

**Finding of No Significant Impact:
Conversion of the Infantry Brigade Combat Team to a Stryker Brigade Combat
Team at Fort Carson, Colorado
July 2019**

Introduction

The Headquarters Department of the Army (HQDA) issued a Programmatic Environmental Assessment (PEA) and a Finding of No Significant Impacts (FNSI) in May 2018 followed by a stationing decision in September 2018. The decision was to convert a Stryker Combat Brigade Team (SBCT) at Fort Bliss into an ABCT and convert the Infantry Brigade Combat Team (IBCT) at Fort Carson to an SBCT. The *Environmental Assessment (EA) for the Conversion of Infantry Brigade Combat Team to Stryker Brigade Combat Team at Fort Carson, Colorado* was prepared to document the installation-specific effects of the stationing decision. The EA is incorporated by reference in this FNSI and addresses the environmental effects of the proposed conversion and stationing actions. The purpose of the Proposed Action is to implement the Army's Brigade Combat Team (BCT) conversion decision at Fort Carson. The need for the Proposed Action is to provide adequate facilities and training capability for the resulting BCTs. U.S. Army Garrison (USAG) Fort Carson must provide for the training readiness, deployment, administrative functions, and Soldier and Family quality-of-life elements for those assigned to and supporting the BCT conversion.

Description of the Proposed Action

There is expected to be 63 military personnel transferring out and 213 transferring to Fort Carson, for a net gain of military personnel of 150. There would be no change in civilian personnel because of this action. Along with the additional military personnel, there would be an additional 360 Stryker vehicles and 18 artillery pieces brought to Fort Carson.

There are six battalion-sized motor pool facilities, or Tactical Equipment Maintenance Facilities (TEMFs), in the current IBCT area. There are four standard design medium TEMFs and two small TEMFs. The two small TEMFs, buildings 9467 and 9486, have maintenance buildings and associated hardstand that are undersized for the volume of activities required of an SBCT. The small TEMFs would need double the number of maintenance bays to adequately support an SBCT, and additional hardstand would be constructed at building 9486. The respective hardstand parking available in each of the four existing medium TEMFs, buildings 9466, 9456, 9436 and 9426, is insufficient for the size and number of vehicles. The available hardstand would have to be expanded to meet the basic requirement for an SBCT.

Training will include using the training lands at Fort Carson for live fire and maneuver training, however, no new ranges are being proposed for construction.

No Action Alternative

Under the No Action Alternative, the conversion of the IBCT to an SBCT would not occur. Force structure, assigned personnel and equipment, and training operations would remain unchanged and the new facility renovation proposed in the Proposed Action would not be implemented. This alternative is included as it is required by CEQ and 32 CFR 651, the Army's NEPA implementing regulations. The No Action Alternative, however, is not feasible as USAG Fort Carson is required to receive the second SBCT and lose the IBCT per decision by the HQDA.

Alternatives

There were two alternatives considered but dismissed from analysis. The first is to train the second SBCT at location other than Fort Carson and Pinon Canyon. This alternative would not meet the alternative selection criteria because it would not minimize the time a Soldier spends away from his or her home station to train. The second alternative dismissed from analysis was to construct new facilities instead of retrofitting existing facilities on Fort Carson. This alternative would not meet the selection criteria of minimizing construction and renovation costs.

Public Review

Pursuant to 651.14(b), Title 32 Code of Federal Regulations (Environmental Analysis of Army Actions), the Army made the EA and Draft FNSI available to the public for review and comment for 30 days prior to a final decision. A Notice of Availability (NOA) of the documents was announced in local media beginning on June 5, 2019. The documents are available online at: <http://www.carson.army.mil/organizations/dpw.html#three>. Fort Carson received six comment letters from interested parties and consulted Indian Tribes. The comments were considered during the finalization of the EA.

Summary of the Environmental Consequences

No significant impacts are anticipated as a result of implementing the Proposed Action. The potential impacts have been broken down into four categories: beneficial, none (or no impacts), negligible, minor, moderate but less than significant, or significant. These are summarized in Section 3.2 of the EA. There were several Valued Environmental Components (VEC) that were dismissed from detailed analysis. These included land use, groundwater, floodplains, geology, airspace, facilities and utilities.

The Proposed Action would have negligible to minor effects on air quality and greenhouse gases. The increased emissions of air pollutants dust and greenhouse gas would be due to the increase in personal vehicles, construction activities and the additional off-road vehicle use during training. The effects for dust will be localized and temporary making them minor. The effects will be minimized by using the recommendations in the *Fugitive Dust Control Plan*. The effects on air pollutants and greenhouse gases is negligible because of the small increase compared to the existing condition.

The Proposed Action would have minor effects on noise on and around Fort Carson. Training of a second SBCT on Fort Carson will increase the amount of noise being generated. Most of the area affected is Fort Carson training lands, industrial lands and lands along I-25. The City of Fountain and the El Rancho subdivision may experience more periodic noise; however, the noise levels will not be detrimental to noise-sensitive receptors.

The Proposed Action would have minor effects on biological resources. The construction of additional hardstands would result in the loss of marginal wildlife habitat and could increase the risk of noxious weed spread that could be mitigated with best management practices. The increased maneuver training required for an SBCT compared to an IBCT would reduce vegetation and therefore wildlife habitat. This effect is minimized through the implementation of

the Integrated Training Area Management program (ITAM). There is also an increased risk of wildfires due to the off-road vehicle travel. This would be mitigated by following best management practices and the Integrated Wildland fire Management Plan including prescribed burning.

The Proposed Action would have a moderate but not significant effect on water resources including surface waters and wetlands. The construction of the new hardstands would increase erosion and stormwater runoff from the area. Training of a second SBCT would increase soil delivery to the streams and wetlands downrange. The effects are mitigated to less than significant by the implementation of best management practices during construction and training, as well as the use of low-impact development practices and the ITAMs program.

The construction of additional hardstand action would have a minor effect on soil resources that would be minimized with best management practices outlined in the Stormwater Pollution Prevention Plan. There would be an increase in soil disturbance from additional maneuver training, which would be mitigated to less than significant by the practices used by the ITAMs program to reduce soil erosion and sediment delivery to streams and wetlands.

The Proposed Action would have a minor effect on cultural resources. Maneuver training of a second SBCT would intensify ground disturbance that could have a significant impact on cultural resources. However, the implementation of the existing stipulations in the *Programmatic Agreement among the U.S. Army Garrison Fort Carson, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Construction, Maintenance, and Operations Activities for Areas of Fort Carson, Colorado* (Fort Carson Built Environment Programmatic Agreement), executed March 27, 2013, and amended March 23, 2018 and the *Programmatic Agreement among the U.S. Army Garrison Fort Carson, Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Military Training and Operational Support Activities Downrange Fort Carson, Colorado* (Fort Carson Downrange Programmatic Agreement), executed March 31, 2014, and amended May 2, 2018 play a major role in reducing the effects to minor. Best management practices and standard operating procedures would also contribute to the reduction of effects.

The Proposed Action would have a negligible effect on socio-economics in the areas surrounding Fort Carson. The increase in military personnel is about 0.05 percent that would not have a measurable effect on the socio-economics of Colorado Springs or the surrounding areas.

The Proposed Action would have a minor effect on traffic and transportation on Fort Carson and in the adjacent communities. There will be an additional 150 military personnel using the roads on and around Fort Carson. There may be a noticeable but minor increase in traffic especially around already congested areas such as Wilderness Road and Gate 6. The effects of convoying wheeled vehicles to Pinon Canyon for brigade-scale maneuver training would be most noticed at the junction of 160A and I -25 and along the route on 350A. The effects are reduced to minor because of the temporary nature of the event and by following Department of Transportation best management practices.

The Proposed Action would have a minor effect on the amount of hazardous materials used and generated on Fort Carson. A second SBCT, including training and maintenance activities, would result in an increase in the use of hazardous materials, use of petroleum-based products, and management of hazardous waste; therefore, an increased potential for spills exists.

Environmental impacts, however, are anticipated to be less than significant due the comprehensive program addressing the management of hazardous waste, hazardous materials, and toxic substances.

Mitigation Measures

There are no new mitigations being recommended to reduce the effects of the Proposed Action to less than significant. However, several existing programs and best management practices are being relied upon to minimize the effects and ensure that the impacts of the Proposed Action are less than significant. These are the ITAM program, the Fort Carson Built Environment Programmatic Agreement, the Fort Carson Downrange Programmatic Agreement, and the Hazardous Waste Management Program.

Conclusion and Findings

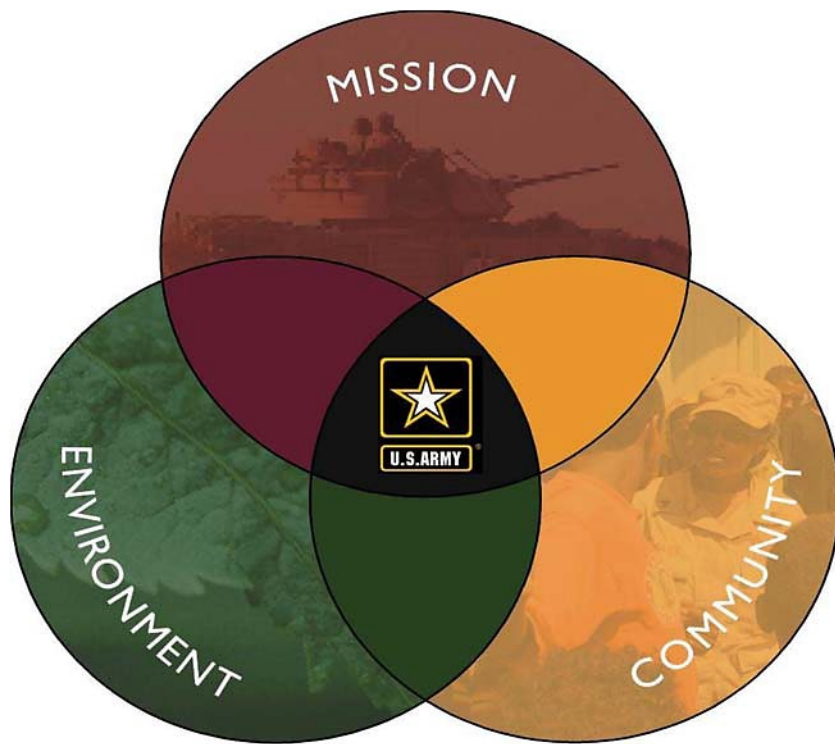
Based on careful review of the EA, I have determined that no significant direct, indirect, or cumulative impacts to the human or natural environment are anticipated because of the implementation of the Proposed Action. The Proposed Action is not a major federal action that would significantly affect the quality of the environment within the meaning of Section 102(2)(c) of NEPA; and an environmental impact statement is not required, and will not be prepared. My decision is based on the potential environmental and socio-economic impacts associated with the Proposed Action as is analyzed in the EA. This decision complies with legal requirements and will take into account all submitted information regarding reasonable alternatives and environmental impacts.


BRIAN K. WORTINGER
COL, AR, Garrison Commander
Fort Carson, Colorado

Date: 20190731



**Environmental Assessment for the
Conversion of the Infantry Brigade Combat Team to a Stryker Brigade Combat
Team at Fort Carson, CO
July 2019**



Fort Carson

Directorate of Public Works, Environmental Division

Environmental Assessment
Conversion of Infantry Brigade Combat Team to a Stryker Brigade Combat
Team at Fort Carson, CO

July 2019

Prepared By:


Angie Bell
Fort Carson, NEPA Program Manager
Fort Carson, CO 80913

Reviewed By:

Directorate of Plans, Training, Mobilization, and Security
Directorate of Public Works
Staff Judge Advocate Office

Submitted By:

HAL ALGUIRE
Director
Public Works
Fort Carson, CO 80913

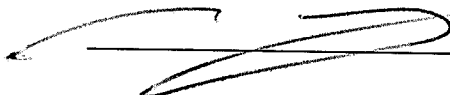


26 July 2019

Date

Approved By:

BRIAN K. WORTINGER
COL,
Garrison Commander
Fort Carson, CO 809013



31 Jul 19

Date

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1 Introduction

1.1 Background

In March 2018, the Department of the Army (Army) prepared a Programmatic Environmental Assessment (2018 PEA) and Finding of No Significant Impacts (FNSI) for the conversion of an Infantry Brigade Combat Team (IBCT) to an Armored Brigade Combat Team (ABCT). The 2018 PEA analyzed the environmental and socio-economic impacts associated with converting the 2nd IBCT of the 4th Infantry Division (4ID) at Fort Carson, Colorado, into an ABCT and stationing the newly converted ABCT at one of five Army installations: Fort Carson, Colorado; Fort Bliss, Texas; Fort Hood, Texas; Fort Riley, Kansas; or Fort Stewart, Georgia. The FNSI, signed in August 2018, included an additional alternative, Alternative 6, which would convert a Stryker Combat Brigade Team (SBCT) at Fort Bliss into an ABCT and convert the IBCT at Fort Carson to an SBCT. This Environmental Assessment (EA) documents the installation-specific analysis of converting the IBCT to an SBCT at Fort Carson, per the Headquarters Department of the Army (HQDA) stationing decision dated September 17, 2018.

1.1.1 Location and Surrounding Land Uses

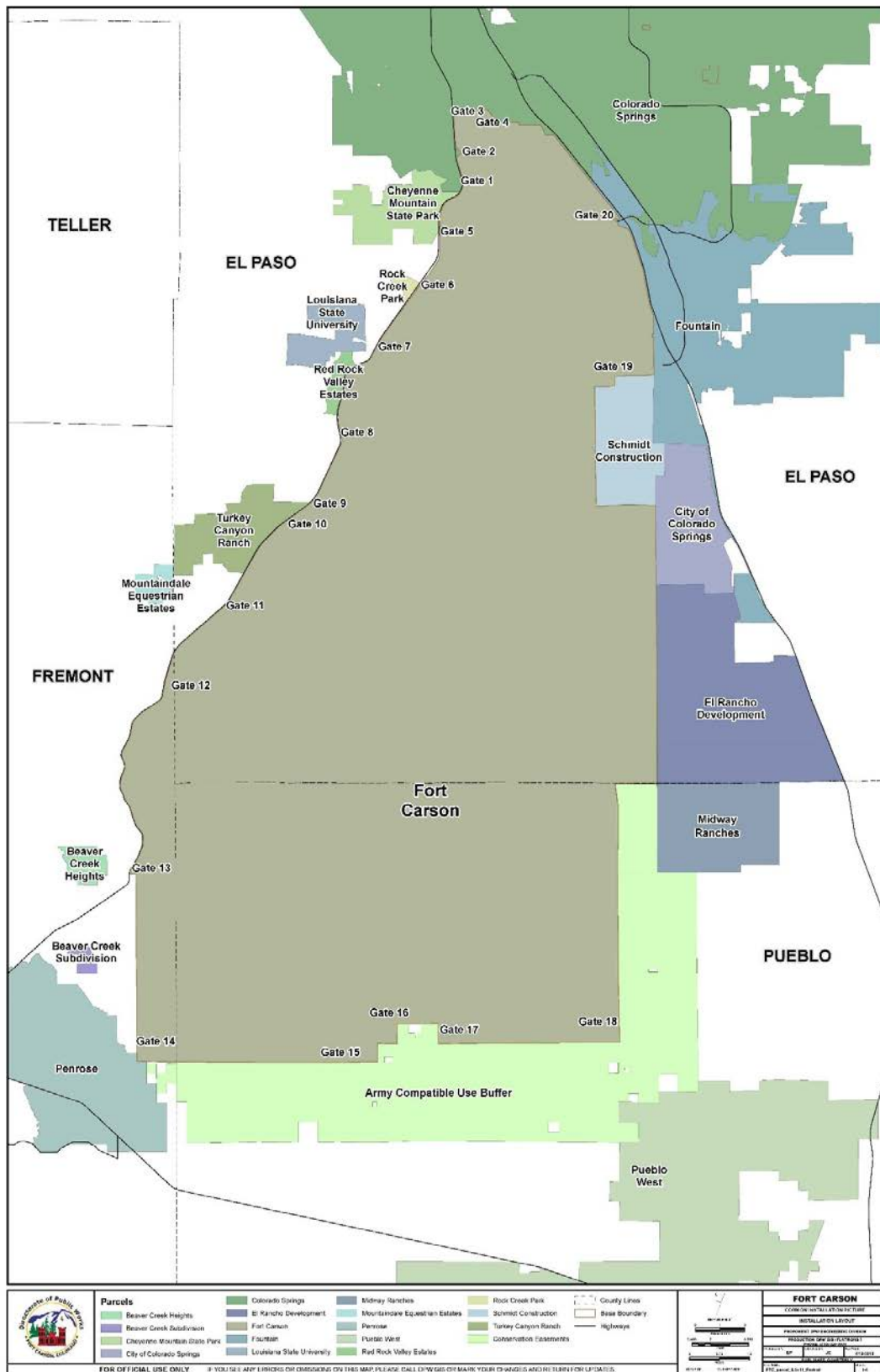
Fort Carson is located in central Colorado at the foot of the Rocky Mountain Front Range in El Paso, Fremont, and Pueblo counties (Figure 1). Downtown Colorado Springs and Denver lie approximately 8 miles and 75 miles, respectively, to the north, while the City of Pueblo is located approximately 35 miles south of the Main Post area. Surrounding lands bordering Fort Carson include Colorado Springs to the north; the City of Fountain, conservation areas, and mixed development to the east; Pueblo West, privately-owned ranches, and conservation areas to the south; and Penrose, state parks, and several small residential communities to the west. Fort Carson covers approximately 137,400 acres, and extends between 2 and 15 miles east to west and approximately 24 miles north to south. The Main Post area, which consists of developed land and a high density of urban uses, is located in the northern portion of Fort Carson and covers approximately 6,000 acres. The downrange area, which is used for large caliber and small-arms live-fire individual and collective training; wheeled and tracked vehicle maneuver operations; manned and unmanned aircraft; and mission readiness exercises, covers approximately 131,400 acres of unimproved or open lands. (Figure 2)

Additionally, there are approximately 25,600 acres of Army Compatible Use Buffer (ACUB) lands along the eastern and southern boundaries of Fort Carson. These lands buffer military training activities from neighboring communities and protects the unique local shortgrass prairie open spaces from future development. The Army collaborates with partners to identify mutual objectives of land conservation and to prevent

development of critical open areas to preserve high-value habitat and limit incompatible development in the vicinity of military installations. For more information on the ACUB program visit the U.S. Army Environmental Command's website at <https://www.aec.army.mil/index.php?clD=329>.



Figure 1: Location of Fort Carson, Colorado



The region is classified as mid-latitude semi-arid, characterized by hot summers, cold winters, and relatively light rainfall. July is the warmest month with the average daily maximum temperature of 84.4° Fahrenheit, and January is the coldest with an average daily minimum temperature of 14.5° Fahrenheit. Mean annual precipitation at Fort Carson increases toward the northwest. Colorado Springs averages 17.5 inches of precipitation annually, with about 80 percent falling between April and September. Average annual snowfall in the region is 42.4 inches.

The focus of this EA is on Fort Carson, location information on Pinon Canyon Maneuver Site (PCMS) is here to add context to the analysis on convoying to the maneuver grounds. PCMS occupies about 236,000 acres and is located about 150 miles southeast of Fort Carson and is totally in Las Animas County, Colorado. PCMS is bordered on the north by the Comanche National Grasslands and private lands. There is the Purgatoire River and U.S. Forest Lands to the east and private property to the south. The land is used for maneuver training but is also accessible for recreation including hunting. PCMS gets an average of 13.5 inches of precipitation each year. Snow and sleet usually occur from September to May with the heaviest snowfall in March and possible trace accumulations as late as June.

1.2 Purpose and Need

The overarching purpose of the Proposed Action for the U.S. Army was to facilitate the increase of the Active Army's ABCT capacity by one brigade, increasing the Total Army's number of ABCTs from 15 to 16 (including Army National Guard units), and to station the new ABCT at an existing installation in the United States. The need for this action is to reduce the shortfall in total Army ABCT capacity to meet contingency operational demands. The decision included the conversion of the 2IBCT, 4ID to an SBCT at Fort Carson, which is the focus of this EA. Conversion of the 2IBCT, 4ID to an SBCT allows for the reduction of an SBCT at Fort Bliss and the stationing of the additional ABCT (2018 PEA Alternative 6) resulting in reduced environmental effects. The U.S. Army Garrison (USAG) Fort Carson must take those actions necessary to support the Brigade Combat Team (BCT) conversion and restructuring decisions made at HQDA.

For purposes of simplicity in this EA, "conversion" is meant to include the IBCT re-designation to an SBCT at Fort Carson, or deactivation of the IBCT at Fort Carson and re-stationing of the Fort Bliss SBCT to Fort Carson. USAG Fort Carson is the organization overseen by the Garrison Commander and includes the Directorate of Public Works, Directorate of Plans, Training, Mobilization and Security, Directorate of Emergency Services, and the Directorate of Family and Morale, Welfare and Recreation. Fort Carson is the land base including the Main Post and Training Lands of

the Fort Carson Military Reservation. Fort Carson Managed Lands includes the Main Post and training lands at Fort Carson and all of PCMS.

The purpose of the Proposed Action is to implement the Army's BCT conversion decision at Fort Carson. The need for the Proposed Action is to provide adequate facilities and training capability for the resulting BCT configuration at Fort Carson. USAG Fort Carson must provide for the training readiness, deployment, administrative functions, and Soldier and Family quality-of-life elements for those assigned to and supporting the BCT conversion. The actions to be taken at Fort Bliss are not part of this environmental analysis.

1.3 Scope of Analysis

This EA has been developed in accordance with the National Environmental Policy Act (NEPA), regulations issued by the Council on Environmental Quality (CEQ) published in 40 Code of federal Regulations (CFR) Parts 1500-1508, and the Army's NEPA-implementing procedures published in 32 CFR Part 651, *Environmental Analysis of Army Actions (Army Regulation 200-2)*. This EA facilitates the planning and decision-making by the Garrison Commander. It helps the Army, stakeholders, and the public understand the potential extent of environmental impacts of the Proposed Action and alternatives, and whether those impacts (direct, indirect, and cumulative) are significant.

The Proposed Action would result in a final configuration of 4ID consisting of one ABCT, two SBCTs, one Combat Aviation Brigade (CAB), and one Sustainment Brigade at Fort Carson. The Security Force Assistance Brigade (SFAB) is also located at Fort Carson. The scope of this analysis encompasses three major categories of Army activities required to convert the IBCT to an SBCT at Fort Carson: 1) the change in military personnel at Fort Carson 2) Main Post area renovation and modernization of existing non-historic buildings, and 3) live-fire and maneuver training.

The scope of analysis in this document does not include PCMS because training of SBCTs is covered by the 2015 *Pinon Canyon Maneuver Site Training and Operations Environmental Impact Statement* (2015 PCMS EIS). The Army took a hard look at the 2015 PCMS EIS and determined that it thoroughly analyzed the impacts of training by an additional SBCT at PCMS as documented in a Record of Environmental Consideration (REC) dated August 2018, and incorporated into this document by reference.

1.4 Related Environmental Documents

The 2018 PEA and FNSI provided a programmatic analysis to determining potential impacts on the environment and socio-economic areas of concern for five installations that were under consideration for the conversion, including Fort Carson. The FNSI

included an alternative, Alternative 6, which entailed “conversion” of the existing Stryker Brigade Combat Team (SBCT) from Fort Bliss to Fort Carson and placing a new ABCT at Fort Bliss. This was the alternative chosen for implementation. The analysis in this EA tiers to this 2018 PEA and FNSI and incorporates them by reference.

The 2013 Programmatic EA for *Army 2020 Force Structure Realignment* (2013 Army 2020 PEA) analyzed the potential environmental and socio-economic impacts associated with realignment of the Army’s force structure between FY 2013 and FY 2020. It also assessed impacts of potential changes at 30 major installations, including Forts Carson. The 2013 Army 2020 PEA looked at potential changes that could occur at these installations as the Army reduced its overall end strength.

While training at PCMS is not within the scope of this analysis, the 2015 PCMS EIS and Record of Decision (ROD) is discussed here for background. The selected alternative of the 2015 PCMS EIS ROD allowed enhanced and updated brigade-level training and covered the introduction of training by the Stryker family of vehicles at PCMS. The ROD determined that BCT training would result in significant impacts to soils, water resources, and biological resources. The ROD adopted management and sustainability programs at PCMS as well as other mitigation measures to minimize the long-term effects.

The *Fort Carson Integrated Natural Resource Management Plan 2013-2017*, as updated and reapproved in 2015 (INRMP, 2013), guides the implementation of a natural resources program at Fort Carson and PCMS to ensure that the USAG Fort Carson complies with applicable environmental laws and regulations. The INRMP describes the procedures and best management practices (BMPs) used by USAG Fort Carson to ensure that potential impacts to the environment from construction, training, and operational activities are reduced.

The *Fort Carson Integrated Cultural Resource Management Plan* (2017-2022 ICRMP) provides a framework to integrate the legal requirements for cultural resources management into the everyday operation of the U.S. USAG Fort Carson military mission and supporting activities. The main purpose of an ICRMP is to establish cultural resources goals, objectives, and policies that the USAG Fort Carson will use to identify and manage its cultural resources. The ICRMP also guides the Garrison Commander, the Cultural Resources Manager, and other key personnel in carrying out their responsibilities and in their decision-making regarding the management of cultural resources. It serves as a funding identification document for the management of cultural resources on military lands. It provides BMPs and standard operating procedures (SOPs) to ensure potential impacts to cultural resources from military training and operational support activities are minimized.

Fort Carson's Fugitive Dust Control Plan (2016) focuses on control measures to implement that will minimize fugitive dust emissions and avoid exceeding the threshold levels dictated by the state regulations. Common examples of fugitive dust are those associated with soil storage piles or unpaved roads caused by either wind or human activities such as vehicle traffic. Construction, site overlotting, demolition, and disturbed areas are also examples of fugitive dust emission sources.

USAG Fort Carson has a Regional Permit (Regional General Permit 14) from the U.S. Army Corps of Engineers that authorizes the discharge of dredged or fill material for erosion control and other minor activities under Section 404 of the Clean Water Act. The permit allows most erosion control activities on Fort Carson to occur without separate permitting actions. The regional permit authorizes erosion control activities that may result in minimal individual and cumulative effects to wetlands. The typical erosion control measures include bank sloping, erosion control berms, rock armoring, crossing hardening, culvert and bridge repair, water diversion, and other approved activities.

The *Fort Carson Installation Operational Noise Management Plan*, as amended (IONMP, 2012) provides a strategy for noise management, which includes education, noise metrics, complain management, and noise abatement procedures.

The 2017 *Fort Carson Stormwater Management Plan* (SWMP, 2017) describes the procedures USAG Fort Carson implements to comply with requirements of the United States Environmental Protection Agency permit for USAG Fort Carson. This permit provides authorization to discharge stormwater runoff from USAG Fort Carson's Municipal Separate Storm Sewer System (MS4). It also outlines the requirements for Stormwater Pollution Prevention Plans (SWPPP).

Fort Carson's Integrated Pest Management Plan (IPMP, 2008) outlines a strategy for preventing and controlling the invasion and spread of non-native invasive and noxious species on Fort Carson. The overall objective is to implement effective, environmentally sound control methodologies for all state and county listed weed species in accordance with any applicable federal, state, and county laws and regulations. Identification of the most effective and environmentally sound control strategies will be based upon factors such as target species, terrain, soil type, condition of the native plant community, extent of the invasion, presence of aquatic resources, wildlife use of the area, and climatic conditions. The best management of invasive species will be achieved through the use of biological, chemical, cultural and physical/mechanical control techniques.

Fort Carson's Integrated Wildland Fire Management Plan (IWFMP, 2005) lays out specific guidance, procedures, and protocols in the prevention and suppression of wildfires on all Fort Carson training lands with wildland fuels. Its goal is to convey the methods and protocols necessary to minimize wildland fire frequency, severity, and

size. At the same time, it will allow military units to maintain a high level of combat readiness. It defines responsibilities of all offices, departments, and agencies involved, and describes fire pre-suppression and suppression actions to be taken on strategic and tactical bases. The document is organized around general wildfire management information; USAG Fort Carson specific information, requirements, and upgrades; and Standing Operating Procedures (SOPs) for wildfire management actions at Fort Carson.

1.5 PublicInvolvement

A Notice of Availability (NOA) was announced in local media, and the documents will be made available online at: <https://www.carson.army.mil/organizations/dpw.html#three> on June 5, 2019. This EA was made available to the public for 30 days along with a Draft FNSI. Comments were accepted in writing to the USAG Fort Carson NEPA Program Manager, Directorate of Public Works, Environmental Division, 1626 Evans Street, Building 1219, Fort Carson, Colorado 80913-4362 or submit comments via email to usarmy.carson.imcom-central.list.dpw-ed-nepa@mail.mil. Fort Carson received six comment letters from interested parties and consulted Indian Tribes. The comments were considered during the finalization of the EA.

1.6 Agencyand Tribal Consultation

In accordance with 32 CFR 651.36 regarding other agency and organizations involvement, USAG Fort Carson has provided a copy of these documents to appropriate local, state, and federal government agencies and Native American tribes for their review and comment. More information concerning other ongoing government agency and tribal consultation is set forth throughout this document.

1.7 Decision to be Made

A decision will be made on whether the Proposed Action will have significant impacts. As part of the decision-making process, the Garrison Commander will consider all relevant environmental information and stakeholder and public issues of concern raised as part of the NEPA process. If the process results in a FNSI, the Garrison Commander will document his or her decision on which alternative to implement, which would be signed no earlier than 30 days from the publication of the NOA of the Final EA/Draft FNSI (see Section 1.5 above for information on the NOA publications). Upon a determination that there are no significant impacts, the Army would sign the FNSI and carry out the decision.

2 Proposed Action, No Action Alternative, and Alternative Screening Criteria

2.1 Proposed Action

2.1.1 Conversion of the Existing IBCT

There is expected to be 63 military personnel transferring out and 213 transferring to Fort Carson, for a net gain of military personnel of 150. There would be no change in civilian personnel as a result of this action.

2.1.2 Construction of Facilities

There are six battalion-sized motor pool facilities, or Tactical Equipment Maintenance Facilities (TEMFs), in the current IBCT area. There are four standard design medium TEMFs and two small TEMFs. The two small TEMFs, buildings 9467 and 9486, have maintenance buildings and associated hardstand that are undersized for the volume of activities required of an SBCT. The small TEMFs would need double the number of maintenance bays to adequately support an SBCT, and additional hardstand would be constructed at building 9486. The existing hardstand parking available at buildings 9466/9467, 9456/9457, 9436/9437 and 9426/9427 is insufficient for the size and number of vehicles. Hardstand expansion is proposed to meet the basic requirement for an SBCT. (Figure 3)



Figure 3: Proposed hardstand expansion at buildings 9426, 9436, 9456, 9466 and 9486 to accommodate the Stryker Vehicles.

2.1.3 Live Fire and Maneuver Training

No new ranges are being proposed for construction. The Army uses a standardized methodology for comparing maneuver impacts of different units. This methodology takes the weights and yearly mileages for unit vehicles, and converts them to a unit of measure called the Maneuver Impact Mile (MIM). The MIM is a unit of measure that the Army uses to anticipate maneuver damage and required repair costs for its training areas. To calculate MIMs, the Army determines an impact per mile measure relative to that of the M1 Abrams tank. The Army applies different physical characteristics of unit vehicles (weight, tire/track pressure, etc.) to make the conversion to M1 Abrams tank mile equivalents.

The MIMs modeling allows for the comparative analysis of potential impacts to soils and vegetation on training lands by operational and aligned units at Fort Carson. The MIMs

modeling is used to support funding for training lands restoration and sustainment. The MIMs figures are a budget programming indicator for all Fort Carson units assigned or others expected to train (active, USAR and ARNG) on Fort Carson lands (Fort Carson and PCMS). Currently there are approximately 520,000 MIMs expected for Fort Carson lands. Under the Proposed Action, there would be approximately 584,000 MIMs expected, a 64,000 or 12.4 percent increase in MIMs as is illustrated in Table 1. The MIMs would be split across the training areas at Fort Carson and PCMS. It is important to recognize that there are a number of factors that influence the final calculated MIMs for a brigade over the course of a single year, such as maintenance and training funding actually allotted, that results in an annual difference in total MIMs.

Table 1: Comparison of Maneuver Impact Miles for No Action and the Proposed Action.

Unit	No Action	Proposed Action
ABCT	157,869	157,869
IBCT	44,591	0
SBCT	108,935	217,870
Sustainment Brigade	21,166	21,166
CAB	48,908	48,908
4 th Engineering Battalion	18,015	18,015
10 Special Forces Group	17,119	17,119
Security Forces Assistance Brigade	8,476	8,476
Miscellaneous Remaining Training Units*	94,968	94,968
Total	520,047	584,391

** Miscellaneous - Smaller FORSCOM, U.S. Army Reserves and Army National Guard, tenant units, or ones expected to train on Fort Carson lands, but not stationed at Fort Carson. Remaining training units include the military police, support battalions, engineering units, medical units, signal companies, quartermaster units, and other units that train on Fort Carson.*

2.2 No Action Alternative

Under the No Action Alternative, the conversion of the 2IBCT to an SBCT would not occur. Force structure, assigned personnel and equipment, and training operations would remain unchanged and the new facility renovation proposed in the Proposed Action would not be implemented. This alternative is included as it is required by CEQ and 32 CFR 651, the Army's NEPA implementing regulations. The No Action Alternative, however, is not feasible as USAG Fort Carson is required to receive the second SBCT and lose the IBCT per decision by the HQDA.

2.3 Screening Criteria for Alternatives

Screening criteria were used to assess whether an alternative was “reasonable” and would be carried forward for evaluation in this EA. The screening criteria are based upon balancing training requirements with sustainment of the land, maximizing troop readiness, and supporting Soldier and Family quality of life at Fort Carson. The Army established the following screening criteria to identify the range of potential alternatives to meet the purpose and need of the Proposed Alternatives for converting the IBCT to the SBCT.

2.3.1 Military Construction Planning Considerations

Reasonable alternatives must use minimal construction and renovation given the limited funds available.

2.3.2 Training Considerations

Reasonable alternatives must accommodate the training requirements of an additional SBCT as well as the existing SBCT and ABCT and other assigned units.

2.3.3 Land Use Constraints

Reasonable alternatives must consider:

- Topography (and ability to train);
- Contaminated sites under the management of the Installation Restoration Program;
- Management of 2 depleted uranium (DU) radiation control areas (RCAs)
- Large and Small Impact Areas
- Off-limits to training/restricted areas;
- Unexploded ordnance; and
- Impacts to existing infrastructure and maneuver lands.

2.3.4 Quality of Life

Reasonable alternatives must consider impacts on the quality of life of the Soldier and their Families. The Army is committed to reducing the amount of time a Soldier must be away from home station to train.

2.4 Alternatives Considered but Dismissed from Analysis

2.4.1 Training at Other Location

The Army’s decision to station an additional SBCT at Fort Carson was partially based on the training resources at Fort Carson and PCMS. Studying an alternative to conduct regular brigade-level training at locations other than Fort Carson and PCMS do not satisfy the screening criteria of minimizing the time a Soldier must spend away from home station to train. The decision also weighed the cost of training transportation that

would go up if the training of the SBCT were to occur in a location other than Fort Carson or PCMS. This would not meet the selection criteria outlined in the 2018 PEA.

2.4.2 Construct New Facilities for the SBCT on Fort Carson

Building a new SBCT facility complex within the Main Post and range construction are not required or approved for the conversion of the IBCT to an SBCT. There are two TEMFs that need expansion with additional hardstand vehicle parking in the BCT maintenance areas, but no new buildings are needed. This alternative would not meet the selection criteria of minimizing construction and renovation costs.

3 Summary of Environmental Consequences and Proposed Mitigations

3.1 Introduction

The Army prepared the 2018 PEA for the IBCT to ABCT Conversion and Stationing that includes analysis for the conversion of the IBCT to an ABCT at Fort Carson (Alternative 1). While slightly different from the Proposed Action, the analysis is incorporated by reference into this document. Alternative 6, which lead to the IBCT conversion to an SBCT at Fort Carson, was not analyzed in the 2018 PEA. However, the FNSI for the 2018 PEA states that the effects of Alternative 6 would be less than those highlighted in Alternative 1 for live-fire and maneuver training because the Stryker vehicles have fewer effects on the human environment than Abrams and Bradley vehicles. The required construction for the SBCT stationing is the same as that proposed for the stationing of an ABCT at Fort Carson. Therefore, the effects would be the same as in Alternative 1 of the 2018 PEA. Alternative 1 in the PEA would have led to Fort Carson losing 21 military personnel which is comparable to the 2018 PEA Alternative 6, which is analyzed in this EA as the Proposed Action increases the number of military personnel by 150.

3.2 Valued Environmental Components and Focusing of the Analysis

In compliance with the NEPA and CEQ regulations, the description of the affected environment focuses on those resources and conditions potentially subject to effects from implementing the Proposed Action. CEQ regulations encourage NEPA analyses to be as concise and focused as possible. This is in accordance with CEQ regulations at 40 CFR 1500.1(b) and 1500.4(b): "...NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail....prepare analytic rather than encyclopedic analyses."

Valued Environmental Components (VECs) are categories of environmental and socio-economic resources for which impact analysis is conducted to enable a managed and

systematic analysis of these resources. Table 2 presents each VEC and corresponding regions of influence (ROI) and thresholds of significance. The table also identifies which VECs are analyzed in this EA and which VECs are dismissed from further analysis; each includes an accompanying rationale. In conducting this analysis, a qualified subject matter expert reviewed the potential direct and indirect effects of the No Action Alternative and the Proposed Action Alternatives relative to each VEC. The subject matter expert carefully analyzed and considered the existing conditions of each VEC within the Proposed Action's ROI.

Through this analysis, it was determined that, for several VECs and VEC sub-components, negligible adverse effects were predicted without detailed analysis. This included land use, groundwater, floodplains, geology, airspace, facilities, energy demand and generation, utilities, hazardous materials, and hazardous waste. Table 2 provides a more detailed description of VECs carried forth for further analysis within Sections 4.1 through 4.8 of this EA.

Context and intensity are taken into consideration in determining a potential impact's significance, as defined in 40 CFR 1508.27. The context means that the significance of an action must be analyzed in several contexts such as the affected region, the affected interests, and the locality. The intensity of a potential impact refers to the impact's severity and includes consideration of beneficial and adverse impacts, the level of controversy associated with a project's impacts on quality of the human environment, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts, and whether the action threatens to violate federal, state, or local law requirements enacted for the protection of the environment. The severity of environmental impacts is characterized as none/negligible, minor, moderate, significant, or beneficial as described:

- **None/Negligible** – No measurable impacts are expected to occur. A negligible impact may locally alter the resource, but would not measurably change its function or character.
- **Minor** – Primarily short-term but measurable adverse impacts are expected. Impacts on the resource may be slight.
- **Moderate but less than significant** – Noticeable adverse impacts that would have a measurable effect on a wide scale (e.g., outside the footprint of disturbance or on a landscape level). If moderate impacts were adverse, they would not exceed limits of applicable local, state, or federal regulations.
- **Significant** – A significant impact may exceed limits of applicable local, state, or federal regulations or would untenably alter the function or character of the resource. These impacts would be considered significant unless managed by mitigation efforts to a less than significant level.
- **Beneficial** – Impacts would benefit the resource/issue.

Table 2: Need for analysis by VEC

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
Land Use	Land use within and adjacent to Fort Carson	Impacts to land use would be considered significant if the land use were incompatible with existing military land uses and designations (including recreation). These impacts may conflict with Army land use plans, policies, or regulations, or conflict with land use off-post.	Yes	The Proposed Action would not pose conflicts with off-post land uses. Required garrison construction to support the SBCT would occur within existing cantonment areas. Live-fire and maneuver training activities would be similar to the types of training of the existing SBCT at Fort Carson within existing ranges and training lands. Sustainability of training lands would continue to be managed and monitored according to the Army's Sustainable Range Program and through the Integrated Training Area Management (ITAM) program (see section 3.4). Therefore, no further analysis is required.
Air Quality and Greenhouse Gases (GHG)	Air Quality Control Region	An impact to air quality would be considered significant if the Proposed Action were to generate emissions which: <ul style="list-style-type: none"> Did not meet Clean Air Act conformity determination requirements to conform with the State 	No	The addition of a second SBCT would result in increased stationary sources and vehicle emissions and potentially an increase in fugitive dust emissions. This resource is further discussed in Section 4.1.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
		Implementation Plan <ul style="list-style-type: none"> Substantially increase GHG emissions; or Contribute to a violation of any federal, state, or local air regulation. 		
Noise	Areas adjacent to and within Fort Carson	Impacts would be considered to be significant if noise from the Proposed Action were to cause harm or injury to on-post or off-post communities, or exceed applicable environmental noise limit guidelines	No	Conversion of an IBCT to an SBCT means there would be an increase in large caliber and demolition noise on Fort Carson compared to current conditions. This could have an effect on noise effects to residence of Fort Carson and surrounding communities. The effects to noise disturbances is completed in Section 4.2.
Biological Resources	Biological resources within the cantonment, range and maneuver training areas	Impacts to biological resources would be considered significant if: <ul style="list-style-type: none"> Substantial permanent conversion or net loss of 	No	The Proposed Action and related construction and training activities could adversely impact biological resources at Fort Carson from increased ground disturbance and the potential for vegetation loss, habitat degradation, and the potential for the spread of invasive species. As a result, the effects to this resource are discussed in detail Section 4.3.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
		habitat at the landscape scale, <ul style="list-style-type: none"> • Long-term loss of impairment of a substantial portion of local habitat, • Loss of population of a species, • Unpermitted or unlawful “take” of Endangered Species Act protected species, or species protected under the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act 		
Water Resources	Watersheds, state-designated stream segments, and	Impacts to water quality would be significant if: <ul style="list-style-type: none"> • Results in an excess sediment load in Fort 	Surface Waters (No) Wetlands (No)	The Proposed Action could adversely impact surface water and wetland resources due to the ground disturbance related to training and construction activities. The effects to these resources are analyzed in detail in Section 4.4.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
	groundwater aquifers associated with Fort Carson. U.S. Army Corps of Engineers jurisdictional "waters of the U.S." and wetland resources	<p>Carson waters affecting impaired resources,</p> <ul style="list-style-type: none"> • Results in unpermitted direct effects to waters of the U.S., • Substantially affect surface water drainage or stormwater runoff, • Substantially affect groundwater quantity or quality, or • Do not comply with policies, regulations and permit related to wetland conservation and protection 	Groundwater (Yes) Floodplains (Yes)	Training or construction activities under the Proposed Action would not change the quality or use of groundwater aquifers. Incidental spills from equipment would be managed through the Installation Spill Prevention Control and Countermeasures Plan. In addition, the Proposed Action would not result in adverse impacts associated with the occupancy and modification of floodplains per Executive Order (EO) 11988, Floodplain Management. Therefore, no further analysis is required for groundwater and floodplains.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
Geology and Soil Resources	Geology and soil resources within the cantonment, range, and maneuver training areas	Impacts on geology, topography, and soil resources would be considered significant if: <ul style="list-style-type: none"> • The landscape could not be sustained for military training over a wide area, or • Excessive soil losses were to impair vegetation growth 	Geology (Yes) Soils (No)	Training would be similar to the existing SBCT training and would occur in designated training and maneuver areas. Both construction and training activities would have the potential for soil impacts but impacts to the larger geologic and topographic features are not expected. As a result, no further analysis is completed for geologic resources but the effects to soil resources are discussed in detail in Section 4.5.
Cultural Resources	Cultural resources within the cantonment, range and maneuver training areas	Impacts to cultural resources would be considered significant if they cause direct or indirect alteration of the characteristics that qualify a property for inclusion in the National Register of Historic Places (NRHP). These may include physical destruction, damage, alteration, removal,	No	There is the potential for effects to cultural resources as a result of the expansion of the hardstands, the live-fire and the maneuver training on Fort Carson. The training of a second SBCT would increase ground disturbance and soil erosion. Effects from the Proposed Action are analyzed in detail in Section 4.6.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
		changes to or character of the setting, neglect causing deterioration, and transfer, lease or sale. The effects are also considered significant if the Section 106 process is not followed.		
Socio-economics	Socio-economic and environmental justice factors within Fort Carson and immediate surrounding communities	<p>Impacts to socio-economics and environmental justice would be considered significant if:</p> <ul style="list-style-type: none"> • Substantial changes to the sales volume, income, employment or population of Colorado Springs and surrounding area, • Disproportionate adverse economic, social, or health 	No	The Proposed Action could potentially affect the socio-economic conditions within and surrounding Fort Carson. The effects of the Proposed Action are analyzed in more detail in Section 4.7.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
		impacts on minority or low-income populations, or <ul style="list-style-type: none"> Substantially disproportionate health or safety risk to children. 		
Traffic and Transportation	Public roadways and key access points within and near Fort Carson and roadways within the Installation boundary	Impacts to traffic and transportation would be considered significant if the activities: <ul style="list-style-type: none"> Substantially degrade traffic flow during peak hours, or Substantially exceed road capacity and design 	No	The addition of Soldiers and the additional SBCT could adversely affect traffic conditions and the integrity of the local roadways. As a result, the effects of the Proposed Action on this resource is further analyzed in Section 4.8.
Airspace	Airspace above and surrounding Fort Carson	An impact to airspace would be considered significant if the Proposed Action violated federal Aviation Administration safety regulations or causes a substantial infringement	Yes	No changes would occur to the existing airspace designations or how it is used. There is no further analysis for effects to airspace for this project.

VEC	ROI	Threshold of Significance	Dismissed from Further Analysis?	Rational for Analyzing Further or Not
		of private or commercial flights		
Facilities, Energy Demand and Generation, and Utilities	Facilities within Fort Carson. Utilities within Fort Carson and in the immediate surrounding communities and counties	Impacts to facilities, energy demand and generation, and utilities would be considered significant if the Proposed Action were to cause an impairment of the utility service to Fort Carson, local communities, homes or businesses.	Yes	The Proposed Action would not result in significant changes to the facilities or infrastructure usage, or substantially increase solid waste generation. It would not significantly increase the energy or fuel usage. Therefore, effects are not analyzed further.
Hazardous Materials	Fort Carson lands	Impacts to hazardous materials and hazardous waste would be considered significant if substantial additional risk to human health or safety would be attributed to the Proposed Action. This includes direct human exposure,	No	The quantity of hazardous materials and waste may increase slightly because of the increase in vehicles on Fort Carson due to the conversion. This increase would need to be within the capacity of Fort Carson to process and properly dispose of the materials and waste in accordance with federal, state and applicable Army and garrison-level regulations. In addition, construction-related debris associated with facility improvements would be non-substantial and disposed of per applicable regulations in approved landfills.

3.3 Cumulative Effects

Cumulative effects are impacts of the Proposed Action combined with effects of past, present or reasonably foreseeable actions. The projects in Table 3 have been or would be addressed in separate NEPA documents and are included here to provide a complete picture of cumulative effects of the project. The cumulative effects analysis sections in Chapter 4 are based on the combination of the effects of the implementation of the conversion of the IBCT to an SBCT on Fort Carson, and on those other actions proposed or identified as past, present, or reasonably foreseeable at Fort Carson.

Table 3: Projects considered for cumulative effects analysis.

Future Project or Activity at Fort Carson
Turkey Creek Fire Station Support Facility
Human Performance Training Center
Mountaineering Training Facility
Three Company Headquarters Buildings (two associated with new Tactical Equipment Maintenance Facilities and one at Butts Army Airfield)
Physical Fitness Facility (Warfighter Road)
Vehicle Maintenance Facility
Religious Education Facility
Brigade Supply Support Activity Facilities.
Legacy Replacement of Company Headquarters Buildings
Legacy Replacement of Tactical Equipment Maintenance Facilities
Legacy Replacement of Barracks
Space and Missile Defense Command Institute of Excellence
Special Forces Deployment Storage
Air Support Operations Command Facility
Army Aviation and Missile Command Hangar
Tank Trail Expansion, Maintenance and Construction
Recreational Vehicle Storage Expansion
Downrange Maintenance Hub Facilities
Improvements to Water Access Downrange for Firefighting
Access Control Point Improvements, Gate 4, 6, 19 and 20.
Range 123 Electrical Upgrades

High Voltage Electrical Training Range
Black Hills Electric High Voltage Line
High Voltage Transmission Line Test Facility
Iron Horse Park Improvements
National Intrepid Center of Excellence Facility for Brain Trauma Treatment
Colorado Army National Guard Improvements and Construction
Security Forces Assistance Brigade Construction
Rail line Improvements and Construction
On-Going Project or Activity at Fort Carson
Stormwater Improvements Throughout Fort Carson
Hardstand Repair, Maintenance and Construction
Sidewalk and trail Repair, Maintenance and Construction
Building Maintenance, Repair, Renovations and Construction
Roadway Repair, Maintenance and Construction
Live-fire and Maneuver Training of the ABCT, existing SBCT, CAB and other units.
Fuels reduction including vegetation removal and prescribed burning
Net Zero EA projects

3.4 Current and Ongoing Environmental Programs and Plans

The Army is committed to sustaining and preserving the environment at all of its installations. In keeping with that commitment, USAG Fort Carson has an active environmental management program that employs a full array of BMPs and environmental programs to ensure environmental compliance, stewardship, and sustainability of those areas potentially impacted by the conversion of the IBCT to an SBCT at Fort Carson. USAG Fort Carson would continue to implement all existing mitigation measures, BMPs, and environmental programs to minimize the impacts of stationing and training. There are several current and ongoing environmental programs and plans that work to mitigate the effects of managing the built environment and training.

The Integrated Natural Resource Management Plan (INRMP) is the guiding conservation and natural resource document for Fort Carson. The INRMP outlines BMPs and re-occurring activities including monitoring, needed studies, outreach and

education. It includes a strategy for implementation of the Integrated Training Area Management (ITAM) Program.

The ITAM Program is an Army-wide program to provide quality, sustainable training environments to support the Army's military mission and help ensure no net loss of training capability (a Sikes Act requirement). ITAM integrates mission requirements derived from the Range and Training Land Program with environmental requirements and environmental management practices.

The Integrated Cultural Resources Management Plan (ICRMP) provides a framework to integrate the legal requirements for cultural resources management into the everyday operation of the USAG Fort Carson military mission and supporting activities. One purpose of the ICRMP is to establish cultural resources goals, objectives, and policies that the USAG Fort Carson would use to identify and manage its cultural resources. The plan describes the objectives, priorities, policies, and methods that would be relied upon and utilized to accomplish the legal compliance requirements for the management of cultural resources.

USAG Fort Carson has a comprehensive program to address the management of hazardous waste, hazardous materials, and toxic substances. The program includes the proper handling and disposal of hazardous waste, as well as appropriate procurement, use, storage, and abatement (if necessary) of toxic substances. Several plans are in place to assist with the management of hazardous materials and waste including a Pollution Prevention Plan (also known as the Waste Minimization Plan), Polychlorinated Biphenyl (PCB) Management Plan, Facility Response Plan, Hazardous Waste Management Plan, and the Spill Prevention, Control, and Countermeasures Plan (SPCCP).

4 Affected Environment and Environmental Consequences

4.1 Air Quality and Greenhouse Gases

4.1.1 Affected Environment

In Colorado, air quality is regulated by the Colorado Department of Public Health and Environment (CDPHE) and the EPA Region VIII. The Clean Air Act (CAA) of 1970, 42 USC 7401 et seq, amended in 1977 and 1990, is the primary federal statute governing air pollution. The CAA established the National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) to protect human health and welfare, allowing for an adequate margin of safety. Primary and secondary NAAQS have been established for six air pollutants, known as criteria pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and two types of particulate

matter, PM₁₀ and PM_{2.5}. PM_{2.5} is matter that is 2.5 micrometers in diameter or less and PM₁₀ is matter that has diameters of between 2.5 and 10 micrometers.

Fort Carson is within the air quality control areas of El Paso, Fremont, and Pueblo counties, including the City of Colorado Springs. The northern portion of Fort Carson's cantonment area is located in a maintenance area for carbon monoxide. The *Revised Carbon Monoxide Attainment/ Maintenance Plan Colorado Springs Attainment/Maintenance Area* covers Colorado Springs as a maintenance area through calendar year 2019 (CDPHE 2009). It has not been replaced or updated at the time of this analysis. In accordance with Colorado's Revised Carbon Monoxide Attainment/Maintenance Plan Colorado Springs Attainment/Maintenance Area, USAG Fort Carson will fulfill the maintenance requirement through 2020. Because the region is not in full attainment with the NAAQS for carbon monoxide, and Fort Carson is a federal facility, proposed projects within the maintenance area must be evaluated through general conformity analysis to ensure they will not further degrade the ambient air quality.

USAG Fort Carson's stationary and fugitive emission sources, in general, include boilers, high temperature hot water generators, furnaces/space heaters, emergency generators, paint spray booths, fuel storage and use operations, facility-wide chemical use, road dust, military munitions, combustion engines and smoke/obscurant. USAG Fort Carson holds a Title V federal Operating Permit that covers emissions of both criteria pollutants and hazardous air pollutants Installation-wide.

4.1.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.2.5 and are incorporated into this analysis by reference. The difference is that the increase in training would be from Stryker vehicles instead of tracked vehicles such as Abrams and Bradley vehicles. This is expected to result in fewer effects to air quality and greenhouse gases than was reported in the 2018 PEA.

4.1.2.1 No Action

Under No Action, USAG Fort Carson would continue to operate existing stationary sources of criteria pollutants in accordance with its Title V Permit. The mobile source emissions would not change.

4.1.2.2 Proposed Action

4.1.2.2.1 Conversion of the Existing IBCT

There would be an additional 150 personnel on Fort Carson because of the Proposed Action. The use of privately-owned vehicles to commute to and from work for the military personnel and their family members would increase greenhouse gas emissions

and fugitive dust in the airshed negligibly because it is such a relatively small increase compared to the City of Colorado Springs and surrounding areas.

4.1.2.2.2 Construction of Facilities

The expansion of the TEMFs and hardstands would require ground disturbance including non-road construction equipment generating fugitive dust. All of the equipment including excavators, bulldozers, dump trucks, concrete trucks and other vehicles would produce minor and temporary fugitive dust and greenhouse gases. There would be a minor, temporary and localized increase in criteria pollutant emissions and would not contribute to non-attainment designation under the Clean Air Act.

The area proposed for construction is outside of the maintenance area for carbon monoxide, therefore a general conformity analysis is not necessary.

4.1.2.2.3 Live-Fire and Maneuver Training

The difference between the effects reported in the 2018 PEA and this analysis is that the increase in training would be from Stryker vehicles instead of tracked vehicles such as Abrams and Bradley vehicles. The increase in off-road travel compared to the IBCT would increase fugitive dust on Fort Carson. This increase would be localized and short-term. The Fort Carson Dust Control Plan would minimize if not eliminate the potential for effects from fugitive dust outside of Fort Carson. Any additional stationary source of criteria pollutants would be evaluated to ensure compliance with the Fort Carson Title V requirements. Training areas and ranges are outside of the maintenance area for carbon monoxide, therefore a general conformity analysis is not necessary.

Greenhouse gas emissions analysis in the 2018 PEA compares the emissions from an IBCT to an ABCT. The results of the analysis were that there would be an increase in emissions of about 7,500 tons of carbon dioxide. This is a global increase of about 0.000024% and an Army-wide increase of about 0.12%. The increase would be slightly less for the SBCT and the effects on changes in climate, wildfires, precipitation patterns, and water resources would remain negligible.

4.1.2.3 Cumulative Effects

The Proposed Action has an overall negligible to minor, short-term effect on air quality and greenhouse gas emissions. The reasonably foreseeable and on-going actions would have similar effects as described for the Proposed Action because they are similar in type and scale. The cumulative effects on air quality and greenhouse gases are expected to be negligible to minor and short-term.

4.1.3 Mitigations

No new mitigation efforts are required. USAG Fort Carson's air quality BMPs include implementation of a *Title V Operating Permit*, *Fugitive Dust Control Plan*, *Integrated Wildland Fire Management Plan*, *Paint Booth Operating Standards*, *Ozone Depleting*

Compound Management Plan, and an *Emergency Generator Operations and Maintenance Plan*. The *Fugitive Dust Control Plan* includes taking action to ensure military maneuver actions do not result in emissions greater than 20% opacity crossing Fort Carson's boundaries. Soldiers observe training operations for fugitive dust generation and smoke obscurants and stop those activities where fugitive dust or smoke obscurants has the potential to leave Fort Carson. Environmental Officers assigned to each unit attend the Environmental Protection Officer's Course where these Air Quality BMPs, requirements, and restrictions are discussed in detail. BMPs support USAG Fort Carson in ensuring environmental compliance, stewardship, and sustainability.

4.2 Noise

4.2.1 Affected Environment

Areas within and adjacent to Fort Carson were evaluated for noise effects in the *Fort Carson Installation Compatible Use Zone Study* (APHC, July 2018). It breaks the areas into four zones. Zone I has noise levels that are compatible with noise sensitive uses such as residences. Zone II has noise levels that are compatible with development with moderate noise sensitive uses such as industrial uses. Zone III is not compatible with any noise sensitive uses. The zone within Zone I but getting close to Zone II is called the Land Use Planning Zone (LUPZ) that is an area where most people are not bothered by the noise but those who are sensitive may file noise complaints during louder exercises.

Small arms noise Zone II extends into areas along the eastern boundary including portions of the City of Fountain and the el Ranchero residential development. There is no Zone III that extends into noise-sensitive or moderate noise-sensitive areas. Small arms fire mainly occurs during the daytime hours making the noise disturbance effect less than if they were to occur into the night.

Large caliber arms and demolition noise Zone II extends into Fountain and el Ranchero. The LUPZ extends beyond the boundary to the east to Fountain, el Ranchero and Midway Ranches. There are small areas of LUPZ that extend to the west of the boundary and to the south. Zone III does extend outside of the boundary but does not intersect any noise sensitive or moderate noise sensitive areas.

4.2.2 Environmental Consequences

4.2.2.1 No Action

The training needs would remain the same as they currently are under No Action. There would be no change in the noise zones or communities impacted by training noises.

4.2.2.2 Proposed Action

4.2.2.2.1 Conversion of the Existing IBCT

There would be a negligible increase in noise within or outside of Fort Carson because of the small increase in military personnel under the Proposed Action.

4.2.2.2.2 Construction of Facilities

The construction would temporarily increase noise in areas immediately adjacent to the area under construction. The construction would take place in an industrial area of Fort Carson away from the areas that have noise-sensitive receptors such as residential areas. The effects would be short-term and minor.

4.2.2.2.3 Live-Fire and Maneuver Training

The effects on noise disturbances from training activities has been analyzed in the *Fort Carson Installation Compatible Use Zone Study* (2018). Section 4.3 of the study analyzed for changes to the future noise zones assuming that the IBCT would be converted to an ABCT in anticipation of the need to increase the overall number of ABCT from ten to eleven. At the time of the study, the final decision to convert Fort Carson's IBCT to an SBCT had not been made. The study found that the addition of a second ABCT would increase Zones II and III. However, most of the increase would occur on ranges and in the training areas within the boundary of Fort Carson.

The LUPZ would extend slightly to the east of the boundary into the City of Fountain, El Rancho and Midway communities. The LUPZ would be increased by about 1,540 feet of the existing zone to the south and would not extend past the western boundary. Zone III would extend beyond Fort Carson boundary east of Range 35B and northeast of Ranges 109 and 111. The land that would be in Zone III would be adjacent to I-25 and a gravel pit mining operation. The Proposed Action would not likely extend Zone III to areas where there are noise-sensitive receptors such as residences. There would be no change to residences on Fort Carson. The effects of training a second SBCT would be less than a second ABCT as the conversion of the ABCT in the study is a worse case scenario for large caliber arms and demolition noise. The effect to noise-sensitive receptors because of the Proposed Action would be minor.

4.2.2.3 Cumulative Effects

Off-post Zone II would extend beyond the eastern boundary into the City of Fountain and El Rancho subdivision. Zone III includes only vacant lands, the highway or industrial areas outside of Post. On-post Zone II and Zone III from small arms ranges would extend into the cantonment. There would be multiple enlisted barracks buildings that fall within Zone II. Zone III would include storage facilities and vehicle maintenance areas.

4.2.3 Mitigations

No new mitigations are needed above those outlined in the IONMP (2012) including using the Army Compatible Use Buffer program and local planning efforts to reduce exposure of noise-sensitive areas to Zone II and Zone III.

4.3 Biological Resources

4.3.1 Affected Environment

Fort Carson is in the Central Shortgrass Prairie ecoregion, which encompasses about 56 million acres across Colorado, Kansas, Nebraska, New Mexico, Oklahoma, Texas and Wyoming. Grassland, shrublands, forest and woodlands dominate Fort Carson. There are at least 30 state-listed noxious weed species that have invaded Fort Carson. Noxious weed management is addressed in the Integrated Pest Management Plan that includes control techniques.

Fort Carson supports large mammals such as elk, mountain lion, pronghorn, bighorn sheep, black bear, mule and white-tailed deer,. The federally threatened Mexican Spotted Owl and federally-endangered black-footed ferret are the only known listed species potentially on Fort Carson. Existing protection for the owls includes habitat management and limiting training and recreation in areas occupied by the species. The presence of the black-footed ferret does not limit training as is agreed to in the *2013 Programmatic Safe Harbor Agreement with the U.S. Fish and Wildlife Service and the associated Biological Agreement* of October 2013. There are eleven known fish species on Fort Carson. The Arkansas darter, a small fish, is the only one that is state-threatened. The State Wildlife Action Plan highlights the need to protect spring-fed habitat and reduce invasive species such as northern pike and large-mouth bass. There are no known federally listed threatened or endangered fish species.

4.3.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.3.2 and are incorporated into this analysis by reference. The difference is that the increase in training would be from Stryker vehicles instead of tracked vehicles such as Abrams and Bradley vehicles as was analyzed in the 2018 PEA. This is expected to result in similar or lesser effects to biological resources than was reported in the 2018 PEA.

4.3.2.1 No Action

The No Action Alternative would not change the training cycles, rates of vegetation modification, invasive weed spread, wildlife habitat or wildfire risk from current conditions. USAG Fort Carson would continue to manage resources according to the

Integrated Natural Resource Management Plan (INRMP) and utilize the ITAM program to maintain sustainable training lands.

4.3.2.2 Proposed Action

4.3.2.2.1 Conversion of the Existing IBCT

There would be no effect to biologic resources as a result of the additional 150 military personnel on Fort Carson. The personnel would be stationed in buildings and facilities that are within in the cantonment where there would be limited wildlife interactions and the level of interaction would not be noticeably higher than existing conditions.

4.3.2.2.2 Construction of Facilities

The Proposed Action includes increasing the hardstand at five of the TEMF facilities on Wilderness Road. The modification of these areas would result in a permanent loss of vegetation and habitat for wildlife. The habitat being disturbed is of marginal quality and is adjacent to existing facilities. The adverse effect of this loss would be minor. There is a minor risk of increase in noxious weed spread due to construction. This would be mitigated by minimizing ground disturbance, cleaning of vehicles before they enter the construction site, revegetation with certified weed-free seed and other standard best management practices that reduce the spread of seeds and plant material.

4.3.2.2.3 Live-Fire and Maneuver Training

Live-fire and maneuver training could negatively affect biological resources including the loss of native vegetation and habitat and disturbance of wildlife during exercises. The conversion of the IBCT to an SBCT would result in a greater intensity of disturbance due to the increase in off-road travel by the Stryker vehicles. Increased off-road travel of wheeled Strykers would result in increased soil disturbance and compaction. This would affect forest regeneration and forest health. Also, the off-road vehicular activity increase would increase the likelihood of tree damage (mainly seedlings that are hard to see, but also saplings and mature trees) due to vehicular run-over even if Stryker Battalions are properly trained and informed of regulations prohibiting run-over of forest resources. There would be an increased risk of wildfire due to more off-road vehicular travel that could lead to loss of vegetation and wildlife habitat. This risk is mitigated by the BMPs in the IWFMP (2005) and the active fuels reduction project that are on-going across Fort Carson.

As discussed in Section 2.1.3 the conversion to the SBCT would increase the MIMs by about 64,000 that is a 12.4% increase over no action. The potential vegetation loss due to the increase training intensity could be offset by proper rest and rotation cycles and noxious weed control that are currently being implemented as part of the ITAM program. There would be reduced effects as a result of administrative restrictions in areas that are highly sensitive. The effects on the wildlife species at Fort Carson from training an

SBCT would be minor and are the same as the effects of training the existing SBCT. Section 3.2.3.2.2.1 of the 2018 PEA discusses the mitigations that are already being implemented via the ITAM program that work to minimize effects.

4.3.2.3 Cumulative Effects

The reasonably foreseeable actions include construction in areas where there would be permanent loss of habitat. These sites are marginal habitat at best, consolidated within existing disturbed areas or the fringes of existing disturbed areas not leading to any habitat fragmentation concerns. The effects are minor. The existing training activity implements the ITAMs and other sustainable range practices that minimize the effects to wildlife and aquatic species. The cumulative effect of the reasonably foreseeable and on-going actions is minor to biological resources.

4.3.3 Mitigations

No new mitigations are needed. The Army would continue to adhere to legal and regulatory requirements and continue to implement the INRMP, SOPs and BMPs related to biological resources and noxious weeds. The construction project would adhere to the Migratory Bird Treaty Act requirements, which includes the avoidance of construction-related disturbance impacts to migratory bird nesting areas, where possible.

4.4 Water Resources

4.4.1 Affected Environment

USAG Fort Carson's surface waters are part of the Arkansas River Basin.

The four main drainages within the Main Post area flow to Fountain Creek, they are B-Ditch, Clover Ditch, Infantry Creek and Rock Creek. The flows in these streams are mainly run off from precipitation or snowmelt and have increased due to the increased area covered with impervious materials within the watersheds.

The intermittent and perennial drainages in the downrange training areas are Little Fountain, Turkey. Little Turkey, Red, Sand and Wild Horse Creeks.

Teller Reservoir, part of the Turkey Creek drainage, has been listed as impaired under the Clean Water Act Section 3030(d) for mercury-contaminated soils leading to biological accumulation of mercury in plants and fish species. The source of the contamination is not identified.

The wetlands on Fort Carson are linear, small and isolated features that are typically streamside. They make up about 1,028 acres of Fort Carson.

A more complete outline of USAG Fort Carson's surface waters, water quality and wetlands is in Section 3.2.6.1 of the 2018 PEA.

4.4.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.6.2 and are incorporated into this analysis by reference. The difference is that the increase in training would be from Stryker vehicles instead of tracked vehicles such as Abrams and Bradley vehicles. This is expected to result in similar effects to water resources as what was reported in the 2018 PEA.

4.4.2.1 No Action

Negligible effects would occur at Fort Carson as a result of implementation of the No Action Alternative. The IBCT would not be converted to an SBCT, and would continue to adhere to its existing resource management plans to minimize and monitor any potential effects.

4.4.2.2 Proposed Action

4.4.2.2.1 Conversion of the Existing IBCT

There would be no effect to water resources as a result of the additional 150 military personnel on Fort Carson. The personnel would be located in buildings and facilities that are within in the cantonment where there would be limited effect on water resources and wetlands.

4.4.2.2.2 Construction of Facilities

The hardstand expansion and the TEMF renovation would occur primarily on previously disturbed areas that do not have any surface water or wetland resources. There would be no direct effects to these resources from the construction. The construction could cause a temporary increase in soil erosion and permanent increases in impervious surfaces that could increase stormwater runoff and adversely affect surface water indirectly through sedimentation.

Long-term minor effects would result from the increase in impervious surfaces. USAG Fort Carson would comply with Section 438 of the Energy Independence Security Act. This requires low-impact development practices that can be found in the USAG Fort Carson *Best Management Practices Operation and Maintenance Plan for Stormwater Management Structures* (<https://www.carson.army.mil/assets/docs/dpw/Stormwater/lid-operations-and-maintenance-manual.pdf>).

Construction projects need to obtain a National Pollution Discharge Elimination System (NPDES) General Construction General Permit and prepare a Stormwater Pollution Prevention Plan (SWPPP) for all projects that would disturb more than one acre. The SWPPP, along with the Stormwater Management Plan (SWMP)

(<https://www.carson.army.mil/assets/docs/dpw/Stormwater/final-2017-swmp.pdf>), outline BMPs to prevent sediment delivery and manage stormwater on the site.

The effects of the project on stormwater and water quality would be minor with the implementation of the BMPs and permitting described above.

4.4.2.2.3 Live-Fire and Maneuver Training

Live-fire and maneuver training can have negative effects on surface water and wetland resources. As discussed in Section 2.1.3 the conversion to the SBCT would increase the MIMs by about 64,000 that is a 12.4% increase over no action. This would increase ground disturbance and sediment loads delivered to surface waters and wetlands, changes to drainage patterns and increased stormwater runoff. With implementation of the ITAM program and the INRMP effects would be minimized to moderate but less than significant. Section 3.2.6.2.2.1 of the 2018 PEA discusses the mitigations that are already being implemented via the ITAM program that work to minimize effects.

4.4.2.3 Cumulative Effects

The reasonably foreseeable actions include construction and on-going live-fire and maneuver training that would increase the effects of stormwater in the Arkansas Basin. The ITAMs and INRPM programs minimize the effects of the actions considered for cumulative effects to minor to moderate. The cumulative effect of the Proposed Action would be moderate but not significant.

4.4.3 Mitigations

Application of existing land management programs, including training land rotations, limited-use areas, dismounted-only areas, off-limit areas, and Land Rehabilitation and Maintenance efforts, including maintaining erosion control structures, are employed to offset the effects of training on water quality.

4.5 Soil Resources

4.5.1 Affected Environment

The soil types commonly occurring at Fort Carson are aridisols (dry, desert-like soils) and entisols (soils that still resemble their parent material). These soils are highly erodible.

A more complete outline of USAG Fort Carson's soil resources is in Section 3.2.5.1 of the 2018 PEA.

4.5.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.5.2 and are incorporated into this analysis by reference. The difference is that the increase in training would be from Stryker vehicles instead of

tracked vehicles such as Abrams and Bradley vehicles. This is expected to result in similar effects to soil resources as what was reported in the 2018 PEA.

4.5.2.1 No Action

Negligible effects would occur at Fort Carson as a result of implementation of the No Action Alternative. The IBCT would not be converted to an SBCT, and would continue to adhere to its existing resource management plans to minimize and monitor any potential effects.

4.5.2.2 Proposed Action

4.5.2.2.1 Conversion of the Existing IBCT

There would be no effect to soil resources as a result of the additional 150 military personnel on Fort Carson. The personnel would be stationed in buildings and facilities that are within in the cantonment where there would be limited effects to soil erosion on top of the existing conditions.

4.5.2.2.2 Construction of Facilities

Construction would cause a temporary increase in soil erosion, sedimentation and run-off, as well as permanent loss of soil in areas of new impervious surfaces. The areas being proposed for hardstand expansion are in areas with existing development and have been previously disturbed, although some areas have re-established marginal wildlife habitat since the last disturbance. Overall, the impacts would be minor. The effects would be mitigated by existing practices to minimize soil erosion such as BMPs in the SWMP. The SWPPP developed for the NPDES Construction General Permit also includes soil erosion mitigation that would reduce the effects of the construction and the long-term effects from changes to stormwater management at the sites.

4.5.2.2.3 Live-Fire and Maneuver Training

The Proposed Action would lead to more off-road travel, due to training with Stryker vehicles, than the No Action Alternative. The increase in off-road travel would result in greater intensity of soil disturbance, compaction, rutting and erosion due to the use of more and heavier vehicles in the training areas. The effects could be sedimentation to adjacent waterways, soil instability and infertility. The conversion of the IBCT to an SBCT would increase the MIMs by 64,000 that is a 12.5 percent increase over no action. This equates to about a 12.5 percent increase in soil disturbance as a result of training one less IBCT and an additional SBCT. The effects could be up to significant without mitigation and range sustainability practices such as programs in the INRMP and the ITAM program. The implementation of the activities carried out by these programs would reduce the effects on soil resources to moderate but not significant. Details on the effectiveness of actions such as restrictions on training, range rotation,

administratively off-limits or dismount areas, and other erosion control efforts on mitigating effects are described in the 2018 PEA.

4.5.2.3 Cumulative Effects

Construction and on-going training have moderate but not significant effects on soil resources for the same reasons as described above. The construction projects do not overlap in space so the soil disturbance in those areas is not cumulative and would remain moderate but not significant when considered with the Proposed Action. The ITAM program would continue to mitigate the effects of training downrange and maintain the effects of training, including the converted SBCT, to moderate but not significant.

4.5.3 Mitigations

No new mitigations are required to protect soil resources. USAG Fort Carson would continue to adhere to legal and regulatory requirements, and continue to use adaptive management in implementing approved management plans, standard operating procedures, and BMPs related to soil resources.

4.6 Cultural Resources

4.6.1 Affected Environment

Cultural resources are the non-renewable remnants of past human activities that have cultural or historical value and meaning to a group of people or a society. For the purposes of this EA, the term “cultural resources” includes historic properties, as defined in the National Historic Preservation Act; archaeological resources, as defined in the Archaeological Resources Protection Act; cultural items, as defined in the Native American Graves Protection and Repatriation Act; sacred sites, as defined in Executive Order 13007; and collections, as defined in 36 CFR 79.

As of May 2019, approximately 72% of Fort Carson has been surveyed for cultural resources, which has resulted in the identification of 2,364 cultural resources. One hundred thirty-eight have been determined eligible for inclusion in the NRHP. These resources represent every period of human occupation from the Paleoindian stage to the present, and include prehistoric lithic scatters, camps, and architecture; prehistoric and historic quarries and mining sites; prehistoric and historic rock art; historical homesteads and ranches; stage and trail remnants; historic districts; historic buildings, structures, and objects; and sacred sites.

The ICRMP details how cultural resources are managed on Fort Carson. To streamline Section 106 consultation in accordance with 36 CFR 800.14(b), USAG Fort Carson, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation have executed two programmatic agreements that cover routine

undertakings occurring on Fort Carson. The first is the *Programmatic Agreement among the U.S. Army Garrison Fort Carson, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Construction, Maintenance, and Operations Activities for Areas of Fort Carson, Colorado* (Fort Carson Built Environment Programmatic Agreement), executed March 27, 2013, and amended March 23, 2018. The second is the *Programmatic Agreement among the U.S. Army Garrison Fort Carson, Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Military Training and Operational Support Activities Downrange Fort Carson, Colorado* (Fort Carson Downrange Programmatic Agreement), executed March 31, 2014, and amended May 2, 2018. More information on these programmatic agreements is outlined in the 2018 PEA.

4.6.2 Environmental Consequences

The effects analysis of the Proposed Alternatives are similar to those discussed in the 2018 PEA in Section 3.2.4.2 and are incorporated into this analysis by reference. The difference is that the increase in training would be from Stryker vehicles instead of tracked vehicles, such as Abrams and Bradley vehicles. This is expected to result in similar effects to cultural resources as what was reported in the 2018 PEA.

4.6.2.1 No Action

Impacts to cultural resources under the No Action Alternative are anticipated to be negligible. Since there would be no conversion, there would be no change from the affected environment as a result of taking no action.

4.6.2.2 Proposed Action

4.6.2.2.1 Conversion of the Existing IBCT

There would be no effect to cultural resources as a result of the additional 150 military personnel on Fort Carson. The personnel would be located in buildings and facilities that are within in the cantonment where there would be limited effects to cultural resources. The identified buildings and facilities to be occupied are less than 50 years of age (non-historic). No cultural resources have been recorded within the area of potential effect (APE).

4.6.2.2.2 Construction of Facilities

The renovation of the existing TEMFs and the expansion of the hardstands would occur on previously disturbed ground and within locations determined to have no cultural resources. New construction and renovation of existing facilities that are less than 50 years of age or are not considered historic properties within the Main Post are exempted from further Section 106 review per the Fort Carson Built Environment Programmatic Agreement. Effects to cultural resources as a result of the construction and renovation would be negligible.

4.6.2.2.3 Live-Fire and Maneuver Training

Live-fire and maneuver training could adversely affect cultural resources, including the disturbance of archaeological sites or damage to historical structures. The training of an additional SBCT would increase the intensity of ground disturbance compared to the training of an IBCT because of the increase in off-road travel with the Stryker vehicles. USAG Fort Carson would mitigate these effects through continued management of cultural resources in accordance with the Programmatic Agreements. By following the stipulations of the Programmatic Agreements and the BMPs and SOPs established in the ICRMP, the effects to cultural resources would be minor. Live-fire and maneuver training is exempt from further Section 106 consultation under the National Historic Preservation Act under the Fort Carson Downrange Programmatic Agreement.

4.6.2.3 Cumulative Effects

The effects of the reasonably foreseeable construction projects would be minor for reasons described in section 4.5.2.2.2. The effects of ongoing training would be minor because of the implementation of existing BMPs, SOPs and the requirements of the Programmatic Agreement. The cumulative effect of the proposed project and other projects on cultural resources would be minor.

4.6.3 Mitigations

No new mitigations are required to protect cultural resources. USAG Fort Carson would continue to adhere to legal and regulatory requirements, and continue to use adaptive management in implementing approved management plans, SOPs, and BMPs related to cultural resources.

4.7 Socio-economics

4.7.1 Affected Environment

The affected environment is discussed in detail in Section 3.2.7.1 of the 2018 PEA. Fort Carson's population is about 24,300 military personnel and 6,700 civilian employees. The population of the ROI is about 863,000 people. Public services including schools and emergency services are readily available in the counties adjacent to Fort Carson. Medical facilities include Evans Army Hospital that served active military personnel, their dependents and retirees.

4.7.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.7.2 and are incorporated into this analysis by reference. The difference is the addition of 150 military personnel to Fort Carson as opposed to the loss of 21 personnel that would have occurred if the IBCT were converted to an ABCT.

4.7.2.1 No Action

There would be no change to the socio-economic conditions as a result of taking no action and not converting the IBCT to an SBCT. The effects would be negligible.

4.7.2.2 Proposed Action

4.7.2.2.1 Conversion of the Existing IBCT

The increase of 150 military personnel and about 75 spouses and 143 dependents would result in a population increase for Colorado Springs and the surrounding area of about 368 people. This is a population increase of about 0.05 percent for El Paso and Fremont Counties combined. The effects of a population change that small would be negligible on the economic environment, housing availability, emergency services and public services such as schools.

There would be no measureable changes to the local socio-economic effects of constructing new facilities or training.

4.7.2.3 Cumulative Effects

There is no measurable effect on the local socio-economic and community resources from the reasonably foreseeable or on-going actions. The cumulative effects of the Proposed Action would be negligible.

4.7.3 Mitigations

No new mitigations are required to protect soil resources. USAG Fort Carson would continue to adhere to legal and regulatory requirements, and continue to use adaptive management in implementing approved management plans, standard operating procedures, and BMPs related to soil resources.

4.8 Traffic and Transportation

4.8.1 Affected Environment

Major roads that border Fort Carson are I-25 to the east, State Highway 115 to the west, and Academy Boulevard to the north. There have been recent projects to improve the capacity of these roadways to accommodate projected increases in traffic resulting from the 2005 BRAC and other stationing initiatives for USAG Fort Carson.

4.8.2 Environmental Consequences

The effects analysis of the Proposed Alternative are similar to those discussed in the 2018 PEA in Section 3.2.8.2 and are incorporated into this analysis by reference. The difference is the addition of 150 military personnel to Fort Carson as opposed to the loss of 21 personnel that would have occurred if the IBCT were converted to an ABCT.

The primary metric for effects to traffic is the Level of Service (LOS) index. There are six categories of LOS designated by letters A through F. Level A is free flow conditions where movement of traffic is good. Level B is also free flowing conditions but the ability to maneuver is becoming less than in Level A. Level C includes areas where there is enough traffic that speeds are affected and the density of vehicles is noticeably higher. Level D is where your speed is reduced and the ability to maneuver is reduced due to traffic. Levels E and F are when the roadways are at or near capacity and could lead to unpredictable speeds and traffic jams or gridlock.

4.8.2.1 No Action

The overall impacts of taking no action on transportation resources would be negligible. The number of wheeled vehicles traveling off the installation to PCMS for a BCT training exercise would be approximately 200 non-BCT support, and command and control vehicles, plus the additional wheeled vehicles from one of the 3 BCTs: ABCT (824 vehicles), IBCT (785 vehicles) or the SBCT (1,184 vehicles). Vehicle movement would normally be in convoys of about 20-30 vehicles. Traffic would increase sporadically and for short periods of time (about 3 -4 days). The increase in cars per day compared to the annual average daily traffic is between 0.6 percent to 83.8 percent depending on the roadway and BCT type (*Table 4, Table 5, and Table 6*). The increases that would affect the LOS on these roads from Level A or B to Level C would be sporadic and temporary. The LOS change would be most noticeable along Route 160A and 350A. In addition, convoys would be timed to avoid peak traffic periods along I-25 through Pueblo, and would not contribute to traffic delays in that area that would change the LOS on this roadway. Colorado Department of Transportation (CDOT) permits are obtained for BCT convoy operations.

Table 4: Increase in daily traffic (vehicles per day) during convoy of wheeled vehicles for an SBCT training at PCMS.

Roadway	Current Annual Average Daily Traffic (vehicles per day) estimated for 2020	Estimated increase in Annual Average Daily Traffic (percent)
I-25 near Fort Carson	55,000	0.8
I-25 Near PCMS	15,500	2.9
160A	3,000	15.4
350A	550	83.8

Table 5: Increase in daily traffic (vehicles per day) during convoy of wheeled vehicles for an ABCT training at PCMS.

Roadway	Current Annual Average Daily Traffic (vehicles per day) estimated for 2020	Estimated increase in Annual Average Daily Traffic (percent)
I-25 near Fort Carson	55,000	0.6
I-25 Near PCMS	15,500	2.2
160A	3,000	11.3
350A	550	62.0

Table 6: Increase in daily traffic (vehicles per day) during convoy of wheeled vehicles for an IBCT training at PCMS.

Roadway	Current Annual Average Daily Traffic (vehicles per day) estimated for 2020	Estimated increase in Annual Average Daily Traffic (percent)
I-25 near Fort Carson	55,000	0.6
I-25 Near PCMS	15,500	2.1
160A	3,000	10.9
350A	550	59.6

4.8.2.2 *Proposed Action*

The small increase in the number of military personnel and their families that would be negligible compared to the population of the ROI. The impact to transportation resources would be minor. There would be a slight increase in traffic congestion in the Wilderness Rd, Butts Army Airfield area during peak hours, and an increased delay at Gate 6 and on Butts Rd, Titus Blvd and Specker Ave due to the increase in personnel on Fort Carson.

There would be a temporary increase in traffic during the renovation of the TEMFs and the expansion of hard stand along Warfighter Road. The effects to gate access and roadway delays would be relatively minor. There may be an increase in downrange traffic due to the Stryker vehicles being driven to the maneuver and live-fire ranges. This would be confined to Fort Carson and would have a minor effect to on-base traffic only.

Tracked vehicles would be railed or trucked to PCMS from Fort Carson having no impact on traffic outside of Fort Carson. Wheeled vehicles can drive to PCMS from Fort Carson using public roads. Under the Proposed Action there would be about 3,192 wheeled vehicles that could travel to PCMS for a training exercise (PCMS EIS, 2015). This is an increase of about 14% over No Action.

The increase in potential daily traffic from training an SBCT instead of an IBCT at PCMS would be between 0.2 percent on I-25 near Fort Carson and about 24.2 percent on 350A. The daily traffic would increase about 4.5 and 24.2 percent on 160A and 350A respectively during the 3 days of transporting the wheeled SBCT vehicles to and from training at PCMS.

The increases that would affect the LOS from Level A or B to Level C would be sporadic and temporary and would be most noticeable along Route 160 and 350A. In addition, convoys would be timed to avoid peak traffic periods along I-25 through Pueblo, and would not contribute to traffic delays in that area that would change the LOS on this roadway. Colorado Department of Transportation (CDOT) permits would be obtained before BCT convoying would be started. The effect to off-post traffic as a result of convoys to PCMS for training would be minor.

4.8.2.3 Cumulative Effects

Other construction projects would increase on-post traffic temporarily. The projects listed in Table 3 would be staggered in time and space. The cumulative effects on traffic and transportation on Fort Carson is expected to be minor and temporary. Convoying wheeled vehicles to PCMS for BCT training would be staggered and done in coordination with CDOT to avoid any significant impacts to off-post traffic and LOS along the routes. Any impact to off-post traffic would be temporary and minor.

4.8.3 Mitigations

No new mitigations are required.

4.9 Hazardous Materials

4.9.1 Affected Environment

Hazardous and toxic materials used at Fort Carson include gasoline, batteries, paint, diesel fuel, oil and lubricants, explosives, JP-8 jet fuel, pyrotechnic devices used in military training operations, radiological materials at medical facilities, radioactive materials, pesticides, and toxic or hazardous chemicals used in industrial operations such as painting, repair, and maintenance of vehicle and aircraft.

USAG Fort Carson has a comprehensive program to address the management of hazardous waste, hazardous materials, and toxic substances. The program includes the proper handling and disposal of hazardous waste, as well as appropriate procurement, use, storage, and abatement (if necessary) of toxic substances. Several plans are in place to assist with the management of hazardous materials and waste including a Pollution Prevention Plan (also known as the Waste Minimization Plan), Polychlorinated Biphenyl (PCB) Management Plan, Facility Response Plan, Hazardous

Waste Management Plan, and the Spill Prevention, Control, and Countermeasures Plan (SPCCP).

4.9.2 Environmental Consequences

The effects on hazardous materials were dismissed from further analysis in the 2018 PEA (Section 3.1.4) because negligible adverse effects would occur. Based on the HQDA decision to station an SBCT instead of an ABCT at Fort Carson additional analysis was completed. The conversion from an IBCT to an SBCT would increase the quantity of hazardous materials such as fuel and motor oil because of the increase in motor vehicles and training miles from current conditions.

4.9.2.1 *No Action*

Under the No Action Alternative, USAG Fort Carson would retain force structure at its current levels, configurations, and locations. There would be no change to hazardous materials.

4.9.2.2 *Proposed Action*

Renovation of the two TEMFs could create additional lead, asbestos, PCBs, and chlorofluorocarbon wastes. Impacts would be less than significant, because there would be minimal risk of human or environmental exposure to hazardous materials used or hazardous wastes generated during construction.

Increased live-fire activities associated with SBCT training would result in the generation of small amounts of additional expended small arms ammunition UXO. Ammunition handling and storage methods, disposal protocols, and safety procedures would continue to be conducted. A second SBCT, including training and maintenance activities, would result in an increase in the use of hazardous materials, use of petroleum-based products, and management of hazardous waste; therefore, an increased potential for spills exists. Environmental impacts, however, are anticipated to be less than significant due the comprehensive program addressing the management of hazardous waste, hazardous materials, and toxic substances. Additionally, the extensive outreach and training program on spill prevention, major site contamination and cleanup, and other special hazards resulting from increases in personnel, construction activities, and training activities would further reduce the potential for impacts.

4.9.2.3 *Cumulative Effects*

The cumulative impacts of hazardous and toxic substances consist of past, present, and reasonably foreseeable future actions that increase the handling of these substances or the generation of hazardous wastes. The addition of an SBCT, including the additional personnel and training, would result in an increase in the use of hazardous materials and petroleum products; therefore, it is reasonable to assume an increase in the

generation, handling, storage, and disposal of hazardous wastes derived from the increased use of hazardous materials, including petroleum products. Only minor cumulative impacts would be predicted from the increased hazardous waste and petroleum, oils, and lubricants product generation because USAG Fort Carson has the capacity to handle the increased quantities. The USAG Fort Carson is currently implementing a variety of proposed initiatives under Net Zero to minimize hazardous waste (Fort Carson, 2012).

4.9.3 Mitigations

No new mitigations would be required to ensure proper handling of the increase in hazardous waste as a result of the stationing of a second SBCT on Fort Carson. USAG Fort Carson would continue to utilize the comprehensive program to address the management of hazardous waste, hazardous materials, and toxic substances to adhere to legal and regulatory requirements.

4.10 Environmental Consequences Summary

Table 7: Summary of cumulative effects by VEC.

VEC	Direct and Indirect Effects of the Proposed Action	Cumulative Effects of the Proposed Action
Air Quality and Greenhouse Gases	Negligible to Minor	Negligible to Minor
Noise	Minor	Minor
Biological Resources	Minor	Minor
Water Resources	Moderate but Not Significant	Moderate but Not Significant
Soils	Moderate but Not Significant	Moderate but Not Significant
Cultural Resources	Minor	Minor
Socio-economics	Negligible	Negligible
Traffic and Transportation	Minor	Minor
Hazardous Materials	Minor	Minor

4.11 Proposed Mitigation Summary

No new mitigations are needed. USAG Fort Carson would continue to adhere to legal and regulatory requirements, and continue to use adaptive management in implementing approved management plans, standard operating procedures, and BMPs related to soil resources.

5 Acronyms

4ID	4 th Infantry Division
ABCT	Armored Brigade Combat Team
ACUB	Army Compatible Use
BCT	Brigade Combat Team
BMP	Best Management Practice
CAB	Combat Aviation Brigade
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of federal Regulations
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FNSI	Finding of No Significant Impact
GHG	Greenhouse Gas
HQDA	Headquarters, Department of the Army
IBCT	Infantry Brigade Combat Team
ICRMP	Integrated Cultural Resource Management Plan
INRMP	Integrated Natural Resource Management Plan
IONMP	Installation Operational Noise Management Plan
IPMP	Integrated Pest Management Plan
ITAM	Integrated Training Area Management
ITAM	Integrated Training Area Management Program
IWFMP	Integrated Wildland Fire Management Plan
MIM	Maneuver Impact Miles
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historical Preservation Act
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
PCMS	Pinon Canyon Maneuver Site
REC	Record of Environmental Consideration
ROD	Record of Decision
ROI	Region(s) of Influence
SBCT	Stryker Brigade Combat Team
SOP	Standard Operating Period
SPCCP	Spill Prevention, Control, and Countermeasures Plan

SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TEMF	Tactical Equipment Maintenance Facility
USAG	United States Army Garrison
VEC	Valued Environmental Component

6 List of Preparers

Name	Installation/Affiliation	Role
Bell, Angie	Fort Carson/Environmental	NEPA Program Manager
Buccambuso, Emma	Fort Carson/Environmental	Noise Analysis
Davis, Bert	Fort Carson/DPTMS	Range Control Officer
Hooper, William	Fort Carson/DPTMS	Chief of Training
Benford, James	Fort Carson/DPTMS	DPTMS Director
Morris, Kenneth	Fort Carson/Environmental	Stormwater Program Manager
Smith-Froese, Stephanie	Fort Carson/Environmental	Wildlife Biologist
Kolise, Jennifer	Fort Carson/Environmental	Cultural Resource Program Manager
Thomas, Wayne	Fort Carson/Environmental	NEPA/Cultural Branch Chief
Orphan, Richard	Fort Carson/Environmental	Traffic Control
Yohn, Richard	Fort Carson/Environmental	Air Program Manager
Reeder, Craig	Fort Carson/Engineering	Civil Engineer
Kozielski, Cory	TRADOC Capability Ranges	MIMs analysis
Wiersma, Thomas	Fort Carson/Master Planning	Master Planning
McLemore, Jeffrey	Fort Carson/Environmental	Forestry
Gallegos, Joseph	Fort Carson/Environmental	Prevention and Restoration Program Manager
Mui, Cecily	Fort Carson/Environmental	Pest Control Program Manager
Kulbeth, James	Fort Carson/Environmental	Wetlands and Watershed Specialist

7 References

- (APHC) Environmental Noise Branch, Army Public Health Center. July 2018. Fort Carson Installation Compatible Use Zone Study.
- Colorado Department of Transportation (CDOT). 2014. Online Transportation Information System Traffic Data. Annual Average Daily Traffic Counts on Roadway Segments. Accessed April 2019 at <http://dtdapps.coloradodot.info/Otis/TrafficData#ui/1/1/0/station/100927/criteria/025A/0/298.879/true/true/>.
- Fort Carson. 2005. Integrated Wildland Fire Management Plan.
- Fort Carson. 2012. Fort Carson Net Zero Waster, Water, and Energy Implementation Final Environmental Assessment. Prepared by Fort Carson and U.S. Army Environmental Command with assistance by Potomac-Hudson Engineering, Inc.
- Fort Carson. 2012a. Fugitive Dust Control Plan. Fort Carson Environmental Management System.
<https://www.carson.army.mil/assets/docs/dpw/NEPA/2016-fugitive-dust-control-plan.pdf>
- Fort Carson. 2012b. Installation Operations Noise Management Plan. 2012.
- Fort Carson. 2013. Programmatic Agreement Among the U.S. Army Garrison Fort Carson, the Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Construction, Maintenance, and Operations Activities for Areas of Fort Carson, Colorado, amended 2018.
https://www.carson.army.mil/assets/docs/dpw/Cultural/first_amendment_built_environment_pa.pdf
- Fort Carson. 2014a. Programmatic Agreement among U.S. Army Garrison Fort Carson, Colorado State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding Military Training and Operational Support Activities Downrange Fort Carson, Colorado. Amended 2018.
https://www.carson.army.mil/assets/docs/dpw/Cultural/first_amendment_fc_downrange_pa.pdf
- Fort Carson. 2015. Final Integrated Pest Management Plan for Fort Carson and the Pinon Canyon Maneuver Site, Colorado Fort Carson. 2016b. Fort Carson Fugitive Dust Control Plan.
- Fort Carson. 2015. Piñon Canyon Maneuver Site (PCMS) Training and Operations Final Environmental Impact Statement.

<https://www.carson.army.mil/assets/docs/dpw/NEPA/2014-pcms-training-and-operations-final-eis.pdf>

Fort Carson. 2016. January 2016. Stormwater Management Plan. Effective Dates of the Fort Carson MS4 Permit No. COR042001 1 January 2016 to 31 December 2020. <https://www.carson.army.mil/assets/docs/dpw/Stormwater/final-2017-swmp.pdf>

Fort Carson. 2017. Integrated Cultural Resource Management Plan, 2017-2021. <https://www.carson.army.mil/assets/docs/dpw/Cultural/2017-2021-icrmp.PDF>

Fort Carson. 2018 . Record of Environmental Consideration for IBCT to SBCT Conversion. <https://www.carson.army.mil/assets/docs/dpw/NEPA/fnsi-pcms-rec-programmatic-ea-ibct-conversion.pdf>

U.S. Army. 2013. Programmatic Environmental Assessment for Army 2020 Force Structure Realignment. U.S. Army Environmental Command. April 2013.

U.S. Army. 2018a. Finding of No Significant Impact for Converting and Stationing an Existing Brigade Combat Team to an Armored Brigade Combat Team. <https://www.carson.army.mil/assets/docs/dpw/NEPA/fnsi-pcms-rec-programmatic-ea-ibct-conversion.pdf>

U.S. Army. 2018b. Programmatic Environmental Assessment for Infantry Brigade Combat Team Conversion to an Armored Brigade Combat Team and Stationing. <https://www.carson.army.mil/assets/docs/dpw/NEPA/fnsi-pcms-rec-programmatic-ea-ibct-conversion.pdf>