed Action
- Occur at the same time as activities associated with the Proposed Action.

The Proposed Action will have no effect on any federally-listed species due to the absence of one or more of the following criteria: 1) No suitable habitat within the project area; 2) Project area is outside the elevation of the species; and/or 3) Project area is outside the known range of the species.

The lesser long-nosed bat is known to forage on the stands of *Agave palmeri* located in the project vicinity. No agaves were found during the site visits within the project limits, and because the plant is the primary food source for the bat, it is unlikely that they would be seen there. On occasion, they may be observed traveling a straight-line overhead to reach the agave stands located outside the project area. In addition, any noise activity associated with construction will be conducted during the daylight hours when the bats are roosting away from the area. In accordance with the Army Requirements for current formal consultation (USFWS 1999), it states that prior to construction activities, pre-construction surveys shall be conducted for paniculate agaves that may be directly affected by construction activities If agaves are found during pre-construction surveys, the measures will be implemented to minimize impact on them.

4.7.2 Alternative A - Phased Development

This alternative does not change the amount of acreage to be disturbed, only the timeframes during which the activities will be carried out. Under Alternative A, the portions of the site, already discussed in the Proposed Action, will be developed in phases according to EPG mission priorities. The impacts to wildlife, discussed in the Proposed Action, are the same for Alternative A.

4.7.3 Alternative B - No Action Alternative

Under the No Action Alternative, the EPG facilities will remain at their current location throughout the installation. No new facilities or upgrades to existing facilities will occur as currently proposed. No significant impact to biological resources is anticipated as a result of implementing this alternative.

4.8 CULTURAL RESOURCES AND HISTORIC PROPERTIES

Potential impacts to cultural resources could result from ground-disturbing activities such as grading and excavation for new construction. A determination of significant impact to cultural resources (prehistoric, historic or traditional) could result if construction were to adversely affect properties listed on, or recommended as eligible for, the National Register of Historic Places; and/or if the proposed construction activities were to disturb or damage significant cultural resources and/or cultural resource sites.

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4.8.1 Proposed Action

The majority of the cantonment area has been surveyed for the presence of cultural resources (see Section 3.8); however, the proposed project area has not been previously surveyed. Prior to construction of the proposed EPG facilities and site modifications taking place, a cultural resource assessment will be completed according to all applicable Federal and Army regulations

in consultation with the State Historic Preservation Office (SHPO) and all concerned Native American groups. Construction activities will not affect the viewshed of the Old Post Historic District on the cantonment area and will not alter or otherwise affect the viewshed or individual structures within the Old Post District.

All previously unsurveyed areas involved by the Proposed Action will be subject to Class III surveys for cultural resources prior to ground disturbance. Any resources encountered will be evaluated to determine if they are eligible for the National Register of Historic Places. If resources are not recommended as eligible, no mitigation will be required. Resources that are recommended eligible will either be avoided or impacts to these resources will be mitigated in compliance with the NHPA, in consultation with the Arizona SHPO. If resources are encountered that are of indeterminate eligibility, appropriate testing methods will be implemented to classify eligibility.

If there is a discovery of cultural items or human remains on federally-owned or tribal lands, construction activities associated with the Proposed Action, work will be halted at the site and the Post Archaeologist will consult with Native American tribes that have claimed affiliation to the area. In the event that any cultural resources are discovered during construction or ground disturbance, construction will be halted and resources will be evaluated by a qualified archaeologist, such as the Post Archaeologist. The Post Archeologist will then consult with SHPO.

4.8.2 Alternative A - Phased Development

Construction activities associated with Alternative A will occur over time. No significant architectural or historic resources have been identified within the proposed EPG project area. Therefore, there will be no impact to known historic resources.

4.8.3 Alternative B - No Action

Under the No Action Alternative, there will be no change to recorded prehistoric, historic, or traditional resources on Fort Huachuca. There will be no impact to existing resources and no additional areas on Fort Huachuca will need to be surveyed for activities proposed in the Proposed Action and the Enhanced Existing Facilities Alternative.

4.9 PUBLIC SERVICES, UTILITIES AND ENERGY

Potential impacts to utilities include the potential for the Proposed Action or alternatives to create a new demand for utilities beyond the utility's capacity, diminishing the quality of an existing utility, or using a utility in a wasteful manner. The impacts on utilities or energy resources could be determined significant if any of the following criteria are met:

- A resource exceeds its present and/or future capacity to serve.
- A resource has a long-term interruption to, or interference of service.
- A significant increase in annual energy consumption or peak potential loading is calculated to exceed the capacity of the transmission lines and transformers.
-

4.9.1 Proposed Action

The Proposed Action has the potential to affect the utilities within the ROI during construction associated with the EPG facilities and site modifications. Because impacts resulting from construction-related activities are anticipated to be short-term and negligible, the focus of this section is on the impact to utility services, resulting from the use of the proposed EPG facilities.

4.9.1.1 Electricity

The proposed EPG facilities will be constructed with energy efficient materials and will result in a decrease in energy usage over the use at their existing facilities. This level of consumption will not affect the electrical substation's ability to provide the Fort with electrical power or result in brownouts or blackouts. Therefore, the power demand due to the Proposed Action will not result in any significant impacts on the electricity supply or distribution system.

4.9.1.2 Potable Water System

The current water supply system servicing the EPG Headquarters building has the capacity to support the transfer of their existing personnel to the new facilities. There will be no significant impacts on the potable water system, or water quality, as a result of the implementation of the Proposed Action.

4.9.1.3 Wastewater Collection and Treatment System

The proposed Motor Pool facility will be equipped with a wash rack and state-of-the-art oil-water separator. The runoff from the parking areas will not drain into the wash rack facility, but will drain into the nearby stormwater channels, and into the stormwater recharge basin on the East Range. There would be no significant increase in the amount of wastewater generated with the implementation of the Proposed Action. Existing sewer lines will be extended to the proposed EPG facilities. The present wastewater treatment system can accommodate the impacts of the Proposed Action.

4.9.1.4 Solid Waste Disposal

Implementation of the Proposed Action would increase the amount of solid waste generated on the project site during construction and demolition activities. The amount of solid waste generated during these phases of the project would vary, depending on the amount of recyclable materials are in use. The debris will be disposed in landfills ADEQ approved for the type of solid waste generated. Some of the older EPG buildings proposed for demolition contain asbestos and/or lead based paint. Testing for the presence of these materials must be completed prior to demolition to determine hazardous wastes levels. These facilities will be demolished in accordance with the procedures identified in the Programmatic Environmental Assessment for the Demolition of Excess Real Property, Fort Huachuca, Arizona, March 1998. Asbestos abatement of the structures will be done in accordance with the Fort's "*Asbestos Interim Management Plan*". Generation of solid waste by EPG personnel is not expected to increase over existing conditions. There will be no significant impacts to solid waste disposal or to local landfills as a result of the implementation of the Proposed Action.

4.9.1.5 Telecommunications

The existing telecommunications infrastructure has the capacity to serve the Proposed Action during and after the collocation of the EPG facilities. There will be no significant impacts to telecommunications as a result of the implementation of the Proposed Action.

4.9.2 Alternative A – Phased Development

The impacts of phased implementation of this alternative are anticipated to be similar to those of the proposed action, which exhibited no significant impacts, but impacts will be occur over time. Therefore, like the Proposed Action, Alternative A will not result in any significant impacts within any of the elements of this media area.

4.9.3 Alternative B – No Action

Under the No Action Alternative, construction of the Proposed Action will not occur, as well as no demolition of existing EPG facilities. There is potential for increased water leakage because of old infrastructure in the existing EPG structures, possibly resulting in unnecessary demand on the potable water system. Little or no improvement in energy savings will occur. It is anticipated that there will be no increase in the generation of solid waste as a result of the No Action alternative. This alternative will result in a continuation of existing conditions at the EPG facilities and will result in no significant impact to the provision of utilities within the ROI.

4.10 HAZARDOUS MATERIALS AND WASTES

Evaluation for impacts from hazardous materials and wastes is based on both the potentials for accident and the consequences of any negative effect associated with normal operations. Beneficial impacts may result from any direct or indirect safety improvements due to project implementation. A determination of significant impacts related to hazardous materials and wastes could result if: People are exposed to unsafe levels of hazardous materials or hazardous waste; hazardous materials or hazardous waste are generated in quantities or types that could not be accommodated by the current disposal system; increase in the likelihood of an uncontrolled release of hazardous materials that could contaminate soil, surface water, and groundwater is significant; or there is unusual risk to military personnel, visitors, nearby residents, and the general public off-site.

4.10.1 Proposed Action

The construction of the proposed EPG facilities and site modifications are short-term that are not anticipated to generate unusual hazardous waste. Hazardous materials use is anticipated to be use of construction adhesives and temporary on-site storage and use of fuel for construction equipment. The contractor will be required to collect and properly dispose of any oil leaks from construction. If unanticipated on-site hazardous substances are encountered during construction, activities will cease until appropriate remediation efforts are completed. Hazardous waste will be disposed of in accordance with EPA and ADEQ regulations. There will be no significant impacts to public safety from hazardous material issues associated with this action.

Under the Proposed Action, the new Motor Pool Facility will be equipped with two above ground storage tanks for fuel. These tanks will be equipped with leak detection monitors and checked periodically for spills and/or leaks. The Motor Pool Facility will be equipped with a hazardous storage containment area, where hazardous chemicals will be stored within a secure area to minimize and avoid spills and leaks. The oil-water separator at the wash rack will be equipped with an alarm system that will alert EPG personnel of any leaching, leaking or spill into the sewer system. There will be no significant impacts to public safety from hazardous material or wastes associated with this action. No changes to the Installation's Hazardous Waste Management Plan are required as a result of this action, other than to note the new facility locations. There will be no significant impacts from hazardous materials and wastes as a result of implementation of the Proposed Action.

4.10.2 Alternative A – Phased Development

All work proposed under this alternative has been discussed under the Proposed Action and will not constitute a significant impact to the human environment. There will be no significant impacts associated with hazardous materials as a result of implementation of Alternative A.

4.10.3 Alternative B – No Action

Under the No Action Alternative, the proposed activities will not occur, and most likely, the existing conditions will continue. Currently, there are no hazardous material issues and none are anticipated in the foreseeable future. Therefore, there will be no significant impact to issues surrounding hazardous materials with the No Action Alternative.

5.0 CUMULATIVE IMPACT ANALYSIS

Cumulative impacts are defined in the CEQ regulations (40 CFR 1500-1508) as those impacts attributable to the Proposed Action combined with other past, present, or reasonable foreseeable future impacts, regardless of the source or agency causing them. This cumulative impact analysis looks at the impacts of the Proposed Action and alternatives in connection with related past, present, and reasonable foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over a period of time. However, to be considered a cumulative impact, the effects must: occur in a common locale or region; not be localized; impact a particular resource in a similar manner; and be long-term (short-term impacts would be temporary and would not typically contribute to significant cumulative impacts).

5.1 ANALYSIS OF CUMULATIVE IMPACTS

Analysis of cumulative impacts requires the evaluation of a broad range of information that may have a relationship to the Proposed Action and alternatives. A good understanding of the politics, sociology, economics, and environment of the region is key to this analysis, as is an accurate evaluation of factors that contribute to cumulative impacts. The most common regional and local environmental concerns voiced during previous EA public scoping activities included:

- Trends relating to water resources;
- Trends affecting ecological resources (particularly federally-listed species and their habitats);
- Population growth and economic activity in the Fort Huachuca/Sierra Vista area; and
- Resulting implications on water and ecological resources in the region.

5.2 CONTRIBUTION IMPACTS

This section addresses the resource areas where the impacts of the Proposed Action and alternatives, in connection with related past, present, and reasonably foreseeable future actions, warrant further consideration. All resource areas were examined for regional conditions to determine the potential of the Proposed Action and alternatives to contribute to regional trends or environmental conditions. The cumulative impacts analysis will focus on water resources, biological resources and socioeconomic impact, and their relationships, as these areas were identified to be of greatest concern to individuals and organizations during the scoping process. This consideration is given because of the elevated sensitivity regarding these resources, not because the Proposed Action or alternatives would create any significant contribution to past, present, and reasonably foreseeable future actions in the local or regional context for any given resource including water resources, and biological resources.

5.2.1 Water Resources

The cumulative impacts on water resources in the region are important to the sensitive wildlife and habitat of the USPB watershed. Factors potentially affecting the region's riparian ecosystems include: Increased residential and economic development; increased agricultural pumping; water use along the river, both human and natural; potential pollution in Mexico; and cones of depression from well withdrawals. Current groundwater pumping in the Sierra Vista subwatershed exceeds natural recharge. A consensus of scientific opinion concludes that continued and projected aggregate pumping may impact portions of the Upper San Pedro River; thereby, threatening listed species and their critical habitat. This project, implemented either as the proposed action or the alternative, is anticipated to reduce net water use at Fort Huachuca,

and will therefore have a small, but positive impact on the estimated deficit pumping in the region.

Selection of the No Action Alternative (Alternative B) will mean that the levels of reuse and recharge of water at the Fort will remain at their current levels. Water consumption will increase compared to the Proposed Action and Alternative A, due to the lack of water conservation fixtures, plumbing, and continued leakage. While the Fort is currently taking an aggressive approach to managing and minimizing water use, valuable opportunities to improve these efforts will not be realized. There would be no adverse impacts associated with not implementing the collocation of the EPG facilities, but use of existing leaking facilities would continue and increase over time as facilities and infrastructure deteriorate. Installation of water conservation features and positive impacts associated with the Proposed Action would not occur.

5.2.2 Biological Resources and Ecosystems

Water Resources Impacts

Cumulative impacts to biological resources at or near Fort Huachuca are the result of the complex interactions of several different trends. The Fort's water resource management is a factor in the overall future of the region's biological resources. Fort Huachuca's water resources management program (discussed above) addresses both groundwater and local riparian concerns, and will provide an important long-range contribution to the overall health of the region's biological resources, particularly that of the San Pedro Riparian NCA. The NCA is Critical Habitat for a number of species (avian, fish, and plant) and serves as a significant international migratory bird corridor in the southwest. As a result of Fort Huachuca's conservation activities, the impact on local biological resources is diminishing, and the contribution to recovery of species populations and their habitats is increasing. This positive trend will continue and strengthen in the future as long as conservation actions continue to be taken. Implementation of the No Action Alternative would slightly hinder the Fort's efforts. Likewise, regional population growth and economic activity not associated with the Fort (and resulting increases in private groundwater consumption in the Sierra Vista subwatershed) may overshadow or offset these efforts.

Non-native or Exotic Species

The intrusion of non-native or exotic species into the area and the accompanying displacement of vulnerable native species present environmental concerns. Some disruptive exotics, i.e., Lehmann's lovegrass, have shown the ability, under current conditions, to out-compete native species. Several programs introduced by Fort Huachuca, such as the conservation easement and aquifer recharge projects, address these concerns, and the Proposed Action includes several revegetation activities that may further reduce the presence of non-native vegetation on the Fort.

Grasslands

Semi-desert and Plains Grasslands biotic communities encompass approximately 45 percent of the vegetation cover of southeastern Arizona. In southern Arizona, grassland communities provide important habitat for a diverse group of animals, many of which also occupy adjacent habitats. Some wildlife species contribute uniquely to the grassland ecosystem. (M. McClaran and T. Van Devender 1995). Changes in the desert grasslands include increases in woody shrubs and trees and fragmentation, resulting from local development. When habitat is fragmented, patches of desert grassland are likely to be isolated, which hinders species dispersal and the spread of fires. Land use activities in grasslands, such as the Proposed Action, can be expected

to affect wildlife movement patterns, resource availability, population numbers, and vulnerability to population decline.

Table 5. identifies the projects currently under consideration on and in the vicinity of Fort Huachuca. With the development of these projects, along with the Proposed Action, cumulative effects of grassland fragmentation can be expected to continue to interfere with natural ecological processes such as water drainage and erosion patterns, dispersal of grassland plants and animals, and successional patterns in the Fort Huachuca vicinity.

Table 5. Projects Currently Under Consideration on and in the Vicinity of Fort Huachuca

Proponent	Project	Size (acres)	Time	Resource Impact
State of Arizona	Veterans' Cemetery	130	2002	Grasslands, water, socioeconomics
Fort Huachuca	Unmanned Aerial Vehicle Facility Upgrade	Up to 50	TBD	Grasslands
AAFES	New Mini mall at Fort Huachuca	5	2002	Grasslands
Fort Huachuca	Recreational Vehicle Park Expansion	50	TBD	Grasslands, water
DoD/Fort Huachuca	DoD HUMINT Training Center	25	2003	Disturbed grassland
City of Sierra Vista	Visitor Center	9	TBD	Traffic
City of Sierra Vista	New OSCO Drug	7	TBD	Grasslands, traffic
City of Sierra Vista	*Developments:* Highland Park Silverado Estates Remington Park Canyon De Flores Greenbrier Villas Chaparral Village Winterhaven (2, 3, 4) La Terraza	35 15.5 48 395 17 236 250 56	Ongoing and future	Grasslands, traffic, water, socioeconomic
City of Sierra Vista	Campus Drive Business Park Section 12 commercial Castro Maintenance Center Hospital	27 37 20 40	Ongoing and future	Grasslands
	Total potential loss of grasslands =	**1097.5**		

Source: Fort Huachuca, Environmental and Natural Resources Division, 2001

Other Programs

Among other key programs being developed or planned for implementation that will make a positive contribution to native and T&E species in the region include:

- Integrated Natural Resource Management Plan;
- Various endangered species management plans;
- Active management and protection of key sites like Agave Management Areas, bat roosts, springs, and owl nesting sites;
- Participation in management and recovery programs for such species as the Ramsey Canyon leopard frog;
- Erosion control range rehabilitation programs; and
- Implementation of a prescriptive fire program to improve habitat conditions and avoid catastrophic wildfire.

In terms of Fort Huachuca's relationship to the Mexican border and to the larger regional context, Fort Huachuca's contribution to cumulative impacts on ecological resources has been positive for many years. Fort Huachuca serves as an incidental federal protectorate of several species of federally-protected threatened and endangered species and their on-post habitats.

The various components of the Proposed Action and Alternative A would contribute to the positive trends in biological resources already being experienced on the Fort. With respect to the San Pedro Riparian NCA and other regional environs, the Proposed Action and Alternative A will have a positive impact by decreasing water usage and replanting native vegetation and controlling downstream erosion.

5.2.3 Socioeconomic

No new personnel are required as a result of the Proposed Action or other alternatives to accomplish the EPG mission. Therefore, the Proposed Action will not impact the population and employment trend at the Fort or in the region.

The Proposed Action would involve a one-time expenditure of approximately $20 million to the local economy in the way of temporary construction and demolition labor opportunities. For additional cumulative impacts information, see the Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ. July 2002.

5.3 SUMMARY

In summary, neither the Proposed Action nor any alternative will be anticipated to result in any significant contribution to past, present, and reasonably foreseeable future actions in the local or regional context for any given resource including water resources, biological and ecosystem resources, and socioeconomic resources. The Proposed Action, however, is a more favorable alternative because of the water savings to the Fort and efficiency to EPG as a result of the collocation of its facilities.

6.0 FINDINGS AND CONCLUSIONS

It is the conclusion of this analysis that neither the Proposed Action nor any of the alternatives constitute a major federal action with significant impact on the human environment, an EIS is not required, and a Finding of No Significant Impact for the Proposed Action should be issued to complete the documentation.

Table 6 presents a summary of the potential environmental impacts of the Proposed Action.

Table 6. Summary of Potential Impacts of the EPG Proposed Action

Environmental Factor	Potential Positive Impacts	Potential Negative Impact s	Permit Requirements
Land Use	Consistent with surrounding land uses. Collocation increases safety and efficiency of EPG activities.	None	None required
Soil Properties and Conditions	Use of BMP's will minimize soil erosion. Installation of culverts, recontouring and re-vegetation will decrease local run-off volumes.	None	None required
Air Quality	Remain in attainment for criteria air pollutants. Pavement of existing dirt road will decrease total PM_{10} emissions.	Temporary increase in emissions from construction, demolition activities, and fugitive dust. Fugitive dust control measures will be implemented to prevent or reduce PM_{10} emissions.	None required
Noise	Closest noise sensitive receptor is located 890 feet from proposed project area, which is within the acceptable and compatible 65 dB level.	Temporary increase in noise emissions related to slight increase in traffic levels, construction and demolition activities.	None required
Socioeconomic Environment	Temporary increase in construction and demolition jobs.	None	None required
Water Resources	Installation of water saving fixtures will decrease withdrawl from local aquifer system. Leaking water supplies and/or infrastructure to existing EPG facilities will be capped off or removed.	None	NPDES permit Section 404 permit
Biological Resources	No effect on any federally-listed species or critical habitats.	Vegetation removal will be restricted to construction areas. Disturbed areas outside of the permanent facility footprints will be revegetated with native species. Continued grassland fragmentation..	None required
Cultural Resources	None	None	None required
Public Services, Utilities, Energy	Installation of energy efficient fixtures and materials. Demolition of old, outdated non-energy savings infrastructure. Capping and/or removal of leaking water infrastructure. Increased telecommunications capabilities.	Temporary increase in solid waste generation and disposal due to construction and demolition.	None required
Hazardous Materials and Wastes	Removal of existing EPG facilities with asbestos and/or lead based paint, improving health and safety to personnel.	Slight increase in hazardous waste generation to be disposed on in accordance with EPA and ADEQ regulations.	None required

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8.0 REFERENCES

40 CFR 6, Procedures for Implementing the Requirements of the Council on Environmental Quality on the National Environmental Policy Act, Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration.

40 CFR 50, National Primary and Secondary Ambient Air Quality Standards, Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration.

40 CFR 51, Requirements for Preparation, Adoption and Submittal of Implementation Plans, Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration.

40 CFR 93, Determining Conformity of General Federal Actions to State or Federal Implementation Plans, Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration.

40 CFR 1500-1508, Protection of Environment, Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration. Revised, July 1, 1997.

BEA (U.S. Bureau of Economic Analysis) Department of Commerce. 2001.

Brown, D. E. 1994. *Biotic Communities of the Southwestern United States and Northwestern Mexico.* University of Utah Press, Salt Lake City, UT. 342 pp.

Chinea, Luz. Safety, Health & Environmental, Electronic Proving Ground, Fort Huachuca. August 23, 2001, Personal communication.

Cochise County Soil Survey.

Dziegielewski, B., et.al., 2000. Commercial and Institutional End Uses of Water, American Water Works Association Research Foundation, Denver, CO.

Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Office of the Federal Register, National Archives and Records Administration. February 11, 1994.

Executive Order (E.O.) 13045, Protection of Children From Environmental Health Risks and Safety Risks, Office of the Federal Register, National Archives and Records Administration. April 21, 1997.

Environmental and Natural Resources Division. 2000. Comprehensive Unmanned Aerial Vehicle Testing and Training at Fort Huachuca, AZ (UAV 2000). ENRD, US Army Garrison, Fort Huachuca.

Environmental and Natural Resources Division. 2000. Environmental Assessment for Artificial Aquifer Recharge and Treated Effluent Reuse Management, Fort Huachuca, AZ (AAR 2000). ENRD, U.S. Army Garrison, Fort Huachuca, Arizona.

Environmental and Natural Resources Division. March 1998. Programmatic Environmental Assessment for the Demolition of Excess Real Property, Fort Huachuca, Arizona. (Demolition EA 1998). Directorate of Installation Support, U.S. Army Garrison, Fort Huachuca, Arizona.

Environmental and Natural Resources Division. 1999. Fort Huachuca Final EIS for the Approval of Land Use and Real Estate Investment Strategies in Support of Real Property Master Planning. Directorate of Installation Support, U.S. Army Garrison, Fort Huachuca, Arizona.

Environmental and Natural Resources Division. August, 2001. Environmental Assessment for the Expansion of the West Civilian Personnel Operations Center, Fort Huachuca, Arizona. (EA 2001). Directorate of Installation Support, U.S. Army Garrison, Fort Huachuca, Arizona.

Kent, Gretchen. NEPA Coordinator, Fort Huachuca. July 17, 2001, Personal communication.

Nakata Planning Group, LLC. September 1997. Real Property Master Plan Long Range Component.

Patrick, Brian. Telecommunications/Facility Manager, Electronic Proving Ground, Fort Huachuca. August 23, 2001, Personal communication.

Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities, Fort Huachuca, AZ, July 2002

Shaughnessey, Mike, Environmental and Natural Resources Division, Fort Huachuca. Personal communication.

Statistical Research Inc. 1997. *Cultural Resources Plan for Fort Huachuca Military Reservation*. U.S. Army Corps of Engineers, Los Angeles District. Contract No. DACA09-92-D-0011.

United States Army [USA]. 1988. *Army Regulation 200-2, Environmental Effects of Army Actions*. Washington D.C.

United States Bureau of the Census. Department of Commerce 2000 Report.

United States Environmental Protection Agency [USEPA]. 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, NJID, 300.1, December 31, 1971.

Webb, Thomas, Environmental and Natural Resources Division, Directorate of Installation Support, Fort Huachuca. August 23, 2001, Personal communication.

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10.0 ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AAR	Artificial Aquifer Recharge
ac-ft	Acre-feet
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AHPA	Archeological and Historic Data Preservation Act
APP	Aquifer Protection Permit
AR	Army Regulation
ARPA	Archeological Resources Protection Act
ASIP	Army Stationing and Installation Plan
ASM	Arizona State Museum
BEA	Bureau of Economic Analysis
BLM	Bureau of Land Management
BMP	Best Management Practice
B.P.	Before present
C2	Command and control
C4I	Command, control, communications, computers, intelligence
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulation
cfs	Cubic Feet per Second
CO	Carbon Monoxide
dB	Decibels
dBA	A-weighted decibel
DEH	Directorate of Engineering and Housing
DIS	Directorate of Installation Support
DoD	Department of Defense
DRM	Directorate of Resource Management
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENRD	Environmental and Natural Resources Division
EPA	Environmental Protection Agency
EPG	Electronic Proving Ground
FY	Fiscal Year
HMCC	Hazardous Material Control Center
HMMWV	High Mobility Multipurpose Wheeled Vehicles
HVAC	Heating Ventilation Air Conditioner

ICRMP	Huachuca Integrated Cultural Resource Management Plan
ISCP	Installation Spill Contingency Plan
KWh	Kilowatt hours
LAAF	Libby Army Airfield
LDN	Day-night average levels
mg/L	Milligrams per liter
MGD	Million Gallons per Day
MI	Military Intelligence
MSL	Mean sea level
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	Nitrogen Dioxide
NPDES	National Pollution Discharge Elimination System
O_3	Ozone
POLs	Petroleum, oil, and lubricants
ppm	Parts per million
PM_{10}	Particulate matter smaller than 10 microns in diameter
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RU	Rural Development
SHPO	State Historic Preservation Officer
SINCGARS	Single channel Ground and Airborne Radio Systems
SIP	State Implementation Plan
SO_x	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
TEP	Tucson Electric Power Company
UAV	Unmanned Aerial Vehicles
U.S.C.	United States Code
USA	United States Army
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USPB	Upper San Pedro Basin
WSMR	White Sands Missile Range
WWTP	Waste Water Treatment Plant
$\mu g/m^3$	Micrograms per cubic meter
µm	Microns