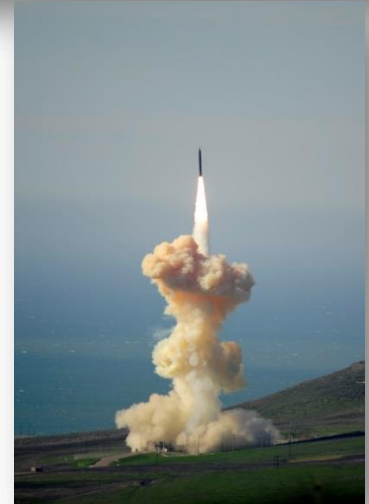




Continental United States (CONUS) Interceptor Site



EXECUTIVE SUMMARY

Environmental Impact Statement Final

Department of Defense
Missile Defense Agency
5700 18th Street
Fort Belvoir, VA 22060-5573

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Executive Summary

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Executive Summary

ES.1.0 Purpose and Need for Potential Continental Interceptor Site Deployment

ES.1.1 Introduction

As required by the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA and the 2013 National Defense Authorization Act (NDAA), the Missile Defense Agency (MDA) prepared this Environmental Impact Statement (EIS). This EIS evaluates the potential environmental impacts from the potential future deployment of a Continental United States (CONUS) Interceptor Site (CIS) capable of protecting the homeland against threats from nations, such as North Korea and Iran. If deployed, the CIS would extend the existing Ground-based Midcourse Defense (GMD) element of the Ballistic Missile Defense System (BMDS). The existing Ground-Based Interceptor (GBI) sites at Fort Greely, AK, and Vandenberg Air Force Base, CA, provide the capability to protect the United States (U.S.) from the current and projected North Korean intercontinental ballistic missile (ICBM) threat, as well as a future Iranian ICBM threat should it emerge.

ES.1.2 Purpose and Need

The 2013 NDAA requires MDA to prepare this EIS to evaluate possible additional locations in the U.S. best suited for future deployment of an interceptor capable of protecting the homeland against threats from nations such as North Korea and Iran. Per the NDAA, at least two of these locations considered shall be on the East Coast of the U.S.

An additional site located within CONUS would add potential battle space and interceptor capacity; however, the Department of Defense (DoD) does not propose and has not made a decision to deploy or construct an additional interceptor site.

ES.1.3 Decisions to be Made

The decisions to be made are whether and where to deploy a CIS. This EIS considers and evaluates a No Action Alternative (no CIS deployment) and three potential CIS deployment alternative locations in Michigan, Ohio, and New York. Any deployment decision would be based on the analysis of the ballistic missile threat to the U.S., system performance and operational effectiveness, site constructability, cost, and potential environmental impacts. Because MDA has no current proposal or direction to deploy a CIS, its preferred alternative is the No Action Alternative.

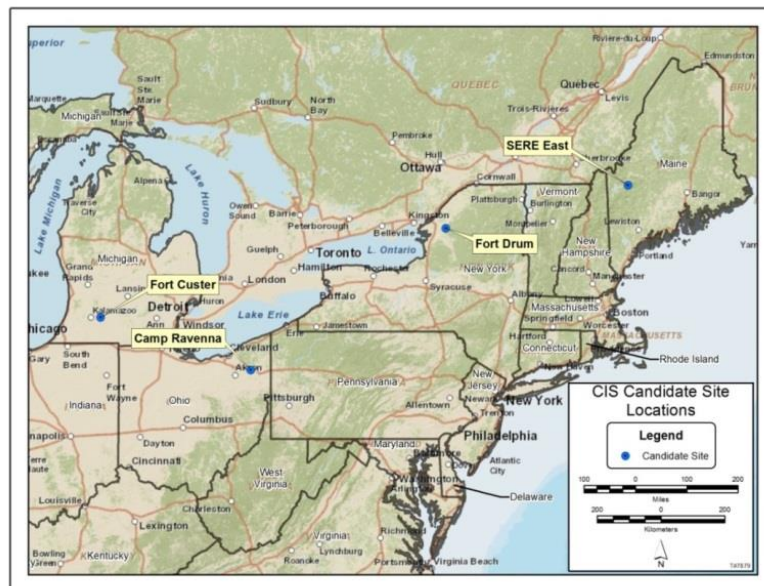
ES.1.4 Scope of the Environmental Impact Statement

For the potential CIS, a siting process was conducted that narrowed the number of sites defined from 457 Department of Defense owned locations throughout the Continental United

States down to five potential candidate sites at four installation locations. The CIS initial candidate installation locations included the following (approximate location shown in Figure ES-1):

- Fort Custer Training Center (FCTC), MI (two sites were defined at this installation and are referred to in the EIS as the FCTC Site 1 and FCTC Site 2, respectively).
- Camp Ravenna Joint Military Training Center (CRJMTC), OH (referred to in the EIS as the CRJMTC Site).
- Fort Drum (FTD), NY (referred to in the EIS as the FTD Site).
- Survival Evasion, Resistance, and Escape (SERE) East, near Rangeley, ME (referred to in the EIS as the SERE East Site). After conducting extensive surveys, including but not limited to, infrastructure, engineering, water resources, transportation, and areas for assessing the suitability of a potential site, MDA determined that the SERE East site presented irreversible environmental impacts, significant constructability concerns, and extensive costs associated with the development of infrastructure in a remote area, and in January 2016, it was designated as an Alternative Considered, but Not Carried Forward.

Figure ES-1 Initial CIS Candidate Site Locations Analyzed in EIS



The EIS analyzes the candidate locations of the potential CIS deployment of up to 60 GBIs total distributed in up to three GBI fields (maximum 20 per field). Although the CIS would be built in stages, for this EIS it was assumed that the entire 60 GBI CIS would be constructed. This EIS addresses the construction of mission facilities, mission support facilities, non-mission facilities, onsite and offsite utilities, and transportation of silos, silo interface vaults (SIVs), and GBIs. GBIs would not be launched from the deployment site except in the Nation's defense. No test firing would be conducted at this CIS.

This EIS assesses environmental impacts associated with future deployment and operation of the CIS at each of the sites for the following resource categories: air quality, airspace, biological resources, cultural resources, environmental justice, geology and soils, hazardous waste/hazardous materials, health and safety, land use, noise, socioeconomics, transportation, utilities, water resources, wetlands, and visual/aesthetics.

ES.1.5 Public Scoping Participation

The Notice of Intent (NOI) to prepare the EIS was published in the Federal Register by MDA on July 16, 2014. This NOI initiated public participation, which consisted of a public scoping period from July 16, 2014, to September 15, 2014.

During this scoping period, public meetings were held at or near the following candidate site locations:

- FCTC Sites (FCTC Site 1 and FCTC Site 2): August 26, 2014, in Battle Creek, MI and August 28, 2014, in Augusta, MI.
- CRJMTC Site: August 5, 2014, in Ravenna, OH.
- FTD Site: August 19, 2014, in Carthage, NY.
- SERE East Site: August 12, 2014 (two meetings) in Rangeley, ME, and August 14, 2014, (two meetings) in Farmington, ME.

A total of 539 public comments were received. The relative breakdown of comments per site and the three top resource categories of concern for each site are summarized below:

- FCTC Site 1 and Site 2: 145 comments; top three resources of concern: socioeconomics, land use, and transportation.
- CRJMTC Site: 146 comments; top three resources of concern: socioeconomics, health and safety, and hazardous materials/hazardous waste.
- FTD Site: 32 comments; top three resources of concern: socioeconomics, transportation, and land use.
- SERE East Site: 216 comments; top three resources of concern: socioeconomics, land use, and transportation.

In addition to public comments, regulatory agency comments were also solicited.

A listing of the public comments and regulatory agency comments obtained as part of the scoping process were documented in a Scoping Report and posted on MDA's website on June 23, 2015. [MDA's website is located at <https://www.mda.mil>].

ES.1.6 Coordination with Regulatory Agencies

In addition to public participation, federal and state regulatory agency participation has also been solicited throughout the EIS process. Although no formal consultations have been conducted, informal status meetings and solicitation of input were conducted as follows:

- FCTC Sites (FCTC Site 1 and FCTC Site 2): April 30, 2014 at FCTC and October 14, 2015, at Lansing, MI. During these meetings, federal and state agencies in attendance included U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), Michigan Department of Environmental Quality, and Michigan Department of Transportation.
- CRJMTTC Site: April 24, 2014, and October 16, 2015, at Columbus, OH. During these meetings, federal and state agencies in attendance included USFWS, USACE, USEPA, Ohio Environmental Protection Agency, and Ohio State Historic Preservation Office. In addition to these meetings, MDA personnel conducting the CIS specific transportation study also had meetings with the Ohio Department of Transportation (January 26, 2015).
- FTD Site: April 4, 2014, and November 3, 2015, at Fort Drum, NY. During these meetings, federal and state agencies in attendance included USFWS, USACE, USEPA, New York State Department of Environmental Quality, and New York State Department of Transportation.
- SERE East Site: May 15, 2014, at Augusta, ME; August 19, 2015, at Augusta, ME, with the Maine Historic Preservation Commission and the National Parks Services; and November 5, 2015, at Augusta, ME. During these meetings, federal and state agencies in attendance included USFWS, USACE, USEPA, Maine Department of Environmental Protection, Maine Inland Fish and Wildlife Service, Maine Department of Transportation, Maine State Historic Preservation Office, and Maine Land Use Planning Commission.
- Federal Agencies (Boston, MA): April 23, 2015, and November 4, 2015. During these meetings, federal agencies in attendance included USEPA and USACE.

During these meetings one of the major issues discussed was whether formal consultations would be part of the CIS EIS process. Based on discussions held and due to status of the deployment of the CIS being only “a potential” at this time, it was agreed that formal consultations with agencies, in specific those requiring potential mitigation would not be held during the EIS process, but that these discussions would be held during the permitting phase once a decision had been made to deploy the CIS and a site for the CIS had been selected. A summary of the comments obtained from the agencies are provided in the Scoping Report on MDA’s website: <https://www.mda.mil>. Informal meeting comments are not included in the Scoping Report.

In addition, meetings were held via teleconference with regulatory agencies following receipt of comments on the Draft EIS to discuss each agency’s comments and how the comments

would be incorporated into the Final EIS. Meetings were held with the USEPA and USFWS on the following dates:

- USEPA: August 22, 2016.
- USFWS: August 29, 2016.

ES.1.7 Public Review and Comment Period for Draft EIS

The Notice of Availability (NOA) for the Draft EIS was published in the Federal Register by MDA on May 31, 2016. The NOA announced that the Draft EIS was available for review, defined the 45-day public review period of June 3 to July 18, 2016, provided the website address where the Draft EIS was located, identified methods for which public comments could be submitted (email and U.S. mailing addresses provided), and announced the time, date, and locations of public meetings.

The original 45-day comment period was extended by 30 days based on a request from the cooperating agencies. A notice of public comment period extension for the Draft EIS was published in the Federal Register on July 15, 2016. The notice indicated the 30-day extension of the Draft EIS public comment period would end on August 17, 2016.

During this Draft EIS public comment period, public meetings were held at or near the following candidate site locations:

- FCTC Sites (FCTC Site 1 and FCTC Site 2): June 21, 2016, in Battle Creek, MI, and June 23, 2016, in Richland, MI.
- FTD Site: June 28, 2016, in Carthage, NY.
- CRJMTC Site: June 30, in Ravenna, OH.

During the comment period a total of 14,790 comment documents were received from the public and regulatory agencies. The relative breakdown of comment documents per site are summarized below:

- FCTC Site 1 and FCTC Site 2: 54 comment documents.
- CRJMTC Site: 250 comment documents.
- FTD Site: 7,507 comment documents.
- Generic (non-site-specific comments): 6,979 comment documents.

During the Draft EIS public comment period a large number of “petition” and “campaign” documents were received and were included in the overall total of comment documents. Although included in the overall count for the number of comment documents received, the “petition” documents were generally online and hardcopy documents that generally expressed opposition to the project; whereas “campaign” documents were site-specific documents in favor of the project which were received in various formats including signature documents,

online petitions (with and without specific comments) and letters of support. Only “campaign” and “petition” documents that provided comments specific to the EIS and/or environmental impacts were carried forward to be addressed.

The following is a summary of the number of documents received with comments that required addressing within the EIS:

- FCTC Site 1 and FCTC Site 2: 54 comment documents.
- CRJMTC Site: 250 comment documents.
- FTD Site: 227 comment documents.
- Generic: 20 comment documents.

The following is a summary of the number of comments that required addressing within the EIS:

- FCTC Site 1 and FCTC Site 2: 193 comments.
- CRJMTC Site: 1,533 comments.
- FTD Site: 843 comments.
- Generic: 388 comments.

A listing of the public and regulatory agency comments obtained as part of the Draft EIS public review period were documented in a Record of Comment Report and is included as an appendix to the EIS.

ES.2.0 Description of CIS Deployment Concept and Alternatives Considered

ES.2.1 Objective

As required by the 2013 NDAA, MDA prepared this EIS to evaluate locations in the CONUS best suited for potential deployment of an additional GBI site capable of protecting the homeland against threats from nations such as North Korea and Iran. Per the NDAA, at least two of these locations considered shall be on the East Coast of the U.S.

The potential CIS, if deployed, would extend the existing GMD element of the BMDS. Potential CIS deployment locations considered in the EIS are: Fort Custer Training Center FCTC, Michigan; CRJMTTC, Ohio; and FTD, New York. As previously discussed, SERE East was also an alternative considered, but not carried forward. Consideration of FTD and SERE East fulfilled the NDAA requirement of considering two east coast locations. Additional information on SERE East is provided in Section ES.2.7.2.

ES.2.2 Ground Based Midcourse Defense (GMD)

The GMD element of the BMDS provides the capability to engage and destroy limited intermediate-range and long-range ballistic missile threats in space. GMD employs integrated communications networks, fire control systems, globally deployed sensors and GBIs capable of detecting, tracking, and destroying limited ballistic missile threats.

The Kill Vehicle (KV) is a sensor/propulsion package on the GBI using the kinetic energy from a direct hit to destroy the incoming threat missile by kinetic force. A simple analogy is a “bullet hitting a bullet.” The KV does not have an explosive warhead and solely relies on kinetic energy to destroy a threat. A notional schematic of the interceptor is shown in Figure ES-2.

Figure ES-2 Notional Interceptor Schematic



ES.2.3 Ground-Based Midcourse Defense Concept and Facilities

The concept for deployment is based on two previously deployed GMD systems, one located at Fort Greely, AK, and one at Vandenberg AFB, CA. The CIS would primarily consist of mission facilities (those required essential/critical for launch or system operation) and mission support facilities (those not required for launch or operate the system, but required for sustainment, training, safety, and security). A tabular summary of the mission facilities and mission support facilities is provided in Tables ES-1 and ES-2, respectively.

Table ES-1 CIS Mission Facilities Summary

Facility	Facility Requirements ¹
Ground-Based Interceptor (GBI) field	Up to 60 GBIs in up to 3 GBI fields
Mechanical/Electrical Building (MEB)	One 11,800-square foot (sq. ft.) structure for each GBI field
Readiness & Communication Facility (R&CF) (Primary and Back-up)	30,000 sq. ft. primary; 21,000 sq. ft. secondary; each with a satellite communication (SATCOM) antenna dish and terminal equipment
In-flight Interceptor Communication System Data Terminal (IDT)	Two 4,200 sq. ft. structures expandable up to three IDTs; includes radome, 20 ft. anemometer tower, equipment, and mechanical room
Power Plant ²	24,000 sq. ft. structure for diesel generators
Critical Infrastructure	Communication duct bank, electrical duct banks potable water, fire protection water, and sanitary sewer
1. Facility size is approximate. Facilities would be separated in accordance with DoD safety and security requirements.	

Table ES-2 CIS Mission Support Facilities Summary

Facility	Facility Requirements (Approximate Size)¹
Missile Assembly Building (MAB)	40,000 sq. ft.
Interceptor Storage Facility (ISF)	Up to six structures at 4,000 sq. ft.
KV Fuel/Oxidizer Storage Facilities	Two structures at approximately 1,000 sq. ft. each
Explosive Storage Components Facility	2,000 sq. ft.
Security Control Facility (SCF)	18,000 sq. ft.
High Explosive Storage Magazine	200 sq. ft.
Ammunition and Explosives Storage Magazine	300 sq. ft.
Entry Control Facility (ECF)	5,000 sq. ft.
Maintenance Support Facility (MSF)	25,000 sq. ft.
IDT Support Facility (ISFAC)	4,000 sq. ft. structure
Power Substation Building and Complex	Size would be determined during design process
Fuel Storage	Three 30,000-gallon above-ground storage tanks (ASTs) on a 2,500 sq. ft. concrete pad
Fuel Unloading Facility	2,500 sq. ft.
Wastewater Treatment	Dependent on existing infrastructure
Water Supply Building	Sized to support approximately 300 personnel
Fire Station	8,500 sq. ft.
Administrative and Logistics Facility (A&LF)	50,000 sq. ft.
Infrastructure	Water, sewer, electrical, communications
1. Facility size is approximate. Facilities would be separated in accordance with DoD safety and security requirements.	

In addition to mission and mission support facilities, non-mission facilities may be required for the CIS. Non-mission support facilities, including life support facilities, are provided to host equipment or systems not required to operate or sustain the CIS but to enhance CIS operations. Non-mission requirements would vary depending upon the site selected and a variety of other factors. Many non-mission facility requirements could be fulfilled by existing facilities already available at or near the host installation. Non-mission facilities could include facilities above and beyond the mission and mission support facilities including warehouse and bulk storage, vehicle storage and maintenance, hazardous materials/waste storage, and roads and parking. Life support facilities could include barracks, unaccompanied officers' quarters, dining facility, recreation facility, administrative offices, vehicle maintenance and fueling, and general warehouse storage.

ES.2.4 Assessment of Alternative Activities

Alternative assessments for this EIS were conducted for the following CIS activities: construction, operations, and decommissioning and disposal as described in the following subsections.

ES.2.4.1 Construction

The CIS, if deployed, would be achieved by constructing mission, mission support, and non-mission facilities as described in Section ES.2.3 for up to 60 GBIs total distributed in up to three missile fields.

For the potential deployment of the CIS, two construction schedule scenarios were developed and evaluated: a baseline (5-year) construction schedule and an expedited (3-year) construction schedule. The 5-year baseline schedule evaluated is an “accelerated” schedule for implementing the construction activities; whereas, the 3-year expedited schedule was evaluated based on the 2016 NDAA in which Congress included a requirement to develop a plan to expedite the potential CIS deployment by at least 2 years. High-level summary construction baseline and expedited schedules are shown in Tables ES-3 and ES-4, respectively. The activities shown in these schedules primarily focus on efforts that may be completed during each period; although, some construction activities may not be confined to a specific period. In addition to activities and assumed implementation durations, the number of estimated workers that may be onsite during each of the projected periods is listed in the schedule tables. As part of the design activities a detailed construction schedule would be prepared to provide further definition of specific construction activities.

Table ES-3 Baseline Summary Level 5-Year Construction Schedule

Primary Activities	Year	Duration	Workers/Day⁽¹⁾
Design, Permitting, and Tree Clearing	Year 1	12 months	100
Site Preparation (site clearing, cut and fill, site grading, etc.)	Year 2	12 months	400
Heavy/Intrusive (Foundations, concrete, buildings, silo installations, etc.)	Year 3-4	24 months	600
Site Build-out	Year 5	12 months	400
1. Assumes one 10-hour shift, 6 days per week.			

Table ES-4 Expedited Summary Level 3-Year Construction Schedule

Primary Activities	Months	Duration	Worker/Shift⁽¹⁾	Workers/Day⁽¹⁾
Design, Permitting, and Tree Clearing	Months 1-7	7 months	100	200
Site Preparation (site clearing, cut and fill, site grading, etc.)	Months 8-14	7 months	400	800
Heavy/Intrusive (foundations, concrete, buildings, silo installations, etc.)	Months 15-29	15 months	600	1200
Site Build-out	Months 30-36	7 months	400	800
1. Assumes two 10-hour shifts, 7 days per week. A 2-hour transition period between shifts assumed for traffic flow considerations.				

ES.2.4.2 Operation

Operations at the CIS would include maintenance of facilities, equipment, and GBIs to ensure system operational readiness. There would be no flight testing of the GBIs at the CIS; however, the system could participate in ground tests and system simulation exercises. Launches would occur only in defense of the Nation.

Operation considerations defined and evaluated in the EIS included the following:

- GBI transportation, assembly, and integration activities (applies to both construction and operation activities).
- Hazardous materials and hazardous waste management.
- Safety systems.
- Explosive safety quantity distances.
- Electromagnetic radiation safety distances.
- Fire protection.
- Security.
- Snow removal.

Should a deployment decision be made, the total site related employment based on similar sites would be 650 to 850 military, civilian and contractor support maintenance personnel.

ES.2.4.3 Decommissioning and Disposal

Decommissioning would involve planning for the final demilitarization and disposal of the BMDS components and support assets no longer needed for the BMDS. In general, decommissioning and disposal activities for the CIS would occur when the components reach the end of their effective service life, when technological advances render them obsolete, or

when changes to the threat environment render them unnecessary at a location. However, because the specific details of service time for decommission and disposal activities are unknown or not well defined at the time of this EIS, specific activities related to decommissioning and disposal would be addressed in detail in supplemental NEPA documents (e.g., Environmental Assessment (EA) and or EIS) when the specific need for decommissioning and disposal of the CIS facility is determined. Therefore, no detailed evaluation/assessment of potentially affected resources during decommissioning is provided in this EIS.

ES.2.5 CIS Deployment Alternatives

The initial CIS deployment alternatives included the following:

- FCTC Site 1 and FCTC Site 2, Fort Custer, MI.
- CRJMTTC Site, Ravenna, OH.
- FTD Site, Fort Drum, NY.
- SERE East Site, near Rangeley, ME.

Throughout the EIS, the site layouts were developed and refined and attempts were made to avoid environmental impacts to the maximum extent practicable, especially those related to biological resources, water resources (streams), and wetlands. It is anticipated that if a decision is made to deploy the CIS then MDA will work closely with USACE, USFWS, and the host installation to revise the site design, consistent with mission objectives, to minimize impacts to the greatest extent practicable.

There are differences in acreage among the sites which result from siting the missile defense complex and associated mission support facilities to maximize operational effectiveness and minimize environmental impacts.

For the CIS footprints, the following designations are used to define specific-areas by its function:

- CIS footprint. The CIS footprint includes the overall area within the candidate site locations that may be used or relates to direct functions of the CIS. The CIS footprint consists of the following sub-areas: missile defense complex, mission support area, and keep-out area. Therefore the total acreages defined throughout the EIS document for the CIS footprint includes the compilation of the acreages from these three areas. With the exception of the “keep out area”, it has been assumed that the areas within the CIS footprint would be completely cleared of vegetation and graded to provide a level surface for the CIS facilities and required infrastructure.
- Missile Defense Complex. The missile defense complex consists of the area within the CIS footprint that primarily includes, but is not limited to, the CIS facilities defined in Table ES-1 of Section ES2.3. The area required for the missile defense complex would be

completely cleared of vegetation and graded to provide a level surface for the CIS facilities and required infrastructure.

- Mission Support Area. The mission support area consists of the area within the CIS footprint that primarily includes, but is not limited to, the CIS facilities defined in Table ES-2 of Section ES.2.3. The mission support area would be completely cleared of vegetation and graded to provide a level surface for the CIS facilities and required infrastructure.
- Keep Out Area. The keep out area represents a zone of potential exposure to hazards associated with an actual interceptor launch which would not occur during normal operations but only in the event of an interceptor launch. The keep out area is defined based on distance from the interceptor silos. It would not be necessary to clear, grade, or fence the keep out area. Inhabited buildings would not be located in the keep out area. If the CIS were deployed, the installation would conduct a risk analysis to identify institutional control measures appropriate to ensure safety in the event of an actual interceptor launch. Institutional controls might include signs or other visual or audible warnings. The acreages for the keep out areas are the difference between the total CIS footprint and the total acreages to be cleared.

With the exception of the SERE East site, the other sites were fully analyzed for affected environments, environmental consequences (potential impacts), and potential mitigation options for the potential deployment of the CIS. A summary of assessments is provided in Sections ES.3.3 through ES.3.6.

Although an initial analysis of the SERE East Site was completed for affected environment and environmental consequences, as discussed briefly in Section ES.2.7, this site was considered but was not carried forward and not fully analyzed as a potential CIS deployment alternative.

ES.2.6 No Action – Preferred Alternative

As required by the CEQ, the No Action Alternative was evaluated for the EIS. Under this alternative the MDA would not deploy or construct an additional CIS. A summary of the No Action Alternative is provided in Section ES.3.2.

ES.2.7 Alternatives Considered But Not Carried Forward

ES.2.7.1 Siting Study

The MDA initiated a Siting Study in accordance with MDA policies and processes to determine candidate locations for potential deployment of a CIS (MDA, 2014b). The siting process entailed sequential completion of five phases: requirements definition, area narrowing, screening (desktop evaluation), location evaluation, and documentation of the siting analysis.

The siting process initially identified 457 properties listed in the *2012 [DoD] Base Structure Report*, located within the 28-State Area of Consideration. An area narrowing process then excluded unsuitable sites from further consideration by applying five exclusionary criteria listed below resulting in 29 candidate locations (DoD, 2012):

- Location within performance region.
- DoD-controlled land.
- Special use land (set aside for special purposes).
- Parcel size (minimum of 1,093 acres).
- Useable land (minimum of 747 acres).

Screening criteria were then applied to the sites remaining after area narrowing to further reduce the number of candidate locations from 29 to 13 based on the following screening criteria:

- Quality of life: infrastructure, services support.
- Maximize separation distances to urban areas.
- Separation distances to airports (air corridors).
- SIVs/silo transportability.
- Interceptor transportability (airport to site).
- Mission incompatibility/special use land.
- Usable land/space.
- Constructability.
- Booster drop zone risk.
- System performance.

MDA rank-ordered the remaining 13 locations based on performance against the Warfighter's threat priorities. After consultation with Office of the Secretary of Defense (Policy), MDA selected the top five candidate locations based on performance, for comprehensive 'onsite' evaluations and inclusion in the CIS EIS: FCTC, Michigan; CRJMTC, Ohio; FTD, New York; SERE East, Maine; and Ethan Allen Training Site, Vermont.

Following site visits, the Ethan Allen Training site was eliminated from further consideration and evaluation as part of the EIS due to mission incompatibility (insufficient useable land/space to accommodate the CIS and continue Ethan Allen's training mission).

ES.2.7.2 SERE East Site

The SERE East site met all the screening criteria including mission compatibility based on information available during the Siting Study. Therefore, it was carried forward as a candidate site for evaluation in the EIS. Extensive field studies and surveys were completed in support of the EIS at the remaining four candidate locations, including the SERE East site. Following

completion and review of the field studies and surveys and initial evaluation of environmental impacts, the MDA designated the SERE East site as an “Alternative Considered, but Not Carried Forward.” The SERE East Site presented unmitigable resource impacts (for at least 7 of 16 resources assessed), significant constructability concerns, and extensive costs associated with developing infrastructure in a remote area (MDA, 2016b).

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ES.3.0 Affected Environment, Environmental Consequences, Impacts, and Mitigation Options

ES.3.1 Introduction

For each candidate site, an evaluation of the affected environment was conducted followed by an analysis of environmental consequences and mitigation options. Because there is no DoD proposal or decision to deploy a CIS, only recommended mitigation options and no formal consultations were conducted with regulatory agencies. Formal regulatory agencies consultations and the determination of specific mitigation options to be implemented would be determined during the permitting phase, if a future decision to deploy is made.

The evaluation of the affected environment for each of the candidate sites and each respective resource is summarized in the following sections. The potential CIS deployment concept was then applied to each candidate site location to analyze the environmental consequences, impacts, and mitigation options, as identified. A comparative summary table of the impacts and potential mitigation options to address impacts is provided following the summary of affected environment for all the candidate sites.

Potential environmental impacts are categorized as negligible, minor, moderate, and major. Negligible, minor, and moderate impacts would not be considered significant; however, some major impacts could be considered significant and are identified in the discussion of specific resources.

ES.3.2 No Action Alternative – Preferred Alternative

As required by the CEQ, the No Action Alternative was evaluated for the EIS. Under this alternative the MDA would not deploy or construct an additional CIS. Because no deployment (construction, operation, or decommissioning/disposal) activities would be conducted under the No Action Alternatives, no impacts would occur and no mitigations would be required. Due to the lack of impacts and potential mitigation options for the No Action Alternative, the No Action Alternative has not been provided in the comparative summary table for the candidate site alternatives (end of Section ES.3.0). Because MDA has no current proposal or direction to deploy a CIS, its preferred alternative is the No Action Alternative.

ES.3.3 FCTC Sites (FCTC Site 1 and FCTC Site 2)

The FCTC installation has two potential candidate sites, FCTC Site 1 and FCTC Site 2, for the potential deployment of the CIS. This section provides a description of both of the candidate sites and a summary of the affected environment, by resources evaluated. Because some of the descriptive information for affected environment is similar for both sites, a detailed summary of descriptive information is provided first for FCTC Site 1, and then it is

followed by a brief description of FCTC Site 2 that focuses primarily on differences between that site and FCTC Site 1.

FCTC Site 1

The potential FCTC Site 1 CIS footprint is located in both Kalamazoo and Calhoun Counties in Michigan. The area is shown for reference in Figure ES-3 (end of this section). The footprint consists of the following:

- Total CIS footprint acreage: approximately 1,147 acres.
- CIS footprint breakdowns by area: Missile Defense Complex-876 acres; Mission Support Area-85 acres, and Keep Out Area-186 acres.
- Acreage to be cleared (missile defense complex and missile support area): approximately 961 acres.

The CIS footprint at FCTC Site 1 would be one contiguous site. It is assumed that life support facilities, such as housing, would be provided in the local community near FCTC.

FCTC Site 2

The FCTC Site 2 footprint is located in Kalamazoo County in Michigan. The area for the potential CIS footprint for FCTC Site 2 is shown in Figure ES-4 (end of this Section). The footprint consists of the following:

- Total CIS footprint acreage: approximately 1,105 acres.
- CIS footprint breakdowns by area: Missile Defense Complex-848 acres; Mission Support Area-84 acres, and Keep Out Area-173 acres.
- Acreage to be cleared (missile defense complex and missile support area): approximately 932 acres.

Similar to FCTC Site 1, the potential CIS at the FCTC Site 2 would be one contiguous site, and it is assumed that life support facilities, such as housing, would be provided in the local community near FCTC.

ES.3.3.1 Affected Environment-FCTC Sites

Air Quality

FCTC Site 1

- FCTC Site 1 (Kalamazoo and Calhoun Counties) is partially (Kalamazoo County) in attainment and maintenance areas for ozone and criteria pollutants.
- Existing emission sources include facility heating boilers and furnaces, backup generators, and some fuel tank storage breathing/working losses.

- Based on low emissions from existing sources, FCTC is not required to obtain an air permit per Michigan Department of Environmental Quality air regulations.

FCTC Site 2

- Affected environment for air quality for FCTC Site 2 would be similar to those listed for FCTC Site 1, with the only exception that the entire FCTC Site 2 is in Kalamazoo County which is in attainment and maintenance areas for ozone and criteria pollutants.

Airspace

FCTC Site 1

- FCTC Site 1 is within airspace controlled by W.K. Kellogg Airport (unclassified airspace) and Kalamazoo/Battle Creek International Airport (Class D airspace).
- There are no special use airspace designations over the FCTC Site 1 footprint.
- Although not designated with specific airspace restrictions, there are several commercial and recreational activities that are currently conducted at W.K. Kellogg airport.
- There are major air traffic corridors that service Michigan (Detroit), Indiana, and Wisconsin, in addition to the Western Michigan Flight School at W.K. Kellogg Airport which is located within close vicinity of FCTC Site 1 (2 nautical miles from FCTC Site 1).

FCTC Site 2

- Airspace considerations for FCTC Site 2 are similar to those defined for FCTC Site 1, with the only exception being its location is further from W.K. Kellogg Airport (approximately 6 nautical miles from FCTC Site 2).

Biological Resources

FCTC Site 1

- Of the total estimated 1,147 acres in the FCTC Site 1 footprint, approximately 961 acres would be cleared and graded (83 forested acres, 3 shrubland acres, 231 herbaceous [grassland] acres, 643 woodland/shrubland acres, and 1 non-vegetated acre).
- The large number of plant species encountered at FCTC correlates to the diversity of upland and wetland habitats.
- Currently, no federally-listed species are known to exist at FCTC. No critical habitats occur within or adjacent to FCTC.
- A bald eagle's nest is 2,800 feet north of the FCTC Site 1 footprint.
- Although suitable forest habitat exists, based on 2014 and 2015 studies conducted for the EIS, no Indiana or northern long-eared bats (federally-listed species) were detected in the FCTC Site 1 footprint.

- Based on 2014 and 2015 studies conducted for the EIS, FCTC Site 1 contains suitable habitat for Mitchell's satyr (federally-listed butterfly species) and the copperbelly watersnake, but no individuals were observed in the FCTC Site 1 footprint.
- Although FCTC Site 1 contains suitable wetland habitat for the eastern massasauga rattlesnake and it has been documented on adjacent properties to FCTC (Fort Custer Recreation Area and Hart's Lake), to date this species has not been documented to occur at FCTC.
- Wetlands at FCTC Site 1 are generally not suitable habitat for rare or protected fen species.

FCTC Site 2

- Of the total estimated 1,105 acres in the FCTC Site 2 footprint, approximately 932 acres would be cleared and graded (179 forested acres, 1 shrubland acres, 9 herbaceous (grassland) acres, 740 woodland/shrubland acres, and 3 non-vegetated acres). Similar to FCTC Site 1, there are suitable habitats for the Indiana and northern long-eared bats, the Mitchell's satyr butterfly, the copperbelly watersnake, and the eastern massasauga rattlesnake in the FCTC Site 2 footprint. However, none of these federally-listed species were detected in the FCTC 2 footprint during the 2014 and 2015 studies conducted for the EIS and their presence has not been documented to date.
- Wildlife within FCTC Site 1 and FCTC Site 2 would be similar, with the exception that grassland species would not be expected to occur in FCTC Site 2 or would only be present in limited occurrence.
- Wetlands at Site 2 include some low quality, but slightly higher quality, fens than FCTC Site 1.

Cultural Resources

No historic (archeological, architectural, or tribal) properties were identified within the Area of Potential Effects (APE) for the FCTC Site 1 or FCTC Site 2 footprints.

Environmental Justice

Environmental justice considerations for FCTC Site 1 and FCTC Site 2 would be similar and are described as follows:

- **Minority Populations:** The area within the vicinity of FCTC Site 1 would not qualify as a minority area, because minorities range between 15 to 20 percent of area population, which is less than the 50 percent of the population to qualify.
- **Low-Income Areas:** No areas within the direct vicinity of FCTC Site 1 would qualify as a low-income area. The percentages of the population within the FCTC region with incomes below poverty levels are roughly equivalent to state averages.

- Community Health: Health risks for the region around FCTC have higher potential than the state as a whole.

Geology and Soils

FCTC Site 1

- Physiography and Topography: FCTC Site 1 consists of low hilly ridges with generally flatter plains between them.
- Soil: The surface geology (soil) consists of glacial outwash sands, gravel, and glacial till (dense clay).
- Bedrock: The bedrock consists primarily of sedimentary rock (shale and sandstone) at depths of 100-150 feet below ground surface (bgs).
- Groundwater: Groundwater at FCTC Site 1 is typically present at depths greater than 50 feet bgs (ranges from 10 feet and greater in the northern portion of FCTC Site 1 to 70 feet in southern portions of FCTC Site 1).
- Geologic Hazards: No geologic (seismic or floodplain) hazards were identified for the FCTC Site 1 footprint.

FCTC Site 2

- Physiography and Topography, Soil, Bedrock, and Geologic Hazards: Conditions at FCTC Site 2 are similar to FCTC Site 1 with the primary difference being that mucky silt and dense soil is closer to the surface, due to lower topography and shallower groundwater table.
- Groundwater: Groundwater at FCTC Site 2 is typically present at depths less than 50 feet bgs (ranged from near ground surface in the northern portion of FCTC Site 2 to 55 feet in the southern portions).

Hazardous Materials/Hazardous Waste

Hazardous materials/hazardous waste considerations for FCTC Site 1 and FCTC Site 2 would be similar and are described as follows:

- Hazardous Material:
 - FCTC uses products containing hazardous materials such as fuel oil and engine maintenance fluids; maintenance and cleaning products; and landscaping products.
 - Management of hazardous materials is implemented under site-specific plans including: a Pollution Incident Prevention Plan; Hazardous Material and Waste Management Plan; and Spill, Prevention, Control, and Countermeasures Plan. The implementation of these plans has been incorporated into a single document referred to as the Integrated Contingency Plan.

- Use and storage of hazardous materials are primarily provided in the cantonment area. No hazardous materials are currently being stored in the FCTC Site 1 or FCTC Site 2 footprints.
- Hazardous Waste:
 - FCTC has been identified as a small quantity hazardous waste generator by Resource Conservation Recovery Act (RCRA) regulations and requirements.
 - Management of hazardous waste is implemented under a site-specific Hazardous Material and Waste Management Plan.
 - No hazardous wastes are currently being stored within the FCTC Site 1 or FCTC Site 2 footprints.
- Installation Restoration Program (IRP). FCTC has instituted an IRP, but there are no areas of concern (AOCs) or impacts from AOCs within the FCTC Site 1 or FCTC Site 2 CIS footprints.

Health and Safety

FCTC Site 1

- On-base Safety:
 - Safety plans and procedures are in-place for current onsite training activities.
 - There is currently a 7.62 mm training range whose safety distance zone (SDZ) overlaps into the FCTC Site 1 footprint.
 - FCTC currently relies on offsite sources for emergency response systems including some firefighting capabilities at W.K. Kellogg Airport located adjacent to FCTC.
- Electromagnetic Radiation (EMR):
 - There are no EMR issues currently within the FCTC Site 1 footprint.
 - An EMR assessment conducted for the EIS indicated the potential CIS deployment would be compatible with existing conditions at and nearby the FCTC Site 1 footprint.
- Explosive Hazards:
 - There is no explosives storage within the FCTC Site 1 or FCTC Site 2 footprints.
 - A previous survey indicated there was a low risk from munitions of concern or unexploded ordinance within the FCTC Site 1 footprint.

FCTC Site 2

- With the exception that the 7.62 mm training range would not be present in the FCTC Site 2 footprint, all other health and safety considerations for FCTC Site 2 are similar to FCTC Site 1.

Land Use

Regional and site land use considerations for FCTC Site 1 and FCTC Site 2 would be similar and are described as follows:

- Regional Land Use: Areas surrounding FCTC have the following types of land use designations: North-federal land and recreational land use; East-light industry; South-light industry, commercial, and agricultural; and West-residential.
- Site Land Use: National Guard Training Center consisting of weapons ranges and training areas, land navigation courses, military operations training, urban terrain training sites, a leadership reaction course, and helicopter landing zones.
- Site Recreation: Permitted hunting, including deer hunting (fall) and turkey hunting (spring). Fishing is not allowed at FCTC.

Noise

Noise considerations for FCTC Site 1 and FCTC Site 2 would be similar are described as follows:

- Because no background or previous ambient noise data were identified for the potential FCTC Site 1 CIS footprint, a field noise survey was conducted as part of this EIS. The survey consisted of obtaining noise measurements from the closest noise receptor locations to the potential CIS footprint boundaries. The measurements obtained were used to: 1) determine day-night average (L_{dn}) sound levels; and 2) determine median background daytime and nighttime L_{90} sound levels.
- The average L_{dn} sound levels were used to assess current site conditions when compared to established U.S. Environmental Protection Agency (USEPA) (55 dBA) and National Guard (65 dBA) standards.
- The L_{90} sound levels, determined based on the median value of sound measurements that exceeded the average noise level for 90 percent of a given measurement period, represent background sounds levels without the influence of transient noise sources. The L_{90} sound levels were used in combination with estimated noise levels generated from the potential CIS construction and operation activities to analyze potential noise impacts to receptors.
- The observed sources and sound measurements/determinations obtained during the FCTC noise survey were as follows:
 - East of FCTC Sites:
 - The existing noise sources were observed to be from traffic and not from FCTC activities.
 - The measured average L_{dn} (71dBA) was above the USEPA and National Guard standards.
 - The median daytime and nighttime L_{90} levels were determined to be 56 dBA and 49 dBA, respectfully.

- West of FCTC Sites:
 - The existing noise sources were observed to be from traffic and aircraft flyovers and not from FCTC activities.
 - The measured average L_{dn} was above the USEPA standard, but below the National Guard standard.
 - The median daytime and nighttime L_{90} levels were both determined to be 46 dBA.
- North (Cantonment Area) of FCTC Sites:
 - The existing primary noise sources were not related to FCTC activities.
 - The measured average L_{dn} (58 dBA) was below the USEPA and National Guard standards.
 - The median daytime and nighttime L_{90} levels were determined to be 42 dBA and 37 dBA, respectfully.
- North (Fort Custer Recreation Area) of FCTC Sites:
 - The primary noise sources were not related to FCTC activities.
 - No measured average L_{dn} was obtained.
 - The median daytime and nighttime L_{90} levels were determined to be 39 dBA and 33 dBA, respectfully.

Socioeconomics

Socioeconomics considerations for FCTC Site 1 and FCTC Site 2 are similar and are described as follows:

- Population:
 - Region has been consistently growing.
 - Limited overall changes expected for future.
- Demographics:
 - Minorities comprise about 20 percent of area population.
 - Majority of population in active workforce range (15 to 64 years old).
- Employment:
 - Education services and health care and social assistance services have the highest employment percentages in area with manufacturing second highest.
 - Unemployment is lower/equal than regional, Michigan, and overall U.S. rates.
 - Based on numbers of construction workers and unemployment rates, an adequate workforce would be available to support a project with the scope of the potential CIS deployment.
- Income: Median household income slightly lower than state average.
- Housing: The percentages of households owned versus rented ranged from 64 to 70 percent.

- Education:
 - Well-established local school districts with charter and private schools and higher education are available in the immediate area.
 - More than half of the population has some college education or degree.
- Health: Local hospitals are available. Kalamazoo County ranked in the upper half of Michigan counties for addressing overall health concerns, while Calhoun County ranked in lower half for Michigan counties.
- Emergency Services: No lack of emergency services was identified in the area.
- Subsistence Living: No subsistence populations were identified in the area.
- Tax Revenues:
 - Local governments are financed through local tax sources.
 - Both Kalamazoo and Calhoun Counties were ranked as having high median property taxes for the U.S.

Transportation

General transportation considerations for FCTC Site 1 and FCTC Site 2 are similar and are described as follows:

- Heavy-haul oversized equipment would be transported by ship to Burns Harbor, IN, and then transported by truck via series of state and federal interstate highways deemed appropriate by an EIS transportation study.
- Although there are railroads nearby, there is no direct access to FCTC Site 1.
- W.K. Kellogg Airport is very close to FCTC Site 1 (approximately 2 nautical miles), whereas FCTC Site 2 is slightly farther away (approximately 6 nautical miles).
- Some existing roads and corridors are present at the site.

Specific transportation difference between FCTC Site 1 and FCTC Site 2 are defined below:

FCTC Site 1

- I-94 and associated business loops support traffic within the vicinity of FCTC Site 1. Currently modifications are underway for exit exchanges in the vicinity of FCTC Site 1.
- A regional road network is present to accommodate traffic within the vicinity of the FCTC Site 1. Current levels of service are generally acceptable; with a few exceptions (right turns off I-94 during peak traffic hour).

FCTC Site 2

- A regional road network is present to accommodate traffic within the vicinity of the FCTC Site 2. Current levels of service are all acceptable.

Utilities

With the exception of slightly different potential commercial utility service providers, utility considerations for FCTC Site 1 and FCTC Site 2 are similar and are as described as follows:

- Commercial utility services near the FCTC CIS footprints have the capacity needed for water, sanitary services, electricity, natural gas, and communications services (telephone and internet).
- A groundwater aquifer source is available within the vicinity of the FCTC CIS footprints which could satisfy potable and industrial water needs.

Water Resources

FCTC Site 1

- Watershed: Kalamazoo River Watershed.
- Surface Water: Other than the wetlands (approximately 11 acres), there are a few adjoining unnamed small tributaries, but no surface water bodies (e.g., lakes or ponds), present within the FCTC Site 1 footprint.
- Floodplain: The FCTC Site 1 footprint is not in the 500 year floodplain.
- Groundwater
 - Aquifers in the vicinity of the FCTC consist of glacial outwash and bedrock aquifers.
 - Groundwater depths at FCTC Site 1 are typically greater than 50 ft bgs.

FCTC Site 2

- Water resources for FCTC Site 2 are similar to those for FCTC Site 1, with the following differences:
 - Surface Water: Other than the wetlands (approximately 48 acres see below), there are a few adjoining unnamed small tributaries and ponds, but no major surface water bodies (lakes), present within the FCTC Site 2 footprint.
 - Groundwater: Groundwater depths within the FCTC Site 1 footprint were typically less than 50 ft bgs.

Wetlands

FCTC Site 1

- Based on wetland studies conducted for the EIS:
 - FCTC Site 1 has approximately 11 acres of wetlands within the CIS footprint that would be directly impacted.
 - The major wetland types in FCTC Site 1 consist of emergent and scrub-shrub.

- The FCTC Site 1 wetlands are generally more disturbed and of lower quality (no fens) than the FCTC Site 2 wetlands.
- Vegetation in wetlands includes some non-native and invasive species, contributing to lower quality rank.

FCTC Site 2

- Based on the wetland studies conducted for the EIS:
 - FCTC Site 2 has approximately 48 acres of wetlands within the CIS footprint that would be directly impacted and approximately 54 acres (within keep out areas and outside the CIS footprint but contiguous to the wetlands within the footprint) that would be indirectly impacted.
 - The major wetland types in FCTC Site 2 consist of emergent, forested, and scrub-shrub, and ponds.
 - Some FCTC Site 2 wetlands are part of a fen complex designated as a natural feature by the Michigan Natural Features Inventory; however, two of three fens at FCTC Site 2 were rated as poor quality.
 - Vegetation in wetlands includes some non-native and invasive species, contributing to lower quality rank.

Visual/Aesthetics

FCTC Site 1

- FCTC Site 1 is characterized by mature forest (approximately 2/3 of total acreage) with the remaining area cleared for training purposes.
- There are no recognized aesthetic or visual resources present within the FCTC Site 1 footprint. There are no views of the FCTC Site 1 footprint from the Territorial Road portion which is eligible for listing on the National Register of Historic Places (NRHP) due to heavy forest cover.
- The nearest edge of the FCTC Site 1 footprint could extend essentially to the eastern FCTC site boundary, but would not be visible due to heavy forestation (approximately 100-foot buffer).
- Lighting at night for FCTC is primarily concentrated at installation entrances and within the cantonment area.
- There is moderate lighting in the immediate vicinity of the FCTC installation from residential lighting, commercial businesses, and industrial properties to the east, northeast, and south of the FCTC installation.

FCTC Site 2

- Visual/aesthetics for FCTC Site 2 are similar to those defined for FCTC Site 1, with the exception of the following differences:
 - FCTC Site 2 is characterized by dense, mature forest (nearly covers total footprint acreage), interspersed with occasional wetlands and ponds.
 - A potentially sensitive area within the vicinity of FCTC Site 2 is Fort Custer Recreation Area. However, views are obscured by dense forest and distance.
 - The nearest edge of the FCTC Site 2 footprint is about 100 feet from nearest boundary, but not visible due to heavy forest.

ES.3.3.2 Environmental Consequences, Impacts, and Mitigation Options – FCTC Site 1 and Site 2

A summary of impacts and potential mitigation options for the potential CIS deployment at FCTC Site 1 and FCTC Site 2 are presented in Table ES-5 (Comparative Summary of Environmental Impacts and Mitigations for CIS Candidate Sites) provided at the end of this Executive Summary.

Figure ES-3 Fort Custer Training Center Site 1 CIS Footprint

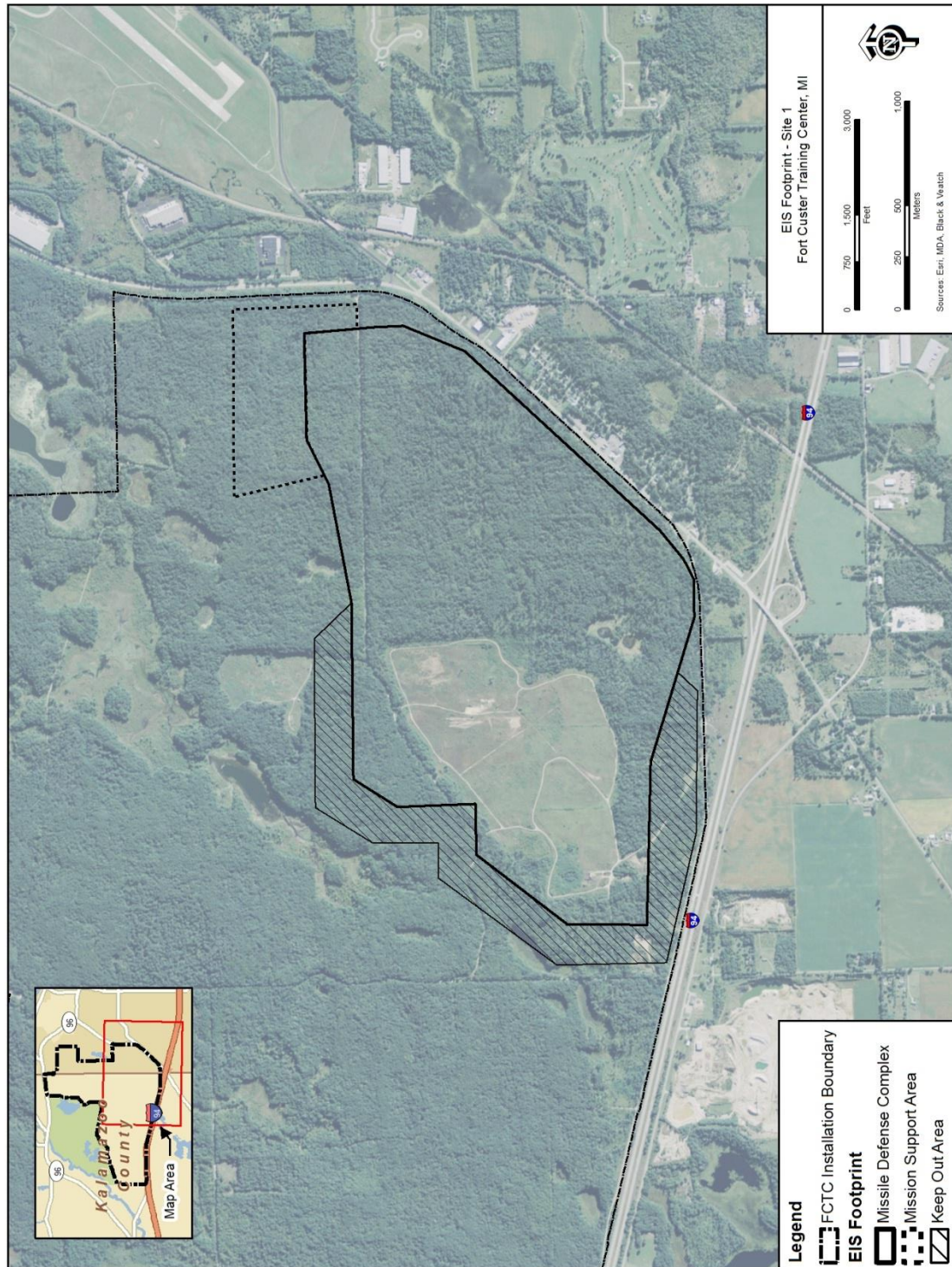
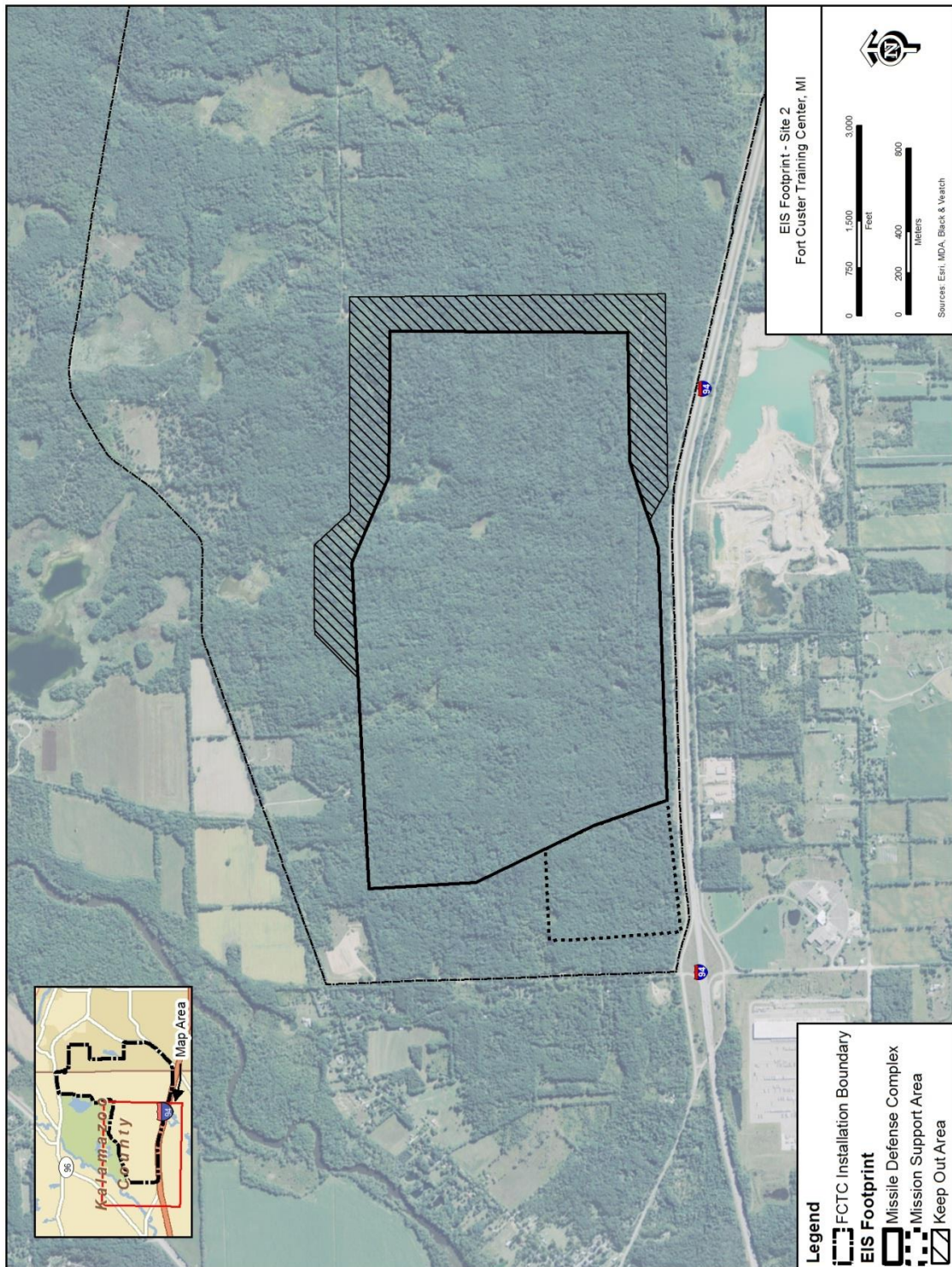


Figure ES-4 Fort Custer Training Center Site 2 CIS Footprint



ES.3.4 CRJMTTC Site

CRJMTTC is located in Portage and Trumbull Counties in Ohio. However, the CRJMTTC CIS footprint is located only in Portage County. The area for the potential CIS footprint for the CRJMTTC Site is shown in Figure ES-5. The footprint consists of the following:

- Total CIS footprint acreage: approximately 1,184 acres. CIS footprint breakdowns by area: Missile Defense Complex-901 acres; Mission Support Area-126 acres, and Keep Out Area-157 acres.
- Acreage to be cleared (missile defense complex and missile support area): approximately 1,027 acres.

The CIS at CRJMTTC would be one contiguous site. It is assumed that life support facilities, such as housing, etc., would be provided in the local community near CRJMTTC.

ES.3.4.1 Affected Environment

Air Quality

- The CRJMTTC CIS footprint is located in Portage County, OH, which is in a marginally non-attainment area for ozone.
- Existing sources include facility heating boilers and furnaces, backup generators, and some fuel tank storage breathing/working losses.
- Based on low emissions from existing sources and because of the “for heating purpose” categorization of several of the existing sources, CRJMTTC is not required to obtain an air permit per Ohio Environmental Protection Agency air regulations.

Airspace

- The airspace over the CRJMTTC CIS footprint is uncontrolled.
- There are no special use airspace designations over the CRJMTTC CIS footprint. A Notice to Airmen is issued to the local FAA office over the training areas when direct fire weapons up to 7.62 mm are being used for training.
- There are major air traffic corridors from Cleveland, OH to Pittsburg, PA, and other Pennsylvania cities within the vicinity of CRJMTTC and the CRJMTTC CIS footprint.
- The closest airport/field is Portage County Airfield (uncontrolled airspace, 9 nautical miles from the CRJMTTC CIS footprint). The closest controlled airspace airfield/airport is Youngstown-Warren Regional Airport (Class E airspace, 22 nautical miles from the CRJMTTC CIS footprint).

Biological Resources: The following is a summary of biological resources identified within and adjacent to the potential CRJMT C IS footprint:

- Of the total estimated 1,184 acres in the CRJMT C IS footprint, approximately 1,027 acres would be cleared and graded (548 forested acres, 251 shrubland acres, 200 herbaceous (grassland) acres, 2 evergreen plantation acres, and 26 landscaped acres).
- Currently, the only federally-listed species known to exist at CRJMT C, based on recent surveys (2015 and 2016), is the northern-long eared bat.
- A bald eagle's nest is located in a large wetland 1,300 feet southwest of the C IS footprint.
- Although suitable forest habitat exists, based on previous surveys (latest 2015 and 2016), Indiana bats (federally-listed species) were not detected in the CRJMT C IS footprint and is considered absent from CRJMT C.
- Although CRJMT C also contains suitable habitats for the eastern massasauga rattlesnake, Mitchell's satyr (federally-listed butterfly species), and northern monkshood, to date these species have not been documented to occur at CRJMT C.

Cultural Resources: Based on the CRJMT C EIS 2015 Phase 1 Archaeological Study and previous CRJMT C archaeological studies, no known historic properties (archaeological, architectural, or tribal) were identified within the CRJMT C APE, including relocation areas.

Environmental Justice

- **Minority Populations:** Minorities constitute between 8 to 11 percent of area population within the vicinity of the CRJMT C IS footprint, which is less than the 50 percent of the population to qualify as a minority area.
- **Low-Income Areas:** There are no areas within the direct vicinity of the CRJMT C IS footprint that would qualify as a low-income area. The percentage of the population within the CRJMT C region with income below poverty levels is equal to or slightly higher than the state averages.
- **Community Health:** Health risks for the region around CRJMT C are lower than the more heavily developed counties in the region, but have higher cancer and respiratory concerns risks than state percentiles.
- Although remedial activities have been implemented under an IRP, some health concern due to potential site contamination and AOCs at CRJMT C has been expressed by offsite residents.

Geology and Soils

- **Physiography and Topography:** The CRJMT C IS footprint consists of generally flat land, with occasional steep slopes.
- **Soil:** The primary water-bearing units in the C IS footprint consist of unconsolidated deposits of sandy lenses in glacial tills.

- Bedrock: Bedrock typically consists of sandstone underlain by shale. Weathered bedrock is typically encountered less than 25 feet bgs in the CRJMTTC CIS footprint.
- Groundwater: Groundwater in the vicinity of the CRJMTTC is present in unconsolidated glacial deposits and alluvium, and in bedrock units.
- Groundwater depth varies from less than 20 feet to greater than 50 feet bgs but is typically less than 20 ft bgs.
- Geologic Hazards: No geologic (seismic or floodplain) hazards were identified for the CRJMTTC Site.

Hazardous Materials/Hazardous Waste

- Hazardous Material:
 - CRJMTTC uses products containing hazardous materials such as fuel oil and engine maintenance fluids; maintenance and cleaning products; and landscaping products
 - Management of hazardous materials is implemented under site-specific plans including: a Pollution Prevention Plan, Hazardous Waste Management Plan, and Integrated Contingency Plan.
 - Use and storage of hazardous materials are primarily provided in the cantonment area. No hazardous materials are currently being stored in the CRJMTTC CIS footprint.
 - Demolition of several buildings within the CIS footprint would be required. Due to age, all painted surfaces have been assumed to contain lead. Polychlorinated biphenyls (PCBs) have also been identified in paint within the buildings on the facility. A formal lead based paint and PCB paint survey has not been conducted for all the buildings on the facility. Lead and PCB surveys and associated removals are conducted on an as-needed basis.
- Hazardous Waste:
 - For normal installation activities, CRJMTTC has been identified as a conditionally exempt small quantity hazardous waste generator by RCRA regulations and requirements.
 - Management of hazardous waste is implemented under a site-specific Hazardous Material and Waste Management Plan and Integrated Contingency Plan.
 - No hazardous wastes are currently being stored within the CRJMTTC CIS footprint.
- Installation Restoration Program:
 - An IRP has been established for CRJMTTC.
 - For IRP activities, CRJMTTC has a separate USEPA generator number and is a small quantity generator.

- A total of 23 AOCs are present within the CIS footprint including two facility-wide AOCs for groundwater and sewers. Eight of these AOCs have been closed-out. Soil remediation activities for the remaining 15 AOCs are ongoing and are scheduled to be completed, with no land use restrictions, within the 2016 to 2019 timeframe. Groundwater contamination is present beneath the CIS footprint and localized near a few AOCs. Monitoring is on-going. Investigations and remedial activities for the sewer are also on-going through 2019.

Health and Safety

- On-base Safety:
 - Safety plans and procedures are in-place for current onsite training activities.
 - A shoot house, hand grenade and demolition range, gas chamber training building, and the Regional Training Institute (RTI) Training Building are currently present in the potential CRJMTTC CIS footprint. Of these facilities, only the hand grenade and demolition range has an established surface danger zone (SDZ) to protect personnel.
 - Portions of George Road and Newton Falls Road cross keep out areas of the potential CRJMTTC CIS footprint.
 - CRJMTTC currently relies on offsite sources for emergency response services.
- Electromagnetic Radiation (EMR):
 - There are no EMR issues currently within the CRJMTTC CIS footprint.
 - An EMR environment assessment conducted for the EIS indicated the potential CIS deployment would be compatible with existing conditions at and nearby the CRJMTTC CIS footprint.
- Explosive Hazards:
 - There is no explosives storage within the CRJMTTC CIS footprint.
 - A hand grenade and demolition range is currently in the CRJMTTC CIS footprint.
 - A previous survey indicated there was a low risk from munitions of concern or unexploded ordinance within the CRJMTTC CIS footprint.

Land Use

- Regional Land Use: Areas surrounding CRJMTTC have the following types of land use zones: agricultural, rural residential, some commercial, and some industry.
- Site Land Use: Currently used for both mounted and dismounted tactical training. Mounted training includes a vehicle driving course, tracked vehicle training, a wheeled vehicle convoy course, and night vision driving. Dismounted training includes small unit infantry tactics, reconnaissance, terrain and map analysis, escape and evasion tactics, infiltration tactics, land navigation, and patrolling. Additional training includes improvised explosive device and ambush lanes training, horizontal engineering

equipment training, weapons qualification training, military operations on urban terrain training, disaster response training, and rotary and fixing wing aviation training.

- Site Recreation: Controlled permitted deer hunting, trapping, and employee fishing are allowed at CRJMTC. Hunting is prohibited in the AOCs.

Noise

- Because no background or previous ambient noise data were identified for the potential CRJMTC CIS footprint, a field noise survey was conducted as part of this EIS. The survey consisted of obtaining noise measurements from the closest noise receptor locations to the potential CIS footprint boundaries. The measurements obtained were used to: 1) determine a day-night average sound levels (L_{dn}); and 2) determine median background daytime and nighttime L_{90} sound levels.
- The average L_{dn} sound levels were used to assess current site conditions when compared to established USEPA (55 dBA) and National Guard (65 dBA) standards.
- The L_{90} sound levels, determined based on the median value of sound measurements that exceeded the average noise level for 90 percent of a given measurement period, represent background sounds levels without the influence of transient noise sources. The L_{90} sound levels were used in combination with estimated noise levels generated from the potential CIS construction and operation activities to analyze potential noise impacts to receptor.
- The observed sources and sound measurements/determinations obtained during the CRJMTC noise survey were as follows:
 - Southeast of the CRJMTC footprint:
 - The existing noise sources were observed to be from road and rail traffic and not from CRJMTC activities.
 - The measured average L_{dn} (57 dBA) was above the USEPA standard, but below and National Guard standard.
 - The median daytime and nighttime L_{90} levels were determined to be 42 dBA and 30 dBA, respectfully.
 - Southwest of the CRJMTC footprint:
 - The existing noise sources were observed to be from traffic and aircraft flyovers and not from CRJMTC activities.
 - The measured average L_{dn} (54 dBA) was below the USEPA and National Guard standards.
 - The median daytime and nighttime L_{90} levels were determined to be 40 dBA and 32 dBA, respectfully.

- Far West of the CRJMTC footprint:
 - The primary noise sources were not related to CRJMTC activities.
 - The measured average L_{dn} (53 dBA) was below the USEPA and National Guard standards.
 - The median daytime and nighttime L_{90} levels were determined to be 42 dBA and 37 dBA, respectfully.

Socioeconomics

- Population: Expected to decrease from 2020 going forward (approximately less than 10 percent for area).
- Demographics: Few minority ethnicities.
- Employment:
 - Highest employment percentages were for trade, transportation, and utilities while manufacturing was second highest.
 - Based on the numbers of construction workers and unemployment rates, an adequate workforce would be available to support a project with the scope of the potential CIS deployment.
- Income: Solid median household income (incomes above state average).
- Housing: Low amount of vacant housing in the area (less than 10 percent).
- Education:
 - Well-established local school districts with higher education available.
 - Approximately half of the population has some college education or degree.
- Health: Local hospitals are available. Portage County ranked in upper half of Ohio counties for addressing overall health concerns, while Trumbull County was ranked in lower half for Ohio counties.
- Emergency Services: No lack of emergency services was identified in the area.
- Subsistence Living: No subsistence populations were identified in the area.
- Tax Revenues:
 - Local governments are financed through local tax sources.
 - Both Portage and Trumbull counties were ranked as having high median property taxes for the U.S.

Transportation

- Heavy-haul oversized equipment would be transported by ship to Port of Cleveland, OH, and then transported by truck via a series of state and federal highways deemed appropriate by a transportation study.
- A regional road network is present to accommodate traffic within the vicinity of the CRJMTTC Site. Current level of service is acceptable, although some routes have less than preferred levels during peak traffic hours.
- CRJMTTC has an active rail spur within the east side of the installation.
- Akron-Canton Regional Airport (40 miles) and Youngstown Air Reserve Station (23 miles) can accommodate CRJMTTC air transportation needs.
- Some existing roads and corridors are present at the site.

Utilities

- Commercial services near the CRJMTTC CIS footprint have the capacity needed for water, sanitary services, electricity, natural gas, and communications services (telephone and internet).
- New high-capacity water service and sanitary sewer lines have been installed and would be available for the CIS.
- A groundwater source is available to provide potable and industrial water needs. However, contaminated groundwater is present near several of the AOCs within the CRJMTTC CIS footprint and placement of any wells for potable or industrial uses would have to be made carefully.

Water Resources

- Watershed: The CRJMTTC CIS footprint is located within the Upper Mahoning River Watershed.
- Surface Water: Several ponds and wetlands are present within the CRJMTTC CIS footprint. In addition to ponds and wetlands, there are several unnamed tributaries within the CRJMTTC CIS footprint (approximately 5.2 miles) that flow into named creeks located on the CRJMTTC (Sand Creek, Hinkley Creek) that then flow into offsite surface water bodies (Kirwin Reservoir and West Branch Mahoning River).
- Floodplain: The majority of the CRJMTTC CIS footprint is not in the 500-year floodplain, with only a small area in the Keep Out Area (not to be cleared or used for facilities) being located in the 100-year floodplain

- Groundwater:
 - Aquifers in the vicinity of the CRJMTTC CIS footprint consist of unconsolidated glacial deposit/alluvium and bedrock aquifers.
 - The primary water-bearing units in the CRJMTTC CIS footprint consist of unconsolidated deposits of sandy lenses in glacial tills (associated with various surface drainages) and Homewood Sandstone consisting of coarse to fine-grained clay-bonded sandstone with thin shale lenses.
 - Groundwater: Groundwater depth varies from less than 20 feet bgs to in the northern portion of the CRJMTTC CIS footprint to greater than 50 feet bgs in the southern part of the CRJMTTC CIS footprint.

Wetlands

Based on wetland studies conducted for the EIS (study area of approximately 2,080 acres):

- For the CRJMTTC CIS footprint, approximately 19.3 acres of directly impacted wetlands were identified consisting of: 11.16 acres classified by the Ohio Rapid Assessment Method as Category 3 (high quality) wetlands, 7.56 acres of Category 2 or Modified Category 2 wetlands, and 0.6 acres of Category 1 (lowest quality) wetlands. An estimated total of 1 acre of wetlands (within keep out areas and outside the CIS footprint) would be indirectly impacted.
- Higher quality-plant species were documented in several Category 3 wetlands (one of the Category 3 wetlands adjacent to the CRJMTTC CIS footprint contains a bald eagle nest).
- Vegetation in some of the wetlands includes non-native and invasive species, contributing to lower quality rank.

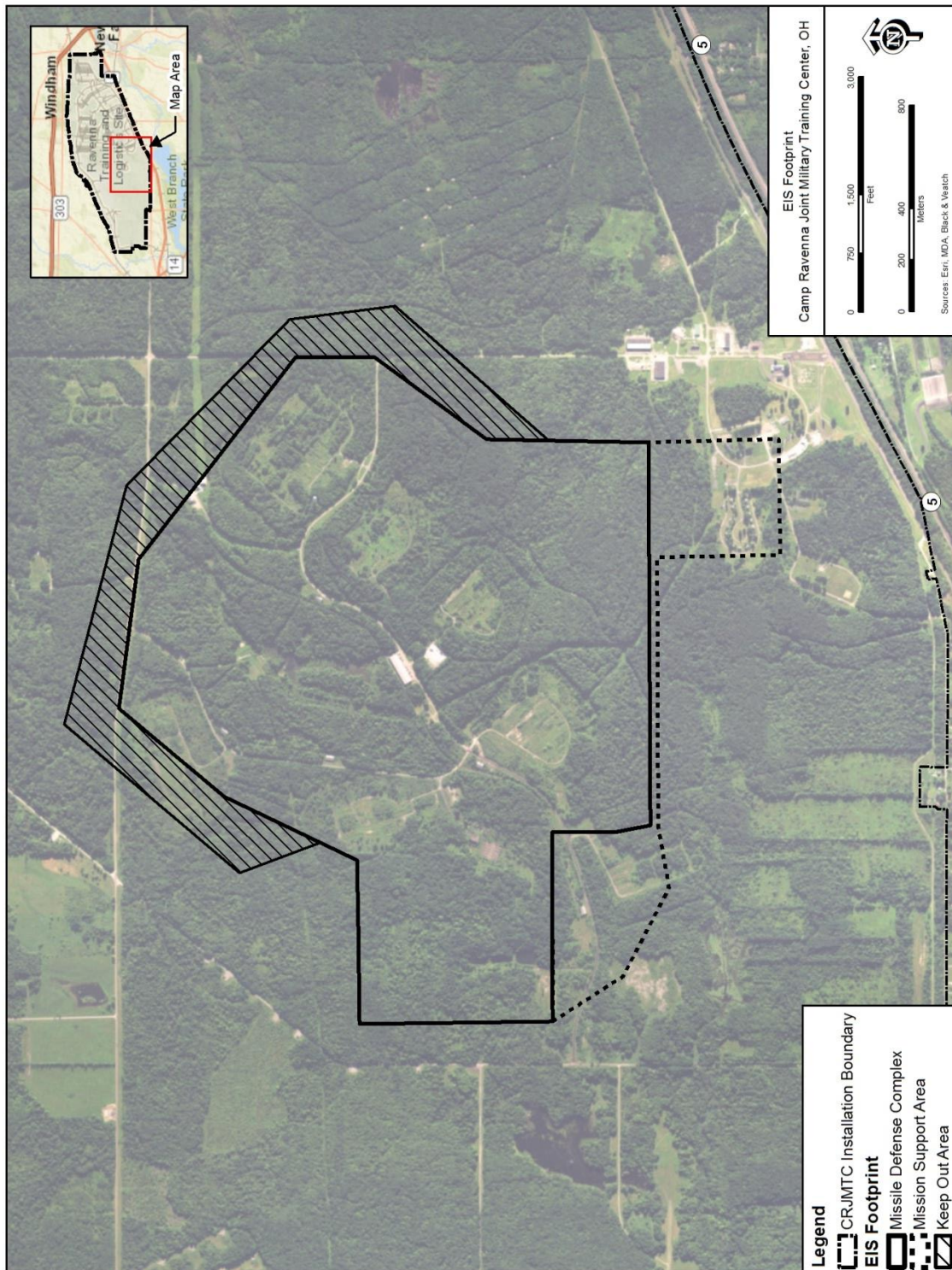
Visual/Aesthetics

- CRJMTTC CIS footprint is characterized by a rural unmaintained area with some evidence of former development and limited military infrastructure.
- The CRJMTTC CIS footprint is not visible from a stone arch bridge which is eligible for listing on the NRHP.
- A potentially sensitive area within the vicinity of the CRJMTTC CIS footprint is West Branch State Park, located to the south and opposite side of State Route 5.
- Lighting at night for CRJMTTC is primarily concentrated at installation entrances and within the cantonment area.
- There is little residential lighting in the immediate CRJMTTC vicinity.

ES.3.4.2 Environmental Consequences, Impacts, and Mitigation Options-CRJMTTC

A summary of impacts and potential mitigation options for the potential CIS deployment at CIS is presented in Table ES-5 (Comparative Summary of Environmental Impacts and Mitigations for CIS Candidate Sites) provided at the end of this Executive Summary.

Figure ES-5 Camp Ravenna Joint Military Training Center CIS Footprint



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ES.3.5 FTD Site

FTD is located in Lewis and Jefferson Counties in New York. The area for the potential CIS footprint for the FTD Site is shown in Figure ES-6 and is located only in Jefferson County, New York. The footprint consists of the following:

- Total CIS footprint acreage: approximately 1,200 acres.
- CIS footprint breakdowns by area: Missile Defense Complex-865 acres; Mission Support Area-112 acres, and Keep Out Area-223 acres.
- Acreage to be cleared (missile defense complex and missile support area): approximately 977 acres.

The CIS at FTD would be provided as one contiguous site. It has also been assumed that life support facilities, such as housing, would be provided at locations within FTD or within the local community near FTD.

ES.3.5.1 Affected Environment-FTD Site

Air Quality

- The FTD area footprint is located in Jefferson County, NY. Jefferson County is in a non-attainment area for ozone.
- Existing sources include facility heating boilers and furnaces, paint booths, and fuel storage tanks. FTD has a Title V permit for existing sources from the New York Department of Environmental Conservation.

Airspace

- The FTD CIS footprint is located within airspace controlled by Wheeler-Sacks Army Airfield (Class D airspace) and Watertown International Airport (Class E airspace).
- The airspace directly over the FTD CIS footprint is currently listed as restricted airspace for military operations associated with Fort Drum. There are also several military operations areas within the vicinity of Fort Drum.
- There is a major air traffic corridor from New York to Toronto within the general vicinity of FTD, but not in the direct airspace over FTD due to the restricted/controlled airspace.

Biological Resources

- Of the total estimated 1,200 acres in the FTD CIS footprint, 977 acres would be cleared and graded 523 forested acres, 14 shrubland acres, 256 herbaceous (grassland) acres, 146 evergreen plantation acres, 18 landscaped acres, and 20 non-vegetated acres).
- The northern long-eared bat (federally-listed) has been previously detected within the FTD CIS footprint, but none have been captured since 2011, although acoustic detections

have occurred, and no known bat roost trees or hibernacula have been identified in the FTD CIS footprint.

- The Indiana bat (federally-listed) is present at FTD in the Cantonment Area and Training Areas 3 and 4 where a Bat Conservation Area has been established. The Indiana bat is not known to roost or forage in the CIS footprint. The nearest known Indiana bat hibernaculum (winter refuge cave) is outside of FTD, approximately 5 miles from the CIS footprint.

Cultural Resources

- Based on an EIS Phase 1 survey and previous surveys at FTD, several historic properties may be present within the FTD CIS footprint. All are archaeological sites (prehistoric and historic).
- These sites would require additional investigation to determine eligibility for listing in the NRHP if FTD is selected for CIS deployment.
- Due to a change in the CIS footprint (consolidation of two sites into one at FTD), approximately 340 acres remain unsurveyed.

Environmental Justice

- Minority Populations: The area within the vicinity of the FTD CIS footprint would not qualify as a minority area, because minorities range between 3 to 12 percent of area population, which is less than the 50 percent of the population to qualify.
- Low-Income Areas: There are no areas within the direct vicinity of the FTD CIS footprint that would qualify as a low-income area. The percentage of the FTD population with incomes below poverty levels is roughly equivalent to or slightly higher than state averages.
- Community Health: There are limited health issues (lower potential health risk) and/or the presence of contamination that may affect community health (including children's health) within the vicinity of the FTD.

Geology and Soils

- Physiography and Topography: The FTD CIS footprint consists of low plains with streams and erosion channels to provide run-off pathways for surface water.
- Soil: The soil and water-bearing materials from 0 to 100 feet bgs on the western side of the FTD CIS footprint consist of sands, silt, dense till comprised of gravel, cobbles, sand, and silt. Similar soil was identified on the eastern side of the footprint although bedrock is present at several locations from 60 to 90 feet bgs.
- Bedrock: In a recent geologic investigation for the CIS, bedrock was not encountered to 100 feet bgs in the western portion of the FTD CIS footprint; however bedrock consisting

of limestone and gneiss was identified at depths ranging from 60 to 90 feet bgs at several locations on the eastern portion of the FTD CIS footprint.

- Groundwater: Groundwater in the vicinity of the FTD CIS footprint consists of both water table aquifers and as an artesian aquifer system. Subsurface water-bearing units are first encountered in the FTD CIS footprint at depths less than 20 feet bgs.
- Geologic Hazards: No geologic (seismic or floodplain) hazards were identified within the FTD CIS footprint.

Hazardous Materials/Hazardous Waste

- Hazardous Material:
 - FTD uses products containing hazardous materials such as fuel oil and engine maintenance fluids; maintenance and cleaning products; and landscaping products.
 - Management of hazardous materials is implemented under site-specific programs and plans including a Hazardous Materials Control Point program; Spill, Prevention, Control and Countermeasures Plan; and an Installation Spill Contingency Plan.
 - No hazardous materials are currently being stored in the FTD CIS footprint.
- Hazardous Waste:
 - FTD has been identified as a large quantity hazardous waste generator by RCRA regulations and requirements.
 - Management of hazardous waste is implemented under a site-specific Hazardous Waste Management Plan.
 - No hazardous wastes are currently being stored or managed within the FTD CIS footprint.
- Installation Restoration Program:
 - FTD instituted an IRP.
 - The IRP at FTD addresses some AOCs, soil and groundwater contamination, primarily in locations of previous spills in the FTD cantonment area (approximately 5 miles from the FTD CIS footprint).
 - No AOCs or impacts from the AOCs have been identified within FTD CIS footprint.

Health and Safety

- On-base Safety:
 - Safety plans and procedures are in-place for current onsite training (light maneuver training) activities.
 - FTD currently relies on offsite sources for emergency response systems, although some firefighting capabilities are present at Wheeler Sack Army Airfield.

- Electromagnetic Radiation (EMR):
 - There are no EMR issues currently within the FTD CIS footprint.
 - An EMR environment assessment conducted for the EIS indicated the potential CIS deployment would be compatible with existing conditions at and nearby the FTD CIS footprint.
- Explosive Hazards:
 - There is no explosives storage within the FTD CIS footprint.
 - A previous survey indicated there was a low risk from munitions of concern or unexploded ordinance within the FTD CIS footprint.

Land Use

- Regional Land Use: Areas surrounding FTD have the following types of land use: agricultural, residential (surrounding towns and villages), and numerous state forests, forest preserves, and wildlife management areas.
- Site Land Use: FTD is divided into five functional areas: North Post, South Post, Residential Area, Airfield Area, and Range Area (majority of total area). Post areas contain the Cantonment Area, soldier housing, installation and administrative support services, commercial districts, and recreational areas. The FTD CIS footprint is within the Range Area.
- Site Recreation: Permitted hunting, fishing, trapping, and camping are allowed in the Range Area of FTD. Within the FTD CIS footprint, hunting, cold water angling, and hiking are allowed.

Noise

- Because no background or previous ambient noise data were identified for the potential FTD CIS footprint, a field noise survey was conducted as part of this EIS. The survey consisted of obtaining noise measurements from the closest noise receptor locations to the potential CIS footprint boundaries. The measurements obtained were used to:
 - 1) determine a day-night average (L_{dn}) sound levels; and
 - 2) determine median background daytime and nighttime L_{90} sound levels.
- The average L_{dn} sound levels were used to assess current site conditions when compared to established USEPA standard (55 dBA).
- The L_{90} sound levels, determined based on the median value of sound measurements that exceeded the average noise level for 90 percent of a given measurement period, represent background sound levels without the influence of transient noise sources. The L_{90} sound levels were used in combination with estimated noise levels generated from the potential CIS construction and operation activities to analyze potential noise impacts to receptors.

- The observed sources and sound measurements/determinations obtained during the FTD noise survey were as follows:
 - Far west of the FTD Site:
 - The existing noise source was observed to be from distant highway and local residential traffic, neighborhood activities, and occasional on-post helicopters.
 - The measured average L_{dn} was 53 dBA, which is below the USEPA standard.
 - The median daytime and nighttime L_{90} levels were determined to be 41 dBA and 36 dBA, respectfully. The impact analysis for these results is discussed later.
 - East of the FTD Site:
 - The existing noise sources were observed to be from traffic from State Highway 3, occasional local traffic, barking dogs, wind-blown trees, and aircraft flyovers.
 - The measured average L_{dn} (58 dBA) was above the USEPA standard.
 - The median daytime and nighttime L_{90} levels were both 38 dBA.
 - South of the FTD Site:
 - With exception of occasional helicopter flyover, the primary noise sources were not related to FTD activities.
 - The measured average L_{dn} (54 dBA) was below the USEPA standard.
 - The median daytime and nighttime L_{90} levels were determined to be 42 dBA and 46 dBA (increase over day from insect activity), respectfully.
 - Directly west of the FTD Site:
 - The primary noise sources were traffic noise from State Highway 3A.
 - The measured average L_{dn} (64 dBA) was above the EPA standard.
 - The median daytime and nighttime L_{90} levels were determined to be 45 dBA and 37 dBA, respectfully.
 - Between far west and directly west of the FTD Site:
 - The primary noise sources were distance traffic, insects, and wind-blown trees.
 - No measured average L_{dn} was determined.
 - The median daytime and nighttime L_{90} levels were determined to be 44 dBA and 40 dBA, respectfully.

Socioeconomics

- Population:
 - Continued population growth expected, but slower in recent and future years.
 - Large military population in the immediate area.
- Demographics: Low overall percentage of minorities in area.

- Employment:
 - A substantial portion of the surrounding civilian population is employed by FTD or government.
 - Small local numbers of skilled local construction workers, probably not large enough to support potential CIS deployment.
- Income: Solid median household income.
- Health: Local hospitals are available. Jefferson and Lewis Counties (in which FTD is located) and St. Lawrence County (bordering FTD) were ranked in the lower half of New York counties for addressing health concerns. However, there are professional healthcare recruitment initiatives by several local hospitals in the area to address these concerns.
- Housing: There are vacant housing units available, but the ability to address housing needs would be dependent on housing conditions, location, and cost.
- Education:
 - Well-established local school districts with higher education available.
 - Approximately half of the population has some college education or degree.
- Emergency Services: No lack of emergency services was identified in the area.
- Subsistence Living: No subsistence populations were identified in the area.
- Tax Revenues:
 - Local governments are financed through local tax sources.
 - Jefferson County was ranked as having high median property taxes for the U.S.

Transportation

- Heavy-haul oversized equipment would be transported by ship to Ogdensburg Harbor, NY, and then transported by truck via series of state highways. This was deemed appropriate by an EIS transportation study.
- Wheeler-Sack Army Airfield has C-17 aircraft capabilities and is present at FTD approximately 5 miles from FTD CIS footprint.
- A CSX railroad is located adjacent to the west side of FTD and FTD CIS footprint with access spurs within FTD installation.
- Several state highways and an interstate (I-81) are present nearby or pass through FTD to accommodate FTD traffic. Current data indicates that traffic loads are within acceptable design levels of service.
- Based on the location of the FTD CIS footprint, State Highway (NY) 3A would have to be closed and traffic would be rerouted over existing highways.
- Some existing roads (some paved) and corridors within FTD could be used for the FTD CIS Site.

Utilities

- Commercial services in the vicinity of the FTD CIS footprint (but at a substantial distance for hookup) have the capacity needed for water, sanitary services, electricity (provided by a FTD cogeneration electrical generation facility), natural gas (or fuel oil in lieu of natural gas), and communications services (telephone and internet).
- A groundwater source is available to provide potable and industrial water needs.

Water Resources

- Watershed: St. Lawrence River Watershed.
- Surface Water: Besides wetlands present in the FTD CIS footprint (described later), there are up to 5.5 linear miles of streams and tributaries located in the FTD CIS footprint. Note that 1.7 linear miles of these streams are within areas associated with Riverine wetlands and impacts are included in the wetlands evaluation. The most prominent stream is the named stream West Branch-Black Creek.
- Floodplain: The FTD CIS footprint is not in the 500-year floodplain.
- Groundwater:
 - Groundwater aquifers in the vicinity of the FTD CIS footprint consist of both water table aquifers and an artesian aquifer system.
 - Depths to the groundwater table aquifers within the FTD CIS footprint is typically less than 20 feet bgs.

Wetlands

Based on wetland field and desktop studies conducted for the EIS (study area of greater than 2,000 acres):

- The FTD CIS footprint has a total of approximately 25 acres of wetlands (includes streams and tributaries within Riverine wetlands) within the CIS footprint that would be directly impacted. An estimated total of 60 acres of wetlands (within keep out areas and outside the CIS footprint) would be indirectly impacted.
- Wetlands identified consisting of both high quality wetlands and lower quality wetlands associated with disturbed areas (training areas, timber harvest locations, roadsides).
- Due to a change in the CIS footprint (consolidation of two sites into one at FTD) approximately 200 acres would need to be delineated prior to permitting if FTD is selected for deployment.
- The wetlands and streams within the FTD CIS footprint are fed from and discharge to more vast wetland complexes located adjacent to (both north and south of) the FTD CIS footprint.

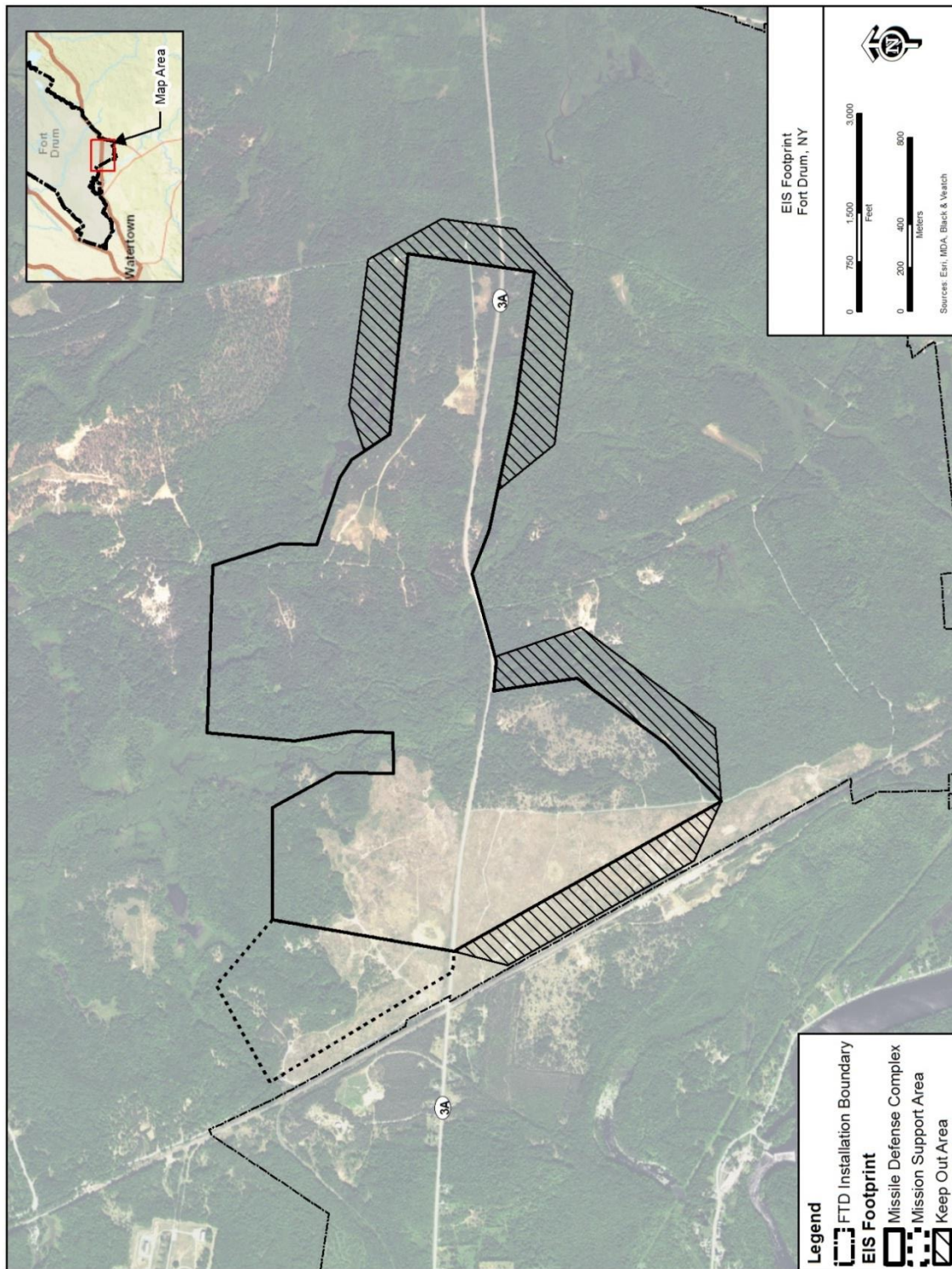
Visual/Aesthetics

- The FTD CIS footprint is characterized by a natural successional community, with low vegetation, scrub-shrub, and mature forest. There is also limited evidence of human use, such as military installation roads within and around the range area perimeters within the FTD CIS footprint.
- There is a NRHP listed historic property at FTD, LeRay Mansion Historic District, but it is located more than 5 miles away from the FTD CIS footprint. However, as defined by the Cultural Resources assessment (defined previously); there are an unknown number of archeological sites identified by previous surveys that have been identified as potentially eligible or eligible for NRHP listing.
- The nearest edge of the FTD CIS footprint is about 546 feet northeast of the nearest residences and about 900 feet south of the east terminal point of Highway 3 and beginning western end of Highway 3A.
- The area around the FTD installation is characterized by rural and agricultural views, with small towns and villages present in the surrounding area.
- Lighting at night for FTD is primarily concentrated at installation entrances and within the developed area, like the cantonment area. There is little permanent lighting in the FTD CIS footprint.
- There is little lighting in the immediate vicinity of the FTD installation.

ES.3.5.2 Environmental Consequences, Impacts, and Mitigation Options – FTD Site

A summary of impacts and mitigation options for the potential CIS location at the FTD Site is presented in Table ES-5 (Comparative Summary of Environmental Impacts and Mitigations for CIS Candidate Sites) provided at the end of this Executive Summary.

Figure ES-6 Fort Drum CIS Footprint



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Table ES-5 Comparative Summary of Environmental Impacts and Potential Mitigations for CIS Candidate Sites

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
AIR QUALITY				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Minor and temporary impacts would occur from fugitive dust. Standard BMPs would be implemented to reduce impacts.	Minor impacts would occur similar to FCTC Site 1. Standard BMPs would be implemented to reduce impacts.	Minor and temporary impacts would occur from fugitive dust. Standard BMPs would be implemented to reduce impacts.	Minor and temporary impacts would occur from fugitive dust. Standard BMPs would be implemented to reduce impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	The shorter construction time period would result in increased emissions. However, similar to the baseline schedule, only temporary and minor impacts would be expected. Standard BMPs would be implemented to reduce impacts.	Similar to FCTC Site 1, only temporary and minor impacts would be expected. Standard BMPs would be implemented to reduce impacts.	The shorter construction time period would result in increased emissions. However, similar to the baseline schedule, only temporary and minor impacts would be expected. Standard BMPs would be implemented to reduce impacts.	The shorter construction time period would result in increased emissions. However, similar to the baseline schedule, only temporary and minor impacts would be expected. Standard BMPs would be implemented to reduce impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <i>Baseline Schedule</i> <u>Impacts</u>	Minor impacts would occur to air quality. Standard BMPs would be implemented to reduce impacts.	Minor impacts would occur similar to FCTC Site 1. Standard BMPs would be implemented to reduce impacts.	Minor impacts would occur to air quality. Standard BMPs would be implemented to reduce impacts.	Minor impacts would occur to air quality. Standard BMPs would be implemented to reduce impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <i>Expedited Schedule</i> <u>Impacts</u>	The shorter time period would result in slightly increased emissions during the initial operations. However, similar to the baseline schedule, impacts are expected to be minor. Standard BMPs would be implemented to reduce impacts.	Minor impacts would occur similar to FCTC Site 1. Standard BMPs would be implemented to reduce impacts.	The shorter time period would result in slightly increased emissions during the initial operations. However, similar to the baseline schedule, impacts are expected to be minor. Standard BMPs would be implemented to reduce impacts.	The shorter time period would result in slightly increased emissions during the initial operations. However, similar to the baseline schedule, impacts are expected to be minor. Standard BMPs would be implemented to reduce impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
General Conformity: <i>Baseline Schedule</i> <u>Impacts</u>	No general conformity determination would be required.	Impacts would be the same as FCTC Site 1.	No general conformity determination would be required.	No general conformity determination would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
General Conformity: <i>Expedited Schedule</i> <u>Impacts</u>	The estimated construction emission for NOx would exceed the general conformity threshold; therefore, a general conformity determination would be required.	Similar to FCTC Site 1, a general conformity determination would be required.	The estimated construction emission for NOx would exceed the general conformity threshold; therefore, a general conformity determination would be required.	The estimated construction emission for NOx would exceed the general conformity threshold; therefore, a general conformity determination would be required.
<u>Potential Mitigation</u>	Based on results of the general conformity determination, mitigation or securing offsets could be required.	Similar to FCTC Site 1, the need for mitigation would be based on the general conformity determination.	Based on results of the general conformity determination, mitigation or securing offsets could be required.	Based on results of the general conformity determination, mitigation or securing offsets could be required.
AIRSPACE				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Impacts would be negligible.	Impacts would be negligible.	Impacts would be negligible.	Impacts would be negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Impacts would be negligible.	Impacts would be negligible.	Impacts would be negligible.	Impacts would be negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <u>Impacts</u>	<p>Associated airspace impacts would be negligible to minor.</p> <p>Runway incursion with W.K. Kellogg has been identified as a potential safety concern that would need to be coordinated with the local air traffic control to determine appropriate mitigation.</p> <p>An avoidance area over the IDT and SATCOM facilities would need to be established.</p>	<p>Associated airspace impacts would be negligible to minor.</p> <p>Runway incursion with W.K. Kellogg would be of less concern than FCTC Site 1, due to its further distance from W.K. Kellogg Airfield.</p> <p>An avoidance area over the IDT and SATCOM facilities would need to be established.</p>	<p>Associated airspace impacts would be negligible to minor.</p> <p>An avoidance area over the IDT and SATCOM facilities would need to be established.</p>	<p>Due to existing controlled airspace over FTD, there would be no public airspace impacts.</p> <p>An avoidance area over the IDT and SATCOM facilities would need to be established and coordinated with FTD. Impacts would be minor.</p>
<u>Potential Mitigation</u>	<p>Mitigation would need to be addressed for runway incursion with the adjacent airfield (W.K. Kellogg).</p> <p>All other impacts would be negligible to minor; therefore, no mitigation would be required.</p>	<p>Similar to FCTC Site 1, mitigation would need to be addressed for runway incursion with the adjacent airfield (W.K. Kellogg).</p> <p>All other impacts would be negligible to minor; therefore, no mitigation would be required.</p>	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
BIOLOGICAL RESOURCES				
<p>Construction: <i>Baseline Schedule</i> <u>Impacts:</u> <i>T&E Species</i></p> <p><u>Potential Mitigation:</u> <i>T&E Species</i></p> <p><u>Impacts:</u> <i>Other Species</i></p>	<p>Impacts would be minor.</p> <p>No T&E species or critical habitats are present in the FCTC Site 1 footprint. Loss of suitable habitats would occur for the Northern Long-Eared bat (NLEB), Indiana bat, Mitchell’s satyr butterfly, copperbelly watersnake, and eastern massasauga rattlesnake.</p> <p>A bald eagle nest is present at FCTC, but not within the FCTC Site 1 footprint or regulated buffer distances. Impacts are expected to be negligible.</p> <p>A may affect, but not likely to adversely affect determination has been made for T&E species.</p> <p>Although habitats may be lost, no T&E species would be directly impacted. Therefore, because the baseline construction schedule impacts would be minor and may affect, but would not likely adversely affect the potential T&E species, no mitigation would be required. However, because it is not known when a deployment decision would be made, and thus whether additional T&E species would be listed or identified within the CIS footprint, if a deployment decision is made then consultations with applicable regulatory agencies (i.e., USFWS, USACE) would be held as needed to discuss mitigation strategies.</p> <p>Overall impacts likely to be minor.</p> <p>Vegetation: The FCTC Site 1 footprint consists of 1,147 acres; 961 acres would be cleared (83 forested acres, 3 shrubland acres, 231 herbaceous (grassland) acres, 643 woodland/shrubland acres, and 1 non-vegetated acre).</p>	<p>Impacts would be minor.</p> <p>No T&E species or critical habitats are present in the FCTC Site 2 footprint. Loss of suitable habitats would occur for the NLEB, Indiana bat, Mitchell’s satyr butterfly, copperbelly watersnake, and eastern massasauga rattlesnake.</p> <p>A bald eagle nest is present at FCTC, but not within the FCTC Site 2 footprint or regulated buffer distances. Impacts are expected to be negligible.</p> <p>A may affect, but not likely to adversely affect determination has been made for T&E species.</p> <p>Although habitats may be lost, no T&E species would be directly impacted. Therefore, because the baseline construction schedule impacts would be minor and may affect, but would not likely adversely affect the potential T&E species, no mitigation would be required. However, because it is not known when a deployment decision would be made, and thus whether additional T&E species would be listed or identified within the CIS footprint, if a deployment decision is made then consultations with applicable regulatory agencies (i.e., USFWS, USACE) would be held as needed to discuss mitigation strategies..</p> <p>Overall impacts likely to be minor.</p> <p>Vegetation: The FCTC Site 2 footprint consists of 1,105 acres; 932 acres would be cleared (179 forested acres, 1 shrubland acres, 9 herbaceous (grassland) acres, 740 woodland/shrubland acres, and 3 non-vegetated acres).The quality of forest, fen habitat, and other vegetation community slightly higher than FCTC Site 1. Similar impacts but slightly elevated habitat loss and conversion over those for FCTC Site 1.</p>	<p>Impacts would be minor.</p> <p>The NLEB has been identified in the CIS footprint. Roost habitat could also be in CIS footprint. Loss of suitable habitat. Seasonal restrictions for tree clearing would be implemented to reduce impacts.</p> <p>Although there would be loss of suitable habitat for the Indiana bat, Mitchell’s satyr butterfly, eastern massasauga rattlesnake, and monkshood, these T&E species are not present within the CRJMTc CIS footprint.</p> <p>A bald eagle nest is present adjacent to but not within the CRJMTc CIS footprint or regulated buffer distances.</p> <p>The baseline construction schedule impacts would be minor but may affect the NLEB and habitats for other T&E species. If a deployment decision is made, consultations with applicable regulatory agencies (i.e., USFWS, USACE) would be held to discuss the need for and development of mitigation options, as appropriate.</p> <p>Overall impacts likely to be minor.</p> <p>Vegetation: The CRJMTc Site footprint consists of 1,184 acres; 1,027 acres would be cleared (548 forested acres, 251 shrubland acres, 200 herbaceous (grassland) acres, 2 evergreen plantation acres, and 26 landscaped acres.</p>	<p>Impacts would be minor.</p> <p>The NLEB has been identified in the CIS footprint. Roost habitat also expected in CIS footprint. Indiana bats are present at FTD in the cantonment area and roost within 5 miles, but are not known to roost in the CIS footprint. Loss of suitable habitat. Seasonal restrictions on tree removal would be implemented to reduce impacts.</p> <p>The baseline construction schedule impacts would be minor but may affect the NLEB and Indiana bat. If a deployment decision is made, consultations with applicable regulatory agencies (i.e., USFWS, USACE) would be held to discuss the need for and development of mitigation options, as appropriate.</p> <p>Overall impacts likely to be minor.</p> <p>Vegetation: The FTD Site footprint consists of 1,200 acres; 977 acres would be cleared (523 forested acres, 14 shrubland acres, 256 herbaceous (grassland) acres, 146 evergreen plantation acres, 18 landscaped acres, and 20 non-vegetated acres).</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
	<p>Birds, Wildlife, Fish, and Reptiles: Direct impacts due to displacement, indirect impacts due to loss of breeding and foraging habitat.</p> <p>BMPs such as clearing in non-nesting or breeding periods would be implemented to the extent practicable and managing erosion/sedimentation. In addition, the military readiness exemption for birds covered by the Migratory Bird Treaty Act (MBTA) would be invoked for the CIS project, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species would not be adversely affected.</p>	<p>Impacts to birds, wildlife, fish, and reptiles would be similar to FCTC Site 1, but slightly elevated.</p> <p>BMPs such as clearing in non-nesting or breeding periods would be implemented to the extent practicable and managing erosion/sedimentation. In addition, the military readiness exemption for birds covered by the MBTA would be invoked for the CIS project, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species would not be adversely affected.</p>	<p>Birds, Wildlife, Fish, and Reptiles: Direct impacts due to displacement, indirect impacts due to loss of breeding and foraging habitat.</p> <p>BMPs such as clearing in non-nesting or breeding periods would be implemented to the extent practicable and managing erosion/sedimentation. In addition, the military readiness exemption for birds covered by the MBTA would be invoked for the CIS project, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species would not be adversely affected.</p>	<p>Birds, Wildlife, Fish, and Reptiles: Direct impacts due to displacement, indirect impacts due to loss of breeding and foraging habitat.</p> <p>BMPs such as clearing in non-nesting or breeding periods would be implemented to the extent practicable and managing erosion/sedimentation. In addition, the military readiness exemption for birds covered by the MBTA would be invoked for the CIS project, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species would not be adversely affected.</p>
<u>Potential Mitigation:</u> <i>Other Species</i>	No mitigation measures would be required.	No mitigation measures would be required.	No mitigation measures would be required.	No mitigation measures would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts:</u> <i>T&E Species</i>	<p>Moderate impacts would occur.</p> <p>Impacts would be intensified as compared to the baseline due to the shortened schedule, but with an increased intensity and diminished allowances for timing efforts (e.g., clearing efforts during nesting/breeding seasons). However, because only potential habitat would be lost and no T&E species are present in the FCTC Site 1 footprint, a may affect, but not likely adversely affect determination has been made.</p>	<p>Impacts would be moderate, similar to FCTC Site 1.</p>	<p>Major (significant) impacts would occur.</p> <p>Impacts would be intensified as compared to the baseline due to the shortened schedule, but with an increased intensity and diminished allowances for timing efforts (e.g., clearing efforts during nesting/breeding seasons, cutting of trees for bats). The NLEB may be affected.</p>	<p>Major (significant) impacts would occur.</p> <p>Impacts would be intensified as compared to the baseline due to the shortened schedule, but with an increased intensity and diminished allowances for timing efforts (e.g., clearing efforts during nesting/breeding seasons, cutting of trees for bats). The Indiana bat and NLEB may be affected.</p>
<u>Potential Mitigation:</u> <i>T&E Species</i>	No mitigation would be required.	No mitigation would be required.	Because construction may affect the NLEB and the Indiana bat (thru habitat loss or actual species loss under expedited schedule) (major and significant impact), consultations with USFWS would be held to determine whether additional mitigations measures would be required. A take permit would be obtained as necessary.	Because construction may affect the NLEB and the Indiana bat (thru habitat loss or actual species loss under expedited schedule) (major and significant impact), consultations with USFWS would be held to determine whether additional mitigations measures would be required. A take permit would be obtained as necessary.
<u>Impacts:</u> <i>Other Species</i>	Impacts from the expedited schedule for other species (vegetation, habitat conversion, birds, wildlife, fish, and reptiles) would be similar to those defined for baseline schedule; however, due to the compressed schedule there would be an increased intensity and diminished allowances for timing efforts would occur (e.g., clearing efforts during nesting/breeding seasons). Overall only moderate impacts would occur.	Impacts from the expedited schedule for other species (vegetation, habitat conversion, birds, wildlife, fish, and reptiles) would be similar to those defined for the expedited baseline schedule for FCTC Site 1. As with FCTC Site 1, due to compressed schedule for FCTC Site 2, there would be an increased intensity and diminished allowances for timing efforts would occur (e.g., clearing efforts during nesting/breeding seasons). Overall only moderate impacts would occur.	Impacts from the expedited schedule for other species (vegetation, habitat conversion, birds, wildlife, fish, and reptiles) would be similar to those defined for baseline schedule; however, due to the compressed schedule there would be an increased intensity and diminished allowances for timing efforts would occur (e.g., clearing efforts during nesting/breeding seasons). Overall only moderate impacts would occur.	Impacts from the expedited schedule for other species (vegetation, habitat conversion, birds, wildlife, fish, and reptiles) would be similar to those defined for baseline schedule; however, due to the compressed schedule there would be an increased intensity and diminished allowances for timing efforts would occur (e.g., clearing efforts during nesting/breeding seasons). Overall only moderate impacts would occur.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
	<p>Lighting and noise impacts may also be intensified due to more work during nighttime hours, but efforts to minimize lighting to specific work areas and limit the more noise-intense construction activities during nighttime hours would reduce impacts to wildlife and birds.</p> <p>Other than timing efforts, other BMPs would still be able to be implemented to address some impacts. In addition to the BMPs, the military readiness exemption for birds covered by the MBTA would be invoked, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species (e.g., the cerulean warbler) would not be adversely affected.</p>	<p>Lighting and noise impacts may also be intensified due to more work during nighttime hours, but efforts to minimize lighting to specific work areas and limit the more noise-intense construction activities during nighttime hours would reduce impacts to wildlife and birds.</p> <p>Other than timing efforts, other BMPs would still be able to be implemented to address some impacts. In addition to the BMPs, the military readiness exemption for birds covered by the MBTA would be invoked, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species (e.g., the cerulean warbler) would not be adversely affected.</p>	<p>Lighting and noise impacts may also be intensified due to more work during nighttime hours, but efforts to minimize lighting to specific work areas and limit the more noise-intense construction activities during nighttime hours would reduce impacts to wildlife and birds.</p> <p>Other than timing efforts, other BMPs would still be able to be implemented to address some impacts. In addition to the BMPs, the military readiness exemption for birds covered by the MBTA would be invoked, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species (e.g., the cerulean warbler) would not be adversely affected.</p>	<p>Lighting and noise impacts may be also be intensified due to more work during nighttime hours, but efforts to minimize lighting to specific work areas and limit the more noise-intense construction activities during nighttime hours would reduce impacts to wildlife and birds.</p> <p>Other than timing efforts, other BMPs would still be able to be implemented to address some impacts. In addition to the BMPs, the military readiness exemption for birds covered by the MBTA would be invoked, as needed, because although takes of individual birds may occur within the CIS footprint, the overall population of species (e.g., the cerulean warbler) would not be adversely affected.</p>
<u>Potential Mitigation:</u> <i>Other Species</i>	No mitigation measures (compensatory, offsetting activities, or otherwise) for other species would be required.	No mitigation measures (compensatory, offsetting activities, or otherwise) for other species would be required.	No mitigation measures (compensatory, offsetting activities, or otherwise) for other species would be required.	No mitigation measures (compensatory, offsetting activities, or otherwise) for other species would be required.
Operation: <u>Impacts</u>	<p>Impacts would be minor. BMPs would be implemented (e.g., product application management, spill cleanup provisions).</p> <p>Impacts from operations would primarily be attributed to facility and security lighting and some noise due to the impacts from backup power generation equipment. Impacts from lighting would be minimized by the use of fully recessed lighting that directs lighting downward. Noise impacts would occur during temporary back-up situations (power outages or during test and maintenance activities).</p>	<p>Impacts would be minor. BMPs would be implemented (e.g., product application management, spill cleanup provisions).</p> <p>Impacts from operations would primarily be attributed to facility and security lighting and some noise due to the impacts from backup power generation equipment. Impacts from lighting would be minimized by the use of fully recessed lighting that directs lighting downward. Noise impacts would occur during temporary back-up situations (power outages or during test and maintenance activities).</p>	<p>Impacts would be minor. BMPs would be implemented (e.g., product application management, spill cleanup provisions).</p> <p>Impacts from operations would primarily be attributed to facility and security lighting and some noise due to the impacts from backup power generation equipment. Impacts from lighting would be minimized by the use of fully recessed lighting that directs lighting downward. Noise impacts would occur during temporary back-up situations (power outages or during test and maintenance activities).</p>	<p>Impacts would be minor. BMPs would be implemented (e.g., product application management, spill cleanup provisions).</p> <p>Impacts from operations would primarily be attributed to facility and security lighting and some noise due to the impacts from backup power generation equipment. Impacts from lighting would be minimized by the use of fully recessed lighting that directs lighting downward. Noise impacts would occur during temporary back-up situations (power outages or during test and maintenance activities).</p>
<u>Potential Mitigation</u>	No mitigation measures would be required.	No mitigation measures would be required.	No mitigation measures would be required.	No mitigation measures would be required.
CULTURAL RESOURES				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	No historic properties identified in APE; therefore, there would be no impacts.	No historic properties identified in APE; therefore, there would be no impacts.	No historic properties identified in APE; therefore, there would be no impacts.	<p>Adverse (moderate/major) impacts may occur.</p> <p>Several potential areas of suspected prehistoric and historic archaeological sites are within the CIS footprint. An additional 340 acres not previously surveyed for historic properties is also located within the FTD CIS footprint.</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	An evaluation of the identified sites and additional surveys (approximately 340 acres) to determine eligibility for inclusion on the National Register of Historic Places (NRHP) would be required. Potential mitigation would be to leave archeological properties in-situ. Additional, alternative mitigation could consist of the following /or combinations: 1. Review of data with Tribes and SHPO and selection of a portion of sites for data recovery. 2. Monitoring of remaining sites during ground disturbance activities. 3. Development and implementation of regional educational outreach curriculum with Tribes.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	No historic properties identified in APE; therefore, there would be no impacts.	No historic properties identified in APE; therefore, there would be no impacts.	No historic properties identified in APE; therefore, there would be no impacts.	Similar to the baseline schedule, adverse (moderate/major) impacts may occur. Surveys and evaluation for NRHP eligibility would be expedited.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	Mitigation would be similar to the baseline schedule, but would be expedited.
Operation: <u>Impacts</u>	No (negligible) impacts would occur.	No (negligible) impacts would occur.	No (negligible) impacts would occur.	No (negligible) impacts would occur.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
ENVIRONMENTAL JUSTICE				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Environmental justice impacts would be negligible. No areas within or near the vicinity of FCTC Site 1 qualify as minority or low-income areas.	Similar to FCTC Site 1, impacts would be negligible.	Environmental justice impacts would be negligible. No areas within or near the vicinity of the CIS footprint qualify as minority or low-income areas.	Environmental justice impacts would be negligible. No areas within or near the vicinity of the CIS footprint qualify as minority or low-income areas.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Environmental justice impacts related to the expedited construction schedule would be negligible.	Similar to FCTC Site 1, environmental justice impacts related to the expedited construction schedule would be negligible.	Environmental justice impacts related to the expedited construction schedule would be negligible.	Environmental justice impacts related to the expedited construction schedule would be negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
Operation				
<u>Impacts</u>	Environmental justice impacts due to operations would be negligible.	Similar to FCTC Site 1, environmental justice impacts would be negligible.	Environmental justice impacts due to operations would be negligible.	Environmental justice impacts due to operations would be negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
GEOLOGY AND SOILS				
Construction: Baseline Schedule				
<u>Impacts</u>	Overall, with the implementation of BMPs, minor impacts to geology and soils could occur during construction activities. Impacts would include substantial land clearing (961 acres) and large quantities of topography grading (potential estimate of 10 to 15 MCY cut; 10 to 15 MCY fill), construction would be limited to soils rather than both soil and rock (bedrock depth greater than 100 ft bgs), and groundwater depths are typically greater than 50 ft bgs indicating dewatering would only be required in the deep excavations.	Overall, with the implementation of BMPs, minor to moderate impacts to geology and soils could occur during construction activities. Impacts would include substantial land clearing (932 acres, slightly smaller than FCTC Site 1) and large quantities of topography grading (potential estimate of 15 to 20 MCY cut; 15 to 20 MCY fill, greater than FCTC Site 1), construction would be limited to soils rather than both soil and rock (bedrock depth greater than 100 ft bgs), and groundwater depths are typically less than 50 ft bgs indicating dewatering would likely be required in the shallow and deep excavations.	Overall, with the implementation of BMPs, moderate impacts to geology and soils could occur during construction activities. Impacts would include substantial land clearing (1,027 acres) and large quantities of topography grading (potential estimate of 15 to 20 MCY cut; 15 to 20 MCY fill), construction would occur in both soil and rock (bedrock typically less than 25 ft bgs), and groundwater depths are typically greater than 20 ft bgs indicating dewatering would be required in the shallow and deep excavations.	Overall, with the implementation of BMPs, moderate impacts to geology and soils could occur during construction activities. Impacts would include substantial land clearing (977 acres) and large quantities of topography grading (potential estimate of 10 to 15 MCY cut; 10 to 15 MCY fill), construction would occur in both soil and rock (bedrock typically greater than 60 ft bgs), and groundwater depths are typically greater than 20 ft bgs indicating dewatering would be required in the shallow and deep excavations.
	Standard BMPs would be implemented to reduce impacts to minor, especially for soil erosion, dewatering, and potential spill impacts to minor.	Standard BMPs would be implemented to reduce impacts to minor, especially for soil erosion, dewatering, and potential spill impacts to minor.	Standard BMPs would be implemented to reduce soil erosion, dewatering, and potential spill impacts to moderate. Contaminated groundwater from AOCs could be encountered during dewatering activities.	Standard BMPs would be implemented to reduce soil erosion, dewatering, and potential spill impacts to minor to moderate.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required. However, groundwater encountered during construction activities would need to be characterized to determine whether or not treatment would be required prior to discharge, and if required, treated.	No mitigation would be required.
Construction: Expedited Schedule				
<u>Impacts</u>	Impacts to geology and soils would be similar to those defined for the baseline schedule. However, minor to moderate impacts would occur due to the potential for larger expansions of cleared and disturbed areas at one time and higher volumes of soil being managed during the shortened schedule.	Impacts to geology and soils would be similar to those defined for the baseline schedule. Minor to moderate impacts would occur due to the potential for larger expansions of cleared and disturbed areas at one time and higher volumes of soil being managed during the shortened schedule.	Impacts to geology and soils would be similar to those defined for the baseline schedule. Moderate impacts would occur due to the potential for larger expansions of cleared and disturbed areas at one time and higher volumes of soil and dewatering liquids being managed during the shortened schedule.	The type of impacts to geology and soils would be similar to those defined for the baseline schedule. Moderate impacts would increase due to the potential for larger expansions of cleared and disturbed areas at one time and higher volumes of soil and dewatering liquids being managed during the shortened schedule.
	BMPs would need to be more aggressively implemented.	BMPs would need to be more aggressively implemented.	BMPs would need to be more aggressively implemented. Higher volumes of groundwater, potentially contaminated by AOCs, could be encountered during expedited dewatering construction activities.	BMPs would need to be more aggressively implemented.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required. However, groundwater encountered during construction activities would need to be characterized to determine whether or not treatment would be required prior to discharge, and if required, treated.	No mitigation would be required.
Operation: <u>Impacts</u>	Negligible impacts.	Negligible impacts.	Negligible impacts.	Negligible impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
HAZARDOUS MATERIALS/HAZARDOUS WASTE				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Standard BMPs would be implemented to reduce hazardous materials/hazardous waste (HM/HW) impacts to negligible.	Standard BMPs would be implemented to reduce HM/HW impacts to negligible.	Standard BMPs would be implemented to reduce HM/HW impacts to negligible. Contaminated groundwater from AOCs could be encountered from dewatering activities resulting in moderate impacts.	Standard BMPs would be implemented to reduce impacts to negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required for typical HM/HW impacts. However, due to the presence of AOCs, groundwater encountered during construction activities would be characterized, and if warranted, treatment could be required prior to discharge.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Minor impacts. Standard BMPs would be implemented to reduce HM/HW impacts to negligible.	Standard BMPs would be implemented to reduce HM/HW impacts to negligible.	Standard BMPs would be implemented to reduce typical construction HM/HW impacts to negligible. Higher volumes of groundwater, potentially contaminated by AOCs, could be encountered during expedited dewatering construction activities. Therefore, moderate impacts could occur.	Standard BMPs would be implemented to reduce HM/HW impacts to negligible.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	Typical HM/HW impacts would be reduced by use of construction BMPs. However, due to the presence of AOCs, groundwater encountered during construction would be characterized, and if warranted, treatment could be required prior to discharge.	No mitigation would be required.
Operation: <u>Impacts</u>	Negligible impacts.	Negligible impacts.	Negligible impacts.	Negligible impacts.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
HEALTH AND SAFETY				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Minor hazards inherent to general construction activities. Standard BMPs would be implemented to reduce impacts. Low risk for onsite construction personnel encountering unexploded ordnance.	Minor hazards would be similar to those defined for FCTC Site 1. Standard BMPs would be implemented to reduce impacts.	Minor hazards inherent to general construction activities. Standard BMPs would be implemented to reduce impacts. Low risk for onsite construction personnel encountering unexploded ordnance.	Minor hazards inherent to general construction activities. Standard BMPs would be implemented to reduce impacts. Low risk for onsite construction personnel encountering unexploded ordnance.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Enhanced, but minor, health and safety issues would occur for implementation of the expedited construction schedules due to the increased number of personnel onsite, longer working hours, and night work. These issues would be addressed by the implementation of common and some enhanced health and safety practices (BMPs).	Similar to FCTC Site 2, enhanced, but minor, health and safety issues would occur for implementation of the expedited construction schedules and be addressed by the implementation of common and some enhanced health and safety practices (BMPs).	Enhanced, but minor, health and safety issues would occur for implementation of the expedited construction schedules due to the increased number of personnel onsite, longer working hours, and night work. These issues would be addressed by the implementation of common and some enhanced health and safety practices (BMPs).	Enhanced, but minor, health and safety issues would occur for implementation of the expedited construction schedules due to the increased number of personnel onsite, longer working hours, and night work. These issues would be addressed by the implementation of common and some enhanced health and safety practices (BMPs).
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <u>Impacts</u>	Minor safety risk would be related to GBI functions.	Minor safety risk would be related to GBI functions.	Minor safety risk would be related to GBI functions. Portions of George Road and Newton Falls Road cross the keep out areas.	Minor safety risk would be related to GBI functions.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required. Risks analyses would need to be performed by the installation to determine the need for and types of institutional controls that might be required to ensure safety and security for the roads that cross the keep out areas.	No mitigation would be required.
LAND USE				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Minor impacts due to land use conversion. A 7.62 mm firing range and a portion of 5.56 mm firing range activities currently present in the FCTC Site 1 footprint would be moved to another Michigan Army National Guard facility with adequate space and training capability for this facility (no perceived impacts).	Minor impacts due to land use conversion. Unlike FCTC Site 1, the 7.62 mm training range would not need to be relocated for FCTC Site 2.	Minor impacts due to land use conversion. Several facilities would be relocated from within the CIS footprint to other locations on CRJMTTC. No impacts were noted for designated relocation facility areas.	Minor impacts due to land use conversion.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
Construction: <i><u>Expedited Schedule Impacts</u></i>	Similar to the baseline schedule, regional and site land use impacts would be minor.	Similar to the FCTC Site 1 expedited schedule and the FCTC Site 2 baseline schedule impact, regional and site land use impacts would be minor.	Similar to the baseline schedule, regional and site land use impacts would be minor.	Similar to the baseline schedule, regional and site land use impacts would be minor.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <i><u>Impacts</u></i>	Minor impacts.	Minor impacts.	Minor impacts.	Conflicts for regional and site land use impacts would be minor (primarily to closure/traffic rerouting of NY 3A traffic).
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
NOISE				
Construction: <i><u>Baseline Schedule Impacts</u></i>	Impacts would be minor. The potential increase determined for FCTC Site 1 to the nearest receptor would be unnoticed to intrusive (minor/moderate impact); whereas the furthest of the next three receptors would be unnoticed (negligible impacts). These noise impacts are conservative and would be addressed to minor impacts by BMPs.	Impacts would be minor. Results are similar to similar to FCTC Site 1 (minor impacts), except noise increases at the closest receptor would be unnoticed to objectionable.	Impacts would be minor/moderate. The potential increase determined for the CRJMTTC CIS footprint to the nearest receptor would be tolerable to objectionable (moderate impact); whereas the furthest of the next three receptors would be unnoticed (negligible impacts). These noise impacts are conservative and would be addressed to minor/major impacts by BMPs.	Impacts would be minor/moderate. The potential increase determined for the FTD CIS footprint to the nearest receptor would be tolerable to objectionable (moderate impact); whereas the furthest of the next four receptors would be unnoticed (negligible impacts). These noise impacts are conservative and would be addressed to minor/major impacts by BMPs.
<u>Potential Mitigation</u>	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i><u>Expedited Schedule Impacts</u></i>	Impacts would be minor/moderate. Daytime results would be similar to baseline schedule. The potential nighttime increase to the nearest receptor would be intrusive to objectionable (moderate impact); whereas the furthest of the next three receptors would be intrusive (minor impacts). These noise impacts are conservative and would be addressed to minor/moderate impacts by BMPs.	Impacts would be minor/moderate. Results would be similar to FCTC Site 1 with the noise at the closest receptor being unnoticed to objectionable.	Impacts would be minor/moderate. Daytime results would be similar to baseline schedule. The potential nighttime increase to the nearest receptor would be objectionable to very objectionable/intolerable (moderate/major impacts); whereas the furthest of the next three receptors would be intrusive (minor impacts). These noise impacts are conservative and would be addressed to minor/moderate impacts by BMPs.	Impacts would be minor/moderate. Daytime results would be similar to baseline schedule. The potential nighttime increase to the nearest receptor would be objectionable to very objectionable (moderate impacts); whereas the furthest of the next four receptors would be intrusive (minor impacts). These noise impacts are conservative and would be addressed to minor/moderate impacts by BMPs
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
Operation: <u>Impacts</u> <u>Potential Mitigation</u>	<p>The potential increase to the nearest and farthest receptors would be unnoticed (no increase). Although noise impacts would be negligible, any noise impacts would be further reduced by BMPs.</p> <p>No mitigation would be required.</p>	<p>Results would be similar to FCTC Site 1, negligible (unnoticeable).</p> <p>No mitigation would be required.</p>	<p>The potential increase to the nearest and the farthest receptors would be unnoticed (no increase). Although noise impacts would be negligible, any noise impacts would be further reduced by BMPs.</p> <p>No mitigation would be required.</p>	<p>The potential increase to the nearest and farthest receptors would be unnoticed (no increase). Although noise impacts would be negligible, any noise impacts would be further reduced by BMPs.</p> <p>No mitigation would be required.</p>
SOCIOECONOMICS				
Construction: <i>Baseline Schedule</i> <u>Impacts</u> <u>Potential Mitigation</u>	<p>Overall, moderate and largely positive impacts would occur.</p> <p>The following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> Approximately 400 to 600 construction (direct) jobs would be provided throughout the construction period. An estimated total positive (increase) sales tax revenue of approximately \$0.925 million per year would occur during the construction period. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added of \$193 million for the entire project. Approximately 2,008 indirect jobs would be created during the construction period. <p>Minor and negative impacts would occur for health care facilities and emergency preparedness, but no negative impacts would occur to education services.</p> <p>No mitigation would be required.</p>	<p>Similar to FCTC Site 1, overall moderate and largely positive impacts would occur.</p> <p>No mitigation would be required.</p>	<p>Overall, major (due to the generally depressed economies in the surrounding counties) and largely positive impacts would occur.</p> <p>The following major and positive economic impacts would occur:</p> <ul style="list-style-type: none"> Approximately 400 to 600 construction (direct) jobs would be provided throughout the construction period. An estimated total positive (increase) sales tax revenue up to approximately \$0.9 million per year would occur during the construction period. <p>Based on modelled results, the following major and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added would be \$224 million for the entire project. Approximately 2,351 indirect jobs would be created during the construction period. <p>Minor and negative impacts would occur for health care facilities and emergency preparedness, but no negative impacts would occur to education services.</p> <p>No mitigation would be required.</p>	<p>Overall, moderate and largely positive impacts would occur.</p> <p>The following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> Approximately 400 to 600 construction (direct) jobs would be provided throughout the construction period. An estimated total positive (increase) tax revenue of \$1.1 million per year would be occur during the construction period. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added of \$190 million for the entire project. Approximately 1,836 indirect jobs would be created during the construction period. <p>Minor impacts would occur for health care facilities and emergency preparedness, but no negative impacts would occur to education services.</p> <p>No mitigation would be required.</p>
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	<p>Overall, moderate and largely positive impacts would occur.</p>	<p>Similar to FCTC Site 1, overall moderate and largely positive impacts would occur.</p>	<p>Overall, major (due to the generally depressed economies in the surrounding counties) and largely positive impacts would occur.</p>	<p>Overall, moderate and largely positive impacts would occur.</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
	<p>The following moderate and positive economic impacts and differences from the baseline schedule would occur:</p> <ul style="list-style-type: none"> The number of construction jobs would be approximately double, 800 to 1,200 construction (direct) jobs, throughout the construction period. The estimated total positive (increase) tax revenue on an annual basis would double. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated total value would remain the same (based on project, not schedule duration). The number of indirect jobs created would remain the same (based on project, not schedule duration). <p>In comparison with the baseline schedule, additional minor negative impact to pre-existing healthcare concerns, education services; and additional negative, but up to moderate, impact on emergency preparedness services would occur.</p>		<p>The following major and positive economic impacts and differences from the baseline schedule would occur:</p> <ul style="list-style-type: none"> The number of construction jobs would be approximately double, 800 to 1,200 construction (direct) jobs, throughout the construction period. The estimated total positive (increase) tax revenue on an annual basis would double. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated total value would remain the same (based on project, not schedule duration). The number of indirect jobs created would remain the same (based on project, not schedule duration). <p>In comparison with the baseline schedule, additional minor negative impact to pre-existing healthcare concerns, education services; and additional negative, but up to moderate, impact on emergency preparedness services would occur.</p>	<p>The following moderate and positive economic impacts and differences from the baseline schedule would occur:</p> <ul style="list-style-type: none"> The number of construction jobs would be approximately double, 800 to 1,200 construction (direct) jobs, throughout the construction period. The estimated total positive (increase) tax revenue on an annual basis would double. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated total value would remain the same (based on project, not schedule duration). The number of indirect jobs created would remain the same (based on project, not schedule duration). <p>In comparison with the baseline schedule, additional minor negative impact to pre-existing healthcare concerns, education services; and additional negative, but up to moderate, impact on emergency preparedness services would occur.</p>
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <u>Impacts</u>	<p>Overall, moderate and largely positive impacts would occur.</p> <p>The following moderate and positive economic impacts would be incurred:</p> <ul style="list-style-type: none"> Approximately 650 to 850 operations (direct) jobs would be provided. The estimated total positive (increase) sales tax revenue would be approximately \$1.4 million per year. <p>Based on modelled results, the following moderate and moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added would be \$29 million for each year of operation. Approximately 416 indirect yearly jobs would be created during operations (above operating staff). <p>Minor impacts would occur for health care facilities and emergency preparedness and no negative impacts would occur to education services.</p>	Similar to FCTC Site 1, moderate and largely positive impacts would occur.	<p>Overall, major (due to the generally depressed economies in the surrounding counties) and largely positive impacts would occur.</p> <p>The following major and positive economic impacts would be incurred:</p> <ul style="list-style-type: none"> Approximately 650 to 850 operations (direct) jobs would be provided. The estimated total positive (increase) sales tax revenue would be approximately \$1.35 million per year. <p>Based on modelled results, the following major economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added would be \$27 million for each year of operation. Approximately 340 indirect yearly jobs would be created during operations (above operating staff). <p>Minor impacts would occur for health care facilities and emergency preparedness and no negative impacts would occur to education services.</p>	<p>Overall, moderate and largely positive impacts would occur.</p> <p>The following moderate and positive economic impacts would be incurred:</p> <ul style="list-style-type: none"> Approximately 650 to 850 operations (direct) jobs would be provided. The estimated total positive (increase) sales tax revenue would be \$1.65 million per year. <p>Based on modelled results, the following moderate and positive economic impacts would occur:</p> <ul style="list-style-type: none"> The estimated increase in total value added would be \$27 million for each year of operation. Approximately 340 indirect yearly jobs would be created during operations (above operating staff). <p>Minor impacts would occur for health care facilities and emergency preparedness and no negative impacts would occur to education services.</p>
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
TRANSPORTATION				
Construction: Baseline Schedule Impacts	<p>Overall, major impacts would occur based on current conditions with no modifications.</p> <p>Based on the assessment of additional traffic, major delays would occur for traffic exiting I-94 at Exit 92 as traffic turns to travel on I-94BL/M 37 (backup down the off ramp) during peak hours of traffic.</p> <p>Practices, such as staggered work shifts, could be implemented to lessen peak traffic impacts.</p>	<p>Overall, minor impacts would occur.</p> <p>Based on the assessment of additional traffic, minor impacts would occur due to the slight decrease in the level of service for traffic exiting I-94 at Exit 88 as traffic turns to travel on 40th Street.</p> <p>Practices such as staggered work shift could be implemented to lessen peak traffic impacts.</p>	<p>Overall, minor impacts would occur.</p> <p>Based on the assessment of additional traffic, minor impacts would occur due to the decreases in the level of service during peak hours.</p> <p>Practices such as staggered work shift could be implemented to lessen peak traffic impacts.</p>	<p>Overall, moderate/major impacts would occur.</p> <p>The location of CIS footprint would result in the closure of NY 3A. Rerouting of traffic to NY 3 would occur, which would increase travel time through the area.</p> <p>Based on the assessment of additional traffic, moderate decreases in the level of services would occur for the two- lane highways, but would not drop below acceptable design levels. In addition, there would be major impacts to motorists within the Village of Carthage at the signalized intersection of School Street (North and South) and NY 3/126 (State Street) during the evening peak hour.</p> <p>Practices such as staggered work shift could be implemented to lessen peak traffic impacts.</p>
Potential Mitigation	<p>An access permit would require a traffic impact study be conducted. Traffic signals at the ramp termini of I-94 WB and EB off ramps at I-94BL/M 37 would be required to facilitate the movement of traffic through these intersections. In addition, staggered work shifts not to coincide with existing peak hour traffic could also be considered to lessen impacts.</p> <p>Modifications to the existing traffic signals (phasings and timings) at the I-94BL/M 37 and CIS gate and Columbia Avenue/Skyline Drive would be required. Implementation of these or other potential modifications could reduce the impacts.</p>	<p>Once the new tight diamond interchange improvements are completed and traffic flow is normalized at the I-94 and 40th Street interchange, a traffic impact study would be required to re-assess the CIS-generated traffic at this interchange. Results of that study may require additional mitigation such as the addition of a traffic light or dedicated turn lane at the 40th Street and CIS Gate intersection. In addition, staggered work shifts not to coincide with existing peak hour traffic could also be considered to lessen impacts.</p>	<p>An access permit would require a traffic impact study be conducted. Results of that study may require additional mitigation such as the addition of a traffic light. In addition, staggered work shifts not to coincide with existing peak hour traffic could also be considered to lessen impacts.</p>	<p>An access permit would require a traffic impact study be conducted. Results of that study may require additional mitigation such as the addition of a traffic light.</p> <p>The signal timing at the School Street (North and South) and NY 3/126 (State Street) would require modification. Consideration of a dedicated left turn lane for N. School Street south bound traffic, along with protected phasing, could be another mitigation option. In addition, staggered work shifts not to coincide with existing peak hour traffic could also be considered to lessen impacts.</p>
Construction: Expedited Schedule Impacts	<p>Major impacts would occur similar to the baseline schedule. For the expedited schedule, two shifts with similar personnel and a staggered 2-hour transition period between shifts was assumed.</p>	<p>Minor impacts would occur similar to the baseline schedule. For the expedited schedule, two shifts with similar personnel and a staggered 2-hour transition period between shifts was assumed.</p>	<p>Minor impacts would be similar to the baseline schedule. For the expedited schedule, two shifts with similar personnel and a staggered 2-hour transition period between shifts was assumed.</p>	<p>Moderate/major impacts would be similar to the baseline schedule. For the expedited schedule, two shifts with similar personnel and a staggered 2-hour transition period between shifts was assumed.</p>
Potential Mitigation	<p>Mitigation would be similar to the baseline construction schedule.</p>	<p>Mitigation would be similar to the baseline construction schedule.</p>	<p>Mitigation would be similar to the baseline construction schedule.</p>	<p>Mitigation would be similar to the baseline construction schedule.</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
Operation: <u>Impacts</u>	Major delays for those exiting I-94 at Exit 92 similar to the baseline schedule would occur.	Minor impacts, similar to the baseline schedule for roads around FCTC Site 2 would occur.	Minor impacts, similar to the baseline schedule for roads around CRJMTTC would occur.	Moderate/major impacts, similar to the baseline schedule for roads around FTD would occur.
<u>Potential Mitigation</u>	Mitigation would be similar to the baseline construction schedule.	Mitigation would be similar to the baseline construction schedule.	Mitigation would be similar to the baseline construction schedule.	Mitigation would be similar to the baseline construction schedule.
UTILITIES				
Construction: <i>Baseline Schedule</i> <u>Impacts</u>	Negligible impacts would occur.	Similar to FCTC Site 1, negligible impacts would occur.	Negligible impacts would occur.	Potential negligible to minor impacts due to running service lines from significant distances. Impacts would be minimized by using pre-developed road right-of-ways.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Similar to the baseline construction schedule, negligible impacts would occur.	Similar to FCTC Site 1, and baseline construction schedule, negligible impacts would occur.	Similar to the baseline construction schedule, negligible impacts would occur.	Similar to the baseline construction schedule, negligible to minor impacts would occur.
<u>Potential Mitigation</u>	No mitigation would be required.	Similar to FCTC Site 1 and baseline construction schedule, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
Operation: <u>Impacts:</u>	Negligible to minor impacts would occur.	Similar to FCTC Site 1, negligible to minor impacts would occur.	Negligible to minor would occur. Negligible impacts would occur for utilities, other than the potential need for use of onsite water as an emergency backup water source. Due to potential contamination from AOCs, minor to moderate impacts could occur, but would be minimized to minor with methods consisting of an evaluation of well location/placement and cased well installation.	Negligible to minor impacts would occur.
<u>Potential Mitigation:</u>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required for utilities used for routine operations. However, due to the potential presence of contamination for back-up groundwater sources, mitigation of impacts including on-going analysis and treatment, if required could occur.	No mitigation would be required.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
WATER RESOURCES				
<p>Construction: <i>Baseline Schedule</i> <u>Impacts:</u> <i>Surface Water/Streams</i></p>	<p>Other than wetlands (addressed separately), there are limited surface water bodies in the CIS footprint.</p> <p>Minor other surface water impacts would result from:</p> <ul style="list-style-type: none"> Clearing, grading, and addition of fill could affect surface water hydrology. Soil erosion and sedimentation. Inadvertent releases of construction pollutants. <p>BMPs would address these minor impacts through a Storm Water Pollution Prevention Plan (SWPPP), a Spill Prevention, Control, and Countermeasures Plan (SPCC) and associated BMPs.</p>	<p>Similar to FCTC Site 1, impacts would be minor.</p>	<p>Other than wetlands (addressed separately), approximately 5.2linear miles of unnamed streams (1.3 miles of perennial continuous flowing streams, 1.6 miles of intermittent [wet season] streams, and 2.3 miles of ephemeral [flow after rainfall] streams) and several ponds are present in the CIS footprint.</p> <p>Major (significant) impacts to surface water hydrology would occur due to modifications of streams that traverse the CIS CRJMTTC footprint.</p> <p>Minor other surface water impacts would occur due to soil erosion and sedimentation and inadvertent pollutants would be addressed through the development and implementation of SWPPP and SPCC plans.</p>	<p>Other than wetlands (addressed separately) and approximately 5.5linear miles of streams (1.2 miles of perennial (continuous flowing) named streams (West Branch Black Creek) and 4.3 miles of intermittent (wet season) streams) are present in the CIS footprint. Note that of the 5.5 linear stream miles, 1.7 linear miles are witin Riverine wetlands (included in the Wetlands Resource). Therefore, only 3.8 linear miles are considered impacted as a water resource.</p> <p>Major (significant) impacts to surface water hydrology would occur due to modifications (rerouting, enclosing, and/or filling) of surface water streams that traverse the FTD CIS footprint. Modification may not only have major hydrologic impacts to wetlands and other surface water bodies, it may also affect wildlife and plant habitats.</p> <p>Minor other surface water impacts would occur. Soil erosion, sedimentation, and inadvertent pollutants would be addressed through the development and implementation of SWPP and SPCC Plans.</p>
<p><i>Groundwater</i></p>	<p>Some short-term, but minor impacts to site hydrology from dewatering during installation of deeper excavations and foundations would occur. Techniques would be implemented to minimize impacts.</p> <p>Based on site-specific modeling of groundwater hydrology, only negligible to minor impacts on Prairie Fens and associated wetland complexes are expected from CIS construction and operations due to interconnect through groundwater flow.</p>	<p>Similar to FCTC Site 1, impacts would be minor.</p> <p>Based on site-specific modeling of groundwater hydrology, only negligible to minor impacts on Prairie Fens and associated wetland complexes are expected from CIS construction and operations due to interconnect through groundwater flow.</p>	<p>Some short-term, but minor impacts to site hydrology from dewatering during both shallow and deeper excavations and foundations would occur. Techniques would be implemented to minimize dewatering withdrawal and impacts.</p> <p>Due the presence of AOCs within the CIS footprint, contaminated groundwater may be encountered. Therefore, moderate impacts could occur.</p>	<p>Some short-term, but minor impacts to site hydrology from dewatering during both shallow and deeper excavations and foundations would occur. Techniques would be implemented to minimize dewatering withdrawal and impacts.</p>
<p><u>Potential Mitigation</u> <i>Surface Water/Streams</i></p>	<p>No mitigation would be required.</p>	<p>Similar to FCTC site 1, no mitigation would be required.</p>	<p>Major (significant) impacts to streams would be analyzed during facility design and mitigation options such as rerouting the streams could be implemented.</p>	<p>Major (significant) impacts to streams would be analyzed during facility design and mitigation options such as routing major tributaries below ground or around the CIS footprint to downgradient discharge points would be further evaluated during the design for implementation.</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTc Site	FTD Site
<i>Groundwater</i>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	<p>Minor other surface water impacts would be addressed by implementation of BMPs; therefore, no mitigation would be required.</p> <p>Due to AOC's, groundwater generated during dewatering activities would need to be characterized, and then treated as needed.</p>	<p>Minor surface water impacts would be address by implementation of BMPs; therefore no mitigation would be required.</p> <p>No mitigation would be required.</p>
<p>Construction: <i>Expedited Schedule</i> <u>Impacts:</u> <i>Surface Water/Streams</i></p>	Impacts would be similar to those in the baseline schedule, but would be intensified. Implementing BMPs in a more aggressive manner, impacts would be minor.	Similar to FCTC Site 1, minor impacts would occur.	<p>Major (significant) impacts to surface water hydrology, similar to the baseline schedule, would occur and would require mitigation..</p> <p>Impacts due to erosion, sedimentation, and inadvertent pollutants would be similar to those defined for the baseline schedule, but would be intensified. However, these impacts would be addressed with BMPs in a more aggressive manner</p>	<p>Major (significant) impacts to surface water hydrology, similar to the baseline schedule, would occur and would require mitigation.</p> <p>Impacts due to erosion, sedimentation, and inadvertent pollutants would be similar to those defined for the baseline schedule, but would be intensified. However, by addressing impacts with BMPs in a more aggressive manner, impacts would be minor. Soil clearing and grading (erosion/sedimentation control) constraints of 5 acres would need to be addressed).</p>
<p><i>Groundwater</i></p>	Impacts would be similar to baseline schedule, with some increased intensity in quantities of dewatering generated. Impacts would remain minor through implementation of dewatering minimization techniques.	Similar FCTC Site 1, minor impacts would occur.	Due to the presence of AOCs, groundwater generated during dewatering, would need to be characterized, and disposed or treated as needed. Therefore, moderate impacts could occur.	Impacts would be similar to baseline schedule, with some increased intensity in quantities of dewatering generated. Dewatering impacts would remain minor through implementation of minimization techniques.
<p><u>Potential Mitigation:</u> <i>Surface Water/Streams & Groundwater</i></p>	No mitigation would be required.	Similar to FCTC Site 1.	Mitigations would be similar to the baseline schedule.	Mitigations would be similar to the baseline schedule.
<p>Operation: <u>Impacts:</u> <i>Surface Water/Streams</i></p>	Minor impacts would occur due to storm water runoff (site and impervious surfaces), soil erosion, and sedimentation, and from operational pollutants. BMPs would address these impacts.	Similar to FCTC Site 1, minor impacts would occur.	Minor impacts would occur due to storm water runoff (site and impervious surfaces), soil erosion, and sedimentation, and from operational pollutants. BMPs would address these impacts.	Minor impacts would occur due to storm water runoff (site and impervious surfaces), soil erosion, and sedimentation, and from operational pollutants. BMPs would address these impacts.
<i>Groundwater</i>	Impacts for this use are discussed in the Utilities resource.	Impacts for this use are discussed in the Utilities resource.	Impacts for this use are discussed in the Utilities resource.	Impacts for this use are discussed in the Utilities resource.
<p><u>Potential Mitigation:</u> <i>Surface Water</i></p>	No mitigation would be required.	Similar to FCTC Site 1, no mitigation would be required.	No mitigation would be required.	No mitigation would be required.
<i>Groundwater</i>	See Utilities resource section.	See Utilities resource section.	See Utilities resource section.	See Utilities resource section.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTC Site	FTD Site
WETLANDS				
Construction: Baseline Schedule Impacts	<p>Permanent major (significant) direct impacts from filling and draining would result in the loss of approximately 11 acres of wetlands within the CIS footprint. No high quality fens or wetlands are located in the FCTC Site 1 footprint.</p> <p>Some temporal indirect impacts could occur from erosion/sedimentation to wetlands. These impacts would be addressed by BMPs such as soil erosion and sediment control devices and buffered for impacts by other large wetlands. These potential impacts would be minor and short-term.</p>	<p>Permanent major (significant) direct impact from filling and draining would result in the loss of approximately 48 acres within the CIS footprint. Some wetlands in the footprint are part of a fen complex; however, two of three fens are low quality fens.</p> <p>Some permanent indirect impacts to wetlands would occur by changes to erosion/sedimentation, changes in hydrology, and permanent vegetation changes. Potentially major impacts would occur to an estimated 54 acres.</p> <p>Temporal indirect impacts would be similar to those defined for FCTC Site 1.</p>	<p>Permanent major (significant) direct impact from filling and draining would result in the loss of approximately 19.3 acres within the CIS footprint: Category 3 (high quality) -11.16 acres; 7.56 acres Category 2/modified Category 2, and 0.6 acres Category1 (lowest quality).</p> <p>Some permanent indirect impacts to wetlands would occur from changes by erosion/sedimentation, changes in hydrology, and permanent vegetation changes. Permanent major impacts could occur to approximately 1 acre.</p> <p>Some temporal indirect impacts would occur from erosion/sedimentation to wetlands outside the footprint. These impacts would be addressed by BMPs such as soil erosion and sediment control devices and buffered for impacts by other large wetlands. These potential impacts would be negligible to minor and short-term.</p>	<p>Permanent major (significant) direct impact from filling and draining would result in the loss of approximately 25 acres within the CIS footprint consisting of both high quality wetlands and lower quality wetlands associated with disturbed areas. Includes Riverine wetlands associated with 1.7 linear miles of streams.</p> <p>Some permanent indirect impacts to wetlands would be impacted by changes by erosion/sedimentation, changes in hydrology, and permanent vegetation changes. Permanent major impacts could occur to an estimated 60 acres.</p> <p>Some temporal indirect impacts would occur from erosion/ sedimentation (downstream of the footprint) and hydrology changes (upgradient of the footprint) to wetlands outside the footprint. These impacts would be addressed by BMPs such as soil erosion and sediment control devices and buffered for impacts by other large wetlands. Therefore, no major or long-term impacts would occur. These potential impacts would be minor and short-term.</p> <p>Substantial efforts were made during the site consolidation activities to avoid and minimize wetland losses.</p>
Potential Mitigation	<p>Unavoidable wetland impacts in Michigan of greater than 5 acres considered essential to conservation of state’s natural resource would require mitigation to replace lost wetland acreage and wetland functions.</p> <p>Mitigation for wetland loss could consist of: wetland creation in off-installation uplands, purchase of mitigation bank credits, or in-lieu fee program benefits.</p> <p>The specific types and amount of mitigation would not be determined until a decision to deploy is made and a permit application under Section 404 and the Michigan water quality certification process under Section 401 are initiated. Based on correspondence</p>	<p>Similar mitigation to FCTC Site 1 would be required, with exception that some of the portions of the Site 2 wetlands would have a higher quality; therefore, could require a high mitigation ratio than FCTC Site 1 wetlands.</p> <p>The specific types and amount of mitigation would not be determined until a decision to deploy is made and a permit application under Section 404 and the Michigan water quality certification process under Section 401 are initiated. Based on correspondence</p>	<p>Unavoidable wetland impacts in Ohio of greater than 1 acre would require mitigation to replace lost wetland acreage and wetland functions.</p> <p>Mitigation for wetland loss could consist of onsite mitigation for value and function and offsite mitigation provided in the same watershed or through banking sites (in-lieu fee program) which are available.</p> <p>The specific types and amount of mitigation would not be determined until a decision to deploy is made and a permit application processes are initiated under Sections 404 and 401 (and, if required, the Ohio Isolated Wetlands Permit Program).</p>	<p>Unavoidable wetland impacts in New York of 1 acre would require mitigation to replace lost wetland acreage and wetland functions.</p> <p>Mitigation for wetland loss could consist of onsite mitigation for value and function and offsite mitigation provided in the same watershed or through banking sites (in-lieu fee program). Currently only FTD has a wetland mitigation bank for this watershed although in-lieu fee program sponsored by others may be a viable option.</p> <p>For the Riverine wetlands that encompass 1.7 linear miles of streams, major (significant) impacts to surface water hydrology would be analyzed during facility design and mitigation options such as routing</p>

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMT C Site	FTD Site
	from the Michigan Department of Environmental Quality, an anticipated mitigation ratio of 1:1.5 may be expected for the FCTC Site 1 wetlands.	from Michigan Department of Environmental Quality, due to the higher quality of FCTC Site 2 wetlands, an anticipated mitigation ratio of 1:5 may be expected for some of the FCTC Site 2 wetlands.		major tributaries below ground or around the CIS footprint to downgradient discharge points, or splitting the site into two sites enclosed by a security fence (leaving the existing streams in place), would be further evaluated during the design for implementation. The specific types and amount of mitigation would not be determined until a decision to deploy is made and a permit application processes are initiated under Sections 404 and 401 .
Construction: <i>Expedited Schedule</i> <u>Impacts</u>	Similar major (significant) impacts to the baseline schedule would occur with the potential for higher intensive impacts, earlier loss of wetland habitat and groundwater flow, and higher degree of sedimentation due to the compressed schedule. BMPs would need to be implemented more aggressively.	Similar major (significant) impacts to FCTC Site 1, but heightened due to the quality of the wetlands in FCTC Site 2, would occur.	Similar major (significant) impacts to the baseline schedule would occur with the potential for higher intensive impacts, earlier loss of wetland habitat and groundwater flow, and higher degree of sedimentation due to the compressed schedule. BMPs would need to be implemented more aggressively.	Similar major (significant) impacts to the baseline schedule would occur with the potential for intensive impacts, earlier loss of wetland habitat and groundwater flow, and higher degree of sedimentation due to the compressed schedule. BMPs would need to be implemented more aggressively.
<u>Potential Mitigation</u>	Mitigation similar to the baseline schedule would be required.	Mitigation similar to FCTC Site 1.	Mitigation similar to the baseline schedule would be required.	Mitigation similar to the baseline schedule would be required.
Operation: <u>Impacts</u>	Impacts would be negligible. Limited impacts would occur, other than the potential for erosion and sedimentation of wetland areas adjacent to the CIS footprint.	Similar to FCTC Site 1, negligible impacts would occur.	Impacts would be negligible. Limited impacts would occur, other than the potential for erosion and sedimentation of wetland areas adjacent to the CIS footprint.	Impacts would be negligible. Limited impacts would occur, other than the potential for erosion and sedimentation of wetland areas adjacent to the CIS footprint.
<u>Potential Mitigation</u>	No compensatory mitigation would be required.	Similar to FCTC Site 1, no compensatory mitigation would be required.	No compensatory mitigation would be required.	No compensatory mitigation would be required.
VISUAL/AESTHETICS				
Construction: <i>Baseline Schedule</i> <u>Impacts:</u> <i>Daylight</i> <i>Night View/Skyglow</i>	Overall, minor to moderate impacts would occur. Offsite minor to moderate visual impacts would occur from utilities and increased traffic; slight potential for heavily screened glimpses of structure construction. Minor to moderate impacts would occur because construction would mainly be during the daytime. Greater potential for skyglow and visibility of heavily screened lighting impact during winter season when lighting needed at start and end of each day.	Overall, minor to moderate impacts would occur. Offsite minor to moderate visual impacts would occur from utilities and increased traffic. Low potential for visible changes to water views offsite. Minor to moderate impacts would occur because construction would mainly be during the daytime. Greater periods of lighting extending into darkness possible because of the greater cut and fill required. Greater potential for skyglow and visibility of heavily screened lighting impact during winter season when lighting needed at start and end of each day.	Overall, minor to moderate impacts would occur. Offsite minor to moderate visual impacts would occur from utilities and increased traffic. Minor to moderate impacts would occur because construction would mainly be during the daytime. Greater potential for skyglow and visibility of heavily screened lighting impact during winter season when lighting needed at start and end of each day.	Overall, moderate impacts would occur. Offsite moderate visual impacts would occur from utilities and greatly increased traffic at the west CIS entrance. Moderate impacts would occur because of the lack of screening from several residences outside the west boundary and the contrast between existing and construction lighting conditions.

Impacts/ Potential Mitigation	FCTC Site 1	FCTC Site 2	CRJMTTC Site	FTD Site
<u>Potential Mitigation:</u> <i>Daylight</i> <i>Night View/Skyglow</i>	<p>Maintaining a forest buffer; limiting tree removal.</p> <p>No mitigation would be required. Minimization measures could include fully recessed lighting and use of lighting only when, where, and for duration needed.</p>	<p>Maintaining a forest buffer; limiting tree removal.</p> <p>No mitigation would be required. Minimization measures could include fully recessed lighting and use of lighting only when, where, and for duration needed.</p>	<p>Maintaining a forest buffer; limiting tree removal.</p> <p>No mitigation would be required. Minimization measures could include fully recessed lighting and use of lighting only when, where, and for duration needed.</p>	<p>Maintaining a forest buffer in existing forested areas; planting of vegetated screening area, if practicable, near the west CIS entrance.</p> <p>Minimization measures could include fully recessed lighting and use of lighting only when, where, and for duration needed. Vegetated screening area, if practicable, would also mitigate lighting impacts to nearby residences.</p>
Construction: <i>Expedited Schedule</i> <u>Impacts:</u> <i>Daylight and Night View/Skyglow</i> <u>Potential Mitigation:</u> <i>Daylight and Night View/Skyglow</i>	<p>Moderate impacts would occur with the greater intensity of construction activities and vehicle traffic from the compressed/expedited schedule and more skyglow from use of construction lighting all night, every night.</p> <p>No mitigation; minimization measures would include fully recessed lighting and downward directed construction lighting.</p>	<p>Similar to FCTC Site 1, moderate impacts with greater potential for observable skyglow at Fort Custer Recreational Area (FCRA).</p> <p>Similar to FCTC Site 1, no mitigation.</p>	<p>Moderate impacts would occur with the greater intensity of construction activities and vehicle traffic from the compressed/expedited schedule and more skyglow from use of construction lighting all night, every night.</p> <p>No mitigation; minimization measures would include fully recessed lighting and downward directed construction lighting.</p>	<p>Moderate impacts would occur similar to the baseline schedule with increased intensity of construction activities and vehicle traffic from the compressed/expedited schedule and more directly observable lighting and skyglow (at residences outside west CIS boundary) from use of construction lighting all night, every night..</p> <p>Planting of vegetated screening area, if practicable, near the west CIS entrance would mitigate day and night impacts with the exception of skyglow. Skyglow minimization measures would be the same as for the baseline schedule.</p>
Operation: <u>Impacts:</u> <i>Daylight</i> <i>Night View/Skyglow</i> <u>Potential Mitigation:</u> <i>Daylight</i> <i>Night View/Skyglow</i>	<p>Overall, negligible to minor impacts would occur.</p> <p>Negligible impacts would occur. Operation and facility lighting impacts negligible; would create minor skyglow.</p> <p>No mitigation would be required.</p> <p>Fully recessed light fixtures that direct all light downward. Positioning of facilities in the design phase to minimize offsite light pollution.</p>	<p>Overall, negligible to minor impacts would occur.</p> <p>Negligible impacts would occur. Operation and facility lighting creates minor potential skyglow impacts due to proximity of sensitive areas such as FCRA.</p> <p>No mitigation would be required.</p> <p>Fully recessed light fixtures that direct all light downward. Positioning of facilities in the design phase to minimize offsite light pollution.</p>	<p>Overall, negligible to minor impacts would occur.</p> <p>Negligible impacts would occur. Operation and facility lighting impacts negligible; would create minor skyglow.</p> <p>No mitigation would be required.</p> <p>Fully recessed light fixtures that direct all light downward. Positioning of facilities in the design phase to minimize offsite light pollution.</p>	<p>Overall, minor to moderate impacts would occur.</p> <p>Minor impacts would occur. Operation and facility lighting impacts would be similar to construction and would be a moderate to substantial increase in lighting levels compared to those that existed before construction.</p> <p>No mitigation would be required.</p> <p>Consider planting vegetated screening area, if practicable, near the west CIS entrance. Fully recessed light fixtures that direct all light downward. Positioning of facilities during design phase to minimize offsite light pollution.</p>

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