Draft

Environmental Assessment

U.S. Dairy Forage Research Center
Prairie Du Sac, Wisconsin

United States Department of Agriculture
Agricultural Research Services

Prepared for:

USDA

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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
ARS	Agricultural Research Service
BAAP	Badger Army Ammunition Plant
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
dBA	A-weighted decibels
DFRC	Dairy Forage Research Center
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FNSI	Finding of No Significant Impact
GHG	greenhouse gas
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPA	Nationwide Programmatic Agreement
NRHP	National Register of Historic Places
NO_X	nitrous oxides
O_3	ozone
$PM_{2.5}$	particulate matter (measured less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter (measured less than or equal to 10 microns in diameter
PSD	Prevention of Significant Deterioration
ROI	Region of Influence
SHPO	State Historic Preservation Office
SO_X	sulfur oxides
U.S.	United States
U.S.C.	U.S. Code
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USH	U.S. Highway
UW	University of Wisconsin

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EXECUTIVE SUMMARY

The United States Department of Agriculture (USDA) Agricultural Research Service (ARS) proposes to construct a new United States Dairy Forage Research Center (DFRC) in Prairie du Sac, Wisconsin to modernize and enhance the quality and quantity of research conducted on the forage production and the utilization of the forage by the dairy cow. The proposed DFRC would consist of dairy production and research (including animal housing) facilities, operations and maintenance facilities, and supporting infrastructure. This project is considered a new construction project and requires an Environmental Assessment (EA) in conformance with the National Environmental Policy Act (NEPA) and supplementary ARS implementing regulations.

NEPA was established January 1, 1970, to ensure federal agencies consider the potential impacts of their actions on the environment. As required under NEPA, USDA and ARS published regulations to supplement the Council on Environmental Quality (CEQ) guidelines for NEPA implementation. The CEQ regulations appear at 40 Code of Federal Regulations (CFR) 1500-1508, USDA's at 7 CFR 1b, and ARS' at 7 CFR 520. These regulations provide managers and decision makers a means to evaluate the direct, indirect, and cumulative environmental consequences of proposed actions at the earliest possible time (i.e., before irreversible commitment of resources). They also specify how to document efforts to identify, evaluate, quantify, and consider both the positive and negative environmental effects of proposed actions. It is ARS policy to fully comply with the NEPA law and applicable regulations. Whenever possible, preference is given to avoiding or mitigating adverse environmental effects.

Resource specialists used a systematic approach for analyzing the Proposed Action and alternatives to it, estimating the environmental effects, and preparing this EA. The analysis contained herein concludes that there would be:

- No, or negligible, adverse impacts on: land use; topography; wetlands; floodplains; Bald and Golden Eagle Act-protected species; State-protected species; cultural resources; environmental justice communities; infrastructure; transportation; and recreation.
- Minor adverse impacts on: surface water; groundwater; Endangered Species Act and Migratory Bird Treaty Act-protected species; visual resources and aesthetics; air quality; public health and safety; noise; hazardous materials and waste management; and cumulative impacts.
- Minor beneficial impacts on: socioeconomics; infrastructure; and climate change and greenhouse gas emissions.
- Moderate adverse impacts on: geology and soils; vegetation; and wildlife.
- Moderate beneficial impacts on: land use.

No significant adverse impacts would be expected to occur from the Proposed Action. USDA consulted with the appropriate regulatory agencies, and with federally recognized tribes, regarding impacts on biological and cultural resources and results of these consultations have been incorporated into this EA. This document complies with NEPA and CEQ regulations for implementing NEPA (40 CFR §§ 1500–1508). An EA is “a concise public document…to aid an agency's compliance with the Act and support its determination of whether to prepare an environmental impact statement or a finding of no significant impact” (40 CFR 1508.1(h)).

Privacy Advisory

This Draft Environmental Assessment (EA) is provided for public review in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations for implementing the National Environmental Policy Act (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508, as amended by 85 FR 43304-43376), 7 CFR 1b, and 7 CFR 520.

The NEPA process provides an opportunity for public input on United States Department of Agriculture (USDA) decision making. Letters or other comments provided may be incorporated into this EA. Only the names of the individuals making comments and specific comments would be disclosed in the EA. Personal information, home addresses, telephone numbers, and email addresses are not published in the EA.

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1 Introduction and Background

The United States (U.S.) Department of Agriculture (USDA) Agricultural Research Service (ARS) proposes to construct and operate a new U.S. Dairy Forage Research Center (DFRC) in Prairie du Sac, Wisconsin to modernize and enhance the quality and quantity of research conducted on the forage production and the utilization of the forage by the dairy cow. This Environmental Assessment (EA) documents the anticipated environmental effects of the Proposed Action to determine if an Environmental Impact Statement (EIS) is required. This process will fulfill ARS policy and direction to comply with the National Environmental Policy Act (NEPA); USDA is the lead agency for this EA.

An existing DFRC in Prairie du Sac, Wisconsin is one of 90 sites administered by USDA ARS. Research undertaken by USDA ARS in Wisconsin is concentrated on soil, forage crops, forage management, ruminant nutrition, manure management, and environmental sustainability. Labs, greenhouses, and offices associated with this research are located at the University of Wisconsin (UW)-Madison campus, the Institute for Environmentally Integrated Dairy Management in Marshfield, and at the farm at the DFRC.

The USDA ARS' mission is to "deliver scientific solutions to national and global agricultural challenges (USDA ARS 2023a)." The DFRC's mission is "…providing dairy industry solutions for food security, environmental sustainability, and economic viability. We build uniquely valuable, science-based research initiatives focused on improving dairy production systems, soil ecology, forage production, forage quality, nutrient management, and ecosystem services" (USDA ARS 2023b). To meet its mission, research at the DFRC revolves around dairy forage, dairy nutrition, the dairy environment, and integrated dairy systems, and is led by 20 scientists in multiple disciplines including dairy science, animal genetics, agronomy, soil science, plant genetics, molecular genetics, plant physiology, microbiology, chemistry, and agricultural engineering (USDA ARS Undated). The DRFC 2,200-acre, 390-cow dairy farm in Prairie du Sac is an integral part of these research efforts.

Efforts to establish a USDA dairy research facility date back to the late 1950s. Planning and programmatic development occurred from 1974 to 1979 and construction of the first buildings and feed storage units occurred in 1980 on the existing DFRC site. The foundation herd was brought to the farm in the early 1980's through a donation from UW-Madison. Currently, the DFRC operates jointly with UW-Madison College of Agricultural & Life Sciences, Agricultural Research Stations. UW-Madison uses revenues from the DFRC to offset operating costs and to pay the state employees who work there. In return, the dairy herd and DFRC are made available for the faculty and students conducting research within the College of Agricultural & Life Sciences.

The USDA has considered several options for new and remodeled research facilities at the existing DFRC in Prairie du Sac, Wisconsin to modernize farm research operations. ARS personnel formed a DFRC Facilities Planning Committee consisting of current partners and industry stakeholders to assist in the planning of this proposal. Following a prescriptive evaluation technique, it was determined that construction of a new DFRC facility on an underutilized parcel within the former Badger Army Ammunition Plant (BAAP) would best meet

the needs as determined by the ARS, the DFRC, the UW-Madison, and other stakeholders involved in the project. See **Section 2.4** for alternatives that were considered to modernize farm operations but dismissed from further evaluation.

1.1 Location of the Project Area

The project area is located at S8046 U.S. Highway (USH) 12 in Prairie du Sac, Wisconsin, approximately 2.3 miles northwest of the existing DFRC site at S8822 Sunset Drive, and approximately 4.6 miles northwest of the town of Prairie du Sac (see **Figure 1-1**). The project area occupies approximately 101 acres and is defined as the land proposed for construction of the new DFRC, which would include multiple facilities, utilities extensions and connections, access roads and parking, walkways, open space, and land for a proposed construction laydown area. Of the 101-acre project area, approximately 60.6 acres would be disturbed and utilized for project development. See **Section 2.1** for more information regarding activities proposed within the project area.

The existing and proposed DFRC sites are on land that was previously owned by the U.S. Department of Defense's (DoD) BAAP. In 1980, the DFRC obtained a special permit through the DoD to farm approximately 1,500 acres of cropland and pastureland that were part of the 7,354-acre BAAP. On September 29, 2004, the USDA received custody of 1,943 acres of the BAAP to be used by DFRC.

1.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to improve cow health and well-being, and to modernize and enhance the quality and quantity of research conducted on forage production and the utilization of the forage by the dairy cow. Research at the new DFRC would include investigating how dairy cows digest and utilize feed so that forage plants and dairy cattle diets can be modified to improve digestibility and nutrient utilization.

The Proposed Action is needed because the existing DFRC facilities are over 40 years old and were designed and built in an era when animal health, comfort, and well-being were not extensively considered. Additionally, the size of the average Holstein cow has increased considerably (e.g., modern cows are about 25 percent taller and 30 to 40 percent heavier than the cows in 1980) and many of the drovers' lanes, beds, stanchions, and stalls in the current DFRC facility are too small and have limited ability to be adjusted. The Proposed Action would create new facilities that would be in compliance with the 2012 ARS Facilities Design Standards, ARS Manual 242.1. Additionally, the Proposed Action is needed to support research that creates greater economic sustainability for dairy producers (e.g., more milk produced per unit of feed fed) and environmental sustainability (e.g., less manure produced per unit of milk produced).

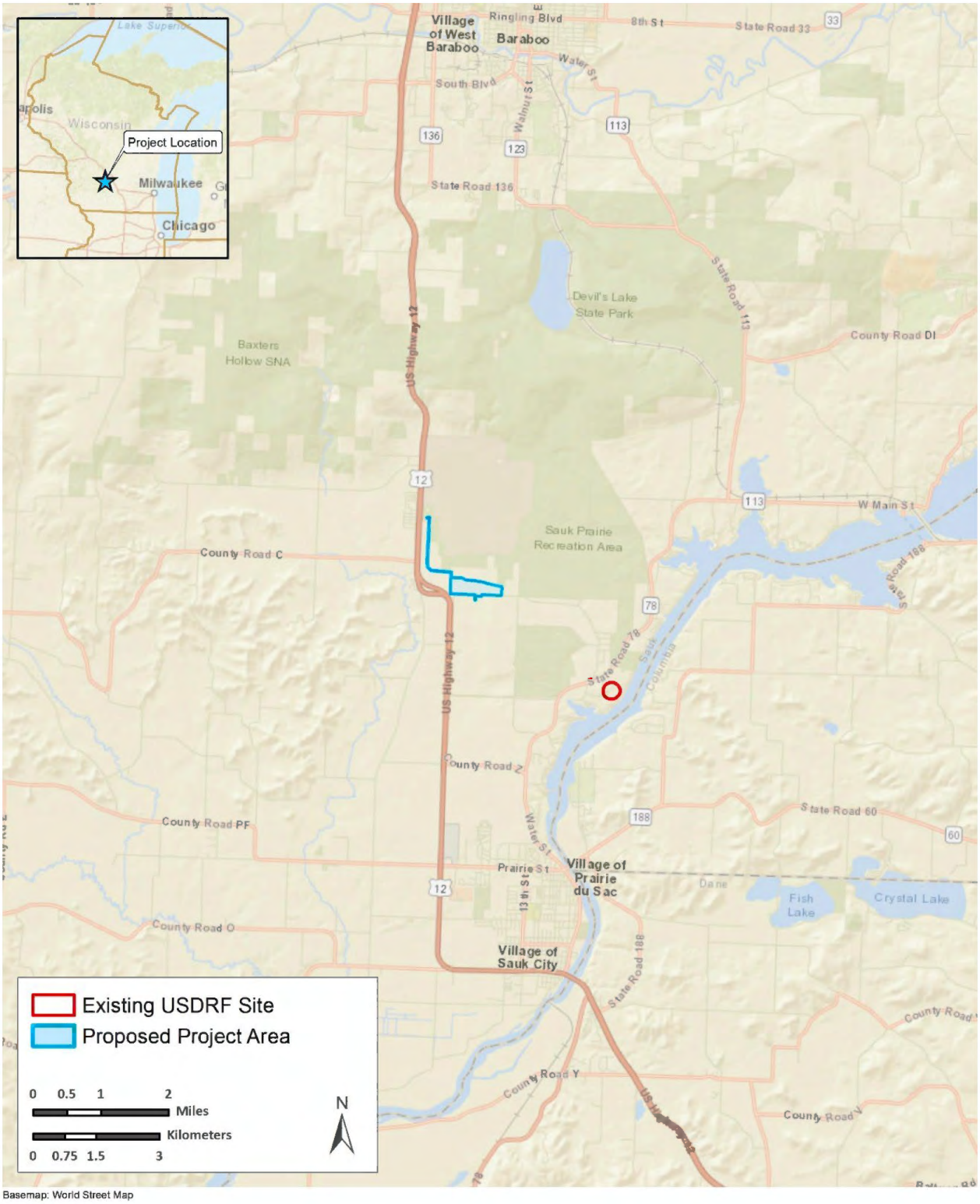

Figure 1-1. Proposed DFRC Project Area and Vicinity

The future needs of the dairy industry depend on research that increases the economic and environmental sustainability of dairy farms, which is based on better understanding of how dairy cows digest and utilize feed. To conduct this research, the industry needs a highly specialized type of research facility that enables researchers to carefully monitor every aspect of digestion at every step of the way. To date, there are no publicly funded research facilities of this type in operation; two exist at universities, but both have been unable to operate consistently due to soft funding. The DFRC has named this highly specialized research unit, that would allow for careful monitoring of digestion, the Intensive Animal Nutrition Research Facility.

Enhanced research farm facilities would also enable the DFRC to increase its capacity for conducting research on air emissions from dairy farms, which is essential information for policy makers, regulators, and the dairy industry. Current DFRC research in the area of ammonia and other greenhouse gas (GHG) emissions is conducted in a retrofitted 1980 tie-stall barn. Specially designed air emission chambers at a new facility would allow research to be conducted more efficiently and timely.

Constructing new and modernized research farm facilities would also allow for the creation of facilities that are more energy efficient and enhance the surrounding environment and landscape. Additionally, a new facility could accommodate educational and historical displays and opportunities for the public.

1.3 Decision to be Made

The Responsible Official will decide whether the Proposed Action will have significant effects and therefore, require the preparation of an EIS; whether to issue a Finding of No Significant Impact (FNSI) for the proposed DFRC facility; or whether to select the No Action Alternative. This decision will be based on:

- whether the Proposed Action meets the purpose of and need for action (see **Section 1.2**);
- whether the information in the EA analysis is sufficient to select the Proposed Action; and
- whether the Proposed Action would have significant effects and therefore, require the preparation of an EIS.

1.4 NEPA and Other Compliance Requirements

NEPA of 1969 (42 United States Code [U.S.C.] 4321-4347) is a federal law requiring the analysis of potential environmental impacts associated with proposed federal actions before the actions are taken. The intent of NEPA is to make informed decisions based on the identification of potential environmental consequences and take appropriate actions to protect, restore, or enhance the environment. The Council on Environmental Quality (CEQ), established in accordance with NEPA, is responsible for ensuring federal agency compliance with NEPA.

Under the guidance provided in NEPA and in 7 Code of Federal Regulations (CFR) Part 1b, the USDA's implementing regulations for NEPA, either an EIS or an EA must be prepared for most

federal actions. If an action may significantly affect the environment, an EIS would be prepared. The contents of an EA include the need for the Proposed Action, alternatives to the Proposed Action, environmental impacts of the Proposed Action and alternatives considered for implementation, and documentation of agency and public coordination. Upon completion of an EA, the responsible official will consider the information it contains, decide whether an EIS is required or that no significant environmental impact will occur, and will document the decision and the reasons for it. The decision and the EA would be available to the public and combined with a FNSI, as appropriate.

To comply with NEPA, the planning and decision-making process for actions proposed by federal agencies involves a study of other relevant environmental laws and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental laws and regulations. This EA examines several resource areas that have the potential to be affected by the Proposed Action and alternatives, and includes applicable elements of the human and natural environments required by specific laws, regulations, Executive Orders (EOs), and policies. Discussions on regulatory compliance with principal federal and state laws and regulations are provided in **Section 3** of this EA.

This EA will be used to guide USDA in implementing the Proposed Action in a manner consistent with USDA standards for environmental stewardship should the Proposed Action be approved for implementation.

1.5 Public Involvement

The NEPA process provides for an open public involvement process. NEPA requirements help ensure that environmental information is made available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process.

Under NEPA regulation 40 CFR Part 1506.6, USDA encourages public and relevant agency involvement in this EA. The Draft EA and Draft FNSI are being made available to relevant state and local government agencies and organizations (stakeholders) for a 30-day review period. A Notice of Availability announcing availability of this Draft EA and Draft FNSI for a 30-day period is being published in a local newspaper. After the Draft EA review period is complete, and the Final EA is developed, copies of the Draft EA distribution materials will be included in **Appendix A**. Public input on the Draft EA and Draft FNSI will be considered prior to signing the FNSI. Previously, public feedback was received on this action in 2011, when the USDA initially considered the upgrade or new construction of the DFRC facility, but did not proceed with the action at that time. Public reaction to the USDA proposal in 2011 was related to conformance with the BAAP Reuse Plan (i.e., the addition of new structures on lands previously part of the BAAP and associated aesthetic impacts) (USDA ARS 2011).

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2 Proposed Action and Alternatives

This section describes the Proposed Action, the No Action Alternative, and the alternatives considered but eliminated from detailed analysis. In addition, this section identifies the alternatives carried forward for analysis in this EA.

2.1 Proposed Action

The USDA proposes to construct and operate a new DFRC within a project area of approximately 101-acres northwest of Prairie du Sac, Wisconsin. The proposed DFRC would consist of dairy production and research (including animal housing) facilities, operations and maintenance facilities, and supporting infrastructure. The overall DFRC would be divided into multiple buildings and connected by covered walkways (see **Figure 2-1**). A summary of facility types included in the proposed DFRC is provided below:

- Dairy production facilities would include a conventional milking parlor, robotic milking units, milking support areas, cattle holding area, lactating cow housing, dry cow housing, special needs & maternity, calf barn, and cattle working areas. Animal buildings would provide housing and milking facilities for a maximum stall capacity of 452 head of lactating dairy cows.
- Dairy research facilities would include Advanced Animal Nutrition, animal emission chambers, a laboratory, administrative offices, personnel space including dormitory with kitchenette, and a visitor's center. Per USDA's project vision to provide community outreach, the visitor's center will have an education center including a conference room and other educational components for the local community and visitors. This building will connect public visitors to the farm and provide them with exposure to the research activities at the new DFRC.
- A manure system would facilitate the collection, transfer, sand bedding separation, recycling, storage conditioning, and storage of dairy manure for utilization as an organic fertilizer on DFRC cropland.
- A cattle feed storage facility would provide storage of silage, hay, and other feedstuffs produced from the DFRC cropland and purchased from outside sources.
- Field equipment storage and maintenance facility would include fertilizer, pesticide, and non-pesticide storage.

Construction of the DFRC would also include installation and connection of utilities, fencing, access roads and parking areas, and walkways. Access roads, walkways, and parking areas could be constructed of asphalt, concrete, or gravel and for the purposes of the analysis in Section 3, it is assumed that all would be impervious surfaces.

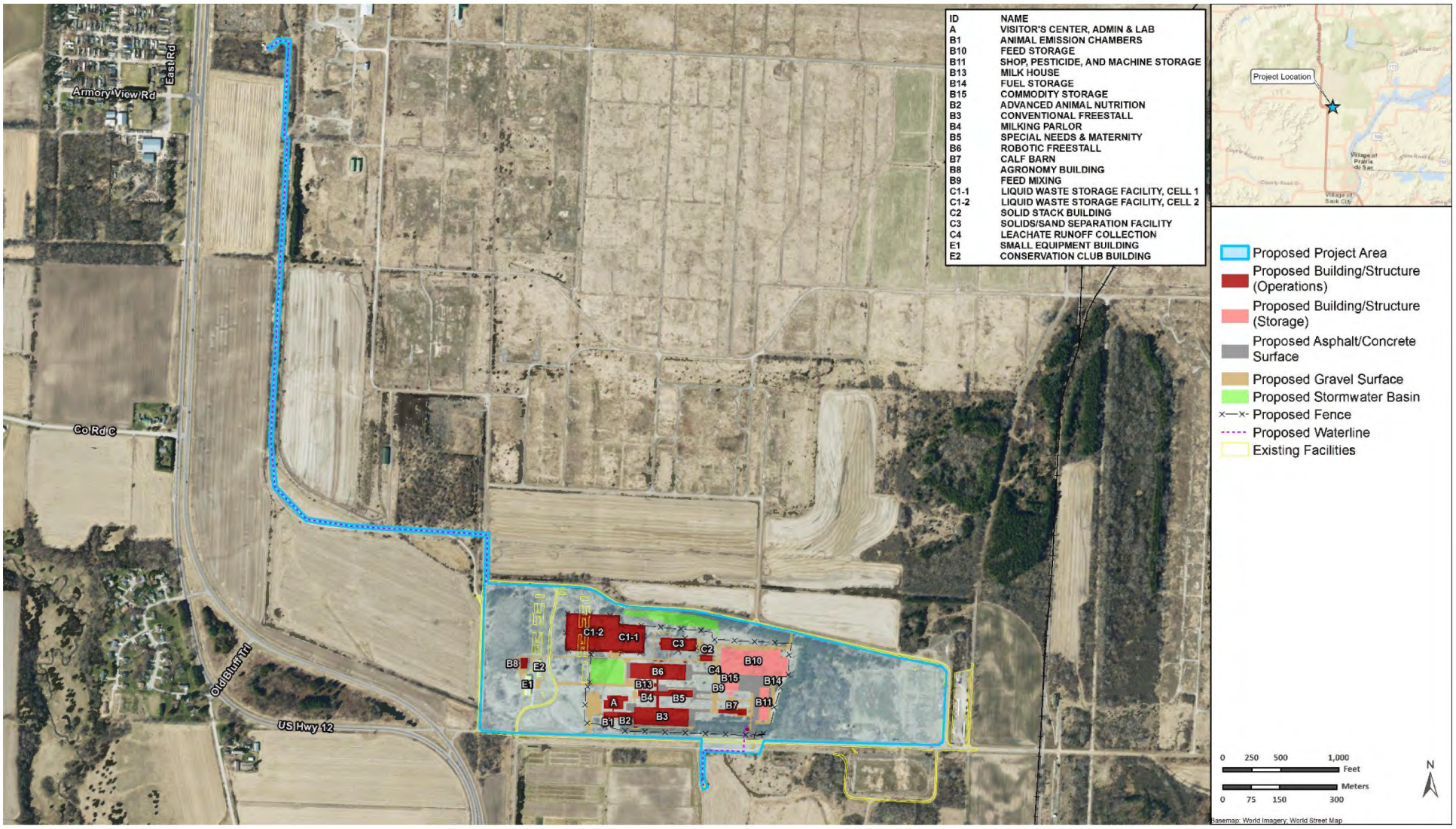

Figure 2-1. Project Area and Proposed Facilities

The Proposed Action would disturb approximately 60.6 acres of the 101-acre project area, shown as the "work limit" in **Figure 2-2.** Disturbance across the entire work limit would consist of vegetation clearance, grubbing, and grading. The work limit includes all locations proposed for topsoil stripping, facility construction, installation and connection of utilities, fencing, proposed pavements, and proposed stormwater basins. The linear extensions of the project area within the work limit to the north and south shown on **Figures 2-1 and 2-2** would be waterline extensions within an existing easement along an existing sewer line to Bluffview Well 3, and on USDA land to Badger Well 5, respectively. Land to the east of the work limit, within the project area, would not be cleared and would be utilized for a construction laydown yard. Within the 60.6 acres of the work limit, topsoil would be stripped from 22.9 acres, and 2.9 acres would be excavated for stormwater basins. See **Table 2-1** for a summary of project area acreage and proposed disturbance within the project area.

Table 2-1. Proposed Ground Disturbance

Disturbance Type	Acres
Vegetation Clearance, Grubbing, and Grading in Work Limit within Project Area	60.6
Top Soil Strip within Work Limit [a]	22.9
Stormwater Basin Excavation within Work Limit [a]	2.9
Undisturbed within Project Area Including Construction Laydown	40.4
Total Project Area	**101**

[a] All acreage within the work limit would be cleared, grubbed, and graded. Within the work limit, additional types of disturbance that would occur would include top soil strip and stormwater basin excavation. Areas within the work limit where top soil strip and stormwater basin excavation would not occur would still be subject to vegetation clearance, grubbing, and grading.

Following ground disturbance and topsoil stripping within the project area, new construction would consist of 22.3 acres of impervious surfaces (see **Figure 2-1** and **Table 2-2**), and removal of 0.5 acres of existing foundations, resulting in a net increase of 21.8 acres of impervious surfaces. The Proposed Action would include construction of approximately 254,003 square feet for new production, research, operations, and maintenance facilities and supporting infrastructure; and approximately 118,790 square feet for silage and feed storage facilities and supporting infrastructure.

Table 2-1. Proposed Construction

Disturbance Type	Impervious Surfaces (Acres)
Proposed Buildings/Structures	+ 14.4
Proposed Pavements (access roads, parking areas, etc.)	+ 2.8
Proposed Gravel Roads	+ 5.1
Removal of Previous Facility Foundations	- 0.5
Total	**21.8**

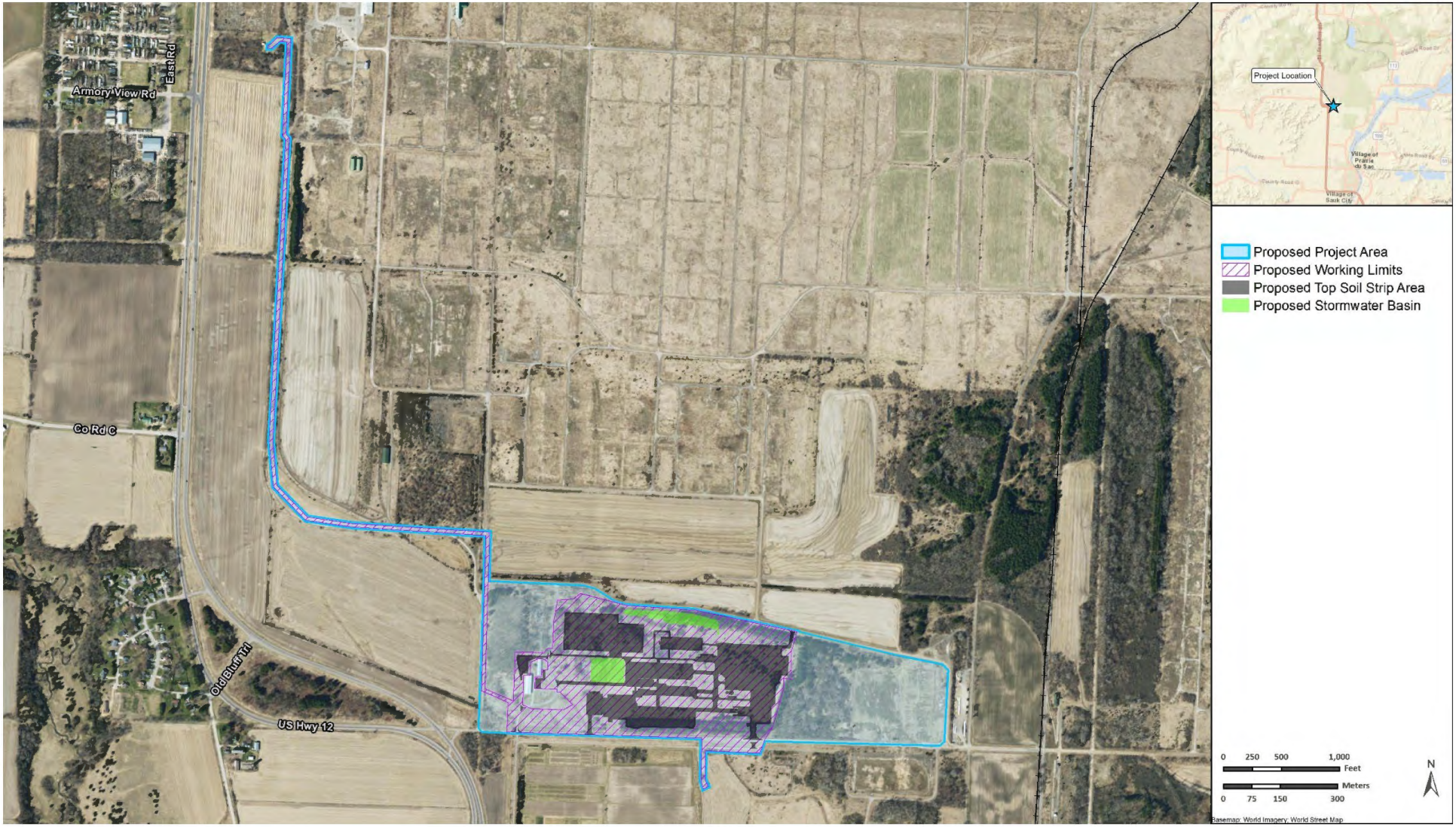

Figure 2-2. Project Area and Proposed Ground Disturbance

All construction would be designed in accordance with ARS Facilities Design Standards, ARS-242.1, which would serve as the standard for applicable codes and requirements. Unified Facilities Criteria would also be followed when the ARS Facilities Design Standard do not provide a direction on the design. Required permits would be obtained within the timeline required by the permit.

It is anticipated that construction of the proposed DFRC would take place over approximately 3 years. Once the proposed DFRC site is operational, dairy production and research, to include the lactating and dry cow units, would move from the existing DFRC to the proposed DFRC site. The proposed DFRC site would be able to accommodate up to 452 lactating Jersey and Holstein cows and 144 calves; and up to 12 operations and maintenance personnel, and up to 10 student researchers. For purposes of this EA, it is assumed that proposed operations at the new DFRC site would be consistent with those occurring at the existing DFRC, except for when utilization of the new facility creates efficiencies that were not realized at the existing site. The existing DFRC would continue to be used for administrative purposes, to include research, and therefore, would not be anticipated to appreciably add to or generate new types of effects on any resource area and therefore, is not discussed further in this EA. Administrative use of the existing DFRC facility would continue to align with surrounding land uses and mission support for USDA ARS. Any future dairy production and associated activities at the existing DFRC would be subject to additional NEPA review. The existing approximate 2,200 acres at the DFRC that is used for cropland and grazing, to include acreage of pasture and perennials, would continue to be utilized as part of DFRC operations.

2.2 No Action Alternative

CEQ regulations require inclusion of the No Action Alternative in an EA to assess any environmental consequences that may occur if the Proposed Action is not implemented. Therefore, the No Action Alternative is carried forward for detailed analysis in this EA. The No Action Alternative provides a baseline against which the Proposed Action alternatives can be compared. Under the No Action Alternative, the USDA would not construct and operate a new DFRC on 101 acres at S8046 USH 12 in Prairie du Sac, Wisconsin and would continue to operate out of the existing, outdated DFRC facility. Cow health and well-being would not be improved, and the quality and quantity of research conducted on forage production and the utilization of the forage by the dairy cow would not be modernized or enhanced. The No Action Alternative considers what may result if the Proposed Action is not implemented, and does not meet the purpose and need for the Proposed Action as described in **Section 1.2**.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

USDA considered but eliminated two potential alternatives to constructing the new DFRC:

- Expanding and upgrading the existing DFRC on Sunset Drive, and
- Maintaining and making minor upgrades to the existing DFRC on Sunset Drive.

Both alternatives consisted of modifying the existing DFRC and would involve construction of approximately 220,000 square feet of new facilities. For an alternative to be carried forward for

analysis in an EA, it must meet the purpose of and need for the Proposed Action (see **Section 1.2**), and it must be considered reasonable by meeting the identified selection standards. To be considered reasonable, the USDA potential alternatives must meet the following standards:

- Improve access to natural ventilation for better cow health.
- Reduce the chance of contaminating the Wisconsin River with manure spill or runoff.
- Allow grazing cows to be milked in the same parlor as other cows, thereby eliminating the need for a second milking parlor for the grazing cows.
- Be closer to cropland base. Reduce distance between farm buildings and cropland.
- Improve labor efficiency.
- Provide better, more efficient layout of farm buildings to reduce “travel time” between tasks and ease communication between workers.
- Be away from housing developments along the Wisconsin River.
- Minimize “shut down” time during construction.

Although both alternatives considered would allow for expanding the herd size, they did not meet the selection standards for the following reasons:

- The frequent fog/moisture from the Wisconsin River hinders ventilation in the existing DFRC barns.
- The current manure storage at the existing DFRC is 750 feet away from the Wisconsin riverbank, which poses concern for water quality and public health.
- The distance between existing DFRC farm buildings and furthest field is 5 miles, which increases drive time to haul crops back to the farm and haul manure out to the fields.
- The Water’s Edge housing development is located nearby the existing DFRC, along the Wisconsin River.

Additionally, both alternatives considered would require the expansion of the existing manure storage facility in an area adjacent to the Wisconsin River, limit the potential for future DFRC expansion, and would result in continued research within outdated buildings. Therefore, the alternative to expand and upgrade the existing DFRC site, and the alterative to maintain and make minor upgrades to the existing DFRC site, do not meet the selection standards nor the purpose of and need for the Proposed Action (see **Section 1.2**) and are not carried forward for analysis in this EA.

2.4 Alternatives Carried Forward for Analysis

As described under **Section 2.3**, USDA has dismissed other potential alternatives for analysis because they would not meet the identified selection standards. Therefore, environmental resource analysis in this EA will be conducted for only the Proposed Action (see **Section 2.1**) and the No Action Alternative (see **Section 2.2**).

2.5 Identification of the Preferred Alternative

According to CEQ guidelines, an agency's preferred alternative is the alternative that the agency believes would fulfill its statutory mission and responsibilities, considering economic, environmental, technical, and other factors. The USDA's Preferred Alternative is to implement the Proposed Action as described in **Section 2.1**. The USDA is identifying the Preferred Alternative pursuant to 40 CFR § 1502.14(d); however, no final decision selecting a particular alternative for implementation has been made. Upon completion of the Final EA, the USDA decision maker will consider the EA analysis to support selection of the alternative that best satisfies the stated purpose and need.

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3 Affected Environment and Environmental Consequences

This section defines the context and intensity for analyzing effects in this EA, describes the current condition of resources in the project area, and presents the potential effects that the alternatives (Proposed Action and No Action) may have on these resources. Impacts on the environment are considered in terms of their direct, indirect, and cumulative effects as defined in 40 CFR 1508(1)(g). This section provides the necessary information to determine whether or not to prepare an EIS.

For this analysis, as applicable, the term “project area” is defined as described in **Section 1.1** and indicates the entire 101-acres that encompasses the extent of the Proposed Action, which includes land that would remain undisturbed and/or as open space following construction. The term “work limit” is used to define the land within the project area that would be physically disturbed through vegetation clearance, grubbing, and grading. Lastly, the term “proposed DFRC site” is used to define the work limit but excluding the waterline extensions to the north and south. For many resources, the geographic scope of potential effects is limited to the project area or work limit. However, for some resources, such as noise, air quality, and socioeconomics, the potential effects extend into surrounding communities unique to that specific resource. The context and intensity of potential environmental effects are described in terms of duration, the magnitude of the impact, and whether they are adverse or beneficial, and are summarized as follows.

- ***Short or long term***. In general, short-term impacts are those that would occur only with respect to a particular activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent or chronic.
- ***Negligible, minor, moderate, or major (significant)***. These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are generally those that might be perceptible but are at the lower level of detection. A minor impact is slight but detectable. A moderate impact is readily apparent. Major or significant impacts are those that, in their context and due to their magnitude (severity), have the potential to meet thresholds for significance identified for each resource area. Therefore, major (significant) impacts warrant heightened attention and examination for potential means of mitigation.
- ***Adverse or beneficial***. An adverse impact is one having unfavorable or undesirable outcomes on the natural or human-made environment. A beneficial impact is one having positive outcomes on the natural or human-made environment.

All potentially relevant resources were considered for analysis in this EA. **Sections 3.1 through 3.15** present the existing environmental conditions and potential environmental impacts for the following resource categories: land use; topography, geology, and soils; water resources; biological resources; cultural resources; socioeconomics; environmental justice; infrastructure

and transportation; aesthetics and visual resources; air quality and climate; noise; public health and safety; recreation; hazardous materials and wastes; and cumulative impacts.

3.1 Land Use

Land use refers to real property classifications that indicate natural conditions or the types of human activity occurring on a land parcel. In many cases, land use descriptions are codified in master planning and local zoning laws and can be managed using a wide variety of land use planning tools (i.e., zoning, easements, subdivision regulations, deed restriction, and covenants). Land use planning ensures appropriate growth and compatible uses among adjacent property parcels; however, the meanings of various land use descriptors vary among jurisdictions. Natural conditions of property could be categorized as unimproved, undeveloped, preservation, or conservation areas.

The proposed DFRC site would be located on government-owned land that was previously the BAAP. The BAAP was originally constructed as the Badger Ordnance Works in 1942 to provide ammunition propellant in support of military operations during World War II. The facility was additionally used for this purpose during the Korean and Vietnam Wars. It was determined by the U.S. Army in 1997 that the facility was no longer needed for the nation's defense purposes.

The BAAP was decommissioned in 2003 and the U.S. Army began demolishing the plant infrastructure, which included over 1400 buildings, water and sewer lines, rail lines, and roadways. Agreements were reached over which parcels of land would be designated to the future property owners of BAAP in 2006. The three major landowners of the property are Wisconsin Department of Natural Resources (3,387 acres), the USDA (2,107 acres), and the Bureau of Indian Affairs/Ho-Chunk Nation (1,553 acres) (Sauk Prairie Conservation Alliance 2023).

The landscape of the former BAAP is still largely composed of pasture and cropland. Of the 7,354-acre BAAP area, 4,300 acres are pasture and cropland. Natural areas comprise roughly 1,700 acres of the landscape including 175 acres of restored prairie, 48 acres of wetland and ponds, 500 acres of shrubland, and 960 acres of woodland. Ammunition plant production facilities still account for up to 1,240 acres of the former BAAP property, however, as decommissioning continues, this acreage is decreasing. Roads and railroads cover 402 acres of the former BAAP (Sauk Prairie Conservation Alliance 2023).

The community of Bluffview is the nearest town to the project area, which lies approximately 0.9 mile to the northwest, across USH 12, and was developed in the 1940s. Bluffview currently covers approximately 80 acres and is home to 600 residents living in single-story structures, multifamily units, and mobile homes.

In 2000, the Sauk County Board of Supervisors established a locally driven reuse planning process that sought to define a future for the BAAP property. A 21-member committee was formed to identify the wide range of potential reuse options. The committee included representatives from neighboring communities, local, state, and federal governments, and the Ho-Chunk Nation. The committee reviewed 25 proposals from a variety of parties interested in the future use of the BAAP property. One of the opportunities for the site that the board

identified was continuing research to develop the knowledge and tools needed to enhance sustainable and competitive dairy forage systems that ensure a safe and healthy food supply; promote animal health; conserve soil, water, and wildlife resources; and protect the environment.

The eastern, southern, and northern boundaries of the proposed DFRC site have been planted with an evergreen buffer consisting of white and red pine. The western portion of the site contains several buildings foundations formally constructed for BAAP operations. Most of these structures, including old living quarters, have been deconstructed. There is a walnut grove in the northwest corner of the site, an old rail bed in the southwest corner of the site, a former sewer trench running from the northeast corner southwest to approximately the middle of the site, and a borrow pit in the north-central portion.

The proposed waterline extension to the south of the proposed DFRC site, within the project area, is located on DFRC land. The proposed waterline extension to the north of the proposed DFRC site follows an existing sanitary sewer line to the Bluffview Well 3 and would be located within easements.

3.1.1 Proposed Action

Long-term, moderate, beneficial impacts would be expected from the development of the proposed site, which would be consistent with the reuse of the BAAP property as identified by the Sauk County Board of Supervisors and associated planning committee to continue research to develop the knowledge and tools needed to enhance sustainable and competitive dairy forage systems. The development would be also consistent with the existing landscape of the former BAAP, which is dominated by agricultural activity including farming and pastureland. No significant adverse impacts would be expected to occur to land use.

3.1.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on land use within the project area, and in the surrounding area, would not be expected under the No Action Alternative as land use would remain unchanged when compared with existing conditions.

3.2 Topography, Geology, and Soils

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of geology, topography and physiography, and soils.

Topography and physiography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features.

Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Such information derives from field analysis based on observations of the surface and borings to identify subsurface composition.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with construction activities or types of land use.

Topography and Physiography. The proposed DFRC site generally slopes from north to south, and the majority of the site has a minimal change in grade (1 percent). Additionally, the majority of the proposed DFRC site is covered with vegetation which, along with the minimal change in grade, helps to prevent major wind and water erosion events. Terraces, diversion channels, or check dams have not previously been required on site to control erosion.

Geology and Soils. The proposed DFRC site is located within an area of thin till east of the terminal moraine (Clayton and Attig 1990). Bedrock is an estimated 300 to 350 feet below the ground surface (Gotkowitz and Zeiler 2002). The previous transformation from farmland to ammunitions facility at the site required extensive soil and landscape disturbance by bulldozers, power shovels, and graders, including scraping, filling, leveling, digging, and reshaping (Goc 2002). The process of re-shaping the ground surface stripped away topsoil in some areas, while adding fill to others, changing the native soils and hydrologic regime. Washouts have occurred in some areas with steeper slopes following heavy rainfall events, and soil in these areas has been contained using stone barriers. Minor erosion is prone to occur on farm fields and this erosion is minimized by using crop rotation. Approximately 52 percent of the project area is Richwood silt loam with 1 to 6 percent slopes; 42 percent is comprised of Toddville silt loam, Pillot silt loam, and Ringwood silt loam; and the remaining 6 percent of the project area is comprised of Wyocena sandy loam. All soils in the project area are classified as well drained or moderately well drained (USDA NRCS 2023).

3.2.1 Proposed Action

New construction in the project area would create ground disturbance and increase impervious surfaces, resulting in negligible to moderate, adverse, impacts on geology and soils.

Physiography and Topography. Long-term, negligible, adverse impacts would be expected on the natural topography in the work limit from site preparation (i.e., grading, excavating, recontouring) and construction. The work limit has a minimal change in grade, but grading efforts would be required for the building pads for raised buildings to provide positive drainage away from the buildings, and for other factors including natural ventilation in the barns. Generally, paved areas would have a slope between 1.5 and 7 percent and grassed areas would have a minimum slope of 1.5 percent.

Geology and Soils. Short- and long-term, moderate, adverse impacts on geology and soils would be expected from soil disturbance during construction and an increase in impervious surfaces, including associated erosion and sedimentation. Topsoil would be stripped within approximately 22.9 acres of the work limit, and 133,000 cubic yards of total earth would be moved to the site to support construction. Additionally, impervious surfaces would increase by approximately 21.8 acres, and approximately 60.6 acres of ground disturbance would occur.

The primary impacts expected would include soil compaction, disturbance, and erosion during construction activities. Impacts would be minimized through the use of erosion and sediment control measures, such as silt fencing, sediment traps, and application of water to disturbed soils, at the site in accordance with the Wisconsin Department of Natural Resources Technical Standards for Construction Site Erosion & Sediment Control. An Erosion and Sediment Control Plan would also be prepared and followed, and native seeding would be planted to support soil stabilization of the site in all disturbed areas.

In the long-term, compaction of soils during construction activities would disturb and modify the soil structure. Soil productivity, which is the capacity of the soil to produce vegetative biomass, would decline in disturbed areas and be eliminated in those areas within the footprints of new buildings, pavements, and roadways. Loss of soil structure due to compaction from foot and vehicle traffic could change drainage patterns. Impacts would be minimized through implementation of soil decompaction and stabilization methods.

No significant adverse impacts would be expected on topography, geology, and soils.

3.2.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on topography, geology, and soils within the project area would not be expected under the No Action Alternative. Topography, geology, and soils would remain unchanged when compared with existing conditions.

3.3 Water Resources

Water resources include surface water, groundwater, and wetlands. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes.

Surface water includes natural, modified, and constructed water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flows. These features are generally classified as streams, springs, wetlands, natural and artificial impoundments (e.g., retention and detention ponds, lakes), and constructed drainage canals and ditches. The retention pond has a permanent pool of water that fluctuates in response to precipitation and runoff from the contributing areas, while detention ponds serve as important flood control features.

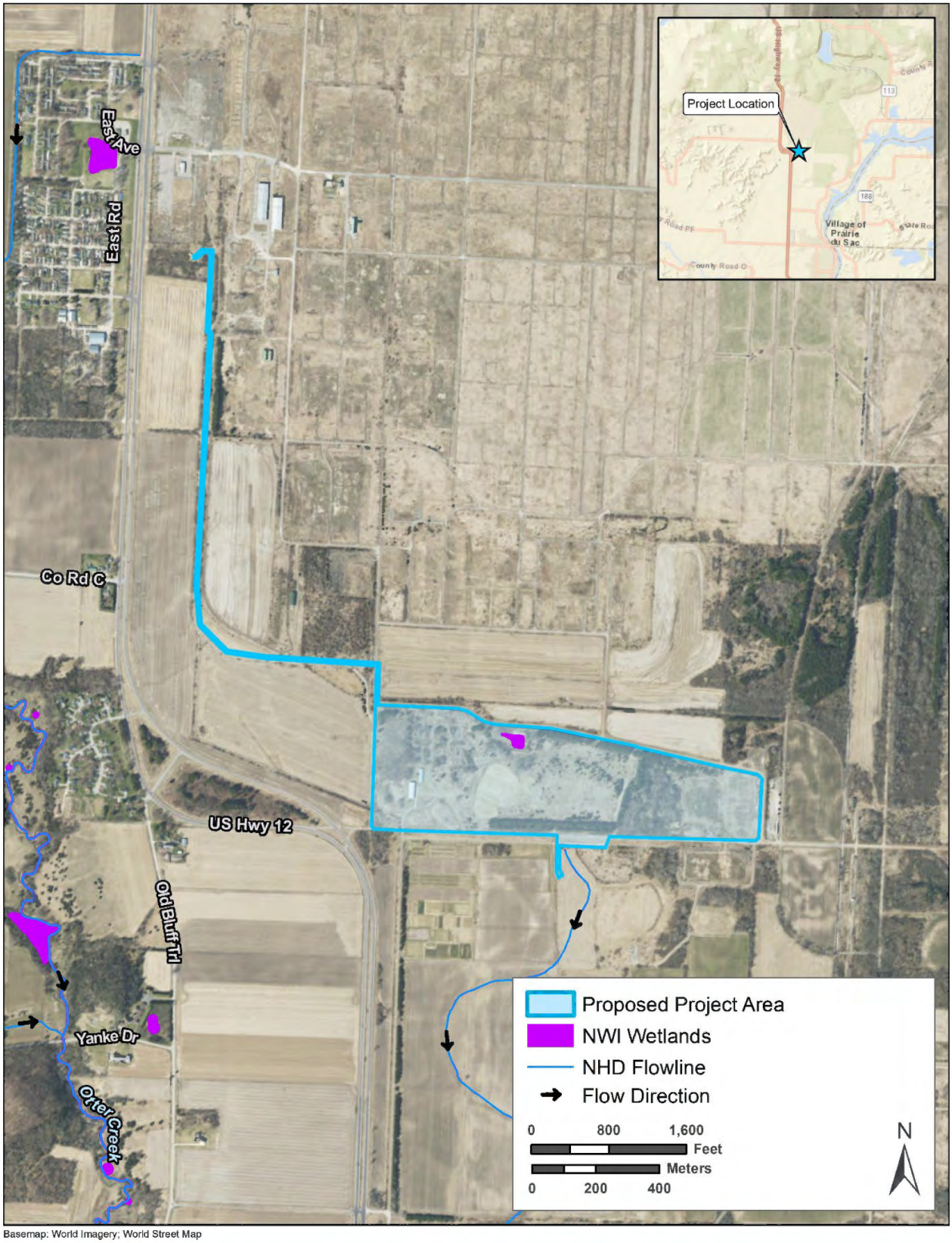
Groundwater is water that collects or flows beneath the Earth’s surface, filling the porous spaces in soil, sediment, and rocks. A deposit of subsurface water that is large enough to tap via a well is referred to as an aquifer. Groundwater originates from precipitation, percolates through the ground surface, and is often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater typically can be described in terms of its depth from the surface, aquifer or well capacity, water quality, surrounding geologic composition, and recharge rate.

Wetlands are identified as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Surface Waters. The proposed DFRC site is relatively flat with site drainage into a north to south channel centrally located on the site. This channel drains to a low area on the north side of the site, which also captures runoff from agricultural fields and a portion of the former BAAP to the north. A drainage ditch along the east and west road of the site captures the remaining site stormwater runoff. Approximately 150 to 200 feet south of the project area boundary, across a dirt road, is a channel classified as a riverine wetland (see the ***Wetland*** section for additional information) (USFWS 2023a). Otter Creek is over 2 miles away to the west of the project area. See Figure 3-1 for the location of water resources within the project area and in the surrounding region.

Groundwater. Wisconsin has four main aquifer formations: the Sand and Gravel Aquifer, the Silurian-Devonian Dolomite, the Cambrian-Ordovician Sandstone and the Precambrian Bedrock. The project area is located within the Sand and Gravel Aquifer, which covers most of the state, and the Cambrian-Ordovician Sandstone. The Sand and Gravel Aquifer consists mostly of sand and gravel deposited in river valleys and/or from past glaciations. The glacial deposits are loose or unconsolidated, so they often are referred to as soil but they include more than just a few feet of topsoil. These deposits can exceed 300 feet thick in some places in Wisconsin. The Cambrian-Ordovician Sandstone aquifer is actually a series of interbedded sandstones, shales, limestones, and dolomites, but groundwater primarily flows through the sandstone units. This aquifer stretches across the upper Midwest, from Minnesota and Iowa to Michigan's Lower Peninsula. The rocks are slightly tilted that are at the land surface in southern Wisconsin and are over 15,000 feet below ground in central Michigan (WDNR Undated).

The water table at the proposed DFRC site is estimated to be approximately 780-800 feet above mean sea level throughout the majority of the site (Gotkowitz and Zeiler 2002). The groundwater gradient dips to the southeast towards Lake Wisconsin. Recharge of groundwater comes from the topographic drainage basin created by the Baraboo Hills to the north of the former BAAP and gradual infiltration of surface water through the soil surface. A geotechnical site investigation was completed within the project area with 91 borings and 31 test pits; all borings completed did not encounter subsurface water.



Basemap: World Imagery; World Street Map

Figure 3-1. Water Resources Within and Near the Project Area

While in operation, BAAP produced acid, oleum, smokeless powder, rocket propellant, E.C. powder, and rocket grain (Goc 2002). Hazardous wastes associated with this production that have been found in the groundwater from the former BAAP include carbon tetrachloride, trichloroethylene, and chloroform. An existing irrigation well, Badger Well 5, is located approximately 400 feet south of the center of the proposed DFRC site and a waterline extension to this well is included in the Proposed Action. The irrigation well, constructed in 1942 with an original capacity of at least 600 gallons per minute, is located within a plume of shallow groundwater contamination in the uppermost, unlithified aquifer. Although the well draws mostly from the deeper Eau Claire aquitard and underlying sandstone aquifer, potential for migration of shallow groundwater contamination into the Badger Well 5 production zone renders the well unsuitable for public consumption as is.

Wetlands. As shown in **Figure 3-1**, the project area contains an approximate 0.56-acre area that is identified in the National Wetlands Inventory as a freshwater wetland. Aerial imagery and decennial reporting on the parcel since the late 1930s showed the gradual drying up and reduction of the pond size to the point where it ceased to be visible in the 1990s. A wetland survey was conducted on this site in August 2022, and it was documented that this pond had been drained and does not meet the criteria for a jurisdictional wetland. The U.S. Army Corps of Engineers St. Louis District reviewed this survey report and provided USDA with a jurisdictional determination letter stating that no wetlands, streams, or open waters that are subject to Section 404 regulations under the Clean Water Act are present within the project area (see **Appendix B** for the jurisdictional determination).

Approximately 150 to 200 feet south of the project area boundary, adjacent to the proposed waterline extension to Badger Well 5, is a channel classified as a riverine wetland. The National Wetlands Inventory describes this 2.87-acre channel as an intermittent, seasonally flooded streambed (USFWS 2023a). Site investigations conducted in support of this project indicate the channel is a farm field drainage swale.

Floodplains. The nearest floodplain to the project area is over 2 miles away; therefore, floodplains will not be discussed further in **Section 3.3.1**

3.3.1 Proposed Action

Surface Waters. Short- and long-term, minor, adverse impacts on surface water would occur from increased runoff and associated erosion and sedimentation resulting from construction and an increase in impervious surfaces. Construction activities resulting in ground disturbance (approximately 60.6 acres) would be conducted to control erosion and prevent sediment, debris, or other pollutants from entering the stormwater system on-site. Construction activities such as clearing, grading, trenching, and excavating would displace soils. If not managed properly, disturbed soils would be washed as sediments into the on-site drainage channels and potentially travel to nearby waterbodies during storm events and reduce water quality. Erosion and sediment controls and stormwater management practices implemented consistent with the project-specific Erosion and Sediment Control Plan would minimize the potential for adverse impacts associated with erosion and sedimentation. USDA would be required to obtain coverage under the National Pollutant Discharge Elimination System General Permit for all

construction activities more than 1 acre to minimize impacts from sedimentation on water quality.

New construction would also result in a potential increase in stormwater runoff due to an increase in impervious surfaces; the Proposed Action would result in a net increase of approximately 21.8 acres of impervious surfaces. Energy Independence and Security Act requirements would be followed to maintain or restore, to the maximum extent practicable, the predevelopment hydrology of the property with regard to rate, volume, and flow duration. Stormwater basins would be constructed on the site to control stormwater runoff and avoid long-term adverse impacts on surface water. Additionally, a proposed system of swales and piping would convey stormwater away from the manure storage areas and private wells.

Groundwater. Short- and long-term, negligible to minor, adverse impacts on groundwater resources could occur due to an increase in impervious surfaces, withdrawal from the aquifer for non-potable water to support farm operations, and potential groundwater contamination. No sensitive groundwater resources are known to occur in the proposed project area.

A net increase of 21.8 acres of impervious surfaces would be expected from the Proposed Action. Therefore, groundwater recharge to the aquifer system could be impacted if impervious surfaces increase runoff, thereby decreasing infiltration to the soil and bedrock. Following the guidance provided by Energy Independence and Security Act, USDA would ensure that post-project hydrology mirrors pre-project hydrology on and around the project area, to the maximum extent technically feasible, with respect to temperature, rate, volume, and flow duration. Additionally, withdrawal from Badger Well 5 for non-potable water could impact recharge of the aquifer system. Withdrawal rates would be managed in accordance with applicable Washington Department of Natural Resources requirements and any applicable permits. Badger Well 5 would not be used for potable water on the DFRC site; see **Section 3.8** for additional information on potable water.

Operation of the proposed DFRC would potentially increase the risk of groundwater pollution from the discharge of manure. However, the manure collection, treatment, and storage systems would be designed to minimize the risk of groundwater contamination and would not discharge to public waters. Groundwater contamination has previously been a concern on BAAP; however, additional contamination is not expected to result from the Proposed Action, which would be operated in compliance with an approved nutrient management plan. Additionally, excavation for the manure storage facilities at the DFRC site are not anticipated to reach depth to groundwater and dewatering is not expected.

Wetlands. No impacts on wetlands would occur from the Proposed Action. There are no wetlands within the project area (see **Appendix B** for the jurisdictional determination), and the nearest wetland to the project area is a channel adjacent to the proposed waterline extension to Badger Well 5. Best management practices (BMPs) and an Erosion and Sediment Control Plan would be implemented to control erosion and sediment runoff and avoid potential adverse impacts on this channel. Examples of BMPs that could be implemented include covering soil stockpiles; installing inlet and outlet protection, silt fencing, berms, swales, basins, and traps; employing slope stabilization; and using erosion control blankets.

No significant adverse impacts would be expected on water resources.

3.3.2 No Action Alternative

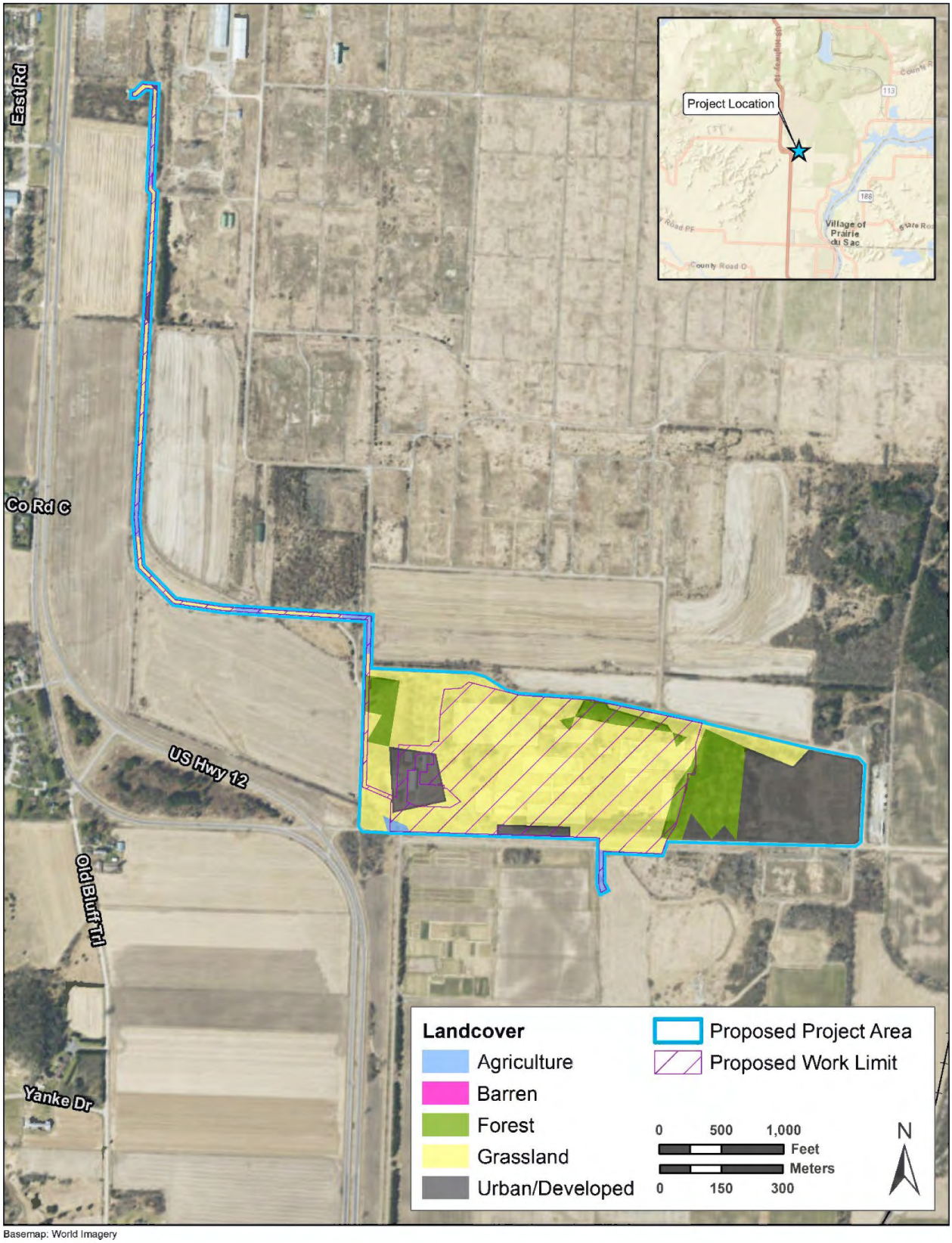
Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Operation of the existing DFRC facility would occur adjacent to the Wisconsin River, and the potential for contamination with manure spill or runoff would continue.

3.4 Biological Resources

Biological resources include native or naturalized, nonnative, and invasive plants and animals; sensitive and protected floral and faunal species; and the habitats, such as wetlands, forests, grasslands, in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. Protected and sensitive biological resources include species listed as threatened, endangered, proposed, or candidate under the Endangered Species Act (ESA); migratory birds; species of concern managed under conservation agreements or management plans; and species that are protected by laws or programs of states. Sensitive habitats include areas designated by the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration as critical habitat protected under the ESA and sensitive ecological areas designated by other federal or state regulations.

Vegetation. The project area is comprised of grasslands (63 percent), urban/developed land (22 percent), forests (13 percent), agricultural areas (2 percent), and barren land (less than 1 percent). The predominant vegetation in the project area is warm-season grass grasslands, with cool-season grasslands, and hay and pasture grasslands also present. Forested areas consist of coniferous forest dominated by pine and red pine, and broad-leaf deciduous forests of central hardwoods. See **Figure 3-2** for vegetation cover within the project area.

Wildlife. Wildlife present near and within the project area could include fox, raccoon, skunk, opossum, coyote, red tailed hawks, and owls. Predator populations on the former BAAP are managed through habitat improvement and hunting. Mammalian predators, such as fox and coyote, are managed by hunting and trapping programs. No natural predators occur for whitetail deer.



Basemap: World Imagery

Figure 3-2 Vegetation Cover within the Project Area

Special Status Species. There are 41 special status species with the potential to occur in the project area. Special status species include 2 mammals, 19 birds, 5 fishes, 9 bivalves, 3 insects, and 3 plants. The list of special status species was developed based on data provided in the USFWS Information for Planning and Consultation report #2023-0081258 generated on May 11, 2023 (USFWS 2023b), the 2020 USFWS MBTA list (USFWS 2020), the *Wisconsin Endangered and Threatened Species* list (WDNR 2021), and the *Wisconsin Natural Heritage Inventory Data* website (WDNR 2023a). There is no critical habitat within the project area. **Table 3-1** lists the special status species that could occur within the project area.

ESA-Protected Species. Section 7 of the ESA (16 U.S.C. § 1536) requires federal agencies, in consultation with USFWS and National Oceanic and Atmospheric Administration, who administer the ESA, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The ESA also generally prohibits any action that causes a "take" of any listed species. "Take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Not all take is prohibited. Where appropriate, incidental take statements can be provided that allow take of threatened or endangered species that are incidental to an otherwise legal activity.

There is the potential for nine ESA protected, proposed, or candidate species to occur within the project area. Species include two mammals, the northern long-eared bat (*Myotis septentrionalis*) and the proposed endangered tricolored bat (*Perimyotis subflavus*); one experimental population and MBTA-protected bird, the whooping crane (*Grus americana*); two bivalves, the Higgins eye (*Lampsilis higginsii*) and the sheepnose mussel (*Plethobasus cyphyus*); two insects, the federal candidate Monarch butterfly (*Danaus plexippus*) and the rusty patched bumble bee (*Bombus affinis*); and two plants, the Northern Wild Monkshood (*Aconitum noveboracense*) and the prairie bush-clover (*Lespedeza leptostachya*). The ESA-protected species listed above have not been documented within the project area; however, only absence/presence surveys have occurred. The following paragraphs briefly describe the nine ESA protected species with the potential to occur within the project area.

Table 3-1. Protected Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Status	Habitat
		Mammals	
Northern long-eared bat	*Myotis septentrionalis*	FE/ST	Summer habitat includes buildings, shutters, under tree bark, or caves; winter hibernacula are often mines or caves. Foraging habitat includes ridges, forested areas, and small streams or ponds.
Tricolored bat	*Perimyotis subflavus*	FP/ST	Summer roosting can include trees and foliage; winter hibernacula are generally caves. Foraging habitat includes waterways and forest edges.
		Birds	
Bald Eagle	*Haliaeetus leucocephalus*	BGEPA / MBTA	Generally lives within 2.5 miles of the bays, lakes, coast, or other bodies of water. Nest in large, mature, accessible trees, but may also use cliffs or man-made structures.
Bell's vireo	*Vireo bellii*	ST/ MBTA	Prefers dense shrubby areas in open prairie landscapes; Wisconsin required avoidance between May 25 – August 5.
Black-billed cuckoo	*Coccyzus erythrophthalmus*	MBTA	Prefers large, continuous riparian zones with cottonwoods and willows.
Bobolink	*Dolichonyx oryzivorus*	MBTA	Open grassy fields, especially hay fields.
Canada warbler	*Cardellina canadensis*	MBTA	Prefers moist habitat; near swamps, undergrowth, on stream banks, deep, rocky ravines, and in moist deciduous second-growth.
Cerulean warbler	*Dendroica cerulea*	ST/ MBTA	Old growth deciduous floodplain forest, mesic uplands, in wooded swamps, and wet bottomlands
Chimney swift	*Chaetura pelagica*	MBTA	Likely preferred nesting in caves and hollow trees; currently uses chimneys as their preferred nesting site. Need a vertical surface for nesting.
Eastern whip-poor-will	*Antrostomus vociferus*	MBTA	Prefers forests with open understories in deciduous or mixed deciduous-pine forests, often in areas with sandy soil.
Golden eagle	*Aquila chrysaetos*	BEGPA /MBTA	Commonly nest in rocky cliffs; often seen foraging in alpine parkland and rocky alpine areas at high elevation and clear cuts at moderate elevations
Golden-winged warbler	*Vermivora chrysoptera*	MBTA	Breeds in the northern Great Lakes and Champlain regions and the Appalachian Mountain range.
Henslow's sparrow	*Centronyx henslowii*	ST/ MBTA	Prefers meadows, grasslands, fields, undisturbed pastures, and unmowed highway rights-of-ways. Wisconsin required avoidance between May 5 - August 10.
Lesser Yellowlegs	*Tringa flavipes*	MBTA	Prefers boreal forest and forest/tundra transition areas.
Loggerhead Shrike	*Lanius ludovicianus*	SE/ MBTA	Prefers scattered trees and shrubs in open country and edge habitat. Wisconsin required avoidance between April 20 - August 1.

Common Name	Scientific Name	Status	Habitat
Red-headed woodpecker	*Melanerpes erythrocephalus*	MBTA	Prefers deciduous woodlands, open woods, savannahs, river bottoms, orchards, parks, and grasslands with scattered trees.
Red-shouldered Hawk	*Buteo lineatus*	ST/ MBTA	Prefers larger stands of mature hardwoods along deciduous swamps, riparian areas, and mixed deciduous - coniferous upland forests with ephemeral ponds or wetland pockets. Wisconsin required avoidance between April 1 to July 31.
Rusty blackbird	*Euphagus carolinus*	MBTA	Prefers wetlands of the boreal forests.
Upland sandpiper	*Bartramia longicauda*	ST/ MBTA	Prefers grasslands with low to moderate forb cover and little woody cover, moderate litter or grass cover, and bare ground. Breeding habitats include lightly fields, pastures, upland grasslands, barrens, and hayfields for nesting. Wisconsin required avoidance between April 30 - July 25.
Wood thrush	*Hylocichla mustelina*	MBTA	Prefers upland mesic forests with a moderately dense shrub layer and trees taller than 45 feet with an open forest floor, moist soil, and leaf litter.
Whooping crane*	*Grus americana*	FE/ MBTA	Prefers large, open wetlands to nest, roost, and eat. Previously extirpated, the state is working to restore an eastern migratory population.
		Fishes	
Black buffalo	*Ictiobus niger*	ST	Prefers large rivers with strong currents, backwaters and impoundments; spawns between mid-May and mid-June.
Blue sucker	*Cycleptus elongatus*	ST	Prefers large, deep rivers with moderate to strong currents over cobble or gravel; spawns between late April and early May.
Goldeye	*Hiodon alosoides*	SE	Prefers turbid waters of large rivers and connecting marshes and lakes ponds; spawns between May and early-July.
Paddlefish	*Polyodon spathula*	ST	Prefers lakes and large rivers; spawns over gravel or during high flows between early-May and early-June.
Shoal chub	*Macrhybopsis hyostoma*	ST	Prefers fast, moderate depth water over broad sand flats; typically spawns between May and June.
		Bivalves	
Buckhorn	*Tritogonia verrucosa*	ST	Found in medium to large-sized rivers, with moderate to swift currents, and firm, clean substrates.
Butterfly	*Ellipsaria lineolata*	SE	Found in large rivers in southern and western and southern areas. Prefers stable substrates of rock, sand, and gravel with swift currents.
Fawnsfoot	*Truncilla donaciformis*	ST	Prefers large rivers or medium-sized streams; commonly found in gravel or sand.
Higgins eye	*Lampsilis higginsii*	FE/SE	Found in western large rivers with flowing waters and stable substrate; prefers stable sand.
Monkeyface	*Theliderma metanevra*	ST	Found in western areas in clean, swift waters of larger rivers; prefers gravel or mixed sand and gravel.

Common Name	Scientific Name	Status	Habitat
Rock pocketbook	*Arcidens confragosus*	ST	Found in western large rivers with currents in all substrate types.
Sheepnose mussel	*Plethobasus cyphyus*	FE/SE	Found in the clean waters of large rivers to the west. Prefers stable sand substrates but also found in mixed sand and gravel.
Wartyback	*Quadrula nodulata*	ST	Found in mud, sand, or fine gravel of large rivers.
Yellow & slough sandshells	*Lampsilis teres*	SE	Found in large rivers in the west. The yellow sandshell occurs in clean swift current in the main channel and the slough sandshell occurs in muddy areas adjacent to large river currents.
		Insects	
Monarch butterfly	*Danaus plexippus*	FC	Wisconsin Monarchs are migratory and journey to central Mexico for the winter, it lays eggs on obligate milkweed plants.
Red-tailed prairie leafhopper	*Aflexia rubranura*	SE	Inhabits wet- to dry-mesic prairies with the host plant, prairie dropseed.
Rusty patched bumble bee	*Bombus affinis*	FE	Relies on abundant flowering plants close to suitable overwintering sites for hibernating queens, generally within non-compacted and sandy soils or woodlands. Active season habitat includes agricultural landscape. woodlands, parks/gardens, and marshes/wetlands. Queens emerge in April and the colony is active through October. Recent observations are mostly from the southern half of the state.
		Plants	
Northern wild monkshood	*Aconitum noveboracense*	FT/ST	Found on moist, moss ledges and cliff bases in cool soil environments or on partially shaded sandstone cliffs and talus slopes. Blooms between late June and late September with early August fruits.
Prairie bush-clover	*Lespedeza leptostachya*	FT/SE	Found in sandy or gravelly hillside prairies. Blooms between late July and late August; fruits between early August and early September.
Wooly milkweed	*Asclepias lanuginosa*	ST	Found in dry, gravelly or sandy hillside prairies. Blooms between late May and late June; fruits between late June and late July.

Source: USFWS 2023b, USFWS 2020, WDNR 2021, WDNR 2023a

Key: * = Non essential experimental population, BGEPA = Bald and Golden Eagle Protection Act, C = Candidate (Federal Designation), E = Endangered, F = Federal, MBTA= Migratory Bird Treaty Act, P = Proposed (Federal Designation) S = State, T = Threatened

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Northern long-eared bat (*Myotis septentrionalis*): This bat species was reclassified from federally threatened to endangered on November 29, 2022, and is also considered State-threatened. This medium sized bat (3 to 3.7 inches long with a 9-to-10-inch wingspan) hibernates in mines or caves making it susceptible to white-nose syndrome and spends the rest of the year roosting in forested habitats or human structures. This species has a preference for edge environments with tall trees that include oaks, ashes, and maples to forage for insects and roost under bark. The northern long-eared bat is distributed through the State but is not considered abundant (WDNR 2022a). Potential habitat occurs for this species within the project area predominantly along the northern and southern edges of the work limit, which consists of deciduous and coniferous trees.

Tricolored bat (*Perimyotis subflavus*): This proposed endangered and State-threatened bat species is small at approximately 2.8 to 3.1 inches long with an 8.3-to-10.2-inch wingspan. Similar to the northern long-eared bat, it hibernates in mines or caves and is susceptible to white-nose syndrome. The bat spends the rest of the year roosting in the foliage of deciduous trees or human structures, and forages for insects along edge environments and waterways. This species is generally found in the western half of the State and is not considered a common resident (WDNR 2022b). Potential habitat for this species occurs within the project area predominantly along the northern and southern edges of the work limit, which consists of deciduous and coniferous trees.

Whooping crane (*Grus americana*): This large wading bird is federally endangered and is nearing local extinction across much of its native range. Habitat includes inland marshes throughout the central U.S., where whooping cranes will forage for small animals and aquatic plants. An experimental, non-essential population of cranes (Eastern Migratory Population) is found in Wisconsin, but no critical habitat is located in the project area. In accordance with the Information and Planning Consultation report received from USFWS for this project, consultation under Section 7(a)(2) of the ESA is only required for the whooping crane if project activities will occur within a National Wildlife Refuge or National Park. As this project is not located within a National Wildlife Refuge or National Park, and no critical habitat is present within the project area, this species will not be reviewed for impacts in **Section 3.4.1** of this EA.

Higgins eye (*Lampsilis higginsii)*: This bivalve is federally endangered and is found in large, western, freshwater flowing rivers. This species prefers rivers with stable substrates/sands. Site observations conducted in 2022 and aerial review of the project area indicate there is no freshwater habitat for these species within the project area, and the project area is more than two miles from the Wisconsin River.

Sheepnose mussel (*Plethobasus cyphyus)*: This bivalve is federally endangered and is found in large, clean waters of large rivers to the west. This species prefers stable sand substrates but is also found in mixed sand and gravel. Site observations conducted in 2022 and aerial review of the project area indicate there is no freshwater habitat for these species within the project area, and the project area is more than two miles from the Wisconsin River.

Monarch butterfly (*Danaus plexippus*): This federal candidate butterfly species migrates between Wisconsin and Mexico. The monarch butterfly is a large butterfly that lives in a variety of

habitats throughout North America and requires species of the milkweed genus (*Asclepias* spp.) for breeding. They are typically found in open grassy areas during the breeding season. The eastern population (east of the Rocky Mountains) migrate north to the U.S. and Canada in March from the mature oyamel fir forests in the mountains of central Mexico. The fall migration back to overwintering sites in Mexico occurs from August to November. Although adult monarchs were not observed in the project area during site observations conducted in 2022, they would potentially feed/nectar feed on a variety of flowering plants if present in the project area.

Rusty patched bumble bee (*Bombus affinis*): This federally endangered and State special concern species is a ground-dwelling colonial bee with a queen that hibernates over the winter in non-compacted sandy soils or woodlands. The species has a diverse diet of flowering plants that need to be in close proximity to the queen's overwintering site. Active season habitats include woodlands, prairies, wetlands, marshes, and residential and agricultural landscapes. The bee is most commonly found in the southern half of the state but is considered an extremely rare species with an overall population decline of 87 percent over the last several years (WDNR 2023b). While no rusty patched bumble bees have been documented within the project area and they were not observed in the project area during site observations conducted in 2022, according to the USFWS interactive *Rusty Patched Bumble Bee Map*, the project area is within the high potential zone where presence should be presumed (USFWS 2023e). Based on a site visit conducted by USFWS in 2023 with the USDA, USFWS determined that overwintering habitat within the project area was of poor quality (either being dense with shrubby vegetation or covered in pine needles which have not been shown to support overwintering bumble bees), and the foraging/nesting habitat was small in area and of marginal quality, consisting primarily of non-native vegetation (*Daucus carota* and *Centaurea stoebe*).

Northern wild monkshood (*Aconitum noveboracense*): This federally threatened plant species is a perennial flowering plant species with distinctive blue flowers and stems that range from 1 to 4 feet in length. The northern monkshood prefers shaded to partially shaded sandstone cliffs and talus slopes with cool soil conditions. There is no potential habitat for this species within the project area.

Prairie bush-clover (*Lespedeza leptostachya*): This federally threatened and State-endangered plant species is a forb-erect perennial that grows 9 to 18 inches tall, blooms between July and August and fruits August through September. The prairie bush-clover prefers gravelly or sandy hillside prairies and is predominantly found on the western edge and southern half of the State (WDNR 2023c). This clover species is a potential food source for the rusty patched bumble bee (UM 2023). This species was not observed in the project area during site observations conducted in 2022, and aerial review of the habitat by USFWS indicates the project area is low quality habitat for this species.

USDA conducted Section 7 consultation under the ESA with USFWS to further identify the potential presence of threatened and endangered species within the project area, to include the presence of suitable habitat for such species, and determine effects on these species. See **Section 3.4.1.** for additional information on the completed Section 7 consultation.

MBTA-Protected and BGEPA Species. The Migratory Bird Treaty Act (MBTA) of 1918, as amended, and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, require federal agencies to minimize or avoid impacts on migratory birds. Under the Migratory Bird Treaty Act, it is unlawful by any means or in any manner to pursue, hunt, take, capture; attempt to take, capture, or kill, or possess migratory birds or their nests or eggs at any time unless permitted by regulation.

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC § 668 to 668c) prohibits the "take" of bald or golden eagles in the U.S. without a 50 CFR § 22.26 permit. The Bald and Golden Eagle Protection Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." For purposes of these guidelines, "disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause: (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to the whooping crane listed above, there is the potential for 18 MBTA-protected Birds of Conservation Concern in the project area. Bird species of particular concern include the bald eagle (*Haliaeetus leucocephalus*), Bell's vireo (*Vireo bellii*), black-billed cuckoo (*Coccyzus erythropthalmus*), bobolink (*Dolichonyz oryzivorus*), Canada warbler (*Cardellina canadensis*), cerulean warbler (*Dendroica cerulea*), chimney swift (*Chaetura pelagica*), eastern whip-poor-will (*Antrostomus vociferus*), golden eagle (*Aquila chrysaetos*), golden-winged warbler (*Vermivora chrysoptera*), Henslow's sparrow (*Centronyx henslowii*), lesser yellowlegs (*Tringa flavipes*), loggerhead shrike (*Lanius ludovicianus*), red-headed woodpecker (*Melanerpes erythrocephalus*), red-shouldered hawk (*Buteo lineatus*), rusty blackbird (*Euphagus carolinus*), upland sandpiper (*Bartramia longicauda*), and wood thrush (*Hylocichla mustelina*). Both the bald and golden eagles are also protected under BGEPA (USFWS 2023b, USFWS 2020, WDNR 2023a). Other MBTA-protected migratory bird species found in Wisconsin include raptors, songbirds, waterbirds, and waterfowl, which may occur in the project area.

The protected-bird species listed above have not been documented in the project area but could reasonably occur based on USFWS review. The Wisconsin Department of Natural Resources completed statewide aerial nesting surveys for bald eagles in 2019. There were 1,684 occupied eagle nests documented during these surveys, 19 of which were in Sauk County (WDNR 2019a). USFWS *National Bald Eagle Management Guidelines* stipulate guidance for activities that occur one mile or less from active bald eagle nests (USFWS 2007). There are no known bald eagle nests within the project area or the immediate vicinity; the nearest bald eagle nest is 3 miles south of the project area (WDNR 2019b).

State Protected Species. Wisconsin State provides protections for threatened species, endangered species, and species of concern under the Wisconsin Department of Natural Resources under Wisconsin State Statute 29.604, *Endangered and Threatened Species Protected*; Chapter Natural Resources 27, *Endangered and Threatened Species*; and Chapter Natural Resources 29, *Endangered Resources Information Fees.*

There are 14 state-protected species not discussed in the above sections. Species include five fishes, the black buffalo (*Ictiobus niger*), blue sucker (*Cycleptus elongatus*), goldeye (*Hiodon alosoides*), paddlefish (*Polyodon spathula*), and shoal chub (*Macrhybopsis hyostoma*); seven bivalves, the buckhorn (*Tritogonia verrucosa*), butterfly (*Ellipsaria lineolata*), fawnsfoot (*Truncilla donaciformis*), monkeyface (*Theliderma metanevra*), rock pocketbook (*Arcidens confragosus*), wartyback (*Quadrula nodulata*), yellow & Swough sandshells (*Lampsilis teres*); one insect the red-tailed prairie leafhopper (*Aflexia rubranura*); and one plant the wooly milkweed (*Asclepias lanuginosa*) (WDNR 2021).

With the exception of the wooly milkweed, there is no known habitat for any of the State-listed species within the project area and they are not discussed further. The wooly milkweed is a species in the obligate plant genus (*Asclepias* spp.) for the federal candidate Monarch butterfly; however, to date, neither species has been documented within the project area.

3.4.1 Proposed Action

Vegetation. The total acreage of land cover, including vegetation, within the project work limits that would be cleared and graded during construction is provided in **Table 3-2**. Short- and long-term, minor to moderate, adverse impacts on vegetation would occur from temporary disturbance of vegetation and soil compaction during construction, and from permanent vegetation removal for new facilities and infrastructure. Short-term, minor, adverse impacts would occur from temporary disturbance of vegetation from the use of heavy equipment and may include trampling and soil compaction. Areas of temporary ground disturbance would be reseeded with native vegetation. Permanent removal of vegetation and trees would create long-term impacts from permanent reduction in cover; however, of the 60.6 total acres within the work limit, only 21.8 acres would be converted to new impervious surfaces. Additionally, of the 3.5 acres classified as forest within the work limits, only approximately 1.8 acres contains trees which would be cleared for project construction. Tree clearing with follow MBTA and ESA guidelines for avoidance of impacts to nesting birds, bat hibernacula and bat maternity root trees, and all maintenance personnel would make a cursory inspection of trees for occupied nests or hollows before removal.

To minimize the introduction and spread of non-native and invasive species, all construction equipment would be inspected and cleaned to remove seeds, plants, and soil. All construction materials and any fill will also be inspected to ensure it is as free of seeds, plants, or undesirable soil as practicable. Additionally, where appropriate, disturbed areas will be revegetated with native plant species.

Table 3-2. Land Cover within Project Work Limits

Landcover	Acres of Impact	Percent Total (%)
Urban/Developed	3.25	5.37
Agriculture	1.54	2.54
Grassland	52.25	86.27
Forest	3.5	5.78
Barren	0.02	0.04

Wildlife. Short-term, negligible to minor, adverse impacts from increased noise and potential displacement of wildlife due to actions associated with construction; and long-term, minor to moderate, adverse impacts from permanent habitat loss would occur on wildlife. It is assumed that birds, small mammals, invertebrates, and other common wildlife species may use unnatural features within the project area for shelter and feeding once construction is complete.

Short and long-term, negligible to minor, adverse impacts on wildlife would occur from noise associated with heavy equipment use and increased human presence during facility construction. The increase in the frequency or intensity of noise from facility construction could displace wildlife, and proposed construction activities would require use of heavy equipment that would generate short-term increases in noise near the area. Individual pieces of heavy equipment typically generate noise levels of 80 to 90 A-weighted decibels (dBA) at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be high within several hundred feet of active construction sites. It is anticipated that wildlife would use adjacent suitable habitat during and after construction and could return to revegetated areas once construction has ceased.

Long-term, minor to moderate, adverse impacts on wildlife would occur from the permanent loss of existing and potential habitat for wildlife where facility and infrastructure developments would be completed. The loss of habitat would have only minor to moderate impacts because the proposed construction activities would occur adjacent to similar habitat where wildlife species could relocate.

Special Status Species. The following paragraphs provide a summary of impacts on special status species, to include ESA-protected species and MBTA-protected species.

ESA-Protected Species. Under Section 7 of the ESA, preliminary effects determinations were received from USFWS using the Minnesota-Wisconsin Ecological Services office Determination Keys (USFWS 2023c, USFWS 2023d). Upon receipt of the preliminary effects determinations from the USFWS Determination Keys, USDA further consulted with the USFWS on their effects determinations that were inconsistent with the Determination Keys. USDA received concurrence from the USFWS on the effects determinations in letters dated August 14 and August 15, 2023. See **Appendix C** for USDA's request for concurrence, and USFWS concurrence, with the USDA effects determinations. A summary of these effects determinations is provided below:

Northern long-eared bat (Myotis septentrionalis). Short-term, negligible, adverse impacts, under NEPA, on the federally listed northern long-eared bat would potentially occur from noise displacement similar to what is described above for ***Wildlife***. There would also be long-term, minor, adverse impacts from the permanent removal of 1.8 acres of trees classified as woodland habitat. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated a determination of "may affect, not likely to adversely affect" for this species, with which USDA concurred, and confirmed with USFWS via teleconference.

Tricolored bat (Perimyotis subflavus). Short-term, negligible, adverse impacts, under NEPA, on the proposed endangered tricolored bat would potentially occur from noise displacement, and long-term, minor, adverse impacts would potentially occur from the permanent removal of 1.8 acres of trees classified as woodland habitat. Consistency determinations from USFWS, #2023-

0081258 dated May 26, 2023, indicated a determination of "may affect, not likely to adversely affect" for this species, with which USDA concurred, and confirmed with USFWS via teleconference.

Higgins' Eye Mussel. Short-term, negligible, adverse impacts, under NEPA, on the federally endangered Higgins' eye mussel would potentially occur during construction. As described in **Section 3.3.1**, impacts on nearby surface waters could occur from increased runoff and associated erosion and sedimentation resulting from construction. However, it is unlikely that these surface water impacts would reach the Wisconsin River, which is the nearest freshwater flowing waterbody that would be potential habitat for the Higgin's eye mussel. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated a potential determination of "may affect, likely to adversely affect" for the Higgins' eye mussel, which was based on a preliminary USDA assumption that freshwater bodies could be present in the project area. As described in **Section 3.3.1**, USDA conducted site observations and aerial review of the project area, and USACE conducted further review of potential waterbodies in the project area identified in the National Wetlands Inventory, and it was determined that no wetlands, streams, or open waters are present within the project area (see **Appendix B** for the jurisdictional determination). Based on the conclusion that freshwater bodies are not present within the project area, USDA submitted a "may affect, not likely to adversely affect" determination for the Higgin's eye mussel to USFWS and received USFWS concurrence on this determination on August 14 and August 15, 2023 (see **Appendix C**).

Sheepnose Mussel. Short-term, negligible, adverse impacts, under NEPA, on the federally endangered Sheepnose mussel would potentially occur during construction. As described in **Section 3.3.1**, impacts on surface water would occur from increased runoff and associated erosion and sedimentation resulting from construction. However, it is unlikely that these surface water impacts would reach the Wisconsin River, which is the nearest freshwater flowing waterbody that would be potential habitat for the Sheepnose eye mussel. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated a potential determination of "may affect, likely to adversely affect" for the Sheepnose mussel, which was based on a preliminary USDA assumption that freshwater bodies could be present in the project area. As described in **Section 3.3.1**, USDA conducted site observations and aerial review of the project area, and USACE conducted further review of potential waterbodies in the project area identified in the National Wetlands Inventory, and it was determined that no wetlands, streams, or open waters are present within the project area (see **Appendix B** for the jurisdictional determination). Based on the conclusion that freshwater bodies are not present within the project area, USDA submitted a "may affect, not likely to adversely affect" determination for the Sheepnose eye mussel to USFWS and received USFWS concurrence on this determination on August 14 and August 15, 2023 (see **Appendix C**).

Monarch Butterfly (*Danaus plexippus*). No impacts are anticipated on the Monarch Butterfly. Monarchs were not observed in the project area during site observations conducted in 2022. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicates a determination of "no effect" for this species, with which USDA concurred.

Rusty patched bumble bee (*Bombus affinis*): Short- and long-term, negligible adverse impacts, under NEPA, would be anticipated on the rusty patch bumble bee from the removal of up to 60.6 acres of vegetation within a high potential zone for the species. Rusty patched bumble bee habitat is typified by a high abundance and diversity of native blooming forbs upon which they rely on for pollen and nectar to meet nutritional needs. Additionally, rusty patched bumble bee tend to overwinter in forested areas with uncompacted soils and leaf litter. The Proposed Action would introduce 21.8 acres of impervious surfaces and clear 3.5 acres of forested areas. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated an anticipated determination of "may affect, likely to adversely affect" for this species. However, site observations conducted by USDA in 2022 did not identify presence of the rusty patched bumble bee. Additionally, after conducting a site visit with USDA in 2023, USFWS determined that overwintering habitat within the project area was of poor quality (either being dense with shrubby vegetation or covered in pine needles which have not been shown to support overwintering bumble bees), and the foraging/nesting habitat was small in area and of marginal quality, consisting primarily of non-native vegetation (*Daucus carota* and *Centaurea stoebe*). Based on the conclusion that the species has not been documented in the project area and it does not contain substantial suitable habitat, USDA submitted a "may affect, not likely to adversely affect" determination for the rusty patched bumblebee to USFWS, and received USFWS concurrence on this determination on August 14 and August 15, 2023 (see **Appendix C**). Additionally, USDA would mow the small patch of flowering vegetation within the project area prior to April 10, the active season for the rusty patched bumble bee, to avoid attracting any rusty patched bumble bee to the area during ground and vegetation disturbing activities.

Northern wild monkshood (*Aconitum noveboracense*). No impacts are anticipated on the northern wild monkshood. There is no potential habitat for this species within the project area. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated a determination of "no effect" for this species, with which USDA concurred.

Prairie bush-clover (*Lespedeza leptostachya*). No impacts would be anticipated on the prairie bush clover. While the Proposed Action would remove up to 60.6 acres of vegetation, site observations conducted by USDA did not identify presence of the prairie bush clover within the project area, and USFWS has indicated the project area is low quality habitat for this species. Consistency determinations from USFWS, #2023-0081258 dated May 26, 2023, indicated a determination of "no effect" for this species, with which USDA concured.

MBTA-Protected Species. There could be short- and long-term, minor, adverse impacts to MBTA species. While no USFWS Birds of Conservation Concern have been directly documented within the proposed project area, it is possible these species and other MBTA-protected species could use the habitat to nest, rest or feed. There is other suitable habitat around in Sauk County these species would likely use, so any noise disturbance or removal of suitable habitat within the project area would be negligible. Additionally, USDA could implement recommended MBTA mitigation measures to reduce or avoid potential construction impacts on migratory birds:

- Groundbreaking construction activities or tree-cutting activities could be performed before migratory birds are known to be in the area or after all young have fledged to avoid incidental take.
- If construction is scheduled to start during the period when migratory birds are present and nesting, a qualified biologist will conduct site-specific survey for nesting migratory birds within 5 days prior to individual construction activities. Pre-construction nest surveys will occur in areas proposed for tree clearing and construction from April 15th to August 31st, when nesting birds may be present within the project area.
- If nesting birds are found during the survey, USFWS would be contacted and buffer areas could be established around nests. Construction could be deferred in buffer areas until birds have left the nest. A qualified biologist would confirm that all young have fledged.

State Protected Species. Negligible, short- and long-term, adverse impacts would be expected on state protected species. Suitable habitat for the 14 state-protected species not discussed in the above sections does not occur in the project area, and/or these species have not been observed in the project area. In the unlikely event these species were present in the project area, types of impacts would be similar to those described for ***Vegetation*** and ***Wildlife.***

No significant impacts would be expected on biological resources.

3.4.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on biological resources within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Biological resources would remain unchanged when compared with existing conditions.

3.5 Cultural Resources

54 U.S.C. § 306108 (Section 106) of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effect of their undertakings on any historic property (defined below) within the respective Area of Potential Effect (APE). The APE is the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” (36 CFR Part 800.16[d]). The USDA considers the APE for this project as an area that includes all project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the project; all areas used for excavation of borrow material and habitat creation; and all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes are considered “direct” regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). “Indirect” effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable. The scale and nature of the undertaking informs the limits of the APE.

36 CFR 800.16(l)(1) defines historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

Section 106 Compliance. The USDA conducted consultation under Section 106 of the NHPA with the Wisconsin State Historic Preservation Officer (SHPO), other invited consulting parties, and with federally recognized Native American tribes. As a part of the NHPA Section 106 process, the USDA defined the undertaking as the Proposed Action, and defined an APE composed of two parts (see **Figure 3-3**), comprising an archaeological APE that includes all areas that would be utilized for construction of the DFRC or subject to ground-disturbing activities, and an architectural APE for aboveground resources that considers the remaining project elements. The architectural APE also takes into account the viewshed for the tallest structure on the proposed DFRC site, a 50-foot-tall fire water storage tank. Specifically, the APE includes the following:

- **Archaeological APE**: As noted in **Section 2.1**, the project area shown in **Figure 2-1** includes all locations where activities supporting construction would occur, to include physical ground disturbance and the construction laydown yard, and including the linear project components that occur underground within existing utility corridors.

- **Architectural APE**: The architectural APE includes the project area (excluding the linear project components that occur underground within existing utility corridors and would not be visible) and a 0.25-mile radius around the proposed project area and water tower. Given the proposed 50-foot height of the water tank, the USDA's contractor, HDR, conducted a GIS- and LiDAR-based viewshed analysis of the proposed tank location to identify areas where the tank could be visible and have potential effects on architectural resources. HDR performed the viewshed analysis using ESRI ArcGIS software with current LiDAR data to show all areas that could be affected. The use of LiDAR in this type of viewshed analysis enables USDA to determine the extent a particular feature would be visible given topography, intervening development, tree cover, etc. The proposed project area is in a rural setting, on gently sloping land, and is surrounded by mature trees and agricultural fields. Power lines, transmission lines, and silos are prevalent on the landscape. As a result, USDA ARS determined the architectural APE should extend approximately 0.25-mile around the proposed water tank. While the water tank may be visible outside of the 0.25-mile APE, the effect on viewshed decreases significantly based on distance from the proposed tank and the intervening landscape. The facilities at the proposed DFRC site and the operation of the facility would be consistent with traditional agricultural activity in the region and would not be atypical in this rural setting.

This APE takes into account direct and indirect effects of the proposed DFRC facilities and includes those areas subject to the most intense direct, visual, and atmospheric effects. **Figure 3-3** shows the archaeological and architectural APEs for the proposed DFRC.

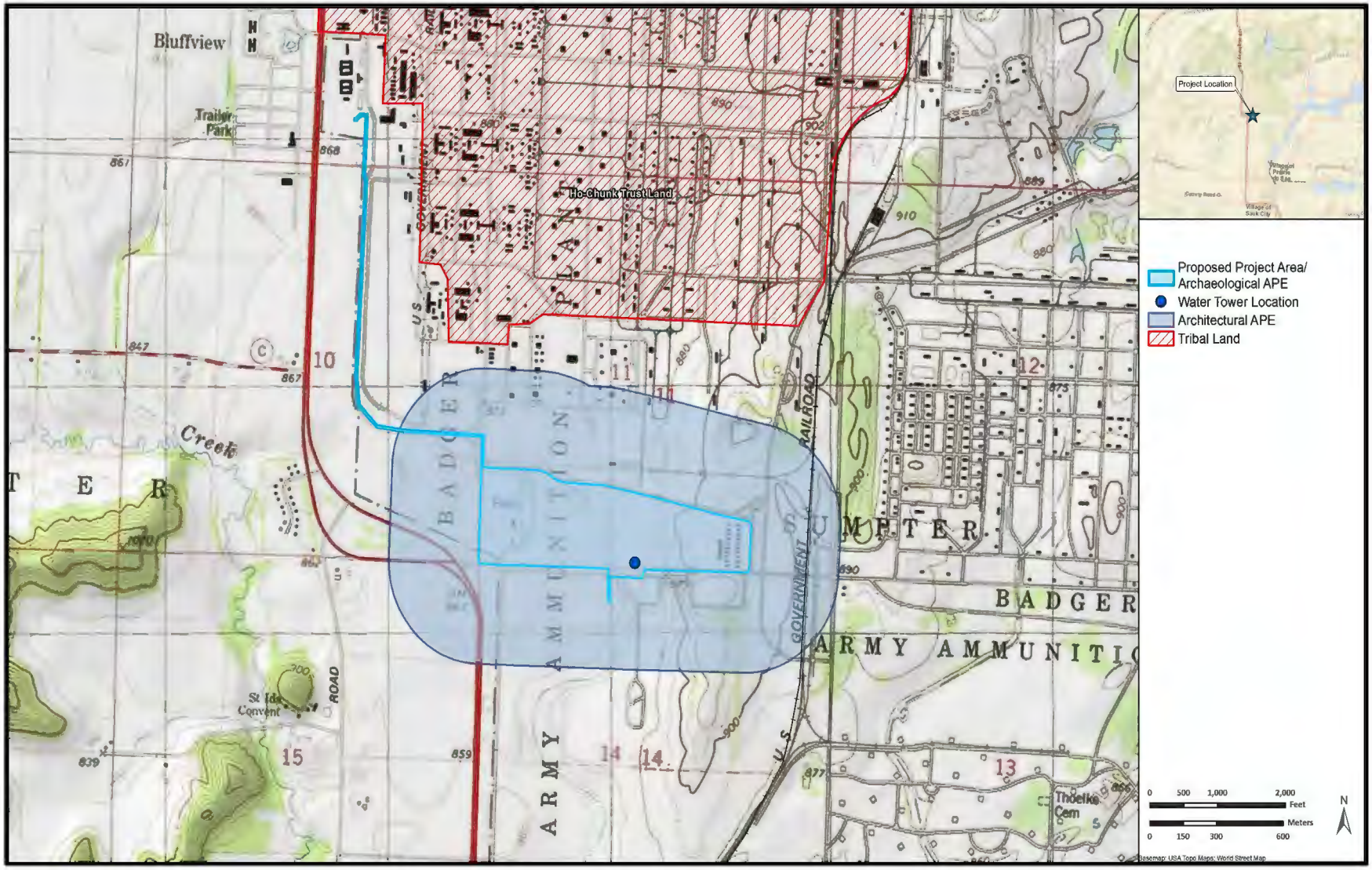

Figure 3-3. Proposed DFRC Area of Potential Effects

No Tribal land is located within the APE; however, the project area is within close proximity (approximately 800 feet) to Ho-Chunk Trust Land on the former BAAP. Additional information on Section 106 compliance is provided in **Section 3.5.1** and consultation documentation is provided in **Appendix D**.

The USDA retained Secretary of the Interior-qualified archaeology contractors to conduct archaeological surveys within the archaeological APE in 2011 and 2021, except for the linear corridors of the APE. Additionally, a literature and archival review was conducted in May 2023 to identify previously recorded architectural and archaeological resources within the APE. Research consisted of a review of the Wisconsin Archaeological Site Inventory files in the Wisconsin Historic Preservation Database, maintained by the Division of Historic Preservation, Wisconsin Historical Society, Madison. Six previous cultural surveys have been completed within the APE. These combined surveys recorded three cultural resources within the APE: archaeological sites SK-0311/BSK-0297 and SK-0696; and AHI 27507.

Architectural Resources. Within the architectural APE there is one previously identified historic architectural resource: AHI 27507, an industrial building part of the former Badger Army Ammunition Plant. AHI 27507 was built in 1942 and was described as an astylistic/utilitarian building. However, like the other buildings historically associated with the BAAP, this building is no longer extant. Additionally, a building foundation is not visible from satellite imagery and there are no known archaeological deposits associated with AHI 27507. Two other buildings are located in the APE; both were constructed by USDA ARS within the last 10 years. Given the only buildings in the APE are not historic in age, no architectural survey was conducted.

Archaeological Resources. Two archaeological resources are located within the archaeological APE, SK0311/BSK0297 and SK0696. Additionally, one resource, SK0326, is located outside of the archaeological APE and is not discussed further in this document as it would not be impacted by the project.

SK0311/BSK0297. SK0311 is an uncatalogued Late Woodland mound group referred to as Big Badger Curve. The site was first recorded in a notebook entry by T. H. Lewis (ca. 1886) and consisted of a group of four effigy mounds and two linear mounds. No other information about the mounds is currently available. A 1979 survey by Robert Peterson as part of the Wisconsin Effigy Mounds Project found no evidence of these mounds and subsequent surveys in 2009 (WHS 09-0845) and 2016 (WHS 17-0304) and construction monitoring projects from 2020 to 2021 (WHS 18-0928 and WHS 18-1289) covering portions of the site encountered no cultural features or artifacts (WHS 2021). Although no burials have been recorded, the site is also recorded as burial site BSK0297. This site is recommended not eligible for listing in the NRHP as no evidence of the site remains extant. A segment of the linear corridor of the archaeological APE intersects the recorded location of the site. The linear corridors have been previously disturbed and project-related construction would occur within previously disturbed soils within this site.

SK0696. Site SK0696 is located within the archaeological APE and was identified during the 2011 survey (Shillinglaw and Jones 2011) and was revisited in 2021. The site consists of an isolated bifacial preform recovered from a shovel test in an area known to have been scraped

and then covered with 0 to 12 cm of imported fill before being planted with corn. The point was found within a shovel test pit that revealed a recent plow zone from 0 to 12 centimeters below surface. The positive shovel test was bracketed at a 5-meter interval, however, only a piece of whiteware, a piece of glass, and some slag were recovered. All brackets extended to at least 50 centimeters below surface and none revealed anything but fill above this depth. The artifacts were found at the boundary between the plow zone and the fill layer and therefore were in secondary context; Site SK0696 is recommended not eligible for listing in the NRHP due to loss of integrity.

Properties of Traditional Religious and Cultural Importance. The Ho-Chunk Nation holds tribal lands within Sauk County via land grants from the Bureau of Indian Affairs. Additionally, the Fort Belknap Indian Community, Kickapoo Tribe of Oklahoma, Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan, Menominee Indian Tribe of Wisconsin, Miami Tribe of Oklahoma, and the Winnebago Tribe of Nebraska have previously identified Sauk County as an area of interest for their tribes. No known properties of traditional religious and cultural importance are within the project area, and the USDA consulted with these seven federally recognized tribes to determine whether there are traditional resources present within the APE. Based on consultations with federally recognized tribes, no tribal resources were identified within the APE. See **Section 3.5.1** for additional information on the tribal consultation process, and **Appendix D** for consultation documentation.

3.5.1 Proposed Action

Under NEPA, short- and long-term adverse impacts on cultural resources are not anticipated on known archaeological or architectural sites within the APE. Although the linear corridors of the project area have not been surveyed, both of these corridors have been previously disturbed and therefore have low potential for subsurface resources. The impact analysis presented is for the purposes of NEPA; determination of effects on historic properties and consultation under Section 106 with the SHPO, invited consulting parties, and recognized tribes is described under ***Section 106 Compliance,*** below. See **Appendix D** for consultation documentation.

Architectural Resources. One previously identified architectural resource, AHI 27507, is present within the APE; however, this building is no longer extant. Construction of the proposed DFRC facility would be consistent with the traditional agricultural activity in the region and would have minimal impact on the integrity of setting of historic buildings. Therefore, no short- or long-term adverse impacts are anticipated on architectural resources.

Archaeological Resources.

SK0311/BSK0297. A segment of the linear corridor of the archaeological APE intersects the recorded location of this site. The linear corridors have been previously disturbed from the previous installation of a sanitary sewer line and the construction and grading of a roadway; project-related construction would only impact previously disturbed soils within the site. Therefore, no physical adverse impacts are anticipated. Additionally, the architectural APE overlaps this site. The prehistoric setting has been altered through agricultural development of the area, including likely destruction of the mounds, as no evidence of the mounds has been recorded. Therefore, setting would not be a key aspect of integrity when determining the

eligibility of the site. Construction of the proposed DFRC facility is consistent with similar agriculture related development in the region and would cause minimal change to the current surrounding setting. Therefore, the Proposed Action would have no impact on this resource. Based on consultation with the Wisconsin SHPO, USDA would not use hydrovac during construction and would not conduct construction staging or store piles within the boundary of this site. Additionally, all ground-disturbing activities within this site would be monitored by a qualified archaeologist as defined at Wisconsin Statutes § 157.70(1)(i). See paragraph ***Section 106 Compliance****,* below, for additional information on the Section 106 consultation, and **Appendix D** for consultation documentation.

SK0696. The site was recommended not eligible for the NRHP due to loss of integrity. As the site is already considered destroyed, proposed construction would have no impact on the resource.

Therefore, no short- or long-term adverse impacts are anticipated on known archaeological resources. Should any inadvertent discovery occur during construction, USDA would contact the Wisconsin SHPO and comply with the requirements at 36 CFR 800.13 for post-review discoveries.

Properties of Traditional Religious and Cultural Importance. No known traditional resources occur within the APE; therefore, no impacts on traditional resources would be expected. The USDA consulted with seven federally recognized tribes and no traditional resources within the APE were identified through consultation. Consultation responses were received from the Miami Tribe of Oklahoma and the Winnebago Tribe of Nebraska, which stated "…no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site" and "this project will not affect any known sites," respectively. See paragraph ***Section 106 Compliance,*** below, for additional information on the Section 106 consultation.

Section 106 Compliance. Under Section 106 of the NHPA, the USDA conducted consultation with the Wisconsin SHPO, federally recognized tribes who have expressed an interest in Sauk County, and other interested and invited consulting parties. The USDA provided all consulting parties with the definition of the undertaking, APE, identification of historic properties, and the finding of effect. Two federally recognized tribes responded to the consultation request and indicated that the project site does not contain known sites, and/or would not affect known sites. Additionally, two invited consulting parties expressed interest in participating in the consultation but did not provide any further response regarding the undertaking, identification of historic properties, APE, or finding of effect. USDA determined the undertaking would have no adverse effect on historic properties, and from the Wisconsin SHPO received concurrence that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them), in a letter dated September 3, 2023. Additionally, USDA received authorization from the Wisconsin SHPO to conduct ground-disturbing activities within the uncatalogued boundaries of the SK-0311/BSK-0297, pursuant to the provisions of Wisconsin Statutes §§ 157.70 (4) and Wisconsin Administrative Code § HS 2.04 (4). Per this authorization, USDA would follow provisions provided by the SHPO for ground-disturbing activities within this site, as described in paragraph ***Archaeological Resources***

SK0311/BSK0297 above**. Appendix D** contains documentation from the Section 106 consultations, to include a list of all consulting parties.

No significant adverse impacts would be expected on cultural resources.

3.5.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on cultural resources within the project area would not be expected under the No Action Alternative. Cultural resources would remain unchanged when compared with existing conditions.

3.6 Socioeconomics

Socioeconomic resources are defined as the basic elements associated with the human environment, generally including factors associated with regional demographics and economic activity. Demographics can be described by the number, distribution, and composition of population and households. Economic activity is represented by the region's major industries, employment, and income characteristics. Direct impacts on either of these two fundamental socioeconomic indicators are typically accompanied by changes in other components, such as altered housing availability, education, and local and regional trends in economy and industry. Because personnel for the proposed DFRC would be relocated from the current DFRC approximately 2.3 miles to the southeast, housing, education, and public services would not be affected by these personnel.

The project area and the existing DFRC site are both within Census Tract 5 in Sauk County, Wisconsin. Information regarding population and economic activity is provided in **Table 3-2**, which includes data for Sauk County and the state to characterize baseline conditions and regional trends and for comparison. From 2010 to 2021, Sauk County and Wisconsin have seen small increases in population. From 2020 to 2021, the population of Census Tract 5 decreased by 6.6 percent.

Table 3-2. Population Trends

Population	Census Tract 5	Sauk County	Wisconsin
2010	3,293	60,957	5,637,947
2020	3,861	64,152	5,806,975
2021	3,605	65,428	5,871,661
Percent Change (2010-2020)	+ 17.2%	+ 5.2%	+ 3.0%
Percent Change (2020-2021)	- 6.6%	+ 2.0%	+ 1.1 %

Sources: USCB 2010, USCB 2020, USCB 2021a

Employment characteristics are listed in **Table 3-3**. The regional labor force is spread out across many different industries. The educational, health, and social services industry was the largest labor industry in all three regions, while the second largest labor industry was the manufacturing industry, followed by the retail trade industry. These three labor industries represent 45.3 percent of the workforce in Census Tract 5, 49.5 percent of the workforce in

Sauk County, and 52.8 percent of the workforce in Wisconsin. Construction for the proposed DFRC would use the regionally available construction workforce to the greatest extent applicable. As of 2021, construction workers accounted for 7.9 percent of the total labor force in Census Tract 5, or 71 workers, and 6.7 percent of the total labor force in Sauk County, or 2,278 workers. Both Census Tract 5 and Sauk County had a higher percentage of workers in the construction labor force than that for Wisconsin in 2021. The 2021 unemployment rate in Census Tract 5 and Sauk County were 5.1 percent and 3.2 percent, respectively. These unemployment rates are lower than the national unemployment the of 5.9 percent in 2021 (USCB 2021b).

Table 3-3. 2021 Employment by Industry (Percent of Labor Force)

Industry	Census Tract 5	Sauk County	Wisconsin
Civilian employed population, age 16 years and older	1,813	34,048	2,964,540
Agriculture, forestry, fishing and hunting, and mining	71 (3.9%)	1,340 (3.9%)	69,034 (2.3%)
Construction	143 (7.9%)	2,278 (6.7%)	167,256 (5.6%)
Manufacturing	287 (15.8%)	5,586 (16.4%)	541,654 (18.3%)
Wholesale trade	61 (3.4%)	878 (2.6%)	79,385 (2.7%)
Retail trade	233 (12.9%)	4,386 (12.9%)	328,771 (11.1%)
Transportation and warehousing, and utilities	58 (3.2%)	1,175 (3.5%)	133,175 (4.5%)
Information	26 (1.4%)	501 (1.5%)	48,214 (1.6%)
Finance, insurance, real estate, and rental and leasing	118 (6.5%)	1,539 (4.5%)	178,252 (6.0%)
Professional, scientific, management, administrative, and waste management services	147 (8.1%)	2,291 (6.7%)	247,109 (8.3%)
Educational, health and social services	301 (16.6%)	6,869 (20.2%)	693,627 (23.4%)
Arts, entertainment, recreation, accommodation, and food services	190 (10.5%)	4,852 (14.3%)	253,278 (8.5%)
Other services (except public administration)	114 (6.3%)	1,244 (3.7%)	122,460 (4.1%)
Public administration	64 (3.5%)	1,109 (3.3%)	102,325 (3.5%)

Sources: USCB 2021b

3.6.1 Proposed Action

Short-term, minor, beneficial economic impacts would be generated through local construction employment and project-related spending for the Proposed Action. Long-term beneficial impacts on local economic activity would not be expected, as it is assumed that staff from the existing facility would begin working at the new DFRC site once complete, and that a substantial change in local employment would not be anticipated. However, long-term beneficial impacts on dairy farmers could be expected from implementing the findings produced by the research at the DFRC.

No significant adverse impacts would be expected on socioeconomics.

3.6.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on socioeconomics within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Socioeconomics would remain unchanged when compared with existing conditions.

3.7 Environmental Justice

Environmental justice considers the race, ethnicity, and poverty status of populations in the area within which potential impacts from a proposed action could occur. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, identifies populations groups of concern in considering potential environmental justice impacts of a federal action. These include minority populations and low-income populations. Minority populations include the following: American Indian or Alaskan Native; Black or African American; native Hawaiian or other Pacific Islander; Asian; multi-race that includes one of the aforementioned races and Hispanic or Latino. Low-income populations are classified as those whose income is below the federal poverty threshold established by the U.S. Census Bureau (USCB). According to CEQ, an area of impacts is considered to have a disproportionately high minority population if (a) the percentage of persons characterized as minority is greater than 50 percent or (b) the percent minority population of the area is meaningfully greater than the percent minority population in a reference area.

EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, affirms that environmental justice is central to the application of our civil rights and laws, and directs agencies to consider measures to address and prevent disproportionate and adverse environmental and health impacts on communities. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, mandates the investigation of environmental effects on children and acknowledges that children may suffer disproportionately from environmental health and safety risks. As defined by USCB, children are people 17 years of age and younger. Elderly are people 65 years of age and older.

For the purposes of this EA, the 50 percent and meaningfully greater approaches are applied to identify environmental justice minority, low-income, children, and elderly communities within the area of impact. For the meaningfully greater approach, a community with a population percentage greater than the community of comparison is considered meaningfully greater and is assessed as an area of environmental justice concern for the given demographic.

The Region of Influence (ROI) for the environmental justice analysis included the Census Tract within which the Proposed Action would occur. The project area and existing DFRC site are both within Census Tract 5 in Sauk County, Wisconsin. Data were also provided for the reference populations of Sauk County and the state of Wisconsin.

The project area is in a rural, agricultural area. Bluffview, a Census-designated place, is the nearest residential community approximately 0.9-mile northwest of the site. The American

Community Survey 5-year Census Estimates (2017-2021) data for race, poverty, income, and age demographics for Census Tract 5, Sauk County, and Wisconsin are provided in **Table 3-4**.

Table 3-4. 2021 Demographic Indicators for Census Tract 5, Sauk County, and Wisconsin

Demographic	Census Tract 5	Sauk County	Wisconsin
Total Population	3,605	65,428	5,871,661
Race			
Percent White	84.4	89.8	80.1
Percent Black or African American	0.5	0.8	6.2
Percent American Indian and Alaska Native	0.0	1.1	0.7
Percent Asian	0.2	0.5	2.8
Percent Native Hawaiian and Other Pacific Islander	0.0	0.0	0.0
Percent Other Race	0.0	0.1	0.2
Percent Two or More Races	1.3	2.1	2.7
Percent Hispanic or Latino	13.6	5.6	7.2
Percent Total Minority	15.6	10.2	19.8
Poverty and Income			
Percent Below the Poverty Level	7.9	8.7	10.7
Median Household Income[1]	77,135	67,702	67,080
Median Family Income[2]	99,708	82,500	85,623
Children and Elderly			
Percent 17 Years of Age and Younger	26.0	23.0	22.0
Percent 65 Years of Age and Older	16.4	18.4	17.0

Sources: USCB 2021a, USCB 2021b

[1] Median household income is the median income of the householder and all other individuals 15 years and older in the household. Many households consist of only one person; therefore, median household income is usually less than median family income.

[2] Median family income is the median income of two or more people (one of whom is the householder) related by birth, marriage, or adoption residing in the same housing unit.

In 2021, the minority population in Census Tract 5 was predominantly Hispanic or Latino (13.6 percent), which was higher than the percent Hispanic or Latino in Sauk County (5.6 percent) and Wisconsin (7.2 percent). The total percent minority for Census Tract 5 was 15.6 percent, which was higher than the total percent minority for Sauk County (10.2 percent), but lower than the total percent minority for Wisconsin (19.8). Because the percent minority in Census Tract 5 was greater than the percent minority for the Sauk County reference population, the ROI was considered to be an environmental justice minority community.

In 2021, 7.9 percent of individuals in Census Tract 5 were below the poverty level, which was less than the percent of individuals below the poverty level in Sauk County and Wisconsin. In addition, the median household and family incomes in Census Tract 5 were higher than those in Sauk County and Wisconsin. The percentage of children in Census Tract 5 was greater than the percentage of children in Sauk County and Wisconsin, while the percentage of elderly in Census Tract 5 was lower than the percentage of elderly in Sauk County and Wisconsin. Because the percent children in Census Tract 5 was greater than the percent children in Sauk

County and Wisconsin, the ROI was considered to be an environmental justice children community.

To further assess whether environmental justice communities are present, the CEQ Climate and Environmental Justice Screening Tool, which identifies disadvantaged (overburdened and underserved) areas using demographic and environmental indicators, was used. The Climate and Economic Justice Screening Tool did not identify Census Tract 5 as disadvantaged because it did not meet any burden threshold or associated socioeconomic threshold (CEQ 2023a).

3.7.1 Proposed Action

Impacts on environmental justice are assessed to determine whether a proposed action would result in disproportionately high and adverse human health and environmental impacts on minority, low-income, children, or elderly populations. Impacts would be considered significant if such impacts disproportionately affect communities of environmental justice concern compared to the general population.

The ROI contains an environmental justice minority population. The Proposed Action would result in a short-term increase in noise levels within Census Tract 5; however, all construction activities would occur within the work limit and noise would dissipate with distance from the site. As stated in **Section 3.11.2**, noise levels would attenuate to typical urban daytime levels (54 dB) at 0.55 mile from construction; therefore, the nearest residential community approximately 0.9-mile northwest of the site would not experience noise from construction beyond ambient levels. Construction also would generate air emissions; however, these emissions would have regional, or county-level, impacts and would not be concentrated at the project site or within Census Tract 5, thereby not disproportionately affecting a single population. Construction traffic would use the private drive for access to the proposed DFRC site. Short-term, increases in traffic during construction would be expected and would equally affect all who transit through the area. Therefore, no disproportionate impacts to a single population from traffic increases would occur.

Operation of the proposed DFRC facility would not be expected to have disproportionately high and adverse long-term impacts on environmental justice communities. Operation of the facility would generate air emissions; however, these emissions would have regional, or county-level, impacts and would not be concentrated at the project site or within Census Tract 5, thereby not disproportionately affecting a single population. Long-term impacts from the increase of impervious surfaces at the site could occur on water resources and geology and soils; however, these impacts also would not be concentrated at the project site or within Census Tract 5, and would not result in disproportionately high and adverse impacts on environmental justice communities. Additionally, long-term impacts are not expected on regional transportation.

Census Tract 5 includes a percentage of children higher than the reference populations of Sauk County and Wisconsin. However, as described above, no potential impacts from the Proposed Action would result in any disproportionate effect on any single population, which includes the children population. While environmental justice communities could experience adverse impacts from the Proposed Action, it is not anticipated that these impacts would be disproportionately high and adverse, and significant impacts are not expected.

3.7.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on environmental justice communities within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Environmental justice communities would remain unchanged when compared with existing conditions.

3.8 Infrastructure and Transportation

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly man-made with a high correlation between the type and extent of infrastructure and the degree of which an area is characterized as “urban” or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to the economic growth of an area. The infrastructure components discussed in this EA are utilities such as domestic water, sanitary waste, stormwater, natural gas, and electricity.

Transportation refers to roadway, rail, and air systems and the movement of vehicles on these transportation systems.

Domestic Water. Potable water is currently not available within the proposed DFRC site. Domestic water would be provided by the Bluffview Sanitary District from Bluffview Well 3 to the site through a waterline extension within the project area. A new water main connecting to the domestic water provider would be installed on site and potable water service would be provided to the administration and laboratory buildings. Non potable water for farm operations would be obtained from an existing groundwater well (see **Section 3.3** for additional information).

Sanitary Waste. An existing Bluffview Sanitary District sewer main is adjacent to the proposed DFRC site. A sanitary sewer system would be installed onsite to collect drainage from the administration and laboratory buildings, which would connect to the existing sewer main. The Bluffview Sanitary District has given notice the maximum discharge to the public system from the site would be run by pumps at a periodic rate of 150 gallons per minute with monitored organic content. Manure from the cows would be managed on site through a manure storage facility. Manure would eventually be used and transferred offsite to fertilize the DFRC crops.

Stormwater. A stormwater system is currently not present on the DFRC site. An exterior storm sewer system would be designed and constructed onsite for facilities to safely convey the 10-year storm event, and any areas that could contribute stormwater to the manure system would convey a minimum 25-year storm event. Furthermore, identification of a safe conveyance, most likely overland flow, for the 100-year storm with a 2-foot freeboard, would be established. A storm sewer system would also be installed which captures the runoff from the rooftops and discharges into a detention/infiltration basin system. The detention basin systems would provide runoff rate control to establish a non-erosive velocity, control flooding potential, and meet the existing capacities of the downstream areas. The detention/infiltration basin system is anticipated to be required to meet the performance standards of Wisconsin Natural Resources

151.121 to 151.128 for stormwater runoff generated by roadway, parking, and rooftop associated with visitor and research areas.

An auxiliary spillway and infiltration swale around the west side of the manure storage facility would divert large stormwater runoff events away from the facility. A storm sewer system would capture the stormwater runoff from the paved surfaces exposed to organic materials (e.g., manure, feed/silage leachate and related livestock facility organics become process wastewater) and be conveyed to the liquid manure storage facility. The manure storage facility would be designed to include the volume of this stormwater runoff for permanent retention/evaporation.

A conveyance swale system would capture the stormwater runoff from offsite and divert it around the development and into the existing downstream conveyance system. Existing culverts on the north of the site produce runoff that would be routed through and around the site.

Natural Gas. Alliant Energy would be the natural gas provider for the proposed DFRC site. Existing natural gas infrastructure is available within the adjacent public rights-of-way for connection to the proposed DFRC site. The new administration and laboratory building would be supplied with natural gas for the emergency generator, water heating and other mechanical heating uses by the site natural gas distribution. The site natural gas distribution would be supplied via new service by Alliant Energy, who would provide underground piping to each building requiring natural gas and provide a meter and pressure reducing assembly at each building requiring gas service.

Electrical. The area surrounding the proposed site receives electric service from Alliant Energy at a nominal 12,470 volts, which would be utilized for electricity within the proposed DFRC site. Existing electrical infrastructure is available within the adjacent public rights-of-way for connection to the proposed DFRC site. A pad mounted oil filled transformer with 480Y/277volt secondary service would entrance to the building main switchboard for normal power.

Transportation. The existing transportation system surrounding the proposed DFRC site includes USH 12, State Highway 78, and several major and minor collectors. USH 12 is located to the west of the proposed DFRC site and would serve as the main access route for the site. USH 12 in this area is generally a north-south highway connecting Madison to the State Highway 90-94 corridor and the Wisconsin Dells/Lake Delton Area. USH 12 serves several communities in the area including Wisconsin Dells, Lake Delton, Baraboo, Reedsburg, Prairie du Sac, Sauk City, Waunakee, Middleton and Madison. State Highway 78 is located to the east of the proposed DFRC site and is generally a north-south highway connecting Prairie du Sac to the State Highway 90-94 corridor and Portage.

Business Route 12 is the nearest road to the south of the proposed DFRC site. This route is a major collector and is approximately 2 miles to the south. The road runs east and west to connect USH 12 and State Highway 78 north of Prairie Du Sac.

The former BAAP, as owned by the DoD, developed a large network of private local roads. These roads are typically rural sections with varying paved widths. There is an existing BAAP east and west private drive that serves as a connector between USH 12 and State Highway 78.

In 2021, a new entrance intersection between USH 12 and the private drive had been constructed. At the proposed DFRC site, the existing east and west road would be used as a private driveway. The east-west road would not be part of a dedicated right-of-way and no changes to this intersection are proposed.

Parking/Driveways. There are no dedicated parking areas or driveways currently on the proposed DFRC site. The number of employee parking stalls required would be based on the number of employees on the two largest back-to-back shifts, and to accommodate visitors; approximately 50 parking stalls and one bus stall would be constructed. Additional gravel parking spots would also be available. Driveways would be installed to allow for access by milk trucks and fire trucks.

3.8.1 Proposed Action

Short-term, negligible, adverse impacts on domestic water, sanitary waste, natural gas, and electrical systems would be expected from interruptions to utilities' supply and the distribution system during construction. Short-term supply and distribution system interruptions could be experienced when utility extensions and new facilities are connected to the supply systems. Any potential disruptions would be temporary and coordinated with area users prior to disconnection or reconnection to the system. No impacts on stormwater on would be expected as all stormwater infrastructure would be contained on site. Long-term adverse impacts on utilities and infrastructure are not expected, as a substantial increase in DFRC personnel is not expected. Long-term, minor beneficial impacts are anticipated from the operation of the modernized manure collection facility at the proposed DFRC site.

Short-term, negligible, adverse impacts on the regional transportation and roadway network would occur from increased traffic during construction. These activities would require the delivery and removal of materials to and from the site. All construction traffic, including equipment and material deliveries as well as commuting work crews, would be expected to use the private drive for access to the site. Long-term adverse impacts on regional transportation would not occur because a substantial increase in DFRC personnel is not expected. Additionally, impacts on parking and driveways are not expected, as all parking and driveways on the proposed DFRC site would be constructed new and sized to accommodate the anticipated vehicle traffic.

No significant adverse impacts would be expected on infrastructure and transportation.

3.8.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on infrastructure and transportation within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Infrastructure and transportation would remain unchanged when compared with existing conditions.

3.9 Aesthetics and Visual Resources

The majority of the project area consists of open/urban space with two existing buildings, several deconstructed facilities from the former BAAP, woodland area, grassland vegetation, and a former trap shooting location. The site is relatively flat with 1 percent grade and is bound on four sides by highways and local access roads. To the north of the site is the Ho-Chunk Nation, with pasturelands to the east and south, and USH 12 to the west. The Badger Reuse Committee Plan (Badger Reuse Committee 2001) recognizes the importance of protecting and enhancing BAAP's natural features and providing open space that is characteristic of the rural landscape of the area. The Committee believed that future uses of the BAAP should work to enhance the aesthetic quality of the BAAP property.

3.9.1 Proposed Action

Short- and long-term minor impacts on aesthetics and visual resources would be anticipated. The proposed DFRC would create a visual impact during and after construction due to presence of construction equipment and the presence of multiple new facilities across the site, on an area where there currently are only two facilities. However, prior to disassembly of the BAAP, the project area contained multiple DoD facilities. Maximum facility height for the silos would be approximately 30 feet, and for the fire water storage tank approximately 50 feet; due to the rolling terrain, these facilities could be visible for several miles. However, construction of the proposed DFRC facility would be consistent with the traditional agricultural activity in the region and the project area would be revegetated with native plants; therefore, the Proposed Action would have minimal impact on the visual aesthetics of the region. Additionally, efforts would be made to retain many of the existing mature trees and to utilize building materials that blend into the existing landscape. Aesthetic values would be limited to that of a dairy operation, with its various outbuildings and material storage facilities.

No significant adverse impacts would be expected on aesthetics and visual resources.

3.9.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on aesthetics and visual resources within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Aesthetics and visual resources would remain unchanged when compared with existing conditions.

3.10 Air Quality and Climate

Air quality is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and number of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Most air pollutants originate from human-made sources, including mobile sources (e.g., cars, trucks, buses) and stationary sources (e.g., power plants, emergency generators). Air pollutants are also released from natural sources such as forest fires. Air pollution occurs when one or more pollutants (e.g., dust, fumes, gas, mist, odor, smoke, vapor) are present in

the outdoor atmosphere in quantities great enough to cause harm to the natural environment, including human, plant, and animal life, or to property.

The six pollutants that are the main indicators of air quality, called "criteria pollutants," include carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone (O_3), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM_{10}] and less than or equal to 2.5 microns in diameter [$PM_{2.5}$]), and lead. CO, sulfur oxides (SO_X), nitrous oxides (NO_X), lead, and some particulates are emitted directly into the atmosphere from emissions sources. NO_X, O_3, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compound and NO_X emissions are precursors of O_3 and are used to represent O_3 generation.

Under the Clean Air Act, the USEPA has established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for these pollutants. NAAQS are classified as primary or secondary. Primary standards protect against adverse health impacts, while secondary standards protect against welfare impacts, such as damage to farm crops, vegetation, and buildings. **Table 3-5** shows the federal primary and secondary air quality standards. USEPA Region 5 and Wisconsin Department of Natural Resources regulate air quality in Wisconsin. The state accepts the federal NAAQS listed in **Table 3-5**.

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas and a general conformity determination is required when the total direct and indirect emissions of nonattainment and maintenance criteria pollutants (or their precursors) exceed specified thresholds.

The project area is in Sauk County, Wisconsin, which is within the Southern Wisconsin Intrastate Air Quality Control Region. USEPA has designated Sauk County as in attainment for all criteria pollutants (USEPA 2023a). As such, the General Conformity Rule is not applicable to emissions of criteria pollutants in the county. **Table 3-6** includes the most recent available annual emissions inventory (calendar year 2020) for Sauk County.

Table 3-5. NAAQS

Criteria Pollutant	Primary/ Secondary	Averaging Time	Level	Form
CO	Primary	8-hour	9 ppm	Not to be exceeded more than once per year
		1-hour	35 ppm	
NO_X	Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Primary and Secondary	Annual	53 ppb	Annual mean
O_3	Primary and Secondary	8-hour	0.070 ppm[a]	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
$PM_{2.5}$	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
	Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	Primary and Secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
PM_{10}	Primary and Secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Pb	Primary and Secondary	Rolling 3-month Average	0.15 µg/m^3 [b]	Not to be exceeded
SO_X	Primary	1-hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Secondary	3-hour	0.5 ppm	3-month average not to be exceeded more than once per year

Source: 40 CFR Part 50

[a] Final rule was signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standard of 0.075 ppm remains in effect in some areas.

[b] In areas designated nonattainment for the lead standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standard (1.5 µg/m^3 as a calendar quarter average) also remains in effect.

Key: O_3 = ozone; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; Pb = Lead; CO = carbon monoxide; NO_X = nitrous oxide; SO_X = sulfur oxide; ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter

Table 3-6. Annual Emissions Inventory (2020) for Sauk County, Wisconsin

County	NO_X (tpy)	VOC (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e[1] (tpy)
Sauk County	1,901	10,950	11,720	43	3,903	1,284	0.3645	644,495

[1] The GHG emissions used to calculate CO2e include CO_2, methane (CH_4), and nitrous oxide.

Key: PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; CO = carbon monoxide; NO_X = nitrous oxide; SO_X = sulfur oxide; tpy = tons per year; VOC = volatile organic compound; CO_2e = equivalent emissions of CO_2

Source: USEPA 2023b

Climate Change and Greenhouse Gases (GHGs). Global climate change refers to long-term fluctuations in temperature, precipitation, wind, sea level, and other elements of Earth's climate system. Ways in which Earth's climate system may be influenced by changes in the concentration of various gases in the atmosphere have been discussed worldwide. Of particular interest, GHGs are gas emissions that trap heat in the atmosphere. GHGs include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrogen oxide, ozone, and several fluorinated and

chlorinated gaseous compounds. To estimate global warming potential, all GHGs are expressed relative to a reference gas, CO_2, which is assigned a global warming potential equal to one. All GHGs are multiplied by their global warming potential, and the results are added to calculate the total equivalent emissions of CO_2. The dominant GHG emitted is CO_2, accounting for 79 percent of all GHG emissions as of 2021, the most recent year for which data are available (USEPA 2023c). To estimate global warming potential, all GHGs are expressed relative to a reference gas, CO_2, which is assigned a global warming potential of one (1). All GHGs are multiplied by their global warming potential, and the results are added to calculate the total equivalent emissions of CO_2 (CO_2e).

Most GHGs occur naturally in the atmosphere, but increases in concentrations result from human activities, such as burning fossil fuels. Scientific evidence indicates a trend of increasing global temperature over the past century because of an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

The CEQ *National Environmental Policy Act Interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, issued on January 9, 2023, recommends determining the social cost of GHG emissions from a proposed action where feasible as a means of comparing the GHG impacts of the alternatives (CEQ 2023b). Accordingly, estimated CO_2e emissions associated with the Proposed Actions are provided in this EA for informative purposes. The "social cost of GHGs" is an estimate of the monetized damages associated with incremental increases in GHG emissions, such as reduced agricultural productivity, human health effects, property damage from increased flood risk, and the value of ecosystem services. The interim social cost established by the Interagency Working Group for the year 2024 is estimated at $55 per metric ton of CO_2; $1,700 per metric ton of methane; and $20,000 per metric ton of nitrous oxide using a 3 percent average discount rate (in 2020 dollars; IWG-SCGHG 2021).

Normal digestion in animals results in production of CH_4. Rough forage such as grasses are broken down in the rumen by microbial fermentation known as Enteric Fermentation and methane gas is released to the atmosphere through exhalation or eructation. Digestion in ruminants, especially cattle, can result in significant methane production, especially when considered on a global scale. There are an estimated 1.2 billion large ruminants in the world that produce 80 million metric tons of the GHG methane, annually.

Many factors contribute to the amount of methane an individual cow produces daily, including animal size, diet, growth rate and production. The EPA uses the Cattle Enteric Fermentation Mode, which considers several population and herd management variables to accurately measure the methane production from cattle in the U.S. Daily methane production per head is a factor of the gross energy and the emission factors (energy from the individual converted to methane). The gross energy factors all of the energy requirements for animal maintenance, lactation, pregnancy, animal activity and other factors that contribute to the energy balance of the animal. The model estimates that in 2001 dairy cows produced 348 gigagrams of methane of the estimated 5,218 gigagrams produced by all cattle in the U.S. Agricultural manure systems account for approximately 7 percent of national methane emissions.

Within the region, on average, the months of December, January, and February are below freezing, and the months of June and July are above sixty degrees. Prairie du Sac has an average high temperature of 72 degrees in the hottest month of July, and an average low temperature of 15.9 degrees in the coldest month of January. The area has an average annual precipitation of 31.02 inches (IDcide 2023). The growing season averages 142 days and typically runs from the beginning of May through the end of September, with considerable variation depending on the last freeze date in spring and the first freeze date in fall.

3.10.1 Proposed Action

This air quality analysis estimates the effects on air quality and climate change that would result from the Proposed Action. Effects on air quality are evaluated by comparing the annual net change in emissions for each criteria pollutant against the 250 tpy Prevention of Significant Deterioration (PSD) major source threshold, as defined by USEPA, for each criteria pollutant except for lead. The PSD threshold for lead is 25 tpy. The PSD thresholds do not denote a significant impact; however, they do provide a threshold to identify actions that have insignificant impacts to air quality. For actual operations and regulatory purposes, the PSD major source thresholds only apply to stationary sources; however, they are applied in this EA to both stationary and mobile sources as a surrogate indicator of significance in an attainment area. If a proposed action's emissions are below the PSD thresholds, the proposed action's impacts on air quality are presumed to be negligible to minor.

Based on compliance with the NAAQS, the General Conformity Rule is not applicable to emissions of criteria pollutants from the Proposed Action. Air emissions from construction of the proposed DFRC would result in short-term, minor, adverse impacts on air quality. **Table 3-7** provides the estimated annual air emissions associated with construction for the proposed DFRC. The analysis assumes construction would occur over a 1-year period using a surrogate year of 2024 to equate a worse-case emissions scenario in which all construction occurs in the same year. The actual construction period and timeline for construction is likely to be different than what was assumed for the analysis. Estimated net annual emissions would not exceed the PSD threshold of 250 tpy for all criteria pollutant (25 tpy for lead); therefore, the Proposed Action would not result in significant impacts on air quality. Detailed emissions calculations are included in **Appendix E**.

Table 3-7. Estimated Annual Air Emissions from the Proposed Action

Year	VOC (tpy)	NO_X (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e (tpy)
2024 (Construction)	4.768	3.419	3.677	0.009	37.747	0.102	<0.001	1,341.5
2025 and Later (Operations)	0.108	1.972	1.657	0.012	0.150	0.150	<0.001	2,374.4
PSD Threshold	250	250	250	250	250	250	25	NA
Exceeds threshold?	No	No	No	No	No	No	No	NA

Key: PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; CO = carbon monoxide; NO_X = nitrous oxide; SO_X = sulfur oxide; tpy = tons per year; VOC = volatile organic compound; CO_2e = equivalent emissions of CO_2; PSD = Prevention of Significant Deterioration; NA = not applicable

During the construction period, emissions of criteria pollutants and GHGs would be directly produced from operation of heavy construction equipment, heavy duty diesel vehicles hauling demolition debris and construction materials to and from the project area, workers commuting daily to and from the project area, and ground disturbance. All such emissions would be temporary in nature and produced only when construction activities are occurring.

The air pollutant of greatest concern during construction is particulate matter, such as fugitive dust, which is generated from ground disturbing activities and combustion of fuels in construction equipment. The quantity of uncontrolled fugitive dust emissions from a site is proportional to the area of land being worked and the level of activity. Fugitive dust emissions would be greatest during the initial site preparation and site grading activities and would vary from day to day depending on the work phase, level of activity, and prevailing weather conditions. Construction activities would incorporate BMPs and environmental control measures (e.g., wetting the ground surface) to minimize fugitive dust emissions. To further reduce particulate matter emissions, work vehicles would be well-maintained and use diesel particulate filters. These BMPs and environmental control measures could reduce particulate matter emissions from a construction site by approximately 50 percent.

Long-term, minor, adverse impacts on air quality would occur from operation of the proposed DFRC. Air emissions would be directly produced from operational of heating systems in new facilities. The annual operational air emissions are summarized in **Table 3-7**. These operational emissions would be consistent with similar emissions currently occurring at the existing DFRC. Personnel would be relocated from the existing DFRC to the proposed DFRC; therefore, the county-level emissions associated with commuting to and from the DFRC would not change. Operational air emissions would not exceed the PSD threshold for any criteria pollutant; therefore, the Proposed Action would not be expected to result in long-term, significant impacts on air quality.

Climate Change and GHGs. During the construction period, a total of approximately 1,342 tons (1,217 metric tons) of CO_2e would be produced, representing less than 0.3 percent of the annual CO_2e emissions in Sauk County. By comparison, 1,217 metric tons of CO_2e is the GHG footprint of 271 passenger vehicles driven for 1 year or 153 homes' energy use for 1 year (USEPA 2023d). The social cost of carbon from construction would be approximately $70,023.73. See **Appendix E** for additional information regarding the calculation of the social cost of carbon. Air emissions produced during construction would not meaningfully contribute to the potential effects of climate change and would not considerably increase the total CO_2e emissions produced by Sauk County. Therefore, short-term, adverse impacts from GHG emissions would be negligible.

Annual operational CO_2e emissions would equal approximately 2,374 tons (2,154 metric tons) per year, representing less than 0.4 percent of the annual CO_2e emissions in Sauk County. By comparison, 2,154 metric tons of CO_2e is the GHG footprint of 479 passenger vehicles driven for 1 year or 271 homes' energy use for 1 year (USEPA 2023d). The social cost of carbon from operations would be approximately $123,936.80. See **Appendix E** for additional information regarding the calculation of the social cost of carbon. Annual operational emissions would be

consistent with similar emissions currently occurring at the existing DFRC; therefore, long-term, adverse impacts from GHG emissions would be negligible.

Long-term, minor, beneficial impacts on climate change and GHG emissions would be expected. The animals on site, the proposed manure storage system, and the spreading of liquid manure, may increase local methane emissions into the atmosphere, potentially affecting long-term air quality. However, emissions would be consistent with similar emissions currently occurring at the existing DFRC site, and the future implementation of an anaerobic digester system at the facility could provide environmental benefits. The anaerobic digester is a waste management system that controls the anaerobic digestion of liquid and solid (slurry) manure waste to capture the methane gas produced from the digestion of the waste material. The methane gas is then most often used to generate electricity. Anaerobic digesters can reduce the GHG emission of methane from the facility, offset consumption of fossil fuels and reduce the potential of contaminants and nutrients to leach into surface and groundwater sources. Additionally, DFRC has recognized that significant research is needed to address GHG production and the carbon footprint of the dairy industry. Research on methane, other GHG and waste product production along with continued increases in forage and nutrient utilization will be essential components of the research conducted, and this research would serve to reduce overall GHG emissions from agricultural practices locally and globally in the future.

No significant adverse impacts would be expected on air quality.

3.10.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on land use within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Land use would remain unchanged when compared with existing conditions.

3.11 Noise

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as aircraft operations, construction, or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels, is used to quantify sound intensity. The decibel is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighing," measured in dBA, approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their sound levels are provided in **Table 3-8.**

Table 2-8. Common Noises and Levels

Outdoor	Sound Level (dBA)	Indoor
Jet flyover at 1,000 feet	100	Rock band
Gas lawnmower at 3 feet	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal
Heavy traffic at 150 feet	70	Vacuum cleaner at 10 feet
Normal conversation	60	Normal speech at 3 feet
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room

Source: Harris 1998

The existing noise environment surrounding the project area is considered rural, with the dominant noise source being traffic on USH 12 directly to the west. Sensitive noise receptors within a 1-mile radius are shown in **Table 3-9**.

Table 3-9. Sensitive Noise Receptors Near the Project Area

Receptor	Approximate Distance	Receptor Type
Bluffview Estates	1 mile	Residential
Thoelke Cemetery	0.55 mile	Cemetery
Valley of Our Lady Monastery	0.55 mile	Place of Worship

3.11.1 Proposed Action

Construction would require use of heavy equipment that would generate short-term increases in noise near the project area. **Table 3-10** presents typical noise levels (dBA at 50 feet) for the main phases of outdoor construction. Individual pieces of heavy equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet (USEPA 1971, FHWA 2006). With multiple items of equipment operating concurrently, noise levels can be relatively high within several hundred feet of active construction sites.

Table 3-10. Typical Noise Levels Associated with Outdoor Construction

Construction Phase	Equivalent Sound Level (dBA)
Ground clearing	84
Excavation, grading	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA 1971, FHWA 2006 Key: dBA = “A”-weighted decibel

All construction would occur within the work limit and noise would dissipate with distance from the site. It is anticipated that construction noise could be audible at the noise sensitive receptors approximately 0.55-mile away. Based on the inverse square law of noise, noise levels would attenuate to typical urban daytime levels (54 dBA) at 0.55 mile from construction; therefore, the nearest residential community approximately 0.9-mile northwest of the site would not

experience noise from construction beyond ambient levels. Given the temporary nature of proposed construction, distance to nearby noise sensitive areas, and the existing noise environment, these short-term adverse impacts would be minor. Although construction-related noise impacts would be minor, BMPs such as equipment mufflers would further reduce the impact.

Long-term, minor, adverse impacts on noise would also be expected from the operation of the DFRC facility at the new site. An increase in noise above ambient noise levels would be expected; however, traffic noise from USH 12 would also continue to contribute to the noise environment.

No significant adverse impacts would expected on the noise environment.

3.11.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on noise within the project area, and in the surrounding area, would not be expected under the No Action Alternative. The noise environment would remain unchanged when compared with existing conditions.

3.12 Public Health and Safety

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Health and safety addresses both worker and public health and safety during and following construction.

The proposed DFRC site is currently unoccupied and therefore, site safety and security are not actively managed. The site falls within the Sauk City Fire District, and the Sauk City Fire Department has responsibility for responding to fire emergencies at the site. The nearest health facility to the project area is Sauk Prairie Healthcare, which is approximately 8 miles and 14 minutes away.

Police protection in Sauk County is provided at the county and municipal level. The Sauk County Sheriff's Department is the first responder to incidence calls within the former BAAP and the existing DFRC. Municipal police departments in Sauk County are in Baraboo, La Valle, Lake Delton, Plain, Reedsburg, Sauk City, and Spring Green.

Sauk County Emergency Management coordinates effective disaster response and recovery efforts in Sauk County, in support of local governments. Sauk County Emergency Management operates under the authority of Wisconsin Statutes Chapter 323 for dealing with all natural (tornadoes, flood, earthquake, or hurricane) and man-made (active shooter, building collapse, fires, riots) emergencies—preparedness, response, and recovery (Sauk County 2023).

3.12.1 Proposed Action

Short-term, negligible to minor, adverse impacts on occupational safety would be anticipated from increased occupational hazards during construction, including those from vehicles,

noise/dust, air emissions, construction zones, and detours. These impacts would be temporary and would be minimized through compliance with all applicable Occupational Safety and Health Administration requirements.

Long-term, negligible, adverse impacts on fire and emergency services would not be anticipated, as a substantial increase in personnel is not expected.

No significant adverse impacts would be expected on health and safety.

3.12.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on public health and safety within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Public health and safety would remain unchanged when compared with existing conditions.

3.13 Recreation

Developed recreation is defined as recreation that takes place in constructed recreation sites, such as campgrounds and picnic areas. Dispersed recreation is all recreation on or off roads and trails that takes place outside of developed recreation sites, such as fee campgrounds and picnic areas where amenities are provided. Dispersed recreation includes hiking, mountain biking, backpacking, rock climbing, equestrian use, backcountry camping, fishing, hunting, off-highway vehicle use, target shooting, sightseeing, and other activities. Dispersed camping is considered camping along roads or trails with no amenities, such as picnic tables or toilets.

The landscape surrounding the former BAAP contains many natural areas such as the Baraboo Hills, Sauk Prairie Recreation Area, Devil's Lake State Park, and the Wisconsin River that are open to public recreation activities such as hiking, canoeing, and bird watching. To the east of the project area is a segment of the Great Sauk State Trail, which runs parallel to the project area for approximately 900 feet of the 10.5-mile trail. Portions of the BAAP currently is open for hunting during specific seasons and has a lot of recreation potential. Recreation at Devil's Lake State Park, approximately 4.5 miles to the north of the project area makes it the most visited state park in Wisconsin, attracting 1.2 to 1.4 million visitors annually. Devil's Lake State Park is nearly 10,000 acres and offers 29 miles of hiking trails, swimming, boating, and camping.

Snowmobiling has been and continues to be a to be a recreational activity heavily used within Sauk County. With around 211 miles of snowmobile trails, Sauk County Snowmobile trails loop through just about every nearby village and city.

3.13.1 Proposed Action

Short-term, negligible, adverse impacts on recreation would be expected during construction from increased traffic. Delivery and removal of materials to the site, and construction work crews traveling to and from the site, would increase traffic along USH 12. Increased traffic for the duration of construction could slow access to recreation areas accessed via USH 12, such as Sauk Prairie Recreation Area and Devil's Lake State Park. However, impacts would be

intermittent and would only occur for the duration of construction. Short-term, negligible, adverse impacts would also be anticipated on users of the Great Sauk State Trail, as construction noise could be audible on the trail, particularly during use of construction laydown yard on the eastern side of the project area, as the trail is approximately 650 feet from the eastern boundary of the project area. However, long-term impacts are not anticipated on trail users as the location of the proposed DFRC facilities and operations would be approximately 0.5 mile from the trail. No significant adverse impacts would be expected on recreation.

3.13.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on recreation would not be expected under the No Action Alternative. Recreation opportunities would remain unchanged when compared with existing conditions.

3.14 Hazardous Materials and Wastes

Hazardous Materials, Hazardous Wastes, and Petroleum Products. Hazardous materials are defined as a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

The proposed DFRC site is located on the former BAAP and was utilized as the ball powder area until decommissioned in the mid-1970s. Currently, the site is used by USDA personnel occupying a commercial/office building sorting and cataloging activities from field plot studies. No obvious indications of environmental concerns were noted during an onsite investigation of the proposed DFRC site in May and July 2021, a visible sheen was identified in a hole, believed to previously be a floor drain, located on a concrete foundation on the property. During the document review, this area was not identified as an area where a release had taken place or otherwise contaminated. However, based on BAAP history within the surrounding area, this sheen may be indicative of release or threatened release of hazardous substances or petroleum products. This site would be investigated, and avoided or remediated as necessary, prior to disturbance during construction, and is not discussed further.

Toxic Substances and Environmental Contamination. Toxic substances are substances that might pose a risk to human health and are addressed separately from hazardous materials and hazardous wastes. Special hazards/toxic substances include asbestos-containing material, lead-based paint, poly-and perfluoroalkyl substances and polychlorinated biphenyls.

Previous releases from the former BAAP ball powder area into constituents in the soil were evaluated under federal and state agency programs and are being actively monitored. Additionally, Badger Well 5 which would be utilized for non-potable water under the Proposed Action and is located within a plume of shallow groundwater contamination in the uppermost, unlithified aquifer. Although the well draws mostly from the deeper Eau Claire aquitard and

underlying sandstone aquifer, and production has concentrations of toxic substances below the method detection limit, potential for migration of the shallow contamination into the Badger Well 5 production zone renders the well unsuitable for public consumption as is.

Toxic substances are not proposed for use during facility construction. If toxic substances or environmental contamination is discovered during construction, the contractor would be required to stop work, report the discovery to the USDA, and implement appropriate safety measures. Commencement of construction would not continue in this area until the issue was investigated and resolved. Therefore, toxic substances and environmental contamination are not discussed further in this section.

3.14.1 Proposed Action

Short- and long-term, minor, adverse impacts would occur from the increased use of hazardous materials and petroleum products; generation of hazardous wastes during construction; and operation of the DFRC. Hazardous materials that could be used include paints, welding gases, solvents, preservatives, and sealants. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be used by the heavy vehicles and equipment. Onsite storage of petroleum products for construction could be accomplished through the installation of temporary diesel and gasoline aboveground storage tanks, as necessary. These aboveground storage tanks would be removed following the completion of construction. Construction would generate negligible quantities of hazardous wastes and the construction contractors would be responsible for the disposal of hazardous wastes in accordance with federal and state laws. All hazardous materials, petroleum products, and hazardous wastes used or generated during construction would be contained, stored, and managed appropriately (e.g., secondary containment, inspections, spill kits) in accordance with applicable regulations and spill prevention, control, and countermeasure plans to minimize the potential for releases. All construction equipment would be maintained according to the manufacturer's specifications, and drip mats would be placed under parked equipment as needed.

Long-term, minor, adverse impacts would occur from the continued use of hazardous materials and petroleum products in support of DFRC operations. Hazardous materials and petroleum generation would be similar to existing DFRC operations at the site on Sunset Dr.

No significant impacts would be expected on hazardous materials and wastes.

3.14.2 No Action Alternative

Under the No Action Alternative, the USDA would not construct and operate a new DFRC within the 101-acre project area at S8046 USH 12 in Prairie du Sac, Wisconsin. Impacts on hazardous materials and wastes within the project area, and in the surrounding area, would not be expected under the No Action Alternative. Hazardous materials and wastes would remain unchanged when compared with existing conditions.

3.15 Cumulative Effects Analysis

As noted in **Section 1.4**, this EA has been developed in accordance with the CEQ NEPA regulations, which require assessment of cumulative effects. A cumulative effect is defined as

the following (40 CFR Part 1508.1(g)(3)): An effect on the environment that results from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

The cumulative effects analysis approach is provided in **Section 3.15.1. Section 3.15.2** lists the reasonably foreseeable actions identified in and near the project area which would be evaluated with the Proposed Action to determine cumulative effects on resources. **Section 3.15.3** provides the cumulative impacts analyses for resources in and near the project area. The reasonably foreseeable actions could occur whether or not the Proposed Action is implemented.

3.15.1 Analysis Methodology

Actions that have a potential to interact with the Proposed Action are included in this cumulative effects analysis. This approach enables decision makers to have the most current information available so they can evaluate the range of environmental consequences that would result from the Proposed Action.

The assessment of cumulative effects involves identifying and defining the scope of other actions and their interrelationship with a proposed action or alternatives. The scope must consider other projects that coincide with the location and timeline of a proposed action and other actions. Because past and present actions are considered part of the existing condition as described in the affected environment discussions for each resource, this cumulative effects analysis focuses on reasonably foreseeable actions that would be taking place within and near the project area on a timeline concurrent with the Proposed Action.

3.15.2 Reasonably Foreseeable Actions

Past actions are those actions, and their associated impacts, that have shaped the current environmental conditions of the project area and, therefore, are now part of the existing environment. Similarly, present actions are considered in the affected environments for each resource area. Reasonably foreseeable actions that could in combination with the Proposed Action contribute to additional impacts on the human environment are discussed in **Table 3-12**. Several reasonably foreseeable projects were identified in the vicinity of the project area that are scheduled to be completed in 2023, including the development of the Culver Community Park and remodel of the Sauk Prairie High School in Prairie du Sac. As the construction under the Proposed Action is not scheduled till begin until after 2023, only projects beginning or extending into calendar year 2024 and beyond were including as reasonably foreseeable projects.

Section 3.15.3 summarizes the evaluation of cumulative effects based on the context, intensity, and timing of the Proposed Action related to the reasonably foreseeable actions.

Table 3-12. Reasonably Foreseeable Actions in the Vicinity of the Project Area

Action	Location	Timeframe	Description
Wisconsin Highway 60 (Fox Road to USH 12)	West of Prairie du Sac and Sauk City	Resurfacing to begin in 2024 or 2025	Pavement resurfacing to be completed on Wisconsin Highway 60 from Fox Road to USH 12.
Prairie du Sac Dam	Prairie du Sac	Ongoing construction through 2026	Replacement of all spillway gates at the Prairie du Sac Dam
Bluffview Community Park	Bluffview	Ongoing construction through 2026	Construction of a community park in Bluffview
Wisconsin Highway 78	Between Sauk City and I-39.	Construction anticipated 2026	Box culvert structure and deteriorating pavement on Wisconsin Highway 78 northeast of Merrimac will be replaced between Sauk City and I-39.
Wisconsin Highway 60 (USH 12 to Eagle View Court)	Wisconsin Highway 60 through Prairie du Sac and Sauk City	Construction anticipated 2027	Pavement to be replaced on Wisconsin Highway 60 through Prairie du Sac and Sauk City.
Water Street Reconstruction	Prairie du Sac	Construction to begin in 2027	Water Street in Prairie du Sac to be reconstructed from USH 12 in Sauk City to Eagle View Court in Prairie du Sac.

3.15.3 Cumulative Effects

This section evaluates the cumulative effects from the Proposed Action when combined with the reasonably foreseeable actions identified in **Table 3-12**. No significant adverse cumulative effects are expected on any resource.

3.15.3.1 Land Use

Neither short- or long-term cumulative impacts on regional land use are not anticipated due to the geographic separation between the Proposed Action and the reasonably foreseeable projects. The Proposed Action would have beneficial impacts on land use from development of the proposed site, which would be consistent with the reuse of the BAAP.

3.15.3.2 Topography, Geology, and Soils

If any of the reasonably foreseeable projects, except for the dam construction, were to occur simultaneously with the Proposed Action, ground disturbance and erosion associated with construction and road resurfacing would result in cumulative minor to moderate cumulative impacts on soils and geology. Due to implementation of BMPs including project specific erosion and sediment control measures, these impacts would be temporary and minor. Long-term cumulative impacts associated with an increase in impervious surfaces are not anticipated as the reasonably foreseeable projects would not appreciably increase impervious surfaces.

3.15.3.3 Water Resources

Short-term, negligible to minor, adverse impacts on water resources could occur due to ground disturbance and increased erosion and sedimentation under the Proposed Action. When

combined with the reasonably foreseeable road resurfacing projects, these impacts may be slightly greater. Long-term cumulative impacts on water resources associated with an increase in impervious surfaces are not anticipated as the reasonably foreseeable projects would not appreciably increase impervious surfaces.

3.15.3.4 Biological Resources

The Proposed Action and reasonably foreseeable projects may result in short-term cumulative impacts on wildlife from construction. Cumulative impacts would occur due to noise from heavy equipment usage and increased human presence. Species would be expected to migrate to and use adjacent suitable habitat during noise events. The USDA would follow minimization and mitigation measures agreed upon and documented within this EA and FNSI. Increases could occur in the frequency of startle responses or other behavioral modifications caused by combined construction activities. Long-term cumulative impacts would not be expected from loss of habitat as the reasonably foreseeable projects are not anticipated to significantly alter or remove existing habitat.

3.15.3.5 Cultural Resources

The Proposed Action, when combined with the Bluffview Community Park, could result in long-term cumulative impacts on cultural resources because both actions would require ground-disturbing activities, and therefore could disturb unknown archaeological resources. The reasonably foreseeable projects would not introduce new buildings and/or structures in the region and therefore cumulative visual impacts on historic properties would not be expected.

3.15.3.6 Socioeconomics

The Proposed Action and reasonably foreseeable actions have the potential to beneficially impact socioeconomics in the local communities. Construction activities would have short-term, minor, beneficial, cumulative socioeconomic impacts through local construction employment and wages, and direct and indirect benefits from local spending. Long-term beneficial or adverse cumulative impacts on socioeconomics would not be expected.

3.15.3.7 Environmental Justice

Short-term, minor, adverse, cumulative impacts on environmental justice or sensitive receptor populations could occur from construction of the Proposed Action and reasonably foreseeable projects. Temporary increases in air emissions, noise, and traffic associated with construction may impact surrounding areas and populations. These impacts would be distributed evenly across the surrounding area and not disproportionately affect disadvantaged or sensitive receptor populations because there would not be an increased exposure to environmental health or safety risks.

3.15.3.8 Infrastructure and Transportation

Cumulative impacts are not anticipated on infrastructure, as the reasonably foreseeable projects are not expected to result in changes to the local electrical, sanitary sewer, domestic water, stormwater, or natural gas systems in the region. Short-term, minor, temporary cumulative impacts on transportation would be expected if construction of the Proposed Action occurred

concurrently with the reasonably foreseeable road reconstruction and resurfacing projects. Construction under the Proposed Action would be expected increase traffic on USH 12 due to construction personnel going to and from the site and equipment and material deliveries. An increase in traffic combined with road resurfacing projects could result in temporary backups or delays; impacts would be localized and temporary. Long-term cumulative impacts on transportation would not be expected.

3.15.3.9 Aesthetics and Visual Resources

Neither short- or long-term cumulative impacts are not anticipated on aesthetics and visual resources as the Proposed Action and reasonably foreseeable projects would not be located within the same immediate viewshed.

3.15.3.10 Air Quality and Climate

During construction, both the Proposed Action and reasonably foreseeable projects would increase air emissions and impact air quality in the region. Short-term, intermittent increases in air pollutant levels would be anticipated during overlapping construction phases. Additionally, concurrent construction of the Proposed Action combined with the reasonably foreseeable projects would result in minor cumulative increases in vehicle emissions from the increase in construction vehicle traffic. Long-term cumulative impacts on air quality are not anticipated as the reasonably foreseeable projects would not generate emissions once construction was complete.

3.15.3.11 Noise

Localized, short-term, minor, adverse cumulative impacts on the noise environment would be expected under due to noise generated from heavy equipment used during construction. When conducted concurrently with any of the reasonably foreseeable actions, including construction and paving on USH 12 adjacent to the project area, these impacts would be slightly greater. These impacts would be temporary and minor. Long-term cumulative impacts on the noise environment are not anticipated as the reasonably foreseeable projects would not result in long-term changes to the noise environment.

3.15.3.12 Public Health and Safety

Short-term, minor, adverse cumulative impacts would be expected on occupational safety. The Proposed Action combined with the reasonably foreseeable projects which include construction would subject construction personnel to hazards during construction including the operation of construction vehicles and equipment. Long-term cumulative impacts on public health and safe would not be expected.

3.15.3.13 Recreation

Short-term, minor, temporary cumulative impacts on recreation would be expected if construction of the Proposed Action occurred concurrently with the reasonably foreseeable road reconstruction and resurfacing projects. Construction under the Proposed Action would be expected increase traffic on USH 12 due to construction personnel going to and from the site and equipment and material deliveries. An increase in traffic combined with road resurfacing

projects could result in temporary backups or delays going to or from recreation sites; impacts would be localized and temporary. Long-term cumulative impacts on recreation would not be expected.

3.15.3.14 Hazardous Materials and Wastes

Short-term, minor, adverse impacts would occur under the Proposed Action from the use of hazardous materials and petroleum products; and generation of hazardous wastes during the proposed construction. In combination with the reasonably foreseeable road resurfacing and reconstruction projects short-term, minor, adverse, cumulative impacts would be expected on hazardous materials and waste. Long-term cumulative impacts on recreation would not be expected.

3.16 Other Environmental Considerations

3.16.1 Unavoidable Adverse Impacts

NEPA requires an analysis for any potential significant impacts resulting from implementation of a proposed action, including those that can be mitigated to a less than significant level. Unavoidable adverse impacts would result from the Proposed Action. Avoidance, minimization, or mitigation of adverse effects on biological, cultural, and other environmental resources would be implemented to the greatest extent possible and practicable.

Biological Resources. Ground-disturbing activities associated with the construction under the Proposed Action would result in the loss of vegetation and wildlife habitat. These losses would be unavoidable; however, temporarily disturbed sites would be revegetated with native species following construction to support native plant communities and restore wildlife habitat in the long-term. Vegetation and wildlife habitat within the footprint of new impervious surface would be permanently lost.

Energy. The construction under the Proposed Action would require the use of fossil fuels, a non-renewable natural resource. The use of non-renewable resources is an unavoidable occurrence, although not considered significant.

Hazardous Materials and Wastes. The use and generation of hazardous materials and wastes during construction would be unavoidable; however, the hazardous materials and wastes would be handled in accordance with federal, state, and local policies and would not be expected to result in significant impacts.

3.16.2 Compatibility of the Proposed Action with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

The Proposed Action would occur within the former BAAP, and development of the site would be consistent with the reuse of the BAAP property as identified by the Sauk County Board of Supervisors and associated planning committee. The development would be consistent with the existing landscape of the former BAAP, which is dominated by agricultural activity including farming and pastureland.

3.16.3 Relationship between Short-Term Uses of the Human Environment and Maintenance and Enhancement of Long-term Productivity

CEQ regulations (40 CFR Part 1502.16) specify that environmental analysis must address "…the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity." Short-term uses of the biophysical components of the human environment include direct, project-related disturbances that occurs over less than 5 years. Long-term uses of the human environment include those impacts occurring over more than 5 years, including permanent resource loss.

The Proposed Action would not require short-term resource uses that would result in long-term compromises of productivity. Although construction projects could result in an increase of impervious surface, it would not result in intensification of land use within the surrounding areas, as it would be consistent with land use in the region. Implementation of the Proposed Action is not expected to result in the types of impacts that would reduce environmental productivity, affect biodiversity, or permanently narrow the range of beneficial uses of the environment.

3.16.4 Irreversible and Irretrievable Commitment of Resources

NEPA CEQ regulations require environmental analyses to identify "...any irreversible or irretrievable commitments of resources that would be involved in the proposal should it be implemented" (40 CFR Part 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable timeframe. Building construction material, such as gravel and fuel usage for construction equipment, would constitute the consumption of non-renewable resources. Irretrievable resource commitments also involve the loss in value of an affected resource that cannot be restored because of the action. For the Proposed Action, most resource commitments would be neither irreversible nor irretrievable. Most impacts would be short term and temporary (e.g., air emissions from construction). Those limited resources that could involve a possible irreversible or irretrievable commitment would be used in a beneficial manner.

Construction would require the consumption of limited amounts of material typically associated with interior construction (wiring, insulation, windows, drywall) and exterior construction (concrete, steel, sand, mortar, brick, asphalt). An undetermined amount of energy to conduct construction of these facilities would be expended and irreversibly lost, but energy would be used in an efficient and sustainable manner throughout the useful life cycle of the facilities.

Operation of the proposed DFRC would continue to involve the consumption of nonrenewable resources, such as gasoline used in vehicles, but is likely to reduce as the use of electric vehicles becomes more prevalent. None of these activities is expected to significantly decrease the availability of mineral or petroleum resources. Personal vehicle use by personnel continuing to work at the DFRC would consume fuel, oil, and lubricants, but also expected to decrease over time. The amount of these materials is not expected to change and is not expected to significantly affect the availability of the resources in the region or the nation..

4 List of Preparers

This EA has been prepared by HDR, Inc., under the direction of the USDA and USACE. The individual contractors that contributed to the preparation of this document are listed as follows:

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A

Agency Coordination and Public Involvement

Appendix A: Interagency Coordination and Public Involvement

[[Preparer's Note: In this Draft EA, this Appendix is a Placeholder. Upon completion of the Draft EA public review period, the Draft EA distribution materials will be added to this Appendix as part of the Final EA.]]

Interagency Coordination Distribution List

Draft EA Notice of Availability

Draft EA Interagency Notification Letter

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B

Jurisdictional Determination

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Appendix B: Jurisdictional Determination

The jurisdictional determination for the project area, received by USDA from the U.S. Army Corps of Engineers, is provided below.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
332 MINNESOTA STREET, SUITE E1500
ST. PAUL, MN 55101-1323

August 31, 2023

Regulatory File No. 2023-01018-JMB

Jason Harre
Army Corps of Engineers
Project Manager, Interagency & International Service (IIS)
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Dear Mr. Harre:

This letter regards an approved jurisdictional determination for a 90 acre property located in Section 11, Township 10 North, Range 6 East, Sauk County, Wisconsin. The review area for our jurisdictional determination is identified on the enclosed Figure 5.

The review area contains no waters of the United States subject to Corps of Engineers (Corps) jurisdiction. Therefore, you are not required to obtain Department of the Army authorization to discharge dredged or fill material within this area. The rationale for this determination is provided in the enclosed Approved Jurisdictional Determination form. You are also cautioned that the area of waters described on the enclosed Jurisdictional Determination form is approximate and is not based on a precise delineation of aquatic resources.

This determination is only valid for the review area shown on the enclosed Figure 5.

The delineation included herein has been conducted to identify the location and extent of the aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of an NRCS Certified Wetland Determination with the local USDA service center, prior to starting work.

If you object to this approved jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Mississippi Valley Division Office at the address shown on the form.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the enclosed NAP.

It is not necessary to submit an RFA form to the division office if you do not object to the determination in this letter.

This approved jurisdictional determination may be relied upon for five years from the date of this letter. However, the Corps reserves the right to review and revise the determination in

Regulatory Division (File No. 2023-01018-JMB)

response to changing site conditions, information that was not considered during our initial review, or off-site activities that could indirectly alter the extent of wetlands and other resources on-site. This determination may be renewed at the end of the five year period provided you submit a written request and our staff are able to verify that the limits established during the original determination are still accurate.

If you have any questions, please contact me in our Hayward office at (651) 290-5884 or jonathan.m.bakken@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

Jonathan M. Bakken
Lead Project Manager

Enclosures

cc: Gabriela Kleiman, HDR Inc. (Gabriela.Kleiman@hdrinc.com)
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1

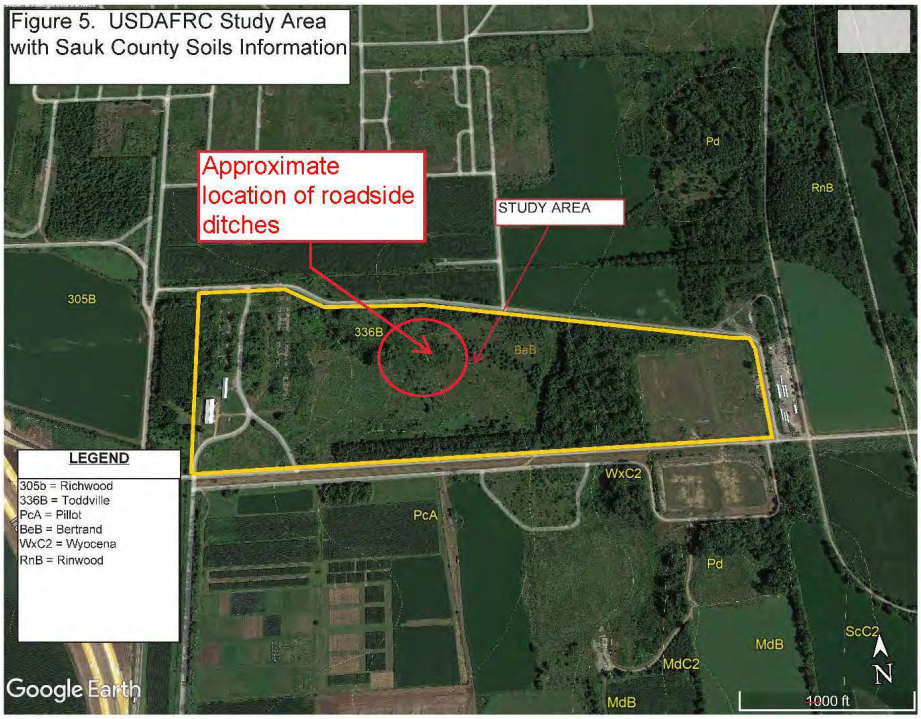
Figure 5. USDAFRC Study Area with Sauk County Soils Information
Approximate location of roadside ditches
STUDY AREA
Pd
RnB
305B
336B
BeB
WxC2
PcA
Pd
MdB
ScC2
MdC2
MdB
LEGEND
305b = Richwood
336B = Toddville
PcA = Pillot
BeB = Bertrand
WxC2 = Wyocena
RnB = Rinwood
Google Earth
1000 ft
N

US ARMY CORPS OF ENGINEERS (USACE)
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
2023 RULE

OMB Control Number: 0710-0024
Expiration Date: 09/30/2023

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-0024, is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 8/30/2023
ORM Project Name: US Department of Agriculture Dairy Forage Research Center (USDAFRC)
ORM Identification Number: MVP-2023-01018-JMB
☐ Other sites (e.g., offsite mitigation sites, disposal sites or other review areas, etc.) are associated with this action and are recorded on a different jurisdictional determination (JD) form(s).
Associated JD Names and Numbers: N/A
Review Area Location: State/Territory: Wisconsin City: Sauk City
County/Parish/Borough: Sauk
Center Coordinates of Review Area: Latitude: 43.35270°N, Longitude: -89.75241°W
Limits of review area: See attached drawing labeled MVP-2023-01018-JMB Page 1 of 1

II. SUMMARY[2]

Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding tables in Section III., summarize data sources in Section IV., and attach completed Appendices A and/or B when specified.
☐ The review area is comprised entirely of dry land (i.e., there are no waters such as streams, rivers, wetlands, lakes, ponds, tidal waters, ditches, and the like in the entire review area). Rationale: Provide Rationale for Dry Land Determination
☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete *the table in Section* III.A.).
☐ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section III.B. and complete and attach appendices as appropriate).
☒ Potentially jurisdictional waters and/or features were assessed within the review area and determined to be non-jurisdictional (complete appropriate tables in Section III.C. and complete and attach appendices as appropriate).

[1] The final rule "Revised Definition of 'Waters of the United States'" (2023 Rule) was published in the *Federal Register* on 18 January 2023 and the effective date is 20 March 2023. See https://www.federalregister.gov/documents/2023/01/18/2022-28595/revised-definition-of-waters-of-the-united-states.
[2] Map(s)/figure(s) or descriptions of the review area and any jurisdictional waters are attached to the AJD provided to the requestor.

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US ARMY CORPS OF ENGINEERS (USACE)
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
2023 RULE

III. FINDINGS IN THE REVIEW AREA

A. Jurisdictional under the Rivers and Harbors Act of 1899[3] (Section 10)[4]

Section 10 Waters			
Section 10 water name	Section 10 size in review area		Type of Section 10 water
N/A	N/A	N/A	N/A.
Rationale for determination: N/A			

B. Jurisdictional under the Clean Water Act

Paragraph (a)(1) waters:[5] Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide (Traditional Navigable Waters); (ii) The territorial seas; or (iii) Interstate waters, including interstate wetlands			
(a)(1) water name	(a)(1) size in review area		Type of paragraph (a)(1) water
N/A	N/A	N/A	N/A.
Rationale for determination: N/A			

Paragraph (a)(2) waters: Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5)			
(a)(2) water name	(a)(2) size in review area		Type of paragraph (a)(2) water
N/A	N/A	N/A	N/A.
Rationale for determination: N/A			

[3] If the navigable water of the United States is not subject to the ebb and flow of the tide and not included on the district's list of Rivers and Harbors Act (RHA) Section 10 navigable waters of the United States list do NOT use this form to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedure outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the Rivers and Harbors Act.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this AJD form, jurisdiction under RHA will be referred to as Section 10.
[5] A stand-alone TNW determination for a water that is not subject to Section 9 or 10 of RHA is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.

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US ARMY CORPS OF ENGINEERS (USACE)
REGULATORY PROGRAM
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2023 RULE

Paragraph (a)(3) waters: Tributaries of waters identified in paragraph (a)(1) or (2): (i) That are relatively permanent, standing or continuously flowing bodies of water; or (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1)			
(a)(3) water name	(a)(3) size in review area		Type of paragraph (a)(3) water
N/A	N/A	N/A	N/A.
Rationale for determination: N/A			

Paragraph (a)(4) waters: Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1); or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3)(i) and with a continuous surface connection to those waters; or (iii) Waters identified in paragraph (a)(2) or (3) when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1)			
(a)(4) water name	(a)(4) size in review area		Adjacency criteria
N/A	N/A	N/A	N/A
Type of paragraph (a)(4) water	N/A		
Rationale for determination: N/A			

Paragraph (a)(5) waters: Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4): (i) That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3)(i); or (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1).[6]			
(a)(5) water name	(a)(5) size in review area		Type of paragraph (a)(5) water
N/A	N/A.	N/A	N/A
Rationale for determination: N/A			

[6] In implementing the significant nexus standard, the agencies generally intend to analyze waters under paragraph (a)(5) individually to determine if they significantly affect the chemical, physical, or biological integrity of a paragraph (a)(1) water.

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C. Waters or features that are not jurisdictional under the Clean Water Act

Waters analyzed under paragraph (a)(3)(ii), (a)(4)(iii), or (a)(5)(ii) and determined non-jurisdictional: Tributaries of waters identified in paragraph (a)(1) or (2); and/or wetlands adjacent to waters identified in paragraph (a)(2) or (3); and/or intrastate lakes and ponds, streams, or wetlands not identified as (a)(1) through (4) waters; that either alone or in combination with similarly situated waters in the region, do not significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1).			
Water name	Water size in review area		Type of water for which significant nexus was not met:
N/A	N/A	N/A	N/A
Rationale for determination: N/A			

(b)(1) – (b)(8) Excluded Features[7]			
Excluded feature name	Excluded feature size in review area		Exclusion[8]
Roadside ditches	1,500	Linear feet	(b)(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water
Rationale for determination: Roadside drainage ditches were observed along some of the roads located within the study area; these ditches (~1,500 linear feet) were mainly adjacent to unpaved roads in the northeastern portion of the site. The Corps has determined the ditches present on the site were excavated wholly in dry land, drain only dry land, and do not carry a relatively permanent flow of water.			

IV. SUPPORTING INFORMATION

A. Paragraph (a)(1) water that is outside the review area:

a. Provide the name of the paragraph (a)(1) water: N/A or Name of (a)(1) Water.
b. Type of paragraph (a)(1) water: N/A.
c. Provide the rationale for jurisdiction of the paragraph (a)(1) water: N/A or Provide Additional Discussion as Appropriate.

B. Significant nexus analyses

☐ Appendix A is attached and includes the significant nexus analysis for any waters in the review area that were evaluated under paragraph (a)(3)(ii) and/or paragraph (a)(4)(iii).
☐ Appendix B is attached and includes the significant nexus analyses for any waters in the review area that were evaluated under paragraph (a)(5)(ii).

[7] Transient features on the landscape that are difficult to document due to their non-permanent nature, such as rills and gullies, may not be specifically identified on the AJD form unless a requestor specifically asks a USACE district to do so. USACE districts may, in case-by-case instances, elect to document any such feature on a case-by-case basis, such as when the feature is relevant to analysis of the jurisdictional status of another water.
[8] Note the full text of the exclusions for (b)(1)-(6) and (b)(8) are included in the dropdown list, while the text for the (b)(7) exclusion is truncated due to space limitations. The full text of the (b)(7) exclusion is as follows: (b)(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States

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☒ There are no waters in the review area that require evaluation under the significant nexus standard. Therefore, neither Appendix A nor Appendix B are included with this form

C. Data, models, and other relevant methods Select/enter all resources that were used to support this determination and include data/maps and/or references/citations in the administrative record, as appropriate.

☒ Aquatic resources delineation submitted by, or on behalf of, the requestor: Wetlands/Endangered Species Survey Report (USDA) – 19 September 2022
The aquatic resources delineation submitted by or on behalf of the requestor is sufficient for purposes of this AJD Yes
Rationale: N/A
☐ Aquatic resources delineation prepared by the USACE: Title(s) and Date(s)
☐ Wetland field data sheets prepared by the USACE: Title(s) and Date(s)
☐ OHWM data sheets prepared by the USACE: Title(s) and Date(s)
☐ USACE site visit: Date(s) of site visit(s): Date(s) of Site Visit(s), Title(s) and Date(s) of Site Visit Summary Document(s)
☐ Previous Jurisdictional Determinations (AJDs or PJDs) addressing the same (or portions of the same) review area: ORM Number(s) and Date(s)
☐ Photographs: Source(s), Title(s) and Date(s)
☒ Aerial Imagery: Google Earth 2010, 2013, 2014, 2017, 2018, 2020, 2022, 2023
☐ LiDAR: Source(s), Title(s) and Date(s)
☒ USDA NRCS Soil Survey: September 2022
☒ USFWS NWI maps: September 2022
☒ USGS topographic maps: 1:24K Sauk Prairie Quadrangle (1975)
☐ USGS NHD data/maps: Title(s) and Date(s)
☐ USGS Dynamic Surface Water Extent: Title(s) and Date(s)
☐ Section 10 navigability resource used: Title(s) and Date(s)

Other data sources or models used to aid in this determination:

Data source or model (Select)	Name, date, and other relevant information
USGS Sources	N/A
USEPA Sources	N/A
USDA Sources[9]	N/A
NOAA Sources	N/A
USACE Sources	N/A
State/Local/Tribal Sources	Wisconsin Wetland Inventory
Other Sources	N/A

D. Additional comments to support AJD: The NWI, USGS topo graphic map, and NHD figures show a pond located in the northcentral portion of the site; the pond has been drained and does not meet wetland criteria.

[9] Including Certified Wetland Determination from the NRCS.

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NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Jason Harre, Army Corps of Engineers	File Number: MVP-2023-01018-JMB	Date: 31 AUG 2023

Attached is:		See Section below
☐	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
☐	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
☐	PERMIT DENIAL WITHOUT PREJUDICE	C
☐	PERMIT DENIAL WITH PREJUDICE	D
☒	APPROVED JURISDICTIONAL DETERMINATION	E
☐	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable
You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial
You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable
You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:
U.S. Army Corps of Engineers St. Paul District Regulatory Division 332 Minnesota Street, Suite E1500 St. Paul, MN 55101-1323 Phone: 651-290-5525	Brian Oberlies Administrative Appeals Review Officer Mississippi Valley Division P.O. Box 80 (1400 Walnut Street) Vicksburg, MS 39181-0080 Phone: 601-634-5820 Email: brian.m.oberlies@usace.army.mil

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SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.	
_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

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C

Section 7 Consultation

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Appendix C: Section 7 Consultation

This Appendix contains the USDA request for USFWS concurrence with their effects determinations under Section 7 of the ESA regarding potential effects on ESA-listed species, and the response from USFWS indicating their concurrence with USDA's determinations.

USDA Letter to USFWS with USDA's "Not Likely To Adversely Affect" Determinations

USDA
United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

August 14, 2023

Steven Choy, Fish and Wildlife Biologist
U.S. Department of the Interior, Fish and Wildlife Service
Minnesota-Wisconsin Ecological Services Field Office
505 Science Drive Suite A
Madison, WI 53711

SUBJECT: 2023-0081258 – Not Likely to Adversely Affect Determination – Dairy Forage Research Center Project

Dear Mr. Choy:

As previously discussed, the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) is completing environmental planning and permitting for development of a new Dairy Forage Research Center (DFRC) in Prairie du Sac, Wisconsin. ARS requests informal consultation based on our Not Likely to Adversely Affect determinations for species that may have been affected.

The Minnesota-Wisconsin Endangered Species Determination Key (Minnesota-Wisconsin DKey) indicated that the subject project *may affect* the following species: Higgins Eye, Rusty Patched Bumble Bee, and Sheepnose Mussel. During ARS's Teams meeting with you and our consulting team on July 17, 2023, we determined that the project is Not Likely to Adversely Affect Higgins Eye and Sheepnose Mussel because the project is located too far away from the Wisconsin River. Further, based on your site visits and discussions with the ARS team, ARS has determined that the project is Not Likely to Adversely Affect the Rusty Patched Bumble Bee as the site does not have good habitat for the species for overwintering, foraging, or nesting. As a precaution, the areas identified with marginal habitat for foraging and nesting will be cleared by April 10 in advance of construction activities to ensure the Rusty Patched Bumble Bee is not disturbed by encouraging them to seek better habitat elsewhere.

ARS requests your concurrence on these Not Likely to Adversely Affect determinations for the project.

Sincerely,

Stephanie Frank, PhD
Historic Resources Manager (contractor)
Real Property Management Branch, Facilities Division, Agricultural Research Service
stephanie.frank@usda.gov

Administrative and Financial Management
George Washington Carver Center
5601 Sunnyside Avenue, Beltsville, MD 20705-5100
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1 **USFWS Concurrence with USDA's "Not Likely to Adversely Affect" Determinations**

Frank, Stephanie (CTR) - REE-ARS

From: Choy, Steven <steven_choy@fws.gov>
Sent: Tuesday, August 15, 2023 5:23 PM
To: Frank, Stephanie (CTR) - REE-ARS
Cc: Kleiman, Gabriela; Hancock, Dennis - REE-ARS; Hays, Henry (CTR) - REE-ARS; Harre, Jason M CIV USARMY CENWO (USA); Wood, Holly - REE-ARS; Seidleck, Jeffrey - REE-ARS; Carlson, Benjamin L NWO
Subject: Re: [EXTERNAL] 2023-0081258: Dairy Forage Research Center NLAA Determination

Hi Stephanie,

Obviously, the proposed action is the construction of the facility and not mowing as it says in my concurrence. Just sending this email to correct/clarify the record.

Thanks,
steve

From: Choy, Steven <steven_choy@fws.gov>
Sent: Monday, August 14, 2023 4:56 PM
To: Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov>
Cc: Kleiman, Gabriela <Gabriela.Kleiman@hdrinc.com>; Hancock, Dennis - REE-ARS <Dennis.Hancock@usda.gov>; Hays, Henry (CTR) - REE-ARS <henry.hays@usda.gov>; Harre, Jason M CIV USARMY CENWO (USA) <Jason.M.Harre@usace.army.mil>; Wood, Holly - REE-ARS <holly.wood@usda.gov>; Seidleck, Jeffrey - REE-ARS <jeffrey.seidleck@usda.gov>; Carlson, Benjamin L NWO <Benjamin.L.Carlson@usace.army.mil>
Subject: Re: [EXTERNAL] 2023-0081258: Dairy Forage Research Center NLAA Determination

Dear Ms. Franks,

The U.S. Fish and Wildlife Service (Service) has reviewed your August 14, 2023 email and enclosures, requesting consultation on the proposed mowing in Sauk County, Wisconsin (Project Code: 2023-0081258) and submits these comments pursuant to the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531-1544).

You have made a *may affect, not likely to adversely affect* determination for rusty patched bumble bee (*Bombus affinis*), Higgin's eye pearlymussel (*Lampsilis higginsii*), and Sheepnose mussel (*Plethobasus cyphus*) for the following proposed action:

Property Owner - Proposed Action
USDA - construction of a dairy research facility

Rusty patched bumble bee habitat is typified by a high abundance and diversity of native blooming forbs upon which they rely on for pollen and nectar to meet nutritional needs. Additionally, rusty patched bumble bee tend to overwinter in forested areas with uncompacted soils and leaf litter. The project would result in ground disturbance, impacts to vegetation (including nectar and pollen resources), and tree removal. However, after conducting a site visit, the Service determined that overwintering habitat within the action area was of poor quality (either being dense with shrubby vegetation or covered in pine needles which have not been shown to support overwintering bumble bees), and the foraging/nesting habitat was small in area and of marginal quality, consisting primarily of non-native vegetation (*Daucus carota* and *Centaurea stoebe*). Further, USDA

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has agreed to mow the small patch of flowering vegetation before the active season for RPBB (April 10) to avoid attracting any RPBB to the area during ground and vegetation disturbing activities.

Higgin's eye pearlymussel and sheepnose mussel occur in river systems and require clean water, adequate flows, and suitable substrate. The proposed action is more than 3.5 kilometers from the nearest waterbody that supports these species and will not impact any river courses directly or indirectly.

The Service concurs with your determination that the proposed action may affect, but is not likely to adversely affect rusty patched bumble bee, Higgin's eye pearly mussel, and sheepnose mussel as we anticipate the effects of the proposed action to be insignificant and discountable.

Should the scope, timing, or manner of activity change, please contact this office. Thank you for the opportunity to review the proposed action.

Sincerely,
Steve

From: Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov>
Sent: Monday, August 14, 2023 1:12 PM
To: Choy, Steven <steven_choy@fws.gov>
Cc: Kleiman, Gabriela <Gabriela.Kleiman@hdrinc.com>; Hancock, Dennis - REE-ARS <Dennis.Hancock@usda.gov>; Hays, Henry (CTR) - REE-ARS <henry.hays@usda.gov>; Harre, Jason M CIV USARMY CENWO (USA) <Jason.M.Harre@usace.army.mil>; Wood, Holly - REE-ARS <holly.wood@usda.gov>; Seidleck, Jeffrey - REE-ARS <jeffrey.seidleck@usda.gov>; Carlson, Benjamin L NWO <Benjamin.L.Carlson@usace.army.mil>
Subject: [EXTERNAL] 2023-0081258: Dairy Forage Research Center NLAA Determination

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi, Steve,

Attached please find a letter from ARS requesting informal consultation and concurrence on our NLAA determinations for the DFRC project in Prairie du Sac, WI. Please let me know if you require any additional information.

Thank you,
Stephanie

Stephanie Frank, PhD (she / her / Dr.)
Historic Resources Manager (contractor)
stephanie.frank@usda.gov

USDA
Agricultural Research Service,
Administrative and Financial Management
5601 Sunnyside Ave | Beltsville, MD 20705

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D

Tribal and Section 106 Consultations

Appendix D: Tribal and Section 106 Consultations

This Appendix includes correspondence regarding the tribal and Section 106 consultations and is organized by contact type; SHPO communication is provided, followed by tribal communication, followed by communication with other consulting parties, and lastly a list of all consulting parties contacted under the tribal and Section 106 consultation processes.

USDA Letter to SHPO with Request for Concurrence with No Adverse Effect Determination

USDA
United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

July 6, 2023

Daina Penkiunas, PhD, State Historic Preservation Officer
Wisconsin Historical Society
816 State Street
Madison, WI 53706

Subject: United States Department of Agriculture (USDA) – Agricultural Research Service (ARS), Section 106 Initiation, U.S. Dairy Forage Research Center, Sauk County, Wisconsin

Dear Dr. Penkiunas:

The United States (U.S.) Department of Agriculture (USDA) Agricultural Research Service (ARS) is proposing to construct and operate a new U.S. Dairy Forage Research Center (DFRC) northwest of Prairie du Sac, Sauk County, Wisconsin. This new DFRC site would replace the lactating and dry cow units of the existing DFRC site that is adjacent to the Wisconsin River, maintain the same cropland acreage, and increase the grazing and perennial grassland acreage of the DFRC farm, as the heifer rearing unit will transition to a pasture-based model. ARS has determined the proposed project is an undertaking as defined in 36 Code of Federal Regulations (CFR) § 800.16(y). As such, ARS is initiating consultation with your office under Section 106 of the National Historic Preservation Act (NHPA) (54 United States Code 306108) and its implementing regulations at 36 CFR Part 800. Section 106 compliance is being conducted concurrently with the National Environmental Policy Act (NEPA) process for which ARS is preparing a Draft Environmental Assessment (EA) for public review.

The new DFRC site is being proposed to modernize and enhance the quality and quantity of research conducted on forage production and the utilization of the forage by the dairy cow. Research would include investigating how dairy cows digest and utilize feed so that forage plants and dairy cattle diets can be modified to improve digestibility and nutrient utilization. Enhanced research farm facilities would also enable the DFRC to increase its capacity for conducting research on greenhouse gas and other emissions from dairy farms, which is essential information for policy makers, regulators, and the dairy industry. Lastly, constructing new and enhanced research farm facilities would also allow for the creation of facilities that enhance the surrounding environment and landscape.

ARS has developed a proposed design for the DFRC at a proposed new site, which would be located at S8046 U.S. Highway (USH) 12, approximately 2.3 miles northwest of the existing DFRC site at S8822 Sunset Drive, and approximately 4.6 miles northwest of town of Prairie du Sac, Wisconsin. Both the existing and proposed DFRC sites are on land that was previously owned by the U.S. Department of Defense's Badger Army Ammunition Plant. The proposed DFRC facility would be consistent with the Badger Reuse Committee Plan as identified by the Sauk County Board of Supervisors and associated planning committee.

In accordance with Section 106, ARS has included appropriate attachments to describe the proposed project, define the Area of Potential Effects (APE), document previous cultural resource identification efforts, and historic properties identified in the APE to date (Attachment 1). Concurrent to this submittal, the ARS is initiating consultation with Tribes and other potential consulting parties who may have an interest in the project or project area. That list of potential consulting parties is in Attachment 2.

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5601 Sunnyside Avenue, Beltsville, MD 20705-5100
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ARS previously conducted Phase I archaeological surveys of the APE in 2011 and 2021 (excluding previously disturbed linear corridors) as part of its responsibilities under Section 110 of the NHPA. These reports are being provided to you as part of the identification of historic properties under Section 106 for the proposed undertaking. We seek your review and concurrence with the findings in these two survey reports (Attachments 3 and 4). As indicated in the attached 2011 survey report, one site, SK0696, was identified during the archaeological surveys of the APE. The site consists of an isolated bifacial preform recovered from a shovel test in an area known to have been scraped and then covered in fill before being planted in corn. The artifact was recovered from within the plowzone of the fill layer and therefore was in secondary context. ARS is recommending the site is not eligible for the National Register of Historic Places (NRHP) due to loss of integrity (please see the site form in the 2011 survey report, Attachment 3).

As part of our effort to identify historic properties in the APE, ARS retained archaeologists from HDR to conduct a literature review of the APE, the results of which are incorporated into Attachment 1. The architectural APE contains only two extant buildings, both of which were constructed by ARS within the last 10 years. Therefore, no architectural survey was conducted of the APE.

ARS requests any input you may have on the APE defined for this undertaking and invites your comments on the identification of historic properties within the APE. We are requesting your concurrence that site SK0696 is not eligible for listing in the NRHP due to a loss of integrity. Also within the APE is SK0311, an uncatalogued and unevaluated for the NRHP Late Woodland mound group referred to as Big Badger Curve. A segment of the linear corridor of the archaeological APE intersects the recorded location of site SK0311. The linear corridors have been previously disturbed and project-related construction will only be impacting previously disturbed soils. Given that previous surveys of the area have not uncovered cultural artifacts and that this project will only excavate in previously disturbed soils, ARS has made the determination that the proposed DFRC will have no adverse effect on historic properties (Attachment 5).

We value your support in our efforts to carry out ARS's responsibility regarding the management of cultural resources. Please provide your comments to me via email (stephanie.frank@usda.gov). ARS looks forward to receiving your feedback and consulting with you on the proposed DFRC.

Sincerely,

Stephanie Frank, PhD
Historic Resources Manager (contractor)
Real Property Management Branch, Facilities Division, Agricultural Research Service
stephanie.frank@usda.gov

Attachments:

1. United States Department of Agricultural (USDA) Agricultural Resource Service (ARS) Proposed Dairy Forage Resource Center (DFRC) Section 106 Consultation: Project Narrative Description, Area of Potential Effects, Identification of Historic Properties, and Findings
2. Invited Section 106 Consulting Parties
3. Final Report: 2011 Phase I Archaeological Investigations of the USDA Dairy Forage Research Center, Sauk County, Wisconsin
4. Final Report: 2022 Phase I Archaeological Survey Dairy Forage Research Center, Sauk County, Wisconsin
5. Request for SHPO Comment Form

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SHPO Letter to USDA with Authorization to Conduct Ground-Disturbing Activities within Site SK0311/BSK0297

Frank, Stephanie (CTR) - REE-ARS

From: leslie.eisenberg@wisconsinhistory.org
Sent: Wednesday, August 30, 2023 11:33 AM
To: Frank, Stephanie (CTR) - REE-ARS
Subject: [External Email]RTD Authorization: 23-1803/SK - Request to Disturb Uncatalogued Burial Site: SK-0311/BSK-0297

Good morning, Stephanie,

Based on the information you have provided for WHS #23-1803, Request to Disturb Uncatalogued Burial Site: SK-0311/BSK-0297, we authorize the proposed ground disturbing activities within the uncatalogued boundaries of the above-referenced burial site pursuant to the provisions of Wis. Stats. §§ 157.70 (4) and Wis. Admin. Code § HS 2.04 (4) and according to the provisions provided below.

- Your Authorization to conduct these activities shall be valid for a period of one year from the date of this notice.
- Use of a hydrovac is not permitted for this project and no staging or spoils piles can occur within the boundaries of the burial site.
- All ground-disturbing activities that occur within the uncatalogued boundaries of the burial site shall be monitored by a qualified archaeologist, as defined at Wis. Stats. § 157.70 (1) (i). You may find a list of such qualified archaeologists at the following web site: https://www.wisconsinhistory.org/Records/Article/CS2835.

If, during the proposed ground disturbing activity, you encounter human remains or other cultural features, you must stop work at that location and contact our office immediately for further coordination, and, in the event that human remains must be excavated and analyzed, for negotiation and execution of an appropriate contract.

Any deviation from the plans described in your submittal materials that may occur within the uncatalogued boundaries of the burial site and involves ground disturbing activity must be described in writing and forwarded to this office for further review and authorization. Such modified work is not authorized by this letter. Additionally, if site boundary changes are recommended based on the fieldwork, please contact the Office of State Archaeologist at 608.264.6494 to communicate those changez.

Please forward one hard copy of the archaeological monitoring report (including photographs) to our office and one digital copy to compliance@wisconsinhistory.org as soon as the ground disturbance is completed.

Please let me know if you have any questions.

Best wishes,

Leslie

Leslie Eisenberg
Compliance Archaeologist & Interim NAGPRA Representative
State Historic Preservation Office

Wisconsin Historical Society

1 **SHPO Letter to USDA with Concurrence No Eligible Properties Affected**

Frank, Stephanie (CTR) - REE-ARS

From: leslie.eisenberg@wisconsinhistory.org
Sent: Sunday, September 3, 2023 3:07 PM
To: Frank, Stephanie (CTR) - REE-ARS
Subject: [External Email]SHPO Review: 23-1420/SK - Agricultural Research Service- Dairy Forge Research Center

[External Email]
If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Dear Stephanie,

I have completed my review of WHS #23-1420, Agricultural Research Service- Dairy Forge Research Center and find that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them). Associated with this Section 106 undertaking, a separate request to work within the boundaries of the uncatalogued burial site (SK-0311) has been submitted and Authorization under Wisconsin's Burial Sites Preservation law is forthcoming.

It is the opinion of the WI SHPO that you have fulfilled your Section 106 responsibilities under the National Historic Preservation Act (NHPA) consultation requirements with our office. If your plans change or cultural materials/human remains are found during the project, please halt all work and contact our office.

Please use this email as your official SHPO concurrence for NHPA requirements of the project. If you require a hard copy signed form, please contact me and I will provide you a signed copy as soon as possible.

Best wishes,

Leslie

Leslie Eisenberg
Compliance Archaeologist & Interim NAGPRA Representative
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53706
608.264.6507
leslie.eisenberg@wisconsinhistory.org

Wisconsin Historical Society
Collecting, Preserving, and Sharing Stories Since 1846

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Example USDA Letter to Federally Recognized Tribes

United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

July 6, 2023

Bill Quackenbush, Tribal Historic Preservation Officer
Ho-Chunk Nation of Wisconsin
PO Box 667
Black River Falls, WI 54615

Subject: United States Department of Agriculture (USDA) – Agricultural Research Service (ARS), Section 106 Initiation, U.S. Dairy Forage Research Center, Sauk County, Wisconsin

Dear Mr. Quackenbush:

The United States (U.S.) Department of Agriculture (USDA) Agricultural Research Service (ARS) is proposing to construct and operate a new U.S. Dairy Forage Research Center (DFRC) in Sauk County, Wisconsin. This new DFRC site would replace the lactating and dry cow units of the existing DFRC site that is adjacent to the Wisconsin River, maintain the same cropland acreage, and increase the grazing and perennial grassland acreage of the DFRC farm, as the heifer rearing unit will transition to a pasture-based model. The new DFRC site is being proposed to modernize and enhance the quality and quantity of research conducted on the forage production and the utilization of the forage by the dairy cow. Research would include investigating how dairy cows digest and utilize feed so that forage plants and dairy cattle diets can be modified to improve digestibility and nutrient utilization. Enhanced research farm facilities would also enable the DFRC to increase its capacity for conducting research on greenhouse gas and other emissions from dairy farms, which is essential information for policy makers, regulators, and the dairy industry. Lastly, constructing new and enhanced research farm facilities would also allow for the creation of facilities that enhance the surrounding environment and landscape.

ARS has developed a proposed design for the DFRC at its proposed new site, which would be located at S8046 U.S. Highway (USH) 12, approximately 2.3 miles northwest of the existing DFRC site at S8822 Sunset Drive, and approximately 4.6 miles northwest of town of Prairie du Sac, Wisconsin. Both the existing and proposed DFRC sites are on land that was previously owned by the U.S. Department of Defense's Badger Army Ammunition Plant (BAAP). The proposed DFRC facility would be consistent with the Badger Reuse Committee Plan as identified by the Sauk County Board of Supervisors and associated planning committee.

ARS understands your Tribe has previously identified Sauk County as an area of interest; as such, we would like to invite you to consult on the proposal to construct and operate a new DFRC site adjacent to USH 12. Specifically, we are concurrently initiating Government-to-Government consultation in accordance with Executive Order (EO) 13175, "Consultation and Coordination with Indian Tribal Governments," due to a proposed action that may affect Tribal interests; initiating Section 106 consultation under the National Historic Preservation Act and its implementing regulations at 36 Code of Federal Regulations (CFR) Part 800 for an undertaking with the potential to cause effects on historic properties; and coordinating with you in accordance with the National Environmental Policy Act (NEPA), (42 U.S. Code, section 4321 et seq.) and the Council on Environmental Quality regulations for implementing NEPA (40 CFR Parts 1500-1508). This letter is our initial outreach to your Tribe regarding this proposal, and we will engage with your Tribe throughout the Section 106 and NEPA processes. Additionally, we will continue to consult with your Tribe under EO 13175 unless you request otherwise.

Administrative and Financial Management
George Washington Carver Center
5601 Sunnyside Avenue, Beltsville, MD 20705-5100

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In accordance with Section 106, Attachment 1 is being provided to you to describe the proposed project, define the Area of Potential Effects (APE), and document previous cultural resource investigations and historic properties identified in the APE, to date. We request your review of Attachment 1 and your participation in this Section 106 consultation for the DFRC project. If you elect to participate in the Section 106 review, please notify me via email (stephanie.frank@usda.gov) within 30 days of your receipt of this initiation. ARS welcomes your comments on any portion of Attachment 1, and we are interested in whether there are additional cultural investigations that have previously occurred in the APE and whether there are places or properties of historical, cultural, or religious significance to your Tribe within the APE. ARS will respect the confidentiality of the information you may provide to the fullest extent possible.

Based on existing information and recent archaeological investigations (see Attachment 1), ARS has made a no adverse effect to historic properties determination for the proposed DFRC project and respectfully requests your response to the determination within 30 days of receipt. Additional information you provide may change that determination.

Information shared with us at this time under the Section 106 or NEPA processes is much appreciated. For your awareness, additional parties we have invited to participate in the Section 106 consultation are listed in Attachment 2. ARS would like to thank you in advance for your interest in helping us identify and understand cultural resources in Sauk County. We look forward to receiving your feedback and consulting with you on the proposed DFRC.

Sincerely,

Stephanie Frank, PhD
Historic Resources Manager (contractor)
Real Property Management Branch, Facilities Division, Agricultural Research Service
stephanie.frank@usda.gov

Attachments:

1. United States Department of Agricultural (USDA) Agricultural Resource Service (ARS) Proposed Dairy Forage Resource Center (DFRC) Section 106 Consultation: Narrative Project Description, Area of Potential Effects, and Identification of Historic Properties
2. Invited Consulting Parties

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Winnebago Tribe of Nebraska Consultation Response

Frank, Stephanie (CTR) - REE-ARS

From: Misty Jefferson <misty.jefferson@winnebagotribe.com>
Sent: Wednesday, July 19, 2023 5:40 PM
To: Frank, Stephanie (CTR) - REE-ARS
Subject: [External Email]Section 106: Sauk County Wisconsin

[External Email]
If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Dear Ms. Frank

Hello my name is Misty Jefferson. I am the THPO/NAGPRA assistant. Thank you for your Section 106 correspondence regarding this project. Although this project will not affect any known sites, the location is on or near land our ancestors have lived on or passed through. If anything is found please contact ben.crawford@winnebagotribe.com. Let us know if you have any questions.

Winnebago Tribe of Nebraska
Misty Jefferson, A.A
THPO/NAGPRA assistant
Angel Decora Museum

Ph: 402-257-5587|402-878-2272 Ext: 2602
601 E. College Dr.|Winnebago, NE 68071
angeldecoramuseum@winnebagotribe.com

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Miami Tribe of Oklahoma Consultation Response

Miami Tribe of Oklahoma
3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 • Fax: (918) 542-7260
www.miamination.com

Via email: stephanie.frank@usda.gov

July 26, 2023

Stephanie Frank, PhD
Historic Resources Manager
Real Property Management Branch, Facilities Division, Agricultural Research Service

Re: U.S. Dairy Forage Research Center Construction, Sauk County, Wisconsin – Comments of the Miami Tribe of Oklahoma

Dear Ms. Frank:

Aya, kweehsitoolaani– I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding U.S. Dairy Forage Research Center Construction in Sauk County, Wisconsin.

The Miami Tribe offers no objection to the above-referenced project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, given the Miami Tribe's deep and enduring relationship to its historic lands and cultural property within present-day Wisconsin, if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-7885 or by email at THPO@miamination.com to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Logan York

Logan York
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma

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Example USDA Letter to Other Invited Consulting Parties

United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

July 6, 2023

Mike Mossman, President
Badger History Group
PO Box 113
Prairie du Sac, WI 53578-0113

Subject: United States Department of Agriculture (USDA) – Agricultural Research Service (ARS), Invitation to Participate in Section 106 Process as a Consulting Party, U.S. Dairy Forage Research Center, Sauk County, Wisconsin

Dear Mr. Mossman:

The United States (U.S.) Department of Agriculture (USDA) Agricultural Research Service (ARS) is proposing to construct and operate a new U.S. Dairy Forage Research Center (DFRC) northwest of Prairie du Sac in Sauk County, Wisconsin. This new DFRC site would replace the lactating and dry cow units of the existing DFRC site that is adjacent to the Wisconsin River, maintain the same cropland acreage, and increase the grazing and perennial grassland acreage of the DFRC farm, as the heifer rearing unit will transition to a pasture-based model. This project constitutes an undertaking under Section 106 of the National Historic Preservation Act of 1966, as amended (54 United States Code 306108), and its implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. Accordingly, ARS has initiated Section 106 consultation with the Wisconsin State Historic Preservation Officer (SHPO) for the proposed DFRC project. Section 106 compliance is being conducted concurrently with the National Environmental Policy Act (NEPA) process for which ARS is preparing a Draft Environmental Assessment (EA) for public review.

ARS is identifying individuals and organizations with an interest in the DFRC project and its potential to affect historic properties. If you or your organization have an interest in historic properties or cultural resources that may be affected by this undertaking, ARS invites you to participate in this consultation as a consulting party. As part of the Section 106 process, consulting parties provide information and share their valuable perspectives with the federal agency at various points throughout the Section 106 process. For more information about consulting parties and the Section 106 process, see the Advisory Council on Historic Preservation's publication "A Citizen's Guide to Section 106 Review," available at https://www.achp.gov/sites/default/files/documents/2021-01/CitizenGuide2021_011321.pdf .

The new DFRC site is being proposed to modernize and enhance the quality and quantity of research conducted on the forage production and the utilization of the forage by the dairy cow. Research would include investigating how dairy cows digest and utilize feed so that forage plants and dairy cattle diets can be modified to improve digestibility and nutrient utilization. Enhanced research farm facilities would also enable the DFRC to increase its capacity for conducting research on greenhouse gas and other emissions from dairy farms, which is essential information for policy makers, regulators, and the dairy industry. Lastly, constructing new and enhanced research farm facilities would also allow for the creation of facilities that enhance the surrounding environment and landscape.

ARS has developed a proposed design for the DFRC at its proposed new site, which would be located at S8046 U.S. Highway (USH) 12, approximately 2.3 miles northwest of the existing DFRC site at S8822 Sunset Drive, and approximately 4.6 miles northwest of town of Prairie du Sac, Wisconsin. Both the existing and proposed DFRC sites are on land that was previously owned by the U.S. Department of

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Defense's Badger Army Ammunition Plant. The proposed DFRC facility would be consistent with the Badger Reuse Committee Plan as identified by the Sauk County Board of Supervisors and associated planning committee.

In accordance with Section 106, ARS has prepared the enclosed Attachment 1 to describe the proposed project, define the Area of Potential Effects (APE), and document previous cultural resource identification efforts and historic properties in the APE, to date. ARS has redacted sensitive information from this Attachment. Based on the information detailed in Attachment 1, ARS has made a no adverse effect to historic properties determination for the proposed DFRC project. Additional information you provide may change that determination.

If you elect to participate in the Section 106 review of the DFRC project, please notify ARS **electronically** within 30 days of your receipt of this initiation. If you choose not to participate as a consulting party, you will still have opportunities to provide comments and share information as a member of the public through the NEPA public involvement process. You may also request to join as a consulting party at any time during the Section 106 consultation process, and ARS will consider your request. If you would like to consult on this undertaking, we ask that you take this opportunity to review Attachment 1 and share information with us about historic properties in the APE, such as a description of the property, its location, why it is important, and how construction and/or operation of the proposed DFRC might affect the property.

For your awareness, additional parties ARS has invited to participate in the Section 106 consultation process are included in Attachment 2. For any comments or questions and to participate as a consulting party, contact me via email (stephanie.frank@usda.gov). ARS would like to thank you in advance for your interest in helping us understand and identify cultural resources in Sauk County. We look forward to receiving your feedback and consulting with you on the proposed DFRC.

Sincerely,

Stephanie Frank, PhD
Historic Resources Manager (contractor)
Real Property Management Branch, Facilities Division, Agricultural Research Service
stephanie.frank@usda.gov

Attachments:

1. United States Department of Agricultural (USDA) Agricultural Resource Service (ARS) Proposed Dairy Forage Resource Center (DFRC) Section 106 Consultation: Narrative Project Description, Area of Potential Effects, and Identification of Historic Properties
2. Invited Consulting Parties

1

1 **USDA Response to Sauk County Board of Supervisors Interest in Consultation**

Frank, Stephanie (CTR) - REE-ARS

From: Frank, Stephanie (CTR) - REE-ARS
Sent: Friday, July 7, 2023 9:12 AM
To: Timothy McCumber
Cc: Hays, Henry (CTR) - REE-ARS; Seidleck, Jeffrey - REE-ARS; Wood, Holly - REE-ARS; Kleiman, Gabriela; Harre, Jason M CIV USARMY CENWO (USA)
Subject: RE: Invitation to Section 106 Consultation for ARS's Proposed Dairy Forage Research Center in Prairie du Sac, WI

Hi, Tim,

Thank you for your prompt response in accepting the invitation to participate in the Section 106 consultation. The materials that will be mailed shortly are identical to the PDFs emailed yesterday. Please let me know if you have difficulty opening the files or if you have any questions.

Thank you,
Stephanie

Stephanie Frank, PhD (she / her / Dr.)
Historic Resources Manager (contractor)
stephanie.frank@usda.gov

USDA
Agricultural Research Service,
Administrative and Financial Management
5601 Sunnyside Ave | Beltsville, MD 20705

From: Timothy McCumber <timothy.mccumber@saukcountywi.gov>
Sent: Thursday, July 6, 2023 7:03 PM
To: Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov>
Cc: Hays, Henry (CTR) - REE-ARS <henry.hays@usda.gov>; Seidleck, Jeffrey - REE-ARS <jeffrey.seidleck@usda.gov>; Wood, Holly - REE-ARS <holly.wood@usda.gov>; Kleiman, Gabriela <Gabriela.Kleiman@hdrinc.com>; Harre, Jason M CIV USARMY CENWO (USA) <Jason.M.Harre@usace.army.mil>
Subject: Re: Invitation to Section 106 Consultation for ARS's Proposed Dairy Forage Research Center in Prairie du Sac, WI

Thank you. I am looking forward to receiving the materials.

Tim McCumber

Sauk County Board Chair

Supervisor - District 20

505 Broadway, Room 309

Baraboo, WI 53913

(608) 963-6581

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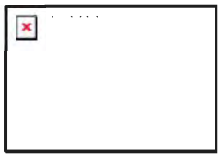
If you are a member of the Sauk County Board, please do not reply or forward this email as it may constitute a violation of open meetings law.



From: Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov>
Sent: Thursday, July 6, 2023 2:45 PM
To: Timothy McCumber <timothy.mccumber@saukcountywi.gov>
Cc: Hays, Henry (CTR) - REE-ARS <henry.hays@usda.gov>; Seidleck, Jeffrey - REE-ARS <jeffrey.seidleck@usda.gov>; Wood, Holly - REE-ARS <holly.wood@usda.gov>; Kleiman, Gabriela <Gabriela.Kleiman@hdrinc.com>; Harre, Jason M CIV USARMY CENWO (USA) <Jason.M.Harre@usace.army.mil>
Subject: Invitation to Section 106 Consultation for ARS's Proposed Dairy Forage Research Center in Prairie du Sac, WI

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Mr. McCumber:

Attached please find the cover letter and supporting two attachments inviting your organization as a consulting party for Section 106 consultation regarding the proposed Agricultural Research Service (ARS) Dairy Forage Research Center (DFRC) in Prairie du Sac, Wisconsin. Hard copies of these materials will follow.

ARS looks forward to hearing from you and consulting on the project.

Thank you,
Stephanie

Stephanie Frank, PhD (she / her / Dr.)
Historic Resources Manager (contractor)
stephanie.frank@usda.gov

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Agricultural Research Service,
Administrative and Financial Management
5601 Sunnyside Ave | Beltsville, MD 20705

1

USDA Response to Badger History Group Interest in Consultation

Frank, Stephanie (CTR) - REE-ARS

From: Frank, Stephanie (CTR) - REE-ARS
Sent: Friday, July 7, 2023 9:13 AM
To: Mike Mossman
Cc: Hays, Henry (CTR) - REE-ARS; Seidleck, Jeffrey - REE-ARS; Wood, Holly - REE-ARS; Kleiman, Gabriela; Harre, Jason M CIV USARMY CENWO (USA)
Subject: RE: [External Email]Re: Invitation to Section 106 Consultation for ARS's Proposed Dairy Forage Research Center in Prairie du Sac, WI

Hi, Mike,

Thank you for your prompt response in accepting the invitation to participate in the Section 106 consultation. The materials that will be mailed shortly are identical to the PDFs emailed yesterday. Please let me know if you have difficulty opening the files or if you have any questions.

Thank you,
Stephanie

Stephanie Frank, PhD (she / her / Dr.)
Historic Resources Manager (contractor)
stephanie.frank@usda.gov

USDA
Agricultural Research Service,
Administrative and Financial Management
5601 Sunnyside Ave | Beltsville, MD 20705

From: Mike Mossman <bhg.president1@gmail.com>
Sent: Thursday, July 6, 2023 6:08 PM
To: Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov>
Subject: [External Email]Re: Invitation to Section 106 Consultation for ARS's Proposed Dairy Forage Research Center in Prairie du Sac, WI

Stephanie,

We are interested and ready to join this effort. Will await your correspondence.

Mike

On Thu, Jul 6, 2023 at 2:45 PM Frank, Stephanie (CTR) - REE-ARS <Stephanie.Frank@usda.gov> wrote:

> Mr. Mossman:

2

Attached please find the cover letter and supporting two attachments inviting your organization as a consulting party for Section 106 consultation regarding the proposed Agricultural Research Service (ARS) Dairy Forage Research Center (DFRC) in Prairie du Sac, Wisconsin. Hard copies of these materials will follow.

ARS looks forward to hearing from you and consulting on the project.

Thank you,

Stephanie

Stephanie Frank, PhD (she / her / Dr.)

Historic Resources Manager (contractor)

stephanie.frank@usda.gov

USDA

Agricultural Research Service,

Administrative and Financial Management

5601 Sunnyside Ave | Beltsville, MD 20705

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Invited Section 106 and Tribal Consulting Party List

United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

ATTACHMENT 2
United States Department of Agricultural (USDA) Agricultural Resource Service (ARS)
Proposed Dairy Forage Resource Center (DFRC)
Section 106 Consultation: Agencies, Tribes, and Invited Consulting Parties

SHPO

Wisconsin Historical Society
State Historic Preservation Office
Daina Penkiunas, State Historic Preservation Officer
816 State Street
Madison, WI 53706
compliance@wisconsinhistory.org

TRIBES

Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
Michael Black Wolf, THPO
656 Agency Main Street,
Harlem, MT 59526
mblackwolf@ftbelknap.org

Ho-Chunk Nation of Wisconsin
Bill Quackenbush, THPO
PO Box 667
Black River Falls, WI 54615
bill.quackenbush@ho-chunk.com

Kickapoo Tribe of Oklahoma
Darwin Kaskaske, President
P.O. BOX 70
105365 South Highway 102
McLoud, OK 74851
darwin.kaskaske@okkt.net

Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan
Alina Shively, THPO
PO Box 249
Watersmeet, MI 49969
alina.shively@lvd-nsn.gov

Menominee Indian Tribe of Wisconsin
David Grignon, THPO
PO Box 910
Keshena, WI 54135-0910
mitwadmin@mitw.org

Miami Tribe of Oklahoma
Diane Hunter, THPO
PO Box 1326
Miami, OK 74355
thpo@miamination.com

Winnebago Tribe of Nebraska
Sunshine Thomas Bear, THPO
PO Box 687
Winnebago, NE 68071
sunshine.bear@winnebagotribe.com

INVITED PARTIES

Badger History Group
Mike Mossman, President
PO Box 113
Prairie du Sac, WI 53578-0113
bhg.president1@gmail.com

Wisconsin Department of Natural Resources
Adam Payne, Secretary
101 S. Webster Street PO Box 7921
Madison, WI 53707-7921

Sauk County Board of Supervisors
Tim McCumber, County Board Chair
Sauk County West Square Building
Room #326
505 Broadway
Baraboo, WI 53913
timothy.mccumber@saukcountywi.gov

2

Town of Prairie du Sac Board
Janine Godfriaux-Leystra, Chair
S9421 Old Bluff Trl
Prairie du Sac, WI 53578
608-963-9382

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E

Air Quality Supporting Documentation

Appendix E: Air Quality Supporting Documentation

This Appendix provides the air quality summary report used to develop the environmental analysis for air quality presented in **Section 3.10** of the Environmental Assessment. A detailed report including assumptions used for air modeling can be provided upon request. This appendix also provides detailed calculations used to estimate the social cost of carbon provided in **Section 3.10**.

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: NO BASE

State: Wisconsin

County(s): Sauk

Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: USDA DFRC EA

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2024

e. Action Description:

See Section 2.1 of EA.

f. Point of Contact:

Name: Carolyn Hein

Title: Contractor

Organization: HDR

Email:

Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable

__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2024

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	4.768	250	
NOx	3.419	250	
CO	3.677	250	
SOx	0.009	250	
PM 10	37.747	250	
PM 2.5	0.102	250	
Pb	0.000	25	No

NH3	0.018	250	
CO2e	1341.5		

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.108	250	
NOx	1.972	250	
CO	1.657	250	
SOx	0.012	250	
PM 10	0.150	250	
PM 2.5	0.150	250	
Pb	0.000	25	No
NH3	0.000	250	
CO2e	2374.4		

2026 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.108	250	
NOx	1.972	250	
CO	1.657	250	
SOx	0.012	250	
PM 10	0.150	250	
PM 2.5	0.150	250	
Pb	0.000	25	No
NH3	0.000	250	
CO2e	2374.4		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.

_____

Carolyn Hein, Contractor DATE

Social Cost of Greenhouse Gases Calculations

The social cost of greenhouse gases (GHGs) was calculated for the Proposed Action. The "social cost of GHGs" is an estimate of the monetized damages associated with incremental increases in GHG emissions, such as reduced agricultural productivity, human health effects, property damage from increased flood risk, and the value of ecosystem services. The social cost of the three primary GHGs (i.e., carbon dioxide [CO2], methane [CH4], and nitrous oxide [N2O]) for the year 2024 are shown in Table 1. Estimated annual GHG emissions for the alternatives are shown in Table 2.

Table 1. 2024 Social Cost of GHGs

GHG	Social Cost ($ per metric ton)
CO_2	55
CH_4	1,700
N_2O	20,000

Note: Social cost shown uses a 3 percent average discount rate in 2020 dollars
Source: IWG-SCGHG 2021

Table 2. Annual Estimated GHG Emissions from the Proposed Action

	CO_2e (tons per year)	CO2e (metric tons per year)
Proposed Action Construction	1,341.5	1,217.0
Proposed Action Operations	2,374.4	2,154.0

Note: 1 US ton is equal to 0.907 metric tons.

The annual social cost of GHGs was calculated for construction and operations under the Proposed Action. To calculate social cost of GHGs, CO_2e emissions were broken down using the following distribution assumption: 80 percent CO_2, 13 percent CH_4, and 7 percent N_2O (USEPA 2022). It was assumed construction would occur over a 1-year period. A surrogate year of 2024 was used.

CO2e is a representation GHG emissions relative to a reference gas, CO_2. It is calculated by adding GHGs which have been multiplied by their global warming potential (GWP). CO_2 has a GWP equal to 1, while the GWP of CH_4 is 25 and the GWP of N_2O is 298. Based on these assumptions, the following equation was used to calculate the social cost of GHGs. **Table 3** shows the social cost of GHGs that were calculated for each alternative.

Social Cost = $55((CO_2e*0.8)/1) + 1{,}700((CO_2e*0.13)/25) + 20{,}000((CO_2e*0.07)/298)$

Social Cost = social cost of GHGs ($)
55 = social cost of CO_2 ($ per metric ton)
CO_2e = equivalent emissions of CO_2 (metric tons)
0.8 = percent of CO_2e that is CO_2
1 = GWP of CO_2
1,700 = social cost of CH_4 ($ per metric ton)
0.13 = percent of CO_2e that is CH_4

25 = GWP of CH_4
20,000 = social cost of N_2O ($ per metric ton)
0.07 = percent of CO_2e that is N_2O
298 = GWP of N_2O

Table 3. Social Cost of GHGs for Proposed Action

	CO_2e (metric tons)	**Social Cost**
Proposed Action Construction	1,217.0	$70,023.73
Proposed Action Operations	2,154.0	$123,936.80

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