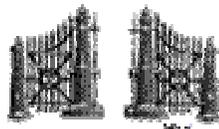


Draft Report

**Environmental Assessment and
Finding of No Significant Impact for
Two Company Headquarters
Fire Station**

US Army Garrison



Picatinny Arsenal

**U.S. Army Garrison
Picatinny Arsenal
Morris County, New Jersey**

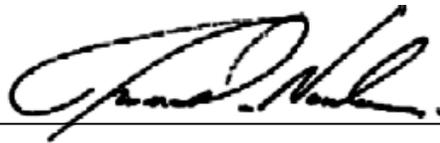
January 2007



Draft

**Environmental Assessment and Finding of No Significant
Impact -
Two Company Headquarters Fire Station**

**U.S. Army Garrison
Picatinny Arsenal
Morris County, New Jersey**



Thomas A. Nowlan, P.E.
Sr. Vice President



V. Lyle Trumbull, Ph.D.
Technical Associate

January 2007



512 Township Line Road
Two Valley Square, Suite 120
Blue Bell, Pennsylvania 19422

DRAFT
ENVIRONMENTAL ASSESSMENT

TWO COMPANY HEADQUARTERS FIRE STATION

U.S. Army Garrison, Picatinny Arsenal, New Jersey

January, 2007

This Department of Defense Environmental Assessment was prepared in accordance with AR-200-2 dated 29 March 2002 and is in compliance with the National Environmental Policy Act of 1969 and the Council on Environmental Quality Regulation dated 29 November 1978 (40 CFR 1500-1508).

This Environmental Assessment serves as a concise public document to briefly provide sufficient evidence and analysis for determining the need to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FNSI).

The Environmental Assessment concisely describes the proposed action, the need for the proposal, the alternatives, the environmental impacts of the proposal and alternatives, a statement of environmental significance of these impacts, and lists the agencies and persons consulted during its preparation.

Proponent:

Saleem Mithwani, P.E. Date
Master Planner, Public Works

Concur:

Thomas J. Solecki Date
Chief, Environmental Affairs Division

Concur:

Richard Havrisko. Date
Director, Public Works

Concur:

Robert Souders Date
Security Division

Concur:

Lawrence M. Brady Date
Legal Office

Approve:

LTC Kerry T. Skelton Date
Garrison Commander

**DRAFT
FINDING OF NO SIGNIFICANT IMPACT**

TWO COMPANY HEADQUARTERS FIRE STATION PROJECT

U.S. Army Garrison, Picatinny Arsenal, New Jersey

January, 2007

- 1. Proposed Action** – The U. S. Army Garrison, Picatinny Arsenal proposes to construct a Two Company Headquarters Fire Station that will be located in an area of the facility to reduce travel time to sections of the Arsenal while enhancing the quality of life for on-call staff. The proposed site of the construction is the paved parking area at the intersection of Bott Road and Farley Avenue.

- 2. Description of Alternatives** – Three alternatives to the Proposed Action were considered in this assessment. Two of these alternatives were dismissed after initial evaluation primarily because they are not centrally located within the Arsenal – thereby increasing fire fighter response time. These alternatives were: 1) construction of the Fire Station at the former location of Building #66 and, 2) construction of the Fire Station in the parking area adjacent to Building #302 and Storage Silo #309. Thus, only the No Action alternative was considered in detail in this assessment.

- 3. Anticipated Environmental Impacts** – Constructing the Two Company Headquarters Fire Station at the Proposed location would reduce response time and increase the quality life for fire station personnel in accordance with AR 420-90 without causing significantly adverse affects on the Arsenal’s biological, cultural, physical, social or economic resources.

- 4. Conclusion** – Based on a review of the information contained in the project’s Environmental Assessment, I have determined that constructing the Two Company Headquarters Fire Station in the paved parking area at the intersection of Bott Road and Farley Avenue would not constitute a major federal action significantly affecting the quality of the human environment within the meaning of Section 102 (2) (c) of the National Environmental Policy Act. Accordingly, preparation of an Environmental Impact Statement is not required. Therefore, the draft Finding of No Significant Impact (FNSI) is being made available for public review and comment for 30 days. A final decision would be rendered upon review and due consideration of the comments received.

- 5. Effective date** – The proposed project would be constructed in 2007.

- 6. Public Availability** - The Environmental Assessment and this draft FNSI for the Proposed Action are available for public inspection at the Public Affairs Office, Picatinny Arsenal. General questions concerning this EA can be directed to Mr. Pete Rowland (973-724-7243). Written comments should be mailed to Mr. Wesley (Gil) Myers, IMNE-PIC-PWE, B-319, Picatinny Arsenal, NJ 07806. Public comment on this FNSI will be accepted for a period of 30 days from the date of this notice.

Proponent:

Saleem Mithwani, P.E. Date
Master Planner, Public Works

Concur:

Thomas J. Solecki Date
Chief, Environmental Affairs Division

Concur:

Richard Havrisko, P.E. Date
Director, Public Works

Concur:

Robert Souders Date
Security Division

Concur:

Lawrence M. Brady Date
Legal Office

Approve:

LTC Kerry T. Skelton Date
Garrison Commander

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1. Purpose and Need for the Action

1.1. Introduction and Statement of Project Need

The U.S. Army Garrison, Picatinny Arsenal (the Arsenal) is located in the northeast corridor of the United States in Morris County, New Jersey (Figure 1). The mission of the Arsenal is the development of armament and munitions technology and modern smart weapon systems. It is tasked with the development and application of advanced technology for the Army's land combat weapons systems of the future. The Arsenal work force is composed primarily of highly skilled engineers and scientists.

The Arsenal is served by a single fire station identified as the Picatinny Fire and Emergency Service Division. This division is housed in one facility, located on a section of Picatinny Arsenal (the Arsenal) called Navy Hill (Figure 2). The current fire station does not provide the required resources for fire fighting staff or fulfill the adequate space requirements of the FSSDD. Specifically, the minimum vehicle separation and functional space requirements are not met. In addition, the required response time and distance criteria are exceeded at this station. Army Regulation 420-90 (AR 420-90) specifies that, for shops, industrial buildings, hangers, warehouses, child development centers, technical and research facilities, one-half of the required fire fighting equipment should be no further than 2 miles from the incident. The current fire station is located in the eastern section of the Arsenal – more than 2.5 miles from the eastern portion of the Arsenal.

In addition to failing to achieve an adequate response time, the current station would continue to provide an inadequate standard of life for on-duty firefighters. The current fire station (Building 3316) is listed on the National Register of Historic Places; therefore, it cannot be readily expanded. There is currently no room for a recreational area or physical fitness facilities at the station. The firefighters currently use a small recreational room within the existing station and a converted detached greenhouse adjacent to the fire station. Cooking facilities are cramped and firefighters share sleeping cubicles on a rotational basis. Since there is limited capability for expansion of the existing fire station, there would continue to be a shortage of space for emergency vehicles and equipment. Since current inadequate space requires that some firefighting equipment be stored outside, this condition may result in more rapid decay due to constant exposure to the elements. This may also result in increased replacement costs.

The purpose of this EA is to evaluate the potential environmental impacts of building a new Headquarters Fire Station. The environmental consequences of the proposed action have been reviewed under the provisions of the National Environmental Policy Act (NEPA) and AR 200-2 (effective March 29, 2002) in order to determine whether the proposed project for the Picatinny Arsenal Headquarters Fire Station would result in potential significant environmental impacts.

1.2. Criteria for a Two Company Headquarters Fire Station

The Department of the Army has established a criteria document entitled Fire Station Standard Definitive Design (FSSDD), which supersedes the Design Guide for Fire Stations (DG 1110-3-145). The Arsenal will use the design outlined in the FSSDD as the basis for the Two Company

Headquarters Fire Station along with some adaptations to meet the user/Fire Department requirements specific to the Arsenal.

As defined in the FSSDD, the fire station is comprised of three elements: the sleeping area, the administrative/day function area, and the apparatus area. These are further divided into functional areas as described in Table 1. The overall gross square footage and general configuration of functional areas are mandatory. The internal layout can be modified for local requirements using the recommended individual net areas. A generic representation of a standard layout for a two company headquarters fire station as described in FSSDD is provided in Figure 3.

The design specifies minimum spacing for the apparatus rooms. While the rooms can be sized to fit the major fire vehicles, the following conditions apply:

- overhead doors will be a minimum of 14 feet wide and 14 feet high
- minimum distance between all vehicles and walls is to be 6.5 feet
- minimum distance between vehicles side by side is to be six feet
- minimum distance between vehicles end to end is four feet
- minimum distance between vehicles and stall doors is four feet.

The proposed fire station should be sited for easy vehicle access, taking into account response time and distance within the area to be served, compliance with the base master plan, and location of existing utilities. In addition, the structure's location should provide for adequate vehicle access, pedestrian access, vehicle parking, vehicle and pedestrian circulation and fire safety clearances.

Parking spaces should be provided for non-organizational vehicles and vehicles for the handicapped. Organizational vehicle parking will be based on physical dimensions of the vehicle. One parking space shall be provided for each organizational vehicle not assigned a space within the apparatus room. Parking spaces for non-organizational vehicles shall be provided as follows:

- One and one-half spaces per person of the fire protection section
- One space per person of the administrative section
- Two spaces per three people of the fire prevention section
- Two spaces for visitors, one of which is to be designed for the physically handicapped
- One space for customer parking.

The station should include vehicle wash areas in accordance with applicable pollution regulations.

1.3. Summary of Proposed Action

The Proposed Action is to build a Two Company Headquarters Fire Station on an existing parking lot located at the intersection of Bott Road and Farley Avenue (Figure 4). By building a new fire station to the specification of the FSSDD, the functional space criteria would be met and adequate quality of life facilities for fire fighting staff would be achieved in accordance with AR 420-90. Building the station closer to the operations area of the Arsenal would reduce the response time and distance in accordance with AR 420-90, Chapter 4, Section 4-1.

1.4. Permits potentially required for the action

A variety of permits would likely be required for the construction of a fire station at the proposed location or at either of the alternative locations. The following permits may be required to implement the proposed action:

- Morris County Soil Erosion and Sediment Control Plan Certification for Land Disturbance Control (N.J.A.C. 2:90)
- Stream Encroachment Permit (N.J.S.A. 58:16A-50 et seq.; N.J.A.C. 7:8-3.15)
- New Jersey Department of Environmental Protection (NJDEP) Air Quality Permit and/or Certification for Minor Facilities (N.J.A.C. 7:27-8)
- Construction Activity Stormwater General Permit (NJ088323, N.J.A.C. 7:14A)
- Sewer Connection Permit (N.J.S.A. 58:10A-1 et seq.; N.J.A.C. 7:14A)
- Exemption of Waste Flow Rule (Soil Reuse)
- Jefferson Township Construction Permit
- Building Occupancy Permit
- Soil Clearance for impacted soils from the Picatinny Arsenal Environmental Affairs Division

In addition to the above-listed permits, the contractor must complete the NJDEP Post-Construction Program Design Checklist for individual projects before construction begins.

2. Description of the Proposed Action

This section is divided into two parts: 1) a description of the Proposed Action, and 2) a brief outline of the environmental issues that may arise during the construction and operation phases of the Proposed Action.

2.1. Description of Proposed Action

The Proposed Action is to construct a Two Company Headquarters Fire Station located in an area of the Arsenal that reduces response time while enhancing the quality of life for on-call staff. The fire station will be constructed from the standard Army design described in Section 1.1, above. The proposed location for the fire station is in the main area of the Arsenal. This location will allow the project to serve the whole Arsenal, replacing the existing fire station. Based on a review of available space, the proposed site is a section of the paved parking area at the intersection of Bott Road and Farley Avenue (Proposed Location). A Site Location Plan is provided as Figure 4.

This location is within the downtown area of the Arsenal and would significantly decrease the distance and response times for emergency vehicles to all areas of the Arsenal. For example, the proposed action is located approximately 1 mile from Building 7 (Building 7 is used as an example of a building in the far eastern portion of the Arsenal) and 1.5 miles from the densely populated area in the eastern section of the Arsenal.

The design of the existing parking lot will allow the fire vehicles to have their own entrance and exit, thereby increasing maneuverability for the vehicles when exiting their lot and possibly decreasing the response time for emergencies. New utility lines have been installed in the area and several others are planned for the near future. Finally, the existing lot provides open space for visual appeal.

Upon completion of the new fire station, all personnel and equipment will be moved from the old station to the new station. The building will then be allocated to a new use, possibly as a museum although no final plans for the old fire station on Navy Hill are currently under review.

2.2. Potential Environmental Issues Associated with the Proposed Action

What follows is a list of the issues that have the potential to cause environmental concern during the construction and operation phases of the Proposed Action. These issues will be discussed in detail in Section 5.0.

2.2.1. Site Clearing, Utility and Facility Construction

Environmental issues related to the site clearing and/or construction of the Proposed Project may include:

- Air emission resulting from construction activities
- Noise issues
- Contaminated Soils
- Wetlands and surface water
- Stormwater management

- Floodplains
- Rare, threatened and endangered species
- Land/Use and Socioeconomic issues
- Historical, architectural, archeological and cultural resources

2.2.2. Facility Operation

Environmental issues related to the operation of the Proposed Project may include:

- Air emission from the operation of emergency diesel generator and fire trucks
- Noise issues
- Vapor intrusion from affected groundwater
- Stormwater management
- Land/Use and Socioeconomic issues

3. Alternatives Considered

In accordance with both the CEQ and Army regulations (AR 200-2) for NEPA, alternatives to the Proposed Action must be identified and must include the No Action Alternative. Under Army regulations, alternatives may be eliminated from further analysis based on reasonable standards so long as the standards are not so narrow as to unnecessarily limit the alternatives (Title 32, Chapter V, Part 651.34). Reasonable alternatives have been identified based on their ability to meet the performance criteria listed in Section 1.2.

3.1. Alternatives Considered and Dismissed from Detailed Analysis

The following alternatives were considered but dismissed from detailed analysis.

3.1.1. Construct Fire Station at Former Location of Building 66

The first alternative action is to build a headquarters fire station in the former location of Building 66, which was demolished in the spring of 2000. A Site Location Plan is provided as Figure 5. This location is within the downtown area of the Arsenal and would decrease the distance and response times of emergency vehicles when compared to the current location; however, its location is less central than the Proposed Location. Thus, the response times from this location to some areas of the Arsenal would be greater than at the Proposed Location. Appendix A provides a discussion of response time and distance for the proposed location and two alternate locations to various areas of the Arsenal. Additionally, the Alternative would be situated in close proximity to other buildings reducing maneuverability at this site. For the reasons outlined above, this alternative is rejected from further evaluation.

3.1.2. Construct Fire Station Adjacent to Building 302

The second alternative action is to build a headquarters fire station in the parking area adjacent to Building 302 and Storage Silo 309. This location is indicated on Figure 6.

Similarly to the location of Building 66, this area is less central than the Proposed Location and would increase the response time and distance to some areas of the Arsenal, when compared to the Proposed Location. See Appendix A for a discussion. There are no utilities present in this area which are convenient for connection. The additional cost of bringing utilities to the fire station would increase the construction cost. There is also a residential building in this area which may be impacted by the additional noise and traffic caused by the construction and operation of a fire station at this location. Finally, the construction of a fire station at this location may impact access to the adjacent maintenance buildings and use of the adjacent Storage Silo. Therefore, this alternative is rejected from further evaluation.

3.2. Alternatives Retained for Detailed Analysis

3.2.1. No Action Alternative

The Army is required to assess the potential environmental consequences of the No Action Alternative in addition to the Proposed Action (AR 200-2). In this EA the No Action Alternative is defined as continuing to use the existing fire station located in the area of Navy Hill. Since it is clear that the current station does not meet the response time and quality of life issues required by AR 420-90, the likelihood of the No Action Alternative taking place is minimal. However, Army NEPA regulations [Title 32, Chapter V, Part 651.34(d)] require that the No Action Alternative be carried through the EA as a baseline for comparison with the Proposed Action.

4. Affected Environment

4.1. Introduction

The Arsenal is located in a scenic rural area near Dover, New Jersey. The Arsenal contains research and development facilities, residential, institutional and recreational buildings and facilities.

4.2. Air quality - Ambient air quality standards

Picatinny Arsenal is located in Morris County, New Jersey. This county is in attainment for all National Ambient Air Quality Standards (NAAQS) with the exception of ozone (8-hour) and particulate matter that is 2.5 micrometers or smaller in size (PM_{2.5}).

The Arsenal manages its air resources in compliance with its Title V Air Quality Permit. Based on comments from Bob Smith, (Picatinny Environmental Affairs Office), the existing fire station has air permits associated with its operations and it is likely that the new fire station will not be exempt from air permit requirements (N.J.A.C. 7:27-8.).

4.3. Noise

An environmental study for the Arsenal dated October 1997, reported that the four dominant existing sources of noise at the Arsenal are the 155 mm Howitzer range (Building 636), open detonation in the Gorge (Building 1222), the Rail Gun facility in Building 3620, and the electromagnetic gun at Building 717. According to facility personnel, Building 717 is no longer operational and is, therefore, no longer a noise source. Figure 7 shows the location of the remaining noise sources.

The noise impact of ordinance testing was monitored at the Arsenal boundary for a 10-year period by a remote noise monitor system. This system is no longer deemed necessary by the Picatinny Environmental Directorate. In the past two years, the Public Affairs Office has received less than 10 noise complaints that could be correlated to testing activities.

In residential areas of the Arsenal, the ambient residual sound level is expected to be controlled by traffic, and localized noise sources. This residual level varies with the time of day, and is usually lowest at night when intrusive noise, such as that from traffic or ordnance testing is at a minimum. It is assumed that a typical daytime level for "Urban Residential" of 45-50 dB is appropriate for the site based on previous EAs conducted at Picatinny.

In semi-industrial and commercial areas of the Arsenal, a criterion of 90 dB has been used in this EA for intermittent day and nighttime noise and vibration. This level is based on information provided to O'Brien & Gere during a December 16, 1998 meeting with Picatinny staff.

4.4. Soils/Geology

The following geologic description is based on the Morris County Soil Survey, issued August 1976. The Arsenal is located in a valley bounded on the west by Green Pond Mountain and to the east by an elevated plateau. The soils within this valley are of glacial origin, composed of silt deposits along the base of the mountain range and stratified drift deposits in the central valley. The deposits, which are categorized by the Rockaway-Hibernia-Urban Land Association, are found in upland areas characterized by deep, well-drained to somewhat poorly drained soils, gentle to steep sloping hills, and gravelly, sandy and stony loams that overlie granitic gneiss (Figure 8). Figure 9 depicts surface soil types for the Arsenal vicinity.

The Arsenal resides within the Green Pond Valley bounded to the northwest by Green Pond Mountain in the southern portion of the valley and Copperas Mountain in the northern part of the valley. The northeastern portion of the valley is composed of lower Paleozoic sedimentary rocks, which unconformably overlie the Middle Proterozoic basement rocks, and are faulted out by a series of northeast trending faults (i.e., Tanners Brook-Green Pond Fault, Picatinny Fault, Berkshire Valley Fault, and the Gorge Fault - which splays off of the Tanners Brook-Green Pond Fault). The most recent earthquakes near the Arsenal occurred from August 14 to November 3, 1969. The most severe of these earthquakes happened on October 6, 1969, measuring 1.25 on the Richter Scale.

4.5. Water Resources

4.5.1. Surface Water

This discussion of surface water resources are based on a review of previous EAs, a review of water resource map provided by Arsenal staff, and the NJDEP GIS database “NJDEP Streams of Morris County, New Jersey (1989).” The collection basin for the watershed in the area of the current fire station is composed of Picatinny Lake and Green Pond Brook (Figure 10). Picatinny Lake is approximately 6,000 feet in length, averages 1,000 feet in width, and encompasses approximately 115 acres. The lake is man made with an average depth of 20 feet and contains approximately 165 million gallons of water. The lake discharges water to Green Pond Brook, which continues to the south and flows across the Arsenal before discharging into the Rockaway River.

According to the Fire Inspector, Picatinny Lake is a source of non-potable water used for Arsenal activities, including fire fighting. Based on visual observations during a site walk-through, the brook and lake also receive water from storm water discharge and non-contact cooling water sources.

The Public Complex Stormwater General Permit (NJ0141879) authorizes “Flows from fire fighting activities including the washing of fire fighting vehicles (Part 1, A. Authorization Under the Permit, 2 Eligibility, d. viii.)”

4.5.2. Groundwater

The Arsenal’s ground water resources were determined based on the New Jersey Department of Conservation and Economic Development Special Report 25 entitled “*Availability of Ground Water in Morris County, New Jersey*” (Gill and Vecchioli, 1965). There are three major regional water-bearing zones within the Arsenal including a shallow unconfined aquifer, a confined aquifer, and a

confined bedrock aquifer. South of Picatinny Lake, the bedrock and glacial sediments are divided into a sequence of six permeable layers and five intervening, low permeability layers.

In general, several areas at the Arsenal have groundwater that has been affected by past activities. For example, tetrachloroethene (PCE), trichloroethene (TCE) and explosive compounds such as RDX (Cyclotrimethylenetrinitramine) have been detected in the groundwater at the Mid-Valley portion of the Arsenal.

4.5.3. Wetland Vegetation

Picatinny Lake is designated by both NJDEP Freshwater Wetland Maps and the US Fish & Wildlife Service's (USFWS) National Wetlands Inventory (NWI) maps as open water wetland. A few pockets of mapped scrub shrub or forested wetlands are located in some areas around the perimeter of the lake, however, the shore itself contains emergent wetlands. A map of wetlands at the Arsenal is provided as Figure 11.

Data collected for the NJDEP Landscape Project (2001, communicated through Mr. Van De Venter) has indicated that the majority of wetlands at the Arsenal are considered to be of exceptional resource value. This exceptional status has been conferred on wetlands in this area due to the potential presence of State and Federal Threatened and Endangered species habitat (primarily the Federally Endangered Indiana Bat). An exceptional resource value wetland requires a 150-foot transition area.

4.5.4. Floodplains

Several areas of the Arsenal have been designated to be within the 100-year floodplain (Figure 12).

4.6. Threatened and Endangered Species and Other Natural Resources

The NJ Division of Fish, Game & Wildlife (2006) has also developed a list of threatened or endangered species for the entire state of New Jersey (Table 2). The Picatinny Arsenal Integrated Natural Resources Management Plan (INMRP, 2001) also provides a list of threatened or endangered species for this facility (Table 3). Finally, the USFWS (2006) has identified 44 species in the Northeast region of the U.S. that are considered threatened or endangered (Table 4).

According to Jon Van De Venter, Picatinny Natural Resources Manager, the facility has addressed the conservation of two federally-listed endangered species in management plans. A draft management plan is being prepared for the Indiana bat (*Myotis sodalis*) and a final management plan has been developed for the bog turtle (*Clemmys muhlenbergii*).

Appendix B presents the Natural Heritage Database records for Rockaway Township, Morris County, New Jersey as provided by the NJDEP. The database has records for occurrences of barred owl that may be on the Arsenal and for wood turtle that may be in the immediate vicinity of the Arsenal. Picatinny natural resources personnel have confirmed the presence of these species within the installation boundaries.

In addition to the rare, threatened or endangered species outlined above, the Arsenal is home to hundreds of animal and plant species. The Arsenal INRMP (2001) divides the wildlife resources into urban and other than urban. Urban landscapes are characterized by lawns (Kentucky blue grass, rye

grass, bent grass), ornamental trees and shrubs (spruces, pines, Norway maple, dogwoods, etc.), birds (house finch, chipping sparrow, mourning dove, American robin, etc.) and mammals (woodchucks, Norway rats, house mouse, striped skunk, etc.).

Natural areas at Arsenal are comprised of 4,082 acres of forest and 1250 acres of wetland (INRMP, 2001). Numerous species of flora and fauna are found in these natural areas. Picatinny Lake provides a habitat for warm water fish and waterfowl, including ducks and geese. Lake Picatinny supports fish communities in part because of yearly stocking by the Arsenal. Fishing is considered an important amenity of this lake; as it is popular among members of Picatinny Arsenal's active rod and gun club.

4.7. Land Use/Socioeconomics

The Arsenal covers an area approximately 5,850 acres in size. The land use pattern at the Arsenal is mixed, and includes research and development, residential, institutional, industrial, cultural, and recreational uses and facilities. The Arsenal has a workforce population of approximately 3,000 persons, consisting of residents and daily employees (DACA31-02-R-0004 RFP, 2004). A full range of recreational and cultural facilities are located on base, including a golf course, a baseball field, jogging areas, a fitness club, bowling lanes, a child care center, and officers' club, and meeting/seminar buildings.

According to the former Fire Chief, approximately 32 employees currently operate the existing fire station. Upon completion of the new headquarters fire station, the 32 employees will be relocated to the new station, with no further increase in staff.

4.8. Historic Resources

The Arsenal was established as a U.S. Army powder storage depot in 1880. By the early twentieth century, the Arsenal became a major munitions research and production facility, reaching peak production in World War II. In 1994, a cultural resource study surveyed the Arsenal and identified both individual structures that were eligible for the National Register and groups of structures that formed historic districts (WCH Industries, Inc. 1994). Additionally, in 1999, two studies were completed to re-evaluate the 500 structures at the Arsenal which were previously judged to be eligible for the National Register and to identify those structures that were then eligible for nomination (Panamerican Consultants 1999a and 1999b). The existing fire station built in 1903 is a converted horse stable, which is listed on the National Register of Historic Places.

5. Environmental Consequences

This section includes a discussion of the environmental consequences of the Proposed Action and the No Action Alternative

5.1. Air Quality

5.1.1. Effects of Proposed Action

The General Conformity Rule (40 CFR Part 15, Subpart W) ensures that federal actions in nonattainment and attainment/maintenance areas do not interfere with the state's timely attainment of the NAAQS. The general conformity rule is divided into two distinct parts: applicability analysis and conformity determination. If the action is exempt from the general conformity rule, a conformity determination is not required. Emissions from proposed actions are exempt if they are *de minimus* and are not regionally significant. *De minimus* emissions are emissions in a nonattainment area that are less than specified applicability thresholds. Regionally significant emissions are emissions of a criterion pollutant that represent 10 percent or more of the total for the area.

Morris county is in attainment for all NAAQS with the exception of ozone (8-hour; moderate) and particulate matter that is 2.5 micrometers or smaller in size (PM_{2.5}). The applicability threshold for NO_x, VOC (precursors of ozone) is 50 tons per year (TPY) since Morris County is a moderate nonattainment area inside an ozone transport region. There is currently no applicability threshold for PM_{2.5} so the most conservative (protective) threshold for PM₁₀ (70 TPY) is used in this assessment.

Combined annual emissions from use of the emergency diesel generator, fire apparatus, employee commute, and fire station headquarters construction was estimated to be 0.8 tons total hydrocarbons, 4.52 tons NO_x and 0.68 PM₁₀. Emission factors for PM_{2.5} were unavailable but the PM₁₀ emissions calculation provide an over-estimate of PM_{2.5} emissions. These values do not exceed the above-listed applicability threshold nor do they constitute greater than 10 percent or more of the available regional emission inventory for these pollutants. As these emissions are *de minimis* and are not regionally significant a formal conformity determination is not required. See Appendix C for emissions calculation and a Record of Non-applicability for this Proposed Action.

5.1.2. Effects of the No Action Alternative

Implementing the No Action Alternative would not adversely affect air quality because no new structure would be built.

5.2. Noise

5.2.1. Effects of Proposed Action

Because of the nature of activities performed at the Arsenal, the immediate vicinity around the proposed action location is considered to be an industrial or commercial area. Such an area would normally be subject to the Arsenal's criterion of 90 dB for intermittent day and nighttime noise and vibration for semi-industrial and commercial areas. However, there is an occupied residential building (Building 119) located approximately 320 feet from the proposed location and the Child Development Center is located approximately 650 feet from the proposed site. Therefore, the more stringent criterion of 45-50 dB is appropriate for the Proposed Action.

Construction noises associated with the Proposed Action will meet the residential criterion (45-50 dB). In addition, these impacts would occur during the temporary period required for construction (daylight hours), thereby lessening any potential noise impacts on residences in the vicinity.

According to the Fire Inspector, there are minimal noises typically generated at the fire station, including, but not limited to, alarms and sirens. Notification of fires is provided by a tone over the fire station's radio system. This tone is well below the noise criterion of 45-50 dB.

An alarm at the station is used in the event of a fire occurring at the Arsenal. This alarm is rated at 85 dB. The standard attenuation rate is 6 dB per doubling of distance for point noise sources. The noise attenuation profile for the alarm would be as follows:

Noise Attenuation	
Distance from Source (feet)	Point Source (-6dB)
50	85dB
100	79dB
200	73dB
400	67dB
800	61dB

The noise level at the adjacent residential building (~70 dB) and the Child Development Center (~64 dB) would only be slightly higher than the residential standard that is appropriate for this area (45-50 dB). Moreover, this is an intermittent alarm that operates when there is a fire at the Arsenal or for scheduled testing. Therefore, the fire station alarm is not expected to have a noise impact on the area surrounding the Proposed Action.

5.2.2. Effects of the No Action Alternative

Implementing the No Action Alternative would not adversely affect ambient noise levels because no new structure would be built.

5.3. Soils/Geology

5.3.1. Effect of the Proposed Action

Implementation of the Proposed Action would not adversely affect the geological resources at the construction Site.

In terms of Site soil, it is likely that excavation for the Proposed Action will result in excess soil. Given the presence of affected groundwater in this area (see Section 5.4.2.1.), it is possible that the excess soil may be affected with TCE or some other constituent of potential concern. Therefore, soil clearance (as outlined in the Soil Clearance Policy, Appendix D) should be performed by the design contractor. The excess soil should be tested per NJDEP Tech Regulations before moving to an approved location on the Arsenal or potentially offsite. Thus, the implementation of the Proposed Action would not adversely affect the environment as long as the Picatinny Arsenal Soil Clearance Policy is followed.

5.3.2. Effect of the No Action Alternative

Implementing the No Action Alternative would not adversely affect Site geology or soils.

5.4. Water resources

5.4.1. Surface Water

5.4.1.1. Effects of the Proposed Action

Potential impacts on water quality as a result of the Proposed Action may be associated with the contamination of surface run off during construction activities. Stormwater in the area currently connects to the existing catch basin. There is a very small (4 foot wide) unnamed brook located approximately 250 feet from the proposed location along the perimeter of the section of the existing parking lot that will remain. The brook is piped underground after Buffington Road and eventually joins Bear Swamp Brook. In accordance with USACOE CEGS-01410 Section 1.3, the construction contractors will keep activities under close surveillance, management, and control to avoid pollution of surface and ground waters.

Storm water will be directed around any equipment storage and maintenance areas and best management practices will be utilized, as appropriate, under a Soil Erosion and Sediment Control Plan, as described in Section 1.4. Contractors should also follow the Picatinny Arsenal Soil Management Procedures during Construction Activities (Appendix D).

It is not expected that any significant adverse short or long term impacts will occur to surface or ground waters as a result of construction of the fire station project.

The existing fire station does not have storm water discharges or permits. Stormwater runoff from the Proposed Location is currently directed to two catch basins, one along Bott Road and the other along Buffington Road. The stormwater is then filtered and released to Green Brook Pond. It is anticipated

that runoff from the proposed fire station would be diverted to the same system. No change is anticipated in the volume of water directed into the system due to construction of the proposed station. All new or existing storm drains in the area of the Proposed Action will comply with the Public Complex Permit, Attachment C, Design Standards.

5.4.1.2. Effects of the No Action Alternative

Implementing the No Action Alternative would not adversely affect Site surface water quality.

5.4.2. Groundwater

5.4.2.1 Effects of Proposed Action

The Picatinny Arsenal Mid-Valley Ground Water Feasibility Study (Shaw, 2005) indicated that there is a plume of TCE and RDX in overburden and bedrock ground water beneath the proposed location. This plume has been addressed within the Installation Restoration Program within the Mid-valley Feasibility Study negotiated between the USEPA and NJDEP.

The presence of volatile organic compounds in ground water offers the potential for chemical vapors to migrate through subsurface soils, which can potentially impact the indoor air quality of nearby buildings (NJDEP, 2005). The accumulation of volatile vapors in impacted structures can result in potential health concerns associated with levels of contaminants, as well as the potential for chronic health effects associated with lower levels of site related compounds (NJDEP, 2005).

The NJDEP Vapor Intrusion Ground Water Screening Level for TCE is 1.0 µg/L. This TCE concentration in ground water is thought to yield an acceptable concentration of TCE in the indoor air above the plume. Ground water wells closest to the project footprint include 125MW-2A and 125MW-2B. The 2004 TCE concentration in both of these wells was 10 µg/L. This indicates that the TCE concentration in the air of a building constructed over this plume has the potential to reach levels that may cause health concerns. If the fire station is constructed at this site, the design should include an appropriate vapor barrier. Additionally, groundwater monitoring well within the Proposed Action footprint should be made flush with the ground or appropriately abandoned with permission from the NJDEP and USEPA.

5.4.2.2. Effects of No Action Alternative

Implementing the No Action Alternative would not adversely affect groundwater resources at the Arsenal. The No Action Alternative would not require the placement of a vapor intrusion barrier.

5.4.3. Wetland resources

5.4.3.1. Effects of Proposed Action

Implementing the Proposed Action will not adversely affect wetland resources. Mr. Van De Venter (Natural Resource Manager of the Arsenal) indicated that the biggest concern at this site was two small wetland areas that are located approximately 240 feet to the northeast of the proposed building footprint (Figure 4A). The NJDEP Landscape Project has indicated these wetland are considered to be of exceptional resource value due to the potential presence of State and Federal Threatened and

Endangered species habitat. However, the construction of the firehouse at this location will not impact these wetlands. This conclusion is based on the fact that the proposed project will be more than 200 feet away from the closest wetland area, the majority of the building is sited on the existing paved parking lot, and the majority of the storm water runoff from this site will continue to drain to the northeast – away from the subject wetlands.

5.4.3.2. Effects of No Action Alternative

Implementing the No Action Alternative would not adversely affect the wetland resources at the Arsenal.

5.4.4. Floodplains

5.4.4.1. Effects of Proposed Action

This area does not lie within the 100-year flood plain; therefore, the project area would not be subject to flooding (Figure 12).

5.4.4.2. Effects of No Action Alternative

Implementing the No Action Alternative would not adversely affect the floodplain areas of the Arsenal.

5.5. Threatened and Endangered Species and Other Natural Resources

5.5.1. Effects of Proposed Action

Implementing the Proposed Action would not adversely affect the threatened and endangered species or other natural resources at the Arsenal. The majority of the Proposed Action will be constructed on an existing paved parking lot. Construction will require the removal of a small amount of young trees (approximately 15 feet in height). This action will not have significant impact on the wildlife species located at the Arsenal because of its size (~0.1 acre will be removed) and the fact that no mature trees will be removed.

5.5.2. Effects of the No Action Alternative

Implementing the No Action Alternative would not adversely affect threatened and endangered species or other natural resources at the Arsenal.

5.6. Land use/Socioeconomics

5.6.1. Effects of Proposed Action

The established industrial land use of the project area would not be affected by the installation of a headquarters fire station. The proposed project would create minimal employment for regional workers during the construction phase. No increase in staff is anticipated during the operation phase. Therefore, the proposed action would have a minor beneficial impact on the socioeconomics of the surrounding region.

The parking lot is currently used for overnight parking for Arsenal personnel. On two site visits, the lot was observed to be operating at a fraction of its total capacity. As the construction of the new fire station will necessitate the demolition of approximately one-half of the existing parking lot, parking capacity would be lost. However, it is anticipated that the remaining parking area would be sufficient to meet demand.

The fire station will have its own entrance, exits and parking area. Therefore, interference with the current traffic flow on Bott Road, Farley Avenue and Buffington Road would be minimal and limited to emergency situations.

5.6.2. Effects of the No Action Alternative

Implementing the No Action Alternative will not adversely affect the land use patterns or the socioeconomics of the Arsenal.

5.7. Historic Resources

5.7.1. Effects of Proposed Action

According to Mr. Tim Miller (the former Cultural Resource Manager) the proposed location is outside of the Arsenal's Historic Districts. In addition, the area is considering to be a "disturbed area"; therefore, archaeological resources are not anticipated to be disturbed during construction of the Proposed Action.

The current Fire Station (Figure 2) is on the National Historic Register of Historic Places. This structure will be empty with the transfer of the fire station activity to the new building. The Arsenal is evaluating plans for the reuse of this structure. The building will be mothballed and maintained to ensure it is not allowed to deteriorate until a reuse option is determined. No adverse impact to this historic property will occur as a result of the Proposed Action.

5.7.2. Effects of the No Action Alternative

Implementing the No Action Alternative would not adversely affect the historical, architectural, archeological or cultural resources of the center.

6. Conclusions Regarding the Impacts of the Proposed Action

The Proposed Action involving the construction of a Two Company Headquarters Fire Station at the intersection of Bott Road and Farley Avenue at the Arsenal has been reviewed to determine the extent of environmental impacts that would result from implementing this project. In addition to the Proposed Action, the No Action Alternative and two alternate location options were evaluated. The evaluation reached the following conclusions:

1. Adequacy of the Proposed Action - does the Proposed Action meet the needs of the Arsenal? **YES**
 - The proposed action places the headquarters station closer to down town Picatinny Arsenal and improves conditions for station employees.
 - The proposed action is the most centrally located site under consideration and will provide the most effective emergency response times and distances to most areas of the Arsenal (Appendix A).
 - The proposal is consistent with the uses of adjacent property and roadways.
2. Air Quality Impacts - does the Proposed Action minimize air emissions? **YES**
 - The proposal will not result in significant air quality impacts during construction or operation (Section 5.1.).
3. Noise Impacts - is the Proposed Action within acceptable noise limits? **YES**
 - Noise impacts would be minimal from vehicles and alarms and are consistent with the Arsenal's noise criteria levels (Section 5.2.).
 - There would be no increase in net Arsenal noise following construction of the fire station (Section 5.2.).
4. Geology and Soils Impacts – does the Proposed Action affect these resources? **NO**
 - Site Geology will not be adversely impacted by the Proposed Action (Section 5.3).
 - Site Soil will not be adversely impacted by the Proposed Action (Section 5.3).
 - The removal of potentially affected excess Site soils will not impact the environment as long as the Picatinny Soil Clearance Policy is followed (Section 5.3, Appendix D).
4. Water Quality Impacts - does the Proposed Action have a potential to impact surface water, ground water, wetlands or floodplains? **NO**
 - No significant adverse impacts will occur to the surface or ground water as a result of construction activities (Sections 5.4.1. and 5.4.2.).
 - The Proposed Action is not located in a floodplain area and is greater than 150 feet from a wetland area (Sections 5.4.3 and 5.4.4).
5. Threatened and Endangered Species and Other Natural Resources - will the Proposed Action impact these resources? **NO**

- The Proposed Action is not expected to impact any threatened or endangered species. No threatened or endangered species were identified at the location of the Proposed Action (Section 5.5.).
 - The Proposed Action will be constructed in an area that is mostly paved and devoid of natural resources. Only a small area of tree saplings (15 feet in height) will be cleared for this project (Section 5.5.).
6. Land Use/Socioeconomic Impacts - will the Proposed Action adversely impact land use and Arsenal economics? **NO**
- The Proposed Action is within an acceptable land use zone (Section 5.6.1.).
 - The action will have a minor positive impact on socioeconomics through the addition of labor during the construction phase (Section 5.6.1.).
7. Historical Resources - is the Proposed Action within a historic area? **NO**
- The proposed location is not historically significant (Section 5.7.).

There was a Finding of No Significant Impact (FNSI) for the Proposed Action.

The following is a summary of the No Action and the two Alternative Action Alternatives considered in this Environmental Assessment. Based on the considerations presented below, the Proposed Action is preferable to all of these alternatives Actions:

No Action Alternative

- the current fire station would continue to fail to achieve an adequate response time and distance as specified in AR 420-90
- the current fire station would continue to provide an inadequate standard of life for on-duty firefighters as specified in the FSSDD

Alternative Action 1 – Former Building 66 Location

- this alternative would have a greater response time and distance to many areas of the Arsenal as compared to the Proposed Location
- this alternative provides less maneuverability for emergency vehicles and may interfere with traffic accessing other buildings
- there is a small brook located 200-feet from the location which may potentially be adversely affected either during construction activities or during the operation of the fire station

Alternative Action 2 – Existing Parking Facility Adjacent to Building 302

- this alternative provides a greater response time and distance to many areas of the Arsenal as compared to the Proposed Location
- this alternative may interfere with traffic accessing adjacent buildings
- there are no utilities present in this area
- there is a residential building in this area which may be affected by the additional noise and traffic caused by the construction and operation of a fire station at this location

7. List of Preparers and Agencies and Persons Consulted

The following individuals were responsible for preparing this Environmental Assessment:

<u>Individual</u>	<u>Title</u>	<u>Organization</u>
Mr. Lyle Trumbull	NEPA Consultant	O'Brien & Gere
Ms. Anne Power	Air Quality Consultant	O'Brien & Gere
Mr. Chris Kriegner	Biologist/Wetland Scientist	O'Brien & Gere

The following individuals were contacted during the preparation of this assessment:

<u>Individual</u>	<u>Title</u>	<u>Organization</u>
Mr. Robert Tunis	Fire Protection Inspector	Picatunny Arsenal
Mr Bob Smith	Environmental Affairs	Picatunny Arsenal
Mr. John Doll	Former Fire Chief	
Mr. Vinod Kapoor	Former Master Planner, Department of Public Works	Picatunny Arsenal
Mr. Jon Van De Venter	Natural Resources Manager	Picatunny Arsenal
Ms. Christine Gray	Formerly of the Environmental Affairs Directorate	Picatunny Arsenal
Mr. Robert Canning	Chief of Operations	Picatunny Arsenal
Mr. Tim Miller	Former Cultural Resources Manager	
Mr. Dan Saunders	Historic Preservation Specialist	New Jersey Historic Preservation Office
Township Clerk		Jefferson Township Office
Township Clerk		Rockaway Township Office

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