compliance with the CWA. The NPDES program, administered by ADEQ under the USEPA's supervision, requires a Construction General Permit for surface disturbance of 1 acre or more. Compliance with this permit involves development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and an erosion and sediment control plan that includes site-specific management measures.

4.6.2. IMPACTS

4.6.2.1. Alternative #1 (Preferred Alternative)

Topography

The parcel proposed for the new elementary school is undeveloped land composed of densely forested old Post Oak Savanna. The parcel generally slopes to the southeast (Little Rock AFB 2014a). While proposed construction would require some minor modification of terrain by cut and fill techniques and other minor grading, no significant topographic features would be affected as a result of implementation of these activities. The topography surrounding Arnold Drive Elementary School has been previously modified and developed. No impacts to topography would occur as a result of operations and maintenance of the new elementary school. Therefore, no significant impacts to topography would occur as a result of implementation of the Preferred Alternative.

Geology

Implementation of the proposed construction under the Preferred Alternative would not substantially affect the geologic units underlying Arnold Drive Elementary School or the parcel proposed for the new elementary school as no unique geologic features are present. No impacts to geology would occur as a result of operations and maintenance of the new elementary school. Therefore, no impacts to geology from the implementation of the Preferred Alternative would occur.

Soils

As shown in Figure 3.6-1, proposed construction of the new elementary school under the Preferred Alternative would occur primarily on Linker-Urban land complex (47 percent), Linker-Mountainburg association (52 percent), and Linker Series (1 percent). The demolition of Arnold Drive Elementary would occur on Linker-Urban land complex (65 percent) and Linker Series (35 percent). According to the NRCS Web Soil Survey (2016), in regard to building site development, the risk of corrosion to concrete is moderate, and the risk of corrosion to steel ranges from low to high. In regard to the construction of buildings on these soils types and the construction of recreation areas (playgrounds), there are limitations associated with the Linker-

Mountainburg association as a result of the close depth to hard bedrock, gravel content, slow water movement, and large stones in some areas (NRCS 2016). The remaining soil types are considered somewhat limited for the same reasons. These types of limitations can often be overcome or minimized by special planning, design, or installation (NRCS 2016).

Under the Preferred Alternative, the construction of the proposed new elementary school would result in 5.34 acres of temporary disturbance to the existing forested area from construction equipment. Existing trees on the parcel would be selectively cut in order to create room for the new facilities. There would be 5.96 acres of new impervious surfaces constructed and the remaining area would be permeable. In addition, there would be 0.84 acre of temporary disturbance associated with the proposed demolition of Arnold Drive Elementary School. Consequently, there would be 6.18 net acres of temporary disturbance to soils within the proposed project area. After demolition, Arnold Drive Elementary School land would either be returned to pervious surfaces (open space) or a new facility would be constructed in its place under separate NEPA documentation.

Prior to any construction activities, the installation would prepare a demolition-specific SWPPP, in accordance with the ADEQ Construction Stormwater General Permit No. ARR 150000 for the area surrounding Arnold Drive Elementary School. The District would be responsible for creating a construction-specific SWPPP for the construction associated with the new elementary school. These plans would include BMPs and monitoring requirements to minimize erosion and sedimentation. The design of the erosion, sediment, and pollution control consists of three stages: the initial phase, intermediate phase, and the final phase. The initial phase could consist of installing construction entrances, silt fence for outer perimeter control, sediment basins, diversion ditches, stone check dams, temporary stream crossings, temporary seeding, mulch, and dust control, as needed for construction. Temporary stream crossings could use corrugated metal pipe along with energy dissipating rip rap. The intermediate phase of the erosion and sediment control plans could consist of adding filter rings and culvert outlet energy dissipaters at proposed culvert locations to reduce sediment entering the culvert and to reduce water velocities on exit. The final phase could include installation of permanent seeding and removal of intermediate erosion controls. The permanent seeding would be maintained until final stabilization is achieved. Any potential impacts resulting from erosion or temporary increases in surface runoff during construction activities would be minimized through the use of these standard erosion control measures. No impacts to soils would occur as a result of operations and maintenance of the new elementary school. Consequently, impacts on soils would not be significant.

4.6.2.2. Alternative #2

Many of the components described under the Preferred Alternative are similar or identical to Alternative #2 in regard to earth resources as both parcels have similar topography, geology, and

soils. However, under Alternative #2 an additional 49.9 acres of temporary disturbance from construction equipment and 21.3 acres of additional new impervious surfaces would be constructed as part of the new high school. Therefore, the net temporary disturbance, including the new elementary and high school and demolition of Arnold Drive Elementary, would be 56.08 acres. The net new impervious surface would be 27.26 acres.

As shown in Figure 3.6-1, proposed construction under Alternative #2 could occur primarily on Leadvale-Urban land complex (11 percent), Linker-Mountainburg association (49 percent), Mountainburg Series (1 percent), and Linker Series (39 percent). The associated limitations to construction on these soils are similar to that under the Preferred Alternative.

The larger area of temporary disturbance and larger impervious surface area has the potential to result in increases to erosion and temporary increases in surface runoff during the construction phase, when compared to the Preferred Alternative. Although there is increased potential for impacts to soil from the implementation of Alternative #2, with appropriate BMPs impacts should be minimal. Similarly to the Preferred Alternative, Alternative #2 would have no significant impacts to geology or topography.

4.6.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the new elementary school and new high school would not occur. However, the District would continue to conduct periodic repairs to Arnold Drive Elementary School. Therefore, no significant impacts to earth resources would occur as a result of implementation of the No Action Alternative.

4.7. WATER RESOURCES

4.7.1. METHODOLOGY

When land is developed, the hydrology, or natural cycle of water, can be altered. Impacts on hydrology can result from land clearing activities, disruption of the soil profile, loss of vegetation, introduction of pollutants, new impervious surface, and an increased rate or volume of runoff. Without proper management controls, these actions can adversely impact the quality and/or quantity of water resources.

Criteria for evaluating impacts related to water resources associated with the PA are water availability, water quality, groundwater recharge, and adherence to applicable regulations. Impacts are measured by the potential to reduce water availability to existing users, endanger public health or safety by creating or worsening health hazards or safety conditions, or violate laws or regulations adopted to protect or manage water resources. An impact to water resources would be significant if it would: 1) adversely affect water quality or endanger public health by

creating or worsening adverse health hazard conditions; 2) threaten or damage unique hydrologic characteristics; or 3) violate established laws or regulations that have been adopted to protect or manage water resources of an area.

The NPDES Branch of the Water Division of ADEQ and the USACE are the regulatory agencies that govern water resources in the state of Arkansas and at Little Rock AFB. These agencies have adopted the USEPA's applicable environmental rules and regulations. The CWA of 1972 regulates pollutant discharges and development activities that could affect aquatic life forms or human health and safety. EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, issued January 30, 2015, amended EO 11988, *Floodplain Management* of 1977, established FFRMS to improve the Nation's resilience to current and future flood risks, which are anticipated to increase over time due to the effects of climate change and other threats. EO 13690 and the FFRMS call for agencies to use a higher vertical flood elevation and corresponding horizontal floodplain than the base flood for federally funded projects to address current and future flood risk and ensure that projects last as long as intended.

In addition, once implemented by federal agencies, EO 13690 requires all future federal investments in and affecting floodplains to meet the level of resilience as established by the Standard. This includes where federal funds are used to build new structures and facilities or to rebuild those that have been damaged. The analysis for this EA implements the new flood risk standard by using the *Freeboard Value Approach*. This approach includes the elevation and flood hazard area that results from using the freeboard value, reached by adding an additional 2 feet to the base flood elevation for non-critical actions and by adding an additional 3 feet to the base flood elevation for critical actions.

4.7.2. IMPACTS

4.7.2.1. Alternative #1 (Preferred Alternative)

Surface Water

Construction under the Preferred Alternative would result in 6.18 net acres of temporary disturbance: 5.34 acres as a result of the construction of the new elementary school and 0.84 acre associated with the demolition of Arnold Drive Elementary School. Within the proposed temporary disturbance area associated with the new elementary school, not all of the trees would be removed, but instead would be selectively cut in order to create room for the new facilities. There would be 5.96 acres of new impervious surfaces constructed and the remaining area would be permeable. There would be 2.7 acres of new playground areas created which would be developed as pervious surfaces. After demolition, Arnold Drive Elementary School land would

either be returned to pervious surfaces (open space) or a new facility would be constructed in its place under separate NEPA documentation.

The temporary disturbance and the increase in impervious surfaces as a result of construction and demolition could result in temporary localized increases in runoff and total suspended particulate matter to nearby surface waters. During construction, under the direction of the District, the parcel associated with the new elementary school would be graded such that runoff would be directed off of Little Rock AFB and connect with the City of Jacksonville's stormwater system, similar to the nearby North Pulaski High School and Tolleson Elementary School. In accordance with UFC 3-210-10 (*as amended* 2015) and Section 438 of the *Energy Independence and Security Act of 2007*, facilities having a footprint that exceeds 5,000 SF (0.1 acre) must maintain or restore the pre-development site hydrology to the maximum extent technically feasible. Agencies can meet the pre-development hydrology requirements in two ways: 1) managing on site the total volume of rainfall from the 95th percentile storm, or 2) managing on site the total volume of rainfall based on a site-specific hydrologic analysis through various engineering techniques.

The District would be responsible for creating a construction-specific SWPPP in accordance with the ADEQ Construction General Permit to manage construction related runoff. Prior to the demolition of Arnold Drive Elementary School, the demolition contractor would prepare a demolition-specific SWPPP in accordance with the Little Rock AFB ADEQ Construction Stormwater General Permit No. ARR 150000, and Little Rock AFB would review and approve this document. These plans would include BMPs and monitoring requirements to minimize erosion and sedimentation. The design of the erosion, sediment, and pollution control consists of three stages: the initial phase, intermediate phase, and the final phase. The initial phase could consist of typical BMPs, such as installing construction entrances, silt fence for outer perimeter control, sediment basins, diversion ditches, stone check dams, temporary stream crossings, temporary seeding, mulch, and dust control, as needed for the demolition and construction. Typical BMPs often associated with the intermediate phase of the erosion and sediment control plans could consist of adding filter rings and culvert outlet energy dissipaters at proposed culvert locations to reduce sediment entering the culvert and to reduce water velocities on exit. The final phase could include installation of permanent seeding and removal of intermediate erosion controls. Ultimately, site-specific BMPs would be chosen by the contractor to comply with the permit requirements at their discretion, as they are the responsible party. Any potential impacts resulting from erosion or temporary increases in surface runoff during construction activities would be temporary and minimized through the use of these erosion control measures. No impacts to surface water would occur as a result of operations and maintenance of the new elementary school.

Groundwater

Under the Preferred Alternative, the increase in the amount of impervious surface (5.96 acres) could also result in a decrease in groundwater recharge. The groundwater located within the ROI is located within perched aquifers with unknown recharge areas and the decrease in potential infiltration quantities would not have a significant impact. The integration of water harvesting and natural open space into project design would further minimize potential adverse impacts due to impervious surface. The use of these features would also increase groundwater recharge through direct percolation offsetting the loss of pervious surface due to future construction. No impacts to groundwater would occur as a result of operations and maintenance of the new elementary school.

Floodplains

In accordance with EO 13690 (October 8, 2015), the floodplain delineation for this EA was established by using the *Freeboard Value Approach* to calculate an expanded elevation and flood hazard area. This value is reached by adding an additional 2 feet to the base flood elevation delineated as part of the Little Rock AFB 2011 study (USAF 2011b), as shown on Figure 4.7-1. This expansion from the base flood elevation to a higher vertical flood elevation and corresponding horizontal floodplain is part of the higher resiliency standards for structures to adapt to, withstand, and rapidly recover from a flood event as outlined in EO 13690. As shown in Figure 4.7-1, there are three 100-year floodplains areas located in the southern portion of the proposed elementary school parcel; however, they are located outside the area proposed for temporary disturbance. In addition, there is a 100-year floodplain along the northern perimeter of Arnold Drive Elementary School.

In accordance with EO 11988, *Floodplain Management* and supplemental EO 13690, and AFI 32-7064, *Integrated Natural Resources Management*, undertaking or providing assistance for new construction within floodplains shall be avoided, unless there is no practicable alternative to such construction and all practicable measures to minimize harm to floodplains from such activities have been considered through project design and implementation of environmental mitigation measures to include BMPs. If there are no practicable alternatives, then the USAF authority (Headquarters AMC) shall approve a FONPA as required by EO 11988.

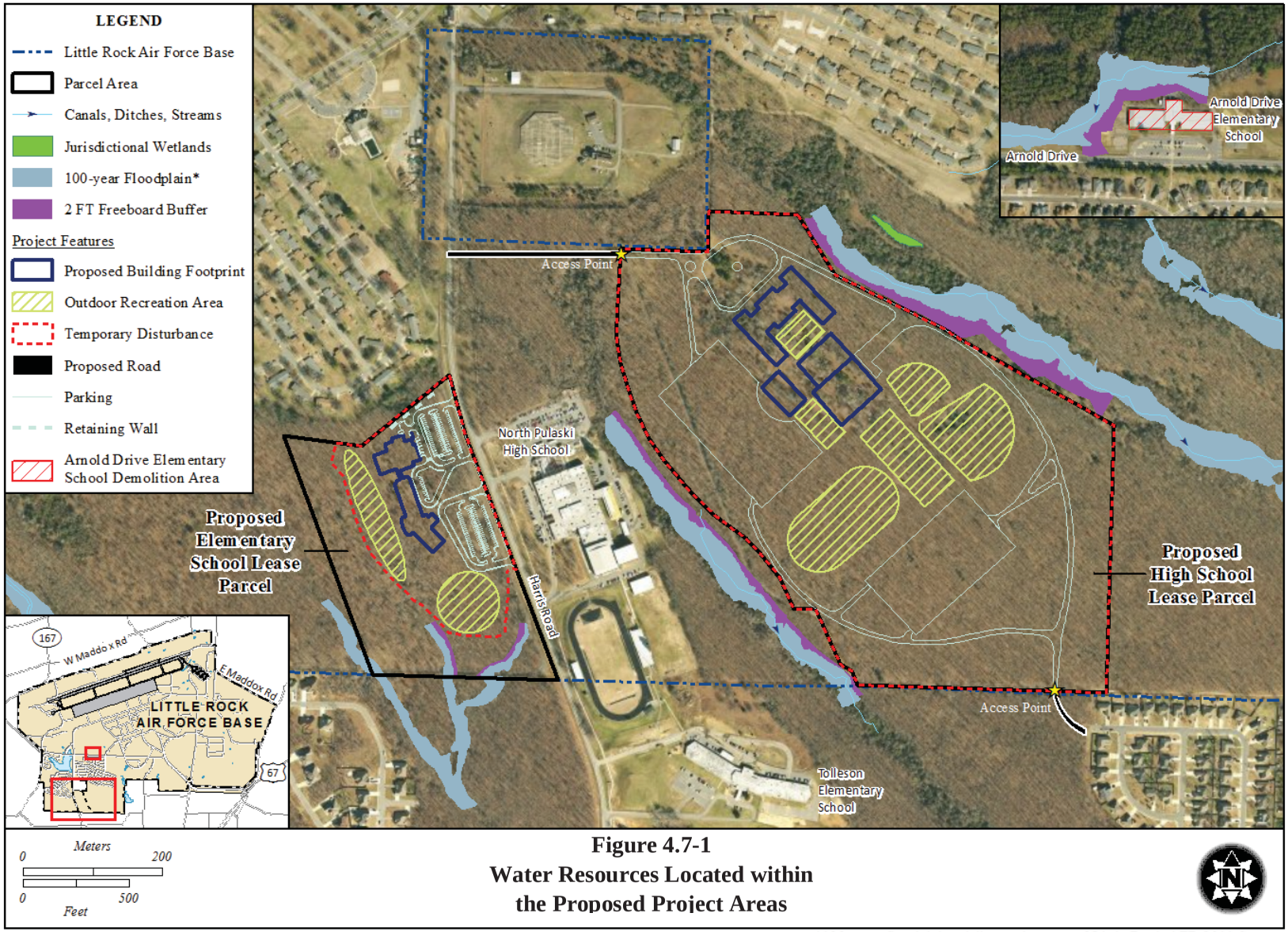

Figure 4.7-1
Water Resources Located within the Proposed Project Areas

*100- year floodplains delineated as part of Little Rock AFB 2011 Survey

As floodplains have been identified within the tract of land considered to be leased to the District for the new elementary school facility, and no practicable alternative exists, a FONPA is being prepared upon completion of an appropriate environmental analysis and report. Identification and analysis of alternatives is one of the core elements of the environmental impact analysis process under NEPA and the USAF's implementing regulations. The USAF may expressly eliminate alternatives from detailed analysis based on reasonable selection standards (32 CFR 989.8[c]). Consequently, Little Rock AFB systematically evaluated operational requirements and future needs to identify potential alternative locations for the proposed new multi-school campus construction project. A series of design factors were developed to identify a full set of reasonable options as described in detail in Section 2.2. Based on this analysis, siting selection standards were used to identify a full set of reasonable options for the PA. Based on the selection standards stated in Section 2.2, the USAF and the District decided that the parcel located west of the existing Tolleson Elementary School is the only viable locations for the USAF to lease property to the District for an elementary school.

Although the floodplains are not within the area proposed for disturbance, potential minor, indirect, adverse impacts could occur as a result of changes to construction-related overland flow not appropriately mitigated by BMPs and by the close proximity of the floodplains to the proposed construction. Floodplain impacts would be reduced to the maximum extent practicable through project design and implementation of environmental protection measures, to potentially include flagging the floodplain boundary, installing silt fencing, establishing a floodplain buffer, and following policies and procedures as detailed in erosion and sediment control plans; SWPPPs; and Spill Prevention, Control, and Countermeasures Plans. As no physical structures are proposed for construction within the floodplain, long-term adverse effects on floodplains are anticipated to be negligible to minor. Additionally, a public notice was published Saturday, May 7, 2016 in the *Arkansas Democrat-Gazette*, state-wide to invite the public to provide any comments on the preliminary evaluation of the USAF land that may be leased for school projects, and on the resources (floodplains) existing on the Little Rock AFB properties proposed to be leased in accordance with EO 13690 (see Appendix A).

The ADEQ Stormwater Permit requires construction projects where clearing and grading activities occur to provide a 25-foot natural buffer zone for any stream, creek, river, lake, or other water body. As disturbance to any floodplain would be avoided in accordance with state and federal floodplain regulations including EO 11988, *Floodplain Management*, as amended by EO 13690; USACE; and ADEQ NPDES Permits, no significant impacts to floodplains as a result of the implementation of the Preferred Alternative would occur.

No impacts to floodplains would occur as a result of construction or operations and maintenance of the new elementary school.

Wetlands

As shown on Figure 4.7-1, there are no jurisdictional wetlands located within the parcel for the new elementary school or near Arnold Drive Elementary School. No impacts to wetlands would occur as a result of construction or operations and maintenance of the new elementary school. As such, there would be no impacts to wetlands under this alternative.

4.7.2.2. Alternative #2

Surface Water

The construction of the new high school would result in an additional 49.9 acres of temporary disturbance and 21.3 acres of additional new impervious surfaces constructed. Similar to the Preferred Alternative, trees would be selectively cut within the proposed lease area in order to create room for the new facilities. Therefore, the net temporary disturbance, including construction of the new elementary and high schools and demolition of Arnold Drive Elementary, would be 56.08 acres. The net new impervious surface would be 27.3 acres.

The additional land disturbance and impervious surfaces resulting from the implementation of Alternative #2 could result in increases to erosion and temporary localized increases in runoff and total suspended particulate matter to nearby surface waters, when compared to the Preferred Alternative. However, construction would be phased such that Phase I, the elementary school construction, would not occur at the same time as Phase II, thereby decreasing any potential compounding impacts due to construction occurring simultaneously. Although there is increased potential for impacts to surface water quality from the implementation of Alternative #2, with appropriate BMPs, LID design concepts, and compliance with the *Energy Independence and Security Act of 2007*, impacts would not be significant. No impacts to surface water would occur as a result of operations and maintenance of the new elementary school and high school.

Groundwater

Under Alternative #2, there would be an additional increase in the amount of impervious surface (21.3 acres) when compared with the Preferred Alternative. However, as noted above, any increase in surface water runoff as a result of the proposed construction would be attenuated through the use of permit-related temporary and/or permanent drainage management features such as LID design concepts, detention/retention basins, and other BMPs. No impacts to groundwater would occur as a result of operations and maintenance of the new elementary school and high school. Therefore, there would be no significant impacts to groundwater.

Floodplains

As shown in Figure 4.7-1, there are no floodplains located within the area proposed for the new high school. However, there are two floodplains located near the high school parcel. As floodplains have been identified adjacent to the tract of land considered to be leased to the District for the new high school facility, and no practicable alternative exists, a FONPA is being prepared. The FONPA includes activities for both Phase I and Phase II of the PA; a detailed description of the FONPA can be found under Phase I, the elementary school construction Alternative #1, floodplain section above.

Although the floodplains are not directly within the area proposed for disturbance or lease parcel, potential impacts could occur as a result of changes to construction-related overland flow not appropriately mitigated by BMPs and by the close proximity of the floodplains to the proposed construction. Floodplain impacts would be reduced to the maximum extent possible through project design and implementation of environmental protection measures, to potentially include flagging the floodplain boundary, installing silt fencing, establishing a wetland buffer, and following policies and procedures as detailed in erosion and sediment control plans; SWPPPs; and Spill Prevention, Control, and Countermeasures Plans. As no physical structures are proposed for construction within the floodplain, long-term adverse effects on floodplains are anticipated to be negligible to minor.

The ADEQ Stormwater Permit requires construction projects where clearing and grading activities occur to provide a 25-foot natural buffer zone for any stream, creek, river, lake, or other water body. As disturbance to any floodplain would be avoided in accordance with state and federal floodplain regulations including EO 11988, *Floodplain Management* and supplemental EO 13690, USACE, and ADEQ NPDES Permits, no significant impacts to floodplains as a result of the implementation of Alternative #2 would occur.

Wetlands

As shown on Figure 4.7-1, there are no jurisdictional wetlands located within the parcel for the new high school. However, there is one wetland located near the proposed parcel to the northeast. In accordance with EO 11990, undertaking or providing assistance for new construction within wetlands shall be avoided, unless there is no practicable alternative to such construction and all practicable measures to minimize harm to wetlands have been from such activities have been considered through project design and implementation of environmental mitigation measures to include BMPs. If there are no practicable alternatives, then the authorized USAF authority (Headquarters AMC) shall approve a FONPA as required by EO 11990.

However, as wetlands have been identified near the tract of land considered to be leased to the District for the new high school facility, and no practicable alternative exists, a FONPA is being prepared. The FONPA includes activities for both Phase I and Phase II of the PA; a detailed description of the FONPA can be found under Phase I, the elementary school construction Alternative #1, floodplain section above. Although the wetland is not within the area proposed for disturbance or lease parcel, potential impacts could occur as a result of changes to construction-related overland flow not appropriately mitigated by BMPs and by the close proximity of the wetland to the proposed construction. Wetland impacts would be reduced to the maximum extent possible through project design and implementation of environmental protection measures, to potentially include flagging the wetland boundary, installing silt fencing, establishing a wetland buffer, and following policies and procedures as detailed in erosion and sediment control plans; SWPPPs; and Spill Prevention, Control, and Countermeasures Plans. As no physical structures are proposed for construction within the wetland and the wetland is located largely upstream from the proposed construction and on the eastern side across from the floodplain, long-term adverse effects to wetlands are anticipated to be negligible to minor.

In addition, according to AFI 32-7064, *Integrated Natural Resources Management,* 18 November 2014, the USAF is required to disclose the location of known wetlands, and any land-use restrictions imposed by regulatory authority on lands that are leased, transferred, or sold to non-federal entities, and has done so with the District.

No impacts to wetlands would occur as a result of construction or operations and maintenance of the new elementary school and high school.

4.7.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the new elementary school and new high school would not occur. However, the District would continue to conduct periodic repairs to Arnold Drive Elementary School. Therefore, no impacts to water resources would occur as a result of implementation of the No Action Alternative.

4.8. BIOLOGICAL RESOURCES

4.8.1. METHODOLOGY

This section analyzes the potential for impacts to biological resources at Little Rock AFB as a result of implementation of the PA or No Action Alternatives. Analysis of impacts focuses on whether and how ground-disturbing activities could affect biological resources.

Determination of the significance of potential impacts to biological resources is based on: 1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource; 2) the

proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and (4) the duration of ecological ramifications. Impacts to biological resources would be considered significant if species or habitats of concern were significantly affected over relatively large areas or disturbances resulted in reductions in the population size or distribution of a special status species, or if laws, codes, or ordinances protecting special status species were violated.

4.8.2. IMPACTS

4.8.2.1. Alternative #1 (Preferred Alternative)

Vegetation

The construction of the new elementary school would result in 5.34 acres of temporary ground disturbance from construction equipment to the existing forested parcel. In addition, there would be 8.66 acres of Post Oak Savanna forest that would be removed within the footprint of the new elementary school. Trees would also be selectively cut in areas immediately surrounding this footprint of the new elementary school in order to create room for construction of the new facilities. This 8.66 acres represents 0.5 percent of the Post Oak Savanna forest within the installation, identified as unique habitat for the state. Where feasible, patches of Post Oak Savanna would be retained and facilities would be constructed to avoid stands of trees. Therefore, there would be no significant impacts to vegetation under the Preferred Alternative.

Wildlife

Construction activities associated with the Preferred Alternative would occur within Post Oak Savanna forest and would result in a loss of 8.66 acres of habitat as well as temporary increases in noise associated with construction equipment. In addition, construction-related noise may displace wildlife from suitable habitat in the immediate vicinity of the project area. However, this habitat is primarily surrounded by an urban environment with residential areas to the north and south, as well as the nearby Tolleson Elementary School and North Pulaski High School. Therefore, wildlife species found at the site are already adapted to an urban noise environment. Impacts to wildlife from operations and maintenance of the new elementary school would be minor, as they would be similar to existing operations and maintenance activities for Tolleson Elementary School that is across the road. As a result, there would be no significant impacts to wildlife as a result of implementation of the construction and operational activities associated with the Preferred Alternative.

Threatened and Endangered and Special Status Species

No impacts to federally listed species would be expected from the proposed construction of the new elementary school or demolition of Arnold Drive Elementary School. The interior least tern

has been known to nest on the rooftops of Buildings 450 and 430, which are located approximately 8,000 to 9,000 feet north of the proposed new elementary school site and 3,800 to 5,000 feet north of Arnold Drive Elementary. Impacts to special status species, including migratory birds and the bald eagle, that could potentially occur within the project area would be similar to that described under wildlife.

There are confirmed observations of the rattlesnake-master borer moths, a candidate species, within the project area in the Post Oak Savanna. Their primary food plant, rattlesnake-master, was also found in these areas (Nature Conservancy 2014). Little Rock AFB would coordinate with the Nature Conservancy, as an informational source only, prior to construction to transplant any rattlesnake-master plants within the footprint of the new elementary school to a nearby suitable habitat. Since the rattlesnake-master is a candidate species, no formal consultation with the USFWS is required. However, a letter and a copy of the Draft EA has been sent to the USFWS on 8 August 2016. As a result, impacts from the Preferred Alternative on threatened and endangered and special status species would not be significant.

4.8.2.2. Alternative #2

Under Alternative #2, the construction of the new high school would result in an additional 49.9 acres of temporary ground disturbance from construction equipment to the existing forested parcel. In addition, there would be 29.1 acres of Post Oak Savanna forest that would be removed within the footprint of the new high school. Trees would be selectively cut immediately surrounding the construction footprint in order to create room for the new facilities. This 29.1 acres in addition to the 8.66 acres that would be removed for the new elementary school (total of 37.76 acres) represents a small percentage (2.2 percent) of the Post Oak Savanna forest within the installation. Where feasible, patches of Post Oak Savanna would be retained and facilities would be constructed to avoid stands of trees. Therefore, there would be no significant impacts to vegetation under Alternative #2.

Construction-related noise under Alternative #2 would be similar to that described under the Preferred Alternative. However, wildlife species at Little Rock AFB are adapted to the existing urban environment and suitable habitat is located adjacent to the project area. Impacts to wildlife from operations and maintenance of the new High School would be minor, as they would be similar to existing operations and maintenance activities for the current North Pulaski High School that would be adjacent to the new high school. As a result, long-term impacts to wildlife populations would not be significant and there would be no substantial impacts to wildlife as a result of implementation of the construction and operational activities associated with Alternative #2.

Impacts from Alternative #2 to federally listed and special status species would be the same as described under the Preferred Alternative. Impacts to the rattlesnake-master borer moth would

be the same as described under the Preferred Alternative. No additional impacts to the rattlesnake-master borer moth are anticipated under Alternative #2 as no moths or their primary food plant, rattlesnake-master, were found during the 2014 survey within the proposed high school construction project area.

4.8.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the elementary school and high school would not occur, and the students would continue to attend their respective schools. Therefore, no impacts to biological resources would occur as a result of implementation of the No Action Alternative.

4.9. INFRASTRUCTURE

4.9.1. METHODOLOGY

Potential impacts to infrastructure elements at Little Rock AFB are assessed in terms of effects of the proposed projects on existing service levels, described in Section 3.9. Impacts to transportation and utilities are assessed with respect to the potential for disruption or improvement of current circulation patterns and utility systems, deterioration or improvement of existing LOS, and changes in existing levels of transportation and utility safety. Impacts may arise from physical changes to circulation or utility corridors, construction activity, and introduction of construction-related traffic and utility use. Adverse impacts on roadway capacities would be significant if roads with no history of capacity exceedance had to operate at or above their full design capacity as a result of an action. Transportation effects may arise from changes in traffic circulation, delays due to construction activity, or changes in traffic volumes. Utility system effects may include disruption, degradation, or improvement of existing LOS or potential change in demand for energy or water resources.

For this analysis, potential infrastructure impacts associated with implementation of the PA were evaluated. Potential infrastructure impacts would be related to construction activity and facility operations after completion.

4.9.2. IMPACTS

4.9.2.1. Alternative #1 (Preferred Alternative)

Transportation

The Preferred Alternative would involve construction and operation of new educational facilities and the relocation of educational facilities, including the students, teachers, and staff associated with the affected facilities. While the PA would involve the intensification of existing land uses,

it would not introduce any new land uses or activities that are not currently present within the District. Therefore, the PAs transportation/traffic impacts would arise from the increases in traffic from intensification of uses, and redistribution of existing traffic due to the relocation of students, teachers, and staff. Although the roadways near the PA would be affected by both new and redistributed trips, redistributed trips will have no impact when considering the overall roadway network.

The volume of traffic associated with the PA was estimated using traffic generation rates published by the Institute of Transportation Engineers (ITE) (2012). The traffic generation rates used (i.e., ITE land use code 520, Elementary School and land use code 530, High School) are based on the number of students at each school. However, these rates encompass all types of vehicular trips associated with each type of school, including commuting trips by teachers and staff, deliveries, drop off and pick up of students (by car and by bus), etc. Table 4.9-1 presents the new trips associated with the proposed intensification. As shown in this table, the Preferred Alternative would result in the addition of 222 new trips per day.

Because the PA would shift existing schools to the proposed new locations, existing traffic would divert from existing routes to roads leading to the proposed school parcels. This shift of existing traffic is also called traffic redistribution. Redistributed trips were assigned to the roadway network based on likely routes to the new school(s). Because the proposed new schools would be located near the existing Tolleson Elementary School and North Pulaski High School, traffic redistribution for these schools would occur at site access driveways only.

Impacts on roadway segments were assessed based on the daily traffic volume increases caused by both new and redistributed trips. A significant impact would occur if the addition of traffic from the PA would cause a roadway segment to exceed the minimum performance standard of LOS C. The maximum LOS C traffic volume for two-lane roads is 10,000 ADT.

Table 4.9-1. New Traffic, Preferred Alternative

Proposed Activity	*Land Use*	*Amount*	*Trip Rate[a]*	*Daily Trips*
Construct	New Elementary School	700 students	1.29/student	903
Relocate	Existing Arnold Drive Elementary School	208 students	1.29/student	268
Relocate	Existing Tolleson Elementary School	320 students	1.29/student	413
			Incremental Additional Trips[b] (New Traffic)	**222**

Notes: [a] Trip rates include all related traffic generation, including trips by students, teachers, staff and student drop-off trips (by bus, car, etc.).
[b] Trips from the new elementary school minus trips from the existing elementary schools.
Source: ITE 2012.

Table 4.9-2 summarizes the projected future traffic volumes and LOS under this alternative. As shown, the Preferred Alternative results in an increase of between 44 and 335 trips per day to roads proximate to the proposed school parcel. However, this relatively minor increase would

not cause any roadway segment to exceed the minimum performance standard of LOS C, and therefore the impact would be less than significant. Because the PA would involve changes in traffic patterns and site access, to avoid possible impacts relative to local traffic circulation (such as queues, delays, and/or conflicts between different modes of travel at project access driveways), it is recommended that as part of the design of the PA an analysis of local traffic circulation should be performed. The analysis should consider all applicable modes of travel (i.e., passenger vehicles, school buses, pedestrians, bicyclists, etc.) and recommend appropriate signage, pavement markings, and other traffic control measures to accommodate safe and efficient access to and from the proposed educational facilities and nearby land uses.

Table 4.9-2. Preferred Alternative Traffic Impacts

Roadway	*Segment*	*Existing ADT*	*Traffic Increase[(a)]*	*Existing + PA ADT*	*Maximum ADT at LOS C*
General Samuels Road	Arkansas Highway 107 to Harris Road	4,200	56	4,256	10,000
	Harris Road to Redmond Road	2,900	44	2,944	10,000
Harris Road	Illinois Drive to General Samuels Road	4,500	335	4,835	10,000
	General Samuels Road to Jacksonville Cutoff Road	4,000	56	4,056	10,000
Sheridan Drive	from Harris Road to Longstreet Street	650	0	650	10,000
Longstreet Street	West of Sheridan Drive	90	0	650	10,000

Notes: [(a)] Traffic increase includes both new and redistributed existing trips.
ADT = Average Daily Traffic, PA = Proposed Action, LOS = Level of Service
Source: AHTD 2014.

Utilities

Wastewater System. Runoff entering the wastewater system generated on the parcel proposed for the new elementary school would be directed off of Little Rock AFB and into the existing City of Jacksonville stormwater system. Runoff entering the wastewater system generated as a result of the demolition of Arnold Drive Elementary School would discharge into Little Rock AFB's sanitary sewer system under their Wastewater Discharge Permit (Permit #87-08-12).

The wastewater generated as a result of the new elementary school facility would not constitute a large increase from existing conditions as a majority of the students, teachers, and other school personnel would be transferring from other schools that would no longer be utilized. Thus, no impact is anticipated to the wastewater system for the City of Jacksonville.

There is no existing wastewater infrastructure currently in place within the parcel proposed for the new elementary school. This infrastructure would be constructed under the direction of the District and would connect with the City of Jacksonville's wastewater system, similar to the nearby North Pulaski High School and Tolleson Elementary School. Therefore, there would be no significant impacts to the wastewater system under the Preferred Alternative.

Stormwater Drainage System. The proposed construction activities associated with the new elementary school could temporarily affect the quantity and quality of stormwater runoff through potential increases in soil erosion and flow. Construction activities can expose soils and during storm events, stormwater can pick up soil particles, thereby increasing sediment loading of the stormwater runoff. Runoff generated as a result of construction for dust control during the construction and demolition activities of the PA would increase minimally. During construction, under the direction of the District, the parcel associated with the new elementary school would be graded such that runoff would be directed off of Little Rock AFB and connect with the City of Jacksonville's stormwater system, similar to the nearby North Pulaski High School and Tolleson Elementary School. The District would be responsible for creating a construction-specific SWPPP in accordance with the ADEQ Construction General Permit to minimize erosion, sedimentation, and flow.

As Arnold Drive Elementary is located on the Little Rock AFB installation, prior to any demolition activities, the installation would prepare a demolition-specific SWPPP in accordance with the Little Rock AFB ADEQ Construction Stormwater General Permit No. ARR 150000. Therefore, there would be no significant impacts to the stormwater drainage system under the Preferred Alternative.

Energy. The demand for energy (primarily electricity, gasoline, and diesel) could increase during the demolition and construction phases of the PA. The energy supply in the region is adequate and would not be affected by this temporary increase in demand.

Energy consumption as a result of the new elementary school facility would not constitute a large increase from existing conditions as a majority of the students, teachers, and other school personnel would be transferring from other schools that would no longer be utilized. In addition, the construction of the new elementary school would be implemented with more energy efficient design standards and utility systems than are currently in place. Therefore, average energy consumption would be expected to remain consistent or decrease compared to energy consumption associated with existing facilities.

There is no existing natural gas or electricity infrastructure currently in place within the parcel proposed for the new elementary school. This infrastructure would be constructed under the direction of the District and would connect to the City of Jacksonville grid for both natural gas

and electricity, similar to the nearby North Pulaski High School and Tolleson Elementary School. Therefore, there would be no significant impacts to energy infrastructure under the Preferred Alternative.

Solid Waste Management. The educational facilities to be constructed would generate construction and demolition debris requiring landfill disposal. Construction activities would occur starting in FY 2017 and would take approximately 2 years to complete. The construction of the new elementary school facility would include 5.96 acres (259,618.6 SF) to include the proposed building footprint and associated parking areas and 2.7 acres created for two new playground areas. The playground areas were not considered in the debris calculation as it is assumed the new playground equipment would come primarily pre-assembled and would be placed in the appropriate areas within the parcel, with no residual construction debris. The estimated pounds of waste generated each year from new, non-residential construction as described in the *Characterization of Building-Related Construction and Demolition Debris in the United States* (USEPA 1998) is:

(Total square footage of new construction per year) x (4.38 pounds/SF)[3] = X pounds of debris.

Therefore, as a result of the Preferred Alternative, the new construction (259,618.6 SF) would generate 1,137,129 pounds (569 tons) of construction debris requiring landfill disposal. In addition, the USEPA has a higher debris generation rate associated with demolition of 115 pounds/SF. Therefore, the demolition of 0.84 acre (36,590.5 SF) associated with the Arnold Drive Elementary School building footprint would generate 4,207,907.5 pounds (2,103.9 tons) of demolition debris requiring landfill disposal. Consequently, the net construction and demolition debris generated as a result of the Preferred Alternative would be 5,345,036.5 pounds (2,672.9 tons).

Establishment of waste reduction and recycling programs would help to minimize the increase in overall solid waste generation as a result of the Preferred Alternative. Solid waste would be delivered to the Two Pines Landfill, located in the city of Jacksonville. Construction and demolition waste (including concrete, wood, glass, and metals) would be recycled to the maximum extent possible to reduce disposal costs and impacts to the environment. Where recycling is not an option, solid waste would be disposed of in a landfill, including the safe disposal of any hazardous or toxic materials. In 2008, a second landfill area was designated to double the capacity of Two Pines Landfill and hold the region's trash for the next 40 years (Waste Management 2008). In addition, per the State of Arkansas *2014 Statewide Solid Waste*

[3] 4.38 pounds per SF is an estimate of debris generated during new construction based on sampling studies documented in *Characterization of Building-Related Construction and Demolition Debris in the United States* (USEPA 1998).

Management Plan, if a district has a landfill facility with less than 7 years' capacity, it could partner with an adjoining district or neighboring state to increase disposal capacity. Therefore, Two Pines Landfill would have capacity to accept the non-recyclable solid waste as a result of implementation of the Preferred Alternative. Construction activities would occur under the direction of the District and contractors off Little Rock AFB completing construction and demolition projects would be responsible for disposing of waste generated from these activities. Contractors would be required to comply with federal, state, and local regulations for the collection and disposal of municipal solid waste.

Solid waste generation as a result of the new elementary school facility would not constitute a large increase from existing conditions as a majority of the students, teachers, and other school personnel would be transferring from other schools that would no longer be utilized. Solid waste would be managed and disposed of by Pulaski County. Therefore, there would be no significant impacts to solid waste infrastructure under the Preferred Alternative.

Potable Water. The demand for potable water for dust control during the construction and demolition activities of the PA would increase minimally. The City of Jacksonville's potable water supply is adequate and would not be affected by this minor, temporary increase in demand.

Potable water consumption as a result of the new elementary school facility would not constitute a large increase from existing conditions as a majority of the students, teachers, and other school personnel would be transferring from other schools that would no longer be utilized.

There is no existing potable water infrastructure currently in place within the parcel proposed for the new elementary school. This infrastructure would be constructed under the direction of the District and would connect to the City of Jacksonville potable water system, similar to the nearby North Pulaski High School and Tolleson Elementary School. Therefore, there would be no significant impacts to potable water infrastructure under the Preferred Alternative.

4.9.2.2. Alternative #2

Transportation

As shown in this Table 4.9-3, Alternative #2 would result in the addition of 1,564 new trips per day.

Table 4.9-3. New Traffic, Alternative #2

Proposed Activity	*Land Use*	*Amount*	*Trip Rate[a]*	*Daily Trips*
Construct	New Elementary School	700 students	1.29/student	903
Relocate	Existing Arnold Drive Elementary School	208 students	1.29/student	268
Relocate	Existing Tolleson Elementary School	320 students	1.29/student	413
Construct	New High School	2,000 students	1.71/student	3,420
Relocate	Existing North Pulaski High School	373 students	1.71/student	638
Relocate	Existing Jacksonville High School	842 students	1.71/student	1,440
			Incremental Additional Trips[b] (New Traffic)	**1,564**

Notes: [a] Trip rates include all related traffic generation, including trips by students, teachers, staff and student drop-off trips (by bus, car, etc.).
[b] Trips from the new elementary school and new high school minus trips from the existing elementary schools and the existing high schools.
Source: ITE 2012.

Table 4.9-4 presents the traffic-related impacts of Alternative #2. As shown in this table, Alternative #2 would increase traffic from between 297 and 1,909 trips per day. This moderate increase would not cause any roadway segment to exceed the maximum LOS C capacity. Therefore, Alternative #2's impact to transportation/traffic would be less than significant. Alternative #2 would involve changes in traffic patterns and the construction of two new access driveways. Alternative #2 would also involve changes in traffic patterns and site access. To avoid possible impacts relative to local traffic circulation (such as queues, delays, and/or conflicts between different modes of travel at project access driveways), it is recommended that as part of the design of the PA an analysis of local traffic circulation should be performed. The analysis should consider all applicable modes of travel (i.e., passenger vehicles, school buses, pedestrians, bicyclists) and recommend appropriate signage, pavement markings, and other traffic control measures to accommodate safe and efficient access to and from the proposed educational facilities and nearby land uses.

Table 4.9-4. Alternative #2 Traffic Impacts

Roadway	*Segment*	*Existing ADT*	*Traffic Increase[(a)]*	*Existing + PA ADT*	*Maximum ADT at LOS C*
General Samuels Road	Arkansas Highway 107 to Harris Road	4,200	391	4,591	10,000
	Harris Road to Redmond Road	2,900	736	3,6,36	10,000
Harris Road	Illinois Drive to General Samuels Road	4,500	1,909	6,409	10,000
	General Samuels Road to Jacksonville Cutoff Road	4,000	1,111	5,111	10,000
Sheridan Drive	from Harris Road to Longstreet Street	650	297	947	10,000
Longstreet Street	West of Sheridan Drive	90	297	387	10,000

Notes: [(a)] Traffic increase includes both new and redistributed existing trips.
ADT = Average Daily Traffic, PA = Proposed Action, LOS = Level of Service
Source: AHTD 2014.

Although the amount of traffic on Sheridan Drive and Longstreet Street is relatively low compared to total traffic under Alternative #2, the increase would likely be noticeable to residents given the relatively light existing volumes on these streets. Also, Alternative #2 would introduce through traffic on roadways that currently serve the existing residential development only. To avoid impacts on these roadways, it is recommended that as part of the design of Alternative #2, a detailed study should be performed to identify appropriate measures to manage additional through traffic on Sheridan Drive and Longstreet Street. Measures may include signage, pavement markings, and/or traffic calming improvements.

Utilities

Under Alternative #2, impacts to utilities would primarily be the same as those described under the Preferred Alternative. There would be a slight increase in the amount of energy used during construction and potable water used and wastewater generated for dust control, when compared to the Preferred Alternative. However, the construction of the new high school would be implemented with more energy efficient design standards and utility systems than are currently in place. Therefore, average energy consumption would be expected to remain consistent or decrease compared to energy consumption associated with existing facilities. Although there is increased potential for impacts to stormwater from the implementation of Alternative #2, with appropriate BMPs, impacts should be minimal.

Solid Waste Management.

The construction of the new high school facility would include an addition of 21.3 acres (927,831.7 SF) of new building footprint and associated parking areas. Using the 1998 USEPA multiplier of 4.38 pounds/SF for new construction described under the Preferred Alternative, the additional high school construction would generate 4,063,902.8 pounds (2,032 tons) of construction debris requiring landfill disposal. Consequently, the net construction debris under Alternative #2 (including the elementary school, Arnold Drive Elementary, and the high school) would be 9,408,939 pounds (4,705 tons). However, construction would be phased such that the Preferred Alternative would not occur at the same time as Phase II, thereby decreasing any potential compounding impacts due to construction occurring simultaneously.

Establishment of waste reduction and recycling programs would help to minimize the increase in overall solid waste generation as a result of Alternative #2. Contractors are required to comply with federal, state, and local regulations for the collection and disposal of municipal solid waste. Much of this material can be recycled or reused, or otherwise diverted from landfills.

4.9.2.3. No Action Alternative

Transportation

The No Action Alternative would not involve any new or redistributed trips, and the traffic conditions would be the same as described above for existing conditions. No impacts to transportation/traffic would occur.

Utilities

Under the No Action Alternative, the proposed construction of the new elementary school and new high school would not occur. However, the District would continue to conduct periodic repairs to Arnold Drive Elementary School and the existing schools would continue to deteriorate. The continued long-term use of Arnold Drive Elementary School would require complete upgrades for all mechanical, electrical, and plumbing systems. Challenges with the existing construction would prevent these structures from meeting current energy codes even after repairs are complete.

4.10. CULTURAL RESOURCES

4.10.1. METHODOLOGY

Under Section 106 of the NHPA, federal agencies are required to consider the effects of their undertakings on cultural resources listed in or eligible for listing in the NRHP (known as "historic properties") and afford the Advisory Council on Historic Preservation the opportunity

to comment on the undertaking. Additionally, the agency must also consult with the SHPO to determine the effect of the action on eligible properties. If there would be an adverse effect, the agency must consult to consider methods to mitigate the impact.

In accordance with 36 CFR Part 800.5a (2), there may be adverse effects upon a historic property when there is:

1. Destruction or alteration of all or part of a property;
2. Isolation from or alteration of the property's surrounding environment;
3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
4. Neglect of a property resulting in its deterioration or destruction; or
5. Transfer or sale of a property without adequate conditions or restrictions regarding preservation, maintenance, or use.

Adverse effects, as defined by the Section 106 process, are considered to be significant impacts under NEPA. Direct impacts under NEPA may also include damage or destruction to unevaluated sites.

The information used to assess direct and indirect impacts at Little Rock AFB is largely derived from the Integrated Cultural Resources Management Plan (2005).

4.10.2. IMPACTS

4.10.2.1. Alternative #1 (Preferred Alternative)

Construction

Construction under the Preferred Alternative would consist of building a new elementary school and the demolition of Arnold Drive Elementary School. No historic properties are located within the APE for the Preferred Alternative. Arnold Drive Elementary School was built in 1968 and will be demolished before it turns 50 years of age. Since it is less than 50 years old, the school is therefore not considered a historic property. The SHPO has concurred that no known historic properties would be affected by this undertaking (see Appendix A). In addition, no archaeological sites are located within the APE for the Preferred Alternative. Should any inadvertent discoveries be made during construction activities, construction would halt and the Little Rock AFB Cultural Resources Manager would be notified.

Operation

Under the Preferred Alternative, post-construction site operations would include upkeep and maintenance of the facilities. As there are no historic properties in the APE, operation activities would result in no adverse effects to historic properties.

4.10.2.2. Alternative #2

Construction

Alternative #2 would include those activities and impacts described under the Preferred Alternative in addition to the construction of a high school on 79 acres of Little Rock AFB property. This would include the temporary disturbance of 49.9 acres from construction equipment. Grading and removal of vegetation would occur to 29.1 acres (for new impervious and pervious surfaces). Two new access roads would be built on the northwest and southeast corners of the parcel and the current fence line would be moved to exclude the new high school from Little Rock AFB boundaries.

Four archaeological sites are located within the APE for Alternative #2: 3PU417, 3PU418, 3PU419, and 3PU294. Sites 3PU417 and 3PU418 are located within the footprint of the proposed new high school and 3PU419 and 3PU294 are located within the area of temporary disturbance. None of these sites are NRHP eligible, and barring SHPO concurrence, are therefore not a historic property.

No historic properties are located within the APE for Alternative #2. Therefore, construction under Alternative #2 would not result in adverse effects to historic properties. Should any inadvertent discoveries be made during construction activities, construction would halt and the Little Rock AFB Cultural Resources Manager would be notified.

Operation

Under Alternative #2, post-construction site operations would include upkeep and maintenance of the facilities. As none of the archaeological sites are historic properties in the APE, operation activities would result in no adverse effects to historic properties.

4.10.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the new elementary school and new high school would not occur and the 19 AW and the District would not implement the proposed project components described under the PA. The District would continue to conduct periodic repairs to Arnold Drive Elementary School. No significant direct or indirect impacts to cultural resources would occur with implementation of the No Action Alternative.

4.11. SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.11.1. METHODOLOGY

Socioeconomic impacts are assessed in terms of direct effects on the local economy and population, and related indirect effects on other socioeconomic resources within the ROI. Socioeconomic impacts would be considered significant if the PA resulted in a substantial shift in population trends or notably affected regional employment, earnings, or community resources such as schools.

Environmental justice impacts are assessed in terms of direct effects on overburdened populations (i.e., minorities, Indian Tribes, low-income residents, elderly, and children) within the project ROI. Environmental justice impacts would be considered significant if the PA resulted in a disproportionate impact to these identified populations in comparison to the remainder of the population within the project ROI.

4.11.2. IMPACTS

4.11.2.1. Alternative #1 (Preferred Alternative)

Economic activity associated with proposed construction activities at Little Rock AFB, such as employment and materials purchasing, would provide short-term economic benefits to the local economy. These beneficial impacts resulting from construction payrolls and materials purchased would be less than significant on a regional scale. As the Preferred Alternative would not result in a change in personnel levels at Little Rock AFB or in other local industries when the proposed project is completed, no long-term economic or demographic changes would occur upon implementation of the Preferred Alternative. Therefore, the Preferred Alternative would result in less than significant impacts to regional or local socioeconomic characteristics.

Under the Preferred Alternative, construction activities would be contained entirely within the Little Rock AFB boundaries; however, they will be located outside the fence line once the construction is complete. Analysis of each resource has concluded that populations within and outside the boundaries of the installation would not be significantly impacted by implementation of the Preferred Alternative. In particular, there would be no significant air quality, noise, traffic, or health and safety impacts to residents living within and near the installation boundaries. As a result, there would be no impacts to the elderly. Some populations may need to travel further in order to attend the new schools, which may increase the cost of school attendance for some low-income populations; it is anticipated that the School District would continue to provide transportation services to students within the District, so any impact would be less than significant.

With regard to environmental health and safety risks to children, proposed construction under the Preferred Alternative would not pose a risk to children living on Little Rock AFB or currently attending nearby schools. Children residing or attending school at Tolleson Elementary School and North Pulaski High School across the street from the proposed elementary school site would be exposed to some potential air quality, noise, and traffic impacts during the times of day and days of the week that the construction is taking place. However, analysis of these resources and analysis of potential health and safety impacts found no significant impacts from the proposed construction. Therefore, implementation of the Preferred Alternative would not disproportionately impact minority, low-income, or children residents.

4.11.2.2. Alternative #2

Economic activity associated with proposed construction activities at Little Rock AFB, such as employment and materials purchasing, would provide short-term economic benefits to the local economy. These beneficial impacts resulting from construction payrolls and materials purchased would be less than significant on a regional scale. As Alternative #2 would not result in a change in personnel levels at Little Rock AFB or in other local industries when the proposed project is completed, no long-term economic or demographic changes would occur upon implementation of Alternative #2. Therefore, Alternative #2 would result in less than significant impacts to regional or local socioeconomic characteristics.

Under Alternative #2, construction activities would be contained entirely within the Little Rock AFB boundaries; however, they will be located outside the fence line once the construction is complete. Analysis of each resource has concluded that populations within and outside the boundaries of the installation would not be significantly impacted by implementation of Alternative #2. In particular, there would be no significant air quality, noise, traffic, or health and safety impacts to residents living within and near the installation boundaries. As a result, there would be no impacts to the elderly. Some populations may need to travel further in order to attend the new schools, which may increase the cost of school attendance for some low-income populations; it is anticipated that the School District would continue to provide transportation services to students within the District, so any impact would be less than significant.

With regard to environmental health and safety risks to children, proposed construction under Alternative #2 would not pose a risk to children living on Little Rock AFB or currently attending nearby schools. Children residing near or attending school at Tolleson Elementary School and North Pulaski High School, which is across the street from the proposed elementary school site, would be exposed to some potential air quality, noise, and traffic impacts during the times of day and days of the week that the construction is taking place. However, analysis of these resources and analysis of potential health and safety impacts found no significant impacts from the

proposed construction. Therefore, implementation of Alternative #2 would not disproportionately impact minority, low-income, or children residents.

4.11.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the elementary school and high school would not occur, and the students would continue to attend their respective schools. Therefore, no impacts to regional or local socioeconomic characteristics, minority populations, low-income populations, elderly, or children would occur.

4.12. HAZARDOUS MATERIALS AND WASTE

4.12.1. METHODOLOGY

This section addresses the potential impacts caused by hazardous materials and waste management practices and the impacts of existing contaminated sites on reuse options. Hazardous materials and petroleum products, hazardous and petroleum wastes, ERP sites, solid wastes, and toxic substances are discussed in this section.

The qualitative and quantitative assessment of impacts from hazardous materials and solid waste management focuses on how and to what degree the alternatives affect hazardous materials usage and management, hazardous waste generation and management, and waste disposal. A substantial increase in the quantity or toxicity of hazardous substances used or generated would be considered potentially significant. Significant impacts could result if a substantial increase in human health risk or environmental exposure was generated at a level that cannot be mitigated to acceptable standards.

Regulatory standards and guidelines have been applied in evaluating the potential impacts that may be caused by hazardous materials and wastes. The following criteria were used to identify potential impacts:

- Generation of 1,000 kilograms (or more) of hazardous waste in a calendar month, resulting in increased regulatory requirements.
- A spill or release of a reportable quantity of a hazardous substance as defined by the USEPA in 40 CFR Part 302.
- Manufacturing, use, or storage of a compound that requires notifying the pertinent regulatory agency according to the Emergency Planning and Community Right-to-Know Act of 1986.
- Exposure of the environment or public to any toxic substances, hazardous material, and/or waste through release or disposal practices.

Impacts to solid waste are evaluated in terms of decrease in capacity or life span at receiving landfills.

A Phase I EBS was prepared in June 2014 as part of due diligence to document the environmental conditions for the transfer of the educational parcels (Little Rock AFB 2014a). The EBS was used in the analysis of this EA to assist in assessing historical activities at the subject property, as well as current environmental conditions at the subject property and surrounding areas.

4.12.2. IMPACTS

4.12.2.1. Alternative #1 (Preferred Alternative)

The Preferred Alternative includes the proposed construction of a new elementary school and the demolition of Arnold Drive Elementary School under the direction of the District. There would be no significant impacts to hazardous materials and wastes under the Preferred Alternative.

Hazardous Materials and Petroleum Products

The 2014 EBS for the educational parcels found no historical or current evidence of use or storage of hazardous substances or petroleum products within the area proposed for the new elementary school (Little Rock AFB 2014a).

Hazardous materials and petroleum products would be used and stored at the new elementary school to support art, science, health/medical, and office/maintenance/cleaning activities. Materials typically used at schools include oxidizers (bleach) and other cleaning materials, pesticides, petroleum-based inks, degreasing solvents, glues, adhesives, and oil-based paints. The storage and generation of these products would not increase substantially when compared to existing conditions as students and personnel would be transferred from previously existing schools.

Construction of the proposed new elementary school and demolition of the existing Arnold Drive Elementary School would cause short-term increases in the use and storage of hazardous materials (e.g., paint) and petroleum products (e.g., vehicle fuel). Construction and demolition would occur under the direction of the District. The contractor hired by the District would be responsible for managing these materials in accordance with federal, state, and local regulations to protect their employees from occupational exposure to hazardous materials and to protect the public health of the surrounding community. The operating location would be responsible for the safe storage and handling of hazardous materials used in conjunction with all construction and demolition activities. These materials would be delivered to the installation in compliance with the Hazardous Materials Transportation Act under 49 CFR.

Hazardous and Petroleum Wastes

There are no permitted hazardous waste streams located within the parcel proposed for the new elementary school or the area surrounding the proposed demolition of Arnold Drive Elementary School (Little Rock AFB 2014a). The proposed construction and demolition activities would cause short-term increases in the volume of hazardous and petroleum wastes generated. Wastes generated by the construction and demolition contractors are managed and removed offsite by these contractors under the direction of the District. Hazardous waste associated with the demolition of Arnold Drive Elementary School would be removed under the Little Rock AFB USEPA ID AR6571824808 and an authorized representative of Little Rock AFB would sign all manifests to ensure they are correct. The contractor would manage waste on-site in accordance with the installation *Hazardous Waste Instruction*.

Environmental Restoration Program Sites

The 2014 EBS for the educational parcels found no active ERP sites located within the area proposed for the new elementary school (Little Rock AFB 2014a). However, a former ERP site (AOC-33/AOC-8, Storm Drainage System) associated with the entire stormwater drainage system is located within the elementary school parcel along the western portion of the parcel outside the proposed construction footprint. This site is also located along the northern perimeter of Arnold Drive Elementary School. However, as discussed in detail in Section 3.12, the entire site received No Further Action Status April 9, 2008. The Human Health Risk Assessment concluded that cancer risk and non-cancer hazard estimates do not exceed risk/hazard criteria. Overall, ecological risk and toxicity at AOC-33/AOC-8 is expected to be minimal, and the weight-of-evidence indicates that ecological risk is negligible (ADEQ 2014).

Close coordination between Little Rock AFB staff, the District, and contractors would ensure that the proposed construction activities would not interfere with ongoing investigation studies or remediation activities. If any contaminated media (e.g., soil, groundwater) were encountered during the course of site preparation (e.g., clearing, grading), site development (e.g., excavation), or demolition under the Preferred Alternative, samples would be collected to determine whether the media are contaminated, and contaminated media would be segregated for off-site disposal or for on-site reuse as appropriate. The District and its contractor shall be responsible to undertake appropriate measures pursuant to federal, state and local laws to ensure its contractors and the proposed student population are not exposed to unacceptable levels of contaminated soils, groundwater, and any toxic and/or hazardous materials or wastes. Also, the District and its contractor shall establish an appropriate course of action to promptly notify the Little Rock AFB Civil Engineer's Office Project Manager, once identified, of any suspected conditions of contamination and further ensure that other required notifications to appropriate federal or state regulators are taken.

Storage Tanks and OWSs

There is no historical or current evidence of USTs or ASTs identified within the area proposed for the new elementary school or the demolition of the existing Arnold Drive Elementary School. The closest AST is approximately 1,000 feet north at the clinic located at Arnold Drive and Texas Boulevard. The closest UST is greater than 3,000 feet northwest of the proposed parcels (Little Rock AFB 2014a). Additionally, no OWSs are associated with the subject property (Little Rock AFB 2014a). Therefore, the Preferred Alternative would not result in disturbance to existing or former UST, AST, or OWS locations.

Toxic Substances

There are no known sources of ACM, LBP, or PCBs within the parcel for the proposed new elementary school (Little Rock AFB 2014a). Arnold Drive Elementary School, constructed in 1968, is the only proposed demolition associated with the PA that occurs on the installation. Any buildings on the installation constructed prior to 1980 are assumed to contain ACM, LBP, and PCBs; therefore, Arnold Drive Elementary School would be tested for these toxic substances prior to demolition. Any located ACM, LBP, or PCBs would be characterized, managed, transported, and disposed of according to applicable state and federal requirements for protecting human health, safety, and the environment. Materials, especially discarded oil products, would be screened for PCB contamination prior to disposal.

No underground structures are present within the parcel for the proposed new elementary school, and no known radon testing has been conducted to determine the presence of radon gas (Little Rock 2014a).

4.12.2.2. Alternative #2

Alternative #2 would include the construction of a new high school on Little Rock AFB property, in addition to the new elementary school under the Preferred Alternative. In addition, two new access roads would be constructed on the northwest and southeast corners of the parcel.

Hazardous Materials and Petroleum Products

There is no historical or current evidence of use or storage of hazardous substances or petroleum products within the parcel proposed for the new high school (Little Rock AFB 2014a). The existing quantities of hazardous materials and petroleum substances used throughout Little Rock AFB would not be affected by Alternative #2.

Construction of the proposed new high school and two new access roads would cause additional short-term increases in the quantities of hazardous materials (e.g., paint) and petroleum products

(e.g., vehicle fuel) used and stored on Little Rock AFB, when compared to the Preferred Alternative.

Hazardous materials and petroleum products would be used and stored at the new elementary school and high school to support art, science, health/medical, and office/maintenance/cleaning activities. Materials typically used at schools include oxidizers (bleach) and other cleaning materials, pesticides, petroleum-based inks, degreasing solvents, glues, adhesives, and oil-based paints. The storage and generation of these products would not increase substantially when compared to existing conditions as students and personnel would be transferred from previously existing schools.

Hazardous and Petroleum Wastes

There are no permitted hazardous waste streams located within the parcel proposed for the new high school (Little Rock AFB 2014a). The proposed construction of a new high school and two new access roads would cause additional short-term increases in the volume of hazardous and petroleum wastes generated, when compared to the Preferred Alternative.

Environmental Restoration Program Sites

No current ERP sites are located within the area proposed for the new high school (Little Rock AFB 2014a). However, a former ERP site (AOC-33/AOC-8) associated with the entire stormwater drainage system is located within the high school parcel along the eastern perimeter within the area of temporary disturbance. In addition, this same site is located along the western perimeter but outside of the construction footprint. As described under the Preferred Alternative, close coordination between Little Rock AFB staff, the District, and contractors would ensure that the proposed construction activities would not interfere with ongoing investigation studies or remediation activities.

Storage Tanks and Oil/Water Separators

There is no historical or current evidence of USTs or ASTs identified within the area proposed for the new high school (Little Rock AFB 2014a). Additionally, no OWSs are associated with the subject property (Little Rock AFB 2014a). Therefore, Alternative #2 would not result in disturbance to existing or former UST, AST, or OWS locations.

Toxic Substances

There are no known sources of ACM, LBP, or PCBs within the parcel for the proposed new high school (Little Rock AFB 2014a). No underground structures are present within the parcel for the

proposed new high school, and no known radon testing has been conducted to determine the presence of radon gas (Little Rock AFB 2014a).

4.12.2.3. No Action Alternative

Under the No Action Alternative, the proposed construction of the new elementary school and new high school would not occur. However, the District would continue to conduct periodic repairs to Arnold Drive Elementary School and the existing schools would continue to deteriorate. Due to the age of the existing educational facilities (constructed in 1968), potential for exposure to toxic substances like ACM, LBP, and PCBs would continue to exist in Arnold Drive Elementary School during repair activities.

4.13. OTHER NATIONAL ENVIRONMENTAL POLICY ACT CONSIDERATIONS

4.13.1. UNAVOIDABLE ADVERSE EFFECTS

Implementation of the PA/Preferred Alternative would not result in the unavoidable adverse loss of any resources.

4.13.2. RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires analysis of the relationship between a project's short-term impacts on the environment and the effects those impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This means that choosing one option may reduce future flexibility in pursuing other options, or that committing a resource to a certain use may eliminate the possibility for other uses of that resource.

Implementation of the PA/Preferred Alternative would not result in impacts that would reduce environmental productivity, permanently narrow the range of beneficial uses of the environment, or pose long-term risks to health, safety, or the general welfare of the public.

4.13.3. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA CEQ regulations require environmental analyses to identify any irreversible and irretrievable commitments of resources that would be involved in the PA should it be implemented (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Building construction material such as gravel and gasoline usage for construction equipment would constitute the consumption of non-renewable resources.

The PA would not have irreversible impacts because future options for using these project locations would remain possible. The sites could be used for alternative uses in the future, ranging from natural open space to urban development. No loss of future options would occur as a result of the PA.

The primary irretrievable impacts of the PA would involve the use of energy, labor, and materials and funds. Irretrievable impacts would occur as a result of construction, facility operation, and maintenance activities. Direct losses of biological productivity and the use of natural resources from these impacts would be inconsequential.

4.14. CUMULATIVE IMPACTS

Cumulative impacts to environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the ROI. Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed (or anticipated over the foreseeable future) is required.

The 19 AW, Little Rock AFB, is an active, dynamic base where operational changes and facility upgrades occur on a frequent basis. Projects that have been identified in the ROI that have the potential to act in a cumulative manner with the PA are discussed in this section. The ROI for cumulative impacts is generally limited to Little Rock AFB, and the immediately adjacent property because physical impacts related to the proposal are largely confined to these properties. Planning efforts in the ROI include the actions described within this EA, as well as those other projects that are ongoing, or planned over the short term. Additional projects within the ROI are discussed below.

4.14.1. CURRENT AND REASONABLY FORESEEABLE ACTIONS IN THE ROI

Currently on-going and other proposed activities identified within the vicinity of the PA are identified in Table 4.14-1. No other activities were identified within the ROI.

As Little Rock AFB undergoes changes in mission and training requirements in response to defense policies, current threats, and tactical and technological advances, and as such, require new construction, facility improvements, infrastructure upgrades, and ongoing maintenance and repairs on a continual basis. Although some of these known projects are a part of the analysis contained in this section, some future requirements cannot be predicted. As those requirements are identified, future NEPA analysis would be conducted, as necessary.

Table 4.14-1. Current and Reasonably Foreseeable Actions at Little Rock AFB and within the Vicinity of the Proposed Action

Project Name	*Description*
Widening of Highway 67	Approximately 2.5 miles of Highway 67 from Cabot to Vandenberg Boulevard in Jacksonville, Arkansas will be widened to six lanes. The project construction is scheduled to begin in 2019.
Roundabout	A roundabout is going to be installed at Harris Road and General Samuels.
Renovation of North Pulaski High School	Renovations of North Pulaski High School have begun and will be completed prior to the 2016/2017 school year when the District will move all of their middle school students to the current North Pulaski High School. For this same year, North Pulaski High School students will be combined with the middle school students on the existing Jacksonville High School Campus. The current Middle School (on Bamboo Lane) will then be converted to a Freshman Academy for the Pulaski County District use. Once the high school students move into the new high school, the existing North Pulaski High School will become the new middle school.
Demolition of Jacksonville Middle School	Once the middles school students transfer to the existing Jacksonville High School Campus, Jacksonville Middle School building (located on Sharp Street) would likely be demolished by the District.
Demolition of Buildings 224, 229, 667, 668, 710, 711,830, 868, 960, and 976	As part of the Installation Development Plan, these buildings were demolished due to being substandard or underutilized.
Construction of Refueling Vehicle Repair Shop	Construct refueling repair shop with necessary support facilities, shop equipment, and parking and pavements.
Construction of Airman Dormitory	Construct a 144-person multi-story dormitory with a 100-space parking lot.
Construction of C-130J Fuel Systems Maintenance Hangar	Construct a two-bay fuels maintenance hangar with pavements for parking and equipment storage, site utilities, and site improvements. Includes provision of temporary facility until hangar is completed, and movement of a pavilion and a de-icer storage facility.
Construction of Enlisted Professional Military Education Facility	Construct one-story masonry Professional Military Education facility. Includes provision of a temporary facility to house the functions during construction.
Construct C-130J Flight Simulator Addition	Construct a high-bay addition to the existing flight simulator facility (Building 1231).

4.14.1.1. Safety

Risk of a catastrophic event occurring during construction and demolition activities described under the PA or those activities described in Section 4.14.1 is considered to be low, and strict adherence to all applicable occupational safety requirements would further minimize the relatively low risk associated with described construction activities. Cumulative impacts to safety as a result of these actions would not be significant.

4.14.1.2. Air Quality

In general, combustive and fugitive dust emissions from construction activities associated with the PA, and those additional actions described in Section 4.14.1, would contribute localized, short-term, elevated air pollutant concentrations, but would not result in any long-term impacts

to the air quality of the Central Arkansas Intrastate AQCR (40 CFR 81.138). It is expected that emission increases from all projected activities would not be significant.

Greenhouse Gases

The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other man-made activities on a global scale.

The *Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews* issued by the CEQ on December 18, 2014 recommends incorporating impacts associated with climate change as part of the standard cumulative impact analysis of all NEPA documents (CEQ 2014). The draft guidance encourages agencies to determine which climate change impacts warrant consideration in their analyses based on both the PA's potential impact to climate changes and the potential impact a changing climate may have on implementation of the PA. In addition, EO 13653, *Preparing the United States for the Impacts of Climate Change*, directs federal agencies to continue to develop, implement, and update comprehensive plans that integrate consideration of climate change into agency operations and overall mission objectives.

The USEPA developed a "State of Knowledge" website following the 2007 Intergovernmental Panel on Climate Change report. The USEPA affirms that while the contribution is uncertain, human activities are substantially increasing GHG emissions, which, in turn, are contributing to a global warming trend (USEPA 2016c). The U.S. Global Change Research Program (USGCRP) is a working group coordinating the efforts of 13 different federal agencies, including the U.S. Department of Agriculture, the Department of the Interior, the DoD, and the Department of Energy. The USGCRP releases regular reports presenting the most current scientific consensus of predicted changes associated with global climate change. The 2014 National Climate Assessment report is the most recent complete report (USGCRP 2014). This report summarizes the science of climate change and the impacts of climate change on the U.S., now and in the future, and is recommended by the CEQ 2014 draft guidance as the primary source for framing climate change discussions.

Formulating such thresholds is problematic, as it is difficult to determine what level of proposed emissions would substantially contribute to global climate change. The CEQ recommends that 25,000 metric tons of CO_{2e} or more being produced by a proposed action be considered the threshold warranting a more substantial evaluation of—but not necessarily a determination of—significance of climate change impact (CEQ 2014).

Table 4.14-2 summarizes the GHG emissions associated with implementation of the Preferred Alternative and Alternative #2. Appendix B presents estimates of GHG emissions generated by the PA. In the absence of formally-adopted thresholds of significance, this EA compares GHG emissions that would occur from the PA with the 25,000 metric ton level.

Table 4.14-2. Estimated Annual GHG Emissions

Scenario/Activity	*Preferred Alternative CO_2 (CO_2e)*	*Alternative #2 CO_2 (CO_2e)*
Estimated Annual Emissions	624	2,527
Draft NEPA Comparative Threshold for Annual Emissions[(a)]	25,000	25,000

Notes: CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; NEPA = National Environmental Policy Act
Source: [(a)]CEQ 2014.

4.14.1.3. Noise

The long-term acoustic environment at Little Rock AFB and surrounding communities would not be expected to be influenced by the short-term construction activities described under the PA or those activities described in Section 4.14.1, and would continue to be dominated by aviation activities. Cumulative impacts from noise as a result of these actions would not be significant.

4.14.1.4. Land Use

In general, land uses at Little Rock AFB would not be adversely affected by the activities described under the PA or Section 4.14.1. The location and function of the proposed structures and improvements are generally compatible with the surrounding area. As the proposed structures and improvements would not be incongruent with the surrounding buildings or land uses, cumulative impacts to land use would not be significant.

4.14.1.5. Earth Resources

In addition to the 5.96 acres of increased impervious surface that would result from implementation of the PA described in this EA, additional surface area could be disturbed in the vicinity over the next several years as a result of the projects described above. Soil erosion or the introduction of suspended solids into waterways as a result of the Preferred Alternative could contribute to degradation of water quality. As this alternative would disturb at least 1 acre of soil, the contractor would be required to comply with the NPDES Construction General Permit. As part of the permit application, the contractor would prepare a SWPPP containing BMPs that would be implemented to prevent, or minimize the potential for, sedimentation and erosion. Other development projects in the area that disturb more than 1 acre of soil would also be required to develop SWPPPs. Thus, BMPs would keep sediment and suspended solids from entering the waterways and ensure that effects on water quality during construction would not be

adverse. Given the use of engineering practices that would minimize potential erosion, cumulative impacts to earth resources would not be significant.

4.14.1.6. Water Resources

In addition to the 5.96 acres of increased impervious surface that would result from implementation of the PA, additional land surface could be disturbed and converted to impervious surface over the next several years as a result of the projects described in Section 4.14.1 and Table 4.14-1. With implementation of the SWPPP and corresponding erosion control measures, construction of the Preferred Alternative would not result in adverse water quality impacts resulting from construction-related erosion and sediment pollution. Other development projects in the area that disturb more than 1 acre of soil would also be required to develop SWPPPs to prevent adverse water quality impacts. Therefore, construction of multiple projects in the area would not result in cumulative impacts on water quality. In addition, although the project would result in 5.96 acres of increased impervious surface, in accordance with UFC 3-210-10 (as amended 2015), pre-development site hydrology must be maintained or restored to the maximum extent technically feasible. Construction of multiple projects in the area would also be required to comply with UFC 3-210-10 (and/or similar detention requirements by the State of Arkansas for those projects without a federal nexus), thus resulting in minimal changes to stormwater runoff, which would not cumulatively impact downstream flooding. Similarly, groundwater recharge would be minimally affected with UFC 3-210-10 compliance; thus, there would be no cumulative impacts on groundwater recharge. Therefore, cumulative impacts to water resources would not be significant.

Although there are no floodplains directly within the construction footprint for the Preferred Alternative, there are 3 floodplain areas located within the parcel to be leased located along the southern boundary. Although the floodplain areas are not within the area proposed for disturbance, potential temporary minor, indirect, adverse impacts could occur as a result of changes to construction-related overland flow not appropriately mitigated by BMPs and by the close proximity of the floodplains to the proposed construction. Construction of multiple projects in the area concurrently building near neighboring floodplains could result in temporary, indirect adverse impacts; however, other development projects would also be required to reduce floodplain impacts to the maximum extent possible through project design and implementation of environmental protection measures similar to the Preferred Alternative. These measures could include flagging the floodplain boundary, installing silt fencing, establishing a floodplain buffer, and following policies and procedures as detailed in erosion and sediment control plans; SWPPPs; and Spill Prevention, Control, and Countermeasures Plans. As no physical structures are proposed for construction within the floodplain, long-term adverse cumulative effects on floodplains are anticipated to be negligible to minor.

4.14.1.7. Biological Resources

Impacts from the Preferred Alternative on threatened and endangered and special status species would not be significant. Impacts to additional habitat and noise disturbance over the next several years as a result of the construction and demolition projects described in Section 4.14.1 are not expected to be significant as they are located within highly urbanized areas that have been previously disturbed. Cumulative impacts to biological resources would not be significant.

4.14.1.8. Infrastructure

Transportation/Traffic

In general, cumulative impacts to transportation/traffic infrastructure as a result of described activities are expected to be positive over the long term. Specifically, the widening of Highway 67 would reduce delays and queues on these facilities, and the increase of capacity may cause existing trips to be redistributed from parallel routes to these expanded highways. This would in turn reduce congestion on parallel routes. Also, the construction of a roundabout at the General Samuels Road/Harris Road intersection would reduce delay at this location, particularly for eastbound and westbound left turns. As shown in Tables 3.9-2 and 3.9-3, all street segments are characterized by acceptable LOS C or better conditions, including new and redistributed traffic associated with the PA. Therefore, the PA would not contribute toward any significant cumulative transportation/traffic effect.

Utilities

Building space and facilities to be constructed as a component of this action as well as those identified in Table 4.14-1 would require additional electricity. In addition, wastewater, solid waste, demand for potable water, and traffic would temporarily increase during construction, and would increase slightly in the long-term due to increase in students and associated personnel. The proposed construction and demolition activities could temporarily affect the quality of stormwater runoff through potential increases in soil erosion. BMPs would be implemented during construction and demolition to minimize runoff. Any new facilities and additions associated with these projects would be implemented with more energy efficient design standards and utility systems than are currently in place. In addition, construction projects would incorporate Leadership in Energy and Environmental Design and sustainable development concepts to achieve optimum resource efficiency, sustainability, and energy conservation. In general, cumulative impacts to installation infrastructure as a result of described activities would be expected to be positive over the long term.

4.14.1.9. Cultural Resources

Cumulative impacts to cultural resources are not expected as a result of all planned activities at Little Rock AFB. Compliance with Section 106 of the NHPA, that includes SHPO and Native American consultations and requests to identify any known archaeological resources or items of cultural or religious significance to the Tribes, will be accomplished prior to implementation of any of the development actions described under the PA or in Section 4.14.1 and Table 4.14-1. In the event of any inadvertent discovery of human remains, and/or artifacts, or other historic cultural resources during construction, work would be halted at that specific location and the area would be secured. The Little Rock AFB Cultural Resources Manager should be immediately notified of such discoveries to include all other appropriate notifications, and, the discovered items or resources would be handled and managed in compliance with federal laws, and applicable DoD and/or Air Force regulations and policies or instructions. As stated in 3.10.2.2, the Cultural Resources Manager has established routine and informal working relationships with three of the four Tribal Historic Preservation Officers. Little Rock AFB has engaged in efforts to establish a cooperative working relationship with the Tribal Historic Preservation Officer of the Tunica-Biloxi Indians of Louisiana. After further outreach, the Tribal Historic Preservation Officer has not expressed any interest in this proposed action. The Osage Nation, Caddo Nation, and Quapaw Tribe have all requested informal discussion by telephone, electronic submission, or letter and the Caddo Nation stated it preferred electronic submission of the Draft EA during the 30-day comment period. Little Rock AFB will mail a hard-copy of the draft EA to the Tribal Historic Preservation Officer of the Tunica-Biloxi Indians of Louisiana. Finally, the Little Rock AFB Cultural Resources Manager will continue to contact the Tribal Historic Preservation Officer on related cultural resource issues unless the Tribe designates a different point of contact or consultation process.

4.14.1.10. Socioeconomics and Environmental Justice

Economic activity associated with proposed construction activities at Little Rock AFB would provide short-term economic benefits to the local economy. However, short-term beneficial impacts would be negligible on a regional scale. Because no significant adverse impacts are anticipated, there would be no adverse cumulative impact to minority or low-income populations. There are no known cumulative environmental health or safety risks associated with these activities that may disproportionately affect children.

4.14.1.11. Hazardous Materials and Waste

It is expected that short-term increases would be realized in terms of the quantity of fuel stored and used during construction and demolition activities for this action as well as those listed in Table 4.14-1. Due to the age of the existing educational facilities listed in Table 4.14-1, potential

for exposure to toxic substances like ACM, LBP, and PCBs would continue to exist during repair and demolition activities. Cumulative impacts as a result of hazardous materials and wastes would not be significant.

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APPENDIX A
INTERAGENCY COORDINATION

INTERAGENCY COORDINATION

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Ecological Services Field Office
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Conway, AR 72032-8975
Telephone: (501) 513-4470

Ms. Becky Keogh, Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317
Telephone: (501) 682-0744

Mr. Michael Sullivan
Natural Resources Conservation Service
Room 3416, Federal Building
700 W Capitol Ave
North Little Rock, AR 72201-3225
Telephone: (501) 301-3100

U.S. Environmental Protection Agency
Region 6
Compliance Assurance and Enforcement Division
Office of Planning and Coordination (6EN-XP)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202
Telephone: (800) 887-6063

Ms. Stacy Hurst
State Historic Preservation Officer
State Historic Preservation Office
323 Center Street, Ste 1500
Little Rock, AR 72201

Arkansas Game and Fish Commission
2 Natural Resources Dr
Little Rock, AR 72205
Telephone: (501) 223-6300

Arkansas Natural Resources Commission
101 E Capitol, Ste 350
Little Rock, AR 72201
Telephone: (501) 682-1611

Arkansas State Highway and Transportation Department
10324 Interstate 30
Little Rock, AR 72209
Telephone: (501) 569-2000

Arkansas State Plant Board
1 Natural Resource Dr
Little Rock, AR 72205
Telephone: (501) 225-1598

Department of Planning and Development
723 W Markham St
Little Rock, AR 72201
Telephone: (501) 371-4790

Pulaski County Planning and Development
3200 Brown St
Little Rock, AR 72204
Telephone: (501) 340-8260

Ms. Tracy Copeland, Manager
Arkansas Department of Finance and Administration
Office of Intergovernmental Services
State Clearinghouse Section
Room 412, 1515 Building
1515 W Seventh St
Little Rock, AR 72201
Telephone: (501) 682-1074

*Mr. John L. Berrey, Tribal Chairman
Mr. Everett Bandy, Tribal Historic
Preservation Officer
Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363
Telephone: (918) 542-1853

*Ms. Tamara Francis-Fourkiller, Chairman
Tribal Historic Preservation Officer
Caddo Indian Tribe of Oklahoma
P.O. Box 487
Binger, OK 73009
Telephone: (405) 656-2344

*Mr. Joey Barbry, Chairman
Tunica-Biloxi Indians of Louisiana, Inc.
Mr. Earl Barbry, Jr., Tribal Historic
Preservation Officer
P.O. Box 1589
Marksville, Louisiana 71351
Telephone: (318) 253-9767

*Geoffrey Standing Bear, Principal Chief
Dr. Andrea Hunter, Tribal Historic
Preservation Office
Osage Nation
627 Grandview
Pawhuska, OK 74056
Telephone: (918) 287-5555

**Note:* Per instructions from Ron Love, the Base will manage all correspondence with the tribes and that correspondence will be included in the Project Record.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

NOV 20 2015

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Tamara Francis-Fourkiller
Chairman, Caddo Indian Tribe of Oklahoma
P.O. Box 487
Binger OK 73009-0487

Dear Chairman Francis-Fourkiller

I am the new Installation Commander at Little Rock Air Force Base, Arkansas. I understand your tribe is affiliated with the lands operated by Little Rock Air Force Base. Please accept this letter to continue our government-to-government relationship and consultation regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activity. I extend an invitation to you and your traditional heritage staff for a mission brief or to visit the base at your convenience for open discussion of any concerns or issues. Also, we will be sending letters to the Osage, Quapaw and Tunica-Biloxi tribes. If you know of any other tribes that are affiliated with the base please let us know.

Mr. James Popham had established a working relationship with your previous Tribal Historic Preservation Officer, Mr. Robert Cast. I understand you are presently serving as the current Tribal Historic Preservation Officer. Mr. Popham will continue to contact your office when dealing with related cultural resources issues unless you designate a different point of contact.

Thank you for your assistance. I look forward to hearing from you. Please feel free to contact me at (501) 987-1901 if you or your staff have any concerns.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

60 YEARS OF AIR POWER PARTNERS
Mission – Airmen – Partners

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

NOV 2 0 2015

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Geoffrey Standing Bear
Principal Chief, Osage Nation
627 Grandview
Pawhuska OK 74056-4201

Dear Principal Chief Standing Bear

I am the new Installation Commander at Little Rock Air Force Base, Arkansas. I understand your tribe is affiliated with the lands operated by Little Rock Air Force Base. Please accept this letter to continue our government-to-government relationship and consultation regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activity. I extend an invitation to you and your traditional heritage staff for a mission brief or to visit the base at your convenience for open discussion of any concerns or issues. Also, we will be sending letters to the Caddo, Quapaw and Tunica-Biloxi tribes. If you know of any other tribes that are affiliated with the base please let us know.

Mr. James Popham has established a working relationship with your Tribal Historic Preservation Officer, Dr. Hunter. He will continue to contact her office when dealing with related cultural resources issues unless you designate a different point of contact.

Thank you for your assistance. I look forward to hearing from you. Please feel free to contact me at (501) 987-1901 if you or your staff have any concerns.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

60 YEARS OF AIR POWER PARTNERS
Mission – Airmen – Partners

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

NOV 2 0 2015

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable John Berrey
Chairman, Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw OK 74363-0765

Dear Chairman Berrey

I am the new Installation Commander at Little Rock Air Force Base, Arkansas. I understand your tribe is affiliated with the lands operated by Little Rock Air Force Base. Please accept this letter to continue our government-to-government relationship and consultation regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activity. I extend an invitation to you and your traditional heritage staff for a mission brief or to visit the base at your convenience for open discussion of any concerns or issues. Also, we will be sending letters to the Caddo, Osage and Tunica-Biloxi tribes. If you know of any other tribes that are affiliated with the base please let us know.

Mr. James Popham has established a working relationship with your Tribal Historic Preservation Officer, Mr. Everett Bandy. He will continue to contact his office when dealing with related cultural resources issues unless you designate a different point of contact.

Thank you for your assistance. I look forward to hearing from you. Please feel free to contact me at (501) 987-1901 if you or your staff have any concerns.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

60 YEARS OF AIR POWER PARTNERS
Mission – Airmen – Partners

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

NOV 2 0 2015

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Joey Barbry
Chairman, Tunica-Biloxi Indians of Louisiana, Inc.
P.O. Box 1589
Marksville LA 71351-1589

Dear Chairman Barbry

I am the new Installation Commander at Little Rock Air Force Base, Arkansas. I understand your tribe is affiliated with the lands operated by Little Rock Air Force Base. Please accept this letter to continue our government-to-government relationship and consultation regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activity. I extend an invitation to you and your traditional heritage staff for a mission brief or to visit the base at your convenience for open discussion of any concerns or issues. Also, we will be sending letters to the Caddo, Osage and Quapaw tribes. If you know of any other tribes that are affiliated with the base please let us know.

Mr. James Popham has attempted to establish a working relationship with your Tribal Historic Preservation Officer, Mr. Earl Barbry, Jr, over the last four years without success. He will continue to contact his office when dealing with related cultural resources issues unless you designate a different point of contact.

Thank you for your assistance. I look forward to hearing from you. Please feel free to contact me at (501) 987-1901 if you or your staff have any concerns.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

60 YEARS OF AIR POWER PARTNERS
Mission – Airmen – Partners

From: POPHAM, JAMES T GS-11 USAF AMC 19 CES/CEIEC
To: Kimpenrod@yahoo.com
Subject: Jacksonville North Pulaski School District EA
Date: Friday, June 24, 2016 12:02:34 PM

Is the Caddo Tribe interested in reviewing our upcoming environmental assessment (EA) for leasing USAF property to the Jacksonville North Pulaski School District to create an educational campus for both military dependent and civilian students in the community?

Little Rock AFB proposes to lease property (approximately 103 acres) to the School District to construct an educational campus to be used by both school age children of military members on or off the installation and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located so that travel distance for many school age children would be minimized.

Please let me know if you're interested in reviewing this document. If so, would you like an electronic copy or hard copy?

Thank you,

James Popham
Natural Resources Manager
(501) 987-3681 DSN 731-3681

From: POPHAM, JAMES T GS-11 USAF AMC 19 CES/CEIEC
To: ahunter@osagenation-nsn.gov
Subject: Jacksonville North Pulaski School District EA
Date: Friday, June 24, 2016 12:02:11 PM

Is the Osage Nation interested in reviewing our upcoming environmental assessment (EA) for leasing USAF property to the Jacksonville North Pulaski School District to create an educational campus for both military dependent and civilian students in the community?

Little Rock AFB proposes to lease property (approximately 103 acres) to the School District to construct an educational campus to be used by both school age children of military members on or off the installation and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located so that travel distance for many school age children would be minimized.

Please let me know if you're interested in reviewing this document. If so, would you like an electronic copy or hard copy?

Thank you,

James Popham
Natural Resources Manager
(501) 987-3681 DSN 731-3681

From: POPHAM, JAMES T GS-11 USAF AMC 19 CES/CEIEC
To: ebandy@quapawtribe.com
Subject: Jacksonville North Pulaski School District EA
Date: Friday, June 24, 2016 11:52:24 AM

Is the Quapaw Tribe interested in reviewing our upcoming environmental assessment (EA) for leasing USAF property to the Jacksonville North Pulaski School District to create an educational campus for both military dependent and civilian students in the community?

Little Rock AFB proposes to lease property (approximately 103 acres) to the School District to construct an educational campus to be used by both school age children of military members on or off the installation and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located so that travel distance for many school age children would be minimized.

Please let me know if you're interested in reviewing this document. If so, would you like an electronic copy or hard copy?

Thank you,

James Popham
Natural Resources Manager
(501) 987-3681 DSN 731-3681

From: POPHAM, JAMES T GS-11 USAF AMC 19 CES/CEIEC
To: ejbarbry@tunica.org
Subject: Jacksonville North Pulaski School District EA
Date: Friday, June 24, 2016 10:15:59 AM

Is the Tunica-Biloxi Tribe interested in reviewing our upcoming environmental assessment (EA) for leasing USAF property to the Jacksonville North Pulaski School District to create an educational campus for both military dependent and civilian students in the community?

Little Rock AFB proposes to lease property (approximately 103 acres) to the School District to construct an educational campus to be used by both school age children of military members on or off the installation and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located so that travel distance for many school age children would be minimized.

Please let me know if you're interested in reviewing this document. If so, would you like an electronic copy or hard copy?

Thank you,

James Popham
Natural Resources Manager
(501) 987-3681 DSN 731-3681

Caddo Nation of Oklahoma

Post Office Box 487 • Binger, Oklahoma 73009 • 405-656-2344 • 405-656-2345 • Fax 405-656-2892

July 7, 2016

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base
Little Rock, Arkansas

Ron,

We appreciate the recent correspondence related to the concerns from your legal office. Please be assured we have and will continue to exercise a strict close working relationship from beginning to end of all projects between our two agencies.

The THPO with the Caddo Nation of Oklahoma consults with county, state and federal agencies whenever proposed projects or activities fall within the numerous areas of interest including traditional ancestral territory and historic areas. The purpose of consultations is to ensure that the proposed projects/activities will not negatively affect cultural resources, archaeological sites, sacred sites, traditional cultural properties, or other areas of significance to the Tribe. The THPO reviews all requests for consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) and reviews all Schedules of Proposed Actions (SOPA) from various agencies. We ensure that this begins as early in the process as possible. We request electronic copies when possible for activities that only have ground disturbance.

The agencies our THPO consults with on a regular basis include but are not limited to the following: the United States Departments of the Interior, Bureau of Land Management, Agriculture, Fish & Wildlife, all branches of military installations, numerous National Parks, and State agencies. Consultation with other Tribal governments is an essential part of our traditional ways as well. Those local Tribes included the Osage, Quapaw, Wichita, Delaware, Apache, Comanche, Kiowa, Choctaw, Chickasaw, and other Tribes and Tribal groups/organizations throughout the country.

The Caddo Nation of Oklahoma is currently in the process of rebuilding the Historic Preservation Office. We have a staff of two that provide assistance, input and advice on Section 106 Consultation, historic preservation consultations, construction projects, participate in cultural affairs and gatherings, attend trainings, and other duties as assigned. We also work closely with NAGPRA, our EPA department and Our Caddo Nation Tribal Council. The protection of our tribal cultural resources and tribal trust resources takes all of us working together. As with any new project, we never know what may come to light until work begins and we ask that you keep us up to date on the progress of this project and others. If discoveries arise, please contact us immediately.

I hope this letter clarifies the positive government-to-government relationship we have built. If there are, any additional, questions or concerns please feel free to contact me at any time.

Respectfully,

Kim Penrod
Cultural Preservation Director
Caddo Nation Museum, Library and Archives
NAGPRA Coordinator
THPO
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009
405-656-2344 wk
405-924-9485 cell
kimpenrod@yahoo.com
kim.penrod@gmail.com
kpenrod@cadddonatio.org

7/7/2014

Tamara Francis-Fourkiller
Tribal Chairman
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009
405-656-2344
tffourkiller@caddonation.org

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Tamara Francis-Fourkiller
Chairman, Caddo Nation
P.O. Box 487
Binger, OK 73009-0487

Dear Chairman Francis-Fourkiller,

Thank you for your letter dated July 7, 2016. This letter is not intended to alter or change our existing informal arrangement regarding Government-to-Government consultation. Instead, it is intended to document what we have in place to ensure we are meeting all of the Caddo Nation's expectations regarding such consultation. The United States Air Force (Air Force) is in the process of preparing an Environmental Assessment (EA) at Little Rock Air Force Base (LRAFB). As the Installation Commander, I understand your tribe is affiliated with the lands operated by this military facility. Please accept this letter to confirm our existing government-to-government relationship and informal consultation process regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activities.

The proposed action involves leasing property to the Jacksonville North Pulaski School District. To ensure we both achieve our goal, we will request input (comments, concerns, and suggestions) from your acting Tribal Historic Preservation Officer (THPO), as we have in the past. This procedure is in accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), Under these authorities, the Air Force desires to consult and discuss with you on details of the proposed action triggering our preparation of an EA. We want to consider any comments, concerns and suggestions you may have. While our informal relationship (explained in greater detail below) has worked very well over many years we want to acknowledge this on-going working relationship in writing at this time. However, please also know that if you would like to meet with me and base personnel to discuss this current proposed action and the EA in question such a meeting can be arranged at a time and date mutually convenient to our schedules. My point of contact (POC) to arrange such a meeting is the Cultural Resources Manager (CRM), Mr. James Popham, at (501) 987-3681, or, by email at james.popham@us.af.mil.

It is my present understanding that the CRM, Mr. James Popham, has already established a good working relationship with your acting THPO, Ms. Kimberly Penrod, in bringing to your attention the varied proposed actions that occur on this facility and specifically the action that relates to the current EA being prepared. Ms. Penrod has advised Mr. Popham that he contact her by e-mail messages when LRAFB engages in actions that will involve new ground disturbances necessitating preparation of an EA. Further, Ms. Penrod prefers to be contacted (electronic submission of Draft EA) upon official publication of the Draft EA where public comment is being requested during a 30-day comment period. Given that applicable regulations and Air Force policies requires LRAFB to engage in early outreach to recognized Native American Tribes, I have directed our CRM to contact the THPO, even though informally, prior to official release of the Draft EA. However, please know there is not any requirement for the THPO to

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respond to this early outreach and the THPO still has the opportunity to submit any concerns or comments during the 30-day comment period preferred.

Finally, it my understanding that the Caddo Nation and the designated THPO, Ms. Penrod, do not desire to engage in a formal consultation process with LRAFB and the particular proposed action in question. However, please be aware that the invitation to enter into such formal consultations is available and open if that need ever arises. Additionally, if you desire to engage in informal discussions by telephone, electronically (e-mail messages) or by letter, please advise me or the CRM, Mr. Popham, as I presented earlier in this letter. I will also ask Mr. Popham to reach out to Ms. Penrod after your receipt of this letter to confirm receipt and address any questions.

I appreciate your efforts in assisting LRAFB fulfill its requirements under NHPA laws, Executive Orders and Air Force policies and I look forward to our continuing cooperation and relationship in the years to come. Our goal is to ensure that we are honoring the Caddo Nation's desires regarding Air Force outreach and consultation processes whether accomplished formally or informally.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Geoffrey Standing Bear
Principal Chief, Osage Nation
627 Grandview
Pawhuska, OK 74056-4201

Dear Chief Standing Bear,

Thank you for Dr. Andrea Hunter's e-mail dated 24 Jun 2016. This letter is not intended to alter or change our existing informal arrangement regarding Government-to-Government consultation. Instead, it is intended to document what we have in place to ensure we are meeting all of the Osage Nation's expectations regarding such consultation. The United States Air Force (Air Force) is in the process of preparing an Environmental Assessment (EA) at Little Rock Air Force Base (LRAFB). As the Installation Commander, I understand your tribe is affiliated with the lands operated by this military facility. Please accept this letter to confirm our existing government-to-government relationship and informal consultation process regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activities.

The proposed action involves leasing property to the Jacksonville North Pulaski School District. To ensure we both achieve our goal, we will request input (comments, concerns, and suggestions) from your acting Tribal Historic Preservation Officer (THPO), as we have in the past. This procedure is in accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), Under these authorities, the Air Force desires to consult and discuss with you on details of the proposed action triggering our preparation of an EA. We want to consider any comments, concerns and suggestions you may have. While our informal relationship (explained in greater detail below) has worked very well over many years we want to acknowledge this on-going working relationship in writing at this time. However, please also know that if you would like to meet with me and base personnel to discuss this current proposed action and the EA in question such a meeting can be arranged at a time and date mutually convenient to our schedules. My point of contact (POC) to arrange such a meeting is the Cultural Resources Manager (CRM), Mr. James Popham, at (501) 987-3681, or, by email at james.popham@us.af.mil.

It is my present understanding that the CRM, Mr. James Popham, has already established a good working relationship with your THPO, Dr. Andrea Hunter, in bringing to your attention the varied proposed actions that occur on this facility and specifically the action that relates to the current EA being prepared. Dr. Hunter has advised Mr. Popham, in the past, that he send her electronic and hard copies of documents when LRAFB engages in actions that require an EA. After official publication of the Draft EA, Dr. Hunter prefers to receive both an electronic copy and hard-copy of the Draft EA during the 30-day public comment period. Given that applicable regulations and Air Force policies requires LRAFB to engage in early outreach to recognized Native American Tribes, I have directed our CRM to contact the THPO, even though informally, prior to official release of the Draft EA. However, please know there is

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not any requirement for the THPO to respond to this early outreach and the THPO still has the opportunity to submit any concerns or comments during the 30-day comment period preferred.

Finally, it my understanding that the Osage Nation and the designated THPO, Dr. Hunter, do not desire to engage in a formal consultation process with LRAFB and the particular proposed action in question. However, please be aware that the invitation to enter into such formal consultations is available and open if that need ever arises. Additionally, if you desire to engage in informal discussions by telephone, electronically (e-mail messages) or by letter, please advise me or the CRM, Mr. Popham, as I presented earlier in this letter. I will also ask Mr. Popham to reach out to Dr. Hunter after your receipt of this letter to confirm receipt and address any questions.

I appreciate your efforts in assisting LRAFB fulfill its requirements under NHPA laws, Executive Orders and Air Force policies and I look forward to our continuing cooperation and relationship in the years to come. Our goal is to ensure that we are honoring the Osage Nation's desires regarding Air Force outreach and consultation processes whether accomplished formally or informally.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable John Berrey
Chairman, Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363-0765

Dear Chairman Berrey,

This letter is not intended to alter or change our existing informal arrangement regarding Government-to-Government consultation. Instead, it is intended to document what we have in place to ensure we are meeting all of the Quapaw Tribe's expectations regarding such consultation. The United States Air Force (Air Force) is in the process of preparing an Environmental Assessment (EA) at Little Rock Air Force Base (LRAFB). As the Installation Commander, I understand your tribe is affiliated with the lands operated by this military facility. Please accept this letter to confirm our existing government-to-government relationship and informal consultation process regarding any traditional heritage concerns your tribe may have with Little Rock Air Force Base controlled lands or federal government activities.

The proposed action involves leasing property to the Jacksonville North Pulaski School District. To ensure we both achieve our goal, we will request input (comments, concerns, and suggestions) from your Tribal Historic Preservation Officer (THPO), as we have in the past. This procedure is in accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), Under these authorities, the Air Force desires to consult and discuss with you on details of the proposed action triggering our preparation of an EA. We want to consider any comments, concerns and suggestions you may have. While our informal relationship (explained in greater detail below) has worked very well over many years we want to acknowledge this on-going working relationship in writing at this time. However, please also know that if you would like to meet with me and base personnel to discuss this current proposed action and the EA in question such a meeting can be arranged at a time and date mutually convenient to our schedules. My point of contact (POC) to arrange such a meeting is the Cultural Resources Manager (CRM), Mr. James Popham, at (501) 987-3681, or, by email at james.popham@us.af.mil.

It is my present understanding that the CRM, Mr. James Popham, has already established a good working relationship with your THPO, Everett Bandy, in bringing to your attention the varied proposed actions that occur on this facility and specifically the action that relates to the current EA being prepared. Mr. Bandy has advised Mr. Popham, in the past, that he send him electronic copies of documents and contact him by e-mail when LRAFB engages in actions that require preparation of an EA involving ground disturbance. Given that applicable regulations and Air Force policies requires LRAFB to engage in early outreach to federally recognized Native American Tribes, I have directed our CRM to contact the THPO, even though informally, prior to official release of the Draft EA. However, please know there is not any requirement for the THPO to respond to this early outreach and the THPO still has the opportunity to submit any concerns or comments during the 30-day comment period preferred.

Combat Airlift… Anywhere, Anytime!

Finally, it is my understanding that the Quapaw Tribe and the designated THPO, Mr. Bandy, do not desire to engage in a formal consultation process with LRAFB and the particular proposed action in question. However, please be aware that the invitation to enter into such formal consultations is available and open if that need ever arises. Additionally, if you desire to engage in informal discussions by telephone, electronically (e-mail messages) or by letter, please advise me or the CRM, Mr. Popham, as I presented earlier in this letter. I will also ask Mr. Popham to reach out to Mr. Bandy after your receipt of this letter to confirm receipt and address any questions.

I appreciate your efforts in assisting LRAFB fulfill its requirements under NHPA laws, Executive Orders and Air Force policies and I look forward to our continuing cooperation and relationship in the years to come. Our goal is to ensure that we are honoring the Quapaw Tribe's desires regarding Air Force outreach and consultation processes whether accomplished formally or informally.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Colonel Charles E. Brown Jr., USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock Air Force Base AR 72099-4940

The Honorable Joey Barbry
Chairman, Tunica-Biloxi Indians of Louisiana
P.O. Box 1589
Marksville, LA 71351-1589

Dear Chairman Barbry,

The purpose of this letter is to establish and document an informal arrangement regarding Government-to-Government consultation. My goal is to ensure we are meeting all of the Tunica-Biloxi Tribe's expectations regarding such consultation. The United States Air Force (Air Force) is in the process of preparing an Environmental Assessment (EA) at Little Rock Air Force Base (LRAFB). As the Installation Commander, I understand your tribe is affiliated with the lands operated by this military facility.

The proposed action involves leasing property to the Jacksonville North Pulaski School District. To ensure we both achieve our goal, we will request input (comments, concerns, and suggestions) from your Tribal Historic Preservation Officer (THPO), as we have in the past. This procedure is in accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4). Under these authorities, the Air Force desires to consult and discuss with you on details of the proposed action triggering our preparation of an EA. We want to consider any comments, concerns and suggestions you may have. We have attempted to establish a cooperative relationship (explained in greater detail below) over many years. We would like to establish an informal working relationship between your THPO and our Cultural Resources Manager (CRM) as we have accomplished with other affiliated tribes. However, please also know that if you would like to formally meet with me and base personnel to discuss this current proposed action and the EA in question such a meeting can be arranged at a time and date mutually convenient to our schedules. My point of contact (POC) to arrange such a meeting is the CRM, Mr. James Popham, at (501) 987-3681, or, by email at james.popham@us.af.mil.

It is my present understanding that the CRM, Mr. James Popham, has tried to garner your interest in establishing a working relationship with your THPO, Earl Barbry, Jr., to inform the Tunica-Biloxi Tribe of the varied proposed actions that occur on this facility and specifically the action that relates to the current EA being prepared. To date, Mr. Barbry has not informed Mr. Popham of any interest in the proposed action and whether he would like us to send him copies of documents when LRAFB engages in actions that require Section 106 consultation and notification. Since there has not been an expression of interest from the Tunica-Biloxi Tribe, we will naturally assume that if there was a specific interest or concern then that would be raised through Mr. Barbry. Therefore, our CRM will contact your THPO, Mr. Barbry, informally by e-mail or telephone when LRAFB engages in actions that will require an EA. Following the publication of a draft EA for public comment, our CRM will send a hard-copy of the draft EA to your THPO. Given that applicable regulations and policies require LRAFB to engage in early outreach to federally recognized Native American Tribes, I have asked Mr. Popham to inform Mr. Barbry

Combat Airlift… Anywhere, Anytime!

of the Draft EA prior to its official release to provide the Tunica-Biloxi Tribe sufficient time to present any concerns. However, please know there is not any requirement for the THPO to respond to this early outreach and the THPO still has the opportunity to submit any concerns or comments during the 30-day comment period preferred.

Finally, even if Mr. Barbry or the Tunica-Biloxi Tribe do not desire to engage in formal consultations at this time, please be aware that the invitation to enter into such formal consultations is available and open if that need ever arises. Additionally, if you desire to engage in informal discussions by telephone, electronically (e-mail messages) or by letter, please advise me or the CRM, Mr. Popham, as I presented earlier in this letter. I will also ask Mr. Popham to reach out to Mr. Barbry after your receipt of this letter to confirm receipt and address any questions.

I appreciate your efforts in assisting LRAFB fulfill its requirements under NHPA laws, Executive Orders and Air Force policies and I look forward to our mutual cooperation in the years to come. Our goal is to ensure that we are honoring the Tunica-Biloxi Tribe's desires regarding Air Force outreach and consultation processes whether accomplished formally or informally.

Sincerely

CHARLES E. BROWN JR., Colonel, USAF
Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Ms. Stacy Hurst
State Historic Preservation Officer
State Historic Preservation Office
323 Center Street, Ste 1500
Little Rock, AR 72201

Dear Ms. Hurst,

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

The cultural resources analysis for the Proposed Action is being conducted by the 19 AW in accordance with 36 CFR Part 800 of the National Historic Preservation Act of 1966, as amended. We request your participation by reviewing the attached Draft EA, and solicit your comments concerning the proposal and any potential consequences to cultural resources from the action.

Four archaeological sites are located with the project APE: 3PU417, 3PU418, 3PU419, and 3PU297. All of these sites have been recommended not eligible for inclusion in the NRHP and are therefore not considered historic properties. Pursuant to 36 CFR Part 800.4(a)(1), the Air Force requests your concurrence that the proposed efforts to identify historic properties are reasonable.

We also request information regarding other recently completed, on-going, or proposed projects in the vicinity that create cumulative impacts in association with the Proposed Action. Please provide any comments you may have within 30 days of receipt of this letter. Further, if upon completion of the environmental impact analysis process it is determined that a Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA) is appropriate, a FONSI/FONPA will be signed. Please indicate in writing if you wish to receive the final EA and/or signed FONSI/FONPA.

Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

U.S. Army Corps of Engineers
Little Rock District
700 W Capitol
Little Rock, AR 72201

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

U.S. Fish and Wildlife Service
Ecological Services Field Office
110 S Amity, Ste 300
Conway, AR 72032-8975

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Becky Keogh
Director
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Dear Ms. Keogh

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Michael Sullivan
Natural Resources Conservation Service
Room 3416, Federal Building
700 W Capitol Ave
North Little Rock, AR 72201-3225

Dear Mr. Sullivan

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

U.S. Environmental Protection Agency
Region 6
Compliance Assurance and Enforcement Division
Office of Planning and Coordination (6EN-XP)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
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Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Arkansas Game and Fish Commission
2 Natural Resources Dr
Little Rock, AR 72205

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
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Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Arkansas Natural Resources Commission
101 E Capitol, Ste 350
Little Rock, AR 72201

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Arkansas State Highway and Transportation Department
10324 Interstate 30
Little Rock, AR 72209

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

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Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Arkansas State Plant Board
1 Natural Resource Dr
Little Rock, AR 72205

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Please forward your written comments to me, Ronald Love at 19 CES/CEIE, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987. Thank you for your assistance.

Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

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Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Department of Planning and Development
723 W Markham St
Little Rock, AR 72201

Dear Sir/Madam

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Pulaski County Planning and Development
3200 Brown St
Little Rock, AR 72204

Dear Sir/Madam

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Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

8 August 2016

Tracy Copeland
Manager
Arkansas Department of Finance and Administration
Office of Intergovernmental Services
State Clearinghouse Section
Room 412, 1515 Building
1515 W Seventh St
Little Rock, AR 72201

Dear Ms. Copeland

The 19th Airlift Wing (19 AW) has prepared a Draft Environmental Assessment (EA) for Little Rock Air Force Base (AFB), Arkansas. The Draft EA analyzes the leasing of property to the Jacksonville North Pulaski School District (the District) to construct an educational campus to be used by both military dependents and the civilian community. This proposal would provide updated educational facilities for students within the District. These facilities would be optimally located and minimize travel distance to the greatest extent possible.

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Sincerely

Ronald D. Love

Ron Love
Chief, Environmental Compliance
Little Rock Air Force Base

Attachment:
Draft EA and Draft FONSI

Combat Airlift… Anywhere, Anytime!

SATURDAY

142nd Kentucky race
Three Arkansas Derby horses possess big odds, strong late runs. – Sports, 1C

CEO eager to go driverless
Fiat Chrysler chief touts deal to add Google's tech to minivans. – Business, 1D

Arkansas Democrat Gazette

ARKANSAS' NEWSPAPER

Printed at Little Rock • May 7, 2016 ArkansasOnline.com 50 Pages • 8 Sections $1.00

Public Notice

Jacksonville North Pulaski School Environmental Assessment at Little Rock Air Force Base

Little Rock Air Force Base (LRAFB) announces the intent to prepare an environmental assessment to lease property to the Jacksonville North Pulaski School District (the District) to construct educational facilities. Activities on the leased land may potentially include renovations to existing school facilities and/or new construction of elementary, middle, and/or high school facilities for those students within the District.

Flood plains and wetlands have been identified within tracts of land that may be considered to be leased to the District upon completion of an appropriate environmental analysis and report. Pursuant to Executive Order 11988, Floodplain Management, supplemental Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, and Executive Order 11990, Protection of Wetlands, the long and short term adverse impacts to floodplains and wetlands should be avoided from proposed development and construction to the extent possible and direct and indirect impacts to these resources should be avoided wherever there is a practicable alternative.

Additionally, Executive Orders 11988 and 11990 require a Finding of No Practicable Alternative if warranted prior to proceeding with proposed project activities. In accordance with the Executive Orders, LRAFB and the Air Force invites the public a 30 day public review and comment period ending June 6, 2016, on the preliminary evaluation of the Air Force land that may be leased for school projects, and on the resources (floodplains and wetlands) existing on the LRAFB properties proposed to be leased. LRAFB will require that current wetland and/or floodplain maps or information are obtained from appropriate federal, state and local agencies or offices and evaluated to avoid adverse impacts to these resources.

Comments should be sent to Capt. Walker, Chief, Public Affairs, 1255 Vandenberg Blvd., Ste 138, LRAFB, AR 72099 or emailed to 19aw.pa@us.af.mil.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

13 May 2016

MEMORANDUM FOR ARKANSAS HISTORIC PRESERVATION PROGRAM
ATTN: BOB SCOGGINS
1500 TOWER BUILDING
323 CENTER STREET
LITTLE ROCK, ARKANSAS 72201

FROM: 19 CES/CEIE
528 Thomas Avenue
Little Rock AFB AR 72099-4987

SUBJECT: Historic Status of Arnold Drive Elementary School

1. Request concurrence for National Register eligibility of Arnold Drive Elementary School (Building 798). The federal property is owned by Little Rock AFB (LRAFB), and the Pulaski Special School District owns the building. In July 2016 the proposed action is to transfer the lease from Pulaski Special School District to the Jacksonville North Pulaski School District. The overall plan of the school district is to build a new facility, demolish the existing building due to its state-wide assessment and continued degradation of the facility.

2. The building is on 10.79 acres, located on Arnold Drive at LRAFB. The building was constructed in March 1968 and is approximately 31,040 SF. It is a pre-engineered metal building with a low slope metal roof and metal wall panels. The structure is comprised of a steel frame exterior and interior finishes are made up of gypsum board walls, lay-in ceilings, and VCT tile flooring on a concrete slab. Building 798 is simply not individually significant enough to meet the National Register criteria.

3. Based on our current available information and the condition of this building we do not believe this building is eligible for the National Register. Do you concur?

4. Thank you for your assistance. If you have any questions you can contact Jim Popham at (501) 987-3681.

RONALD D. LOVE, GS-13
Chief, Environmental Compliance

Attachments:
1. GIS Map showing location of building
2. Photos of Building 798

Combat Airlift... Anywhere, Anytime!

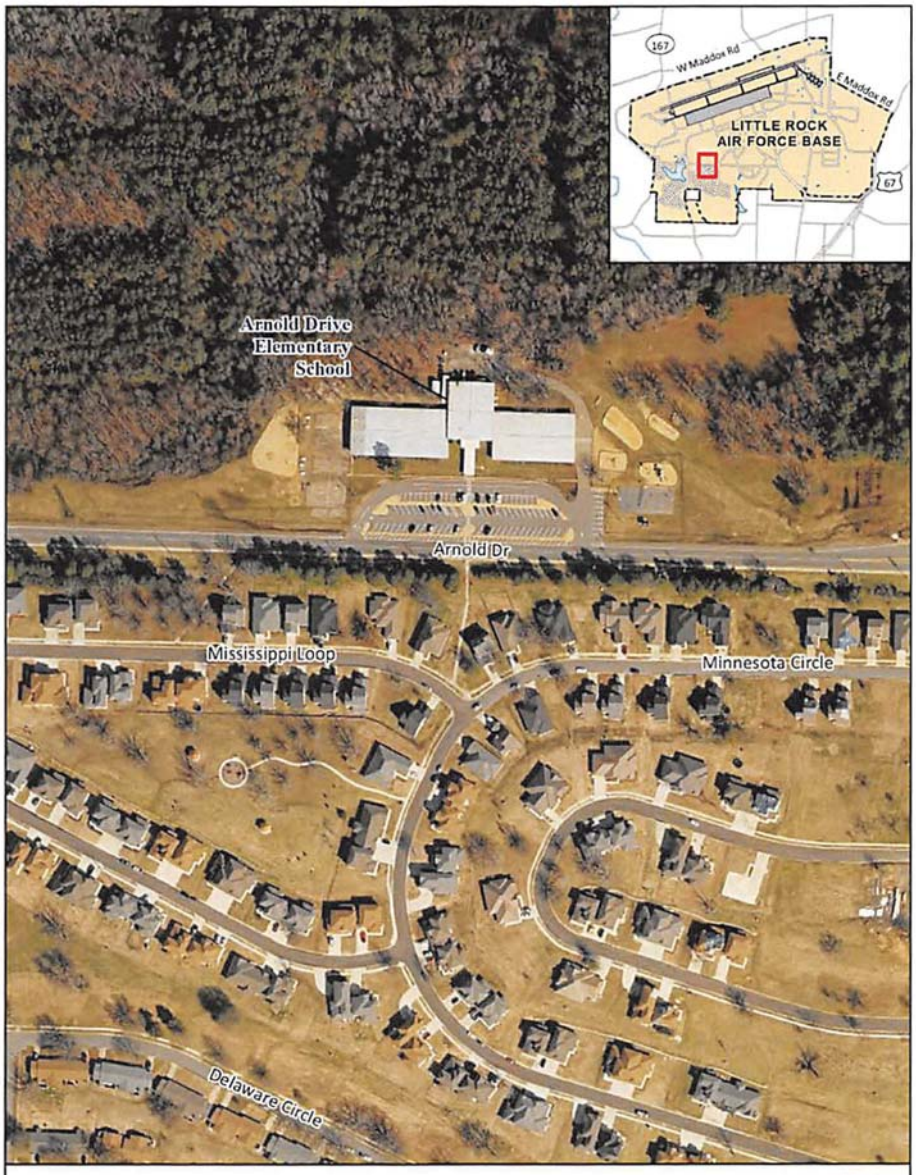

Figure 2-2
Arnold Drive Elementary School

1

Building 798, East Side

Building 798, Front of Building

Building 798, North Side

Building 798, Side View, East Side

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

95793
USAF

13 May 2016

MEMORANDUM FOR ARKANSAS HISTORIC PRESERVATION PROGRAM
ATTN: BOB SCOGGINS
1500 TOWER BUILDING
323 CENTER STREET
LITTLE ROCK, ARKANSAS 72201

AHPP
MAY 12 2016

FROM: 19 CES/CEIE
528 Thomas Avenue
Little Rock AFB AR 72099-4987

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RONALD D. LOVE, GS-13
Chief, Environmental Compliance

Attachments:
1. GIS Map showing location of building
2. Photos of Building 798

MAY 13 2016
Date
No known historic properties will be affected by this undertaking. This effect determination could change should new information come to light.
Frances McSwain, Deputy State Historic Preservation Officer

MAY 13 2016

Combat Airlift... Anywhere, Anytime!

APPENDIX B
EMISSIONS CALCULATIONS

TAB A. CONSTRUCTION SUMMARY

Proposed Action	VOC T/yr	CO T/yr	NOx T/yr	SO_2 T/yr	PM_{10} T/yr	$PM_{2.5}$ T/yr	CO_2 MT/yr
Alternative 1	0.50	2.22	7.10	0.11	19.29	2.27	624
Alternative 2	1.95	9.24	28.23	0.41	190.59	20.44	2526.88

Note: The summary total of each criteria pollutant for Alternative is the total of the Phase I construction emissions, as shown on the following page. The summary total of each criteria pollutant for Alternative 2 is the sum of the Phase I and Phase II construction emissions, as shown on the following pages.

TAB B. **PHASE I CONSTRUCTION EMISSIONS**

Basic Conversions

453.59	grams per pound
43,560	Conversion from Acre to SF
0.03704	Cubic feet to Cubic Yards
0.1111	Square Feet to Square Yards
1.4	tons/CY for Gravel
80,000	lbs/Truck Load for Delivery
0.33	asphalt thickness for pavement
2000	pounds per ton
145.00	lb/ft^3 density of Hot Mix Asphalt

Table 1 **Clearing** 11 acres

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Dozer	128	145	0.58	0.38	1.41	4.17	0.12	0.30	0.29	536
Loader/Backhoe	128	87	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692
Small Backhoe	128	55	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	8.94	33.57	99.05	2.73	7.02	6.81	12,713
Loader w/ integral Backhoe	7.38	37.89	32.73	0.77	5.48	5.32	3,566
Small backhoe	4.67	23.96	20.69	0.48	3.47	3.36	2,254

On-road Equipment	Hours of Operation	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	11	230	16	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	0.27	1.43	6.43	0.00	0.27	0.26	613
Subtotal in lbs	21	97	159	4	16	16	19,147
Clearing Grand Total in Tons	**0.01**	**0.05**	**0.08**	**0.00**	**0.01**	**0.01**	
Clearing Grand Total in Metric Tons							**9**

Table 2 **Site Prep**

Site Prep - Excavate/Fill (CY) 6,862 CY 900 LF Trenching

Grading (SY) 111,320 SY Assume compact 0.5 feet (0.166 yards) = 18,479 CY

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Excavator	23	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	536
Skid Steer Loader	27	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	536
Dozer (Rubber Tired)	25	145	0.59	0.38	1.41	4.17	0.12	0.30	0.29	536
Compactor	86	103	0.58	0.40	1.57	4.57	0.12	0.32	0.31	536
Grader	40	285	0.58	0.34	1.21	4.07	0.12	0.23	0.22	536
Backhoe/loader	16	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Excavator	2.50	8.79	29.29	0.84	1.62	1.57	3,895
Skid Steer Loader	0.84	3.22	9.50	0.25	0.67	0.65	1,173
Dozer (Rubber Tired)	1.78	6.67	19.68	0.54	1.40	1.35	2,526
Compactor	4.48	17.79	51.72	1.31	3.61	3.51	6,067
Grader	5.01	17.61	59.33	1.68	3.29	3.19	7,810
Backhoe/loader	0.63	2.26	7.66	0.21	0.43	0.42	970

On-road Equipment	Hours	MPH	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck (14 CY)	23	5	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	0.17	0.92	4.15	0.00	0.17	0.17	395
Subtotal in lb:	**15**	**57**	**181**	**5**	**11**	**11**	**22,837**
Site Prep Grand Total in Tons	**0.01**	**0.03**	**0.09**	**0.00**	**0.01**	**0.01**	
Site Prep Grand Total in Metric Tons							**10**

Table 3 **Gravel Work** 3,377 CY

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/hp-hr
Dozer	34	185	0.59	0.34	1.21	4.08	0.12	0.23	0.22	536
Wheel Loader for Spreading	42	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536
Compactor	93	103	0.43	0.36	1.34	4.45	0.12	0.26	0.25	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	2.81	9.88	33.38	0.94	1.85	1.79	4,384
Wheel Loader for Spreading	1.66	5.93	20.12	0.55	1.13	1.10	2,546
Compactor	3.27	12.16	40.43	1.05	2.33	2.26	4,865

On-road Equipment	Miles	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM_{10} lb/mile	$PM_{2.5}$ lb/mile	CO_2 lb/mile
Dump Truck	6,754	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dump Truck	10.28	54.32	243.62	0.12	10.16	9.85	23,224
Subtotal (lbs):	**18**	**82**	**338**	**3**	**15**	**15**	**35,019**
Gravel Work Grand Total in Tons	**0.01**	**0.04**	**0.17**	**0.00**	**0.01**	**0.01**	
Gravel Work Grand Total in Metric Tons							**16**

Table 4 **Concrete Work**

Foundation Work	3,370	CY
Sidewalks, etc.	14	CY
Total	3,384	CY

Note: Assume all excavated soil is accounted for in Excavate/Fill and Trenching

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Concrete Mixer	178	3.5	0.43	0.69	3.04	6.17	0.13	0.54	0.52	588
Concrete Truck	161	300	0.43	0.38	1.75	6.18	0.11	0.27	0.26	530

	Annual Emissions VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Concrete Mixer	0.41	1.80	3.64	0.07	0.32	0.31	347
Concrete Truck	17.38	79.93	283.08	5.22	12.30	11.93	24,263
Subtotal (lbs):	**18**	**82**	**287**	**5**	**13**	**12**	**24,610**
Concrete Work Grand Total in Tons	**0.01**	**0.04**	**0.14**	**0.00**	**0.01**	**0.01**	
Concrete Work Grand Total in Metric Tons							**11**

Table 5 **Building Construction**

91,000 SF Foundation
91,000 SF Total

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Crane	455	330	0.58	0.25	1.22	5.26	0.11	0.21	0.20	530
Concrete Truck	455	300	0.43	0.19	1.45	4.32	0.12	0.21	0.20	536
Diesel Generator	364	40	0.43	0.26	1.41	3.51	0.11	0.23	0.22	536
Telehandler	910	99	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Scissors Lift	728	83	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Skid Steer Loader	455	67	0.59	1.69	7.97	6.70	0.15	1.19	1.15	691
Pile Driver	4,692	260	0.43	0.46	1.55	5.90	0.11	0.31	0.30	530
All Terrain Forklift	18	84	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595

	Annual Emissions VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	47.17	234.14	1,009.85	21.90	39.88	38.69	101,815
Concrete Truck	24.28	188.22	559.10	14.93	27.18	26.37	69,393
Diesel Generator	3.62	19.45	48.42	1.49	3.20	3.10	7,401
Telehandler	59.71	461.67	577.59	14.99	61.07	59.23	69,679
Scissors Lift	40.05	309.65	387.40	10.05	40.96	39.73	46,734
Skid Steer Loader	67.11	315.94	265.59	5.89	47.15	45.74	27,395
Pile Driver	536.65	1,794.64	6,825.48	131.75	362.98	352.09	612,512
All Terrain Forklift	1.00	7.75	9.69	0.25	1.02	0.99	1,169

On-road Equipment	Hours of Operation	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Delivery Truck	2,184	265	45	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Delivery Truck	149.52	790.36	3544.96	1.77	147.86	143.27	337,940
Subtotal (lbs):	**929**	**4,122**	**13,228**	**203**	**731**	**709**	**1,274,038**
Building Construction Grand Total in Tons	**0.46**	**2.06**	**6.61**	**0.10**	**0.37**	**0.35**	
Building Construction Grand Total in Metric Tons							**578**

Table 6 **Fugitive Dust Emissions**

Year	PM_{10} tons/acre/ mo	acres	days of disturbance	PM_{10} Total	PM2.5/ PM_{10} Ratio	$PM_{2.5}$ Total
Annual	0.42	15.00	60	18.9	0.1	1.9

Table 7 **Total Emissions**

Year	VOC Tons	CO Tons	NOx Tons	SO2 Tons	PM10 Tons	PM2.5 Tons	CO_2 Metric Tons
Annual	0.50	2.22	7.10	0.11	19.29	2.27	624

TAB C. **PHASE II CONSTRUCTION EMISSIONS**

Basic Conversions

453.59	grams per pound
43,560	Conversion from Acre to SF
0.03704	Cubic feet to Cubic Yards
0.1111	Square Feet to Square Yards
1.4	tons/CY for Gravel
80,000	lbs/Truck Load for Delivery
0.33	asphalt thickness for pavement
2000	pounds per ton
145.00	lb/ft^3 density of Hot Mix Asphalt

Table 1 **Clearing** 68 acres

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Dozer	789	145	0.58	0.38	1.41	4.17	0.12	0.30	0.29	536
Loader/Backhoe	789	87	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692
Small Backhoe	789	55	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	55.10	206.90	610.53	16.86	43.30	42.00	78,365
Loader w/ integral Backhoe	45.50	233.58	201.76	4.73	33.79	32.77	21,981
Small backhoe	28.77	147.66	127.55	2.99	21.36	20.72	13,896

On-road Equipment	Hours of Operation	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	361	230	16	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	8.91	47.08	211.16	0.11	8.81	8.53	20,129
Subtotal in lbs	138	635	1151	25	107	104	134,371
Clearing Grand Total in Tons	**0.07**	**0.32**	**0.58**	**0.01**	**0.05**	**0.05**	
Clearing Grand Total in Metric Tons							**60.9**

Table 2 **Site Prep**

Site Prep - Excavate/Fill (CY) 20,129 CY 2,362 LF Trenching

Grading (SY) 440,440 SY Assume compact 0.5 feet (0.166 yards) = 73,113 CY

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Excavator	67	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	536
Skid Steer Loader	81	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	536
Dozer (Rubber Tired)	73	145	0.59	0.38	1.41	4.17	0.12	0.30	0.29	536
Compactor	338	103	0.58	0.40	1.57	4.57	0.12	0.32	0.31	536
Grader	156	285	0.58	0.34	1.21	4.07	0.12	0.23	0.22	536
Backhoe/loader	40	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Excavator	7.28	25.61	85.33	2.44	4.72	4.58	11,347
Skid Steer Loader	2.52	9.66	28.51	0.76	2.01	1.95	3,520
Dozer (Rubber Tired)	5.19	19.47	57.46	1.59	4.08	3.95	7,376
Compactor	17.59	69.90	203.25	5.13	14.21	13.78	23,844
Grader	19.55	68.67	231.39	6.55	12.82	12.44	30,460
Backhoe/loader	1.58	5.65	19.16	0.52	1.08	1.05	2,425

On-road Equipment	Hours	MPH	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck (14 CY)	67	5	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	0.51	2.69	12.08	0.01	0.50	0.49	1,152
Subtotal in lb:	**54**	**202**	**637**	**17**	**39**	**38**	**80,124**
Site Prep Grand Total in Tons	**0.03**	**0.10**	**0.32**	**0.01**	**0.02**	**0.02**	
Site Prep Grand Total in Metric Tons							**36**

Table 3 **Gravel Work** 6,692 CY

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/hp-hr
Dozer	67	185	0.59	0.34	1.21	4.08	0.12	0.23	0.22	536
Wheel Loader for Spreading	84	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536
Compactor	185	103	0.43	0.36	1.34	4.45	0.12	0.26	0.25	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	5.54	19.47	65.78	1.86	3.65	3.54	8,638
Wheel Loader for Spreading	3.31	11.87	40.24	1.10	2.27	2.20	5,093
Compactor	6.50	24.18	80.42	2.08	4.64	4.50	9,678

On-road Equipment	Miles	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM_{10} lb/mile	$PM_{2.5}$ lb/mile	CO_2 lb/mile
Dump Truck	13,384	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dump Truck	20.36	107.63	482.76	0.24	20.14	19.51	46,021
Subtotal (lbs):	**36**	**163**	**669**	**5**	**31**	**30**	**69,430**
Gravel Work Grand Total in Tons	**0.02**	**0.08**	**0.33**	**0.00**	**0.02**	**0.01**	
Gravel Work Grand Total in Metric Tons							**31**

Table 4 **Concrete Work**

Foundation Work 13,281 CY
Sidewalks, etc. 103 CY
Total 13,384 CY

Note: Assume all excavated soil is accounted for in Excavate/Fill and Trenching

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors: VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Concrete Mixer	705	3.5	0.43	0.69	3.04	6.17	0.13	0.54	0.52	588
Concrete Truck	637	300	0.43	0.38	1.75	6.18	0.11	0.27	0.26	530

	Annual Emissions: VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Concrete Mixer	1.61	7.12	14.44	0.30	1.26	1.23	1,376
Concrete Truck	68.76	316.26	1,120.02	20.65	48.68	47.22	95,996
Subtotal (lbs):	**70**	**323**	**1,134**	**21**	**50**	**48**	**97,372**
Concrete Work Grand Total in Tons	**0.04**	**0.16**	**0.57**	**0.01**	**0.02**	**0.02**	
Concrete Work Grand Total in Metric Tons							**44**

Table 5 **Building Construction**

179,300 SF Foundation

358,600 SF Total

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Crane	1,793	330	0.58	0.25	1.22	5.26	0.11	0.21	0.20	530
Concrete Truck	1,793	300	0.43	0.19	1.45	4.32	0.12	0.21	0.20	536
Diesel Generator	1,434	40	0.43	0.26	1.41	3.51	0.11	0.23	0.22	536
Telehandler	3,586	99	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Scissors Lift	2,869	83	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Skid Steer Loader	1,793	67	0.59	1.69	7.97	6.70	0.15	1.19	1.15	691
Pile Driver	9,246	260	0.43	0.46	1.55	5.90	0.11	0.31	0.30	530
All Terrain Forklift	72	84	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595

	Annual Emissions VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	185.89	922.66	3,979.48	86.31	157.16	152.45	401,217
Concrete Truck	95.67	741.71	2,203.24	58.82	107.12	103.91	273,454
Diesel Generator	14.27	76.61	190.77	5.87	12.61	12.23	29,157
Telehandler	235.29	1,819.29	2,276.10	59.06	240.64	233.42	274,580
Scissors Lift	157.82	1,220.29	1,526.70	39.62	161.41	156.57	184,176
Skid Steer Loader	264.45	1,245.02	1,046.60	23.22	185.81	180.24	107,955
Pile Driver	1,057.51	3,536.50	13,450.21	259.63	715.28	693.82	1,207,010
All Terrain Forklift	4.01	30.99	38.78	1.01	4.10	3.98	4,678

On-road Equipment	Hours of Operation	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Delivery Truck	8,606	265	45	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Delivery Truck	589.16	3,114	13,969	6.99	582.64	564.55	1,331,644
Subtotal (lbs):	**2,604**	**12,707**	**38,681**	**541**	**2,167**	**2,101**	**3,813,869**
Building Construction Grand Total in Tons	**1.30**	**6.35**	**19.34**	**0.27**	**1.08**	**1.05**	
Building Construction Grand Total in Metric Tons							**1,730**

Table 6 **Fugitive Dust Emissions**

Year	PM_{10} tons/acre/ mo	acres	days of disturbance	PM_{10} Total	PM2.5/ PM_{10} Ratio	$PM_{2.5}$ Total
Annual	0.42	45.00	180	170.1	0.1	17.0

Table 7 **Total Emissions**

Year	VOC Tons	CO Tons	NOx Tons	SO2 Tons	PM10 Tons	PM2.5 Tons	CO_2 Metric Tons
Annual	1.45	7.02	21.14	0.30	171.30	18.17	1,903

TAB D. CONSTRUCTION ASSUMPTIONS

Project Name	Clearing (AC)	Grading (SY)	Trenching (LF)	Site Prep - Excavate/Fill (CY)	Foundation footprint (sf)	Building Construction - Total Size (sf)	Foundation footprint (sf)	# Stories	Gravel Work (CY)	Concrete Work - sidewalks, etc (CY)	Concrete Work - foundation (CY)	Paving Surface Area (SF)	Paving - HMA (CF)
Phase I Building	11	111,320	900	6,862	91,000	91,000	91,000	1	3,377	14	3,370	158,486	52,776
Phase 2 Building	68	440,440	2,360	20,340	179,300	358,600	358,600	2	6,692	103	13,281	483336	160,951
	80	551,760	3,260	27,202	270,300	449,600	449,600	-	10,070	118	16,652	641,822	213,727

All Construction

Equipment list from National Estimator, PACES and CALEEMOD information.

The Cumulative Hours of Operation is based on the productivity of the equipment or process.

Productivity of the Equipment is based on a number of sources including:

PACES (US Air Force Estimator) and 2012 National Construction Estimator (Craftsman Book Company 2012).

Additional sources for the productivity factor include: Henderson, Chris. Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects, and Builders. Version 2.2. 2008.

Equipment Manufacturer's websites such as Freightliner and Caterpillar

U.S. EPA. Open Burning and Construction Activities: Improved PM Fine Emission Estimation Techniques in the Nation Emissions Inventory Appendix F Debris Estimating Guides

Henderson, Chris. Department of Civil and Environmental Engineering Carnegie Mellon University, "Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects, and Builders." Version 2.2. 2008.

South Coast Air Quality Management District. "Technical Paper: Methodology Reasoning and Policy Development of the California Emission Estimator Model" July 2011.

Estimated speed based on Henderson, Chris. Department of Civil and Environmental Engineering Carnegie Mellon University, "Project Management for Construction. Fundamental Concepts for Owners, Engineers, Architects, and Builders." Version 2.2. 2008.