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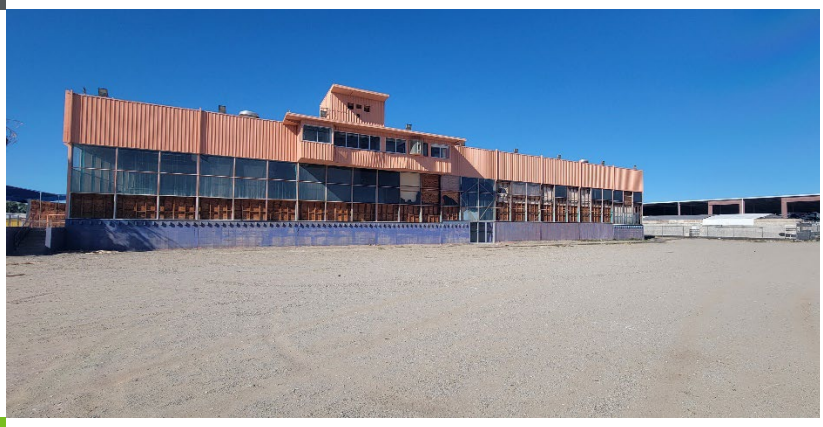

Draft

Environmental Assessment

Addressing the Proposed Land Purchase, and Construction, Operation, and Maintenance of a Joint Processing Center in Yuma, Yuma County, Arizona

Department of Homeland Security

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Cover Sheet

Draft Environmental Assessment
Addressing the Proposed Land Purchase, and Construction, Operation, and Maintenance of a Joint Processing Center (JPC) in Yuma, Yuma County, Arizona

Responsible Agencies: Department of Homeland Security (DHS)

Affected Location: Yuma, Yuma County, Arizona.

Report Designation: Draft Environmental Assessment (EA).

Abstract: DHS proposes to acquire land in Yuma, Arizona, and to construct, operate, and maintain a new permanent multi-agency facility known as a Joint Processing Center (JPC) (Proposed Action). This includes purchasing approximately 40 acres of land. Two potential locations have been identified and are being considered as well as the option for using net-zero technologies instead of using nonrenewable resources for some utilities at one location. Alternative 1 is on privately owned land and is currently used for the Yuma Swap Meet. Alternative 2 is on land currently owned by the Yuma Airport Authority and primarily consists of agricultural land. Alternative 3 would be at the Yuma Swap Meet Site and would include the use of net-zero technologies for some utilities rather than using nonrenewable resources that do not meet the goals of Executive Order 14057.The JPC is anticipated to be approximately 180,000 square feet and would be designed to accommodate 200 staff and 500 undocumented noncitizens, with the possibility of expansion to accommodate 1,000 undocumented noncitizens. Ancillary support facilities and structures would include public and private parking areas, a temporary fuel island with aboveground storage tanks, stormwater management system, roadways, emergency generators, and utilities. In addition, for Alternative 3, the use of net-zero technologies would involve the addition of solar panels, a vermifiltration wastewater filtration system, an atmospheric water generator, and associated equipment. The Proposed Action is needed to relieve capacity within existing facilities and aid in humanitarian efforts along the Southwest Border to ensure the security, placement, and successful transition of refugees. This multi-agency facility would be used by DHS, DHS Components, and potentially other federal agencies as appropriate.

This EA analyzes and documents potential environmental impacts associated with Alternative 1, Alternative 2, Alternative 3, and the No Action Alternative. The analysis presented in this EA allows decision makers to determine if the Proposed Action would have effects on the natural, cultural, social, economic, and physical environment, as well as whether the action can proceed to the next phase of project development or if an Environmental Impact Statement is required.

Status updates for the EA may be obtained via the DHS EA website at *www.dhs.gov/nepa* or by emailing BPAMNEPA@cbp.dhs.gov. Comments on the EA or information requests may be submitted to U.S. Customs and Border Protection, Office of Facilities and Asset Management, Attn: John Petrilla, 1331 Pennsylvania Ave NW, Suite 1555N, Mail Stop 1102, Washington, DC 20229-1102 or by email at BPAMNEPA@cbp.dhs.gov.

Privacy Advisory

Comments on this document are requested. Letters or other written comments provided may be published in the EA. Substantive comments will be addressed in the EA and made available to the public. A substantive comment is one which is within the scope of the Proposed Action (and its alternatives), is specific to the Proposed Action, has a direct relationship to the Proposed Action, and includes supporting reasons for the agency to consider. Any personal information provided will be used only to identify a desire to make a statement during the public comment period or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the EA. However, only the names of the private citizens making comments and specific comments will be disclosed; personal home addresses and telephone numbers will not be published in the EA.

EXECUTIVE SUMMARY

INTRODUCTION

The Department of Homeland Security (DHS) proposes to purchase approximately 40 acres of land in Yuma, Yuma County, Arizona, and to construct, operate, and maintain a permanent multi-agency facility to support humanitarian efforts along the Southwest Border. The Proposed Action is to acquire land on which to construct, operate, and maintain a Joint Processing Center (JPC) that would be used by DHS, DHS Components, and Federal partner agencies. There are three alternatives at two alternative locations evaluated for the JPC: Alternative 1 is a privately owned parcel east of the Yuma Border Patrol Station (BPS) known as the Yuma Swap Meet, Alternative 2 is owned by the Yuma Airport Authority directly south of the Yuma BPS, and Alternative 3 would be at the Yuma Swap Meet Site and would include the use of net-zero emission technologies for some utilities rather than using nonrenewable resources that do not meet the goals of Executive Order 14057.

DHS prepared this Environmental Assessment (EA) through coordination with federal, state, and local agencies; Indian Tribes; and the public to identify and assess the potential impacts associated with the construction, operation, and maintenance of the proposed JPC. This EA was prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) of 1969.

PURPOSE AND NEED

The purpose of the Proposed Action is to purchase land to construct, operate, and maintain a JPC to relieve crowding in existing DHS facilities and support humanitarian efforts along the Southwestern Border, such as ensuring the security, placement, and successful transition of undocumented noncitizens, including migrants and refugees. An undocumented individual is a noncitizen who does not possess a document valid for admission into the United States. Undocumented individuals may or may not possess a passport or other acceptable document that denotes identity and citizenship when entering the United States.

The Proposed Action is needed to efficiently process undocumented noncitizens and ease overcrowding at existing processing centers. The existing soft-sided processing facilities (SSFs) are costly and inadequately equipped to accommodate the increasing number of undocumented noncitizens without overcrowding, which could adversely affect the health, safety, work efficiency, and morale of DHS personnel and impede execution of the mission and operations of those facilities along with the undocumented noncitizens being processed. The existing SSFs are too small to adequately handle the current processing needs. Additionally, the SSFs were constructed as temporary structures and consist of tents and facilities that would not be sustainable for continued use. Unlike the current limited capacity SSFs, the Proposed Action would allow multiple agencies to offer services and operate at the same location, resulting in better efficiency and reduced transportation costs. The proposed JPC would be in one of the highest areas of apprehension and undocumented noncitizens encounter rates along the southwestern border.

PUBLIC INVOLVEMENT

DHS initiated public scoping for the Proposed Action by providing a 30-day review period from February 24 to March 27, 2023. A letter was distributed to 20 potentially interested federal, state, and local agencies; Indian tribes; and other stakeholder groups or individuals. All scoping comments received were considered during preparation of the Draft EA.

DHS notified relevant federal, state, and local agencies; appropriate Indian tribes and nations; and the public of the Draft EA and requested input regarding any environmental concerns they might have. As part of the NEPA process, DHS coordinated with federal, state, and local agencies and with appropriate Indian Tribes and nations.

A Notice of Availability (NOA) for the Draft EA and Finding of No Significant Impact (FONSI) was published on the DHS website. The Draft EA and FONSI were made available for review and comment during a 30-day public comment period to receive comments from the public, federal, state, and local agencies, and federally recognized Indian Tribes. The start of the review period was announced by the NOA published in English and Spanish on the DHS website (https://www.dhs.gov/nepa) and in the *Yuma Sun* and *The Arizona Republic*. The NOA briefly described the Proposed Action, the NEPA process, how to view the Draft EA, and how to submit comments to or request additional information from DHS. This was done to solicit comments on the Proposed Action, alternatives, and No Action Alternative, and to involve the public in the decision-making process. Hard copies of the Draft EA and FONSI were made available to the public for the 30-day public comment period at the Yuma County District Main Library at 2951 South 21st Drive, Yuma, Arizona and the Yuma County Somerton Library at 240 Canal Street Somerton, AZ 85350. The Draft EA and FONSI were also made available for download on the DHS website at the following URL address: *www.dhs.gov/nepa*. Substantive comments received during this period were reviewed and addressed in the Final EA and FONSI. A substantive comment is one which is within the scope of the Proposed Action (and its alternatives), is specific to the Proposed Action, has a direct relationship to the Proposed Action, and includes supporting reasons for the agency to consider.

DESCRIPTION OF THE PROPOSED ACTION

Proposed Action. The Proposed Action would include the purchase of approximately 40 acres of land in Yuma County and constructing, operating, and maintaining a JPC. Two potential locations have been identified and are being considered. Alternative 1 and 3 are located on privately owned land and that is currently used for the Yuma Swap Meet. Alternative 2 is on land currently owned by the Yuma Airport Authority and primarily consists of agricultural land. The JPC is anticipated to be approximately 180,000 square feet (ft^2) and would be designed to accommodate 200 staff and 500 undocumented noncitizens, with the possibility of expansion to accommodate 1,000 undocumented noncitizens. Ancillary support facilities and structures would include public and private parking areas, a temporary fuel island with aboveground storage tanks with secondary containment systems, stormwater management system, roadways, emergency generators, and utilities. The Proposed Action is needed to relieve capacity within existing facilities and aid in humanitarian efforts along the Southwest Border to ensure the security, placement, and successful transition of undocumented noncitizens. This multi-agency facility would be used by DHS, DHS Components, and potentially other federal agencies as appropriate.

A preliminary conceptual site layout of the proposed JPC is depicted in **Appendix B**. Upon completion of the site design, the actual layout of the proposed JPC could be different from that shown in **Appendix B** and would include all facilities approved during the final design stages. Construction of the proposed JPC and ancillary support facilities would disturb approximately 40 acres within the proposed JPC perimeter fence, of which, approximately 85 percent would be permanently impacted by the JPC and ancillary facilities. Upon completion of the JPC, the existing SSFs would remain for the possibility of future use. The JPC would be operated and staffed 24 hours a day, 7 days a week. Maintenance of the JPC would include routine upgrade, repair, and maintenance of the buildings, parking areas, grounds, and other facilities.

Swap Meet Site with Net-Zero Technologies Alternative. Alternative 3, the Net-Zero Technologies Alternative, would be the same location as Alternative 1 but incorporates the use of net-zero technologies for some utilities rather than using nonrenewable resources that do not meet the goals of EO 14057. Net-zero refers to a building or facility that has net-zero emissions in addition to conserving water and/or waste. The JPC would still be anticipated to be 180,000 square feet and would be designed to include carbon pollution-free electricity when connected to a regional electrical grid. Net-zero technologies proposed in this alternative would include but is not limited to, solar technology, vermifiltration wastewater filtration system, and atmospheric water generator.

No Action Alternative. As required by NEPA and CEQ regulations, the No Action Alternative reflects conditions within the project area should the Proposed Action not be implemented. Under the No Action Alternative, DHS personnel would continue to use the existing SSFs. The use of existing SSFs would not facilitate inter-agency coordination. Additionally, the existing SSFs would remain undersized and would not be able to be expanded or renovated to meet demand. Continued use of the existing SSFs could adversely affect the health, safety, work efficiency, and morale of DHS personnel along with the undocumented noncitizens being processed, which could impede execution of the mission and operations of those facilities.

SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-1 provides an overview of potential impacts anticipated under each alternative considered, broken down by resource area. **Section 3** of this EA addresses these impacts in more detail. The Proposed Action has the potential to result in adverse environmental impacts and, as such, includes best management practices (BMPs) and design concepts identified in **Appendix D** of this EA to avoid adverse impacts to the extent practicable.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Land Use	Long-term, minor, adverse impacts on land use within the immediate or surrounding areas. Land use change from site of Yuma Swap Meet to be developed for JPC. A total increase of 14 acres developed within Yuma city limits. Compatible with adjacent properties and viability of adjacent land use not affected. No known conflicts with objectives of federal, state, regional, or local land use plans, policies, or controls. Not considered farmland due to urban location and history.	Long-term, minor, adverse impacts on land use within the immediate or surrounding areas. Land use change from agricultural and undeveloped to developed for JPC. A total of 34 acres developed within Yuma city limits. Compatible with adjacent properties and viability of adjacent land use not affected. Minor cumulative impact to farmland due to conversion of 38.1 acres of Natural Resources Conservation Service farmland of statewide importance to non-agricultural use. However, site was scored and is not protected by the Farmland Protection Policy Act (FPPA) due to urban setting.	Land use impacts would be similar to or less than as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Geology and Soils	No impacts on geology. Short- and long-term, minor, adverse impacts on topography, and short-term, minor, adverse impacts on soils from disturbance of ground surfaces. Long-term, minor, adverse impacts from an increase of 14 acres of impervious surfaces. No farmland impacts due to urban location and history. Long-term, minor, adverse impacts could occur from geological hazards.	No impacts on geology. Short- and long-term, minor, adverse impacts on topography, and short-term, minor, adverse impacts on soils from disturbance of ground surfaces. Long-term, minor, adverse impacts from 34 acres of impervious surfaces. Long-term, moderate, adverse impacts on 38.1 acres of farmland soils; however, site was scored and is not protected by the FPPA due to urban setting. Long-term, minor, adverse impacts could occur from geological hazards.	Impacts would be the same as those described for Alternative 1.	No impacts.
Vegetation	Short-term, direct, negligible, adverse effects on small amounts of non-native vegetation along parcel edges. No impacts on native vegetation communities. BMPs would reduce or avoid impacts from invasive species spread/fire regime, accidental spills, and increased fugitive dust	Short-term and long-term, negligible, direct adverse effects on non-native vegetation due to loss of 17.9 acres of rotational alfalfa cropland. No impacts on native vegetation communities. BMPs would reduce or avoid impacts from invasive species spread/fire regime, accidental spills,	Impacts would be the same as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
	emissions.	and increased fugitive dust emissions.		
Terrestrial and Aquatic Wildlife Resources	No potential wildlife habitat exists on site. Short-term, direct and indirect, negligible, adverse effects on wildlife from construction-related ground disturbance and noise. Impacts on migratory bird species would be avoided by conducting pre-construction surveys and avoiding construction at nesting locations until nesting activities are complete. BMPs would minimize or avoid impacts to wildlife.	Short-term and long-term, direct and indirect, minor, adverse effects on wildlife due to loss of 17.9 acres of rotational alfalfa crop, which is cut seasonally and considered marginally suitable. Impacts on migratory bird species would be avoided by conducting pre-construction surveys and avoiding construction at nesting locations until nesting activities are complete. BMPs would minimize or avoid impacts on wildlife.	Impacts would be the same as those described for Alternative 1.	No impacts.
Threatened and Endangered Species	No impacts on federally threatened and endangered species are anticipated due to lack of suitable habitat.	Impacts would be the same as those described for Alternative 1.	Impacts would be the same as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Groundwater	Negligible adverse impacts on groundwater quality with implementation of BMPs – including a stormwater plan. There is minimal groundwater recharge in area. Minimal impacts on groundwater quantity from potable water consumption.	Impacts would be similar to those described for Alternative 1. Under Alternative 2, loss of groundwater recharge as irrigation would cease.	Impacts would be similar to or less than those described for Alternative 1. Under Alternative 3 there would be a decrease in the reliance on groundwater resources during operations.	Continued potential negative impacts from unmanaged stormwater.
Surface Waters and Waters of the United States (WOTUS)	Short- and long-term, minor, adverse impacts on surface waters during construction and maintenance, due to the potential for unmanaged stormwater flows and erosion. Erosion-control BMPs and stormwater management system would avoid or minimize adverse impacts. Short-term, minor, adverse impacts on surface water resources due to water use during construction. Long-term, minor, adverse impacts on water demand from the Yuma Utilities Systems Division (Colorado River is potable water source). Potable water demand	Impacts would be the same as those described for Alternative 1.	Impacts would be similar to or less than those described for Alternative 1. Under Alternative 3 there would be a decrease in the reliance on surface water resources during operations.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
	estimated at 6.4 to 10.9 million gallons per year and is less than 0.001 percent of municipal water demand in Yuma Basin. No impacts on wetlands or WOTUS features expected.			
Floodplains	Long-term, negligible, adverse impacts on floodplains due to permanently increased impervious surfaces (14 acres).	Long-term, negligible, adverse impacts due to vegetation clearing and permanently increased impervious surfaces (34 acres).	Impacts would be the same as those described for Alternative 1.	No impacts.
Air Quality	Short- and long-term, minor, adverse impacts on air quality from use of equipment, infrastructure, and vehicles during both construction and operation (including helicopter operations). Air emissions would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Fugitive dust emissions from construction would peak during the 2025 year at 88 tons of particulate matter measured less than or equal to 10 microns in	Impacts would be similar to those described for Alternative 1, except GHG emissions would be slightly lower at 3,817 tons (3,463 metric tons) during the construction period (i.e., 2024 through 2029).	Impacts from demolition and construction would be the same as described for Alternative 1. Impacts from operation and maintenance of the new JPC and ancillary support facilities would be less than those described for Alternative 1 as Alternative 3 would not include operation of emergency generators. Additionally, GHG emissions from operations would be slightly less than those described for	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
	diameter. Greenhouse gas (GHG) emissions measured as CO_2 equivalent would total 3,857 tons (3,499 metric tons) during the construction period (i.e., 2024 through 2029). BMPs and environmental control measures would minimize fugitive dust emissions and the release of GHGs.		Alternative 1.	
Noise	Short- and long-term, minor, adverse effects on the ambient noise environment from construction, operation (including intermittent helicopter use), and maintenance. School/church 1,300 feet north and civic center 3,500 feet north would experience noise levels consistent with the ambient noise environment. Use of the proposed helipad would be infrequent, and no helicopter would be stationed at the JPC. BMPs would be implemented to limit exposure on sensitive	Short- and long-term, minor, adverse effects on the ambient noise environment from construction, operation (including intermittent helicopter use), and maintenance. Residential area approximately 2,000 feet north, school/church 3,000 feet northeast, and the civic center 3,500 feet north would experience noise levels consistent with the ambient noise environment. Use of the proposed helipad would be infrequent, and no helicopter would be stationed at the JPC.	Impacts from Alternative 3 would be the same as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
	noise receptors.	BMPs would be implemented to limit exposure on sensitive noise receptors.		
Cultural Resources	No impacts on cultural resources from operation and maintenance of the JPC. No visual impacts; nearby previously recorded resources not in the Proposed Action's viewshed. Potential adverse impacts on unknown archaeological resources due to ground-disturbing activities. With implementation of BMPs, including CBP's established standard operating procedures for inadvertent discoveries, impacts on unknown cultural resources would be avoided.	Impacts would be the same as those described for Alternative 1.	Impacts would be similar to those described for Alternative 1. Impacts on visual aesthetics would be negligible to minor.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Utilities and Infrastructure	Short- and long-term, negligible to minor, adverse impacts on electrical supply, natural gas/propane supply, wastewater systems, water systems, stormwater drainage, communications, and solid waste management. Potential interruption to electric, potable water service and sewer service due to disconnection from Swap Meet facilities/connection to new facility. Construction would generate approximately 6,112 tons from demolition of Swap Meet facilities and 391 tons of solid waste from construction and temporarily disturb natural stormwater drainage. Long-term impacts on stormwater management from addition of 14 acres of impervious surface. Operations would result in minor increase in electrical load, natural gas/propane supply, domestic water	Impacts would be similar to those described for Alternative 1. Under Alternative 2, there would be no potential for interruption to electric, potable water, and sewer systems at Yuma Swap Meet. Under Alternative 2 Swap Meet facilities would not be demolished, and the associated 6,112 tons of solid waste would not be generated. Long-term impacts on stormwater management from addition of 34 acres of impervious surface.	Impacts for Alternative 3 on the natural gas supply, stormwater drainage, communications system, and solid waste management would be the same as Alternative 1. Under Alternative 3, operations would result in long-term, negligible to moderate, beneficial impacts on the electrical supply infrastructure; negligible to minor, beneficial impacts on water supply infrastructure; and minor to moderate, beneficial impacts on the sanitary sewer and wastewater infrastructure would occur.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
	demand, wastewater processing needed, and minor reduction in communications bandwidth over current operations. BMPs would minimize or avoid impacts, where possible.			
Roadways and Traffic	Short- and long-term, minor, adverse impacts from increases in daily and peak hour traffic levels to support construction and operations. An additional 200 staff would travel to and from work at the JPC; the JPC would have the capacity to process 500, with a possibility of up to 1,000 undocumented noncitizens per day. Changes in traffic levels would not be expected to exceed current capacity. Traffic traveling in the immediate area Friday through Sunday to the Yuma Swap Meet would cease.	Impacts would be similar to those described for Alternative 1. Under Alternative 2, traffic traveling in the immediate area Friday through Sunday to the Yuma Swap Meet would continue.	Impacts would be the same as those described for Alternative 1.	No changes to roadways and traffic.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Hazardous Materials and Wastes	Short-term, minor, and long-term, negligible, adverse impacts from the storage and use of larger quantities of hazardous materials and petroleum products during operations, and the generation of hazardous wastes during construction. Short-term, negligible to minor, adverse impacts on special hazards would result from potential for exposure as the grandstand building is assumed to contain special hazards (e.g., asbestos-containing materials [ACM] and lead-based paint [LBP]). Demolition would be conducted in accordance with all federal, state, and local regulations as well as DHS management plans for these substances. Long-term, negligible, beneficial impacts on special hazards from the reduced potential for future human exposure to ACM and LBP would occur.	Short-term, minor, and long-term, negligible, adverse impacts from the storage and use of larger quantities of hazardous materials and petroleum products during operations, and the generation of hazardous wastes during construction. Under Alternative 2, no impacts on special hazards would occur.	Impacts would be the same as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Socioeconomic Resources, Environmental Justice, and Protection of Children	Short-term, minor, and long-term, negligible, beneficial impacts on the local economy and employment from construction expenditures and additional DHS personnel. Short-term, minor, adverse impacts on local economy and employment from closing and potentially relocating the Swap Meet. No changes to population or demographics as construction and operations workforce would likely be supplied from within Yuma County. Long-term, indirect, minor, adverse impacts on fire protection and emergency medical services. Minor impacts from increased noise and traffic during construction and operation. No disproportionately adverse human health and environmental impacts on minority and low-income populations or children.	Impacts would be similar to those described for Alternative 1. No impacts associated with the demolition and possible relocation of Swap Meet facility would occur under Alternative 2.	Impacts would be the same as those described for Alternative 1.	No impacts.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Human Health and Safety	Short-term, negligible, adverse impacts on contractor safety due to increased risk of accidents. No impacts on the general public during construction. BMPs and safety measures would be incorporated. Short-term, negligible to minor, adverse impacts at Yuma International Airport could occur during construction. Yuma Airport and FAA would be contacted and coordinated with prior to construction to ensure no impacts from height and location of communications tower and crane use during construction. Impacts on health and safety from operation of the JPC could be long-term, minor, and beneficial relative to No Action.	Short-term, negligible, adverse impacts on contractor safety due to increased risk of accidents. No impacts on the general public during construction. BMPs and safety measures would be incorporated. Impacts on health and safety from operation of the JPC could be long-term, minor, and beneficial, relative to No Action. Demolition of the Swap Meet facilities would not occur; therefore, no impacts on contractor safety from exposure to special hazards.	Impacts on contractor safety and airport safety would be the same as those described for Alternative 1. Long-term, minor, adverse impacts on public health and safety from the potential for the evaporation pond associated with the vermifiltration systems to become a mosquito breeding area. However, the evaporation pond is not expected to contain water for long enough periods to become a mosquito breeding area. If mosquito breeding becomes apparent, DHS would coordinate with the Yuma County Public Health Services District to address the problem with an approved larvicide or other control method.	Long-term, minor, adverse impacts on DHS personnel and public safety from continued use of existing, inadequate SSFs.

Table ES-1. Summary of Potential Environmental Impacts by Alternative

Resource Area	Alternative 1	Alternative 2	Alternative 3	No Action Alternative
Sustainability and Greening	Long-term, minor, beneficial impacts through implementation of sustainable design strategies to reduce consumption of energy, water, and raw materials, while meeting mission requirements. Long-term, minor, adverse impacts from disturbance of green and open spaces.	Impacts would be the same as those described for Alternative 1.	Impacts on the sustainability of resources and DHS operations from the incorporation of sustainability strategies would be similar to, but somewhat more beneficial than those described for Alternative 1 due to the additional net-zero technologies.	Long-term, minor to moderate, adverse impacts on resource sustainability from continued operation of existing SSFs. No impacts on green and open spaces.

Abbreviations and Acronyms

ACM	asbestos-containing material
ADEQ	Arizona Department of Environmental Quality
APE	area of potential effect
AST	aboveground storage tank
AWG	atmospheric water generator
AWS	atmospheric water system
AZDOT	Arizona Department of Transportation
AZGFD	Arizona Game and Fish Department
BESS	Battery Energy Storage Systems
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
BPS	Border Patrol Station
CAA	Clean Air Act
CBP	U.S. Customs and Border Protection
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibel
DHS	Department of Homeland Security
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJSCREEN	Environmental Justice Screening and Mapping Tool
EO	Executive Order
EPACT	Energy Policy Act
ESA	Endangered Species Act
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
ft^2	square foot/feet
GHG	greenhouse gas
gpd	gallons per day
IF	irrigation canal feature
IO	isolated occurrence
IPaC	Information for Planning and Consultation
JPC	Joint Processing Center
LBP	lead-based paint
MBTA	Migratory Bird Treaty Act
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NWI	National Wetlands Inventory
O_3	ozone
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
pCi/L	picocuries per liter
$PM_{2.5}$	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
PPE	personal protective equipment
PSD	Prevention of Significant Deterioration
PV	photovoltaic
SHPO	State Historic Preservation Officer
SO_x	sulfur oxides
SPCC	Spill Prevention Control and Countermeasure
SSF	soft-sided processing facility
SWPPP	Stormwater Pollution Prevention Plan
TOC	Total Organic Carbon
tpy	tons per year
URBANA	Urbana Preservation and Planning, LLC
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USRP	U.S. Refugee Resettlement Program
VF	vermifiltration
VOC	volatile organic compound
WOTUS	Waters of the United States

Draft

ENVIRONMENTAL ASSESSMENT

ADDRESSING THE PROPOSED LAND PURCHASE, AND CONSTRUCTION, OPERATION, AND MAINTENANCE OF A JOINT PROCESSING CENTER IN YUMA, YUMA COUNTY, ARIZONA

DEPARTMENT OF HOMELAND SECURITY

2707 Martin Luther King Jr Avenue SE
Washington, DC 20528

AUGUST 2023

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FIGURES & PHOTOGRAPHS

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APPENDICES

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1 INTRODUCTION

The Department of Homeland Security (DHS) proposes to purchase approximately 40 acres of land in Yuma, Yuma County, Arizona, and to construct, operate, and maintain a Joint Processing Center (JPC) that would be a permanent, multi-agency facility. The construction of a modern, high-capacity processing facility would support humanitarian efforts along the southwestern border. The existing soft-sided processing facilities (SSFs) are costly, undersized, and inadequately equipped for the increasing undocumented noncitizens entering the country. An undocumented individual is a noncitizen who does not possess a document valid for admission into the United States. Undocumented individuals may or may not possess a passport or other acceptable document that denotes identity and citizenship when entering the United States. Current facilities are overcrowded and the health and safety of DHS personnel, contractors, and those being processed is affected. In addition, the overcrowding affects work efficiency, morale, and impedes the execution of missions and operations during processing. The JPC would be used by DHS, DHS Components, and other applicable federal agencies. There are three alternatives at two alternative locations being evaluated for the JPC: Alternative 1 is a privately-owned parcel east of the Yuma Border Patrol Station (BPS), Alternative 2 is owned by the Yuma Airport Authority directly south of the Yuma BPS, and Alternative 3 is at the Yuma Swap Meet Site and would include the use of net-zero technologies.

This Environmental Assessment (EA) was prepared to describe and assess the potential environmental and socioeconomic impacts of the Proposed Action, alternatives, and the No Action Alternative, and to aid in determining whether an Environmental Impact Statement (EIS) is needed. This EA complies with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] Section 4321–4347); the Council on Environmental Quality's (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] Parts 1500–1508); and DHS Directive 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01, *Implementation of the National Environmental Policy Act (NEPA)*.

DHS has prepared this EA to assess the environmental impacts that would likely occur as a result of the Proposed Action. DHS has developed and incorporated measures into this EA that would appropriately and reasonably avoid, minimize, or mitigate environmental impacts associated with the project activities. This EA is organized into six sections plus appendices. **Section 1** provides background information on the existing processing facilities, identifies the purpose and need for the Proposed Action, describes the area in which the Proposed Action would occur, and explains the public involvement process. **Section 2** provides a detailed description of the Proposed Action and alternatives including the No Action Alternative. **Section 3** describes existing environmental conditions in the area where the Proposed Action would occur and identifies potential environmental impacts that could occur within each resource area. **Section 4** contains an analysis of the cumulative and other impacts that the Proposed Action combined with other projects in the area could have on the environment. **Sections 5** and **6** provide a list of references used to develop the EA, and a list of preparers who developed the EA, respectively. Finally, the appendices include other information pertinent to the development of the EA.

1.1 BACKGROUND

The six enduring missions of DHS are to:

- counter terrorism and prevent threats,
- secure and manage our borders,
- administer the nation's immigration system,
- secure cyberspace and critical infrastructure,
- build a resilient nation and respond to incidents, and
- combat crimes of exploitation and protect victims.

As part of this mission, DHS and other DHS components work together to uphold America's humanitarian response to undocumented noncitizens through the U.S. Refugee Resettlement Program (USRP). The USRP has three main objectives: security, placement, and transition. DHS provides security through pre-screening, on-site interviews, security clearances, and fingerprinting.

1.2 LOCATION

The Proposed Action is in Yuma, Yuma County, Arizona (see **Figure 1-1**). Two alternative sites are being evaluated for the Proposed Action as well as the use of net-zero technologies at one of the sites. Alternative 1 is at 4000 South 4th Avenue, Yuma, Arizona and is the current location of the Yuma Swap Meet, the center of which is located at 32.653079, -114.626447 (see **Figure 1-2**). Alternative 2 is an agricultural lot immediately south of the existing Yuma BPS and Yuma Sector Headquarters Complex, Yuma, Arizona, the center of which is located at 32.649676, -114.630958 (see **Figures 1-2** and **1-3**). Alternative 3 is at the Yuma Swap Meet Site and would include the use of net-zero technologies for some utilities rather than using nonrenewable resources that do not meet the goals of EO 14057. The BPS and the proposed JPC are separate establishments. Both parcels are in the northwest quarter of Section 16, Township 9 South, Range 23 West of the Gila and Salt River Base and Meridian.

Figure 1-1 General Location Map

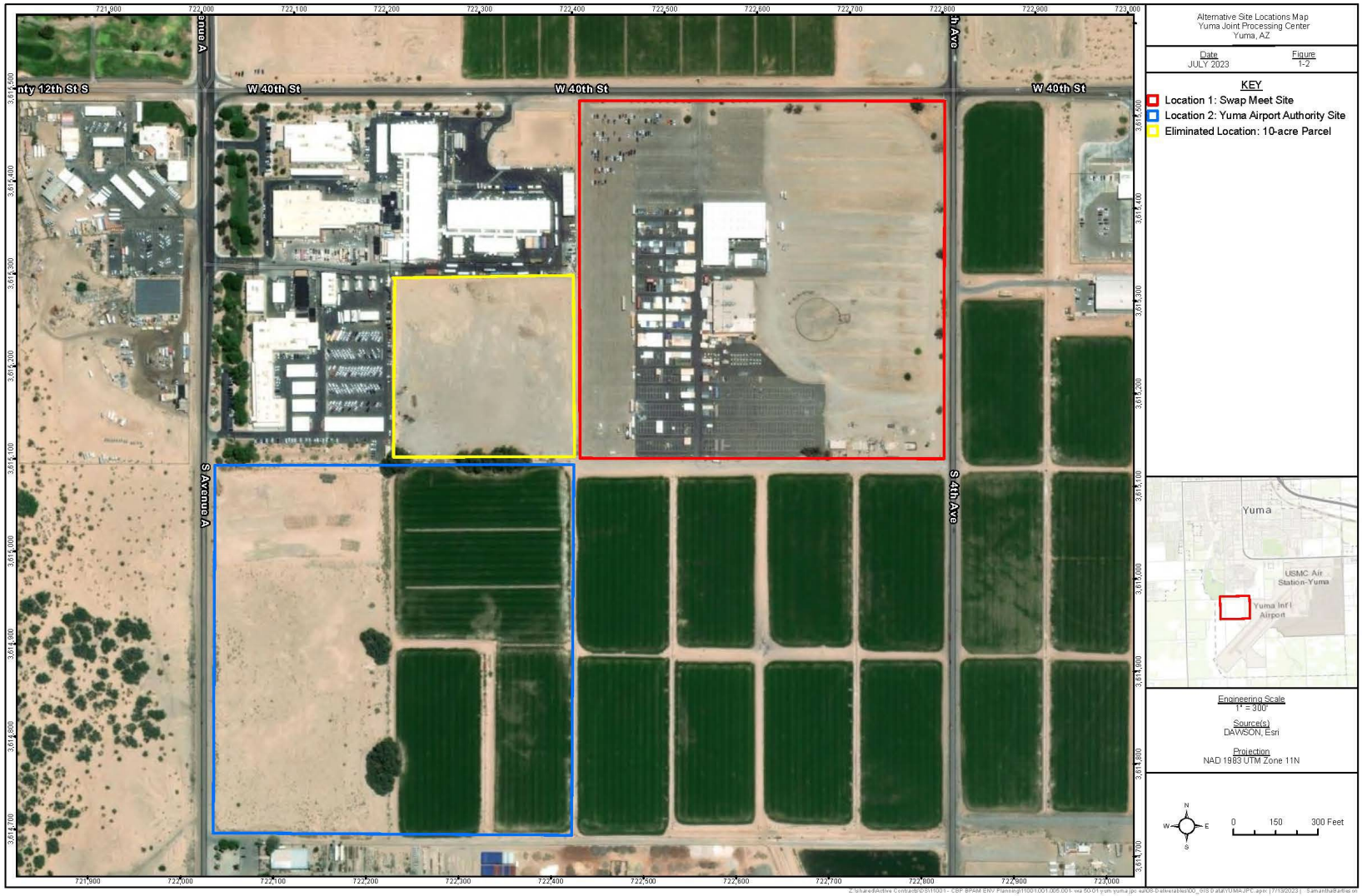

Figure 1-2 Locations 1 and 2 for the Proposed Yuma JPC

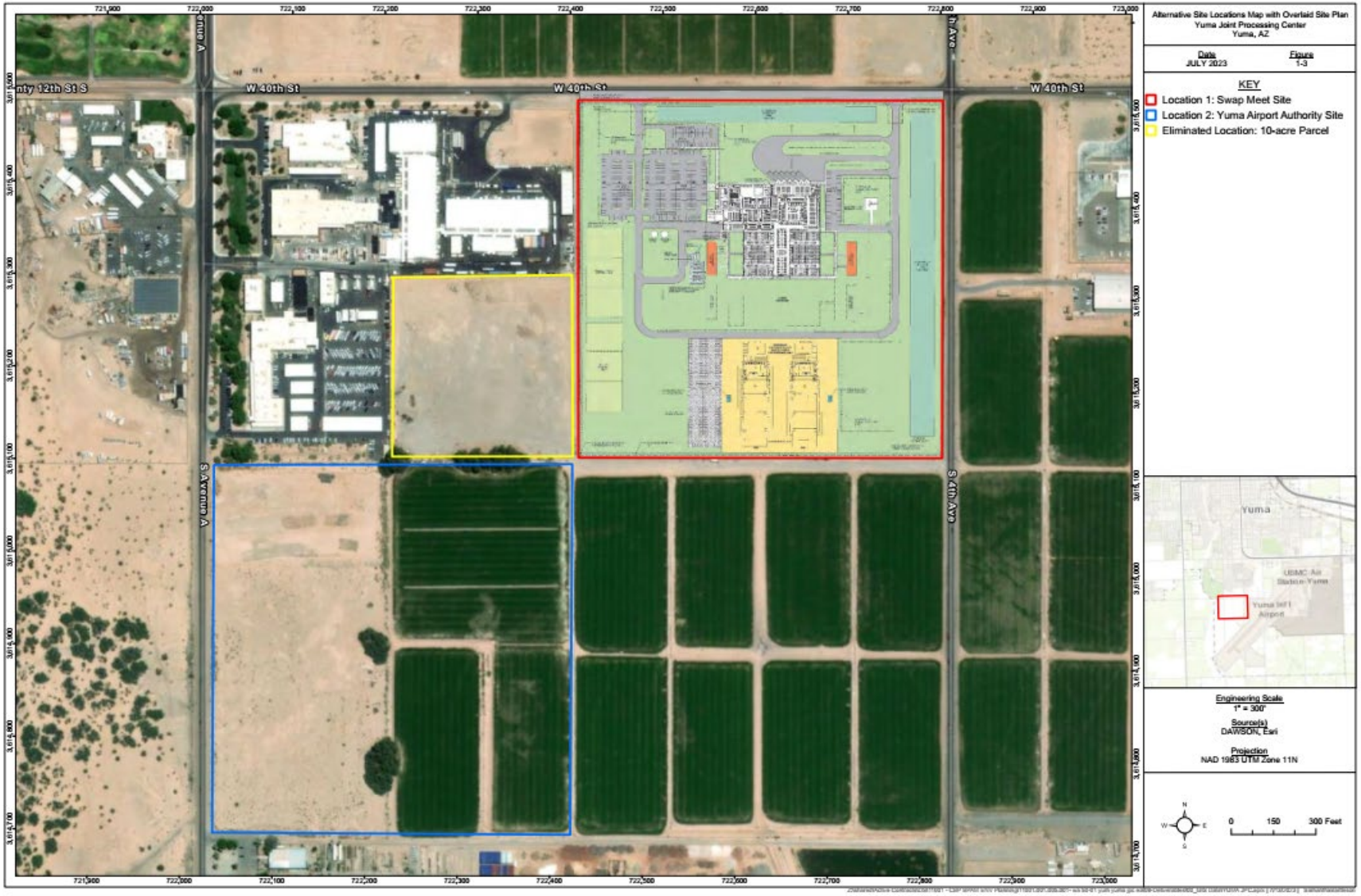

Figure 1-3 Locations 1 and 2 for the Proposed JPC with Overlaid Site Plan

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to acquire land through a fee purchase to construct, operate, and maintain a JPC to relieve crowding in existing DHS facilities and support humanitarian efforts along the Southwest Border. These humanitarian efforts include ensuring the security, placement, and successful transition of undocumented noncitizens. The Proposed Action is needed to efficiently process undocumented noncitizens and ease overcrowding at existing processing centers. The existing soft-sided processing facilities (SSFs), located in the parking lot between the Yuma Sector Headquarters Complex and Swap Meet Site, are costly and inadequately equipped to accommodate the increasing number of undocumented noncitizens without overcrowding. These conditions could adversely affect the health, safety, work efficiency, and morale of DHS personnel and impede execution of the mission and operations of those facilities along with the undocumented noncitizens being processed. The existing SSFs are too small to adequately handle the current processing needs. Unlike the current limited capacity SSFs, the Proposed Action would allow multiple agencies to offer services and operate at the same location, resulting in better efficiency and reduced transportation costs. The proposed JPC would be in one of the highest areas of apprehension and undocumented noncitizens encounter rates along the Southwest Border.

1.4 PUBLIC INVOLVEMENT

Public participation opportunities during this NEPA process are guided by DHS NEPA implementing procedures, the requirements of NEPA (40 CFR § 1506.6), and the CEQ regulations. Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decision-making process. The NEPA process encourages public involvement in decisions affecting the quality of the human environment and includes the identification and evaluation of reasonable alternatives to proposed actions that would avoid or minimize adverse environmental impacts. In addition to public participation, interagency and intergovernmental coordination is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. This coordination also fulfills requirements under Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs* (superseded by EO 12416, and subsequently supplemented by EO 13132), and EO 11988 (*Floodplain Management)*, which requires federal agencies to cooperate with and consider state and local views in implementing a federal proposal.

Additionally, EO 13175, *Consultation and Coordination with Indian Tribal Governments* (2000), requires federal agencies to invite federally recognized Indian Tribes to participate in the NEPA and National Historic Preservation Act (NHPA) of 1966 Section 106 processes as Sovereign Nations based on their potential ancestral ties to the Proposed Action area.

In addition to the public, DHS identified stakeholders with interest in this Proposed Action including federal, state, and local agencies, as well as federally recognized Indian Tribes. Through the NEPA process, the public and stakeholders were presented the opportunity to provide relevant information, express their concerns, and provide their inputs. A complete list of agencies and individuals coordinated with during preparation of this EA is included in **Appendix A** with copies of relevant correspondence. The record of consultation with federally recognized

Indian Tribes is included as **Appendix A**. DHS coordinated with agencies such as the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), local agencies, and appropriate Indian Tribes and nations.

A Notice of Availability (NOA) for the Draft EA and Finding of No Significant Impact (FONSI) will be published on the DHS website. The Draft EA and FONSI will be made available for review and comment during a 30-day public comment period to receive comments from the public; federal, state, and local agencies; and federally recognized Indian Tribes. The start of the review period will be announced by the NOA, which will be published in English and Spanish on the DHS website (https://www.dhs.gov/nepa) and in the *Yuma Sun* and *The Arizona Republic*. The NOA will briefly describe the Proposed Action, the NEPA process, how to view the Draft EA, and how to submit comments to, or request additional information from DHS. This is done to solicit comments on the Proposed Action, alternatives, and No Action Alternative, and to involve the public in the decision-making process. Hard copies of the Draft EA and FONSI will be made available at the Yuma County District Main Library at 2951 South 21st Drive, Yuma, Arizona and the Yuma County Somerton Library at 240 Canal Street Somerton, AZ 85350. The Draft EA and FONSI will also be made available for download on the DHS website at www.dhs.gov/nepa.

Substantive comments received during this period will be reviewed and addressed in the Final EA and FONSI. A substantive comment is one which is within the scope of the Proposed Action (and its alternatives), is specific to the Proposed Action, has a direct relationship to the Proposed Action, and includes supporting reasons for the agency to consider. Comment letters and other agency and public involvement materials will be included in **Appendix A** of the Final EA.

1.5 FRAMEWORK FOR ANALYSIS

NEPA is a federal statute requiring the identification and analysis of potential environmental impacts of proposed federal actions before those actions are taken. CEQ is the principal federal agency responsible for the administration of NEPA. CEQ regulations mandate that all federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment. This process evaluates potential environmental impacts associated with a proposed action and considers alternative courses of action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions.

The process for implementing NEPA is codified in 40 CFR Parts 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. CEQ was established under NEPA to implement and oversee federal policy in this process. CEQ regulations specify that an EA may be prepared for the following reasons:

- Briefly provide evidence and analysis for determining whether to prepare a FONSI or an EIS.
- Aid in an agency's compliance with NEPA when an EIS is unnecessary.
- Facilitate preparation of an EIS when one is necessary.

Within DHS and U.S. Customs and Border Protection (CBP), NEPA is implemented using DHS Directive 023-01, Rev 01 (2014) and the DHS Instruction Manual 023-01-001-01, Rev 01, *Implementation of the National Environmental Policy Act (NEPA)* (2014).

To comply with NEPA, the planning and decision-making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations. However, the NEPA process does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated "with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively."

Within the framework of environmental impact analysis under NEPA, additional authorities that might be applicable include, but are not limited to, the Clean Air Act (CAA), Clean Water Act (CWA) (including a National Pollutant Discharge Elimination System [NPDES] stormwater discharge permit and Section 404 permit), Noise Control Act, Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), NHPA, Archaeological Resources Protection Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, Bald and Golden Eagle Protection Act (BGEPA), Coastal Zone Management Act, Protection and Enhancement of the Cultural Environment, and various EOs including: EO 11988, *Floodplain Management*; EO 11990, *Protection of Wetlands*; EO 12088, *Federal Compliance with Pollution Control Standards*; EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; EO 13112, *Invasive Species*; EO 13834, *Efficient Federal Operations;* and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*.

Table 1-1 lists major federal and state permits, approvals, and interagency coordination that could be required to construct, operate, and maintain the proposed JPC.

Table 1-1 Key Permits and Approvals (as applicable) and Interagency Coordination

Agency	Permit/Approval/Coordination	Status
USACE	– CWA Section 404 permit	Ongoing
USFWS	– Section 7 ESA coordination/consultation – MBTA coordination – BGEPA – Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)	No effect determination, no further consultation under Section 7 ESA is necessary.
Federal Aviation Administration (FAA)	– FAA Form 7480-1	Ongoing
Federally Recognized Indian Tribes and Nations	– Consultation regarding presence of and effects on cultural resources and Traditional Cultural Property – Consultation for Section 106 potential effects on historical resources	Ongoing

Agency	Permit/Approval/Coordination	Status
Arizona State Historic Preservation Officer (SHPO)	– Consultation for Section 106 regarding potential effects on historical resources	Ongoing
Arizona Game and Fish Department	– Consultation for Section 7 potential effects on state listed species	Ongoing
Arizona Department of Environmental Quality	– CWA Section 401 State Water Quality Certification – CWA NPDES permit – Domestic Water Supply Permit (for applicable non-transient, non-community water system) – Permit to Operate (for emergency generators) – CAA permit consultation – Water well permit – On-site Wastewater Treatment System permit (for septic system and leach field) – Permit to Operate (for emergency generators) – CAA permit consultation	Ongoing

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2 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section provides detailed information on DHS's proposal to purchase land necessary to construct, operate, and maintain a JPC in Yuma, Yuma County, Arizona. As discussed in **Section 1.5**, the NEPA process evaluates potential environmental impacts associated with a Proposed Action and considers alternative courses of action.

Reasonable alternatives must satisfy the purpose and need for a proposed action (see **Section 1.3**). The purpose of the Proposed Action is to purchase land to construct, operate, and maintain a JPC to relieve crowding in existing DHS facilities and support humanitarian efforts along the Southwest Border, such as ensuring the security, placement, and successful transition undocumented noncitizens. The Proposed Action is needed to efficiently process undocumented noncitizens and ease overcrowding at existing processing centers. The existing SSFs are costly and inadequately equipped to accommodate the increasing number of undocumented noncitizens without overcrowding, which could adversely affect the health, safety, work efficiency, and morale of DHS personnel and the undocumented noncitizens being processed and impede execution of the mission and operations of those facilities.

In accordance with NEPA and CEQ guidance, DHS evaluated alternatives to the Proposed Action to determine whether they would be reasonable and environmentally preferable to the Proposed Action. These alternatives include the No Action Alternative and JPC Location Alternatives. While the No Action Alternative would not satisfy the purpose and need for the Proposed Action, it is analyzed in detail as recommended by CEQ regulation.

2.2 SCREENING CRITERIA FOR ALTERNATIVES

The range of reasonable alternatives considered in this EA is limited to those that would meet the purpose and need for the Proposed Action as described in **Section 1.3**, which is to expand the capacity of the processing facility with a fully functional, interagency JPC. Such alternatives must also meet essential technical, engineering, and economic threshold requirements to ensure that each alternative is environmentally sound and economically viable and complies with governing standards and regulations.

DHS developed and applied selection criteria during earlier phases of planning to assist in determining suitable locations consistent with the project purpose and need described in **Section 1.3** for the construction of a JPC. The site-selection criteria applied are as follows:

- ***Adequate Size.*** The purchased parcel should be of adequate size to provide for the initial and expected future programmed functions, to allow for expansion of parking, and to allow for necessary buffer zones for special initiatives and for future facility expansion. DHS has determined that the minimum acreage required for the Proposed Action is approximately 40 acres. In addition, DHS has determined that the minimum facility footprint would require approximately 180,000 square feet (ft^2) of useable floor space (excluding the footprint of ancillary support facilities).

- ***Proper Location.*** The JPC should be located and situated in such a way as to not compromise the security and safety of the facility, personnel, and individuals. A proper location would ensure full coverage of an area of responsibility, it would allow appropriate amenities for the community (families and contract employees), and it would ensure the JPC is in close proximity (less than 30 minutes of driving) to major infrastructure and support, such as major highways, airports, and other U.S. Border Patrol (USBP) facilities.
- ***Ease of Access.*** The JPC should have ease of access, which includes access from more than one entry point for emergency egress purposes, good access for emergency response services, proximity to highways, and would not be located on or near heavily congested roadways or other obstructions.
- ***Acquisition Likelihood.*** The JPC should be sited on property that could be purchased in a timely and cost-effective manner.
- ***Minimize Potential Negative Environmental Impacts.*** The JPC should not have any obvious detrimental cultural or environmental impacts that could not be mitigated.
- ***Utilities.*** The JPC should have access to public utilities.

Section 2.3 presents Alternative 1: Swap Meet Site, **Section 2.4** presents Alternative 2: Yuma Airport Authority, **Section 2.5** presents Alternative 3: Swap Meet Site with Net-Zero Technologies, **Section 2.6 presents** the No Action Alternative, and **Section 2.7** presents the alternatives considered but eliminated from further detailed analysis.

2.3 ALTERNATIVE 1: SWAP MEET SITE

Alternative 1 includes the purchase of approximately 40 acres of privately-owned land to construct, operate, and maintain a JPC at the intersection of West 40th Street and South 4th Avenue in Yuma, Yuma County, Arizona. Historically, the site was used as a dog racing facility and is currently used as the location for the Yuma Swap Meet. The JPC would consist of approximately 180,000 ft^2 of useable floor space and would accommodate 200 staff and 500 undocumented noncitizens for processing per day, with the possibility of expanding to accommodate a capacity of 1,000 undocumented noncitizens for processing per day. The proposed JPC would also include the following ancillary support facilities and structures:

- public and private vehicle parking areas
- temporary fuel island with double-walled aboveground storage tanks (ASTs)
- vehicle storage facility
- loading facilities
- vehicle wash rack
- canine kennels
- 140-foot communications tower with a 10-foot lightning rod
- stormwater management system
- helipad, for infrequent helicopter use
- roadways
- emergency generators
- utilities

A preliminary conceptual site layout of the proposed JPC is depicted in **Appendix B**. Upon completion of the site design, the actual layout of the proposed JPC could be different from that shown in **Appendix B** and would include all facilities approved during the final design stages. Because site design would occur following completion of this EA, the analysis assumes that the entire 40-acre parcel would consist of the proposed JPC and ancillary support facilities, and most of the acquired land would be disturbed from construction activities. The communications tower would be 140 feet tall direct embedded with no guy wires. In addition, Alternative 1 would require the demolition of all existing structures and buildings on the site. Upon completion of the JPC, the existing SSFs located in the parking lot between the Yuma Sector Headquarters Complex and the Swap Meet Site, would remain for possible future use. The JPC would be operated and staffed 24 hours per day, 7 days a week, and would utilize commonly used or typical operational technologies for utilities. These utility sources include electricity from an electrical provider, the wastewater design as a typical septic field with haul-off of waste, and potable water that would be locally provided from surface water. Although these systems are currently in place, they would not meet the goals of EO 14057.

Maintenance of the JPC would include routine upgrade, repair, and maintenance of the buildings, roofs, parking areas, grounds, or other facilities that would not result in a change in their function or use. Some examples maintenance activities include landscaping, mowing, janitorial cleaning, trash removal, fencing repairs, replacing door locks or windows, painting interior or exterior walls, resurfacing a road or parking lot, grounds maintenance, or replacing essential facility components such as an air conditioning unit. Vehicle maintenance and washing would occur in a vehicle maintenance garage or appropriate area.

2.4 ALTERNATIVE 2: YUMA AIRPORT AUTHORITY SITE

Alternative 2 includes the purchase of an approximately 40-acre lot south of the existing Yuma BPS to construct, operate, and maintain a JPC. The site is currently comprised of agricultural land owned by the Yuma Airport Authority. The proposed JPC and ancillary support facilities would be the same as previously described in **Section 2.3**. Upon completion of the JPC, the existing SSFs would remain for possible future use. Additionally, as in Alternative 1 in **Section 2.3**, utilization of commonly used or typical utilities on site would include sources that would not meet the goals of EO 14057.

Figure 1-2 presents the alternative locations for the proposed JPC. The area outlined in blue identifies the Alternative 2 location.

2.5 ALTERNATIVE 3: SWAP MEET SITE WITH NET-ZERO TECHNOLOGIES

Alternative 3 is at the same location as Alternative 1 but incorporates the use of net-zero technologies for some utilities rather than using nonrenewable resources that do not meet the goals of EO 14057 (see **Section 3.14.1** for additional information on the EO). For this alternative, the Swap Meet Site was used instead of the airport property since the impacts to the environment would be most similar. Net-zero refers to a building or facility that has net-zero emissions in addition to conserving water and/or waste. A net-zero emissions building is designed and operated so that when it is connected to a regional electrical grid it is fully serviced by carbon pollution-free electricity. A net-zero building would have zero greenhouse gas (GHG)

emissions from operations based on an annual cycle. Net-zero goals are sometimes referred to as being achieved at 0 percent, 70 percent, 90 percent, and 100 percent. For example, if a facility was to meet the net-zero 100 percent electricity goal, that facility would be 100 percent off-grid. If it relied on solar power only 70 percent of the time, it would have achieved 70 percent of the goal. The net-zero technologies proposed in this alternative include: solar with and without microgrid technology, a vermifiltration (VF) wastewater filtration system, and an atmospheric water generator (AWG). Under the guidance of EO 14057 and in consideration of federal sustainability efforts, the use of these net-zero resource applications will aid the proposed JPC facility in achieving close to net-zero emissions, waste, and water conservation efforts.

Energy generation is the largest source of GHG emissions, and renewable resources such as solar offer potential GHG emissions savings compared to the use of fossil fuels (carbon) to derive electricity. For the Yuma JPC, net-zero emissions goals would be achieved using a solar photo-voltaic (PV) system with battery backups, as feasible. Solar technologies, which capture and generate electricity from sunlight, would use any of three solar array options depending on spatial locations and feasibility: ground mounted, rooftop, and parking canopies. These include flat panel, axis tracking, or integrated solar PV products, all of which could be various sizes and include Battery Energy Storage Systems (BESS), if reasonable for the location. The JPC facility would install the PV as an integrated, shared network or grid of power, known as a solar microgrid.

Under Alternative 3, as part of the net-zero initiative and to reduce and efficiently process sewage waste generation at the Yuma JPC, DHS would install a VF system. VF is a zero-waste green technology that is simple, low-cost, and eco-friendly. The process is a type of wastewater treatment that uses soil filtration with earthworms to speed up the decomposition process. The resulting treated wastewater can be used for irrigation and landscaping purposes where feasible. A VF system also exemplifies a nature-based solution by integrating natural processes to treat wastewater. Through the symbiotic action of earthworms and microorganisms, VF systems effectively purify water, reducing pollutants, and promoting sustainable water management. This approach harnesses natural processes to enhance water quality, making it a nature-based solution for water treatment and pollution reduction.

The VF system at the Yuma JPC would be able to remove up to 99 percent of contaminants from wastewater. It would consist of treatment beds through which wastewater would pass by gravity. The beds would consist of earthworms, microbial bacteria, wood shavings, and/or river cobble. Solids would be separated out prior to entering the VF system and collected, hauled, and disposed of separately. Treated wastewater from the VF system would be discharged into an evaporation pond or could be re-used. Compared to a standard septic system that requires the septic tanks to be drained and hauled away by a sewage disposal company, the use of VF could result in annual savings of over 1 million dollars depending on the capacity of the system. The system would be located in place of a septic field, in an un-used area of the JPC grounds.

The third energy technology that the JPC for Alternative 3 would consider is the use of an AWG, sometimes referred to as an atmospheric water system (AWS). The AWG technology is a sustainable water technology that generates potable water from humidity in the surrounding air. As such, water production rates are highly dependent upon the air temperature and the amount of water vapor (i.e., humidity) in the air. Not only does an AWS reduce the need to use local

drinking water resources, it can also expand water availability during shortages, contamination events, or even natural disasters that could interrupt drinking water services.

Commercial AWSs employ condenser and cooling coil technology, and although significant quantities of energy can be required to operate the AWG, recent technological advancements have substantially improved the energy-water ratio. In water-stressed and sunny areas such as Arizona, AWSs are already in use at hundreds of homes using recently designed hydropanels that combine solar panels with the AWG technology. Some large-scale AWGs can produce over 1,300 gallons of water per day; at the Yuma JPC, the size of the AWS would depend on its cost and feasibility given climate conditions at the site and need for potable water. Ultimately, the AWS would trap water vapor through passive condensation, treat the water with minerals for taste as needed, and distribute the potable water throughout the facility. The use of an AWG could increase energy needs, and thus the proposed solar power system could be designed to compensate for this in order to make the AWG technology self-sustaining.

2.6 NO ACTION ALTERNATIVE

Under the No Action Alternative, DHS would not purchase either parcel of land and construct the JPC. Personnel would continue to use the existing SSFs located in the parking lot between the Yuma Sector Headquarters Complex and the Swap Meet Site, which has expanded into the 10-acre lot to the south described below. The continued use of the existing SSFs would not facilitate interagency coordination. Additionally, the existing SSFs would remain undersized and would not be able to be expanded or renovated to meet increasing demands. Continued use of the existing processing facility could adversely affect the health, safety, work efficiency, and morale of DHS personnel along with the undocumented noncitizens being processed, which could impede execution of the mission and operations of those facilities.

The No Action Alternative does not satisfy the purpose and need for the Proposed Action, as identified in **Section 1.3**. The No Action Alternative is carried forward for analysis in the EA to provide a comparison of baseline conditions to the Proposed Action, as required by the CEQ NEPA implementing regulations (40 CFR §1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which effects of the Proposed Action can be evaluated.

2.7 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DETAILED ANALYSIS

DHS evaluated other possible alternatives to the Proposed Action but determined that these alternatives would not meet the purpose and need for the Proposed Action. This section discusses the alternatives that were considered but not carried forward for further detailed analysis in the EA.

2.7.1 JPC Location Alternatives

10-Acre Lot. An alternative location was considered under the Proposed Action that is west of Alternative 1 at 4035 South Avenue A (see **Figure 1-2**). This alternative location consists of a 10-acre tract that is currently owned by U.S. Customs and Border Protection. This area was

previously an asphalt production site that has been backfilled with gravel and leveled and has been expanded upon as a part of the current SSFs. The 10-acre tract is inadequately sized for the Proposed Action as it would not be able to support the required buffer zone for future facility expansion and the necessary ancillary support facilities and features outlined in **Section 2.2**, such as parking and vehicle turnaround services. For the JPC and ancillary support facilities and features, approximately 40 acres of land would be necessary. As such, it was determined that this alternative does not meet the selection criteria discussed in **Section 2.2** and it was eliminated from further detailed analysis.

Expansion and Upgrade of Existing Soft-sided Processing Facility. Under this alternative, DHS would expand and upgrade the existing SSFs, located in the parking lot between the Yuma Sector Headquarters Complex and Swap Meet Site. As discussed in **Section 1.3**, the existing facility has already been expanded onto an adjacent 10-acre parcel to the south and cannot be expanded further to provide adequate facility, parking, or storage space. Additionally, the existing processing facilities are too small to adequately handle the current processing needs. As such, it was determined that this alternative does not meet the selection criteria discussed in **Section 2.2** and it was eliminated from further detailed analysis.

3 AFFECTED ENVIRONMENT

3.1 SCOPE OF THE ANALYSIS

This section provides a discussion of the affected environment, as well as an analysis of the potential direct and indirect impacts that the alternatives could have on the affected environment. Cumulative and other impacts are discussed in **Section 4**. All potentially relevant resource areas were initially considered in this EA. In accordance with NEPA, CEQ regulations, and DHS Instruction Manual 023-01-001-01, Rev. 01, this evaluation focuses on those resources and conditions potentially subject to effects, and on potentially significant environmental issues deserving of study. It does not go into detail on insignificant issues.

The following categories describe various types of impacts that could potentially result from the Proposed Action:

- *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term effects are those that would occur only with respect to a particular activity or for a finite period or only during the time required for construction or maintenance and repair activities. Long-term effects are those that are more likely to be persistent and chronic.
- *Direct or indirect.* A direct effect is caused by the action and occurs at the same time, at or near the location of the action. An indirect effect is caused by the action and might occur later in time or be farther removed in distance, but still be a reasonably foreseeable outcome of the action. For example, a direct effect of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.
- *Negligible, minor, moderate, or major.* These relative terms are used to characterize the magnitude or intensity of an impact. Negligible effects are generally those that might be perceptible but are at the lower level of detection. A minor effect is slight, but detectable. A moderate effect is readily apparent. A major effect is one that is severely adverse or exceptionally beneficial.
- *Adverse or beneficial*. An adverse effect is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial effect is one having positive outcomes on the man-made or natural environment. A single act might result in adverse effects on one environmental resource and beneficial effects on another resource.

3.2 LAND USE

This section addresses current land use conditions, plans, and policies affecting the proposed DHS JPC project area.

3.2.1 Definition of the Resource

The term "land use" refers to the relationship between people and the land, specifically, how the physical world is adapted, modified, or put to use for human purposes (ILG 2010). In many cases, land use descriptions are codified in local zoning laws. However, there is no nationally recognized convention or uniform terminology for describing land use categories.

In appropriate cases, the location and extent of a proposed action needs to be evaluated for its potential effects on a project area and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project area, the types of land uses on adjacent properties and their proximity to a proposed action, the duration of a proposed activity, and its permanence.

3.2.2 Affected Environment

The Farmland Protection Policy Act (FPPA) could be especially relevant to the location of the proposed JPC. This regulation is introduced in this section and discussed further in **Section 3.3**.

The intent of the FPPA is to minimize the extent that federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The FPPA seeks to protect important farmland, which includes prime farmland, unique farmland, and farmland of statewide or local importance as defined by the Natural Resources Conservation Service (NRCS). Determination of whether an area is considered important farmland and potential impacts associated with a proposed action are based on preparation of the Farmland Conversion Impact Rating Form (AD-1006).

Yuma County encompasses approximately 3,532,160 acres. There are three military installations in Yuma County: Marine Corps Air Station Yuma, Yuma Proving Ground, and Barry M. Goldwater Range. These military installations encompass approximately 57 percent of the total land in Yuma County. Of the 43 percent of non-military land in Yuma County, 47 percent of non-military land in unincorporated Yuma County is used for agricultural purposes, and a further 29 percent is being used as federal wildlife refuges, leaving 29 percent available for other types of land use.

Yuma County does not have specific land use classifications for the proposed alternative locations. From the 2022 EDR reports and the *Final Biological Survey Report of Two Parcels for the Proposed Yuma Joint Processing Center in Yuma, Yuma County, Arizona* (see **Appendix C**), it has been determined that the existing land use at both alternative locations are agricultural, undisturbed desert, developed, bare, and commercial land. In addition, nearby existing land use includes residential communities, commercial/industrial, institutional, and agricultural.

3.2.3 Environmental Impacts and Minimization Measures

Evaluation of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions with existing conditions. In general, a land use impact would be considered adverse if it were to meet one or more of the following requirements:

- Is inconsistent or in noncompliance with existing land use plans or policies.
- Precludes the viability of existing land use.
- Precludes continued use or occupation of an area.
- Results in incompatibility with adjacent land uses to the extent that public health or safety is threatened.
- Conflicts with planning criteria established to ensure the safety and protection of human life and property.

3.2.3.1 Alternative 1: Swap Meet Site

Alternative 1 would result in a change from the current land use of commercial use for the Swap Meet Site to a developed area in the form of the new JPC. The project area is currently used as a swap meet and storage area and has numerous temporary spaces/tents/canopies for swap meet vendors and two open-air shade structures used for storage (there are no side walls on these permanent structures). The project area is highly disturbed and has a grandstand building of which a portion is used for storage, and one permanent structure at the southern edge of the parcel, which was a former dog kennel. A large part of the project area consists of paved parking that accommodates over 400 vehicles. In addition to the paved parking area, almost half of the project area contains a former dog racing area, which is comprised of bare ground.

The closest highly developed area is Yuma, Arizona, and the proposed project area falls within the city limits. Adjacent land uses include a combination of agricultural, commercial, industrial, undeveloped, and institutional/military use. The closest residential area is immediately north of Alternative 1.

Alternative 1 would result in long-term, minor, adverse impacts on land use within the limits of disturbance. There are no known conflicts between Alternative 1 and objectives of federal, state, regional, or local land use plans, policies, or controls for the site. Construction activities would not impact the use of lands, nor would they cause a restriction to future land uses adjacent to the area.

Under Alternative 1, nearly the entire 40 acres would be temporarily disturbed from construction activities, although only approximately 85 percent of the project area would be permanently impacted by the construction, operation, and maintenance of the proposed JPC and ancillary support facilities. Overall, Alternative 1 would result in an increase of 14 acres in impervious surfaces. Alternative 1 would result in long-term, minor, adverse impacts on land use within the limits of disturbance as land use would not drastically change because the land is already

primarily developed. However, some land use changes would occur as the project area would no longer house the Yuma Swap Meet.

3.2.3.2 Alternative 2: Yuma Airport Authority Site

Alternative 2 would result in a change from the current land uses of agricultural and undeveloped for the Yuma Airport Authority site to a developed area for the new JPC. The project area consists of undeveloped vacant land and agricultural fields. The northwestern portion of the project area contains gravel piles. Three irrigation canals were also observed within the Alternative 2 project area. The western portion of the project area consists of bare ground, and the eastern portion consists of agricultural fields and a canal/irrigation system.

The closest highly developed area is Yuma, Arizona, and the project area falls within the city limits. Adjacent land uses include agriculture, commercial, and institutional. The closest residential area is north of Alternative 2. Under Alternative 2, nearly the entire 40 acres would be temporarily disturbed from construction activities, although only approximately 85 percent of the project area would be permanently impacted by the proposed JPC and ancillary support facilities. Alternative 2 would result in an increase of approximately 34 acres of impervious surfaces. Short-term, minor, adverse impacts on land use would result from temporary disturbance of ground surfaces, earthmoving activities, and grading within the project area during construction. Additionally, the implementation of Alternative 2 would result in long-term, minor, adverse impacts on land use as agricultural land would be lost. The loss in agricultural land would be minor as there is land of similar use in areas surrounding the APE.

Approximately 38 acres of NRCS farmland of statewide importance and prime farmland, if irrigated, have the potential of being directly converted to non-agricultural use from construction of the JPC and ancillary support facilities. Because there are signs of irrigation within the project area, the conversion of land from prime farmland and farmland of unique importance to non-agricultural use would result in short- and long-term, minor, adverse impacts on land use within the immediate or surrounding areas from the land use conversion. These adverse impacts would be minor because there is similar farmland in the surrounding areas.

There are no known conflicts between the Proposed Action and objectives of federal, state, regional, or local land use plans, policies, or controls for the site. Construction activities would not impact the use of lands, nor would they cause a restriction on future land uses adjacent to the site.

3.2.3.3 Alternative 3: Swap Meet Site With Net-Zero Technologies

Impacts from Alternative 3 would be the same or less than those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.2.3.4 No Action Alternative

No changes from those described in **Section 3.2.2** would occur. DHS would continue to use the existing soft-sided facility and the proposed JPC would not be constructed. As a result, no short- or long-term impacts on land use would be anticipated.

3.3 GEOLOGY AND SOILS

3.3.1 Definition of the Resource

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography and physiography, geology, soils, and, where applicable, geologic hazards and paleontology. 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 ability to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Important farmland is protected under the FPPA of 1981 (7 U.S.C. § 4201 et seq.). The intent of the FPPA is to minimize the extent that federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The NRCS is responsible for overseeing compliance with the FPPA and has developed the rules and regulations for implementation of the Act (7 CFR Part 658). For the purposes of the FPPA, important farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. The land could be cropland, pasture, rangeland, forest, or other land, but not urban developed land or water. The FPPA defines these important farmlands as follows:

- *Prime farmland:* Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and that is also available for these uses.
- *Unique farmland:* Land other than prime farmland that is used for the production of specific high-value food and fiber crops. Unique farmland is not based on national criteria.
- *Farmland of statewide or local importance:* Land that is of statewide or local importance other than prime or unique farmland that is used for the production of food feed, fiber, forage, or oilseed crops, as determined by the appropriate state or local government agencies (7 U.S.C. § 4201[c][1]).

Determination of whether an area is considered important farmland and potential impacts associated with a proposed action are based on the preparation of the Farmland Conversion Impact Rating form (AD-1006) for areas where farmland soils occur and by applying criteria established at Section 658.5 of the FPPA (7 CFR Part 658). Lands that receive a combined total site assessment score of less than 160 points on the Farmland Conversion Impact Rating Form are not covered by the FPPA (7 CFR § 658.2[a]).

3.3.2 Affected Environment

Regional Geography and Geology. Both alternative locations for the proposed JPC are within the Basin and Range physiographic region of Arizona. This region is characterized by arid mountain ranges, valleys, dunes, and deserts. The predominant geology consists of Quaternary-aged unconsolidated to strongly consolidated alluvial and aeolian deposits including the Quaternary Surficial deposits mapped geologic unit (see **Figure 3-1**) (USGS 2023a). Alluvial deposits are defined as sedimentary grains of loose soil that were transported and deposited by water, and aeolian deposits were loose sediments transported and deposited by wind (USGS 2023b, USGS 2023c). The Quaternary Surficial deposits geologic unit is characterized by coarse, poorly sorted alluvial fan and terrace deposits on middle and upper piedmonts and along large drainages; sand, silt, and clay on alluvial plains and playas; and wind-blown sand deposits (USGS 2023a).

Topography. The topography for both locations exhibits little topographic relief. Elevation within the site boundaries range from approximately 180 to 192 feet above mean sea level (USGS 2018a; USGS 2018b). There are no steep slopes within the project areas.

Soils. One soil type is present within both alternative locations (see **Figure 3-2**). The mapped soil unit within the project areas is the Superstition sand series (28), nearly level (USDA 2023). Superstition sand makes up 100 percent of the proposed project areas (37.5 acres) and is considered as farmland of unique importance. The typical profile of this map unit is sand from 0 to 5 inches below grade and sand from 5 to 60 inches below grade (USDA 2023). It is considered somewhat excessively drained, has low runoff, and rapid permeability. There is no reported erosion class for this soil unit.

Important Farmland. The NRCS bases important farmland soil determinations on the most recent soil survey for an area. The most recent soil survey for Yuma County was completed in 2022 (USDA 2023). Location 1 contains approximately 40 acres of Superstition sandy soil, which is considered farmland with unique importance (100 percent of the project area). Location 2 contains approximately 40 acres (100 percent of the project area) of the same soil type. Farmland of unique importance is defined as land other than prime farmland that is used to produce specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. This type of farmland has a special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops, when properly managed (USDA 2023). Unique farmland is not based on national criteria (USDA 2023). Based on a review of aerial photographs, Location 1 has not been used for agricultural purposes since approximately 1955 (EDR 2022). However, approximately half of the Location 2 is used for agricultural purposes but does not contain substantial on-farm investments (i.e., barns, irrigation, waterways, or soil conservation infrastructure) (EDR 2022).

Geologic Hazards. Landslides, earthquakes, and earth fissures are common throughout Arizona. Landslides and rockfalls can occur when unstable rock suddenly collapses and moves downslope. All parts of Arizona with exposed rock outcrops are subject to these gravity-driven geologic hazards (UA 2023). Earthquakes can happen when rock strata on either side of a geologic fault move relative to one another. While earthquakes are common in Arizona, they are

usually minor and do not cause structural damage to buildings (UA 2023). Earth fissures are large cracks that occur on valley floors that result from basin subsidence associated with extensive groundwater withdrawal. Earth fissures are a geologic hazard that can threaten people, property, and infrastructure. However, earth fissures are not common within Yuma County (UA 2023).

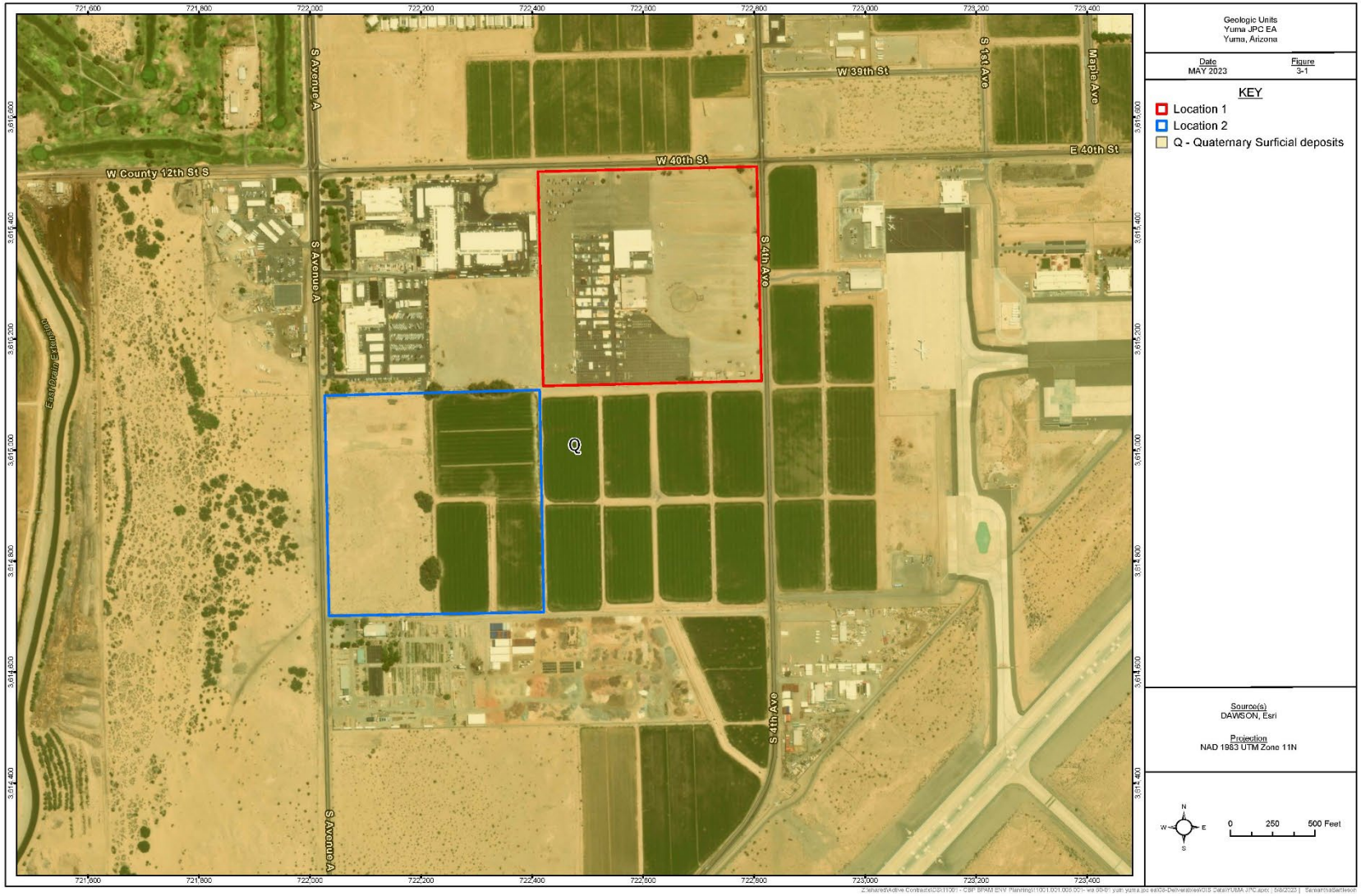

Figure 3-1 Locations 1 and 2 Site Geology

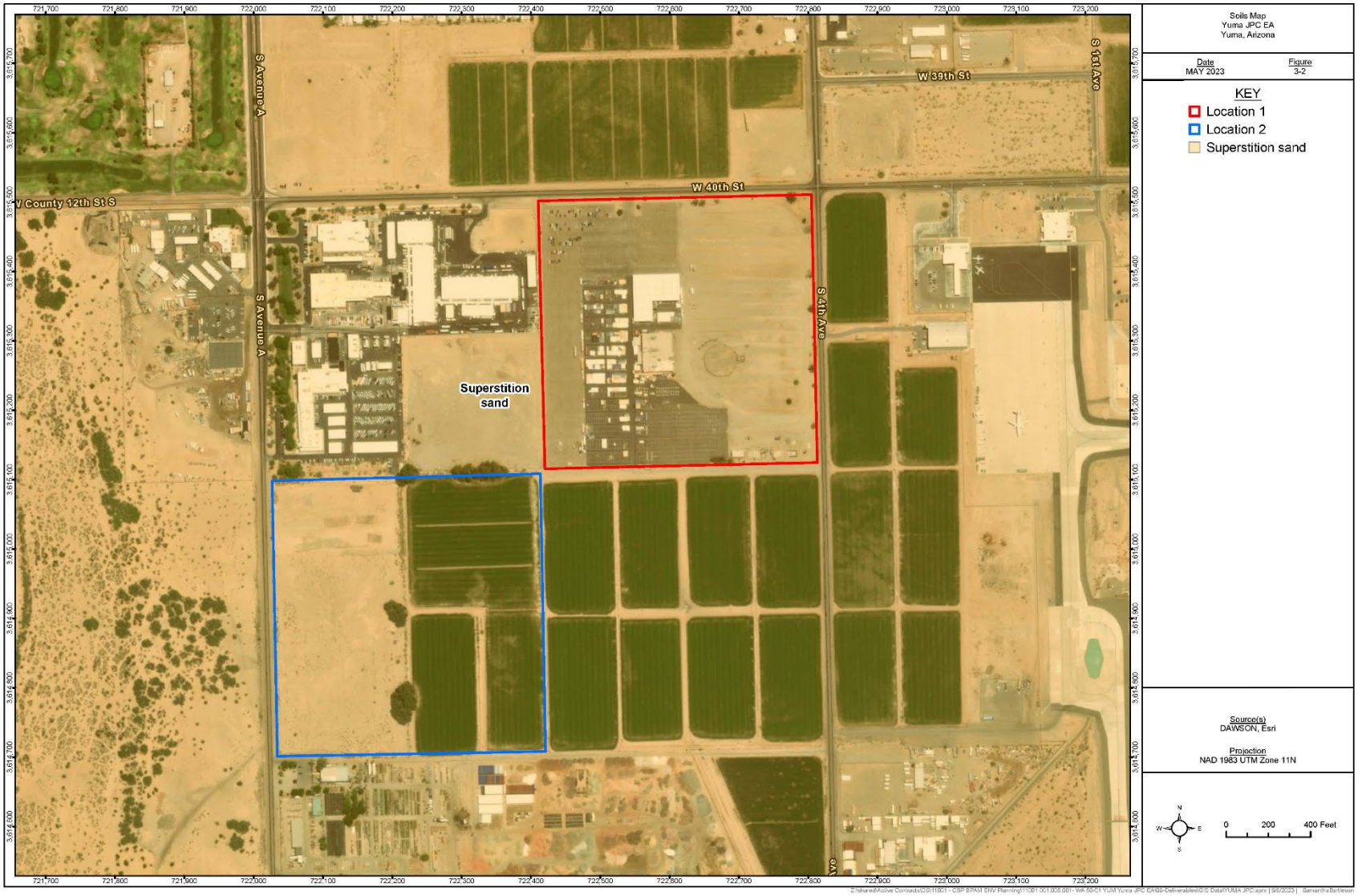

Figure 3-2 Locations 1 and 2 Site Soils

3.3.3 Environmental Impacts and Minimization Measures

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating potential impacts of a proposed action on geological resources. Generally, adverse impacts can be avoided or minimized if proper techniques, erosion-control measures, and structural engineering design are incorporated into project development.

Impacts on geology and soils would be adverse if they would alter the lithology (i.e., the character of a rock formation), stratigraphy (i.e., the layering of sedimentary rocks), and geological structures that dictate groundwater systems; change the soil composition, structure, or function within the environment; or increase the risk of geological hazards.

3.3.3.1 Alternative 1: Swap Meet Site

Regional Geology. No impacts on geology would be expected. Activities associated with the proposed construction, operation, and maintenance of the JPC and ancillary support facilities would not alter lithology, stratigraphy, or the geological structures that control the distribution of aquifers and confining beds.

Topography. Short- and long-term, minor, adverse impacts on topography would be expected from earthmoving and grading activities during construction. Topography would be altered to provide flat surfaces for the proposed JPC, ancillary support facilities and structures, and access roads. Impacts would be minor because the project area does not contain substantially steep slopes and is generally level. Earthmoving and grading would not be required for proposed maintenance and operations; therefore, no impacts on topography would be expected from these activities post-construction.

Soils. Short-term, minor, adverse impacts on soils would result from temporary disturbance of ground surfaces, earthmoving activities, and grading within the project area during construction. These activities would excavate soils and expose rock materials, temporarily remove vegetation in some areas, and expose soils to erosion. The use of trucks and construction equipment would result in soil compaction, which could also lead to increased rates of erosion and alter soil structure. These activities have the potential to adversely affect natural soil characteristics such as water infiltration, storage, and nutrient levels, thereby reducing soil productivity. Specific construction limitations and considerations would depend on the type of construction activity and the specific subsurface composition encountered.

In general, accelerated erosion of soils would be short-term during construction activities. Erosion would be minimized by appropriately siting and designing facilities while taking into account soil limitations, employing construction and stabilization techniques appropriate for the soil and climate, and implementing best management practices (BMPs) and erosion control measures. BMPs would include the installation of silt fencing and sediment traps, application of water to disturbed soil to reduce dust, and revegetation of disturbed areas as soon as possible following ground disturbance, as appropriate. CBP BMPs are provided in **Appendix D,** DHS would adopt these BMPs.

Soil stockpiles would be appropriately stabilized with temporary erosion control measures during construction, and with long-term measures according to the Stormwater Pollution Prevention Plan (SWPPP) and native plant revegetation plan during operation and maintenance of the

proposed JPC. Impacts would be localized to the proposed disturbance area due to the implementation of these measures and BMPs. Additionally, all soils within the proposed disturbance area have a slight erosion hazard. Therefore, short-term impacts, such as soil compaction or erosion from construction equipment would be minor.

Long-term, minor, adverse impacts from the increase in approximately 14 acres of impervious surfaces for the Proposed Action would also be expected. Reduced soil infiltration and soil productivity and increased runoff from additional impervious surfaces would occur; however, permanent runoff control measures would be implemented to prevent erosion and flooding in surrounding areas. These measures would reduce potential impacts from operations and maintenance.

Important Farmlands. Approximately 40 acres (100 percent of the project area) of NRCS farmland of unique importance (Superstitious sand, nearly level) has the potential of being directly converted to non-agricultural use from JPC construction. However, this location has not been used for agricultural purposes since the 1950s and is currently half developed with previous disturbance to the underlying soil. Because of this history and its urban location, the project area is not considered NRCS farmland. Additionally, of this approximate 40 acres, approximately 20 acres is considered pavement and not farmland (see **Section 3.4.2**). Therefore, long-term, minor, adverse impacts on farmland soils would be expected.

Geologic Hazards. Long-term, minor, adverse impacts could occur due to geological hazards. The proposed facilities would meet all building requirements outlined in applicable state and local building codes to minimize potential impacts from earthquakes.

While there are no slopes greater than 25 percent within the project area, implementation of BMPs and erosion control measures, as well as other appropriate preventative measures identified by federal, state, and local agencies, would be implemented where applicable to minimize potential impacts from landslides. These preventative measures could include regular drain and culvert maintenance, drainage ditch and channel maintenance, vegetation maintenance, and implementation of roadside stabilization measures.

3.3.3.2 Alternative 2: Yuma Airport Authority Site

Regional Geology. No impacts on geology would be expected. Activities associated with the proposed construction, operation, and maintenance of the JPC and ancillary support facilities would not alter lithology, stratigraphy, or the geological structures that control the distribution of aquifers and confining beds.

Topography. Short- and long-term, minor, adverse impacts on topography would be expected from earthmoving and grading activities during construction. Topography would be altered to provide flat surfaces for the proposed JPC, ancillary support facilities and structures, and access roads. Impacts would be minor because the project area does not contain substantially steep slopes and is generally level. Earthmoving and grading would not be required for proposed operations and maintenance; therefore, no impacts on topography would be expected from these activities post-construction.

Soils. Short-term, minor, adverse impacts on soils would result from temporary disturbance of ground surfaces, earthmoving and clearing activities, and grading within the proposed disturbance area during construction. These activities would excavate soils and expose rock

materials, temporarily remove vegetation in some areas, and expose soils to erosion. The use of trucks and construction equipment would result in soil compaction, which could also lead to increased rates of erosion and alter soil structure. These activities have the potential to adversely affect natural soil characteristics such as water infiltration, storage, and nutrient levels, thereby reducing soil productivity. Specific construction limitations and considerations would depend on the type of construction activity and the specific subsurface composition encountered.

In general, accelerated erosion of soils would be short-term during construction activities and minimized by appropriately siting and designing facilities, considering soil limitations, employing construction and stabilization techniques appropriate for the soil and climate, implementing BMPs and dust and erosion control measures. BMPs could include the installation of silt fencing and sediment traps, application of water to disturbed soil, and use of covers on all trucks hauling materials to and from the project area to reduce dust, and revegetation of disturbed areas as soon as possible following ground disturbance, as appropriate. Soil stockpiles would be appropriately stabilized with temporary erosion control measures during construction, and with long-term measures according to the SWPPP during operation and maintenance of the proposed JPC. Impacts would be localized to the proposed disturbance area with the implementation of these measures and BMPs. Additionally, all soils within the proposed disturbance area have a slight erosion hazard. Therefore, construction activities would result in short-term, minor, adverse impacts.

Long-term, minor, adverse impacts would be expected from the increase of approximately 34 acres of impervious surfaces from Alternative 2. Reduced soil infiltration and soil productivity and increased runoff from additional impervious surfaces would occur; however, permanent runoff control measures would be implemented to prevent erosion and flooding in surrounding areas. These measures would reduce potential impacts from operations and maintenance.

Important Farmlands. In accordance with the FPPA, a Farmland Conversion Impact Rating Form (AD-1006) was completed for Alternative 2 and submitted to NRCS to determine the impacts on important farmland soils within the project area. The total site assessment 'score' returned by NRCS defines if land is subject to the FPPA and is an indicator of the potential adverse impacts on the farmland if it exceeds 160 points. Alternative 2 had a total site assessment score of 56. NRCS noted that Alternative 2 could proceed because the project area is within an urban development area (see **Appendix E**). Therefore, the project area is not designated as NRCS farmland.

Long-term, moderate, adverse impacts on important farmland soils would be expected. Approximately 40 acres of the project area have the potential of being directly converted to non-agricultural use from JPC construction.

Geologic Hazards. Long-term, minor, adverse impacts could occur from geological hazards. The proposed JPC and ancillary support facilities would meet all building requirements outlined in applicable state and local building codes to minimize potential impacts from earthquakes.

While there are no slopes greater than 25 percent within the project area, implementation of BMPs and erosion control measures, as well as other appropriate preventative measures identified by federal, state, and local agencies, would be implemented where applicable to minimize potential impacts from landslides. These preventative measures could include regular

drain and culvert maintenance, drainage ditch and channel maintenance, vegetation maintenance, and implementation of roadside stabilization measures.

3.3.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts from Alternative 3 would be the same as those described for Alternative 1 (use of commonly used or typical operations for utilities such as electricity, wastewater, and potable water). The installation and maintenance of the VF and solar systems may involve ground disturbing activities, such as excavation or alteration, of the surrounding soil, which could have local impacts to soil. The solar system might have different impacts depending on whether the system is mounted on a rooftop, or on parking canopies. Installation of solar array technologies would be similar to installation of appurtenant facilities and utilities discussed under Alternative 1. Impact on soils from the VF and solar systems would be minor and short-term compared to construction of the JPC or activities proposed at this site location. The same BMPs would be used as described for Alternative 1.

3.3.3.4 No Action Alternative

Under the No Action Alternative, a new JPC would not be constructed, and DHS would continue to use the existing SSFs. No buildings or other facilities would be constructed, and geological conditions would remain as described in **Section 3.3.2**. No impacts on geological resources would be expected.

3.4 BIOLOGICAL RESOURCES (VEGETATION, TERRESTRIAL AND AQUATIC WILDLIFE, SPECIAL STATUS SPECIES)

3.4.1 Definition of the Resource

Biological resources include native or naturalized plants and animals and the habitats in which they occur, and native or introduced species found in landscaped or disturbed areas. Protected species are defined as those listed as threatened, endangered, or proposed or candidate for listing by the USFWS or Arizona Game and Fish Department (AZGFD). Federal species of concern are not protected by the ESA; however, these species could become listed, and therefore are given consideration when addressing impacts of an action on biological resources. Certain avian species are protected by the MBTA and BGEPA.

Sensitive habitats include those areas designated by the USFWS as critical habitat protected by the ESA and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer/winter habitats).

Habitat conditions observed in the project area were used to evaluate the potential for occurrence of special status species based on these searches and the professional expertise of the investigating biologists. The potential for each special status species to occur in the project area was then evaluated according to the following criteria:

- *No Potential.* Habitat on and adjacent to the project area is clearly unsuitable for the species' requirements. For wildlife, this is based on a lack of one or more essential habitat elements (foraging, breeding, cover, substrate, elevation, hydrology, plant

community, site history, disturbance regime). Surveys for threatened and endangered species, which may require multiple surveys at specific times of the year are not considered necessary.

- *Unlikely*. Few of the habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the project area is unsuitable or of very poor quality. The species is not likely to be found on the project area. Species surveys as described above are not considered necessary but could be performed to confirm species absence.
- *Moderate Potential*. Some of the habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the project area is unsuitable. The species has a moderate probability of being found on the project area. Species surveys could be necessary to determine presence, extent, density, and details of species distribution.
- *High Potential*. Most or all of the habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the project area is highly suitable. The species has a high probability of being found on the project area. If species surveys are not conducted, then it is recommended that the species is assumed to be present. Species surveys could be necessary to determine extent, density, and details of species distribution.
- *Present*. Species was observed on the project area or has been documented recently as being on the project area. Focused species surveys could still be needed to determine extent, density, and details of species distribution.

3.4.2 Affected Environment

This section includes a description of biological resources, including vegetation, wildlife, and special status species, occurring within the boundaries of the two alternative locations. DAWSON scientists conducted reconnaissance-level biological surveys of Location 1 on November 10, 2022, and Location 2 on January 25, 2023. The surveys are described in greater detail in a biological survey report (see **Appendix C**).

Vegetation

Both locations are within the Lower Colorado River Valley Subdivision of the Sonoran Desert scrub biotic community. Vegetation in this community consists primarily of common desert annuals, creosote bush (*Larrea tridentata*), Mojave sea-blite (*Suaeda nigra*), saltbush (*Atriplex spp.*), and other non-native species. Both locations also fall within the Basin and Range Physiographic Province of southwestern Arizona, which is characterized by northwest-to-southeast trending fault block mountain ranges separated by broad alluvial valleys. Elevations range from 184 to 188 feet (56 to 57 meters) above mean sea level (Brown 1994).

As defined by the U.S. Forest Service, both sites fall within the American Semidesert and Desert Province (322). This ecoregion covers 77,000 square miles of California, Arizona, Nevada, and Utah. The climate in this region is best known for its long and high temperature summers. The highest temperature ever recorded in the United States was within this ecoregion, recording 134 degrees Fahrenheit (°F) in 1913 at Death Valley. The average annual temperature in this ecoregion is 60°F to 75°F. While winters are moderate, the entire province is subject to frost on occasion. Rain is widespread and moderate in the winter, but often present as thunderstorms in

the summer. In the Colorado and Mojave deserts of southeastern California, nearest to the sites, there are virtually no summer rains. Vegetation is sparse with bare ground between individual plants. Cacti and thorny shrubs are prevalent, but many thornless shrubs and herbs are also present (Bailey 1995). Both locations, however, are in a developed, suburban setting with agriculture and cleared land, including the county airport and ancillary parcels dominating the immediate area.

The land cover types mapped within the survey area included bare ground, pavement, and cropland, none of which is classified as sensitive (see **Table 3-1**). A vegetation/ground cover map is shown in **Figure 3-3**.

Table 3-1 Vegetation and Ground Cover Occurring in the Alternative Locations

Ground Cover	Acres for Location 1 Project Area	Acres for Location 2 Project Area
Bare Ground	17	21
Pavement/Blacktop	21	0
Cropland	0	18
TOTAL	38	39

Note: Acreages are approximate.

Figure 3-3 Location 1 and 2 Vegetation Map

Location 1 is a topographically flat parcel at the southwest intersection of West 40th Street and South 4th Avenue. Location 1 is currently in use as the Yuma Swap Meet. Location 1 includes numerous temporary and permanent shade structures for vendors, one approximately 41,860 ft^2 building, and one approximately 1,500 ft^2 dog kennel. Ingress/egress to the project area is via the main entrance on West 40th Street, or on South 4th Avenue or the unpaved access road on the southern side of the parcel. The entire project area is surrounded by a chain-link fence. Approximately half of the project area is asphalt paved, and the other half is bare ground. Vegetation recorded was mainly found along the edge of the parcel.

Location 2 is a topographically flat parcel used for agriculture and immediately south of the existing Yuma BPS. The western boundary of the parcel consists of South Avenue A and multiple utility corridors. South of the parcel is a commercial property. The eastern and southern boundaries have open canals for irrigation. Location 2 was observed to have an active open concrete-lined irrigation canal through the southern half of the agriculture field, and another one on the southern and eastern parcel boundary. The concrete canals were observed to be in deteriorating condition in some areas. Water was observed to be flowing in some of the canals at the time of the survey. The northwestern quarter of the 38-acre survey area is heavily disturbed by multiple episodes of grading and gravel filling and contains small piles of gravel. The southwestern quarter of the parcel is disturbed natural desert consisting of bare ground and scattered native and ruderal vegetation (plants growing on waste ground or among refuse). The remaining portion of Location 2 is in-use agricultural fields currently growing alfalfa. As with Location 1, minimal vegetation was observed at Location 2.

Table 3-2 lists the vegetation observed at both locations.

Native Vegetation. Minimal native vegetation was mapped in the alternative locations—the vegetation that was observed was primarily agricultural (alfalfa) or invasive.

Non-Native Vegetation. Most of the vegetation observed at the alternative locations was non-native. Overall, however, it is considered a minimal amount of non-native vegetation because there was only scattered vegetation. It was primarily found along the edges of both locations.

Table 3-2 Vegetation Observed at Locations 1 and 2

Common Name	Scientific Name	Growth Form
Location 1		
Tamarisk	*Tamarix ramosissima*	T
Common thistle	*Cirsium vulgare*	F
Bermuda grass	*Cynodon dactylon*	G
White bursage	*Ambrosia dumosa*	S
Location 2		
Tamarisk	*Tamarix ramosissima*	T
White bursage	*Ambrosia dumosa*	S
Alfalfa (Crop)	*Medicago sativa*	F

Key: T= Tree, S = Shrub, F= Forb, G = Grass

Local Special Status Vegetation Species. No state special status vegetation species were mapped within the alternative locations. AZGFD maintains a county list of plants and wildlife designated extirpated, endangered, threatened, and species of special concern (AZGFD 2023). Forty-one wildlife species are listed for Yuma County. The list of these species is included in **Appendix C**. However, no state special status vegetation species were mapped within either location.

The NatureServe Biodiversity Report provides data for a 340 square mile area that includes the alternative locations. According to this report, the following seven special status vegetation species have been found: Wiggins' Croton (*Croton wigginsii)*, Flatseed Spurge (*Euphorbia platysperma)*, Cottontop Cactus (*Echinocactus polycephalus)*, Blue Sand Lily (*Triteleiopsis palmeri)*, Algodones Dunes Sunflower (*Helianthus niveus ssp. Tephrodes)*, Giant Spanish-needle (*Palafoxia arida var. gigantea),* and Cottontop Cactus (*Echinocactus polycephalus var. polycephalus)* (NatureServe 2023).

Terrestrial and Aquatic Wildlife Resources

Terrestrial and aquatic wildlife resources include native or naturalized terrestrial and aquatic animals and the habitats in which they exist. This section includes a description of terrestrial and aquatic wildlife species and their habitats that are likely to be found in both locations. In November 2022, DAWSON reviewed publicly available data from AZGFD Natural Heritage Program, NatureServe Explorer, eBird, and iNaturalist. Each platform provides information regarding species occurrences and their habitats. Federally listed threatened, endangered, and candidate species and state-listed threatened and endangered wildlife species are addressed in **Section 3.4.2.3**.

Terrestrial Resources. Both alternative locations are capable of supporting various wildlife species, including mammals, birds, reptiles, and amphibians.

Both alternative locations offer limited habitat for wildlife. During the site surveys, DAWSON scientists observed the following wildlife, or signs of wildlife (see **Table 3-3**).

Table 3-3 Wildlife Observed During Site Surveys

Common Name	Scientific Name
Location 1	
Red Tailed hawk	*Buteo jamaicensis*
Field mouse	*Apodemus sylvaticus*
Location 2	
Mourning Dove	*Zenaida macroura*

During the surveys, DAWSON examined all areas of the alternative locations for existing/former nests or evidence of avian species. The bird breeding season in Yuma is approximately February to early September. Limited vegetation exists at both locations. DAWSON did not observe any former nests in shrubs or trees within the alternative locations. DAWSON observed a raptor flying overhead at Location 1 and mourning doves at Location 2. The surveys were conducted outside of the breeding season.

Aquatic Resources. Canals for irrigation are present at Location 2 and water was present in them during the site visit; however, the canals are concrete lined. No aquatic resources were identified at either alternative location.

Local Special Status Terrestrial Species. No state special status terrestrial or aquatic species were mapped within the alternative locations. AZGFD maintains a county list of plants and wildlife designated extirpated, endangered, threatened, and species of special concern (AZGFD 2023). Fifty-three wildlife species are listed for Yuma County. The list of these species is in **Appendix C**.

Federally Threatened and Endangered Species and Critical Habitat

Federally threatened and endangered species are commonly protected because their historic range and habitat have been reduced and will only support a small number of individuals. Some species have declined for natural reasons, but declines are commonly exacerbated or accelerated by anthropogenic influences. Anthropogenic influences that have contributed to reduced range and habitat availability and reduced populations include agriculture, livestock grazing, urban development and road construction, overcollection, trampling and off-road vehicle use, hydrologic modifications, and altered fire regimes. Once natural vegetation and habitat are disturbed, introduced species can colonize more readily and out-compete native species. Some species occupy specific niches, so even minor alterations are not well-tolerated.

Table 3-4 includes the USFWS Information for Planning and Consultation (IPaC) list of the one mammal, one insect, and three birds that have the potential to occur at or in the vicinity of the alternative locations (accessed November 2022). The monarch butterfly (*Danaus plexippus*) is currently a candidate species under Section 7 of the ESA, and is not yet proposed for listing; therefore, consultation with USFWS would not be required if an action was proposed that could impact suitable habitat for this species (USFWS 2023).

Following the biological surveys, it was determined that there is no suitable habitat for any of the federally threatened and endangered species at or near the alternative locations. While milkweed that would serve as host plants for the monarch butterfly were not observed at the alternative locations, if cotton is grown as a rotational crop, this could provide occasional habitat at the alternative locations to support foraging for the monarch butterfly. The monarch butterfly is currently a candidate species under Section 7 of the ESA, and is not yet proposed for listing; therefore, consultation with USFWS would not be required if a project was proposed that might impact suitable habitat for the species. A copy of the IPaC list is provided in **Appendix C**.

Critical Habitat. There is no designated critical habitat that overlap the alternative locations.

Table 3-4 Federally Threatened and Endangered Species and Critical Habitat Potential to Occur at Locations 1 and 2

Common Name	Scientific Name	Status	Critical Habit	Habitat Description	Suitable Habitat Description
Mammals					
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	EXPN	None	Dry plains and deserts, prefer broad, alluvial valleys separated by granite mountains and mesas	None, no suitable habitat is located at or near the alternative locations.
Insects					
Monarch Butterfly	*Danaus plexippus*	Candidate	None	Fields, Roadside areas, open areas, urban gardens with milkweed and flowering plants	None, unless cotton is rotationally grown.
Birds					
Southwestern Willow Flycatcher	*Empidonax trailli extimus*	Endangered	Yes, does not overlap the project areas	Dense riparian vegetation near surface water or saturated soil	None, no suitable habitat is located at or near the alternative locations.
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened	Yes, does not overlap the project areas	Woodlands with low, scrubby, vegetation, abandoned farmland and dense thickets along streams and marshes	None, no suitable habitat is located at or near the alternative locations.
Yuma Ridgeway's Rail	*Rallus obsoletus yumanensis*	Endangered	None	Fresh-water marshes dominated by cattail or bulrush, or marshes with little residual vegetation	None, no suitable habitat is located at or near the alternative locations.

Source: IPaC, USFWS 2023; Key : EXPN=Experimental population, Non-essential

3.4.3 Environmental Impacts and Minimization Measures

Impacts on vegetated habitat would be considered major and adverse if these impacts permanently affect the range of a sensitive species or population size of a rare plant community.

Impacts on wildlife and aquatic resources would be considered major and adverse if the impacts substantially reduce ecological processes or populations. A substantial reduction is one that threatens the long-term viability of a sensitive species, or results in the substantial loss of a sensitive species' habitat that could not be offset or otherwise compensated.

Effects on threatened and endangered species would be major and adverse if the species or habitats are adversely affected over relatively large areas, or if any of the following occur:

- Permanent loss of occupied, critical, or another suitable habitat
- Temporary loss of critical habitat that adversely affects recolonization by threatened or endangered resources
- Take (as defined under the ESA) of a threatened or endangered species.

3.4.3.1 Alternative 1: Swap Meet Site

Vegetation

Short-term, direct, negligible, adverse effects on vegetation would occur as a result of Alternative 1. Because Alternative 1 consists of bare and paved ground, construction activities would only impact vegetation—primarily non-native—that has grown along the edges of the parcel. Long-term, the project area would likely be fully developed, with approximately 34 acres covered by buildings and impervious surfaces that would preclude any regrowth. No acreage of habitat would be impacted under Alternative 1.

Construction could result in an increase in fugitive dust emissions, which can hinder plant growth and have an overall negative impact on vegetation (see **Section 3.6** for a discussion on air quality). A fugitive dust plan that would include dust suppressants or adhesive soil stabilizers, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means of reducing airborne dust would be implemented to reduce or eliminate this impact. There would not be a permanent increase in levels of fugitive dust emissions during JPC operation and maintenance.

Vegetation and vegetation communities could be adversely impacted if chemical or petroleum product spills were to occur during construction or operation and maintenance of the proposed JPC and the ancillary support facilities. Spills could potentially leach into soils and harm vegetation outside of the previously disturbed area. CBP BMPs identified in **Appendix D** would be adopted by DHS, including the development and implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan, would likely reduce or eliminate these impacts.

Recently disturbed soils, such as those at the project area during and after construction, could have an increased potential for invasive species spread and establishment, such as tamarisk and buffelgrass, which is already scattered throughout the project area. These non-native plants,

particularly grasses, could also alter fire regimes by increasing fire frequency resulting in further degradation of the native vegetation communities. Protocol for cleaning vehicles and equipment to avoid the spread of invasive species would be followed, and invasive infestations would be managed during construction activities. All fill material would be certified weed-free. These CBP BMPs, which would be adopted by DHS, are further described in **Appendix D**.

Terrestrial and Aquatic Wildlife Resources

effects on wildlife. Because the project area is already developed, no loss of wildlife habitat would result from the Proposed Action.

Potential impacts on wildlife include habitat removal, construction-related ground disturbance, and noise. Some individuals, such as, mammals, migratory breeding birds, and reptiles would likely relocate to other nearby suitable habitat and avoid the project area once construction activities commence. Smaller, less mobile species, like some insects and spiders, could be inadvertently impacted during construction activities. Wildlife could additionally be impacted during the transportation of materials, equipment, and personnel during project activities. To minimize these effects, necessary construction turnouts and equipment and laydown areas would be placed in previously disturbed areas and construction crews would be expected to obey the posted speed limit driving to and from the project area.

Temporary, adverse effects on wildlife due to noise during construction would be expected, but the effects should be short-term in nature and are likely to be negligible as there is sufficient habitat for wildlife to move away from project-related noise. Project-specific, noise-reducing BMPs would be implemented to decrease impacts, such as construction only occurring during daylight hours and properly maintaining all motor vehicles. Noise levels at the JPC and ancillary support facilities would return to pre-construction levels immediately following completion of construction activities. Noise associated with the proposed JPC and ancillary support facilities would be permanent; however, the facilities associated with the Proposed Action would be adjacent to existing industrial facilities. Therefore, noise associated with construction and operation of the JPC and ancillary support facilities is not anticipated to significantly impact wildlife in the project area.

To minimize effects on nesting migratory birds, DHS would conduct surveys prior to project activities, to identify active nests of migratory bird species, and take appropriate steps to avoid disturbing these areas until migratory bird nesting activities at that location are complete.

Federally Threatened and Endangered Species and Critical Habitat

Given the lack of suitable habitat, Alternative 1 would have no effect on any federally threatened or endangered species or their habitat. Under Section 7 of the ESA, when an agency determines a no effect, no further consultation with the USFWS is required.

3.4.3.2 Alternative 2: Yuma Airport Authority Site

Vegetation

Alternative 2 would result in impacts that are similar to, but slightly greater than those described for Alternative 1. Short-term, direct, negligible, adverse effects on vegetation would occur from

Alternative 2. Because Alternative 2 consists of a combination of bare ground, canals, and cropland, construction activities would only minimally impact native vegetation. No acreage of habitat would be impacted by Alternative 2.

Terrestrial and Aquatic Wildlife Resources

Alternative 2 would result in impacts that are similar to, but slightly greater than those described for Alternative 1. Short-term, direct and indirect, minor, adverse effects on wildlife would occur from Alternative 2. Because some small wildlife including mammals, birds, reptiles, and amphibians could live in the cropland, the permanent loss of 17.9 acres of wildlife habitat would result when this portion of the project area is developed. However, it should be noted that because rotational crops are cut on a regular basis, this habitat currently only exists on a temporary basis.

Threatened and Endangered Species

As with Alternative 1, given the lack of suitable habitat, Alternative 2 would have no effect on any threatened or endangered species or their habitat. Under Section 7 of the ESA, when an agency determines a no effect, no further consultation with the USFWS is required.

3.4.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts from Alternative 3 would be the same as those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.4.3.4 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities and DHS personnel would continue to use the existing SSFs. Biological resources would remain as described in **Section 3.4.2**. No additional impacts on vegetation, wildlife, and protected species would be expected.

3.5 WATER RESOURCES

3.5.1 Definition of the Resource

Water resources are natural and man-made sources of water that are available for use by, and for the benefit of, humans and the environment. Water resources relevant to the location of the Proposed Action near the city of Yuma, Arizona, include groundwater, surface waters, wetlands, and floodplains.

Groundwater. Groundwater is water that exists in the saturated zone beneath the Earth's surface that collects and flows through aquifers and is used for drinking, irrigation, and industrial purposes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water quality, and recharge rates.

Surface Water and Wetlands. Surface water includes natural, modified, and man-made water confinement and conveyance features above groundwater that may or may not have a defined channel and discernable water flow. Stormwater is an important component of surface water

systems because of its potential to introduce sediments and other contaminants that could degrade surface waters, such as lakes, rivers, or streams. Energy Independence and Security Act (EISA) Section 438 (42 U.S.C. § 17094) establishes into law stormwater design requirements for federal development projects that disturb a footprint of greater than 5,000 ft^2. Under these requirements, pre-development site hydrology must be maintained or restored to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow.

Water quality standards are regulated by the U.S. Environmental Protection Agency (USEPA), under the Safe Drinking Water Act and the CWA. Section 303(d) of the CWA requires states to identify and develop a list of impaired water bodies where technology-based and other required controls have not provided attainment of water quality standards. The CWA also establishes federal limits, through the NPDES permit process, for regulating point and non-point discharges of pollutants into the Waters of the United States (WOTUS) and quality standards for surface waters. The term "Waters of the United States" has a broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands).

USACE regulates WOTUS under authority of the Section 404 of the CWA and under the Rivers and Harbors Act of 1899. WOTUS is defined in the CFR as traditionally navigable waters that are susceptible to use in commerce or subject to the ebb and flow of the tide, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR § 328.3). The Arizona Department of Environmental Quality (ADEQ) is responsible for conducting Section 401 certification reviews of all permits issued in Arizona under the Section 404 Nationwide Permitting and Individual Permit Program.

Wetlands are a protected resource under EO 11998, *Protection of Wetlands*, as amended by EO 11988, "to avoid to the extent possible the short- and long-term, adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." Wetlands have been defined by agencies responsible for their management.

Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "non-wetland waters" and are characterized by an Ordinary High Water Mark. Non-wetland waters generally include lakes, rivers, streams, and other open-water habitats.

Floodplains. Floodplains are areas of low, level ground present along rivers, stream channels, or coastal waters that are subject to periodic or infrequent inundation because of rain or melting snow. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain as an area within which there is a one percent chance of inundation by a flood event in a given year, or a flood event in the area once every 100 years. EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and to avoid floodplains to the maximum extent possible wherever there is a practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988, as amended by EO 13690, outlined in the FEMA document *Further Advice on EO 11988 Floodplain Management*.

Floodplains within the United States are protected under EO 11988, which requires federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of appropriate FEMA Flood Insurance Rate Maps (FIRMs), which contain enough general information to determine the relationship of the project area to nearby floodplains. If a federal agency action encroaches within the floodplain and alters the flood hazards designated on a FIRM (e.g., changes to the floodplain boundary), an analysis reflecting any changes must be submitted to FEMA.

3.5.2 Affected Environment

Groundwater

The alternative locations traverse the Yuma Basin, which covers approximately 792 square miles of southwestern Arizona. The basin is bound by the Gila and Tinajas Atlas Mountains to the east, the Colorado River to the west, and the Yuma Desert to the south (ADWR 2009). Tertiary and Quaternary basin fill is the primary aquifer in the Yuma Basin. The aquifer is divided into three zones: the upper fine-grained zone, the coarse-gravel zone, and the wedge zone. The wedge zone is the major water-bearing deposit. The general groundwater flow direction is from the Colorado and Gila rivers southward under the Yuma Mesa. Groundwater in the Yuma Basin contains elevated concentrations of total dissolved solids, arsenic, lead, agricultural pesticides, nitrate, and organic compounds.

Groundwater storage estimates in the Yuma Basin range from 34 to 49 million acre-feet to a depth of 1,200 feet (ADWR 2009). Depth to water ranges between 160 and 300 feet. Well yields in this area are generally greater than 200 gallons per minute. The natural recharge estimate for the Yuma Basin is 213,000 acre-feet per year. Prior to development, nearly all groundwater recharge came from the Colorado and Gila rivers. A substantial amount of recharge comes from irrigation water percolating underground.

Using net-zero technologies, such as AWG, additional water resources could be extracted and utilized to expand the amount of water available at all three alternative locations. AWG systems employ condenser and cooling technology to generate potable water from humidity in the surrounding air, thus reducing the need to use local drinking water resources and stress natural systems, such as local groundwater. The feasibility of an AWG system at the Yuma JPC is dependent on cost, feasibility given climate conditions at the site, and need for potable water. The use of an AWG system could also increase energy needs, though the proposed solar power system can be designed to compensate for this and, in turn, make the AWG technology self-sustaining. The alternative locations would not traverse an Active Management Area or Irrigation Non-Expansion Area.

Surface Water and Wetlands

The alternative locations lie within the Colorado-Lower Gila watershed, which encompasses 14,459 square miles (Arizona NEMO 2010, ADEQ undated). The watershed receives approximately 3 to 10 inches of precipitation per year. The watershed contains a total of 14,500 miles of major streams, of which most are intermittent or ephemeral. The Colorado River, a perennial water body, is approximately seven miles west of the project areas and is Yuma's main source of drinking water (City of Yuma 2022a). In 2018, the portion of the

Colorado River that runs near Yuma was delisted from 303(d) list of impaired water bodies (ADEQ 2018).

The U.S. Bureau of Reclamation announced a Tier 2a Water Shortage in August 2022, triggering water shortages for calendar year 2023. This declaration required Arizona to reduce its consumption of Colorado River water by 592,000 acre-feet. Tier 2a water shortages do not impact the water supply in Yuma (City of Yuma 2023a). However, the use of AWG would decrease the reliance on surface resources to provide potable water during operations. Not only would AWG systems decrease reliance on already-stressed natural water supplies in Arizona's arid environment, but it would also support the propulsion toward successfully meeting the goals of EO 14057.

A wetland delineation of the project areas was conducted on November 10, 2022, and January 25, 2023, in accordance with *Section D, Subsection 2, of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual*, and the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (USACE 1987, USACE 2012). No jurisdictional and non-jurisdictional wetlands or WOTUS were observed at either alternative location during the survey (see **Appendix C**). Location 2 has approximately 2,100 linear feet of active open concrete-lined irrigation canals through the southern portion of the agriculture field and on the southern and eastern parcel boundary (see **Figure 3-4**). The canals are concrete lined and do not exhibit wetland or riparian characteristics, such as hydric soils, hydrophytic vegetation, and do not exhibit hydrology naturally/under normal circumstances. Canals and irrigation ditches are not wetlands or WOTUS and are exempt from federal jurisdiction.

A desktop review of the National Wetlands Inventory (NWI) for the project areas was conducted during October 2022. NWI depicts one palustrine wetland feature in the southeast section of Location 1; however, this mapped wetland is a former pond created to supply water for the racetrack when it was operational in this area. The wetland was not observed during the survey.

Floodplains

A review of FIRMs shows that the alternative locations are in a moderate flood risk area subject to 0.2 percent annual chance flood (Zone X [shaded]) (FEMA 2009) (see **Figure 3-5**).

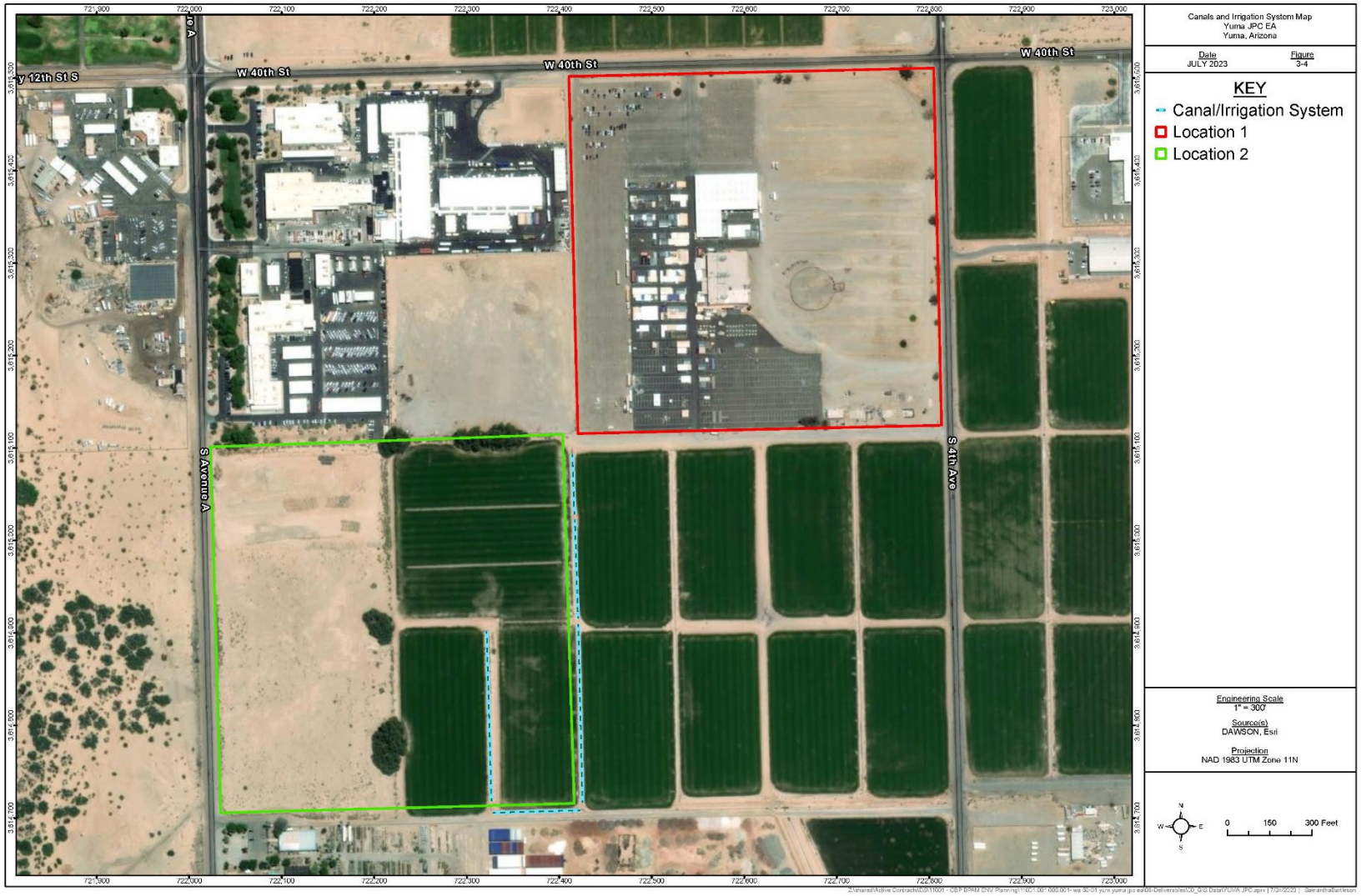

Figure 3-4 Location 2 Irrigation Canals

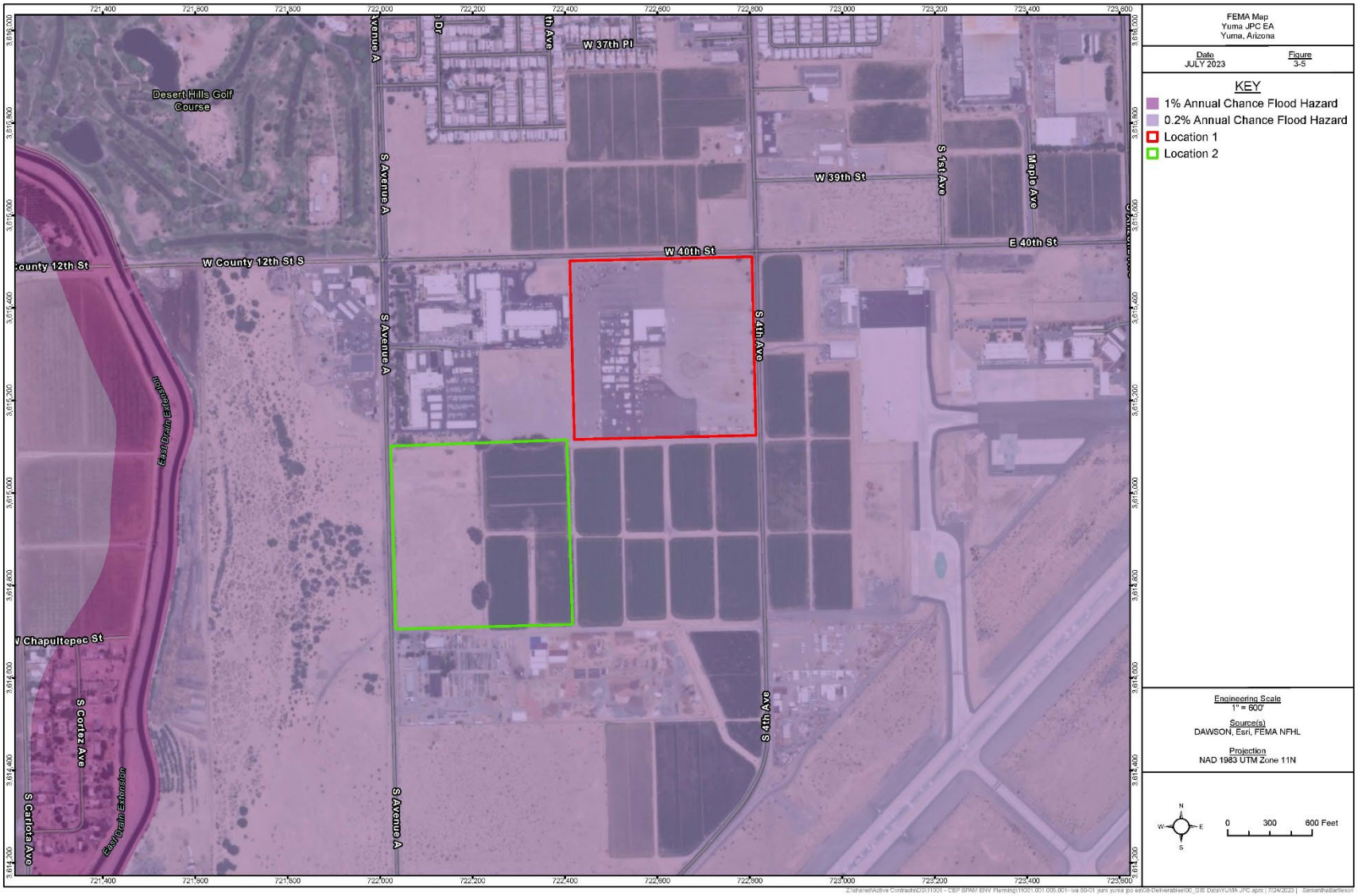

Figure 3-5 Floodplain Map for Locations 1 and 2

3.5.3 Environmental Impacts and Minimization Measures

3.5.3.1 Alternative 1: Swap Meet Site

Groundwater

Alternative 1 would result in short- and long-term, negligible, adverse impacts on groundwater resources. Since this area primarily relies on surface water for potable water, only minimal amounts of groundwater would be used for water consumption. During construction, soil disturbances could lead to increased sediment transportation during rainfall events that could eventually enter groundwater through recharge points. Implementation of BMPs and planning during construction could minimize such impacts by controlling the movement of surface water runoff and ensuring no direct access to groundwater recharge points. BMPs could include using temporary construction of barriers such as fiber logs or silt fences, which would be placed based on site-specific evaluations on an as-needed basis.

Vehicles and equipment used during Alternative 1 could increase the potential for petroleum or hazardous material spills, typically from leaks or accidents at the work site. Any such leaks or spills could be transported to groundwater either by surface water runoff or soil leaching. Proper housekeeping, maintenance of equipment, and containment of fuels and other potentially hazardous materials would be conducted to minimize the potential for an unintended release of fluids. With implementation of BMPs and minimal groundwater recharge in the area, Alternative 1 would result in negligible impacts on groundwater.

Surface Water and Wetlands

Short- and long-term, minor, adverse impacts would be expected during construction and maintenance of the JPC and ancillary support facilities. Due to the seven-mile distance between the project area, the Colorado River, and the proposed development of the stormwater management system, Alternative 1 is unlikely to cause adverse impacts on jurisdictional waters. The proposed stormwater system includes two stormwater detention ponds that would collect water from the conveyance systems throughout the project area (see site plan in **Appendix B**). Erosion-control BMPs would be adopted to maintain runoff on-site minimizing the potential for adverse impacts on downstream water quality. Pertinent federal, state, and local permits would be obtained for any work, including work that could occur near ephemeral drainages. Short-term, adverse impacts on surface water resources would be expected from the increased demand for water during construction activities.

Short-term, minor, adverse impacts on surface water resources would be expected from the increased demand for water during construction activities. Long-term, minor, adverse impacts would occur from the water demand on the Yuma Utilities Systems Division. As discussed in **Section 3.9.3**, the annual potable water demand for the proposed JPC would be approximately 6.4 to 10.9 million gallons per year, which is approximately 0.001 percent of the municipal water demand for the Yuma Basin in 2005 (ADWR 2009). Alternative 1 is not expected to impact water availability from the Colorado River, since the quantity of water that would be used over time by DHS is negligible relative to the water used by all other residential, commercial, or agricultural consumers in the state.

Additionally, vegetation clearing and an increase of approximately 14 acres in impervious surfaces would result in an increase in the volume and velocity of stormwater flow. Design of the stormwater management system for the new JPC would include appropriate long-term control measures and stormwater runoff control techniques to comply with EISA Section 438 to reduce, limit, and control stormwater runoff to preconstruction rates. Compliance with EISA and implementation of BMPs would reduce adverse impacts.

Floodplains

Per EO 11988, as amended by EO 13690, federal agencies are tasked to reduce flood losses and losses to environmental values served by floodplains. Federal assets should be built to withstand future flood risks. Alternative 1 is expected to result in long-term, negligible, adverse impacts on areas subject to the 0.2 percent (500-year) annual chance flood. DHS would implement standard construction BMPs and would build to the 500-year flood elevation to mitigate flood risks. DHS would meet any necessary federal, state, and local permitting requirements. Alternative 2: Yuma Airport Authority Site.

Alternative 2 would result in impacts that are similar to, but slightly greater than those under Alternative 1 because the project area for Alternative 2 is predominately soil with little ground disturbance. Short- and long-term impacts on groundwater, surface water during construction and maintenance of the JPC, and floodplains would be the same as those described for Alternative 1. However, Alternative 2 would result in long-term, moderate, adverse impacts on surface water because of the larger increase of impervious surfaces.

Under Alternative 2, vegetation clearing and an increase of approximately 34 acres in impervious surfaces would result in an increase in the volume and velocity of stormwater flow. The irrigation canal in the center of the site would experience moderate, long-term impacts as it would likely need to be removed prior to JPC construction. BMPs would be implemented during construction activities to minimize adverse impacts as much as possible. Design of the stormwater management system for the new JPC would include appropriate long-term control measures and stormwater runoff control techniques to comply with EISA Section 438 to reduce, limit, and control stormwater runoff to preconstruction rates. Compliance with EISA and implementation of BMPs would reduce adverse impacts.

3.5.3.2 Alternative 3: Swap Meet Site with Net-Zero Technologies

Alternative 3 would result in impacts similar to Alternative 1; however, there would be a decrease in the reliance on groundwater and surface water resources during operations. AWG systems would generate potable water from humidity in the surrounding air, subsequently taking stress off both surface and groundwater resources. Like Alternative 1, implementation of BMPs and planning during construction could minimize sediment transportation and erosion that could create adverse impacts on downstream water quality, resulting in long-term, negligible, adverse impacts on groundwater resources, surface water and wetlands, and areas subject to the 0.2 percent annual chance flood. DHS would implement standard construction BMPs and meet all necessary federal, state, and local permitting requirements.

3.5.3.3 No Action Alternative

Under the No Action Alternative, the JPC and the ancillary support facilities would not be constructed, and the existing conditions would remain unchanged. Therefore, land would not be disturbed and the use and management of water resources, including stormwater runoff, would remain as described in **Section 3.5.2**.

3.6 AIR QUALITY

3.6.1 Definition of the Resource

Air quality is defined by the concentration of various pollutants in the atmosphere. Under the CAA (42 U.S.C.), the six pollutants defining 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), and some particulates are emitted directly into the atmosphere from emissions sources. Nitrogen dioxide, O_3, and some particulates are formed through atmospheric and chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compounds (VOC) and nitrogen oxides (NO_X) are precursors of O_3 and are used to represent O_3 generation.

Under the CAA, the USEPA has established National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for criteria pollutants. Areas that are and have historically been in compliance with the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a NAAQS are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to adhere to maintenance plans to ensure continued attainment. The CAA gives states the authority to establish their own air quality rules and regulations. Arizona accepts the federal NAAQS.

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 emissions thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year [tpy]) vary by pollutant and also depend on the severity of the nonattainment status for the area in question (40 CFR § 93.153).

Climate Change and GHGs. Global climate change refers to long-term fluctuations in temperature, precipitation, wind, sea level, and other elements of Earth's climate system. Of particular interest, GHGs are gaseous emissions that trap heat in the atmosphere. GHGs include water vapor, carbon dioxide (CO_2), methane, nitrous oxide, O_3, 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 (1). All GHGs are multiplied by their global warming potential, and the results are added to calculate the total CO_2 equivalent (CO_2e) emissions. The dominant GHG emitted is CO_2, accounting for

79 percent of all U.S. GHG emissions as of 2020, the most recent year for which data are available (USEPA 2022a).

EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, signed January 20, 2021, reinstated the *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, issued on August 5, 2016, by CEQ that required federal agencies to consider GHG emissions and the effects of climate change in NEPA reviews (CEQ 2016). 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. The "social cost of carbon" 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 (CEQ 2023). Accordingly, estimated CO_2e emissions and associated social cost of carbon are provided in this EA for informative purposes. The interim social cost of carbon established by the Interagency Working Group for the year 2025 is estimated at 56 dollars per metric ton of CO_2 (in 2020 dollars; IWG-SCGHG 2021).

EO 14008, *Tackling the Climate Crisis at Home and Abroad*, further strengthens EO 13990 by implementing objectives, including requiring federal agencies to develop and implement climate action plans, to reduce GHG emissions and bolster resilience to the impacts of climate change. The DHS *Climate Action Plan* recognizes the effects of climate change to DHS's mission and aims to implement strategies to address the risks posed by climate change including incorporating climate adaptation planning and processes into DHS mission areas, ensuring climate resilient facilities and infrastructure, ensuring climate-ready services and supplies, and increasing climate literacy (DHS 2021a). *The Long-term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050* sets target benchmarks to achieve net-zero GHG emissions by no later than 2050 through emission-reducing investments such as carbon-free power generation, zero-emission vehicles, energy-efficient buildings, and expansion and protection of forest areas (DOS and EOP 2021).

USEPA implements the GHG Reporting Program, requiring certain facilities to report GHG emissions from stationary sources, if such emissions exceed 25,000 metric tons of CO_2e per year (40 CFR Part 98). Major source permitting requirements for GHGs are triggered when a facility exceeds the major threshold of 100,000 tpy for CO_2e emissions.

3.6.2 Affected Environment

USEPA Region 9 and ADEQ regulate air quality in Arizona. The alternative locations are in Yuma County, Arizona, which is within the Mohave-Yuma Intrastate Air Quality Control Region (40 CFR § 81.268). The USEPA has designated portions of Yuma County as marginal nonattainment for the 2015 8-hour O_3 NAAQS and moderate nonattainment for the 1987 PM_{10} NAAQS. The alternative locations are within the portion of Yuma County designated nonattainment for PM_{10}. The alternative locations are not within the portion of Yuma County designated nonattainment for O_3 (ADEQ 2022). Therefore, the General Conformity Rule is potentially applicable to emissions of PM_{10} from the Proposed Action. As outlined in 40 CFR §

93.153(b), the applicable *de minimis* level threshold for this pollutant is 100 tpy PM_{10}. Federal projects occurring in the PM_{10} nonattainment area are required to adhere to the *Yuma PM_{10} Maintenance Plan* (ADEQ 2006). The portion of Yuma County containing the alternative locations is designated as attainment or unclassified for all other criteria pollutants (USEPA 2023a).

Climate Change and GHGs. Yuma has an average high temperature of more than 100°F in the hottest months of June through September and an average low temperature of 46°F in the coldest month of December, with an average annual temperature of 75°F. The annual average precipitation of the region is 3 inches. The wettest month of the year is August with an average rainfall of 0.6 inches (Idcide 2023).

Ongoing climate change in southern Arizona, including Yuma County, has contributed to rising temperatures, decreased water availability, and increased severity, frequency, and extent of wildfires, which expand deserts and change landscapes. High air temperatures can cause adverse health effects such as heat stroke and dehydration, especially in vulnerable populations (i.e., children, elderly, sick, and low-income populations), which can affect cardiovascular and nervous systems. In addition, warmer air can increase the formation of ground-level O_3, which has a variety of health effects including aggravation of lung diseases and increased risk of death from heart or lung disease (USEPA 2016). In 2017, Yuma County produced 1,856,486 tons of CO_2e (USEPA 2021). In 2020, Arizona produced 80.1 million metric tons of CO_2 emissions, and was ranked the 21st highest producer of CO_2 in the United States (USEIA 2022).

3.6.3 Environmental Impacts and Minimization Measures

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 General Conformity Rule *de minimis* thresholds for nonattainment pollutants (i.e., 100 tpy for PM_{10}) or the 250 tpy Prevention of Significant Deterioration (PSD) major source threshold, as defined by USEPA, for attainment pollutants 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 on 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 these threshold levels, the action's impacts on air quality are presumed to be negligible to minor. Impacts on air quality would be significant if a proposed action were to exceed the General Conformity Rule *de minimis* level for nonattainment pollutants.

Consistent with EO 14008 and the 2016 CEQ Final Guidance, this EA examines GHGs as a category of air emissions. Per the 2023 CEQ Interim Guidance, the social cost of carbon was calculated for the estimated total emissions of CO_2e during the construction period and the foreseeable annual CO_2e emissions from operational activities under the Proposed Action. It also examines potential future climate scenarios to determine whether elements of the Proposed Action would be affected by climate change. This analysis does not attempt to measure the actual incremental impacts of GHG emissions from the Proposed Action, as there is a lack of

consensus on how to measure such impacts. Global and regional climate models have substantial variation in output and do not have the ability to measure the actual incremental impacts of a project on the environment.

3.6.3.1 Alternative 1: Swap Meet Site

Short- and long-term, minor, adverse impacts on air quality would occur. **Table 3-5** provides the estimated annual net change in emissions that would result from Alternative 1, including demolition of the Swap Meet facilities (2024); construction of the JPC (2024); development of the rest of the 40-acre site (2025 through 2029); and facility operations, maintenance, and personnel changes (2030 and later). Detailed emissions calculations are included in **Appendix F**. The annual net change in emissions of criteria pollutants would not exceed the General Conformity Rule *de minimis* threshold of 100 tpy for PM_{10}; therefore, a general conformity determination is not required. Annual emissions also would not exceed the PSD threshold of 250 tpy for VOC, NO_X, CO, SO_X, and $PM_{2.5}$ (25 tpy for lead); therefore, Alternative 1 would not result in significant impacts on air quality.

Table 3-5 Estimated Net Annual Air Emissions from Alternative 1

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)	2.357	1.692	2.144	0.005	6.085	0.062	<0.001	532.6
2025 (construction)	0.585	3.101	3.887	0.011	88.053	0.117	<0.001	1,090.3
2026 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2027 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2028 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2029 (construction)	11.198	0.989	1.376	0.002	0.054	0.054	<0.001	233.6
2030 and later (operations)	2.056	0.275	4.306	0.021	0.026	0.026	<0.001	431.4
Applicable *de minimis* or PSD threshold	**250**	**250**	**250**	**250**	**100**	**250**	**25**	**N/A**
Exceeds threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**N/A**

Key: N/A = not applicable

Short-term, minor, adverse impacts on air quality would occur from construction of the JPC and ancillary support facilities. 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 is particulate matter, such as fugitive dust, which is generated from ground-disturbing activities and combustion of fuels in construction equipment. Construction under the Proposed Action would emit approximately 88 tons of PM_{10} in 2025, which was estimated under the assumption that site grading for development of the rest of the site (not including the JPC; approximately 34 acres) would occur over a 6-month period within a single construction year, and no grading would occur in later years. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of activity.

Fugitive dust emissions would be greatest during 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. In addition, work vehicles would be well-maintained and use diesel particulate filters to reduce emissions of criteria pollutants. 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 and maintenance of the new JPC and ancillary support facilities. In particular, air emissions would be directly produced from operation of emergency generators, fuel dispensing activities, and the additional 200 personnel commuting to and from the JPC daily. For this analysis, it was assumed all new personnel would commute to and from the JPC five days per week. **Table 3-5** summarizes both construction and operations emissions. Annual operational air emissions for years 2030 and later are identified in the table. In addition, helicopter flights using the proposed helipad would be infrequent and are estimated at one flight per week (52 flights per year). Helicopter flights would be conducted using light helicopters within the local area. A helicopter would not be stationed at the JPC. Emissions produced from transient helicopter operations have the potential to affect air quality up to 3,000 feet above ground level (or the mixing zone). At or higher than 3,000 feet above ground level, emissions would be adequately dispersed through the atmosphere to the point where they would not result in ground-level impacts on a localized area. Considering the infrequency of helicopter operations at the JPC, emissions from such operations would have negligible impacts on air quality and, when added to the estimated emissions from operation of the JPC, would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Therefore, the Proposed Action would not be expected to result in a long-term, significant impact on air quality.

For Alternative 1, cessation of activities at the Yuma Swap Meet could reduce the traffic traveling to and from the immediate area; however, the Yuma Swap Meet likely would be relocated to a different location in Yuma and such traffic would be redirected to the new location, which would not affect county-level mobile emissions.

Climate Change and GHGs. As shown in **Table 3-5**, a total of approximately 3,857 tons (3,499 metric tons) of CO_2e would be produced during the construction period (i.e., 2024 through 2029). Detailed CO_2e calculations are included in **Appendix F**. In accordance with the 2023 CEQ Interim Guidance, comparisons were calculated to equate GHG emissions in familiar terms using the USEPA GHG equivalencies calculator. By comparison, 3,499 metric tons of CO_2e is the GHG footprint of 754 passenger vehicles driven for 1 year or 441 homes' energy use for 1 year (USEPA 2022b). Over the construction period, the social cost of carbon under Alternative 1 would equal \$195,944 (3,499 metric tons CO_2e x \$56 per metric ton CO_2e = \$195,944).

In 2017, Yuma County produced 1,856,486 tons of CO_2e and in 2020, Arizona produced 80.1 million metric tons of CO_2 (USEPA 2021, USEIA 2022). Emissions from construction during the highest CO_2e emissions year (i.e., 2025) under Alternative 1 would represent less than 0.1 percent of the total CO_2e emissions in the county and less than 0.005 percent of the CO_2 emissions in the state. As such, air emissions produced during construction would not

meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by Yuma County or the state of Arizona. Therefore, GHG emissions during construction would result in short-term, negligible, adverse impacts on air quality.

Long-term, operational CO_2e emissions for Alternative 1 would start in 2030 and continue indefinitely, with approximately 431 tons of CO_2e produced per year. By comparison, 431 tons (391 metric tons) of CO_2e is the GHG footprint of 87 passenger vehicles driven for 1 year or 49 homes' energy use for 1 year (USEPA 2022b). The annual social cost of carbon from operations under Alternative 1 would be $21,896 per year (391 metric tons CO_2e x $56 per metric ton CO_2e = $21,896). Total annual operational CO_2e emissions would represent less than 0.03 percent of the total CO_2e emissions in Yuma County. As such, air emissions produced during operations would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by the county. Therefore, GHG emissions from operations under Alternative 1 would result in long-term, minor, adverse impacts on air quality. Annual emissions from stationary sources (i.e., emergency generators and fuel storage tanks) for Alternative 1 would not exceed the USEPA's annual 25,000 metric tpy reporting threshold; therefore, DHS would not be required to report annual GHG emissions.

Ongoing changes to climate patterns in southern Arizona are described in **Section 3.6.1**. These climate changes are unlikely to affect the ability of DHS to implement Alternative 1. Alternative 1 is a previously disturbed site that is outside of the floodplain and does not contain forested or vegetated areas.

Rising temperatures, decreased water availability, and increased extent of wildfires, and other results from ongoing climate change would not affect the Proposed Action, nor would the Proposed Action meaningfully contribute to the occurrence of such events.

3.6.3.2 Alternative 2: Yuma Airport Authority Site

Similar to Alternative 1, short- and long-term, minor, adverse impacts on air quality would occur under Alternative 2. These impacts would be slightly less than those expected for Alternative 1. **Table 3-6** provides the estimated annual net change in emissions that would result from Alternative 2, including construction of the JPC (2024), development of the rest of the 40-acre site (2025 through 2029), and facility operations and personnel changes (2030 and later). Emissions under Alternative 2 for the first construction year (i.e., 2024) would be slightly less than those for Alternative 1, because Alternative 2 does not include demolition of the existing Swap Meet facilities. As with Alternative 1, the annual net change in emissions of criteria pollutants under Alternative 2 would not exceed the General Conformity Rule *de minimis* threshold of 100 tpy for PM_{10}; therefore, a general conformity determination is not required. Annual emissions also would not exceed the PSD threshold of 250 tpy for VOC, NO_X, CO, SO_X, and $PM_{2.5}$ (25 tpy for lead); therefore Alternative 2 would not result in significant impacts on air quality. All construction emissions would be temporary in nature and produced only when construction is occurring, from 2024 through 2029. Construction contractors would employ BMPs and environmental control measures, to the greatest extent practicable, as identified for Alternative 1, to reduce criteria pollutant emissions from construction activities.

Table 3-6 Estimated Net Annual Air Emissions from Alternative 2

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)	2.344	1.579	2.008	0.004	5.757	0.059	<0.001	492.2
2025 (construction)	0.585	3.101	3.887	0.011	88.053	0.117	<0.001	1,090.3
2026 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2027 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2028 (construction)	0.300	1.723	2.777	0.006	0.053	0.053	<0.001	666.8
2029 (construction)	11.198	0.989	1.376	0.002	0.054	0.054	<0.001	233.6
2030 and later (operations)	2.056	0.275	4.306	0.021	0.026	0.026	<0.001	431.4
Applicable *de minimis* or PSD threshold	**250**	**250**	**250**	**250**	**100**	**250**	**25**	**N/A**
Exceeds threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**N/A**

Key: N/A = not applicable

Like Alternative 1, long-term, minor, adverse impacts on air quality would occur under Alternative 2 from operation and maintenance of the new facilities. In particular, air emissions would be directly produced from emergency generators, fuel dispensing activities, and new personnel commuting to and from the JPC daily. These annual operational air emissions (2030 and later) for Alternative 2 are summarized in **Table 3-6**. Air emissions from operations and maintenance would not exceed the *de minimis* or PSD thresholds. In addition, as with Alternative 1, helicopter flights would have negligible impacts on air quality and, when added to the estimated emissions from operation of the JPC, would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Therefore, Alternative 2 would not be expected to result in a long-term, significant impact on air quality.

Climate Change and GHGs. As shown in **Table 3-6**, Alternative 2 would produce a total of approximately 3,817 tons (3,463 metric tons) of CO_2e during the construction period, which is approximately 1 percent less than the CO_2e produced from Alternative 1. Detailed CO_2e calculations are included in **Appendix F**. In accordance with the 2023 CEQ Interim Guidance, comparisons were calculated to equate GHG emissions in familiar terms using the USEPA GHG equivalencies calculator. By comparison, 3,463 metric tons of CO_2e is the GHG footprint of 746 passenger vehicles driven for 1 year or 436 homes' energy use for 1 year (USEPA 2022b). Over the construction period, the social cost of carbon under Alternative 2 would equal to $193,928 (3,463 metric tons CO_2e x $56 per metric ton CO_2e = $193,928).

As with Alternative 1, emissions from construction during the highest CO_2e emissions year (i.e., 2025) under Alternative 2 would represent less than 0.1 percent of the total CO_2e emissions in the county and less than 0.005 percent of the CO_2 emissions in the state. As such, air emissions produced during construction would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by Yuma County. Therefore, GHG emissions during construction would result in short-term, negligible, adverse impacts on air quality.

As with Alternative 1, long-term operational CO_2e emissions for Alternative 2 would start in 2030 and continue indefinitely, with approximately 431 tons (391 metric tons) of CO_2e produced per year, which is the approximate GHG footprint of 87 passenger vehicles driven for 1 year or

49 homes' energy use for 1 year (USEPA 2022b). The annual social cost of carbon from operations under Alternative 2 would be $21,896 per year (391 metric tons CO_2e x $56 per metric ton CO_2e = $21,896). Like Alternative 1, total annual operational CO_2e emissions would represent less than 0.03 percent of the total CO_2e emissions in Yuma County. As such, air emissions produced during operations under Alternative 2 would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by the county. Therefore, GHG emissions from operations under Alternative 2 would result in long-term, minor, adverse impacts on air quality. As with Alternative 1, annual emissions from stationary sources (i.e., emergency generators and fuel storage tanks) for Alternative 2 would not exceed the USEPA's annual 25,000 metric tpy reporting threshold; therefore, DHS would not be required to report annual GHG emissions.

As described for Alternative 1, climate changes are unlikely to affect the ability of DHS to implement Alternative 2. The Yuma Airport Authority Site is a previously disturbed site that is outside of the floodplain. Development of the site would remove any existing vegetation. Rising temperatures, decreased water availability, and increased extent of wildfires, and other results from ongoing climate change would not affect the Proposed Action, nor would the Proposed Action meaningfully contribute to the occurrence of such events.

3.6.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Short-term, minor, adverse impacts on air quality from demolition of the Swap Meet facilities (2024); construction of the JPC (2024); and development of the rest of the 40-acre site (2025 through 2029) would be the same as described for Alternative 1.

Long-term, minor, adverse impacts on air quality from operation and maintenance of the new JPC and ancillary support facilities would be less than those described for Alternative 1. Alternative 3 would not include operation of emergency generators. Instead, backup power would be provided by solar battery systems. Like Alternative 1, operational air emissions would be directly produced from fuel dispensing activities and the additional 200 personnel commuting to and from the JPC daily. **Table 3-7** summarizes these operational emissions. In addition, emissions would be produced from transient helicopter operations, as described for Alternative 1. The estimated annual operational emissions from Alternative 3 would not exceed the *de minimis* or PSD thresholds for any criteria pollutant. Therefore, Alternative 3 would not be expected to result in a long-term, significant impact on air quality.

Table 3-7 Estimated Net Annual Operational Air Emissions from Alternative 3

Year	VOC (tpy)	NO_X (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e (tpy)
2030 and later (operations)	2.034	0.182	4.244	0.002	0.006	0.005	<0.001	420.6
Applicable *de minimis* or PSD threshold	**250**	**250**	**250**	**250**	**100**	**250**	**25**	**N/A**
Exceeds threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**N/A**

Key: N/A = not applicable

Climate Change and GHGs. Long-term operational CO_2e emissions for Alternative 3 would be slightly less than those described for Alternative 1, with approximately 421 tons (382 metric tons) of CO_2e produced per year, a reduction of approximately 2 percent from Alternative 1. The

382 metric tons of CO_2e is the approximate GHG footprint of 85 passenger vehicles driven for 1 year or 48 homes' energy use for 1 year (USEPA 2022b). The annual social cost of carbon from operations under Alternative 3 would be $21,392 per year (382 metric tons CO_2e x $56 per metric ton CO_2e = $21,392). Like Alternative 1, total annual operational CO_2e emissions would represent less than 0.03 percent of the total CO_2e emissions in Yuma County. As such, air emissions produced during operations under Alternative 3 would not meaningfully contribute to the potential effects of global climate change and would not considerably increase the total CO_2e emissions produced by the county. Therefore, GHG emissions from operations under Alternative 3 would result in long-term, minor, adverse impacts on air quality. As with Alternative 1, annual emissions from stationary sources (i.e., fuel storage tanks) for Alternative 3 would not exceed the USEPA's annual 25,000 metric tpy reporting threshold; therefore, DHS would not be required to report annual GHG emissions.

According to the Lawrence Berkeley National Laboratory, utility-scale solar power produces 447 megawatt hours per acre per year for fixed-tilt solar PV systems (Bolinger and Bolinger 2022). In 2021, the CO_2 total output emissions rate for all nonrenewable fuels in Arizona was 724.81 pounds per megawatt hour (USEPA 2023b). Thus, an acre of solar panels producing zero-emissions electricity in Arizona would save approximately 323,990 pounds, or 162 tons, of CO_2 per year. It was estimated that solar PV systems would be installed on a portion of the JPC site, estimated at 5 acres for the purposes of this analysis, and the roofs of the JPC and ancillary support facilities (180,000 ft^2, or approximately 4 acres), for a total of approximately 9 acres. A 9-acre solar PV array would reduce CO_2 emissions in Arizona by 1,458 tons (1,323 metric tons) per year, which is equal to a social cost of $74,088 per year (1,323 metric tons CO_2 x $56 per metric ton CO_2 = $74,088). The total annual CO_2 savings from the solar PV systems (1,323 metric tons) would be equal to the GHG footprint of 294 passenger vehicles driven for 1 year or 167 homes' energy use for 1 year (USEPA 2022b). This savings would reduce Arizona's annual CO_2 emissions by less than 0.02 percent. The state-level CO_2 emissions savings from the solar PV systems could offset a portion of the estimated CO_2e emissions from JPC construction. The annual CO_2 emissions savings from solar power generation would continue into the future and also offset the annual CO_2e emissions from operation of the JPC (i.e., fuel dispensing activities and the additional 200 personnel commuting to and from the JPC daily).

As described for Alternative 1, climate changes are unlikely to affect the ability of DHS to implement Alternative 3. The Yuma Swap Meet Site is a previously disturbed site that is outside of the floodplain and does not contain forested or vegetated areas. Rising temperatures, decreased water availability, and increased extent of wildfires, and other results from ongoing climate change would not affect the Proposed Action, nor would the Proposed Action meaningfully contribute to the occurrence of such events.

3.6.3.4 No Action Alternative

Under the No Action Alternative, construction and operation of the JPC would not occur and air quality conditions would remain as described in **Section 3.6.2**. Therefore, no impacts on air quality would occur.

3.7 NOISE

3.7.1 Definition of the Resource

Noise is defined as undesirable sound that interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Sound intensity is quantified using a measure of sound pressure level called decibels (dB). The A-weighted decibel (dBA) is a measurement in which "A-weighting" is applied to the dB to approximate a frequency response expressing the perception of sound by the human ear and deemphasizes the higher and lower frequencies that the human ear does not perceive well. The range of audible sound levels for humans is considered to be 1 to 130 dBA, and the threshold of audibility is generally within the range of 5 to 25 dBA (USEPA 1981a, USEPA 1981b).

Sensitive noise receptors could include specific locations (e.g., schools, churches, hospitals) or an expansive area (e.g., nature preserves, conservation areas, historic preservation districts) in which occasional or persistent sensitivity to noise above ambient levels exist. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

The Noise Control Act of 1972 established a national policy to promote an environment free from noise that jeopardizes human health and welfare. It directs federal agencies to comply with applicable federal, state, and local noise control regulations. Neither the state of Arizona nor Yuma County maintains a noise ordinance. According to the Federal Aviation Administration (FAA) and the U.S. Department of Housing and Urban Development, residential units and other noise-sensitive land uses are "clearly unacceptable" in areas where noise exposure exceeds 75 dBA, and "normally acceptable" in areas where noise exposure is 65 dBA or less (24 CFR Part 51).

3.7.2 Affected Environment

Existing noise sources near the alternative locations include the Yuma Swap Meet, the Yuma International Airport, Yuma BPS, Yuma Sector Headquarters Complex, an existing sand mining operation, and major throughfares such as South Avenue A. The Yuma International Airport, just south and east of the alternative locations, shares its airfield with Marine Corps Air Station Yuma. Noise from aircraft operations typically occurs beneath the main approach and departure corridors and in areas immediately adjacent to runways, aircraft parking ramps, and aircraft staging areas. As aircraft take off and gain altitude, their contribution to the noise environment drops to levels indistinguishable from the background. Environmental noise at Marine Corps Air Station Yuma is managed through the Department of Defense Air Installation Compatible Use Zone Program, which helps to mitigate noise and safety concerns for surrounding communities and advises these communities about potential impacts from flight operations. As part of the program, noise contours related to aircraft operations have been identified. The proposed JPC alternative locations are within the 65 dB noise contours associated with Marine Corps Air Station Yuma, and portions of both project areas are within the 70 dB noise contour (NAVFAC 2019). For planning and zoning purposes, Yuma County has adopted earlier noise measurements with more conservative noise contours. These earlier measurements show that portions of both alternative locations are within the 75 dB county noise contour (FAA 1977). This means that both locations experience an ambient noise environment primarily from aircraft noise that ranges

from 65 to 75 dB. Other existing sources of noise near the alternative locations include operations associated with the adjacent USBP facilities, road traffic, lawn maintenance equipment, construction, and bird and animal vocalizations. These sources can introduce intermittent noise of between 60 and 80 dB (USEPA 1981a).

Noise-sensitive receptors near the alternative locations include a residential area approximately 1,000 feet north of Location 1, and 2,000 feet north of Location 2; a school and church approximately 1,300 feet north of Location 1, and 3,000 feet northeast of Location 2; and a civic center more than 3,500 feet from both alternative locations. The three nearest noise-sensitive receptors are within the 65 dB noise contour associated with Marine Corps Air Station Yuma and the 65 dB noise contour used by the county. The school/church and a portion of the residential area also are within the 70 dB county noise contour (NAVFAC 2019, Yuma County 2012)

Construction noise can cause an increase in sound that is well above ambient levels. Noise levels associated with common types of construction equipment are provided in **Table 3-8**. The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure levels. The minimum requirement states that exposure for workers must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA, and exposure to this level must not exceed 15 minutes within an 8-hour period (29 CFR § 1910.95).

Table 3-8 Average Noise Levels for Common Construction Equipment

Construction Category and Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 250 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)
Clearing and Grading				
Grader	80 to 93	66 to 79	60 to 73	54 to 67
Truck	83 to 94	69 to 80	63 to 74	57 to 68
Backhoe	72 to 93	58 to 79	52 to 73	46 to 67
Construction				
Concrete Mixer	74 to 88	60 to 74	54 to 68	48 to 62
Crane	63 to 88	49 to 74	43 to 68	37 to 62
Paver	86 to 88	72 to 74	66 to 88	60 to 62
Dozer/Tractor	60 to 89	46 to 75	40 to 69	34 to 63
Front Loader	70 to 90	56 to 76	50 to 70	44 to 64
Compressor	63 to 84	49 to 70	43 to 64	37 to 58

Sources: USEPA 1971, TRS Audio 2023, FHWA 2007

3.7.3 Environmental Impacts and Minimization Measures

3.7.3.1 Alternative 1: Swap Meet Site

Noise from construction of the JPC and ancillary support facilities under Alternative 1 would result in short-term, minor, adverse impacts on the ambient noise environment. The use of heavy construction equipment, such as those identified in **Table 3-8**, would generate intermittent, temporary increases in ambient noise levels during the construction period. Noise from construction would vary depending on the type of equipment being used, the area in which the activity would occur, and the distance of the receptor to the noise source; however, noise levels generated by construction equipment typically exceed ambient levels by 20 to 30 dBA. The use

of exhaust mufflers and other noise dampening equipment could reduce the sound level by up to 10 dBA (USEPA 1971). Construction noise would occur for the duration of the construction period and would be confined to normal workdays and working hours (7 a.m. to 5 p.m.). Noise beyond ambient levels would cease following the construction period. All applicable noise laws and guidelines would be followed to reduce the effects from noise produced by construction.

Individual pieces of equipment would produce noise levels between 60 and 94 dBA at a distance of 50 feet. Construction typically requires several pieces of equipment to be used simultaneously. In general, the addition of a piece of equipment with identical noise levels to another piece of equipment would increase the overall noise environment by 3 dB (USEPA 1971). Therefore, additive noise associated with multiple pieces of construction equipment operating simultaneously would increase the overall noise environment by a few dB over the noisiest equipment. Construction noise levels would mostly be limited to the immediate vicinity of the project area where the primary receptors would be construction workers. Any noise generated would decrease with increasing distance from the construction activities and these noise levels would noticeably attenuate to below 65 dBA between approximately 500 and 1,500 feet from the source.

Alternative 1 is in an area where noise levels from aircraft operations at the Yuma International Airport/Marine Corps Air Station Yuma regularly exceed 65 to 75 dBA, and where noise from vehicular traffic and construction is common. Because of the existing ambient noise environment of the project area and surrounding areas, negligible noise increases would occur from construction and truck traffic, because these are common sources of ambient noise near the project area. Construction equipment would remain at the project area during the construction period; therefore, increased noise levels from truck traffic would occur only when construction vehicles are required to enter and exit the project areas.

The closest noise-sensitive receptors to Alternative 1 are between 1,000 and 3,500 feet from the project area. Noise levels from construction activities at this distance would be at or below 68 dBA. Expected noise levels at the residential area approximately 1,000 feet north of the site would not experience increased noise levels beyond its ambient noise environment of 65 to 70 dB. The school/church 1,300 feet north of the site and the civic center 3,500 feet north would not experience increased noise levels above 65 dB, which is consistent with the ambient noise environment of those areas.

Construction contractors would adhere to appropriate OSHA standards that would protect the workforce from excessive noise. In addition, workers are recommended to use proper personal hearing protection to limit exposure to high noise levels. To limit noise exposure on sensitive noise receptors, the following BMPs could be implemented:

- Ensure that all heavy construction equipment includes all factory-equipped noise abatement components such as muffler, engine enclosures, engine vibration isolators, or other sound dampening supplements.
- Turn off all idling equipment when not in use.
- Maintain uniform noise levels and avoid impulsive noises.

- Maintain good relationships with the community, publish/distribute notices before noisy operations occur, and provide the community with frequent updates as to when and where construction activities would occur.
- Limit construction to normal workdays and working hours (7 a.m. to 5 p.m.).

Long-term, negligible, adverse impacts on the ambient noise environment would occur from operation and maintenance of the new JPC and ancillary support facilities, and from vehicular traffic from the additional 200 personnel. The new facilities would be adjacent to the existing USBP facilities. Operational activities and traffic patterns for the new JPC would be similar to those that occur at the existing USBP facilities. The ambient noise environment for receptors at the proposed JPC would be influenced by flight operations at the Yuma International Airport. The JPC would be within the 65 to 75 dB airport noise contours. Increased noise levels may result from additional vehicle operations, vehicle maintenance, equipment operation, and kennel activities; however, such activities would be consistent with existing noise of the area. Use of the proposed helipad would be infrequent and no helicopter would be stationed at the JPC. Helicopter flights using the proposed helipad and light helicopters would be infrequent and are estimated at 1 flight per week (52 flights per year) with no helicopter stationed at the JPC. Helicopter overflights at 1,000 feet above ground level can generate noise with a sound exposure level of up to 82 dBA, which is consistent with overflight noise associated with the nearby airport (FAA 1977). Sound exposure level, used to measure noise from aircraft, represents the sound level of a single event compressed in a 1-second time interval. The 82 dBA noise environment is similar to the ambient noise environment of a large city (Harris 1998).

While the long-term increase in the ambient noise environment would be similar to existing conditions, noise from the operation and maintenance of the JPC could create disruptions that could be observed by people immediately surrounding the project area. These disruptions would be temporary and intermittent. Therefore, adverse impacts on the ambient noise environment would be negligible. To reduce noise impacts on receptors inside the JPC, sound insulation design features could be implemented such as well-sealed windows and doors, thicker or heavier windows and doors, secondary doors, and the use of sound insulating materials.

3.7.3.2 Alternative 2: Yuma Airport Authority Site

Short-term, minor, and long-term, negligible, adverse impacts on the ambient noise environment from construction, operation, and maintenance of the JPC under Alternative 2 would be largely similar to those described for Alternative 1. As described for Alternative 1, heavy construction equipment would generate intermittent, temporary increases in ambient noise levels during the construction period and would be limited to the immediate vicinity of the project area, resulting in short-term, minor, adverse impacts. All applicable noise laws and guidelines would be followed to reduce the effects from noise produced by construction and construction contractors would employ BMPs, as described for Alternative 1, to limit noise exposure. Noise beyond ambient levels would cease following the construction period.

As with Alternative 1, Alternative 2 is in an area where noise levels from aircraft operations at the Yuma International Airport/Marine Corps Air Station Yuma regularly exceed 65 to 75 dBA, and where noise from vehicular traffic and construction is common. Construction would result

in negligible noise increases, as construction is a common source of ambient noise near the project area.

The closest noise-sensitive receptors to Site 2 are between 2,000 and 3,500 feet from the project area. Noise levels from construction activities at this distance would be below 65 dBA. Expected noise levels at the residential area approximately 2,000 feet north of the site would not experience increased noise levels beyond its ambient noise environment of 65 to 70 dB. The school/church 3,000 feet northeast of the site and the civic center 3,500 feet north would not experience increased noise levels above 65 dB, which is consistent with the ambient noise environment of those areas.

Long-term, negligible, adverse impacts on the ambient noise environment from operation and maintenance of the new JPC and ancillary support facilities under Alternative 2 would be identical to those described for Alternative 1. Noise produced from operation and maintenance activities, and from additional vehicular traffic, would be consistent with existing noise of the area and potential disruptions would be temporary and intermittent.

3.7.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts from Alternative 3 would be the same as those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.7.3.4 No Action Alternative

Under the No Action Alternative, construction of the JPC and ancillary support facilities would not occur and no noise beyond ambient levels identified in **Section 3.7.2** would result. Therefore, no impacts on noise would be anticipated.

3.8 CULTURAL RESOURCES

3.8.1 Definition of the Resource

The term "cultural resources" refers to a broad range of properties relating to history, prehistory, or places important in traditional religious practices. Several federal laws and EOs, including the NHPA, the Archaeological and Historic Preservation Act, the American Indian Religious Freedom Act, the Archaeological Resources Protection Act, and the Native American Graves Protection Act (NAGPRA) refer to cultural resources.

The NHPA focuses on property types such as prehistoric and historic-age sites, buildings and structures, districts, and other places that have physical evidence of human activity considered important to a culture or a community for scientific, traditional, religious, or other reasons. These resources can prove useful in understanding and describing the cultural practices of past peoples or retain cultural and religious significance to modern groups. Resources judged significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP). The NRHP refers to these places as "historic properties" and they are protected under the NHPA. The NHPA requires federal agencies to consider the effects of their activities and programs on NRHP-eligible properties.

Regulations for Protection of Historic Properties (36 CFR Part 800) present a process for federal agencies to consult with the appropriate State Historic Preservation Officer (SHPO)/Tribal Historical Preservation Officer, federally recognized Indian Tribes, other interested parties, and, when appropriate, the Advisory Council on Historic Preservation. This is to ensure that the impacts from the undertaking are adequately considered on historic-age properties. In accordance with EO 13175, *Consultation and Coordination with Indian Tribal Governments*, DHS would consult on a government-to-government basis with federally recognized tribes that have demonstrated an interest in Yuma County, Arizona. The following are federally recognized tribes or tribes that have expressed interest in projects in Yuma County: Ak-Chin Indian Community, Cocopah Indian Tribe, Colorado River Indian Tribes, Gila River Indian Community, Fort Mojave Indian Tribe, Fort Yuma-Quechan Tribe, Hopi Tribe, Salt River Pima-Maricopa Indian Community, and the Tohono O'odham Nation.

NAGPRA is a federal law passed in 1990 that provides a process for museums and federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants, and culturally affiliated Native American tribes.

3.8.2 Affected Environment

A cultural resources records review was conducted by a Secretary of Interior-qualified archaeologist for both alternative locations. The records review indicated that the area of potential effect (APE) has not been previously examined for cultural resources. Four historic-age resources have been previously recorded within a half-mile radius of the current APE (see **Table 3-9**). All of these sites are located approximately 0.5-miles northwest of the alternative locations.

Table 3-9 Previously Recorded Resources within a Half-mile Radius of the Current APE

Site Number/Name	Affiliation	Site Type	Eligibility Status	Associated Reference(s)	Distance and Direction From APE
AZ X:6:24(ASM)	Historic-age; Euro-American	Earthen Channel	Unevaluated	AZSITE	~ 0.7 miles northwest
AZ X:6:25(ASM)	Historic-age; Euro-American	Concrete Check Feature	Unevaluated	AZSITE	~ 0.6 miles northwest
AZ X:6:26(ASM)	Historic-age; Euro-American	Turnout and Flume	Recommended Eligible	AZSITE	~ 0.3 miles northwest
AZ X:6:65(ASM)	Late Historic-age Euro-American	East Main Canal	Eligible (SHPO concurred)	AZSITE	~ 0.3 miles west

DHS contracted with DAWSON for a 100 percent pedestrian survey of the APE. The survey also included an assessment of impacts for a 0.5-mile visual APE. The pedestrian survey

conducted by DAWSON on November 10, 2022, and January 25, 2023, documented four isolated occurrences (IOs)/artifact; three isolated, in-use, historic-age irrigation canal features (IFs); and one complex of historic-age structural remains (Yuma Greyhound Park) within the two proposed parcels. The historic-age Yuma Greyhound Park consisted of two standing historic- age structures (one grandstand building, and one kennel), and five associated concrete kennel structure foundation slabs. The results of the archeological survey were reported in *Cultural Resources Survey of 80 Acres of Noncontiguous Lands Associated with the Proposed Yuma Joint Processing Center Located in the Yuma Sector, Yuma County, Arizona* (DHS 2023a).

Following the archaeological survey, DAWSON sub-contracted to Urbana Preservation and Planning, LLC (URBANA) for the historical research and field survey necessary to evaluate eligibility of the Yuma Greyhound Park for listing in the NRHP. The former Yuma Greyhound Park was constructed in 1960 and is currently in use as a storage facility for the Yuma Swap Meet. As a result of the historical property survey, URBANA recommends that the former Yuma Greyhound Park complex is not eligible for the NRHP, based on its lack of historical significance and/or integrity. The results of the historical property survey conducted on February 9, 2023, were reported in *Historic Property Survey Report, Proposed Joint Processing Center Site, 4000 South 4th Avenue, Yuma, Arizona* (DHS 2023a and Landa and Kupel 2023).

None of the resources identified during the investigations are eligible for inclusion on the NRHP (DHS 2023a and Landa and Kupel 2023).

Based on the Cultural Resources and Historic Properties Survey, DHS has determined No Historic Properties Affected by this undertaking and will be seeking concurrence of this determination through ongoing Section 106 consultation with the SHPO.

3.8.3 Environmental Impacts and Minimization Measures

Adverse effects on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or selling, transferring, or leasing the property out of agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance. Ground-disturbing activities associated with the implementation of the Proposed Action constitute the most relevant potential impacts on archaeological resources. Visual effects constitute the most relevant impacts on built environment resources.

3.8.3.1 Alternative 1: Swap Meet Site

Under Alternative 1, as there are no archaeological sites eligible for the NRHP located in the APE, the proposed construction would have no impact on cultural resources (DHS 2023a). Similarly, there are no NRHP-eligible historic-age built environment resources present that would be impacted. The buildings associated with the Yuma Greyhound Park have been determined to be not eligible for the NRHP due to the lack of integrity (DHS 2023a).

There would be no visual impacts under Alternative 1. The nearby previously recorded resources are on a lower terrace and are not in the Alternative 1 viewshed.

3.8.3.2 Alternative 2: Yuma Airport Authority Site

Under Alternative 2, as there are no archaeological sites eligible for the NRHP located in the APE, the proposed construction would have no impact on cultural resources (DHS 2023a). Similarly, there are no NRHP-eligible historic-age built environment resources present that would be impacted.

There would be no visual impacts under Alternative 2. The nearby previously recorded resources are on a lower terrace and are not in the Alternative 2 viewshed.

3.8.3.3 Alternative 3: Yuma Swap Meet Site with Net-Zero Technologies

Under Alternative 3, impacts on cultural resources would be similar to those described for Alternative 1. While not required by NRHP when there are no NRHP-eligible properties within the APE, visual resources are important to the cultural value of an area. Although Alternative 3 would result in a change of the visual aesthetics of the project area, there would be no long-term visual impacts on previously recorded cultural resources. The nearby previously recorded resources are on a lower terrace and are thus not in the Alternative 3 viewshed. As such, the impacts of Alternative 3 on the visual aesthetics of the project area would be negligible to minor.

3.8.3.4 No Action Alternative

Under the No Action Alternative, DHS would not construct the JPC and ancillary support facilities and personnel would continue to use the existing SSFs. Cultural resources would remain as described in **Section 3.8.2**.

3.9 UTILITIES AND INFRASTRUCTURE

3.9.1 Definition of the Resource

Infrastructure consists of the interrelated systems and physical structures that enable a population in a specified area to function. The infrastructure components to be discussed in this section include utilities and solid waste management. Utilities generally include electrical supply, natural gas or propane supply, water supply, sanitary sewer and wastewater, communications systems, and stormwater drainage infrastructure. Solid Waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs.

The intent of EO 14057 is to transform how the federal government builds, buys, and manages its assets and operations, by supporting the growth of America's clean energy and clean technology industries and accelerating progress toward achieving a net-zero, carbon pollution-free electricity sector by 2035. Net-zero refers to a building or facility that has net-zero emissions and conserves water and/or waste as well. A net-zero emissions building is designed and operated so that when it's connected to a regional electrical grid it is fully serviced by carbon pollution-free electricity.

3.9.2 Affected Environment

Electrical Supply. Electricity is supplied to the alternative locations by Arizona Public Service. Arizona Public Service produces energy throughout most of the state (APS 2020). There is existing electrical service at Location 1. Location 2 is an agricultural lot and does not have an existing electrical connection. However, overhead electrical lines run along the eastern side of South Avenue A, adjacent to Location 2.

Under Alternative 3, DHS proposes to install a solar PV system with battery backup as feasible. Dependent on spatial location and feasibility, the three options being considered include ground mounted, rooftop, and parking canopies. These include flat panel, axis tracking, or integrated solar PV products, all of which could be various sizes and include BESS, if reasonable for the location. The JPC facility under Alternative 3 would install the PV system as an integrated, shared network or grid of power, known as a solar microgrid. **Table 3-10** presents the potential PV options and net-zero electricity goals expected to be met.

Table 3-10 Potential PV Options and Expected Net-Zero Electricity Goals Met

	PV Only	PV+BESS	PV+BESS 90%	PV+BESS 100%
PV size - kW	532	813	2,334	3,166
Battery Capacity - kWh	-	316	908	1,433
% Renewable Energy Consumption	25%	38%	90%	100%

Notes: kW – kilowatt, kWh – kilowatt hour

Natural Gas Supply. Natural gas is supplied to the alternative locations by Southwest Gas. Southwest Gas provides natural gas service to the states of Arizona, Nevada, and portions of California (SWGAS 2023). Although the alternative locations do not have existing natural gas service, it is available at these locations. Electricity is the source used for the heating and cooling system at Location 1 (DHS 2023b).

Water Supply. Potable water is supplied to the alternative locations by the city of Yuma Utilities Systems Division. The water distribution lines and pipes maintained by the Utilities Systems Division consist of various materials such as concrete, steel, polyvinyl chloride, or other material and range from newly installed to more than 50 years old (City of Yuma 2023c). Water from the Colorado River and groundwater wells produce a continuous supply of drinking water for Yuma residents and businesses (City of Yuma 2023b). During the 2021 monitoring period, the city of Yuma did not achieve the required Total Organic Carbon (TOC) removal level between the source water and the treatment facilities resulting in a violation from ADEQ. TOC provides a medium for the formation of disinfection byproducts. However, the city of Yuma has been in compliance with health standards for the disinfection byproducts that are associated with TOC. In addition, chlorine dioxide levels exceeded the USEPA maximum residual disinfectant level resulting in a violation from ADEQ during the 2021 monitoring period. The Utilities Systems Division has since adjusted the chlorine dioxide generator to correct the amount used to disinfect the drinking water (City of Yuma 2022a). Water is supplied to the alternative locations from main laterals off West 40th Street (DHS 2023b, DHS 2023c).

Under Alternative 3, DHS proposes to employ AWG technology to generate potable water to reduce the need to use local drinking water resources. Additionally, an AWS would expand water availability during shortages, contamination events, or natural disasters that could interrupt drinking water services.

Sanitary Sewer and Wastewater. The Wastewater Collection Section manages three wastewater treatment facilities for the city of Yuma (City of Yuma 2023b). The Figueroa Avenue facility is the oldest and largest of the operational wastewater treatment facilities, turning more than 80 percent of its wastewater into high quality treated effluent, discharged to the Colorado River. The Jackrabbit Mesa and Desert Dunes facilities treat the remaining 20 percent of Yuma's wastewater (City of Yuma 2023d). There is existing sanitary sewer service at Location 1. Location 2 is an agricultural lot and does not have an existing connection; however, main laterals are located off West 40th Street (DHS 2023b, DHS 2023c). The proposed JPC project areas are serviced by the Figueroa Avenue facility, which has the capacity to treat 12 million gallons per day (gpd) (City of Yuma 2022b).

Under Alternative 3, DHS proposes to install a VF system where treated wastewater would be discharged into an evaporation pond or could be reused for irrigation and landscaping purposes where feasible. The VF system would be in place of a septic field, in an unused area of the JPC grounds.

Stormwater Drainage. There is no stormwater drainage infrastructure at either alternative location (Yuma County 2023b).

Communications System. Communications connections are available at the alternative locations. Spectrum provides internet, telephone, and television services within the city of Yuma, to include the alternative locations (Spectrum 2023).

Solid Waste Management. Republic Services provides waste collection service to the alternative locations. Republic Services operates the Copper Mountain Landfill, which is a USEPA-certified nonhazardous waste landfill with a useful life of 30-plus years. Republic Services also provides recycling services at the Republic Services Transfer Station (City of Yuma 2022b).

3.9.3 Environmental Impacts and Minimization Measures

Effects on infrastructure are evaluated for their potential to disrupt or improve existing levels of service and create additional needs for electricity, water, sanitary sewer and wastewater service, stormwater drainage, and solid waste management.

3.9.3.1 Alternative 1: Swap Meet Site

Electrical Supply. Short- and long-term, negligible to minor, adverse impacts on the electrical supply infrastructure would occur. Temporary, minor electrical service interruptions could occur during construction when electrical service is disconnected from the Swap Meet facilities prior to demolition and when electrical service is connected to the proposed JPC and ancillary support facilities. During construction, a slight, temporary increase in electrical demand could occur because electricity might be needed to power some construction equipment. Once construction

of the proposed JPC is complete, processing operations at the existing SSFs would cease and transition to the newly constructed JPC resulting in an increase in electrical demand. However, some of this increase would be offset by the reduced use of the existing SSFs as well as the discontinued use associated with the demolished, less efficient Swap Meet facilities, which uses electricity as its source for heating and cooling. Additionally, energy-saving sustainable design features would help offset potential increases in electrical demand from the larger size of the JPC and ancillary support facilities. The overall net increase in electrical demand would not be expected to exceed current electrical capacity. On-site emergency backup generators would provide a backup power source for the proposed JPC.

Natural Gas Supply. Short- and long-term, negligible to minor, adverse impacts on natural gas supply infrastructure would occur. Temporary, minor natural gas service interruptions could occur during construction when natural gas service is connected to the proposed JPC. Operation of the proposed JPC would result in an increase in natural gas demand; however, energy-saving sustainable design features would help offset potential increases in natural gas demand. Natural gas would primarily be used for heating the proposed JPC. The overall net increase in natural gas demand would not be expected to exceed natural gas supply capacity.

Water Supply. Short- and long-term, minor, adverse impacts on water supply infrastructure would occur. Temporary, minor water service interruptions could occur during construction when water service is disconnected from the Swap Meet facilities prior to demolition and when water service is connected to the proposed JPC. Assuming a consumption rate of 25 gpd per person, during operation, the annual potable water demand needed to accommodate the 200 support staff and 500 to 1,000 undocumented noncitizens is estimated to be approximately 17,500 to 30,000 gpd or approximately 6.4 to 10.9 million gallons per year. As discussed in **Section 3.5.3**, this is approximately 0.001 percent of the municipal water demand for the Yuma Basin in 2005 (ADWR 2009). Additionally, the violations received from ADEQ during the 2021 monitoring period have been addressed by the city of Yuma Utilities Systems Division and are routinely monitored; therefore, there are no concerns with the quality of the water supply.

Sanitary Sewer and Wastewater. Short- and long-term, negligible to minor, adverse impacts on the sanitary sewer and wastewater infrastructure would occur. Temporary, minor sanitary sewer service interruptions could occur during construction when sewer service is disconnected from the Swap Meet facilities prior to demolition and when sewer service is connected to the proposed JPC. Once construction of the proposed JPC is complete, processing operations at the existing SSFs would cease and transition to the newly constructed JPC resulting in an increase in wastewater output from the 200 support staff and 500 to 1,000 undocumented noncitizens. However, some of this increase would be offset by the reduced use of the SSFs as well as the discontinued use associated with the demolished, less efficient Swap Meet facilities. It is estimated that approximately 200,000 gallons of wastewater would be produced monthly, or approximately 2.4 million gallons per year from operations of the proposed JPC (CBP 2023). The overall increase in wastewater production would not be expected to exceed the capacity at the Figueroa Avenue facility.

Stormwater Drainage. Short- and long-term, negligible to minor, adverse impacts on stormwater drainage would occur. During construction, ground disturbance would disturb natural stormwater drainage features and temporarily increase the potential for soil erosion and

sediment transport during rain events. Soil erosion and sediment production would be minimized by preparing and implementing a SWPPP.

Taking into consideration the current amount of impervious surface at Alternative 1, construction of the proposed JPC would result in an increase of approximately 14 acres of impervious surface, which would decrease the amount of area available for stormwater to permeate into the ground. This increase in impervious surface would intensify stormwater runoff rates in the immediate vicinity of the proposed JPC. As described in **Section 2.3**, a stormwater management system is listed as an ancillary support facility and included in the preliminary conceptual site layout of the new JPC (see **Appendix B**). Design of the stormwater management system would include appropriate long-term control measures and stormwater runoff control techniques to comply with EISA Section 438 to reduce, limit, and control stormwater runoff to preconstruction rates. Restoring native vegetation in areas of bare soil would also aid in the prevention of soil erosion and reduce runoff rates further minimizing impacts to off-site areas. Compliance with EISA and implementation of erosion-control BMPs would maintain runoff on site and minimize the potential for adverse impacts on downstream water quality.

Communications System. Short- and long-term, negligible, adverse impacts on the communications system would occur. Temporary, minor service interruptions could occur during construction when communications system service is disconnected from the Swap Meet facilities prior to demolition and when communications systems service is connected to the proposed JPC. During operation, it is anticipated that the slight increase in demand for communications services would result in a corresponding reduction in available bandwidth. It is assumed that the DHS would design the communications system to ensure that the new tower and communications infrastructure would not interfere with adjacent communications systems. Additionally, design of the communications tower would ensure that the height and placement of the tower would not interfere with aircraft operations at the Yuma International Airport/Marine Corps Air Station Yuma and comply with all federal, state, and local regulations.

Solid Waste Management. Short-term, minor, and long-term, negligible to minor, adverse impacts on solid waste management would occur. Demolition of the Swap Meet facilities would generate approximately 12,222,880 pounds (6,112 tons) of solid waste and construction of the proposed JPC would generate approximately 781,200 pounds (391 tons) of solid waste (see **Table 3-11**). However, demolition and construction debris would consist primarily of recyclable and reusable building materials such as asphalt, concrete, lumber, and metals (e.g., conduit, piping, and wiring). All materials that could be recycled or reused would be diverted from landfills whenever possible, reducing the amount of waste disposed. Site-generated scrap materials would be separated and recycled. Clean fill material, ground-up asphalt, and broken-up cement would be diverted from the landfill and reused whenever possible.

Table 3-11 Estimated Demolition and Construction Debris Generated

Activity	Total ft^2	Multipliers (pounds/ft^2)	Pounds	Tons
Demolition Activities				
Grandstand Building	41,860	158	6,613,880	3,307
Permanent Shade Structures	34,000	158	5,372,000	2,686
Dog Kennel	1,500	158	237,000	119
Total			12,222,880	6,112
Construction Activities				
Proposed JPC	180,000	4.34	781,200	391
Total			**868,000**	**391**

Source: USEPA 2009.

Once construction of the proposed JPC is complete, processing operations at the existing SSFs would cease and transition to the newly constructed JPC resulting in an increase in solid waste output from the 200 support staff and 500 to 1,000 undocumented noncitizens. However, some of this increase would be offset by the reduced use of the existing SSFs as well as the discontinued use associated with the demolished Swap Meet facilities, which as stated in **Section 3.12.3.1**, is open Friday through Sunday and attracts approximately 10,000 people every week. Based on estimates provides by DHS, approximately 480 yards (twelve 40-yard dumpsters) of waste would be produced weekly (CBP 2023). Each 40-yard dumpster can hold up to approximately 11,000 pounds, or 5.5 tons of waste. Therefore, it is anticipated that during operation, approximately 572,000 pounds, or 286 tons of solid waste would be generated annually from the additional personnel, both staff and undocumented noncitizens; however, it would not be expected to exceed the current capacity of the Copper Mountain Landfill. Additionally, DHS would continue to implement a recycling program to divert waste from landfills through reuse and recycling.

3.9.3.2 Alternative 2: Yuma Airport Authority Site

Electrical Supply. Short- and long-term impacts on the electrical supply infrastructure for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would not require the disconnection of electrical service from the Swap Meet facilities or the demolition of these facilities. Operation of the proposed JPC would result in an increase in electrical demand; however, energy-saving sustainable design features would help offset any potential increase in electrical demand from the proposed JPC and ancillary support facilities. The overall net increase in electrical demand would not be expected to exceed electrical supply capacity. On-site emergency backup generators would provide a backup power source for the proposed JPC.

Natural Gas Supply. Short- and long-term impacts on the natural gas infrastructure for Alternative 2 would be the same as those described for Alternative 1.

Water Supply. Short- and long-term impacts on the water supply infrastructure for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would not require the disconnection of water service from the Swap Meet facilities or the demolition of these facilities.

Sanitary Sewer and Wastewater. Short- and long-term impacts on the sanitary sewer and wastewater infrastructure for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would not require the disconnection of sanitary sewer service from the Swap Meet facilities or the demolition of these facilities. During operation, sanitary sewer and wastewater infrastructure would experience an increase in wastewater output from the 200 support staff and 500 to 1,000 undocumented noncitizens at the proposed JPC when compared to current conditions. Like Alternative 1, it is estimated that approximately 200,000 gallons of wastewater would be produced monthly, or approximately 2.4 million gallons per year from operations of the proposed JPC (CBP 2023). The overall increase in wastewater production would not be expected to exceed the capacity at the Figueroa Avenue facility.

Stormwater Drainage. Short- and long-term impacts on stormwater drainage for Alternative 2 would be similar to those described for Alternative 1. Construction of the proposed JPC would result in the addition of approximately 34 acres of new impervious surface to the proposed JPC site under Alternative 2. Adequate stormwater infrastructure would be included in the design of the new JPC under Alternative 2. The stormwater management system would include appropriate long-term control measures and stormwater runoff control techniques to comply with EISA Section 438 to reduce, limit, and control stormwater runoff to preconstruction rates. Additionally, any native and non-native vegetation disturbed during construction would be restored with native vegetation. Restoring native vegetation in areas of bare soil would also aid in the prevention of soil erosion and reduce runoff rates further minimizing impacts on off-site areas. Compliance with EISA and implementation of erosion-control BMPs would maintain runoff on site and minimize the potential for adverse impacts on downstream water quality.

Communications System. Short- and long-term impacts on the communications system for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would not require the disconnection of communications system service from the Swap Meet facilities or the demolition of these facilities. It is assumed that the DHS would design the communications system to ensure that the new tower and communications infrastructure would not interfere with adjacent communications systems. Additionally, design of the communications tower would ensure that the height and placement of the tower would not interfere with aircraft operations at the Yuma International Airport/Marine Corps Air Station Yuma and comply with all federal, state, and local regulations.

Solid Waste Management. Short- and long-term impacts on solid waste management for Alternative 2 would be similar to those described for Alternative 1. Alternative 2 would not require demolition of the Swap Meet facilities and the associated generation of solid waste. Additionally, long-term impacts would not be offset by the discontinued use associated with the demolished Swap Meet facilities. The overall generation of solid waste would not be expected to exceed the current capacity of the Copper Mountain Landfill. Additionally, DHS would continue to implement a recycling program to divert waste from landfills through reuse and recycling.

3.9.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts for Alternative 3 on the natural gas supply, stormwater drainage, communications system, and solid waste management would be the same as Alternative 1.

Electrical Supply. Short-term impacts on the electrical supply infrastructure would be the same as those described for Alternative 1. Long-term, negligible to moderate, beneficial impacts on the electrical supply infrastructure would occur. Dependent on the solar array option selected, the net change in total electricity consumption is expected to be negligible to moderate, as the new solar PV system would assist in offsetting the consumption of electricity from the power grid.

Water Supply. Short- term impacts on the water supply infrastructure would be the same as those described for Alternative 1. Long-term, negligible to minor, beneficial impacts on water supply infrastructure would occur. Like Alternatives 1 and 2, during operation, the annual potable water demand needed to accommodate the 200 support staff and 500 to 1,000 undocumented noncitizens is estimated to be approximately 17,500 to 30,000 gpd or approximately 6.4 to 10.9 million gallons per year. As noted in **Section 2.5**, a large-scale AWG could produce approximately 1,300 gallons of water per day and the size of the AWS would depend on the cost and feasibility given climate conditions at the site. Additionally, the use of an AWG could increase energy needs; however, the proposed solar PV system could be designed to compensate for this increase in order to make the AWG technology self-sustaining.

Sanitary Sewer and Wastewater. Short-term impacts on the sanitary sewer and wastewater infrastructure would be the same as those described for Alternative 1. Long-term, minor to moderate, beneficial impacts on the sanitary sewer and wastewater infrastructure would occur with the installation of a VF system. Like Alternatives 1 and 2, during operation, it is estimated that approximately 200,000 gallons of wastewater would be produced monthly, or approximately 2.4 million gallons per year and it is anticipated that the VF system would remove up to 99 percent of contaminants from the wastewater. The treated wastewater could be reused for irrigation and landscaping where feasible. DHS would submit a Reclaimed Water General Permit with ADEQ and reuse of treated wastewater would be conducted in accordance with all federal, state, and local rules and regulations.

3.9.3.4 No Action Alternative

Under the No Action Alternative, the proposed infrastructure would not be constructed, and the existing conditions discussed in **Section 3.9.2** would remain unchanged.

3.10 ROADWAYS AND TRAFFIC

3.10.1 Definition of the Resource

The roadways and traffic resource is defined as the system of roadways and highways that are in the vicinity of a proposed project location and could reasonably be affected by a proposed action. Traffic relates to changes in the number of vehicles on roadways and highways as a result of a proposed action.

3.10.2 Affected Environment

Interstate 8 is the primary west-east route and U.S. Highway 95 is the north-south route in Yuma County, Arizona. Both alternative locations are bordered by South Avenue A to the west, West

40th Street to the north, and South 4th Avenue to the east. South Avenue A is a major thoroughfare through the city of Yuma, although it likely gets less traffic at its the southern end where it passes the existing Yuma BPS and ends in a T-intersection at South 4th Avenue. Average Annual Daily Traffic counts for West 40th Street show an average of approximately 790 vehicles during winter months and approximately 495 vehicles in summer months at the checkpoint nearest the alternative locations in 2020 (YMPO 2020).

3.10.3 Environmental Impacts and Minimization Measures

Impacts on transportation are evaluated by how well existing roadways can accommodate changes in traffic. Adverse impacts would occur if drivers experienced high delays because the Proposed Action altered traffic patterns beyond existing lane capacity.

3.10.3.1 Alternative 1: Swap Meet Site

Short- and long-term, negligible to minor, adverse impacts on roadways and traffic would occur under Alternative 1. During construction, daily and peak hour traffic within the vicinity of the proposed JPC would temporarily increase due to the hauling of material and debris, construction equipment, and construction worker commutes to and from the project area. Traffic on nearby roadways would be maintained during construction activities. During operations, adverse impacts would include increased traffic and slightly more roadway deterioration compared to current rates. As part of the Proposed Action, an additional 200 staff would be traveling to work at the proposed JPC resulting in an increase of traffic from personally owned vehicles of staff members during shift changes. Under the Proposed Action, the JPC is anticipated to have the capacity to process 500 undocumented noncitizens, with the potential to expand to 1,000. This would require additional buses, vans, and other modes of transportation used to bring undocumented noncitizens to the JPC each day. The volume and type of traffic related to those types of vehicles is dependent on undocumented noncitizen activities. Additionally, for Alternative 1, cessation of activities at the Yuma Swap Meet would result in reduced traffic traveling in the immediate area Friday through Sunday. Although Alternative 1 would have negligible to minor adverse impacts, the changes in traffic levels associated with the proposed JPC would not be expected to exceed current capacity.

3.10.3.2 Alternative 2: Yuma Airport Authority Site

The impacts on roadways and traffic for Alternative 2 would be the similar to those described for Alternative 1. Traffic traveling in the immediate area Friday through Sunday to the Yuma Swap Meet would continue under Alternative 2.

3.10.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts from Alternative 3 would be the same as those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.10.3.4 No Action Alternative

Under the No Action Alternative, the proposed JPC would not be constructed, therefore no changes to roadways and traffic would occur.

3.11 HAZARDOUS MATERIALS AND WASTES

3.11.1 Definition of the Resource

Hazardous Materials, Hazardous Wastes, and Petroleum Products. Hazardous materials are defined by 49 CFR § 171.8 as hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173. Hazardous wastes are defined by the Resource Conservation and Recovery Act at 42 U.S.C. § 6903(5), as amended by the Hazardous and Solid Waste Amendments, 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."

Certain types of hazardous wastes are subject to special management provisions intended to ease management burden and facilitate the recycling of such materials. These materials are called universal wastes and requirements for managing them are established in 40 CFR Part 273, *Standards for Universal Waste Management*. Wastes covered under the universal waste regulations include batteries, pesticides, mercury-containing equipment, lamps, and aerosol cans.

Petroleum products include crude oil or any derivative thereof, such as gasoline, diesel, or propane. They are considered hazardous materials because they present health hazards to users in the event of incidental releases or extended exposure to their vapors.

Evaluation of hazardous materials and wastes focuses on the storage, transportation, handling, and use of hazardous materials, as well as the generation, storage, transportation, handling, and disposal of hazardous wastes. In addition to being a threat to humans, the improper release or storage of hazardous materials, hazardous wastes, and petroleum products can threaten the health and well-being of wildlife species, habitats, soil systems, and water resources.

Special Hazards. Special hazards are substances that might pose a risk to human health and are addressed separately from hazardous materials and hazardous wastes. Special hazards include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs), all of which are typically found in buildings and utilities infrastructure.

Asbestos is regulated by USEPA under the CAA; Toxic Substances Control Act; and Comprehensive Environmental Response, Compensation, and Liability Act. USEPA has established that any material containing more than 1 percent asbestos by weight is considered an ACM. ACMs are generally found in building materials such as floor tiles, mastic, roofing materials, pipe wrap, and wall plaster. USEPA has implemented several bans on various ACMs between 1973 and 1990, so ACMs are most likely in older buildings (i.e., constructed before 1990). LBP was commonly used prior to its ban in 1978; therefore, buildings constructed prior to 1978 may contain LBP. PCBs are man-made chemicals that persist in the environment and

were widely used in building materials (e.g., caulk) and electrical products prior to 1979. Structures constructed prior to 1979 potentially include PCB-containing building materials.

Environmental Contamination. Environmental contamination sites are also considered during the evaluation of hazardous materials and wastes. A site-specific Phase I Environmental Site Assessment is an excellent method for performing a comprehensive investigation of environmental contamination threats on a specific property.

Radon. Radon is a naturally occurring odorless and colorless radioactive gas found in soils and rocks that can lead to the development of lung cancer. Radon tends to accumulate in enclosed spaces, usually those that are below ground and poorly ventilated (e.g., basements). USEPA established a guidance radon level of 4 picocuries per liter (pCi/L) in indoor air for residences, and radon levels above this amount are considered a health risk to occupants.

3.11.2 Affected Environment

Hazardous Materials, Hazardous Wastes, and Petroleum Products. DHS completed a Phase I Environmental Site Assessment for each of the alternative locations in March 2023 to support the Government's acquisition of the sites. The Phase I Environmental Site Assessment for Location 1 noted that *de minimis* quantities of oils, cleaners, and paint cans were observed in the mechanical and electrical rooms of the grandstand building. Based on visual observations and review of pertinent records, no records of an environmental release were obtained, and no signs of spillage or leakage were observed (DHS 2023b). The Phase I Environmental Site Assessment for Location 2 did not identify any hazardous materials, hazardous wastes, or petroleum products on the site (DHS 2023c).

Special Hazards. The grandstand, a two-story building at Location 1, was constructed in 1961. Although the Phase I Environmental Site Assessment did not include sampling for ACM and LBP, based on the year of construction, this building is suspected to contain ACM and LBP. As stated in the Phase I Environmental Site Assessment, it is assumed that any transformers installed near the time of construction that could have contained PCBs would have been replaced to comply with regulations. One out-of-service, pad-mounted transformer was observed in the vendor area of the Swap Meet Site during the site reconnaissance. It was noted that Location 1 was previously supplied electrical power by Arizona Public Service and the observed transformer was removed from service approximately 15 years ago, but the transformer box was still present at the site. No signs of leakage were observed (DHS 2023b).

Locations 2 does not contain any structures; therefore, ACMs, LBP, and PCBs in building materials do not exist on the site. The Phase I Environmental Site Assessment for this alternative location did not identify electrical transformers or other electrical equipment potentially containing PCBs on the site (DHS 2023c).

Environmental Contamination. The Phase I Environmental Site Assessment for Location 1 did not identify environmental contamination on the site or adjacent properties (DHS 2023b).

The Phase I Environmental Site Assessment for Location 2 noted that based on aerial imagery, the eastern half of the site has been used for crop production for more than 55 years; therefore,

the potential exists for pesticides to be present in surficial soils at the site. The Phase I Environmental Site Assessment further notes that generally, unless a pesticide mixing, storage, or disposal area was present, concentrations of pesticides in subsurface soils tend to be low. No such areas were reported by DHS or known to have existed at the site. However, the Phase I Environmental Site Assessment report recommended that DHS consider collecting surficial soil samples from the site to determine the potential for elevated levels of pesticides in the soil (DHS 2023c).

Radon. USEPA rates Yuma County, Arizona, as Radon Zone 2. Counties in Zone 2 have a predicted average indoor radon screening between 2 and 4 pCi/L (DHS 2023b, DHS 2023c).

3.11.3 Environmental Impacts and Minimization Measures

3.11.3.1 Alternative 1: Swap Meet Site

Hazardous Materials, Hazardous Wastes, and Petroleum Products. Short-term, minor, and long-term, negligible, adverse impacts on hazardous materials and wastes would occur. During construction, short-term impacts would occur from the use of hazardous materials and petroleum products and the generation of hazardous wastes during construction of the proposed JPC and the potential generation of universal waste during demolition of the Swap Meet facilities. 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 in the vehicles and equipment supporting construction and demolition. The *de minimis* quantities of hazardous materials observed in the mechanical and electrical rooms of the grandstand building would be removed prior to demolition of the building. There is a potential for universal wastes such as batteries, pesticides, mercury-containing equipment, lamps, and aerosol cans to be present in the Swap Meet facilities, which would be demolished under Alternative 1. Construction would generate negligible quantities of hazardous wastes. Implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of these materials. Contractors would be responsible for the disposal of universal and hazardous wastes in accordance with federal and state laws at a USEPA-certified landfill approved to accept these types of wastes. All hazardous materials, petroleum products, and hazardous wastes used or generated during construction and demolitions would be contained and stored appropriately (e.g., secondary containment, inspections, spill kits) in accordance with applicable regulations to minimize the potential for releases. Contractors would be required to develop and implement their own SPCC Plan. 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 impacts would occur from the use of hazardous materials and petroleum products and the generation of hazardous wastes during the operation and maintenance of the proposed JPC. Negligible amounts of hazardous materials such as paints, adhesives, solvents, and cleansers would be used during operation and maintenance of the new infrastructure. Operation and maintenance activities that could use or generate hazardous materials, hazardous wastes, and petroleum products include vehicle and equipment maintenance and fueling, pesticide applications, building heating, and emergency power generation. Each of these activities could result in the accidental release of hazardous materials, hazardous wastes, or petroleum products.

However, operation and maintenance activities of the proposed JPC would not appreciably change management practices of hazardous materials, hazardous wastes, and petroleum products when compared to those of the adjacent USBP facilities.

For example, slightly less but similar types and amounts of hazardous materials, hazardous wastes, and petroleum products would be stored, used, and generated at the proposed JPC as compared to the adjacent USBP facilities. If necessary, pesticides would continue to be applied by certified personnel in accordance with the manufacturer's recommendations. Additionally, all hazardous materials, hazardous wastes, and petroleum products would be contained and stored appropriately (e.g., secondary containment, inspections, spill kits) in accordance with applicable regulations to minimize the potential for releases. Spill prevention infrastructure would guard against incidental releases during vehicle and equipment maintenance and fueling activities. DHS would develop and implement an SPCC Plan for the proposed JPC.

Gasoline and diesel for DHS equipment and vehicles would be stored in above-ground storage tanks at the fuel island. These storage tanks would be inspected regularly to ensure they are operating properly and meet all applicable regulatory standards. The gasoline and diesel storage tanks would be double-walled and include leak detection infrastructure. In the event of a leak or spill, all procedures outlined in the SPCC Plan would be followed.

Special Hazards. Short-term, negligible to minor, adverse impacts on special hazards would result from the potential for exposure to ACM and LBP under Alternative 1. Because of its age, the grandstand building is assumed to contain special hazards such as ACM and LBP. Prior to demolition, surveys for these substances would be completed, as necessary, by a certified contractor to ensure that appropriate measures are taken to reduce the potential for exposure to, and release of, these substances. Contractors would wear appropriate personal protective equipment and adhere to all federal, state, and local regulations as well as DHS management plans for these substances. All ACM- and LBP-contaminated debris would be disposed of at a USEPA-approved landfill. Federal policy prohibits the use of ACMs for new construction when asbestos-free materials exist, and federal law prohibits the use of LBP and PCBs in most construction applications.

Demolition of the grandstand building would result in long-term, negligible, beneficial impacts on special hazards from the reduced potential for future human exposure to ACM and LBP. No short- or long-term, adverse impacts on special hazards are expected from operation and maintenance of the new infrastructure.

Environmental Contamination. No impacts from environmental contamination would occur under Alternative 1. No known environmental contamination exists at Alternative 1; therefore, neither construction workers nor building occupants would be exposed to environmental contamination under Alternative 1.

Should unknown, potential environmental contamination be discovered or unearthed during construction activities, construction contractors would immediately cease work, contact appropriate personnel, and await sampling and analysis results before taking any further action. Any unknown wastes determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations.

Radon. No impacts from radon are anticipated. Based on the USEPA rating of Radon Zone 2 for Yuma County, it is unlikely indoor radon screening levels greater than 4 pCi/L would be identified in new construction. Radon gas is typically found in underground or enclosed spaces. The proposed JPC would incorporate design features, such as the installation of ventilation, for radon management if determined to be needed. Post-construction radon management measures would be installed in the unlikely event the proposed JPC tested at 4 pCi/L or higher.

3.11.3.2 Alternative 2: Yuma Airport Authority Site

Hazardous Materials, Hazardous Wastes, and Petroleum Products. Short- and long-term impacts on hazardous material and wastes for Alternative 2 would be similar to those described for Alternative 1. Compared to Alternative 1, the only difference is that no building demolition would occur; therefore, universal waste associated with the Swap Meet facilities would not be generated and the *de minimis* quantities of hazardous materials observed in the mechanical and electrical rooms of the grandstand building would remain under Alternative 2.

Special Hazards. No impacts from special hazards would occur under Alternative 2. The proposed JPC site for Alternative 2 does not contain ACMs, LBP, or PCBs; therefore, they would not need to be removed prior to or during construction of the proposed JPC. Federal policy prohibits the use of ACMs for new construction when asbestos-free materials exist, and federal law prohibits the use of LBP and PCBs in most construction applications. Therefore, neither construction workers nor building occupants would be exposed to these special hazards at the proposed JPC.

Environmental Contamination. Short-term, negligible to minor, adverse impacts could occur. Although the potential is low, should it be determined that elevated levels of pesticides are present in soils, DHS would develop a plan to manage or dispose of contaminated soil in accordance with applicable laws and regulations prior to any ground-disturbing activities.

Should unknown, potential environmental contamination be discovered or unearthed during construction activities, construction contractors would immediately cease work, contact appropriate personnel, and await sampling and analysis results before taking any further action. Any unknown wastes determined to be hazardous would be managed or disposed of in accordance with applicable laws and regulations.

Radon. Impacts from radon for Alternative 2 would be the same as those described for Alternative 1.

3.11.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Impacts from Alternative 3 would be the same as those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.11.3.4 No Action Alternative

Under the No Action Alternative, the proposed infrastructure would not be constructed, and the existing conditions discussed in **Section 3.11.2** would remain unchanged.

3.12 SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

3.12.1 Definition of the Resource

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs agencies to identify and address the environmental effects of their actions on minority and low-income populations. The EO was enacted to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with the respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. CEQ defines that minority populations exist if (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (EO 12898 [1994]).

EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, affirms that environmental justice is central to the implementation of our civil rights and environmental laws. It directs agencies to consider measures to address and prevent disproportionate and adverse environmental and health impacts on communities, including the cumulative impacts on pollution and other burdens like climate change. The EO establishes the White House Office of Environmental Justice, which is led by the Federal Chief Environmental Justice Officer, and tasks it with coordinating the implementation of environmental justice policy across the Federal Government, ensuring that federal efforts evolve alongside our understanding of environmental justice.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Children might be more susceptible than adults to certain environmental effects and risks. Therefore, activities occurring near areas that could have higher concentrations of children during any given time, such as schools and childcare facilities, might further intensify potential impacts on children.

Considerations of concerns related to environmental justice and protection of children include race, ethnicity, and the poverty status of populations in the vicinity of a proposed action.

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity. Regional birth and death rates and immigration and emigration affect population levels. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these fundamental socioeconomic indicators typically result in changes to additional socioeconomic indicators, such as housing availability and the provision of public services. Socioeconomic data at local, county, regional, and state levels permit characterization of baseline conditions in the context of regional and state trends.

Demographics and employment characteristics data provide key insights into socioeconomic conditions that might be affected by a proposed action. Demographics identify the population

levels and the changes in population levels of a region over time. Data on employment characteristics identify gross numbers of employees (more than 16 years old and in the labor force), employment by industry, and unemployment trends. Data on personal income in a region can be used to compare the "before" and "after" effects of any jobs created or lost as a result of a proposed action. Data on industrial or commercial growth or growth in other sectors of the economy provide baseline and trend line information about the economic health of a region.

Socioeconomic data shown in this section are presented at census tract(s), county, and state levels to characterize baseline socioeconomic conditions in the context of regional and state trends.

3.12.2 Affected Environment

For the purposes of this socioeconomic analysis, three different spatial levels are used, as follows:

- City of Yuma, Arizona
- Yuma County, Arizona
- State of Arizona

The city of Yuma was evaluated because that is where most of the construction workers and supplies for the Proposed Action would likely come from. The city of Yuma within Yuma County best illustrates socioeconomic characteristics for where most impacts from the Proposed Action would be expected because it encompasses the specific populations associated with the alternative locations. Data from the city of Yuma, Yuma County, and the state of Arizona are provided for comparison in **Tables 3-12** and **3-13**.

Table 3-12 2015 and 2020 Total Population in the Region of Influence

Location	2010 Population	2020 Population	2015 to 2020 Percent Change
City of Yuma	93,064	95,548	+2.6%
Yuma County	195,751	203,881	+4%
Arizona	6,392,017	7,151,502	+10.7%

Source: USCB 2023a, 2023b, 2023c

Table 3-13 2021 Demographics in Yuma, Yuma County, and the State of Arizona

Categories	City of Yuma	Yuma County	Arizona
Population 16 years and Older	73,289	160,561	5,852,913
Median Household Income (dollars)	$54,260	$57,304	$69,056
Unemployment Rate	4.5%	4.4%	3.4%
Poverty Rate	17.1%	17.3%	12.8%
Employment by Industry			
Agriculture, forestry, fishing and hunting, and mining	4.1%	9.9%	1.2%
Construction	5.2%	6.1%	7.3%
Manufacturing	3.8%	5.3%	7.2%
Wholesale trade	3.2%	3.3%	2.2%
Retail trade	13.5%	11.4%	12%
Transportation and warehousing, and utilities	5.7%	5.6%	5.6%
Information	1.1%	1.0%	1.8%
Finance and insurance, and real estate and rental and leasing	5%	3.8%	8.7%

Categories	City of Yuma	Yuma County	Arizona
Professional, scientific, and management, and administrative and waste management services	8.6%	8.4%	12.5%
Educational services, and health care and social assistance	24.2%	21.5%	22.1%
Arts, entertainment, and recreation, and accommodation and food services	11.3%	10.6%	10%
Other services, except public administration	4%	4.2%	4.6%
Public administration	10.3%	8.9%	4.8%

Source: USCB 2023

Socioeconomics

Demographics. The city of Yuma, Yuma County, and the state of Arizona had an increase in total population between 2010 and 2020. The alternative locations are in the city of Yuma in Yuma County, Arizona. The city of Yuma is the county seat for Yuma County. Approximately 46.8 percent of residents living in Yuma County live in the city of Yuma. The city of Yuma has experienced a 2.6 percent population growth since 2010 and Yuma County has experienced a 4 percent population growth (USCB 2023a, USCB 2023b, USCB 2023c).

Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other. A potential disproportionate impact could occur when the percent minority in the study area exceeds 50 percent and/or the percent low-income exceeds 20 percent of the population. Most of the population identifies as Hispanic or Latino in the city of Yuma (61.6 percent) and Yuma County (65.5 percent) compared to the statewide Hispanic or Latino population of 30.7 percent (USCB 2023a, USCB 2023b, USCB 2023c).

Employment and Economic Activity. The 2021 American Community Survey data indicate the unemployment rate within the city of Yuma (4.5 percent) was higher compared to Yuma County (4.4 percent) and the state of Arizona (3.4 percent). The median household income in the city of Yuma is lower than that of Yuma County and the state of Arizona. As of 2021, the industry that employed the lowest percentage of the workforce population for all spatial levels was Information. The Educational services, and health care and social assistance industry was the most common employer for all spatial levels (USCB 2023a, USCB 2023b, USCB 2023c).

Poverty status is used to define low-income. Poverty is defined as the number of people with income below poverty level, which was $30,000 for a family of four in 2023 (HHS 2023). The poverty rate in the city of Yuma is 17.1 percent. Yuma County is 17.3 percent, which is higher than the United States poverty rate of 12.8 percent (USCB 2023a, USCB 2023b, USCB 2023c).

Public Services. Public services include fire protection, emergency medical services, law enforcement, schools, libraries, and parks. Locations 1 and 2 are in the city of Yuma in an urban area with multiple fire protection, emergency medical services, law enforcement, schools, libraries, and parks; however, none occur within 1,000 feet of the alternative locations. The Yuma Sector Headquarters Complex is west of Location 1 and north of Location 2, and the Yuma International Airport is east of both locations.

Environmental Justice and the Protection of Children

To assess environmental justice impact on the local community, the USEPA Environmental Justice Screening and Mapping Tool (EJScreen) and the CEQ Climate and Economic Justice Screening Tool were utilized. EJScreen provides demographic socioeconomic and environmental information for a selected area. The Climate and Economic Justice Screening tool identifies disadvantaged (overburdened and underserved) areas using demographic and environmental indicators.

EJScreen identified the following environmental justice indicators as outlined in **Table 3-14**. The Environmental Justice Index indicators combines data on low income and people of color populations with a single environmental indicator (USEPA 2023c). Values for the environmental justice indicators above the Arizona and/or United States average in the alternative locations are indicated in bold text.

Table 3-14 EJ Screen Environmental Justice Indicators

Environmental Justice Indicators	Value in Project Area	Arizona		United States	
Pollution and Sources		**Average**	**Percentile**	**Average**	**Percentile**
Particulate Matter 2.5 (µg/m^3)	**8.63**	7.24	84	8.67	51
Ozone (ppb)	**46.6**	54.2	2	42.5	84
Diesel Particulate Matter (µg/m^3)	**0.374**	0.318	55	0.294	70–80
Air Toxics Cancer Risk (lifetime risk per million)	**40**	32	96	28	95–100
Air Toxics Respiratory	**0.5**	0.37	97	0.36	95–100
Traffic Proximity (daily traffic count/distance to road)	71	570	23	760	28
Lead Paint (% Pre-1960 Housing)	0	0.08	0	0.27	0
Superfund Proximity (site count/km distance)	**0.25**	0.077	97	0.13	89
RMP Facility Proximity (facility count/km distance)	**1.1**	0.62	85	0.77	77
Hazardous Waste Proximity (facility count/km distance)	0.76	1.4	45	2.2	51
Underground Storage Tanks (count/km^2)	0.29	1.7	37	3.9	34
Socioeconomic Indicators					
Demographic Index	31%	38%	46	35%	53
Supplemental Demographic Index	13%	15%	51	15%	51
People of Color	24%	46%	30	40%	43
Low Income	**39%**	33%	63	30%	67
Unemployment Rate	0%	6%	0	5%	0
Limited English Speaking	0%	4%	0	5%	0
Less Than High School Education	8%	12%	52	12%	49
Under Age 5	0%	6%	0	6%	0
Over Age 64	**70%**	18%	95	16%	99
Low Life Expectancy	18%	19%	33	20%	37

Key: µg/m – micrograms per meter, ppb – parts per billion, km – kilometer

The Climate and Economic Justice Screening Tool identified the parcel of the alternative locations as disadvantaged because it meets more than one burden threshold and the associated socioeconomic threshold. There is a projected wildfire risk (projected risk to properties from wildfire from fire fuels, weather, humans, and fire movement in 30 years) in the alternative locations as it is above the 90th percentile threshold. The alternative locations are also above the 90th percentile thresholds for diabetes (share of people ages 18 years and older who have diabetes other than diabetes during pregnancy) and heart disease (share of people ages 18 years and older who have been told they have heart disease). Additionally, the alternative locations are considered above the 90th percentile for unemployment (number of unemployed people as a part of the labor force) and above the 10th percentile threshold for high school education (percent of people ages 25 years or older whose high school education is less than a high school diploma), and considered low income (low-income people in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher education) as it is above the 65th percentile threshold (CEQ 2023b).

3.12.3 Environmental Impacts and Minimization Measures

Impacts on socioeconomics, environmental justice, and protection of children were assessed to determine whether the Proposed Action and alternatives could result in any of the following major, adverse impacts:

- Substantial change in the local or regional population and in housing or public services from the increased or decreased demands of the population change
- Substantial change in the local or regional economy, employment, or business volume
- Disproportionately adverse human health and environmental impacts on minority, low-income, or child populations.

3.12.3.1 Alternative 1: Swap Meet Site

Socioeconomics

Construction, operation, and maintenance of the Proposed Action would not result in major impacts on socioeconomics. The Proposed Action is not anticipated to result in short- or long-term population increases; however, presence of a new JPC designed to accommodate up to 200 support staff and up to 500 undocumented noncitizens in processing (with possibility of extension to accommodate 1,000 undocumented noncitizens) could result in long-term, minor, adverse impacts on public services (fire protection/emergency medical services). Construction of the proposed JPC would result in short-term, minor, beneficial impacts on the local economy and employment.

Demographics. The construction workforce for the Proposed Action would likely come from the existing workforce within the city of Yuma and Yuma County and adjacent counties. There are 1,994 construction workers in the city of Yuma and 4,563 in Yuma County, which collectively should be adequate to meet the construction demands of the proposed JPC and ancillary support facilities. Additionally, the construction activities should not necessitate out-of-town workers to permanently relocate to the area. Therefore, short- and long-term population

increases would not occur from construction activities so there would be no impacts on population or housing.

The proposed JPC would be designed to accommodate 200 support staff and over time, additional DHS personnel may be hired as needed. Relocation of existing DHS staff for operation of the proposed JPC is assumed to be negligible as the population of Yuma is approximately 95,000 and 200 additional citizens would not have a significant effect on population demographics. In the event DHS increases the personnel at the proposed JPC, impacts would be long-term, indirect, negligible, and beneficial.

Substantial population increases during construction would not be expected to occur because construction workers and most JPC support staff would likely be existing residents. No long-term impacts on social conditions, including property values, school enrollment, county or municipal expenditures, or crime rates due to population increases would be anticipated during construction.

Employment and Economic Activity. Construction of the proposed JPC and ancillary support facilities would result in the employment of construction workers and the purchase of construction-related materials and other goods and services (e.g., purchase of building materials), as well as secondary purchases such as retail purchases made by workers. Building materials are presumed to be sourced locally, when possible. Similarly, construction workers from the city of Yuma, Yuma County, or surrounding areas would be employed, resulting in beneficial impacts on local employment. Construction expenditures for building materials, construction workers' wages and taxes, and purchases of goods and services in the area would result in short-term, direct and indirect, minor, beneficial impacts on the local economy and employment.

Maintenance and operation of the proposed JPC are expected to result in minimal purchases of maintenance supplies and secondary purchases of goods and services by DHS personnel in the local economy. In the event DHS increases personnel at the proposed JPC, there could be indirect, beneficial impacts, as any additional personnel would increase the tax revenue. The Proposed Action would result in long-term, direct and indirect, negligible, beneficial impacts on the local economy.

The Swap Meet is open Friday through Sunday and attracts 10,000 people every week for shopping, food, and entertainment. Under Alternative 1 the Swap Meet would be relocated or closed. The closing of the Swap Meet would result in long-term, direct and indirect, moderate, adverse impacts on the local economy and employment in Yuma due to the loss of employment and goods being exchanged. However, it is likely the Swap Meet would be relocated to a new location in Yuma, in which case, a short-term, minor, adverse impact on the local economy and employment would occur while it is being established at a new location.

Public Services. No population increases are anticipated to occur as a result of construction and operation of the proposed JPC. Therefore, demand on schools, libraries, parks, and recreational facilities in the city of Yuma and Yuma County would not change from the Proposed Action. These public services would not be affected because the existing capacity would continue to be sufficient to serve the local population. General public safety and law enforcement services at the proposed JPC would be provided primarily by DHS, as well as the Yuma County Sheriff's

Department. The temporary presence of construction workers at the proposed JPC project area during construction and the permanent presence of the proposed JPC and ancillary support facilities would not increase demand on local law enforcement services. The Proposed Action would have no impact on schools, libraries, parks, and recreational facilities, and long-term, negligible to minor, adverse impacts on emergency and law enforcement services.

Environmental Justice and Protection of Children

Poverty rates are elevated compared to the state of Arizona, and the median household income is lower than the state of Arizona. The city of Yuma and Yuma County have a Hispanic or Latino population of 61.6 and 65.5 percent, respectively. The Proposed Action would occur in areas where minority populations exceed 50 percent of the population and where the poverty rate is higher than the state average. Therefore, a likelihood exists that the Proposed Action could affect minority populations at a disproportionate rate due to the proximity of these populations near the project areas. However, impacts would be minor and temporary as construction of the JPC would not have long-term adverse environmental or human health consequences.

Noise-sensitive receptors near the proposed JPC alternative locations include a residential area approximately 1,000 feet north of Alternative 1, and 2,000 feet north of Alternative 2; a school and church approximately 1,300 feet north of Alternative 1, and 3,000 feet northeast of Alternative 2; and a civic center more than 3,500 feet from both Alternatives 1 and 2. The three nearest noise-sensitive receptors are within the 65 dB noise contour associated with Marine Corps Air Station Yuma and the 65 dB noise contour used by the county. The school/church and a portion of the residential area also are within the 70 dB county noise contour (NAVFAC 2019, Yuma County 2012). The sensitive receptors near both alternatives are approximately the same. Increased noise and traffic during construction and operation could affect immediately surrounding populations (see **Section 3.7**). During construction, these effects would be temporary, lasting for the duration of construction, and intermittent during daytime hours (7 a.m. to 5 p.m.). Increased noise during operation would be minimal. Construction and operations impacts would be minimal and temporary (construction) or intermittent (operations).

Activities occurring near areas that could have higher concentrations of children during any given time, such as schools and childcare facilities, might result in potential impacts on children. Children under the age of 18 make up approximately 26 percent of the city of Yuma. Residences within 1,000 feet of the proposed JPC site are not expected to experience increased noise levels beyond the ambient noise environment of 65 to 70 dB. The nearest childcare facilities, schools, or libraries 1,300 feet north of Alternative 1 would not experience noise levels above 65 dB, which is consistent with the ambient noise environment in those areas.

3.12.3.2 Alternative 2: Yuma Airport Authority Site

Impacts from Alternative 2 would be the similar to those described for Alternative 1. Alternative 2 would have no impact on the operation of the Swap Meet.

3.12.3.3 Alternative 3: Yuma Swap Meet Site with Net-Zero Technologies

The impacts from Alternative 3 on socioeconomics, environmental justice, and the protection of children are anticipated to be the same as those described for Alternative 1 (use of normal operations for utilities such as electricity, wastewater, and potable water).

3.12.3.4 No Action Alternative

Under the No Action Alternative, the JPC would not be constructed, and the existing conditions would remain as described in **Section 3.12.2**. There would be no impacts on people, so there would not be a disproportionately high and adverse human health or environmental effects on socioeconomic status or environmental justice indicators.

3.13 HUMAN HEALTH AND SAFETY

3.13.1 Definition of the Resource

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. Safety addresses workers' and public health and safety during any construction, demolition, or project activities (CBP 2016).

Construction safety is largely a matter of adhering to regulatory requirements imposed for the benefit of employees and implementation of operational practices to reduce risks of illness, injury, death, and property damage. The health and safety of on-site construction workers are safeguarded by OSHA and USEPA standards, which specify the amount and type of training required for industrial workers, the use of personal protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors (CBP 2019).

Safety and accident hazards can often be identified and reduced or eliminated. Necessary elements for an accident-prone situation or environment include the presence of the hazard itself together with the exposed (and possibly susceptible) population. The degree of exposure depends primarily on the proximity of the hazard to the population. Activities that can be hazardous include transportation, maintenance and repair activities, and the creation of extremely noisy environments. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications (CBP 2019).

3.13.2 Affected Environment

Contractor Safety

Human health and safety concerns during construction, operation, and maintenance of a new permanent multi-agency facility could involve exposing workers to hazards that pose a health or safety risk. Construction site safety is largely a matter of planning, training, and adherence to regulatory requirements. These regulatory requirements are imposed for the benefit of employees, and they implement operational practices that reduce risks of illness, injury, death, and property damage. OSHA issues standards that specify the amount and type of safety training and education required for industrial workers, the use of protective equipment and clothing,

engineering controls, and maximum exposure limits with respect to workplace stressors (29 CFR Parts 1910 and 1926). DHS applies and adheres to these standards in policy and practice.

DHS Personnel Safety

DHS personnel are responsible for complying with the OSHA and DHS safety and health requirements. DHS Directive 066-01, *Safety and Health Programs*, establishes DHS's policies, responsibilities, and requirements regarding safety and health programs. The purpose of DHS safety and health programs are to prevent or minimize the loss of DHS resources and to protect employees, contractors, and the visiting public from accidental death, injury, or illness by managing risks through implementation of the tenets of operational risk management and response plans.

Public Safety

Existing conditions related to public safety (including detainees) in the vicinity of the alternative locations are discussed below.

The Yuma County Sheriff's Department provides general public safety and law enforcement services at and near the alternative locations. The Yuma County Sheriff's Department is approximately 5.1 miles north of Location 1 and 5.7 miles north of Location 2. The Yuma Police Department provides traffic law enforcement services on public roadways in Yuma, Arizona.

Three hospitals are within Yuma County. The closest hospital to the alternative locations is Yuma Regional Medical Center, approximately 2 miles north (address: 2400 South Avenue A, Yuma, Arizona). The Yuma Regional Medical Center contains 406 beds and provides medical and surgical, emergency, critical care, and rehabilitation services (Yuma Regional Medical Center 2023). Medical response teams serving the area include ambulance and emergency air transportation. The nearest ambulance service is the Yuma Fire Department Station No. 2, approximately 1.2 miles north of both locations. AeroCare Medical Transport, approximately 0.6 miles east of Location 1 and 1.2 miles northeast of Location 2 provides emergency air transport.

The closest fire station is the Yuma Fire Department Station No. 2, approximately 1.2 miles north of the alternative locations, at 3284 South Avenue A, Yuma, Arizona. There are six fire stations in the city of Yuma capable of responding to a fire-related emergency (City of Yuma 2023e).

The County of Yuma Vector Control Program is responsible for the protection of public health through management of mosquitoes that are vectors for human disease, including West Nile virus. West Nile virus carrying mosquitoes are most active at night and are found near wetlands (Yuma County 2023c).

Airport Safety Considerations

Yuma International Airport, which shares its airfield with Marine Corps Air Station Yuma, is just south and east of the alternative locations. The runway system consists of four runways – two parallel runways, 3L/21R and 3R/21L, and Runways 17/35 and 8/26 which are

perpendicular. The airfield safety areas associated with these runways include the Runway Safety Area, Obstacle Free Zone, Runway Object Free Area, and Runway Protection Zone (YCAA 2022). Neither of the alternative locations fall within airfield safety areas associated with Yuma International Airport.

3.13.3 Environmental Impacts and Minimization Measures

Any increase in safety risks would be considered an adverse impact on health and safety. An impact would be considered major and adverse if a proposed action would do the following:

- Substantially increase risks associated with the safety of construction personnel, DHS personnel, or the local community.
- Substantially hinder the ability to respond to an emergency.
- Introduce a new health or safety risk for which DHS does not have adequate management and response plans in place.

3.13.3.1 Alternative 1: Swap Meet Site

It is DHS policy to exercise environmental due diligence prior to the acquisition of a property. Information provided during due diligence provides a baseline of environmental conditions at the project area and is used to identify removal or remedial actions necessary to make the real property suitable for use, establish mitigation measures, and provide for the health and safety of DHS personnel. The proposed JPC would be constructed in accordance with DHS guidelines and incorporate security features (e.g., signage, monitoring and surveillance technologies) as necessary to protect the occupants and assets housed at the JPC.

Contractor Safety

Short-term, negligible to minor, adverse impacts on contractor safety would be expected during for Alternative 1. Demolition and construction would pose an increased risk of construction-related accidents; however, adherence to established federal and state safety regulations would reduce this risk. Employer responsibilities would include assessing potential hazardous workplace conditions; monitoring employee exposure to workplace chemical, physical, and biological agents, and ergonomic stressors; recommending and evaluating controls to ensure exposure to personnel is eliminated or adequately controlled; and ensuring a health and safety program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection, or engaged in hazardous waste, or other work requiring medical monitoring. Employers are responsible for ensuring workers have all training needed to safely perform their job duties. Employers are also responsible for providing any personal protective equipment needed by the workers. Workers would be required to wear personal protective equipment (PPE) such as ear protection, steel-toed boots, hard hats, gloves, and other appropriate safety products and comply with site rules and OSHA regulations. Construction areas would be fenced and appropriately marked with signs to prevent trespassing. All equipment operators must be fully trained and qualified for their assigned equipment. Workers must possess any certifications or licenses required for their specific role or task. Only certified contractors would be allowed to perform remediation of special hazards such as ACM, LBP, or PCBs; would wear appropriate PPE at all times; and be required to adhere to all federal, state, and local regulations

during abatement. A project-specific Health and Safety Plan would be prepared detailing all potential hazards and site-specific guidance to ensure potential safety risks are minimized. The plan would include emergency response and evacuation procedures; operating manuals; PPE recommendations; procedures for handling, storing, and disposing of hazardous materials and wastes, to include universal wastes; information on the effects and symptoms of potential exposures; and guidance with respect to hazardous identification.

DHS and Public Safety

Impacts on health and safety from the construction and operation of the proposed JPC could be long-term, minor, and beneficial. The Proposed Action would provide a new JPC facility with additional space to accommodate DHS staff, undocumented noncitizens, vehicles, equipment, emergency generators, and utilities. The Proposed Action is needed is to relieve capacity within existing facilities and aid in humanitarian efforts along the United States/Mexico international border to ensure the security, placement, and successful transition of refugees. The JPC would have more than one safe egress route for use in case of an emergency. No impacts on public health or safety would be expected during construction. The construction area would be fenced with signage posted to further reduce safety risks to the public and the access gates would be locked after operational hours. BMPs implemented during construction would reduce public exposure to construction hazards such as fugitive dust, excessive noise, and standing water which could be a mosquito breeding source resulting in exposure to mosquito-borne diseases. Long-term, beneficial impacts could occur on public health and safety (health and safety of detainees) from increased space and relieving capacity in the existing detainment structures. As appropriate, the DHS personnel at the proposed JPC would be responsible for the safety of any individuals at the JPC.

Airport Safety Considerations

Short-term, negligible to minor, adverse impacts during construction could occur. Yuma International Airport would be contacted prior to construction to ensure no impacts to airport operations would occur. If necessary, a Notification of Proposed Construction or Alteration would be provided to the FAA. BMPs and safety considerations regarding height and location of the communications tower as well as crane height would be coordinated with the FAA prior to construction and operation.

3.13.3.2 Alternative 2: Yuma Airport Authority Site

Impacts for Alternative 2 would be similar to those described for Alternative 1. Demolition of the Swap Meet facilities would not occur under Alternative 2.

3.13.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Under Alternative 3, impacts on contractor safety and airport safety considerations would be the same as Alternative 1. Long-term, minor, adverse impacts on DHS and public health and safety from the VF system could occur. Because the treated wastewater could be discharged into a new evaporation pond, there is a potential for the pond to become a potential mosquito breeding area. Vector-borne diseases can cause serious human health problems, including encephalitis and West Nile virus. However, the depth of the water in the pond is expected to range from 0 to 3 inches and not last more than 4 days. Mosquitos generally rely on shallow ponds of less than 3 feet that

exist for more than 7 days or deeper pools with vegetation. Therefore, the evaporation pond associated with the VF system is not expected to contain water for long enough periods to become a mosquito breeding area. However, if mosquito breeding becomes apparent, DHS would coordinate with the Yuma County Public Health Services District to address the problem with an approved larvicide or other control method.

3.13.3.4 No Action Alternative

Under the No Action Alternative, a new JPC would not be constructed, and the proposed construction activities would not occur. The existing SSFs were designed to be temporary structures and are undersized for the current needs, resulting in the overcrowding of detainees. Keeping the existing facilities in place long-term would negatively impact the health and safety of the public as the facilities are inadequate to safely or efficiently accommodate and process detainees. Under the No Action Alternative, the proposed infrastructure would not be constructed, and the existing conditions would remain unchanged. Under the No Action Alternative, the existing detainment holding structures would remain at capacity and overcrowded. Therefore, long-term, moderate, adverse impacts on human health and safety would be expected.

3.14 SUSTAINABILITY AND GREENING

3.14.1 Definition of the Resource

Sustainability is defined as the means to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling social, economic, and other requirements of present and future generations of Americans (42 U.S.C. § 4321 et seq.). Under 40 CFR Part 1502, agencies are directed to consider the energy requirements and conservation potential of various alternatives and mitigation measures.

Regulations shaping Federal Government sustainable planning and management practices include the Energy Policy Act (EPACT) of 2005, the EISA of 2007, CEQ's 2020 *Guiding Principles for Sustainable Federal Buildings and Associated Instructions,* and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (signed December 8, 2021).

The EPACT focused on developing and maintaining reliable and cost-effective energy infrastructure and includes renewable energy requirements for federal agencies. EISA sets targets to reduce fossil fuel-generated energy consumption in new federal construction and major renovation projects. The *Guiding Principles for High Performance Sustainable Federal Buildings* integrate sustainable building practices and principles to ensure federal buildings (1) Employ Integrated Design Principles, (2) Optimize Energy Performance, (3) Protect and Conserve Water, (4) Enhance the Indoor Environmental Quality, (5) Reduce the Environmental Impact of Materials, and (6) Assess and Consider Building Resilience.

EO 14057 sets government-wide sustainability goals, which include 100 percent carbon pollution-free electricity by 2030, 100 percent zero-emission vehicle acquisitions by 2035, a net-zero emissions building portfolio by 2045, a 65 percent reduction in scope 1 and 2 GHG

emissions from federal operations by 2030 from 2008 levels, net-zero emissions from federal procurement, climate resilient infrastructure and operations, and a climate- and sustainability-focused federal workforce.

DHS Directive 025-01, Rev. 01, *Sustainable Practices for Environmental, Energy and Economic Performance*, establishes a policy to develop and implement sustainable practices programs to help ensure that operations and actions are carried out in an environmentally, economically, and fiscally sound manner.

3.14.2 Affected Environment

It is the practice of DHS to apply sustainable development concepts to the planning, design, construction, and major alteration of facilities and infrastructure projects, consistent with budget and mission requirements. A sustainable facility achieves optimum resource efficiency and constructability while minimizing adverse impacts to the built and natural environments throughout its life cycle. Sustainable buildings can save energy and protect the environment while providing a more inviting and productive work environment for employees. This can be achieved with little or no adverse impact on the traditional project goals of cost, quality, and schedule. DHS is committed to responsible environmental stewardship by incorporating principles of sustainable facility design and energy efficiency into its projects. DHS's progress toward meeting its sustainability targets for reduced GHG emissions, energy and water consumption, reduced waste generation, and efficient building performance is reported in the DHS Strategic Sustainability Plan (DHS 2021b).

The proposed JPC design and construction would meet USBP facilities guidelines and security standards. The new facilities would be designed to comply with the CEQ's 2020 *Guiding Principles for Sustainable Federal Buildings and Associated Instructions*. In accordance with EO 14057, new construction and modernization projects greater than 25,000 gross ft^2 entering the design phase in Fiscal Year 2022 and beyond would be designed to be net-zero emissions by 2030, and where feasible, net-zero for potable water and wastewater.

3.14.3 Environmental Impacts and Minimization Measures

3.14.3.1 Alternative 1: Swap Meet Site

Impacts on the sustainability of resources and DHS operations from the incorporation of sustainability strategies would be long-term, minor, and beneficial because the new JPC facilities would meet mission requirements while reducing consumption of energy, water, and raw materials. It would also replace an older building that likely does not have sustainable or energy-efficient facilities. Long-term, negligible, adverse impacts would be expected from the disturbance of open spaces that would occur to accommodate construction and operation of the proposed JPC and ancillary support facilities. Compliance with the Guiding Principles, NEPA, EISA, EPACT, EOs 13834 and 14057, and DHS's sustainability and performance policies would be met through incorporation of sustainable development strategies and technologies into the design, construction, operation, and maintenance of the proposed JPC.

3.14.3.2 Alternative 2: Yuma Airport Authority Site

Similar to Alternative 1, Alternative 2 impacts on the sustainability of resources and DHS operations from the incorporation of sustainability strategies would be long-term, minor, and beneficial because the new JPC facilities would meet mission requirements while reducing, or completely avoiding, depletion of critical resources like energy, water, and raw materials. Long-term, minor, adverse impacts would be expected from the disturbance of green and open spaces that would occur to accommodate construction and operation of the proposed JPC. Compliance with the Guiding Principles, NEPA, EISA, EPACT, EO 13834 and 14057, and DHS's sustainability and performance policies would be met through the same incorporation of sustainable development strategies and technologies into the design, construction, and operation of the proposed JPC as Alternative 1.

3.14.3.3 Alternative 3: Swap Meet Site with Net-Zero Technologies

Under Alternative 3, impacts on the sustainability of resources and DHS operations from the incorporation of sustainability strategies would be similar to, but more beneficial than the impacts under Alternative 1 due to the additional net-zero technologies. In particular, Alternative 3 would help meet the goals associated with EO 14057 through a building that would be net-zero for emissions, potable water, and/or wastewater.

3.14.3.4 No Action Alternative

Under the No Action Alternative, DHS personnel would continue to use the existing SSFs. DHS would continue to incorporate environmentally sustainable practices (e.g., solid waste recycling, energy and water conservation practices) where possible into the daily operation and maintenance of the existing SSFs, long-term, minor, adverse impacts on resource sustainability would be expected from the continued operation of the existing SSFs, as it does not incorporate the same green building practices that a permanent building would, and the existing technologies and infrastructure would limit the capacity for expanding sustainable practices and compliance with federal and state sustainability regulations.

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4 CUMULATIVE AND OTHER IMPACTS

4.1 CUMULATIVE IMPACTS

CEQ defines cumulative impacts as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant past, present, and foreseeable future actions. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental impacts from the combined impacts of past, current, and reasonably foreseeable future projects in accordance with CEQ regulations implementing NEPA and CEQ guidance on cumulative effects (CEQ 1997). The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources such as soils and vegetation are narrow and focused on the location of the resource. The geographic scope of air quality and wildlife and sensitive species is much broader and considers more county- or region-wide activities. Projects that were considered for this analysis were identified by reviewing DHS documents; news releases and published media reports; and publicly available information and reports from federal, state, and local agencies. Projects that do not occur in proximity (i.e., within several miles) of the proposed project area would not contribute to a cumulative impact and are generally not evaluated further.

4.1.1 Past, Present, and Reasonably Foreseeable Future Actions

Past actions are those within the cumulative impacts analysis areas that have occurred prior to the development of this EA. The impacts of these past actions are generally described in **Section 3**. Present actions include current or funded construction projects, DHS or other agency operations near the proposed site, and current resource management programs and land use activities within the cumulative impacts analysis areas. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following activities are present or reasonably foreseeable future actions:

- *Morelos Dam/Yuma 6 (FY19 2808, 1 mile)*: This project consists of closing four gaps in the existing secondary border barrier along the Colorado River near Morelos Dam in Yuma County, Arizona. The gaps range between 50 and 1,350 feet in width. The project also includes the implementation of make safe activities, including the implementation of erosion control measures, completion of safety work on border access roads, revegetation of disturbed areas, drainage completion and/or repair, implementation of SWPPP and BMPs, and removal of any remaining construction equipment and materials from the project area. Work has begun and is scheduled to be complete in July 2023.
- *Border Monument 198/Yuma Hill*: This project consists of adding approximately 400 feet of border barrier between pre-existing primary pedestrian fencing to the west and east of Yuma Sector's Monument 198. The project area is approximately 22 miles

east of the San Luis Port of Entry and would be constructed within the 60-foot Roosevelt Reservation adjacent to the Barry M. Goldwater Range. Construction has begun and is scheduled to be complete in August 2023.

- *CBP Sector Headquarters Annex Slope Stabilization:* This project consists of stabilizing a section of the western slope of the Yuma Sector Headquarters Complex property, located at 4035 South Avenue A, Yuma, Arizona. A section of the western slope of the property has degraded over time and requires reinforcement by construction of a retaining wall. This project has not yet started.
- *Temporary SSF*: This project is located in the parking lot between the Yuma Sector Headquarters Complex and the Swap Meet Site and has expanded into the 10-acre parcel to the southeast of the Headquarters Complex.
- *US 95 Corridor Widening and Construction:* This Arizona Department of Transportation (AZDOT) project consists of improving safety and traffic flow on U.S. 95 between Rifle Range Road (milepost 35) and the Wellton-Mohawk Canal Bridge (milepost 39). Crews would reconstruct and widen the existing two-lane roadway into a five-lane roadway, while also replacing the bridge over the Wellton-Mohawk Canal. Additional work includes roadway excavation, drainage improvements, removing and replacing the pavement and applying new pavement markings. Phase 1 was completed in Fall 2022. Phase 2 includes the widening of 2.96 miles of road between Rifle Range Road (milepost 35) and the Wellton-Mohawk Canal Bridge (milepost 39). Construction is scheduled to begin in early spring 2023 and be complete in summer 2024 (AZDOT 2023).

4.1.2 Cumulative Analysis by Resource Area

A cumulative impacts analysis must be conducted within the context of the resource areas. The magnitude and context of the impact on a resource area depends on whether the cumulative effects exceed the capacity of a resource to sustain itself and remain productive (CEQ 1997). The following discusses potential cumulative impacts that could occur from implementing the Proposed Action and other present and reasonably foreseeable future actions. No major, adverse, cumulative impacts were identified in the cumulative impacts analysis. Similar results would be expected with the implementation of the Proposed Action and No Action Alternative. Impacts resulting from the implementation of the Proposed Action would be expected to be greater than the No Action Alternative; however, the difference would not be significant.

4.1.2.1 Land Use

Short- and long-term, minor, cumulative impacts on land use are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions. Construction of the proposed JPC and ancillary support facilities would alter land use and introduce new structures to undeveloped land, but would be compatible with surrounding land uses. The Proposed Action would convert farmland to a non-agricultural use, although it would not convert any land designated prime farmland or farmland of statewide importance by the FPPA. Past activities that have most affected land use are the development of previously undeveloped land, particularly agricultural land. If the ongoing and future residential and mixed-use development projects convert agricultural land to non-agricultural uses, the Proposed Action would contribute to these cumulative impacts. Selective maintenance and repair activities would

be expected to result in generally negligible adverse effects on land use. Under the work plan, adherence to BMPs would be utilized to ensure any adverse impacts from land use changes would be considered negligible. An example of a BMP is notifying and coordinating with all landowners with property adjacent to the proposed JPC project area in advance of construction to discuss the construction schedule and any potential concerns.

Although Location 1 is already highly disturbed, cumulative land use impacts would mainly result from loss of undeveloped land and farmland with a unique importance.

4.1.2.2 Geology and Soils

Cumulative impacts would include impacts on topography and soils due to vegetation clearing and soil disturbance from construction activities, such as grading, contouring, trenching, and increase of impervious surfaces. Other additive effects would include conversion of important farmland soils, particularly if the residential and mixed-use development projects would be sited on these soils. Additional cumulative impacts could occur from construction of structures within areas with geological hazards; however, it is anticipated that all structures would be designed in accordance with applicable state and local building codes to minimize potential impacts. Minor to moderate, cumulative impacts on geology and soils are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions.

4.1.2.3 Biological Resources (Vegetation, Terrestrial and Aquatic Wildlife, Special Status Species)

Short- and long-term, minor, cumulative impacts on vegetation and habitat are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions. Selective maintenance and repair activities would be expected to result in generally negligible adverse effects on vegetation. Under the work plan, adherence to BMPs would ensure impacts on vegetation, including the introduction of non-native species, would be minimized, and consequently the cumulative effects on vegetation resources would be considered negligible.

Short- and long-term, minor, adverse cumulative impacts on terrestrial wildlife species are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions. Although Location 1 is already highly disturbed providing marginal habitat for wildlife, cumulative impacts would mainly result from loss of habitat and habitat disturbance, and habitat fragmentation. Similar impacts would be anticipated with the cumulative actions.

Short- or long-term, negligible, adverse cumulative effects on federally or state-listed threatened, endangered, or candidate species would be expected from implementation of the Proposed Action and present and reasonably foreseeable future actions. Because there is no suitable habitat for federal- or state-listed species at the alternative locations, effects would be negligible, especially with implementation of the BMPs and conservation measures. It is not expected that long-term viability of threatened, endangered, and candidate species would be adversely impacted through the cumulative actions. Therefore, negligible cumulative effects on these species are anticipated to occur.

4.1.2.4 Water Resources

The Proposed Action in combination with present and reasonably foreseeable future actions would result in short- and long-term, negligible, adverse impacts on water resources. The increase in impervious surfaces could increase evaporation and decrease local groundwater recharge. However, local water supply would unlikely be affected since groundwater recharge patterns have already been heavily altered in this region (ADWR 2009). Additionally, increased impervious surfaces and runoff could increase erosion, sedimentation, and conveyance of pollutants into surface waters, such as the Colorado River. However, preparation of and compliance with a project-specific SWPPP and implementation of BMPs would minimize adverse impacts.

4.1.2.5 Air Quality

The Proposed Action would result in short- and long-term, negligible to minor, adverse impacts on air quality from construction and operations. Present and reasonably foreseeable construction activities that coincide with the construction period for the Proposed Action could contribute additional airborne dust (primarily PM_{10}); however, all such occurrences would be temporary in nature and cease upon completion of such construction activities. The General Conformity Rule is applied only to individual federal projects; therefore, the additive emissions of PM_{10} from the reasonably foreseeable Yuma Sector Headquarters Annex Slope Stabilization project and the AZDOT U.S. 95 corridor widening and construction, would not be subject to a general conformity determination. Because emissions from the Proposed Action would not be considered significant for the region, cumulative impacts on air quality from the Proposed Action, when combined with other present and reasonably foreseeable future actions, would not be significant.

4.1.2.6 Noise

Noise from construction under the Proposed Action, when combined with construction required for the present and reasonably foreseeable future actions, would result in short-term, minor, adverse cumulative impacts on the ambient noise environment from the potential for additive construction noise. If conducted concurrently, the construction for the JPC and the present and reasonably foreseeable construction actions, such as the Yuma Sector HQ Annex Slope Stabilization and the AZDOT U.S. 95 corridor widening projects, would produce additive noise levels a few dB greater than what would be produced by the Proposed Action alone. These noise levels would be temporary in nature and cease following completion of construction.

4.1.2.7 Cultural Resources, Aesthetics, and Visual Resources

The Proposed Action would not result in major, adverse cumulative impacts on cultural resources. The 2023 cultural resources survey report (DHS 2023a) discusses previously recorded and newly identified resources in the survey area, including one historic-age artifact scatter, and one complex of historic-age structures associated with the Yuma Greyhound Park (DHS 2023a; Landa and Kupel 2023). All cultural resources within the alternative locations were evaluated for significance and determined to be ineligible for listing in the NRHP. Based on the Cultural Resources and Historic Properties Survey, DHS has determined No Historic Properties Affected by this undertaking and will be seeking concurrence of this determination

through ongoing Section 106 consultation with the SHPO. Therefore, the proposed ground-disturbing activities would not cause a substantial adverse change in the significance of any known cultural resources. No direct or indirect impacts are anticipated for cultural resources outside of the alternative locations because the resources would not be disturbed. There is potential for the inadvertent discovery of cultural resources and human remains during construction; however, discoveries would be mitigated through the implementation of BMPs, including appropriate notification to the SHPO or Tribe and monitoring of construction activities. No known existing cemeteries or previously recorded Native American or other human remains are within or adjacent to the alternative locations. No impacts on cultural resources are anticipated during operation and maintenance of the proposed JPC. Because the Proposed Action would not have an impact on known cultural resources, it would not contribute to cumulative impacts.

4.1.2.8 Utilities and Infrastructure

The Proposed Action, as well as reasonably foreseeable future projects within the city of Yuma would implement BMPs and divert materials that could be recycled or reused from landfills to the greatest extent possible. Additionally, construction of new infrastructure would result in long-term, beneficial impacts from improved water conservation and energy efficiency. Therefore, the Proposed Action, when combined with other present and reasonably foreseeable future actions, would not result in a significant cumulative impact on utilities and infrastructure.

4.1.2.9 Roadways and Traffic

The Proposed Action, as well as present and reasonably foreseeable future actions within the city of Yuma including the AZDOT U.S. 95 corridor widening and construction project would utilize BMPs and limit alterations to existing roadways and traffic patterns wherever possible. The U.S. 95 corridor widening and construction project consists of expanding the existing two-lane roadway into a five-lane roadway. Based on the years of anticipated construction, it is anticipated that the U.S. 95 corridor widening and construction project and the Proposed Action would not result in cumulative impacts. Cessation of activities at the Yuma Swap Meet could reduce the traffic traveling to and from the immediate area Friday through Sunday; however, the Yuma Swap Meet likely would be relocated to a different location in Yuma and such traffic would be redirected to the new location. The Proposed Action, when combined with other present and reasonably foreseeable future actions would not result in a significant cumulative impact on roadways and traffic.

4.1.2.10 Hazardous Materials and Wastes

The Proposed Action, as well as other present and reasonably foreseeable future actions within the city of Yuma would incorporate appropriate BMPs and environmental protection measures to limit and control hazardous materials and wastes into their design and operations plans. Therefore, the Proposed Action, when combined with other present and reasonably foreseeable future actions would not result in a significant cumulative impact on hazardous materials and wastes management.

4.1.2.11 Socioeconomic Resources, Environmental Justice, and Protection of Children

Construction of the proposed JPC would have short-term, cumulative beneficial impacts on the local economy due to the employment of local construction workers, increasing local sales volumes, payroll taxes, and the purchases of goods and services. The Proposed Action is considered to have minor, beneficial cumulative impacts on socioeconomics. Cumulative impacts on socioeconomics would be expected to be similar because present and reasonably foreseeable future actions in the area would not be expected to bring a significant number of resources to the alternative locations.

Construction of the proposed JPC could have short-term, cumulative minor, adverse effects on low-income and minority populations due to the proximity of these populations in the city of Yuma and near the Proposed Action. However, BMPs would be implemented to ensure the avoidance of any long-term, significant adverse impacts. Therefore, the Proposed Action, when combined with other present and reasonably foreseeable future actions, would not result in a significant cumulative impact on environmental justice.

4.1.2.12 Human Health and Safety

Short- and long-term, minor, cumulative impacts on human health and safety are expected from the additive effects of the Proposed Action in combination with present and reasonably foreseeable future actions. Selective maintenance and repair activities by DHS personnel and contractors would be expected to result in generally negligible adverse effects on human health and safety depending on the frequency, type, and extent of maintenance and repairs. Compliance with regulatory requirements and operational practices would reduce risk to a level considered to be minor.

4.1.2.13 Sustainability and Greening

Long-term, beneficial, cumulative impacts would be expected as a result of incorporating sustainable design features into the proposed JPC and cumulative projects. Beneficial impacts from reduced energy and water usage, reduced waste generation, increased use of recycled and repurposed materials, use of cost-effective sustainable technologies, and incorporation of sustainable design would be expected from implementation of the Proposed Action. These impacts would reflect incorporation of sustainable and low-impact design and operating strategies in compliance with DHS sustainability policies, the EISA, EPACT, and EO 14057.

4.2 RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Short-term uses of the biophysical components of the human environment include direct construction-related disturbances and direct impacts associated with an increase in population and activity that occurs over a period of less than 5 years. Long-term uses of the human environment include those impacts that occur over a period of more than 5 years, including permanent resource loss.

Over time, proposed construction and disturbance activities would include the majority of either of the approximately 40-acre alternative locations. The development of this land would

permanently remove a portion of the natural resources, such as vegetation, wildlife habitat, and agricultural resources and important farmland soils.

4.3 UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are related to the use of non-renewable resources and the impacts that the use of these resources would have on future generations. Unavoidable adverse impacts primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from implementation of the Proposed Action involve the consumption of material resources used for construction, energy resources, biological resources, and human labor resources. The use of these resources is considered to be permanent.

Geology and Soils. The Proposed Action would result in minor impacts on topography and soils due to vegetation clearing and soil disturbance from construction activities, such as grading, contouring, trenching, and increase of impervious surfaces. Other additive effects would include conversion of important farmland soils, if irrigated, to non-agricultural use. However, because there is similar vegetation and soil outside the alternative locations, the loss would be minor and considered not significant.

Health and Safety. The Proposed Action would result in short-term, negligible, adverse impacts on contractor safety as construction would expose contractors to safety and health risks. However, workers would take the necessary precautions to limit hazard risks.

Material Resources. The Proposed Action would result in short-term, minor, adverse impacts on material resources. Material resources used for the construction of Proposed Action would potentially include building materials, concrete and asphalt, and various construction materials and supplies. Materials that would be consumed are not in short supply, would not limit other unrelated construction activities, and would not be considered significant.

Energy Resources. The Proposed Action would result in short- and long-term, minor, adverse impacts on energy resources. Energy resources, including petroleum-based products (e.g., gasoline and diesel), used for the Proposed Action would be irretrievably lost. During construction and maintenance activities, gasoline and diesel would be used for the operation of vehicles and construction equipment. However, consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, less than significant impacts would be expected.

Human Resources. The use of human resources for construction and maintenance activities is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action represents employment opportunities and is considered beneficial.

Land Use. The Proposed Action would result in a long-term, adverse impact on undeveloped land. Because there is similar undeveloped land outside of the alternative locations, the loss would be minor and not considered significant; therefore, a less than significant impact on the irretrievable loss of undeveloped land.

Biological Resources. The Proposed Action would result in a short- and long-term negligible loss of vegetation and wildlife habitat. Because the alternative locations consist primarily of ground with minimal vegetation, the loss would be negligible and not considered significant; therefore, a less than significant impact on the irretrievable loss of vegetation and wildlife habitat is expected.

Water Resources. The Proposed Action would cause unavoidable impacts to surface water resources because water would be required during construction of the JPC and eventual operation. Adverse impacts would be minimized to the greatest possible through the implementation of BMPs and water conservation practices.

5 REFERENCES

ADEQ 2022 Arizona Department of Environmental Quality (ADEQ). 2022. *Map of Nonattainment Areas.* October 31, 2022. Available online: <https://azdeq.gov/node/3938>. Accessed March 24, 2023.

ADEQ 2018 ADEQ. 2018. Delisting Reports Justifying the Removal of Waterbodies from the 2018 Impaired Waters List. April 2018. Available online: <https://static.azdeq.gov/pn>. Accessed online: March 29, 2023.

ADEQ 2006 ADEQ. 2006. *Yuma PM_{10} Maintenance Plan*. August 2006.

ADEQ undated ADEQ. undated. Colorado-Lower Gila Watershed Assessment. Available online: <https://static.azdeq.gov/wqd/wqa/>. Accessed online: March 28, 2023.

ADWR 2009 Arizona Department of Water Resources (ADWR). 2009. Arizona Water Atlas Volume 7: Lower Colorado River Planning Area. Available online: <https://infoshare.azwater.gov/docushare/dsweb/Get/Document-10432/Volume_7_final.pdf>. Accessed March 28, 2023.

Ahlstrom et al. 2000 Ahlstrom, R. V. N., M. L. Chenault, and D. Wrobleski. 2000. Chronology and Culture History of the Papaguería. In Living in the Western Papaguería: An Archaeological Overview of the Barry M. Goldwater Air Force Range in Southwestern Arizona, edited by R. V. N. Ahlstrom, pp. 67–135. Cultural Resource Report No. 98-186. SWCA Environmental Consultants, Inc., Tucson, Arizona.

APS 2020 Arizona Public Service (APS). 2020. APS Service Territory (State Map). As of March 17, 2020. Available online: <APS-Statewide-Service-Territory.ashx.> Accessed April 5, 2023.

Arizona NEMO 2010 Arizona Nonpoint Education for Municipal Officials (NEMO). 2010. NEMO Watershed-Based Plan Colorado-Lower Gila Watershed. February 2010. Available online: <https://static.azdeq.gov/wqd/nemo/clg.pdf>. Accessed online: March 28, 2023.

AZDOT 2023 Arizona Department of Transportation (AZDOT). 2023. "US 95 Corridor Widening and Reconstruction." Available online: <https://azdot.gov/projects/southwest-district-projects/>. Accessed March 22, 2023.

AZGFD 2023 Arizona Game and Fish Department (AZGFD). 2023. Wildlife and Status Definitions. Available online: < https://live-azgfd-main.pantheonsite.io/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-tools/>. Accessed March 24, 2023.

Bailey 1995 Bailey, R.G. 1995. Description of the Ecoregions of the United States. Miscellaneous Publication No. 1391. Second edition, revised. Washington, DC: USDA Forest Service.

Bolinger and Bolinger 2022 Bolinger, Mark and Greta Bolinger. 2022. Land Requirements for Utility-Scale PV: An Empirical Update on Power and Energy Density. *IEEE Journal of Photovoltaics*, Vol. 12, No. 2, p. 589-594. March 2022.

Brown 1994 Brown, D.E. 1994. Biotic Communities: Southwestern United States and Northwestern Mexico. University of Utah Press, Salt Lake City.

CBP 2023 U.S. Customs and Border Protection (CBP). 2023. Email communication between Mr. Kreg Ellzey, CBP Integrated Services Division, and Mr. Nicholas Frederick and Ms. Kristin Lang, DAWSON, providing additional information regarding tower height, and estimated solid waste and wastewater and sewage generation.

CBP 2019	CBP. 2019. *Final Environmental Assessment Addressing the Proposed Construction, Operation, and Maintenance of a New U.S. Border Patrol Brown Field Border Patrol Station in Dulzura, San Diego County, California*. August 2019.
CBP 2016	CBP. 2016. *Final Environmental Assessment for the Proposed Construction, Repair, and Maintenance of the Laredo South and All-Weather Road, U.S. Border Patrol, Laredo Sector, Laredo TX*. March 2016.
CEQ 2023	Council on Environmental Quality (CEQ). 2023. *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*. January 9, 2023
CEQ 2016	CEQ. 2016. *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*. August 1, 2016.
CEQ 1997	CEQ. 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. January 1997.
CFR 1910	United States Department of Labor Occupational Safety and Health Administration. *Regulations (Standards – 29 CFR) Subpart A General.*
CFR 1926	United States Department of Labor Occupational Safety and Health Administration. *Regulations (Standards – 29 CFR) Subpart M Fall Protection.*
City of Yuma 2023a	City of Yuma. 2023. Water Conservation. Available online: <https://www.yumaaz.gov/government/utilities/water-conservation>. Accessed March 28, 2023.
City of Yuma 2023b	City of Yuma. 2023.Utilities Treatment Division. Available online: <Utilities Treatment Division | City Of Yuma, AZ (yumaaz.gov).> Accessed March 31, 2023.
City of Yuma 2023c	City of Yuma. 2023. Transmission & Distribution Section. Available online: <Transmission & Distribution Section | City Of Yuma, AZ (yumaaz.gov).> Accessed April 3, 2023.
City of Yuma 2023d	City of Yuma. 2023. Wastewater Treatment. Figueroa Avenue Water Pollution Control Facility. Available online: <Wastewater Treatment | City Of Yuma, AZ (yumaaz.gov).> Accessed April 3, 2023.
City of Yuma 2023e	City of Yuma. 2023. *Yuma Fire Department*. Available online: <https://www.yumaaz.gov/government/Yuma-fire-department>. Accessed March 29, 2023
City of Yuma 2022a	City of Yuma. 2022. Water Quality Report 2021. Available online: <https://www.yumaaz.gov/government/information-technology/search?q=water%20quality%20report. Accessed April 3, 2023.
City of Yuma 2022b	City of Yuma. 2022. *City of Yuma 2022 General Plan*. April 6, 2022.
DHS 2023a	Department of Homeland Security (DHS). *Draft Cultural Resources Survey of 80 Acres of Noncontiguous Lands Associated with the Proposed Yuma Joint Processing Center Located in the Yuma Sector, Yuma County, Arizona*. February 2023.
DHS 2023b	DHS. 2023. *Draft Phase I Environmental Site Assessment Supporting an Environmental Assessment Addressing the Proposed Land Acquisition, Construction, and Maintenance of a Joint Processing Center in Yuma, Yuma County, Arizona (Yuma Swap Meet, 4000 S. 4th Avenue, Yuma, Arizona)*. March 2023.

DHS 2023c	DHS. 2023. *Draft Phase I Environmental Site Assessment Supporting an Environmental Assessment Addressing the Proposed Land Acquisition, Construction, and Maintenance of a Joint Processing Center in Yuma, Yuma County, Arizona (Vacant Agricultural Lot – Parcel Number 196-16-023)*. March 2023.
DHS 2021a	DHS. 2021. *Climate Action Plan*. September 2021.
DHS 2021b	DHS. 2021. Sustainability Plan 2021. July 2021.
DOS and EOP 2021	United States Department of State (DOS) and United States Executive Office of the President (EOP). 2021. *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050*. November 2021
EDR 2022	Environmental Data Resources, Inc. (EDR). 2022. *The EDR Aerial Photo Decade Package. Yuma JPC 4000 S 4th Avenue, Yuma, Arizona, 85365.* Inquiry Number 7184621.11. May 13, 2022.
EERE 2023	Energy Efficiency & Renewable Energy (EERE). 2023. Building Energy Codes Program for Arizona. Available online: <https://www.energycodes.gov/status/states/arizona#:~:text=Based%20on%20the%20results%20of,to%20the%20state%20energy%20code>. Accessed March 24, 2023.
FAA 1977	Federal Aviation Administration (FAA). 1977. Noise Characteristics of Eight Helicopters.
FEMA 2023	Federal Emergency Management Agency (FEMA). 2023. FEMA Flood Map Service Center. Available online: <https://msc.fema.gov/>. Accessed online March 28, 2023.
FEMA 2009	FEMA. 2009. FEMA Flood Map Service Center. Available online: <https://msc.fema.gov>. Accessed online March 29, 2023.
FHWA 2007	Federal Highway Administration (FHWA). 2007. *Special Report: Highway construction Noise: Measurement, Prediction, and Mitigation*. Available online: <https://www.fhwa.dot.gov/environment/noise/construction_noise/special_report/.> Accessed March 27, 2023.
Harris 1998	Harris, C.M. 1998. *Handbook of Acoustical Measurement and Noise Control. Acoustical Society of America*. 1998.
HHS 2023	Health and Human Services (HHS). 2023. "Poverty Guidelines." Available online: < https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>. Accessed March 24, 2023.
Idcide 2023	Idcide. 2023. Yuma, AZ Weather. Available online: <https://www.idcide.com/weather/az/yuma.htm>. Accessed March 23, 2023.
ILG 2010	Institute for Local Government (ILG). 2010. *Understanding the Basics of Land Use and Planning: Glossary of Land Use and Planning Terms*. Available online: <https://www.ca-ilg.org/sites/main/files/file-attachments/2010_-_landuseglossary.pdf>. Accessed March 24, 2023.
IWG-SCGHG 2021	Interagency Working Group on Social Cost of Greenhouse Gases, United States Government (IWG-SCGHG). 2021. *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990*. February 26, 2021.
Landa and Kupel 2023	Landa, A. and D. Kupel. 2023. Historic Property Survey Report, Proposed Joint Processing Center Site, 4000 S. 4th Avenue, Yuma, AZ. April 2023.
NatureServe 2023	NatureServe ExplorerPro. 2023. Available online: https://www.natureserve.org/. Accessed March 24, 2023.

NAVFAC 2019	Naval Facilities Engineering Command (NAVFAC). 2019. Air Installations Compatible Use Zones Update for MCAS Yuma, Arizona. June 2019.
NIBS 2021	National Institute of Building Sciences (NIBS). 2021. "Whole Building Design Guide: Sustainable." Available online: <https://wbdg.org/design-objectives/sustainable>. Accessed April 6, 2023.
NPS 2022	National Park Service (NPS). 2022. Chihuahuan Desert Ecoregion. Available online: <https://www.nps.gov/im/chdn/ecoregion.htm#:~:text=The%20climate%20includes%20hot%20summers,rains%20during%20the%20summer%20months>. Accessed March 29, 2023.
Spectrum 2023	Spectrum. 2023. Spectrum Business. Available online: <Yuma, AZ Business Internet, Phone & TV Service | Spectrum Business.> Accessed April 5, 2023.
SWAP 2023	Source Water Assessment & Protection Viewer (SWAP). 2023. Available online: <https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=217028ea4a01485f87db4d22aec72755>. Accessed March 28, 2023.
SWGAS 2023	Southwest Gas (SWGAS). 2023. About Southwest Gas. 2023. Available online: <Southwest Gas: About Southwest Gas (swgas.com).> Accessed April 5, 2023.
TRS Audio 2023	Tontechnik-Rechner-SengPiel Audio (TRS Audio). 2023. *Damping of Sound Level (decibel dB) vs. Distance*. Available online: <http://www.sengpielaudio.com/calculator-distance.htm>. Accessed March 27, 2023.
UA 2023	University of Arizona (UA). 2023. "Center for Natural Hazards." Available online: < https://azgs.arizona.edu/center-natural-hazards#:~:text=Natural%20Hazards%20in%20Arizona,%2C%20earthquakes%2C%20and%20earth%20fissures>. Accessed March 22, 2023.
USACE 2012	U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 135 pp.
USACE 1987	USACE. 1987. *Corps of Engineers Wetland Delineation Manual*. Environmental Laboratory, Vicksburg, MS, 92 pp.
USBP 2014	U.S. Border Patrol (USBP). 2014. Border Patrol Station Baseline Design Requirements: U.S. Border Patrol Facility Design Standard. July 1, 2014.
USCB 2023a	U.S. Census Bureau (USCB). 2023. "Total population of the City of Yuma." Available online: < https://data.census.gov/all?q=City+of+Yuma>. Accessed March 24, 2023.
USCB 2023b	USCB. 2023. "Total population of Yuma County, AZ." Available online: https://data.census.gov/all?q=yuma+county. Accessed March 24, 2023.
USCB 2023c	USCB. 2023. "Total population of Arizona." Available online: < https://data.census.gov/all?q=arizona>. Accessed March 24, 2023.
USDA 2023	U.S. Department of Agriculture (USDA). 2023. "Superstition Series." Available online: <https://soilseries.sc.egov.usda.gov/OSD_Docs/S/SUPERSTITION.html#:~:text=The%20Superstition%20series%20consists%20of,is%20about%2074%20degrees%20F>. Accessed 22 March 2023.
USEIA 2022	U.S. Energy Information Administration (USEIA). 2022. *State Carbon Dioxide Emissions Data Tables*. October 11, 2022. Available online: <https://www.eia.gov/environment/emissions/state/>. Accessed March 23, 2023.

USEPA 2023a U.S. Environmental Protection Agency (USEPA). 2023. *Arizona Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. February 28, 2023. Available online: <https://www3.epa.gov/airquality/greenbook/anayo_az.html>. Accessed March 22, 2023.

USEPA 2023b USEPA. 2023. Emissions & Generation Resource Integrated Database (eGRID) CO2 total output emission rate (lb/MWh) by state, 2021. Updated January 30, 2023. Available online: <https://www.epa.gov/egrid>. Accessed July 18, 2023.

USEPA 2023c USEPA. 2023. *EJScreen. USEPA's Environmental Justice Screening and Mapping Tool.* Available online: <https://ejscreen.epa.gov/mapper/.> Accessed May 15, 2023.

USEPA 2022a USEPA. 2022. *Overview of Greenhouse Gases*. Updated May 16, 2022. Available online: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>. Accessed March 23, 2023.

USEPA 2022b USEPA. 2022. *Greenhouse Gas Equivalencies Calculator*. March 2022. Available online: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>. Accessed March 27, 2023.

USEPA 2021 USEPA. 2021. *2017 National Emissions Inventory (NEI)*. January 2021. Available online: <https://www.epa.gov/air-emissions-inventories>. Accessed March 23, 2023.

USEPA 2016 USEPA. 2016. *What Climate Change Means for Arizona*. August 2016. <https://19january2017snapshot.epa.gov/climate-impacts/climate-change-impacts-state_.html>. Accessed March 23, 2023.

USEPA 2009 USEPA. 2009. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts*. March 2009.

USEPA 1981a USEPA. 1981. *Noise and its Measurement*. January 1981. Available online: <https://nepis.epa.gov/Exe/ZyPDF.cgi/93000Q53.PDF?Dockey=93000Q53.PDF>. Accessed March 27, 2023.

USEPA 1981b USEPA. 1981. *Noise Effects Handbook*. July 1981. Available online: <https://www.nonoise.org/library/handbook/handbook.htm#Contents>. Accessed March 27, 2023.

USEPA 1971 USEPA. 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. December 31, 1971. Available online: <https://nepis.epa.gov/Exe/ZyPDF.cgi/9101NN3I.PDF?Dockey=9101NN3I.PDF>. Accessed March 27, 2023.

USFWS 2023 U.S. Fish and Wildlife Service (USFWS). 2023. Information for Planning and Consultation. Available online: <https://ipac.ecosphere.fws.gov/>. Accessed January 25, 2023.

USGS 2023a U.S. Geologic Survey (USGS). 2023. "Geologic Units in Yuma County, Arizona." Available online: <https://mrdata.usgs.gov/geology/state/sgmc2-unit.php?unit=AZQ;0>. Accessed March 22, 2023.

USGS 2023b USGS. 2023b. "Geologic units containing Alluvium." Available online: <https://mrdata.usgs.gov/geology/state/sgmc-lith.php?text=alluvium>. Accessed March 30, 2023.

USGS 2023c USGS. 2023c. "Eolian Processes." Available online: <https://pubs.usgs.gov/gip/deserts/eolian/>. Accessed March 30, 2023.

USGS 2018a USGS. 2018. "Yuma West, 2018, 7.5-minute Topographic Map."

USGS 2018b USGS. 2018. "Yuma East, 2018, 7.5-minute Topographic Map."

White House 2021	The White House. 2021. Federal Sustainability Plan: Catalyzing America's Clean Energy Industries and Jobs. December 2021.
White House 2006	White House. 2006. "Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding." Available online: <https://archive.epa.gov/greenbuilding/web/pdf/sustainable_mou.pdf>. Accessed April 6, 2023.
YCAA 2022	Yuma County Airport Authority (YCAA). 2022. *Yuma International Airport Airport Master Plan 2022 Volume I Main Chapters.* March 8, 2022. Available online: <NYL Master Plan Vol I (flyyuma.com).> Accessed June 5, 2023.
YMPO 2020	Yuma Metropolitan Planning Organization (YMPO). 2020. Traffic Counts: Traffic Count Data Files. 2020.
Yuma County 2023a	Yuma County. 2023. Yuma County Solid Waste Program. Available online: <Solid Waste | Yuma County (yumacountyaz.gov).> Accessed April 5, 2023.
Yuma County 2023b	Yuma County. 2023. Yuma County Storm Sewer System Map. Available online: <Yuma County Storm Drain (arcgis.com).> Accessed April 5, 2023.
Yuma County 2023c	Yuma County. 2023. Vector Control (Mosquito Control And Prevention). Available online: <https://www.yumacountyaz.gov/government/health-district/divisions/environmental-health-services/vector-control-mosquito-control-and-prevention>. Accessed March 29, 2023.
Yuma County 2012	Yuma County. 2012. Yuma County Noise Contours Map. April 17, 2012. Available online: <https://www.yumacountyaz.gov/home/showpublisheddocument/14424/635327767120170000>. Accessed March 28, 2023.
Yuma Regional Medical Center 2023	Yuma Regional Medical Center. *About Us.* 2023. Available from: <https://www.yumaregional.org/About-Us>. Accessed March 29, 2023.

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APPENDIX A

Public Involvement and Agency Coordination

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Appendix A: Public Involvement & Agency Coordination

Interested Party List

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Kristin Lang

From: BRIGHT, RACHAEL S (CTR) <rachael.s.bright@associates.cbp.dhs.gov>
Sent: Monday, March 13, 2023 1:44 PM
To: ELLZEY, KREG (CTR)
Cc: PETRILLA, JOHN
Subject: BPAM NEPA Mailbox / Joint Processing Center Project
Attachments: Section 106 letter.pdf

Hi Kreg,

Please see the below email and attached letter.

Thank you,

Rachael S. Bright

From: Altaha, Mark <MarkAltaha@wmat.us>
Sent: Monday, March 13, 2023 10:16 AM
To: BPAM NEPA <bpamnepa@cbp.dhs.gov>
Subject: Joint Processing Center Project

Please refer to the attached tribal consultation letter.

Thank you,

Mark Altaha - THPO
White Mountain Apache Tribe

Historic Preservation Office

Fort Apache, Arizona

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 1032
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: John Petrilla, Execution Team – U.S. Customs & Border Protection
Date: March 13, 2023

Re: *Environment Assessment for the proposed Joint Processing Center*

……

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; February 23, 2023. In regards to this, please refer to the following statement(s) below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed Land Acquisition, Construction, Operations, and Maintenance of the Joint Processing Center in Yuma, Yuma County, Arizona.

Please be advised, we have reviewed the consultation letter and the information provided, and we've determined the proposed project plans will have ***"No Adverse Effect"*** in the tribe's cultural heritage resources and/or historic properties.

Thank you for early tribal engagement and consultation, and continued collaborations in protecting and preserving places of cultural and historical importance. Further consultation is not necessary for this project.

Sincerely,

Mark Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

Kristin Lang

From: PETRILLA, JOHN <JOHN.P.PETRILLA@cbp.dhs.gov>
Sent: Thursday, March 2, 2023 5:22 PM
To: ELLZEY, KREG (CTR); BRIGHT, RACHAEL S (CTR)
Subject: FW: BPAM NEPA Mailbox / JPC project
Attachments: Zayd LLC 60 AC lot.pdf

From: BRIGHT, RACHAEL S (CTR) <rachael.s.bright@associates.cbp.dhs.gov>
Sent: Thursday, March 2, 2023 12:51 PM
To: DEYOUNG, DONNA J. (CTR) <donna.j.deyoung@cbp.dhs.gov>
Cc: PETRILLA, JOHN <JOHN.P.PETRILLA@cbp.dhs.gov>
Subject: BPAM NEPA Mailbox / JPC project

Hi Donna,

Please see the below email.

Thank you,

Rachael S. Bright

From: Saad Al Alou <zaydllcaz@gmail.com>
Sent: Thursday, March 2, 2023 12:46 PM
To: BPAM NEPA <bpamnepa@cbp.dhs.gov>
Subject: JPC project

Hello I received a letter from you about the JPC project. I own the 60AC across the street from Border Patrol, See attached map.
Can I have an electronic copy of the draft EA please?

Thank you
Dr. Alou

Zayd LLC
(360) 229 2944
PoBox 1010
Yuma, Az 85366

City of Yuma

Information Technology Services
Enterprise GIS
Date: 3/2/2023

N
W E
S

March 23, 2023

Mr. John Petrilla
Office of Facilities and Asset Management
U.S. Customs and Border Protection
1300 Pennsylvania Avenue
NW Washington, DC 20229

Electronically submitted to: BPAMNEPA@cbp.dhs.gov

RE: U.S. Customs and Border Protection Environmental Assessment Notice for Joint Processing Center

Dear Mr. Petrilla:

The Arizona Game and Fish Department (Department) received the U.S. Customs and Border Protection's (CBP) letter dated February 23, 2023 regarding the preparation of an Environmental Assessment Addressing the Proposed Land Acquisition, Construction, Operation and Maintenance of a Joint Processing Center (JPC) in Yuma, Arizona. The Department understands that the Department of Homeland Security (DHS) proposes to acquire approximately 40 acres of land to construct, operate, and maintain a permanent multi-agency facility to support humanitarian efforts along the Southwest border. Two potential locations have been identified, Site 1 is located east of the existing Yuma Border Patrol Station on privately owned land that is currently used for the Yuma Swap Meet and is mainly paved and developed, Site 2 is south of the Yuma Border Patrol Station and consists of undeveloped agricultural land.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission, has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's Section 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. For your consideration, the Department provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act, may be present within Site 2. If this site is selected and suitable habitat for this species is present (i.e. burrows in the ground), the Department recommends conducting an occupancy survey for western burrowing owls to determine if this species occurs within your

project footprint. Guidelines for conducting this survey are found in *Burrowing Owl Project Clearance Guidance for Landowners*[1]. Please note that the survey should be conducted by a surveyor who is certified by the Department or has similar training and qualifications. If an active burrowing owl burrow is detected, please contact the Department and the U.S. Fish and Wildlife Service[2] for direction, in accordance with the *Burrowing Owl Project Clearance Guidance for Landowners*.

Additionally, the Department recommends the following best management practices for wildlife and their habitat that may be affected by this project:

- Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects, and pathogens. This can be accomplished by taking precautions to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. Also, see the Arizona Department of Agriculture website[3] for a list of prohibited and restricted noxious weeds and the Arizona Native Plant Society[4] for recommendations on how to control them. A great resource to view a list of documented invasive species or to report invasive species in or near your project area is iMapInvasives[5], a national cloud-based application for tracking and managing invasive species.
- The Department recommends landscaping with native drought-tolerant species that represent the natural surrounding landscape and can help support wildlife and pollinator species in the area while reducing dust and erosion.
- If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews work close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling.
- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals), and may affect reptile populations. If construction activities are to take place between sunset and sunrise, the Department recommends using only the minimum amount of light needed for safety. If feasible, narrow spectrum lighting is wildlife-friendly and should be used as often as possible to minimize the number of species affected by lighting. It is also beneficial that all lighting is shielded, canted, or cut to minimize the amount of upward shining light.
- The Department would also like to encourage CBP to use the Arizona Online Environmental Review Tool[6] administered by the Department's Heritage Data

[1] https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/
[2] https://www.fws.gov/office/arizona-ecological-services/contact-us
[3] https://www.invasivespeciesinfo.gov/unitedstates/az.shtml
[4] https://aznps.com/invas
[5] https://imap.natureserve.org/imap/services/page/map.html
[6] https://ert.azgfd.gov/

Management System (HDMS) as part of their standard operating procedure for review of new construction and development. This tool is a useful resource that provides baseline information on special status species such as Arizona's Species of Greatest Conservation Need and Species of Economic and Recreational Importance. The Department entered this project as an example (please see the attached HDMS report).

Thank you for the opportunity to provide input on the proposed Joint Processing Center. The Department requests that the point of contact for projects within Region IV - Yuma be updated from Pat Barber to Michael Sumner, Regional Supervisor - Yuma, and that the Draft EA for this project also be sent to Tyler Williford at twilliford@azgfd.gov. For further coordination or discussion of these comments, please contact Teigan Williams at tstruck@azgfd.gov or 928-341-4069.

Sincerely,

A. Tyler Williford
Habitat, Evaluation, and Lands Program Supervisor - Region IV

AZGFD #M23-03202315

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
Yuma - CBP Joint Processing Center

Project Description:
A proposed new Joint Processing Center to support humanitarian efforts along the Southwest border.

Project Type:
Law Enforcement Activities Associated with the Border, Permanent facilities (weigh stations, check points, etc.)

Contact Person:
Teigan Williams

Organization:
Arizona Game and Fish Department

On Behalf Of:
USBP

Project ID:
HGIS-18705

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

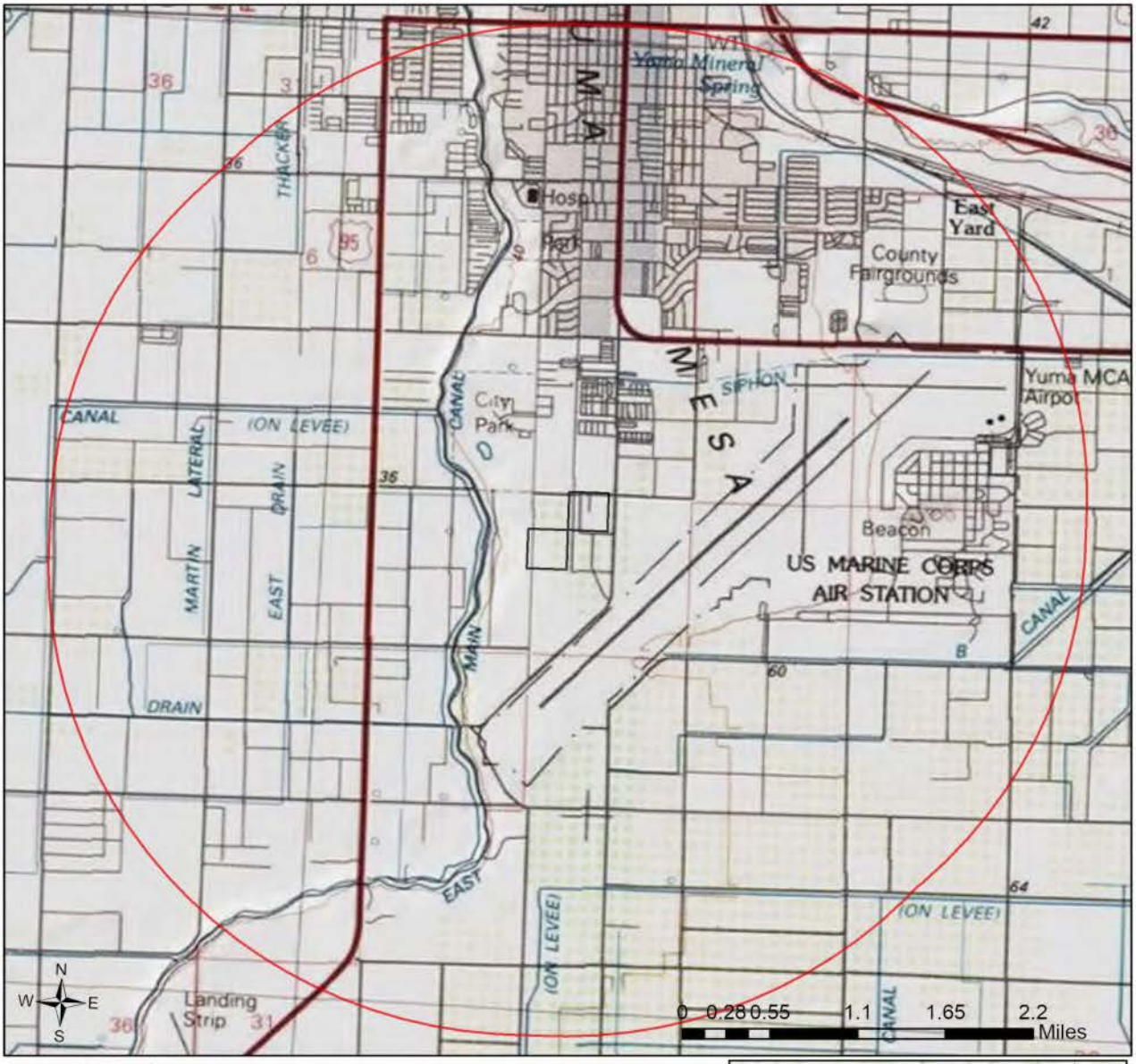
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Yuma - CBP Joint Processing Center

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 79.52

Lat/Long (DD): 32.6512 / -114.6287

County(s): Yuma

AGFD Region(s): Yuma

Township/Range(s): T9S, R23W

USGS Quad(s): YUMA EAST; YUMA WEST

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Yuma - CBP Joint Processing Center

Web Map As Submitted By User

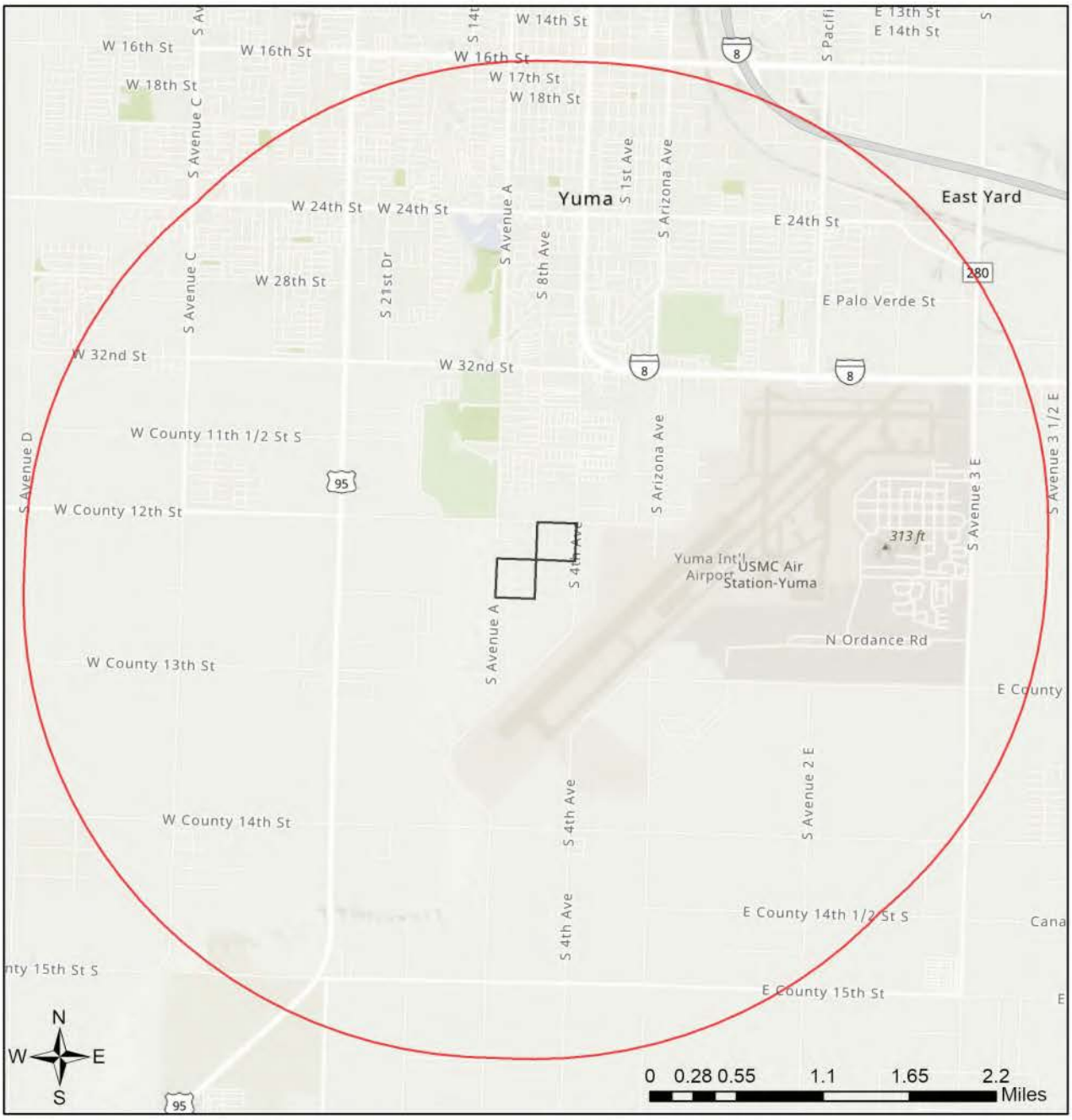
Buffered Project Boundary
Project Boundary

Project Size (acres): 79.52
Lat/Long (DD): 32.6512 / -114.6287
County(s): Yuma
AGFD Region(s): Yuma
Township/Range(s): T9S, R23W
USGS Quad(s): YUMA EAST; YUMA WEST

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Yuma - CBP Joint Processing Center

Important Areas



- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 79.52

Lat/Long (DD): 32.6512 / -114.6287

County(s): Yuma

AGFD Region(s): Yuma

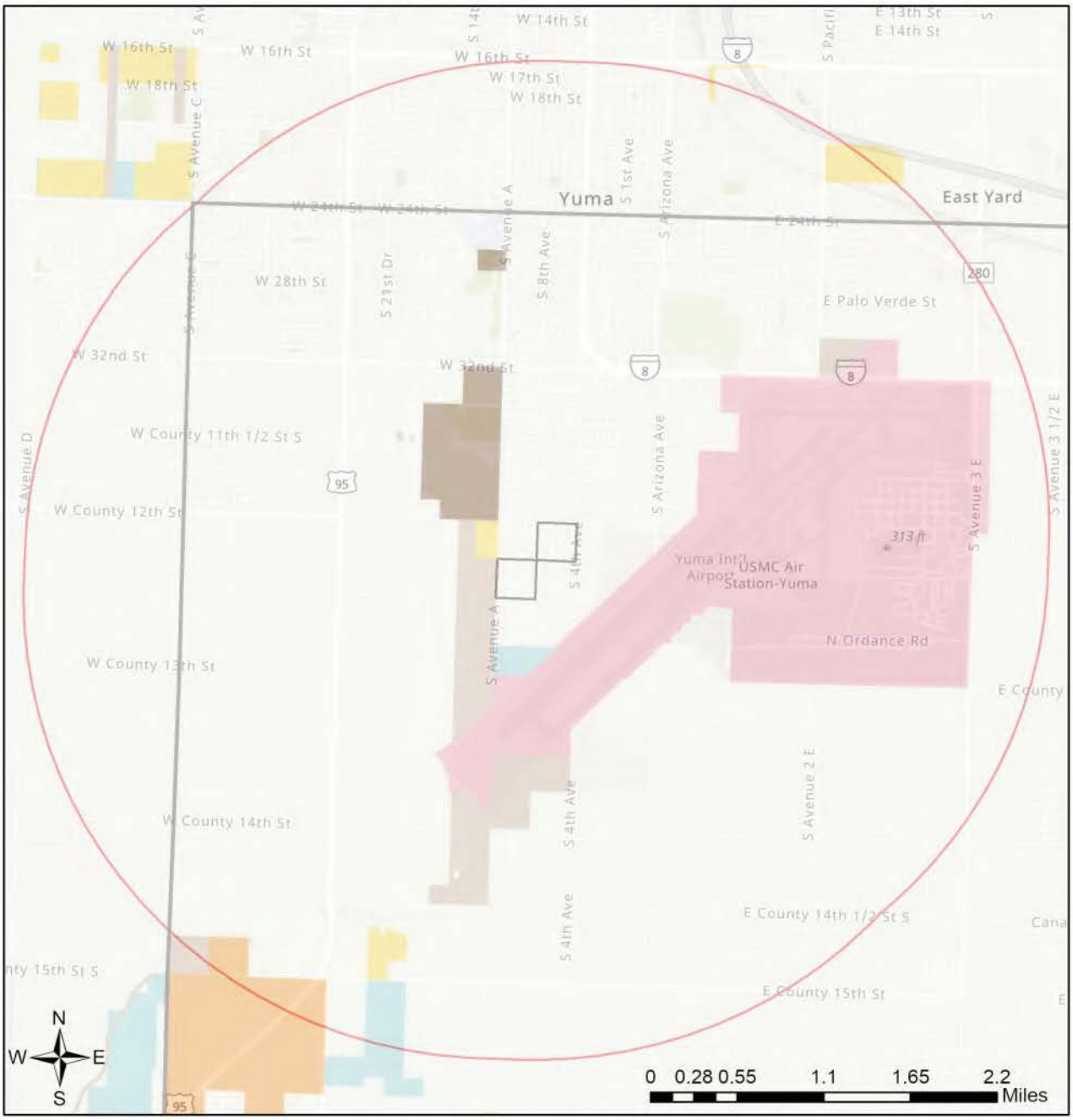
Township/Range(s): T9S, R23W

USGS Quad(s): YUMA EAST; YUMA WEST

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Yuma - CBP Joint Processing Center

Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 79.52

Lat/Long (DD): 32.6512 / -114.6287

County(s): Yuma

AGFD Region(s): Yuma

Township/Range(s): T9S, R23W

USGS Quad(s): YUMA EAST; YUMA WEST

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 3 Miles of Project Vicinity

Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S	2
Phrynosoma mcallii	Flat-tailed Horned Lizard	CCA		S	1

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

No Special Areas Detected
No special areas were detected within the project vicinity.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Ammospermophilus harrisii	Harris' Antelope Squirrel				
Aquila chrysaetos	Golden Eagle			S	2
Artemisiospiza nevadensis	Sagebrush Sparrow				
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S	2
Auriparus flaviceps	Verdin				2
Botaurus lentiginosus	American Bittern				2
Buteo regalis	Ferruginous Hawk	SC		S	2
Buteo swainsoni	Swainson's Hawk				2
Calypte costae	Costa's Hummingbird				2
Chaetodipus baileyi	Bailey's Pocket Mouse				2
Charadrius montanus	Mountain Plover	SC			2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)				
Colaptes chrysoides	Gilded Flicker			S	2
Columbina inca	Inca Dove				2
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S	1
Crotaphytus nebrius	Sonoran Collared Lizard				2
Empidonax wrightii	Gray Flycatcher				2
Eumops perotis californicus	Greater Western Bonneted Bat				
Falco peregrinus anatum	American Peregrine Falcon				
Falco sparverius	American Kestrel				2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S	1
Icterus bullockii	Bullock's Oriole				2
Lanius ludovicianus	Loggerhead Shrike	SC			2
Lasiurus cinereus	Hoary Bat				2
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S	1
Macrotus californicus	California Leaf-nosed Bat	SC		S	2
Megascops kennicottii	Western Screech-owl				
Melanerpes uropygialis	Gila Woodpecker				2

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Melospiza lincolnii	Lincoln's Sparrow			2
		S		2
Nyctinomops femorosaccus	Pocketed Free-tailed Bat			2
				2
Passerculus sandwichensis	Savannah Sparrow			2
				2
Phrynosoma goodei	Goode's Horned Lizard			2
				2
Spizella breweri	Brewer's Sparrow			2
Toxostoma lecontei	LeConte's Thrasher		S	2

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

	Common Name	FWS	USFS
Callipepla gambelii	Gambel's Quail		
Phasianus colchicus	Ring-necked Pheasant		
	White-winged Dove		
Zenaida macroura	Mourning Dove		

Project Type: Law Enforcement Activities Associated with the Border, Permanent facilities (weigh stations, check points, etc.)

Project Type Recommendations:
Fence recommendations will be dependent upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (https://azstateparks.com/).

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Project Location and/or Species Recommendations:

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at https://www.fws.gov/office/arizona-ecological-services or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:
https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

AK-CHIN INDIAN COMMUNITY

Community Government

42507 W. Peters & Nall Road • Maricopa, Arizona 85138 • Telephone: (520) 568-1000 • Fax: (520) 568-1001

March 23, 2023

John Petrilla
Execution Team I Energy and Environmental PMO
Office of Facilities and Asset Management
U.S. Customs and Border Protection

RE: Preparation of an Environmental Assessment Addressing the Proposed land Acquisition, Construction, Operation, and Maintenance of a Joint Processing Center in Yuma, Yuma County, Arizona.

Dear Mr. Petrilla,

The Ak-Chin Indian Community received a letter regarding the proposal to acquire land and construct, operate, and maintain a new permeant multi-agency facility known as a Joint Processing Center (JPC) in the area of Yuma, Yuma County, Arizona, to replace the currently in-use soft-sided processing facilities.

After review, the Ak-Chin Indian Community has no comment and defers to the Tohono O'odham Nations Tribal Historic Preservation Office located in Sells, Arizona.

Should you have any questions, please contact Ms. Elaine F. Peters, Him-Dak Director, at (520) 568-1350 or the Cultural Resources Office at (520) 568-1365.

Sincerely,

FOR: Robert Miguel, Chairman
Ak-Chin Indian Community

AK-CHIN INDIAN COMMUNITY
Community Government
42507 W. Peters & Nall Road
Maricopa, Arizona 85138

John Petrilla
Execution Team I Energy and Environmental
PMO
Office of Facilities and Asset Management
U.S. Customs and Border Protection
1300 Pennsylvania Avenue, NW
Washington, DC 20229

20229-

DHS-CRDS

2023 APR -3 AM 8:18

FC 3000279325

DHS-CRDS SCREENING
and Quality Assurance

APR 03 2023

Notice of Mail
and Parcel Inspection

1300 Pennsylvania Avenue, NW
Washington, DC 20229

U.S. Customs and
Border Protection

May 10, 2023

ATTN: Ms. Kathryn Leonard, SHPO
State Historic Preservation Office
1100 West Washington Street
Phoenix, AZ 85007

SUBJECT: Notification of Proposed Undertaking and Finding of No Historic Properties Affected – U.S. Department of Homeland Security (DHS) Yuma Sector Joint Processing Center Historic Properties Survey of Yuma Greyhound Park, Yuma County, Arizona

Dear Ms. Leonard:

Description of Undertaking

The U.S. Department of Homeland Security (DHS) proposes to acquire one of two separate but adjacent 40-acre parcels within the Yuma Sector Area of Responsibility in the City of Yuma, Yuma County, Arizona and to construct a new, permanent multi-agency Joint Processing Center (JPC) facility to support humanitarian efforts along the U.S. Southwest border. The JPC will be used by U.S. Customs and Border Protection (CBP), the U.S. Department of Health & Human Services Office of Refugee Resettlement, and DHS Immigration and Customs Enforcement. The undertaking will involve site acquisition, ground disturbance as part of grading and excavation operations, and the construction of the proposed JPC facilities and utility installation.

Area of Potential Effects

Pursuant to National Historic Preservation Act regulations, 36 C.F.R §§ 800.4(a)(1) and 800.16(d), DHS defined the area of potential effects (APE) for both above-ground and below-ground historic or cultural resources. The APE consists of the two adjacent 40-acre parcels located within the City of Yuma, Yuma County. Both parcels are located on the Northwest Quarter of Section 16, Township 9 South, Range 23, West of the Gila and Salt River Base and Meridian (**Figure 1**). Parcel 1 is located at 4000 S. 4th Avenue on land privately owned by William P. Gresser and used for the Yuma Swap Meet. Parcel 2 is located immediately to the southwest on land currently owned by the Yuma Airport Authority.

Identification of Historic Properties and Assessment of Effects

Under contract to CBP, Dawson Solutions, LLC (DAWSON) conducted a Class III cultural resources survey in November 2022 to identify historic properties potentially affected by the proposed undertaking. An SOI-qualified DAWSON archaeologist conducted a literature search and field survey within a 0.5-mile radius of the two project parcels and identified a complex of historic-age buildings associated with the former Yuma Greyhound Park constructed in 1960

within Parcel 1. The complex consists of the remains of the vacant racetrack grandstands and the former greyhound kennels on the park grounds.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation regulations, 36 CFR Part 800, Dawson sub-contracted to Urbana Preservation and Planning, LLC (URBANA) for the historic research and field survey necessary to evaluate eligibility of the Yuma Greyhound Park for listing in the National Register of Historic Places (NRHP). As a result of the historic property survey, URBANA recommends that the former Yuma Greyhound Park complex is not eligible for the NRHP, based on its lack of historic significance and/or integrity. There are no other historic-age above-ground resources on Parcels 1 or 2.

Based on the historic property and cultural resources surveys of Parcels 1 and 2, and pursuant to 36 C.F.R. § 800.4(d)(1)(i-iv), DHS has determined that there are no historic properties affected by the proposed undertaking. A copy of the report, "*Historic Property Survey Report, Proposed Joint Processing Center Site, 4000 S. 4th Avenue, Yuma, Arizona*" (URBANA, 2023), is enclosed for your review.

Request for Concurrence

This letter and associated report are for your review of the project effect on the Yuma Greyhound Park. An additional letter and report for the archaeological survey conducted by DAWSON will be sent separately for your review.

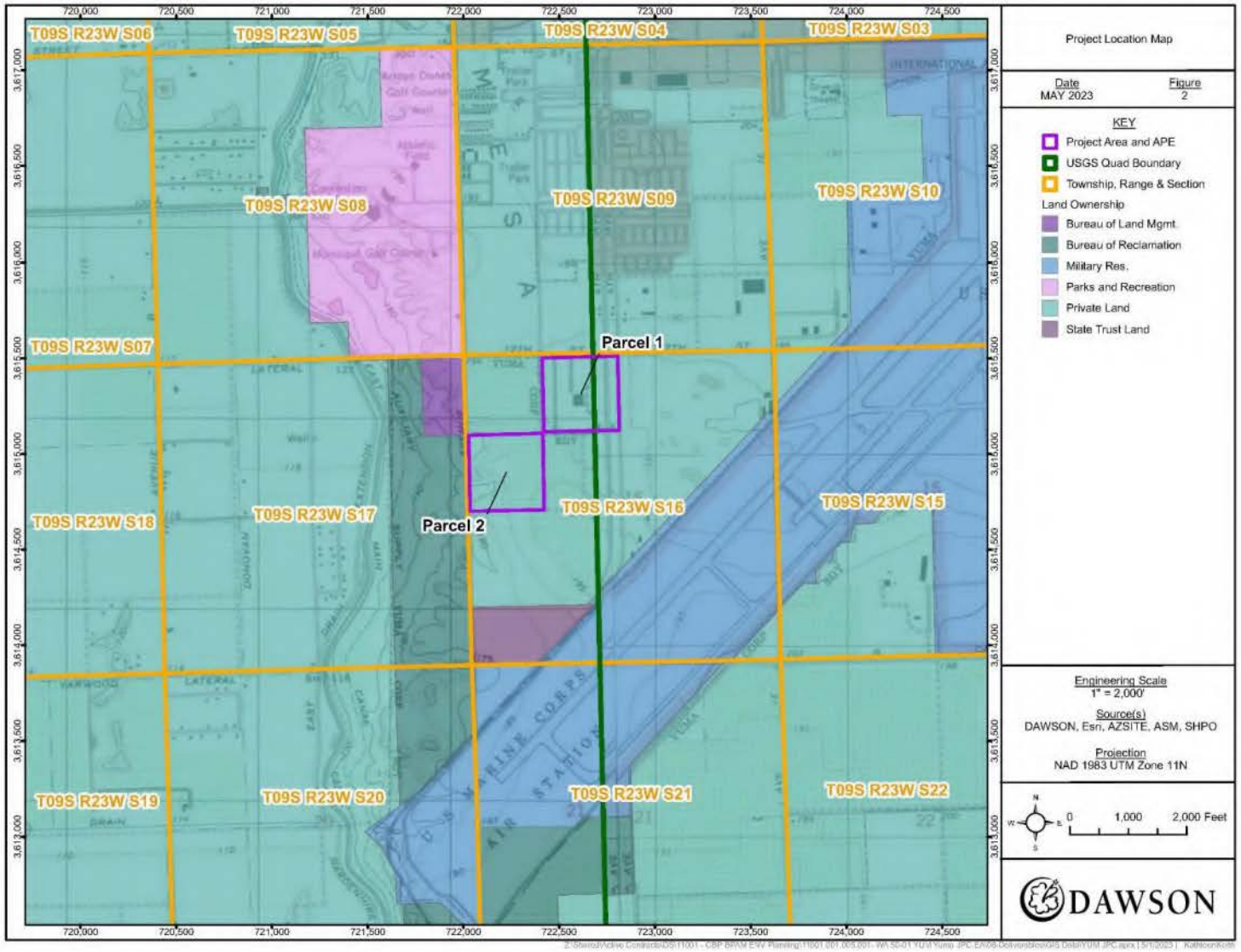
DHS requests your concurrence with its finding of "No Historic Properties Affected" and respectfully requests your comments within 30 days. If no response is received by DHS within 30 days, your concurrence will be presumed. If you have any questions concerning the proposed undertaking, please contact Mr. Kreg Ellzey at (520) 519-2648 or via email at kreg.d.ellzey@associates.cbp.dhs.gov. Please also provide an electronic copy of your response to Mr. John Petrilla (john.p.petrilla@cbp.dhs.gov) and Mr. Ellzey. Written correspondence may be submitted by mail to the following address: U.S. Customs and Border Protection, 24000 Avila Road, Suite 5020, Laguna Niguel, CA 92677, Attn: John Petrilla.

Sincerely,

John Petrilla
Execution Team | Energy and Environmental PMO
Office of Facilities and Asset Management
U.S. Customs and Border Protection

Enclosure: Figure 1 Map of Project Area and APE
Historic Properties Survey Report

Enclosure: Map of Project Area.



Kristin Lang

From: Johna Hutira
Sent: Thursday, June 1, 2023 1:01 PM
To: Kristin Lang; Cortney Springsted
Subject: FW: [External] - Re: Section 106 CBP consultation Yuma JPC - Class 3 Report?

FYSA

Mahalo!

Johna Hutira
Cultural Resources Program Manager
DAWSON
6411 S River Drive, Unit 24, Tempe, AZ 85283
Mobile: 602-558-1991
Dawsonohana.com
Kūpono ka Hana – Excellence in Service

From: Johna Hutira
Sent: Tuesday, May 16, 2023 9:01 AM
To: Kimberley Ryan <kryan@azstateparks.gov>; ELLZEY, KREG (CTR) <kreg.d.ellzey@associates.cbp.dhs.gov>
Cc: Susan Lawson <slawson@azstateparks.gov>
Subject: RE: [External] - Re: Section 106 CBP consultation Yuma JPC - Class 3 Report?

Hi Kim, yes the archaeological report is a separate document. It will be sent to you as soon as we get a site number from ASM.

JOhna

Mahalo!

Johna Hutira
Cultural Resources Program Manager
DAWSON
6411 S River Drive, Unit 24, Tempe, AZ 85283
Mobile: 602-558-1991
Dawsonohana.com
Kūpono ka Hana – Excellence in Service

From: Kimberley Ryan <kryan@azstateparks.gov>
Sent: Tuesday, May 16, 2023 8:56 AM
To: ELLZEY, KREG (CTR) <kreg.d.ellzey@associates.cbp.dhs.gov>; Johna Hutira <jhutira@dawsonohana.com>
Cc: Susan Lawson <slawson@azstateparks.gov>
Subject: [External] - Re: Section 106 CBP consultation Yuma JPC - Class 3 Report?

Good Morning:

The referenced historic structures assessment is in queue for review; however, when might we be expecting to receive the associated Class 3 (archaeological) survey report?

Lacking complete inventory and assessment data, we are currently unable to concur with or respond to the DHS/CBP effect finding for the undertaking as a whole.

Please advise and/or submit the Class 3 report at your earliest convenience.

Thank you,

Kim R.
Kimberley A. Ryan, M.A.
Compliance Specialist / Archaeologist
State Historic Preservation Office
A Division of Arizona State Parks & Trails
Please use azshpo@azstateparks.gov for all consultation!

1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 480-375-8163
Email: kryan@azstateparks.gov
Web: http://AZStateParks.com/SHPO

---------- Forwarded message ---------
From: **Johna Hutira** <jhutira@dawsonohana.com>
Date: Thu, May 11, 2023 at 9:17 AM
Subject: Section 106 CBP consultation Yuma JPC
To: AZSHPO - AZPARKS <azshpo@azstateparks.gov>
Cc: Cortney Springsted <cspringsted@dawsonohana.com>, Nicholas Billstrand <nbillstrand@dawsonohana.com>, Kristin Lang <klang@dawsonohana.com>

I have attached the documents for Section 106 Consultation for historic structures for the CBP project Yuma Joint Processing Center. A separate consultation package will be submitted for the archaeological survey. Thank you.

Mahalo!

Johna Hutira

Cultural Resources Program Manager

DAWSON

6411 S River Drive, Unit 24, Tempe, AZ 85283

Mobile: 602-558-1991

Dawsonohana.com

Kūpono ka Hana – Excellence in Service

Kristin Lang

From: ELLZEY, KREG (CTR) <kreg.d.ellzey@associates.cbp.dhs.gov>
Sent: Wednesday, June 7, 2023 5:19 PM
To: Johna Hutira; Nicholas Billstrand
Cc: Nicolas Frederick; Kristin Lang; PETRILLA, JOHN
Subject: [External] - FW: SHPO-2023-0291(169304) CBP Yuma Joint Processing Center
Attachments: SHPO-2023-0291(169304) CBP Yuma JPC.pdf

Hi Johna and Nick,

The concurrence on the Historic Properties survey report was received today. Please see attached.

I let Kim know that you are awaiting an ASM number to finalize the other report. Once that's received the other report references below will be headed her way.

Regards,
Kreg

From: Kimberley Ryan <kryan@azstateparks.gov>
Sent: Wednesday, June 7, 2023 1:43 PM
To: ELLZEY, KREG (CTR) <kreg.d.ellzey@associates.cbp.dhs.gov>; PETRILLA, JOHN <JOHN.P.PETRILLA@cbp.dhs.gov>
Cc: Susan Lawson <slawson@azstateparks.gov>
Subject: Re: SHPO-2023-0291(169304) CBP Yuma Joint Processing Center

Good Afternoon:

Attached SHPO concurrence on the adequacy of the submitted report (URBANA 2023) and CBP's determination of eligibility for the Yuma Greyhound Park. Before we can concur with CBP's effect finding, we would need to review the associated archaeological survey report.

Please submit the referenced DAWSON report for continuing consultation, and don't hesitate to reach out with any questions or comments.

Thank you,

Kim R.

Kimberley A. Ryan, M.A.
Compliance Specialist / Archaeologist
State Historic Preservation Office
A Division of Arizona State Parks & Trails
Please use azshpo@azstateparks.gov for all consultation!

1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 480-375-8163
Email: kryan@azstateparks.gov
Web: http://AZStateParks.com/SHPO

SHPO-2023-0291 (169304)
Rec: 05-11-23

1300 Pennsylvania Avenue, NW
Washington, DC 20229

U.S. Customs and Border Protection

May 10, 2023

ATTN: Ms. Kathryn Leonard, SHPO
State Historic Preservation Office
1100 West Washington Street
Phoenix, AZ 85007

SUBJECT: Notification of Proposed Undertaking and Finding of No Historic Properties Affected – U.S. Department of Homeland Security (DHS) Yuma Sector Joint Processing Center Historic Properties Survey of Yuma Greyhound Park, Yuma County, Arizona

Dear Ms. Leonard:

Description of Undertaking

The U.S. Department of Homeland Security (DHS) proposes to acquire one of two separate but adjacent 40-acre parcels within the Yuma Sector Area of Responsibility in the City of Yuma, Yuma County, Arizona and to construct a new, permanent multi-agency Joint Processing Center (JPC) facility to support humanitarian efforts along the U.S. Southwest border. The JPC will be used by U.S. Customs and Border Protection (CBP), the U.S. Department of Health & Human Services Office of Refugee Resettlement, and DHS Immigration and Customs Enforcement. The undertaking will involve site acquisition, ground disturbance as part of grading and excavation operations, and the construction of the proposed JPC facilities and utility installation.

Area of Potential Effects

Pursuant to National Historic Preservation Act regulations, 36 C.F.R §§ 800.4(a)(1) and 800.16(d), DHS defined the area of potential effects (APE) for both above-ground and below-ground historic or cultural resources. The APE consists of the two adjacent 40-acre parcels located within the City of Yuma, Yuma County. Both parcels are located on the Northwest Quarter of Section 16, Township 9 South, Range 23, West of the Gila and Salt River Base and Meridian (**Figure 1**). Parcel 1 is located at 4000 S. 4th Avenue on land privately owned by William P. Gresser and used for the Yuma Swap Meet. Parcel 2 is located immediately to the southwest on land currently owned by the Yuma Airport Authority.

Identification of Historic Properties and Assessment of Effects

Under contract to CBP, Dawson Solutions, LLC (DAWSON) conducted a Class III cultural resources survey in November 2022 to identify historic properties potentially affected by the proposed undertaking. An SOI-qualified DAWSON archaeologist conducted a literature search and field survey within a 0.5-mile radius of the two project parcels and identified a complex of historic-age buildings associated with the former Yuma Greyhound Park constructed in 1960

within Parcel 1. The complex consists of the remains of the vacant racetrack grandstands and the former greyhound kennels on the park grounds.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation regulations, 36 CFR Part 800, Dawson sub-contracted to Urbana Preservation and Planning, LLC (URBANA) for the historic research and field survey necessary to evaluate eligibility of the Yuma Greyhound Park for listing in the National Register of Historic Places (NRHP). As a result of the historic property survey, URBANA recommends that the former Yuma Greyhound Park complex is not eligible for the NRHP, based on its lack of historic significance and/or integrity. There are no other historic-age above-ground resources on Parcels 1 or 2.

Based on the historic property and cultural resources surveys of Parcels 1 and 2, and pursuant to 36 C.F.R. § 800.4(d)(1)(i-iv), DHS has determined that there are no historic properties affected by the proposed undertaking. A copy of the report, "*Historic Property Survey Report, Proposed Joint Processing Center Site, 4000 S. 4th Avenue, Yuma, Arizona*" (URBANA, 2023), is enclosed for your review.

Request for Concurrence

This letter and associated report are for your review of the project effect on the Yuma Greyhound Park. An additional letter and report for the archaeological survey conducted by DAWSON will be sent separately for your review.

DHS requests your concurrence with its finding of "No Historic Properties Affected" and respectfully requests your comments within 30 days. If no response is received by DHS within 30 days, your concurrence will be presumed. If you have any questions concerning the proposed undertaking, please contact Mr. Kreg Ellzey at (520) 519-2648 or via email at kreg.d.ellzey@associates.cbp.dhs.gov. Please also provide an electronic copy of your response to Mr. John Petrilla (john.p.petrilla@cbp.dhs.gov) and Mr. Ellzey. Written correspondence may be submitted by mail to the following address: U.S. Customs and Border Protection, 24000 Avila Road, Suite 5020, Laguna Niguel, CA 92677, Attn: John Petrilla.

Sincerely,

JOHN P PETRILLA

Digitally signed by JOHN P PETRILLA
Date: 2023.05.10 08:04:12 -07'00'

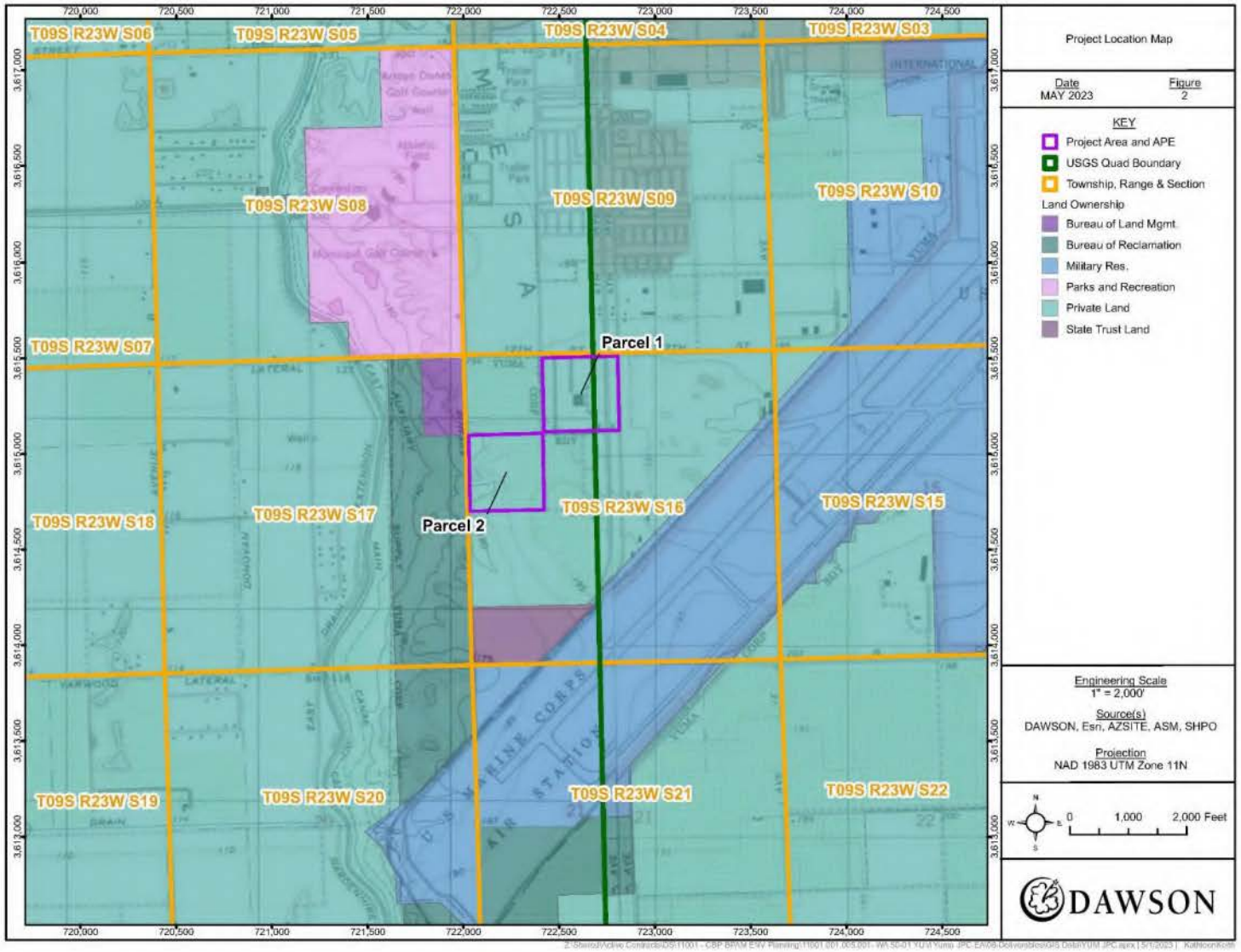
John Petrilla
Execution Team | Energy and Environmental PMO
Office of Facilities and Asset Management
U.S. Customs and Border Protection

Enclosure: Figure 1 Map of Project Area and APE
Historic Properties Survey Report

We concur with the adequacy of the URBANA report and CBP's determination of eligibility for the Yuma Greyhound Park; however, we cannot concur with CBP's effect finding until we have been afforded the opportunity to review the associated archaeological survey report. Please submit the referenced DAWSON report for continuing consultation.

7 June 2023
Arizona State Historic Preservation Office

Enclosure: Map of Project Area.



APPENDIX B

JPC Site Plan

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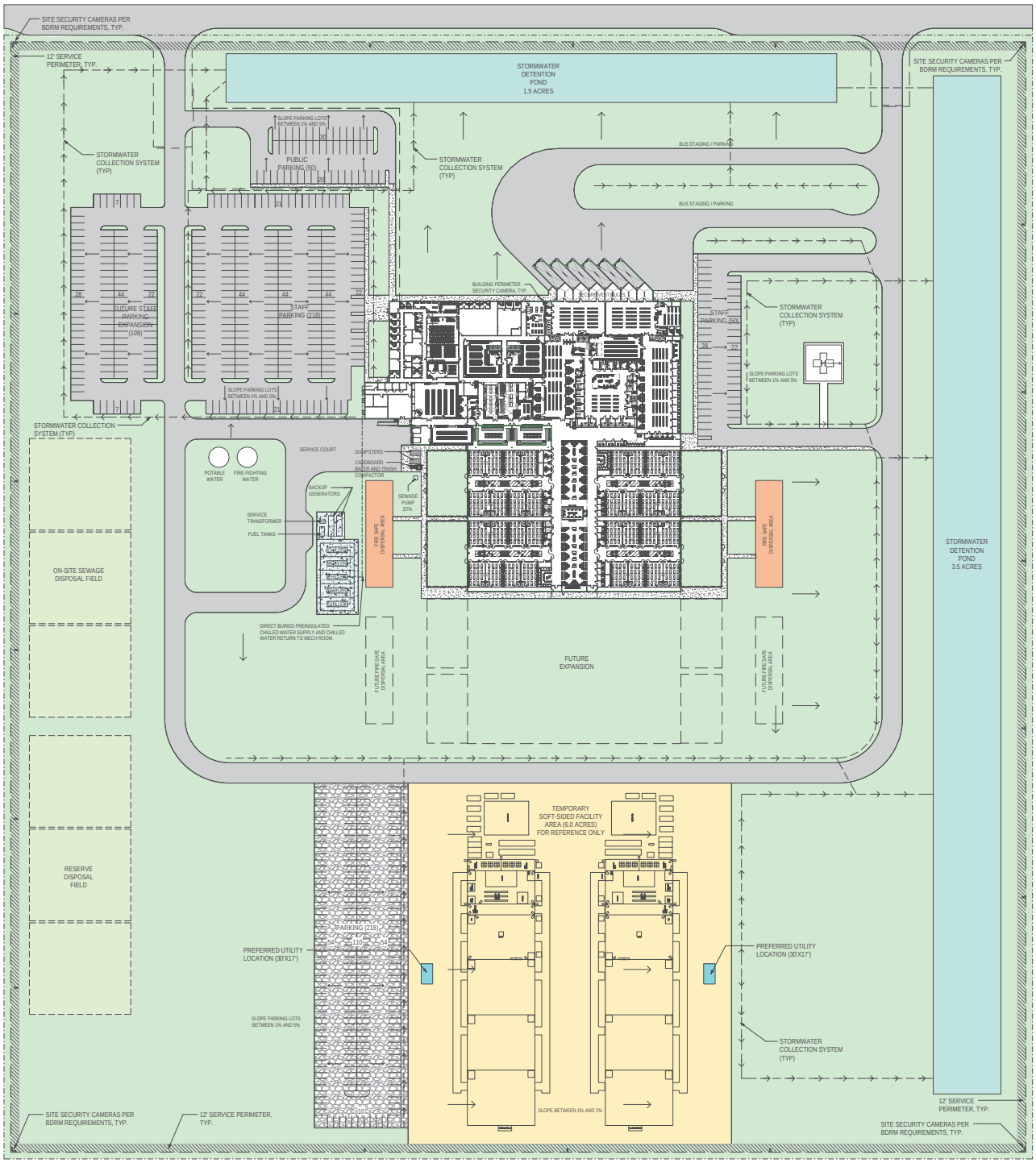
NOTE: PERIMETER AROUND BUILDING BESIDES DOORWAY AND LOADING DOCKS SHALL BE AT ELEVATION 6 TO 12 INCHES BELOW THE FIRST FLOOR ELEVATION



SITE LEGEND

- ASPHALT
- CONCRETE
- GRAVEL
- LANDSCAPING
- DETENTION POND
- FIRE DISPERSAL SAFE AREA
- TEMPORARY SOFT-SIDED OPERATIONAL AREA
- PREFERRED UTILITY LOCATION:
  - SANITARY SEWER
  - WATER - SEPARATE METERED SERVICE
  - FIRE SUPPRESSION
  - POWER - SEPARATE METERED SERVICE
  - DATA - EMPTY UNDERGROUND CONDUIT RACEWAY TO BUILDING TER
  - SECURITY
- 12' SERVICE PERIMETER
- SECURITY CAMERA
- FENCE LINE

Wood HDR
A Joint Venture Partnership

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APPENDIX C

Biological Survey Report

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[redacted]

March
2023

Final

Biological Survey Report

Of Two Parcels for the Proposed Yuma Joint Processing Center in Yuma, Yuma County, Arizona

Department of Homeland Security
U.S. Customs and Border Protection

Abbreviations and Acronyms

AZGFD	Arizona Game and Fish Department
CBP	U.S. Customs and Border Protection
DAWSON	Dawson Solutions, LLC
DHS	Department of Homeland Security
EA	Environmental Assessment
ESA	Endangered Species Act
EXPN	Experimental population, Non-essential
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HUC	hydraulic unit code
NHP	Natural Heritage Program
IPaC	Information for Planning and Conservation
JPC	Joint Processing Center
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OBP	Office of Border Patrol
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WOTUS	Waters of the United States
WSS	Web Soil Survey

Final

BIOLOGICAL SURVEY REPORT

OF TWO PARCELS FOR THE PROPOSED JOINT PROCESSING CENTER IN YUMA, YUMA COUNTY, ARIZONA

Contract Number: 47QRAA18D009F

Task Order Number: 70B01C22F00001393

Work Assignment Number: 50-01

MARCH 2023

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TABLE OF CONTENTS

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LIST OF APPENDICES

1. Introduction

Dawson Solutions, LLC (DAWSON) was contracted by the Department of Homeland Security (DHS) to conduct a habitat level pedestrian survey for the presence of sensitive and protected species, any suitable habitats, and general floral and faunal species occurrences within one 40-acre project area located at 4000 South 4th Avenue, Yuma, Arizona (32.653079, -114.626447), and a second 38-acre project area located near S. Avenue A and S. 4th Avenue (32.649676, -114.630958). This document also includes a Waters of the U.S. (WOTUS) and wetlands review and a Migratory Nesting Bird letter report for each parcel.

The two parcels are under review for a proposed land acquisition and subsequent planned construction of a permanent Joint Processing Center (JPC) in the Yuma Sector, Arizona. The survey was conducted for DHS under Contract Number 47QRAA18D009F, Task Order 70B01C22F00001393, Work Assignment 50-01. DAWSON conducted field investigations on November 10, 2022, and January 25, 2023. This Biological Survey Report presents the results of the surveys conducted.

- **Appendix A** presents relevant figures.
- **Appendix B** provides a comprehensive photograph log.
- **Appendix C** provides the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Threatened and Endangered Species, Migratory Birds, and Critical Habitat List.
- **Appendix D** provides the Arizona Game and Fish Department (AZGFD) Element Status Designations by County.
- **Appendix E** provides the AZGFD Special Status Species by County List.

2. Project Location

The first parcel included in this study, hereafter referred to as "Site 1," includes 39.94 acres of land currently owned by William P. Gresser which is under review to be acquired for the Proposed Action. Site 1 is located at 4000 South 4th Avenue, Yuma, Arizona in Yuma County (32.653079, -114.626447) (**Figure 1**). The parcel is bound by South 4th Avenue to the east, W 40th Street to the north, active agriculture fields to the south, and a parking lot and U.S. Border Patrol (USBP) facility to the west. Site 1 is currently operating as the Yuma Swap Meet, an indoor/outdoor marketplace.

The second parcel in this study, hereafter referred to as "Site 2," includes 38-acres of land currently owned by the Yuma Airport Authority and borders the southwest corner of Site 1 (32.649676, -114.630958) (**Figure 2**). The survey was conducted as part of the due diligence process for DHS in the early planning phase for the JPC.

3. Description of the Proposed Project

DHS requires environmental planning support to develop an environmental assessment (EA) for the construction of a JPC to support humanitarian efforts along the southwest border. The Proposed Action requires an EA and supporting documentation to address the requirements of the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), other Federal environmental laws, regulations, and executive orders, as well as the DHS Instruction 023-01-001-01, and U.S. Customs and Border Protection (CBP) environmental planning requirements.

4. Background Research

DAWSON conducted a literature search to identify and collect all reasonably attainable information prior to completing the field surveys. This included activities such as reviewing sources of topography, wetlands, surface waters, soils, flora, vegetation communities, invasive and noxious weed species, threatened and endangered species, critical habitat, and fauna.

The following data sources were reviewed prior to conducting the field surveys:

- Publicly available historical and recent aerial photographs;
- U.S. Geological Survey (USGS) topographic maps for the site and vicinity;
- U.S. Fish and Wildlife Service IPaC list of threatened and endangered species and critical habitats;
- State of Arizona listed threatened, endangered species and special status species lists;
- State of Arizona noxious weeds list;
- State of Arizona invasive species list;
- inaturalist.org wildlife and plant occurrences;
- ebird.org bird occurrences;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM);
- USGS National Hydrography Dataset;
- USFWS National Wetlands Inventory (NWI) map;
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS), soil descriptions and maps;
- 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Technical Report Y-87-1);
- Regional Supplement to the USACE Wetland Delineation Manual.

5. Ecological Setting

5.1 Environmental Setting

Both Site 1 and Site 2 are located within the Lower Colorado River Valley Subdivision of the Sonoran Desert scrub biotic community. Vegetation in this community consists primarily of common desert annuals, creosote bush (*Larrea tridentata*), Mojave sea-blite (*Suaeda nigra*),

saltbush (*Atriplex spp.*), and other non-native species. Both Site 1 and Site 2 also fall within the Basin and Range Physiographic Province of southwestern Arizona, which is characterized by northwest to southeast trending fault block mountain ranges separated by broad alluvial valleys. Elevations range from 184 to 188 feet (56 to 57 meters) above mean sea level (MSL) (Brown 1994).

5.2 Ecological Region

Both sites are located within the Southwest Plateau and Plains Dry Steppe and Shrub Province (Region 315) (USEPA 2023), a region characterized by flat to rolling plains and plateaus occasionally dissected by canyons at the western end of the Gulf Coastal Plain and the southern end of the Great Plains. The Stake Plains of Texas are included in this province.

As defined by the U.S. Forest Service, both sites also fall within the American Desert Province (3220). This ecoregion covers 77,000 square miles of California, Arizona, Nevada, and Utah. The climate in this region is best known for its long and high temperature summers. The highest temperature ever recorded in the United States was within this ecoregion, recording 134°F in 1913 at Death Valley. The average annual temperature in this ecoregion is 60°F to 75°F. While winters are moderate, the entire province is subject to frost on occasion. Rain is widespread and moderate in the winter, but often present as thunderstorms in the summer. In the Colorado and Mojave deserts of southeastern California, nearest to the Site, there are virtually no summer rains. Vegetation is sparse with bare ground between individual plants. Cacti and thorny shrubs are prevalent, but many thornless shrubs and herbs are also present (Bailey 1995). Both Site 1 and 2, however, are in a developed, suburban setting with agriculture and cleared land, including the county airport dominating the immediate area.

5.3 Soils

Soil survey maps were accessed through the USDA NRCS. Web soil surveys were reviewed prior to conducting the field surveys. One soil type, Superstation sand, was identified to underlay both Site 1 and Site 2 (**Figure 3)** (NRCS 2023). Key features of this soil type are provided below in **Table 1**.

Table 1. Soil Types at Site 1 and Site 2

Symbol	Map Unit Name	Slope (Percent)	Drainage Class	Hydrologic Soil Group	Farmland Classification	Hydric (Y/N)
28	Superstition sand	0-10	Somewhat excessively drained	A	Farmland of unique importance	No

Key: Hydrologic Soil Group A = Soils that have the lowest runoff potential and high infiltration rates, even when thoroughly wetted. Consists mainly of deep, well to excessively drained sands or gravels.

6. Hydrology

Both sites exhibit little topographic relief. The sites are at an elevation of approximately 140 to 160 feet above MSL (**Figure 4**). Any surface hydrology present on the sites originates from precipitation. Total annual rainfall for the area is approximately 3 inches.

6.1 National Wetland Inventory

According to USFWS's NWI mapping tool (**Figure 5**), there is a mapped wetland on Site 1. This mapped wetland is a former pond created for water needs at the racetrack when it was operational. There are no mapped wetlands at Site 2 (USFWS 2023a).

6.2 Flood Insurance Rate Map

According to the FEMA FIRM both sites are located within FEMA Firm Panel 04027C1520F dated January 16, 2014. The sites are located in Zone X, 0.2% annual chance flood hazard. The nearest area defined as a special flood hazard area without flood base elevation is located approximately .25 mile west of the sites (**Figure 6**) (FEMA 2009).

6.3 Watershed

Both sites are located within the Lower Colorado Region hydrologic unit code (HUC) 15. The Lower Colorado Region is approximately 140,000 square miles and consists of 8 subregions. Both sites are located within subregion HUC code 15030108, which is identified as the Colorado River Basin below the Hoover Dam. It covers a 17,000 square mile area in Arizona, California, and Nevada.

6.4 Federally Threatened and Endangered Species

Table 2 below includes the USFWS IPaC list of the one mammal, one insect, and three birds that have the potential to occur at or in the vicinity of the sites (USFWS 2023b). The monarch butterfly (*Danaus plexippus*) is currently a candidate species under Section 7 of the ESA, and is not yet proposed for listing; therefore consultation with USFWS would not be required if a project was proposed which might impact suitable habitat for the species. A copy of the IPaC list is provided in **Appendix C**.

Table 2. Threatened and Endangered Species and Potential to Occur at the Sites

Common Name	Scientific Name	Status	Critical Habit	Suitable Habitat Description
Mammals				
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	EXPN	None	None, no suitable habitat is located at or near the sites.
Insects				
Monarch Butterfly	*Danaus plexippus*	Candidate	None	None
Birds				
Southwestern Willow Flycatcher	*Empidonax trailli extimus*	Endangered	Yes, does not overlap the site	None, no suitable habitat is located at or near the sites.
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened	Yes, does not overlap the site	None, no suitable habitat is located at or near the sites.
Yuma Ridgeway's Rail	*Rallus obsoletus yumanensis*	Endangered	None	None, no suitable habitat is located at or near the sites.

Source: IPaC, USFWS 2023b; EXPN=Experimental population, Non-essential

6.5 State and County Federally Endangered Species

AZGFD maintains a county list of plants and wildlife designated extirpated, endangered, threatened, and species of special concern (AZGFD 2023a) (**Appendix D and E**).

6.6 Flora and Fauna Occurrences

DAWSON reviewed publicly available data from AZGFD Natural Heritage Program (NHP), NatureServe Explorer, eBird, and inaturalist. Each platform provides information regarding species occurrences and their habitats. According to the AZGFD NHP there are no critical habitats, important bird areas, conservation opportunity areas, or other special areas at either site.

NatureServe Explorer is a network of organizations that provides data on species and ecosystems for planning, assessment, and informational purposes. The reporting area is large and encompasses many different habitats. According to the NatureServe report, there are five documented federally listed species found within the reporting area (343 square miles). These species include Ridgway's rail, Yuman desert fringe toed lizard, Sonoran pronghorn, Southwestern willow flycatcher, and Yuma Ridgway's rail (subspecies).

eBird is maintained by the Cornell Lab of Ornithology and provides a public platform for birders to report bird distribution, abundance, habitat use and other trends in a scientific framework. No birds have been recorded at or nearby the sites.

Similar to eBird, inaturalist is a public platform to documentation observations of flora and fauna. It is maintained by California Academy of Sciences and National Geographic Society. Observations include common avian and plants reported at Site 1.

7. Field Survey Methods

DAWSON scientists conducted a reconnaissance-level biological survey of Site 1 on November 10, 2022 and Site 2 on January 25, 2023. The purpose of the survey was to record flora and fauna, habitat types and suitability for potential threatened and endangered species at both Site 1 and Site 2. The boundary of the sites and other significant features were recorded using an Arrow 100 Submeter Global Navigation Satellite System by EOS Positioning Systems.

A survey to delineate the boundary of any potential wetland and WOTUS was also conducted at Site 1 and Site 2, in accordance with the USACE 1987 Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Arid West (USACE 2008). Wetland indicators as described by USACE were used to assess the presence of wetlands or WOTUS.

Areas of the sites were photographed to show conditions at each site and to document sensitive natural resources and other natural resources findings (**Appendix B**). DAWSON did not conduct species specific protocol surveys for any threatened or endangered species within the project area.

8. Field Survey Results

8.1 Flora

Site 1 is a topographically flat parcel located at the southwest intersection of W. 40th Street and S. 4th Avenue. The Site is currently in use as the Yuma Swap Meet. Site 1 includes numerous temporary and permanent shade structures for vendors, one approximately 41,860 square foot building, and one approximately 1,500 square foot dog kennel. Ingress/egress to the Site is via the main entrance on W. 40th Street, or on S. 4th Avenue, or on the unpaved access road on the south side of the parcel. The entire Site is surrounded by a chain-link fence.

Approximately half of Site 1 is asphalt paved, and the other half is bare ground. Vegetation recorded was mainly found along the edge of the parcel.

Site 2 is a topographically flat parcel used for agriculture and located immediately south of the existing USBP station. The western boundary of the parcel consists of S Avenue A and multiple utility corridors. South of the parcel is a commercial property. The eastern and southern boundaries have open canals for irrigation. Several canals and laterals are also located within the Site and are further discussed below in Section 8.3. The northwestern quarter of the 38-acre survey area is heavily disturbed by multiple episodes of grading and gravel filling and contains small piles of gravel. The southwestern quarter of the parcel is undisturbed natural desert primarily consisting of ruderal vegetation. The remaining portion of the Site is in-use agricultural fields currently growing alfalfa. As with Site 1, minimal vegetation was observed at Site 2.

Table 3 below lists the vegetation observed at both sites. Ground cover at each site is shown in **Figure 7**. Photographs of each site and surrounding areas are included in **Appendix B**.

Table 3. Vegetation Observed at Each Site

Common Name	Scientific Name	Growth Form
SITE 1		
Tamarisk	*Tamarix ramosissima*	T
Common thistle	*Cirsium vulgare*	F
Bermuda grass	*Cynodon dactylon*	G
White bursage	*Ambrosia dumosa*	S
SITE 2		
Tamarisk	*Tamarix ramosissima*	T
White bursage	*Ambrosia dumosa*	S
Alfalfa (Crop)	*Medicago sativa*	F

Key: T= Tree, S = Shrub, F= Forb, G = Grass

8.2 Fauna

Both sites offer limited habitat for wildlife. During the site surveys, DAWSON scientists observed the following wildlife, or signs of wildlife, presented in **Table 4** below.

Table 4. Wildlife Observed at Each Site

Common Name	Scientific Name
Site 1	
Red Tailed hawk	*Buteo jamaicensis*
Field mouse	*Apodemus sylvaticus*
Site 2	
Mourning Dove	*Zenaida macroura*

8.3 Wetlands and Waters of the U.S.

Site 1. No wetlands or WOTUS were observed at Site 1 during the survey. As previously noted, a review of the NWI depicts one palustrine wetland feature in the southeast part of the site; however, no evidence of a wetland was observed in this area during the site inspection (USFWS 2022a). A review of a historical 1976 aerial photograph depicts a manmade pond created for water usage at the site where the NWI map depicted the wetland feature.

Site 2. No wetlands or WOTUS were observed at Site 2 during the survey. The site was observed to have an active open concrete-lined irrigation canal through the southern half of the agriculture field, and another one on the south and east parcel boundary. The concrete canals were observed to be in deteriorating condition in some areas. Water was observed to be flowing in some of them at the time of the survey. All total, Site 2 has approximately 2,100 linear feet of open canals. Three lateral windrows or berms located in an east-west direction within the fields were observed. The site is likely flood irrigated, or portable sprinklers are used to irrigate the crops. The canals are concrete lined and do not exhibit wetland or riparian characteristics, such as hydric soils, hydrophytic vegetation, and do not exhibit hydrology naturally/under normal circumstances. Canals/irrigation ditches are not wetlands or WOTUS and are exempt from federal jurisdiction. **Figure 8** depicts the location of the canals at the Site.

8.4 Migratory Birds and Nesting Survey

During the surveys DAWSON examined all areas of the sites for existing/former nests or evidence of avian species. Breeding season in Yuma is approximately February to early September. Limited vegetation exists at both sites. DAWSON did not observe any former nests in shrubs or trees that were on the sites. DAWSON observed a raptor flying overhead at Site 1 and mourning doves at Site 2. The surveys were conducted outside of the breeding season.

9. Conclusions

During the field surveys conducted on November 10, 2022, and January 25, 2023, DAWSON scientists found limited common plant and wildlife species at the sites with no suitable habitat to support threatened or endangered species. No jurisdictional wetlands or WOTUS, or nesting birds were observed within the site boundaries.

10. References

AZGFD 2023a AZGD. 2023. Wildlife and Status Definitions. Available online: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/

AZGFD 2023b AZGD. 2023. Wildlife Guidelines. Species list. Available online: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/specieslists/

AZGFD 2023c AZGD. 2023. Arizona's Online Environmental Review Tool. Available online: https://ert.azgfd.gov/content/map

Bailey 1995 Bailey, R.G. 1995. Description of the ecoregions of the United States. Miscellaneous Publication No. 1391. Second edition, revised. Washington, DC: USDA Forest Service.

Brown 1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press, Salt Lake City.

eBird 2023 The Cornell Lab of Ornithology. 2023. eBird. Available online: https://ebird.org/home

FEMA 2009 Federal Emergency Management Agency (FEMA). March 16, 2009. FEMA Flood Map Service Center: Search by Address. Available online: <https://msc.fema.gov. Accessed 25 January 2023.

inaturalist 2023 inaturalist. 2023. Observations. Available online: https://www.inaturalist.org/observations?introduced&place_id=any&subview=map

Lichvar 2016 Lichvar et al., 2016. National Wetland Plant List. Available online: <https://www.fws.gov/wetlands/documents/National-Wetland-Plant-List-2016-Wetland-Ratings.pdf>. Accessed 25 January 2023.

NatureServe 2023 NatureServe. 2023. Available online: https://www.natureserve.org/

NRCS 2023 Natural Resources Conservation Service (NRCS), United States Department of Agriculture (USDA). Web Soil Survey. Available online: <http://websoilsurvey.nrcs.usda.gov/>. Accessed 25 January 2023.

USACE 1987 U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory, Vicksburg, MS, 92 pp.

USACE 2008 USACE. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 135 pp.

USEPA 2023 U.S. Environmental Protection Agency (USEPA). 2023. Level III and IV Ecoregions of Arizona. Available online: <https://gaftp.epa.gov/EPADataCommons/ORD/Ecoregions/wi/wi_eco.pdf >. Accessed 8 February 2023.

USFWS 2023a U.S. Fish and Wildlife Service (USFWS). 2023. National Wetlands Inventory Mapper. Available online: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>. Accessed 25 January 2023.

USFWS 2023b USFWS. 2023. Information for Planning and Consultation. Available online: <https://ipac.ecosphere.fws.gov/>. Accessed 25 January 2023.

APPENDIX A

FIGURES

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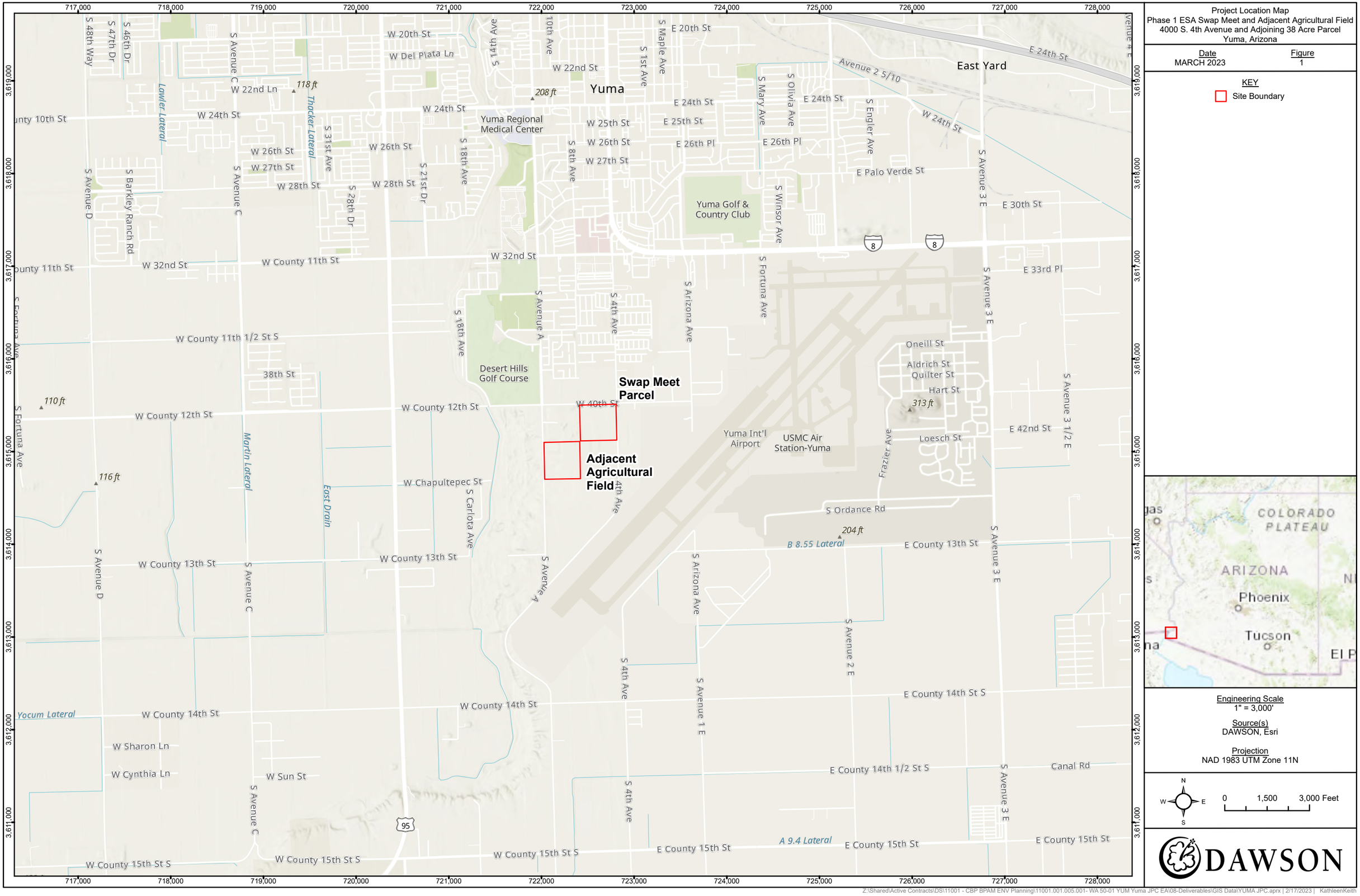
Project Location Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date	Figure
MARCH 2023	1

KEY
- Site Boundary



Engineering Scale
1" = 3,000'

Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

N W E S
0 1,500 3,000 Feet

DAWSON

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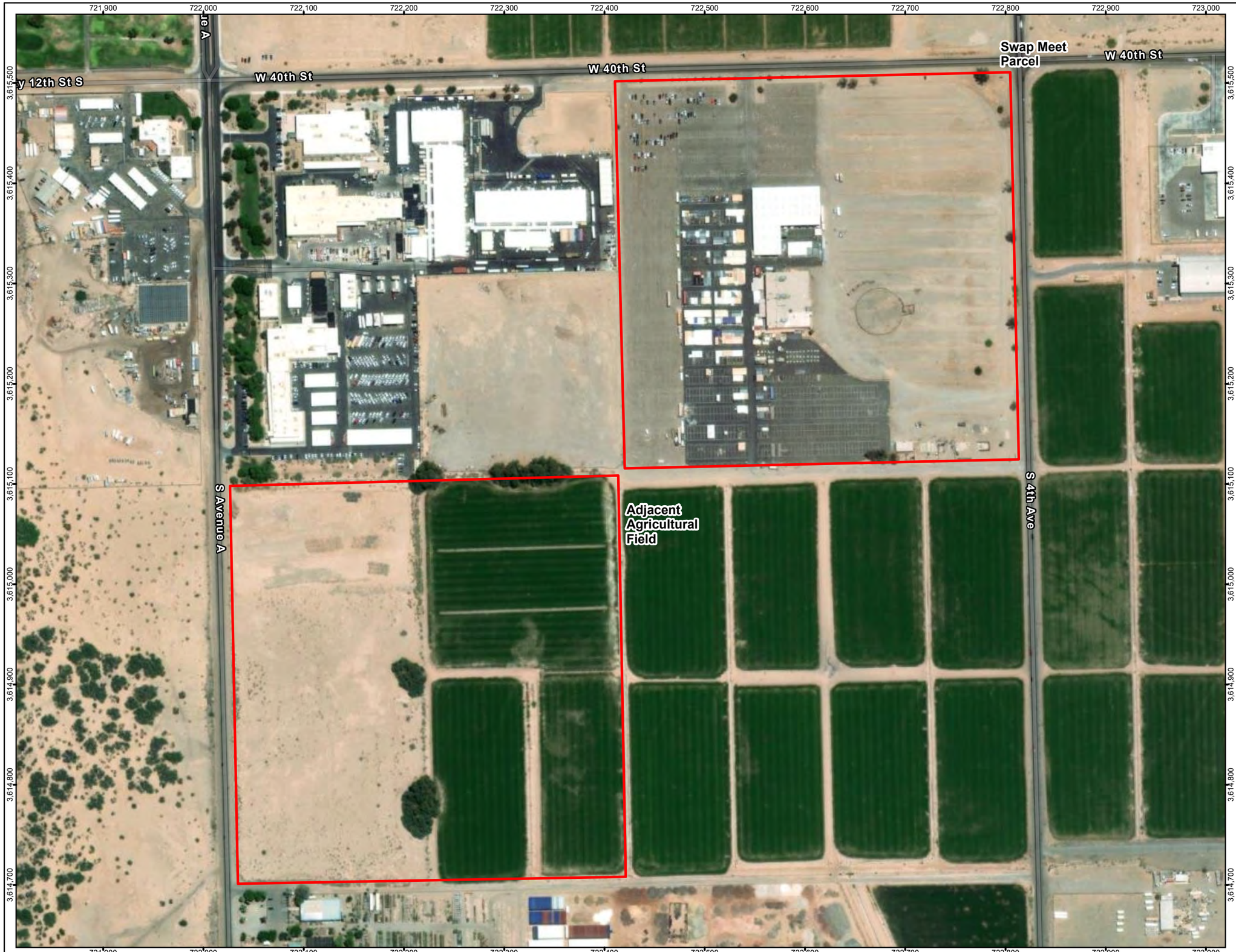


Project Overview Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date
MARCH 2023

Figure
2

KEY

Site Boundary

Engineering Scale
1" = 300'

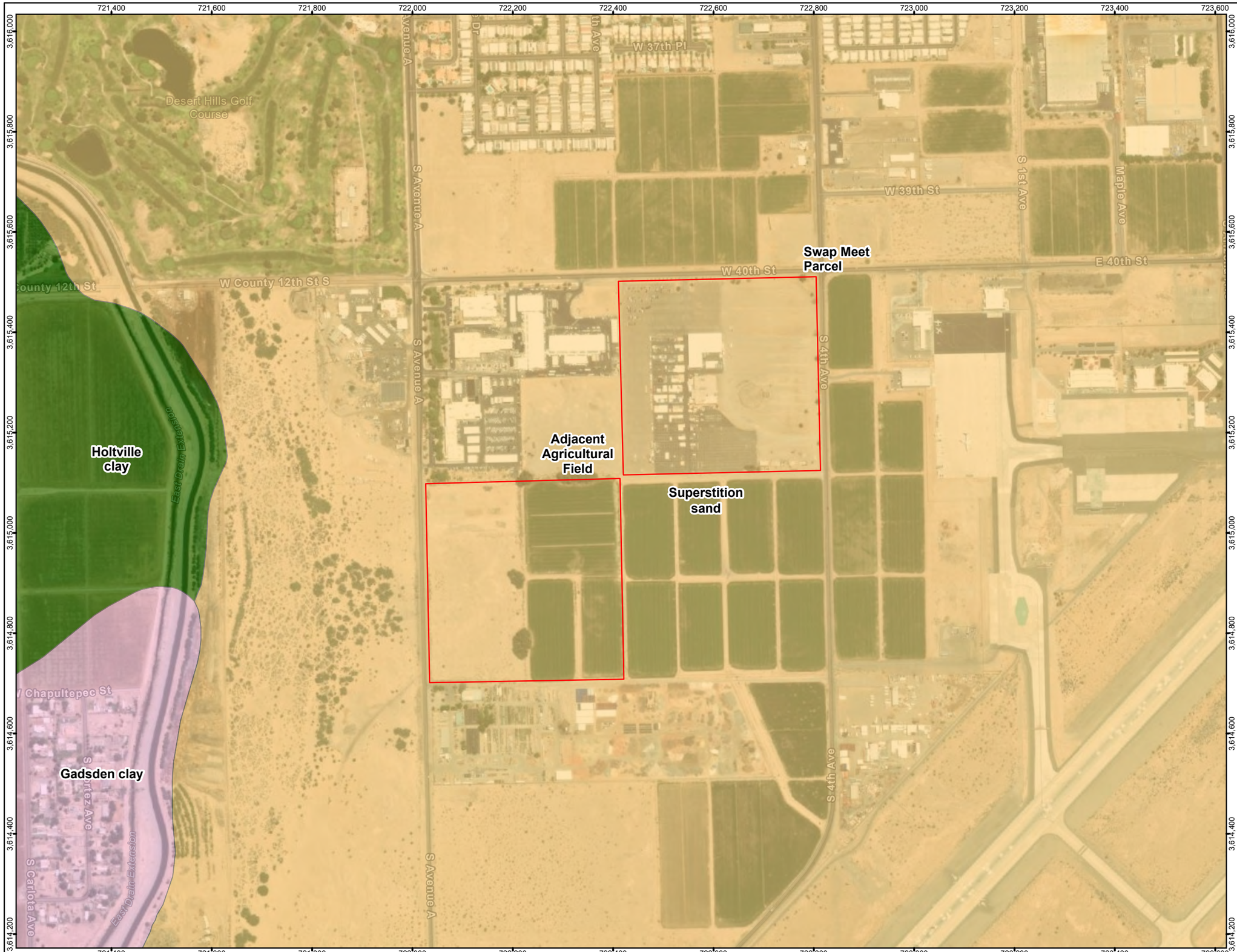
Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

N
W
E
S

0 150 300 Feet

DAWSON



Soils Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date
MARCH 2023

Figure
3

KEY

- Gadsden clay
- Holtville clay
- Superstition sand
- Site Boundary

Engineering Scale
1" = 600'

Source(s)
DAWSON, Esri, NCRS SSURGO

Projection
NAD 1983 UTM Zone 11N

N
W
E
S
0
300
600 Feet

DAWSON

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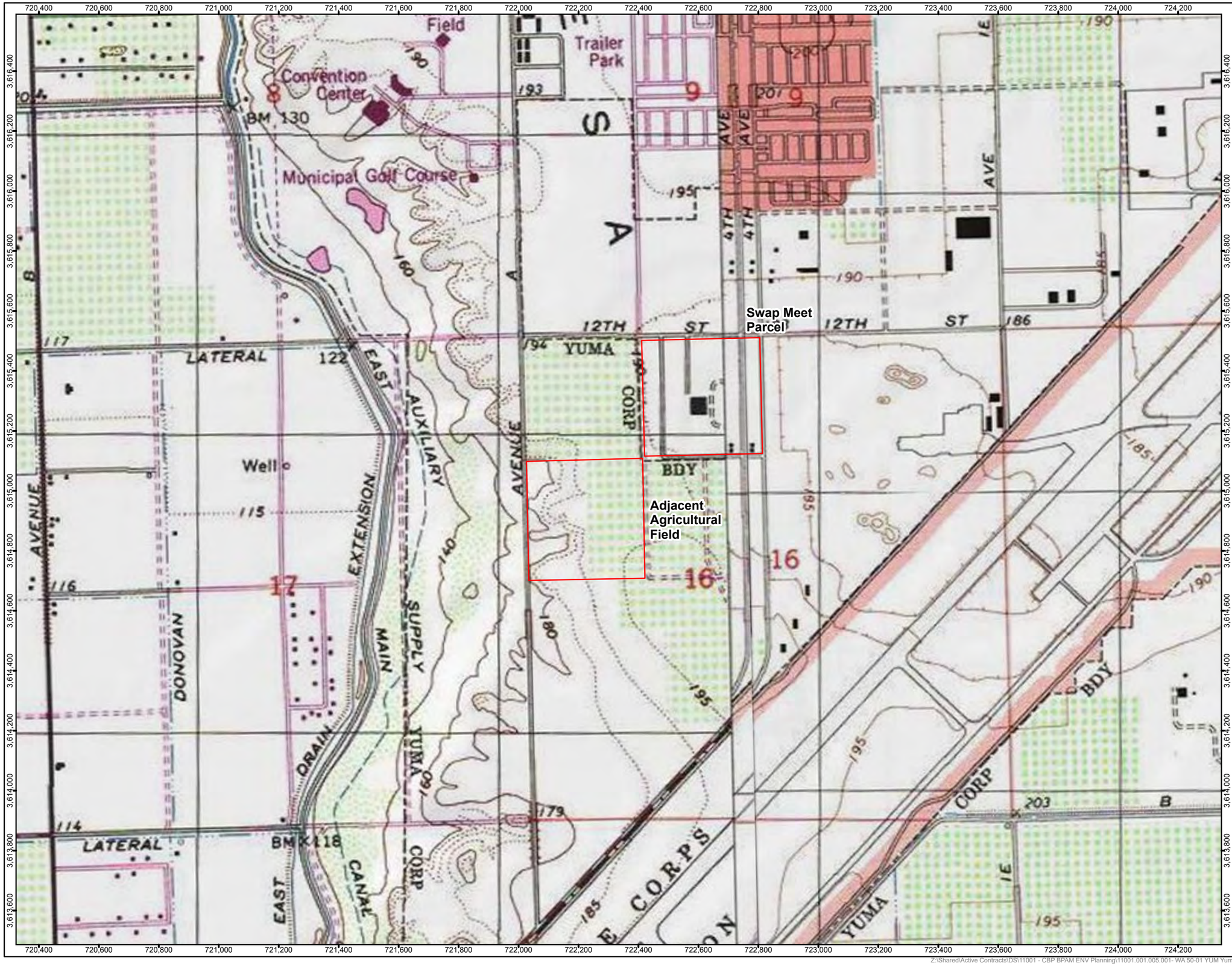

Topo Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date	Figure
MARCH 2023	4

KEY

Site Boundary

Engineering Scale
1" = 1,000'

Source(s)
DAWSON, Esri, USGS

Projection
NAD 1983 UTM Zone 11N

N W E S

0 500 1,000 Feet

DAWSON

Wetlands Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date	Figure
MARCH 2023	5

KEY

- NWI Palustrine Wetland
- Site Boundary

Engineering Scale
1" = 300'

Source(s)
DAWSON, Esri, National Wetlands Inventory

Projection
NAD 1983 UTM Zone 11N

N
W
E
S

0 150 300 Feet

DAWSON

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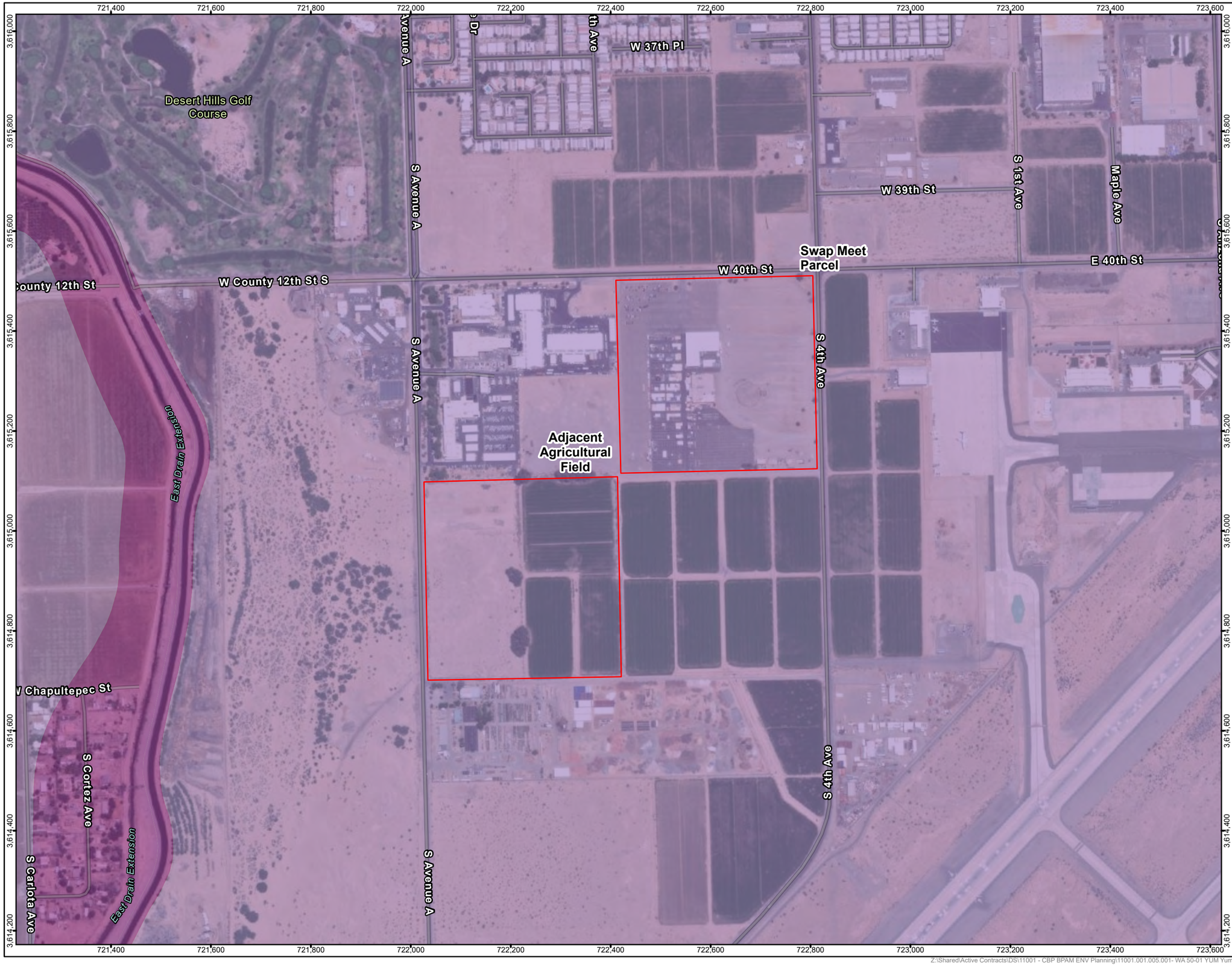

FEMA Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date	Figure
MARCH 2023	6

KEY

- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Site Boundary

Engineering Scale
1" = 600'

Source(s)
DAWSON, Esri, FEMA NFHL

Projection
NAD 1983 UTM Zone 11N

N W E S

0 300 600 Feet

DAWSON

Vegetation Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date
MARCH 2023

Figure
7

KEY

- Bare Ground (37.1 ac.)
- Pavement / Blacktop (20.7 ac.)
- Cropland (17.9 ac.)
- Site Boundary

Engineering Scale
1" = 300'

Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

N
W
E
S

0 150 300 Feet

DAWSON

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Canals and Irrigation System Map
Phase 1 ESA Swap Meet and Adjacent Agricultural Field
4000 S. 4th Avenue and Adjoining 38 Acre Parcel
Yuma, Arizona

Date	Figure
MARCH 2023	8

KEY

- Canal/Irrigation System
- Site Boundary

Engineering Scale
1" = 300'

Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

N
W E
S

0 150 300 Feet

DAWSON

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APPENDIX B

PHOTOGRAPH LOG

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Photograph 1	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Overview From northern Site boundary. Looking southeast.	

Photograph 2	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Overview from north boundary looking southwest.	

Photograph 3	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. View of seating and the corral from the east parcel boundary.	

Photograph 4	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Corral overview looking southwest.	

Photograph 5	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Corral overview, looking west.	

Photograph 6	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Corral Overview looking northwest.	

Photograph 7	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Structure at the site. View looking northwest.	

Photograph 8	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Structure at the site. View looking southwest.	

Photograph 9	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. View looking south.	

Photograph 10	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. View looking southeast.	

Photograph 11	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. View looking northwest.	

Photograph 12	
Location: 4000 S. 4th Avenue, Yuma Arizona	
Date: 11/10/22	
Description: Site 1. Paved parking area.	

Photograph 13 **Location:** Vacant Parcel, S. Avenue A, Yuma, Arizona **Date:** 1/25/2023 **Description:** Site 2. Alfalfa crop planted at the agricultural field onsite.	

Photograph 14 **Location:** Vacant Parcel, S. Avenue A, Yuma, Arizona **Date:** 1/25/2023 **Description:** Site 2. Salt Cedar and margins of agricultural field, looking east.	

Photograph 15	
Location: Vacant Parcel, S. Avenue A, Yuma, Arizona	
Date: 1/25/2023	
Description: Site 2. Salt cedar and bursage at the vacant/disturbed area of the site.	

Photograph 16	
Location: Vacant Parcel, S. Avenue A, Yuma, Arizona	
Date: 1/25/2023	
Description: Site 2. View of existing vegetation.	

Photograph 17 **Location:** Vacant Parcel, S. Avenue A, Yuma, Arizona **Date:** 1/25/2023 **Description:** View of agricultural field, facing east.	

Photograph 18 **Location:** Vacant Parcel, S. Avenue A, Yuma, Arizona **Date:** 1/25/2023 **Description:** Site 2. View of gravel piles located in the northwest area of the site.	

Photograph 19	
Location: Vacant Parcel, S. Avenue A, Yuma, Arizona	
Date: 1/25/2023	
Description: Planted crops, facing northwest with Yuma International Airport in the background.	

Photograph 20	
Location: Vacant Parcel, S. Avenue A, Yuma, Arizona	
Date: 1/25/2023	
Description: One of the irrigation ditches at the site	

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APPENDIX C

FEDERALLY LISTED SPECIES (IPaC)

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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Yuma County, Arizona

Local office

Arizona Ecological Services Field Office

(602) 242-0210
(602) 242-2513

9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Sonoran Pronghorn Antilocapra americana sonoriensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4750	EXPN

Birds

NAME	STATUS
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Ridgway''s Rail Rallus obsoletus yumanensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3505	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Costa's Hummingbird *Calypte costae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Gila Woodpecker *Melanerpes uropygialis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960	Breeds Apr 1 to Aug 31
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere

Willet	Tringa semipalmata	Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

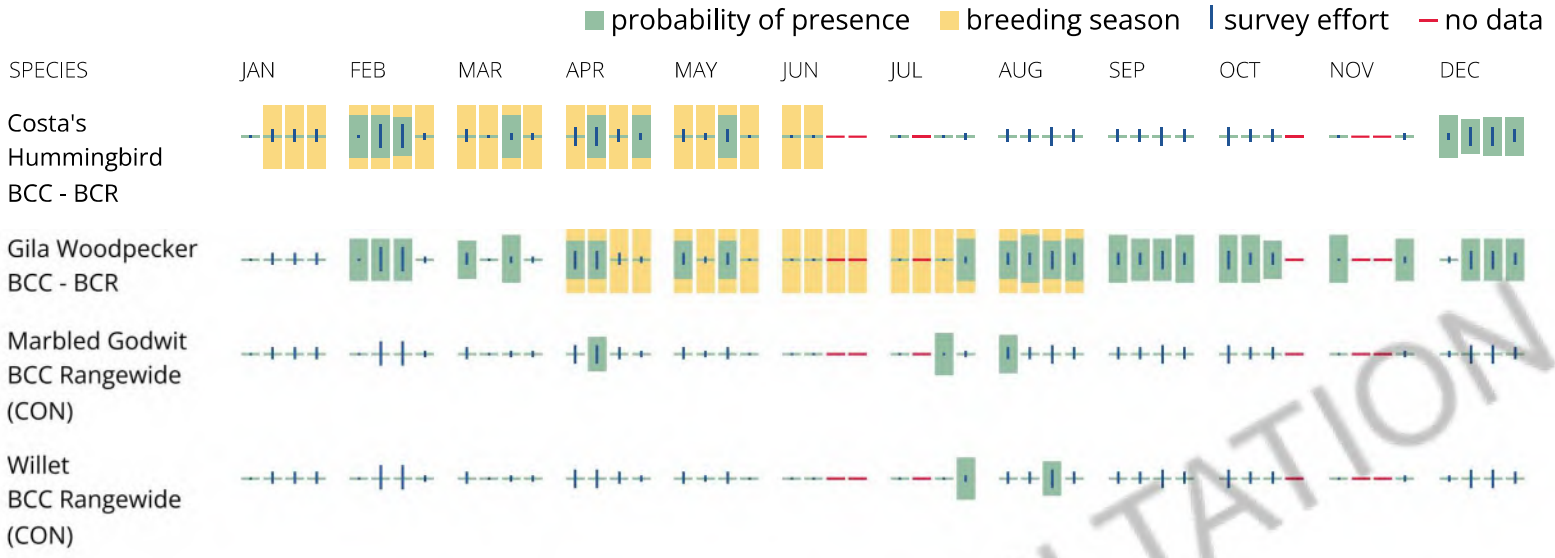
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX D

AZGFD STATE LISTED SPECIES FOR YUMA COUNTY

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Element Status Designations by County, Taxonomic Group, Scientific Name
Arizona Game and Fish Department, Heritage Data Management System
Updated: 8/15/2022

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	SGCN	NPL	ELCODE	SRANK	GRANK
Yuma	Bird	Ixobrychus exilis	Least Bittern					PR	1C		ABNGA02010	S3	G4G5
Yuma	Mammal	Myotis yumanensis	Yuma Myotis	SC					1B		AMACC01020	S3S4	G5
Yuma	Plant	Rhus kearneyi	Kearney Sumac		S					SR	PDANA08050	S2	G4
Yuma	Plant	Croton wigginsii	Dune Croton								PDEUP0H140	S1	G2G3
Yuma	Plant	Stephanomeria exigua ssp. exigua	Small Wirelettuce		S						PDAST8U054	S4	G5T5
Yuma		Bat Colony									OBATCOLONY	SU	GNR
Yuma	Plant	Chylismia brevipes ssp. pallidula	Pallid Suncup								PDONA03073	S2	G4G5T3T5
Yuma	Bird	Toxostoma lecontei	LeConte's Thrasher		S				1B		ABPBK06100	S3	G4
Yuma	Bird	Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	PT	S	S			1B		ABNSB08041	S1S2	G5T2
Yuma	Mammal	Myotis californicus	California Myotis								AMACC01120	S4	G5
Yuma	Bird	Icterus bullockii	Bullock's Oriole						1C		ABPBXB9220	S3S4B,S2M	G5
Yuma	Plant	Astragalus coccineus	Scarlet Milkvetch								PDFAB0F270	S1	G4
Yuma	Plant	Camissonia campestris	Mojave Desert Suncup								PDONA03090	S1	G3G4
Yuma	Plant	Drymaria viscosa	Sticky Drymary								PDCAR09090	S1	G3?
Yuma	Plant	Washingtonia filifera	California Fan Palm							SR	PMARE0G010	S1	G4
Yuma	Plant	Nemacaulis denudata	Woolly Heads								PDPGN0G010	S2	G3G4
Yuma	Plant	Marsilea vestita	Hairy Water Clover								PPMAR01080	S2S3	G5
Yuma	Reptile	Phrynosoma goodei	Goode's Horned Lizard						1B		ARACF12090	S3S4	G3G4
Yuma	Reptile	Lichanura trivirgata	Three-Lined Boa	SC				A	1B		ARADA01020	S1S2	G4G5
Yuma	Reptile	Crotalus pyrrhus	Speckled Rattlesnake					PR			ARADE02160	S5	G5
Yuma	Mammal	Antilocapra americana sonoriensis	Sonoran Pronghorn	LE,XN	S			P	1A		AMALD01012	S1	G5T1
Yuma	Reptile	Sauromalus ater	Common Chuckwalla	SC			4	PR			ARACF13010	S4	G5
Yuma	Bird	Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S	2		1A		ABNRB02020	S3	G5
Yuma	Mammal	Tadarida brasiliensis	Brazilian Free-tailed Bat						1B		AMACD01010	S3S4	G5
Yuma	Plant	Helianthus niveus ssp. tephrodes	Algodones Sunflower	SC							PDAST4N0Z2	S2	G4T2
Yuma	Plant	Stillingia linearifolia	Linearleaf Sand Spurge								PDEUP1B020	S3S4	G4
Yuma	Plant	Selaginella eremophila	Desert Spike Moss								PPSEL010G0	S3S4	G4
Yuma	Plant	Teucrium glandulosum	Desert Germander								PDLAM20040	S3?	G4
Yuma	Plant	Petalonyx linearis	Longleaf Sandpaper Plant								PDLOA04010	S2	G4
Yuma	Plant	Cryptantha ganderi	Gander's Cryptantha	SC							PDBOR0A120	S1	G3?
Yuma	Plant	Psathyrotes ramosissima	Velvet Brittle-stem								PDAST7N030	S2S3	G5
Yuma	Plant	Euphorbia platysperma	Dune Spurge	SC							PDEUP0D1X0	S1	G3
Yuma	Mammal	Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				Pr	1A		AMACB03030	S2S3	G3
Yuma	Reptile	Lichanura roseofusca	Rosy Boa								ARADA01030	S3S4	G4

Element Status Designations by County, Taxonomic Group, Scientific Name
Arizona Game and Fish Department, Heritage Data Management System
Updated: 8/15/2022

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	SGCN	NPL	ELCODE	SRANK	GRANK
Yuma	Bird	Bubulcus ibis	Cattle Egret								ABNGA07010	S2B,S4N	G5
Yuma	Mammal	Euderma maculatum	Spotted Bat	SC	S	S		PR	1B		AMACC07010	S2S3	G4
Yuma	Mammal	Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S	4		1B		AMACC08014	S3S4	G4T3T4
Yuma	Bird	Lanius ludovicianus	Loggerhead Shrike	SC							ABPBR01030	S3	G4
Yuma	Mammal	Sigmodon hispidus eremicus	Yuma Hispid Cotton Rat	SC					1B		AMAFF07013	S2	G5T2T3
Yuma	Plant	Pholisma sonorae	Sandfood	SC	S					HS	PDLNN02020	S1	G2
Yuma	Plant	Berberis harrisoniana	Kofa Mountain Barberry		S						PDBER02030	S1	G2
Yuma	Plant	Astragalus insularis	Sand Flat Milk-vetch								PDFAB0F490	S2	G5
Yuma	Plant	Ferocactus cylindraceus	Desert Barrel Cactus					PR		SR	PDCAC08080	S4	G5
Yuma	Plant	Eucnide rupestris	Flor de la Piedra								PDLOA02020	S1	G3
Yuma	Plant	Colubrina californica	Las Animas Nakedwood								PDRHA05030	S2S3	G4
Yuma	Plant	Eriogonum deserticola	Desert Wild-buckwheat								PDPGN081Q0	S1	G4?
Yuma		Bat Foraging Area	High Netting Concentration								OBATFORAG1	SU	GNR
Yuma	Bird	Ardea herodias	Great Blue Heron					|			ABNGA04010	S5	G5
Yuma	Reptile	Coleonyx variegatus	Western Banded Gecko					PR			ARACD01030	S5	G5
Yuma	Reptile	Crotaphytus bicinctores	Great Basin Collared Lizard								ARACF04010	S4	G5
Yuma	Fish	Cyprinodon macularius	Desert Pupfish	LE				P	1A		AFCNB02060	S1	G1
Yuma	Plant	Allium parishii	Parish Onion		S					SR	PMLIL021N0	S1	G3
Yuma	Plant	Triteleiopsis palmeri	Blue Sand Lily		S					SR	PMLIL22010	S1	G3
Yuma	Reptile	Uma rufopunctata	Yuman Desert Fringe-toed Lizard	SC	S			P	1B		ARACF15050	S2	GUQ
Yuma	Plant	Mentzelia longiloba var. longiloba	Dune Blazingstar								PDLOA030W1	S2	G5TNR
Yuma	Amphibian	Lithobates tarahumarae	Tarahumara Frog	SC		S			1A		AAABH01210	SX,S1	G1G3
Yuma	Plant	Persicaria maculosa	Spotted Ladysthumb								PDPGN0L1V0	SE4	G3G5
Yuma	Reptile	Uma thurmanae	Mohawk Dunes Fringe-toad Lizard		S				1B		ARACF15060	S1	G1
Yuma	Reptile	Phrynosoma mcallii	Flat-tailed Horned Lizard	CCA	S			A	1A		ARACF12040	S2	G3
Yuma	Bird	Egretta thula	Snowy Egret						1C		ABNGA06030	S2B,S4N	G5
Yuma	Bird	Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S	4	PR	1B		ABNSB10012	S3	G4T4
Yuma	Fish	Xyrauchen texanus	Razorback Sucker	LE, PT			2	P	1A		AFCJC11010	S1	G1
Yuma	Bird	Ardea alba	Great Egret						1C		ABNGA04040	S1B,S4N	G5
Yuma	Bird	Parabuteo unicinctus	Harris's Hawk					PR	1C		ABNKC16010	S4B	G5
Yuma	Mammal	Nyctinomops femorosaccus	Pocketed Free-tailed Bat						1B		AMACD04010	S3S4	G5
Yuma	Fish	Gila elegans	Bonytail Chub	LE			1	E	1A		AFCJB13100	S1	G1
Yuma	Plant	Echinodorus berteroi	Upright Burrhead								PMALI020B0	SH	G5
Yuma	Plant	Echinocactus polycephalus var. polycephalus	Clustered Barrel Cactus							SR	PDCAC05033	S2	G3G4T3T4
Yuma	Reptile	Chionactis annulata	Resplendent Shovel-nosed Snake						1C		ARADB05013	S3	G5
Yuma	Mammal	Eumops perotis californicus	Greater Western Bonneted Bat	SC	S				1B		AMACD02011	S2S3	G4G5T4
Yuma	Mammal	Macrotus californicus	California Leaf-nosed Bat	SC	S				1B		AMACB01010	S3	G3G4
Yuma	Reptile	Crotaphytus nebrius	Sonoran Collared Lizard						1B		ARACF04050	S3S4	G4
Yuma	Reptile	Heloderma suspectum	Gila Monster					A	1A		ARACE01010	S4	G4
Yuma	Bird	Aechmophorus occidentalis	Western Grebe						1C		ABNCA04010	S2B,S3N	G5
Yuma	Invertebrate	Spaniacris deserticola	Spanistic Desert Grasshopper								IIORTH7010	S1	G2G3
Yuma	Plant	Tetracoccus fasciculatus var. hallii	Hall Shrub Spurge								PDEUP1C021	S3S4	G4T4
Yuma	Plant	Gilia cana	Gray Gilia								PDPLM04090	S1	G3?
Yuma	Plant	Eryngium nasturtiifolium	Hierba del Sapo								PDAPI0Z0L0	S1	G5
Yuma	Plant	Cistanthe ambigua	Desert Rock-purslane								PDPOR09010	S2?	G4
Yuma	Plant	Erigeron lobatus	Lobed Fleabane								PDAST3M2C0	S4	G4
Yuma	Plant	Lophocereus schottii	Senita					|		SR	PDCAC14010	S1S2	G4
Yuma	Plant	Stillingia spinulosa	Spiny Sand Spurge								PDEUP1B040	S3S4	G4
Yuma	Amphibian	Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		PR	1A		AAABH01250	S2S3	G4
Yuma	Bird	Rallus obsoletus yumanensis	Yuma Ridgway's Rail	LE	S			P	1A		ABNME0501A	S3	G3T3
Yuma	Bird	Aquila chrysaetos	Golden Eagle		S		3	A	1B		ABNKC22010	S4	G5
Yuma	Mammal	Peromyscus eremicus	Cactus Mouse								AMAFF03010	S5	G5
Yuma	Mammal	Lasiurus xanthinus	Western Yellow Bat			S			1B		AMACC05070	S2S3	G4G5
Yuma	Bird	Laterallus jamaicensis coturniculus	California Black Rail	SC	S			P	1B		ABNME03041	S1	G3T1

Element Status Designations by County, Taxonomic Group, Scientific Name
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COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	SGCN	NPL	ELCODE	SRANK	GRANK
Yuma	Bird	Himantopus mexicanus	Black-necked Stilt								ABNND01010	S2	G5
Yuma	Bird	Empidonax traillii extimus	Southwestern Willow Flycatcher	LE			2	E	1A		ABPAE33043	S2S3B	G5T2
Yuma	Mammal	Antrozous pallidus	Pallid Bat								AMACC10010	S4	G4
Yuma	Plant	Pilostyles thurberi	Thurber Pilostyles								PDRAF01010	S2	G5
Yuma	Plant	Palafoxia arida var. gigantea	Giant Spanish Needles	SC							PDAST6T012	S1	G5T2
Yuma	Bird	Haliaeetus leucocephalus (wintering pop.)	Bald Eagle - Winter Population	SC	S	S	2	P	1A		ABNKC10015	S4N	G5TNRQ
Yuma	Plant	Cylindropuntia echinocarpa	Golden Cholla							SR	PDCAC0D2W0	S5	G5
Yuma	Reptile	Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		A	1A		ARAAF01013	S4	G4

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APPENDIX E

AZGFD STATE LISTED SPECIES OF SPECIAL CONCERN FOR YUMA COUNTY

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Special Status Species by County, Taxonomic Group, Scientific Name
Arizona Game and Fish Department, Heritage Data Management System
Updated: 8/15/2022

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	SGCN	NPL	ELCODE	SRANK	GRANK
		Rhinichthys osculus	Speckled Dace										
Yuma	Plant	Ferocactus cylindraceus	Desert Barrel Cactus					PR		SR	PDCAC08080	S4	G5
Yuma	Plant	Washingtonia filifera	California Fan Palm							SR	PMARE0G010	S1	G4
Yuma	Bird	Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S	4	PR	1B		ABNSB10012	S3	G4T4
Yuma	Bird	Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	PT	S	S			1B		ABNSB08041	S1S2	G5T2
Yuma	Bird	Empidonax traillii extimus	Southwestern Willow Flycatcher	LE			2	E	1A		ABPAE33043	S2S3B	G5T2
Yuma	Bird	Toxostoma lecontei	LeConte's Thrasher		S				1B		ABPBK06100	S3	G4
Yuma	Mammal	Myotis yumanensis	Yuma Myotis	SC					1B		AMACC01020	S3S4	G5
Yuma	Mammal	Eumops perotis californicus	Greater Western Bonneted Bat	SC	S				1B		AMACD02011	S2S3	G4G5T4
Yuma	Mammal	Sigmodon hispidus eremicus	Yuma Hispid Cotton Rat	SC					1B		AMAFF07013	S2	G5T2T3
Yuma	Plant	Pholisma sonorae	Sandfood	SC	S					HS	PDLNN02020	S1	G2
Yuma	Amphibian	Lithobates tarahumarae	Tarahumara Frog	SC		S			1A		AAABH01210	SX,S1	G1G3
Yuma	Amphibian	Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		PR	1A		AAABH01250	S2S3	G4
Yuma	Bird	Lanius ludovicianus	Loggerhead Shrike	SC							ABPBR01030	S3	G4
Yuma	Plant	Berberis harrisoniana	Kofa Mountain Barberry		S						PDBER02030	S1	G2
Yuma	Plant	Cylindropuntia echinocarpa	Golden Cholla							SR	PDCAC0D2W0	S5	G5
Yuma	Plant	Euphorbia platysperma	Dune Spurge	SC							PDEUP0D1X0	S1	G3
Yuma	Reptile	Heloderma suspectum	Gila Monster					A	1A		ARACE01010	S4	G4
Yuma	Mammal	Euderma maculatum	Spotted Bat	SC	S	S		PR	1B		AMACC07010	S2S3	G4
Yuma	Mammal	Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S	4		1B		AMACC08014	S3S4	G4T3T4
Yuma	Mammal	Tadarida brasiliensis	Brazilian Free-tailed Bat						1B		AMACD01010	S3S4	G5
Yuma	Plant	Rhus kearneyi	Kearney Sumac		S					SR	PDANA08050	S2	G4
Yuma	Reptile	Phrynosoma goodei	Goode's Horned Lizard						1B		ARACF12090	S3S4	G3G4
Yuma	Plant	Triteleiopsis palmeri	Blue Sand Lily		S					SR	PMLIL22010	S1	G3
Yuma	Reptile	Uma thurmanae	Mohawk Dunes Fringe-toad Lizard		S				1B		ARACF15060	S1	G1
Yuma	Reptile	Crotaphytus nebrius	Sonoran Collared Lizard						1B		ARACF04050	S3S4	G4
Yuma	Mammal	Macrotus californicus	California Leaf-nosed Bat	SC	S				1B		AMACB01010	S3	G3G4
Yuma	Mammal	Lasiurus xanthinus	Western Yellow Bat			S			1B		AMACC05070	S2S3	G4G5
Yuma	Reptile	Phrynosoma mcallii	Flat-tailed Horned Lizard	CCA	S			A	1A		ARACF12040	S2	G3
Yuma	Reptile	Sauromalus ater	Common Chuckwalla	SC			4	PR			ARACF13010	S4	G5
Yuma	Plant	Cryptantha ganderi	Gander's Cryptantha	SC							PDBOR0A120	S1	G3?
Yuma	Plant	Lophocereus schottii	Senita					|		SR	PDCAC14010	S1S2	G4
Yuma	Reptile	Chionactis annulata	Resplendent Shovel-nosed Snake						1C		ARADB05013	S3	G5
Yuma	Plant	Palafoxia arida var. gigantea	Giant Spanish Needles	SC							PDAST6T012	S1	G5T2

Special Status Species by County, Taxonomic Group, Scientific Name
Arizona Game and Fish Department, Heritage Data Management System
Updated: 8/15/2022

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	ESA	BLM	USFS	NESL	MEXFED	SGCN	NPL	ELCODE	SRANK	GRANK
Yuma	Bird	Aquila chrysaetos	Golden Eagle		S		3	A	1B		ABNKC22010	S4	G5
Yuma	Bird	Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S	2		1A		ABNRB02020	S3	G5
Yuma	Fish	Cyprinodon macularius	Desert Pupfish	LE				P	1A		AFCNB02060	S1	G1
Yuma	Mammal	Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				Pr	1A		AMACB03030	S2S3	G3
Yuma	Plant	Echinocactus polycephalus var. polycephalus	Clustered Barrel Cactus							SR	PDCAC05033	S2	G3G4T3T4
Yuma	Fish	Xyrauchen texanus	Razorback Sucker	LE, PT			2	P	1A		AFCJC11010	S1	G1
Yuma	Mammal	Nyctinomops femorosaccus	Pocketed Free-tailed Bat						1B		AMACD04010	S3S4	G5
Yuma	Mammal	Antilocapra americana sonoriensis	Sonoran Pronghorn	LE,XN	S			P	1A		AMALD01012	S1	G5T1
Yuma	Reptile	Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		A	1A		ARAAF01013	S4	G4
Yuma	Reptile	Lichanura trivirgata	Three-Lined Boa	SC				A	1B		ARADA01020	S1S2	G4G5
Yuma	Bird	Laterallus jamaicensis coturniculus	California Black Rail	SC	S			P	1B		ABNME03041	S1	G3T1
Yuma	Bird	Rallus obsoletus yumanensis	Yuma Ridgway's Rail	LE	S			P	1A		ABNME0501A	S3	G3T3
Yuma	Fish	Gila elegans	Bonytail Chub	LE			1	E	1A		AFCJB13100	S1	G1
Yuma	Reptile	Uma rufopunctata	Yuman Desert Fringe-toed Lizard	SC	S			P	1B		ARACF15050	S2	GUQ
Yuma	Bird	Haliaeetus leucocephalus (wintering pop.)	Bald Eagle - Winter Population	SC	S	S	2	P	1A		ABNKC10015	S4N	G5TNRQ
Yuma	Plant	Stephanomeria exigua ssp. exigua	Small Wirelettuce		S						PDAST8U054	S4	G5T5
Yuma	Plant	Helianthus niveus ssp. tephrodes	Algodones Sunflower	SC							PDAST4N0Z2	S2	G4T2
Yuma	Plant	Allium parishii	Parish Onion		S					SR	PMLIL021N0	S1	G3

APPENDIX D

Best Management Practices and Mitigation Measures

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Appendix D: Best Management Practices

This chapter describes those measures that will be implemented to reduce or eliminate potential adverse impacts on the human and natural environments. Many of these measures have been incorporated as standard operating procedures by DHS on past projects. BMPs will be presented for each resource category that would be potentially affected. It should be emphasized that these are general BMPs and the development of specific BMPs will be required for certain activities implemented under the action alternatives. The proposed BMPs will be coordinated through the appropriate agencies and land managers/administrators, as required.

It is Federal policy to reduce adverse impacts through the sequence of avoidance, minimization, and, finally, compensation. Compensation varies and includes activities such as restoration of habitat in other areas, acquisition of lands, etc., and is typically coordinated with the appropriate Federal and state resource agencies.

GENERAL PROJECT PLANNING CONSIDERATION

1. If required, night-vision-friendly strobe lights necessary for DHS operational needs will use the minimum wattage and number of flashes per minute necessary to ensure operational safety.

2. Avoid contamination of ground and surface waters by storing concrete wash water, and any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes

3. Avoid lighting impacts during the night by conducting construction and maintenance activities during daylight hours only. If night lighting is unavoidable, 1) use special bulbs designed to ensure no increase in ambient light conditions, 2) minimize the number of lights used, 3) place lights on poles pointed down toward the ground, with shields on lights to prevent light from going up into sky, or out laterally into landscape, and 4) selectively place lights so they are directed away from all native vegetative communitie

4. DHS will avoid the spread of non-native plants by not using natural materials (e.g., straw) for on-site erosion control. If natural materials must be used, the natural material would be certified weed and weed-seed free. Herbicides not toxic to listed species that may be in the area can be used for non-native vegetation control. Application of herbicides will follow Federal guidelines and can be used according to in accordance with label directions.

5. Imported materials such as fill and gravel must be from a clean source, obtained from existing developed or previously used sources, and not from undisturbed areas adjacent to the project area. Materials will be weed free.

6. All heavy equipment will be cleaned/power-washed prior to delivery onsite to ensure that invasive plant seeds are not brought into the project area.

7. DHS will ensure that all construction will follow DHS Directive 025-01 for Sustainable Practices for Environmental, Energy, and Transportation Management.

8. DHS will place drip pans under parked equipment and establish containment zones when refueling vehicles or equipment.

SOILS

1. Clearly demarcate the perimeter of all new areas to be disturbed using flagging or temporary construction fencing. Do not allow any disturbance outside that perimeter.

2. The area of disturbance will be minimized by limiting deliveries of materials and equipment to only those needed for effective project implementation.

3. Within the designated disturbance area, grading or topsoil removal will be limited to areas where this activity is needed to provide the ground conditions necessary for construction or maintenance activities.

4. Rehabilitation will include revegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over the disturbed area to reduce erosion.

BIOLOGICAL RESOURCES

1. Materials used for on-site erosion control will be free of non-native plant seeds and other plant parts to limit potential for infestation. DHS will avoid the use of plastic mesh matting to the greatest extent practical.

2. Identify by its source location any fill material, sandbags, hay bales, and mulch brought in from outside the project area. These materials will be free of non-native plant seeds and other plant parts to limit potential for infestation.

3. Native seeds or plants will be used to revegetate temporarily disturbed areas. Where possible, DHS will incorporate pollinator conservation and management, into the landscaping plans for the proposed facility. Revegetation efforts will include planting or seeding native milkweed (*Asclepias* spp.) and nectar plants as funding and seed availability allow.

4. Obtain materials such as gravel, topsoil, or fill from existing developed or previously used sources that are compatible with the project area and are from legally permitted sites. Do not use materials from undisturbed areas adjacent to the project area.

5. The construction contractor will remove invasive plants that appear on the site as needed. If mechanical methods are used to remove invasive plants, the entire plant should be removed and placed in a disposal area. If herbicides are used, the plants will be left in place.

6. To prevent entrapment of wildlife species, ensure that excavated, steep-walled holes or trenches are either completely covered by plywood or metal caps at the close of each workday or provided with one or more escape ramps (at no greater than 1,000-foot intervals and sloped less than 45 degrees) constructed of earthen fill or wooden planks.

7. Each morning before the start of construction or maintenance activities and before such holes or trenches are filled, ensure that they are thoroughly inspected for trapped animals. Ensure that any animals discovered are allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, and before construction activities resume, or are removed from the trench or hole by a qualified person and allowed to escape unimpeded.

8. Visible space beneath all heavy equipment must be checked for wildlife prior to moving the equipment.

9. The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the USFWS if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting season (March 15 through September 15) within potential nesting habitats, surveys will be performed to identify active nests. If construction activities will result in the take of a migratory bird, then coordination with the USFWS will be required and applicable permits would be obtained prior to construction or clearing activities.

10. For encounters with rare species that will not readily leave the work area, AZGFD recommends an authorized individual translocate the animal. Translocations of reptiles should be the minimum distance possible from the work area. Ideally, individuals to be relocated should be transported to the closest suitable habitat outside of the active construction area; preferably within 100 to 200 yards and not greater than one mile from the capture site. State listed species may only be handled by persons with appropriate authorization from the AZGFD Wildlife Permits Office.

11. DHS will not, for any length of time, permit any pets inside the project area or adjacent native habitats. This BMP does not pertain to law enforcement animals.

WATER RESOURCES

1. Wastewater is to be stored in closed containers on-site until removed for disposal. Wastewater is water used for project purposes that is contaminated with construction materials or from cleaning equipment and thus carries oils or other toxic materials or other contaminants as defined by Federal or state regulations.

2. Avoid contamination of ground and surface waters by collecting concrete wash water in open containers and disposing of it off-site.

3. Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging, and laydown and dispensing hazardous liquids, such as fuel and oil, to designated upland areas.

4. Cease work during heavy rains and do not resume work until conditions are suitable for the movement of equipment and materials.

5. Erosion control measures and appropriate BMPs, as required and promulgated through a site-specific SWPPP and engineering designs, will be implemented before, during, and after soil-disturbing activities.

6. Areas with highly erodible soils will be given special consideration when preparing the SWPPP to ensure incorporation of various erosion control techniques, such as straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion.

7. All construction and maintenance contractors and personnel will review the DHS- approved spill protection plan and implement it during construction and maintenance activities.

8. Wastewater from pressure washing must be collected. A ground pit or sump can be used to collect the wastewater. Wastewater from pressure washing must not be discharged into any surface water.

9. If soaps or detergents are used, the wastewater and solids must be pumped or cleaned out and disposed of in an approved facility. If no soaps or detergents are used, the wastewater must first be filtered or screened to remove solids before being allowed to flow off-site. Detergents and cleaning solutions must not be sprayed over or discharged into surface waters.

AIR QUALITY

1. Soil watering will be utilized to minimize airborne particulate matter created during construction activities. Bare ground may be covered with hay or straw to lessen wind erosion during the time between construction and the revegetation of temporary impact areas with a mixture of native plant seeds or nursery plantings (or both). All construction equipment and vehicles will be kept in good operating condition to minimize exhaust emissions.

2. Mitigation measures will be incorporated to ensure that PM10 emission levels do not rise above the de minimus threshold as required per 40 CFR 51.853(b)(1). Measures shall include dust suppression methods to minimize airborne particulate matter that will be created during construction activities. Standard construction BMPs, such as routine watering of the access roads, shall be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment

and vehicles shall be required to be kept in good operating condition to minimize exhaust emissions. Equipment and vehicles used on the project site must be well-maintained and use diesel particulate filters to reduce particulate matter emissions. If a contractor expects significant dust/emissions on their specific site, they must provide method to reduce airborne particulate matter for their site.

3. Soil watering will be used to minimize airborne particulate matter created during construction activities. Bare ground may be covered with hay or straw to lessen wind erosion during construction.

NOISE

1. Avoid noise impacts during the night by conducting construction and maintenance activities during daylight hours only.

2. All Occupational Safety and Health Administration (OSHA) requirements will be followed. To lessen noise impacts on the local wildlife communities, construction will only occur during daylight hours. All motor vehicles will be properly maintained to reduce the potential for vehicle-related noise.

CULTURAL RESOURCES

1. In the event that unanticipated archaeological resources are discovered during construction or any other project-related activities, or should known archaeological resources be inadvertently affected in a manner that was not anticipated, the project proponent or contractor shall immediately halt all activities in the immediate area of the discovery and take steps to stabilize and protect the discovered resource until it can be evaluated by a qualified archaeologist.

2. If any human remains are accidentally encountered during construction, work shall cease and the human remains left undisturbed, and the state police and DHS will be notified immediately.

3. If Native American, the provisions of the Native American Grave Protection and Repatriation Act (NAGPRA) shall apply to the treatment and disposition of the remains. When applicable, CBP will follow the principles within the ACHP's "Policy Statement on Burial Sites, Human Remains, and Funerary Objects," dated March 1, 2023. Construction shall not resume in the vicinity until final disposition of the remains has been determined.

ROADWAYS AND TRAFFIC

1. Construction vehicles will travel and equipment will be transported on established roads with safety precautions.

SOLID AND HAZARDOUS WASTES

1. BMPs will be implemented as standard operating procedures during all construction

activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery (i.e., generator) will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock) will be used to absorb and contain the spill.

2. DHS will contain non-hazardous waste materials and other discarded materials, such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

3. DHS will minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain more than 12 hours should be properly stored until disposal.

4. All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.

5. Solid waste receptacles will be maintained at the project site. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

6. Disposal of used batteries or other small quantities of hazardous waste will be handled, managed, maintained, stored, and disposed of in accordance with applicable Federal and state rules and regulations for the management, storage, and disposal of hazardous materials, hazardous waste and universal waste. Additionally, to the extent practicable, all batteries will be recycled locally.

7. All rainwater collected in secondary containment will be pumped out, and secondary containment will have netting to minimize exposure to wildlife. Properly licensed and certified hazardous waste disposal contractor will be used for hazardous waste disposal, and manifests will be traced to final destinations to ensure proper disposal is accomplished.

APPENDIX E

Farmland Conversion Impact Rating Form

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request April 14, 2023	
Name of Project Yuma JPC EA		Federal Agency Involved DHS; CBP	
Proposed Land Use Joint Processing Center		County and State Yuma, Arizona	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 04/07/2023	Person Completing Form: Emily Yulga
Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☐ NO ☑	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %	
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	32.3			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	38.1			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide Important or Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)				

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	10			
2. Perimeter In Non-urban Use	(10)	4			
3. Percent Of Site Being Farmed	(20)	10			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	0			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	0			
8. Creation Of Non-farmable Farmland	(10)	10			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	10			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	5			
TOTAL SITE ASSESSMENT POINTS	160	54	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	54	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	54	0	0	0

Site Selected: TBD	Date Of Selection TBD	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

The location is an alternative site for an EA Addressing the Proposed Land Acquisition and Construction, Operation, and Maintenance of a Joint Processing Center (JPC) in Yuma, Yuma County, AZ.

Name of Federal agency representative completing this form: Samantha Bartleson (CBP)	Date: 3/27/23

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, http://fppa.nrcs.usda.gov/lesa/.

Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s)of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)

Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.

Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.

Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.

Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.

Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.

2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

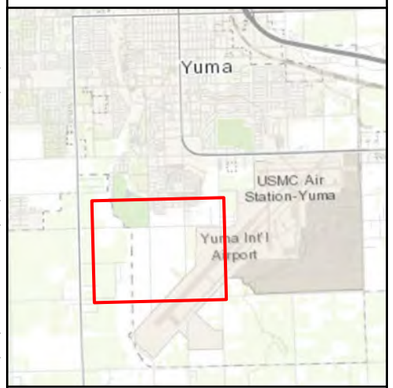
General Location Map: Alternative Site
Yuma Joint Processing Center
Yuma, AZ

Date
APRIL 2023

Figure
1

KEY

Alternative Site: Yuma Airport Authority Site



Engineering Scale
1" = 750'

Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

N
W
E
S
0
375
750 Feet

DAWSON

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Yuma JPC Alternative Site Location: Soils
Yuma JPC
Yuma, Arizona

Date
MARCH 2023

Figure
2

KEY

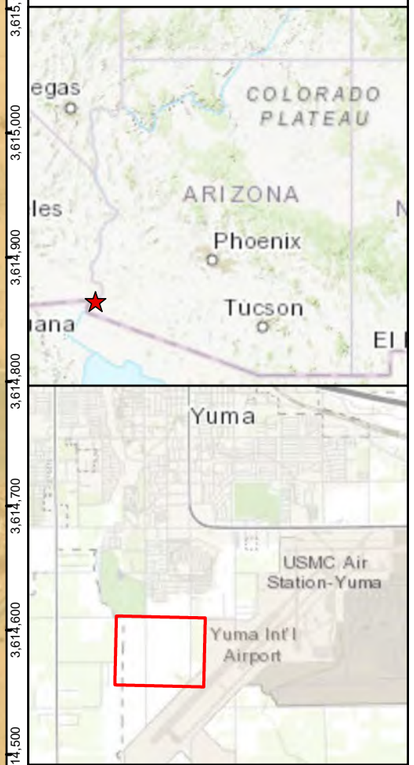
Site

Layer

Gadsden clay

Holtville clay

Superstition sand



Source(s)
DAWSON, Esri

Projection
NAD 1983 UTM Zone 11N

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400 Feet

DAWSON

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April 10, 2023

Samantha Bartleson
Environmental Scientist
New York, New York
DAWSON
Mobile: (571) 334-5942

RE: Farmland Protection Policy Act (FPPA) for Yuma Joint Processing Center Project.

Dear Samantha Bartleson:

The Farmland Protection Policy Act (FPPA) evaluates the impacts to farmland for projects where federal, technical, or financial assistance is requested. The FPPA process determines the relative value of prime or important farmlands that are being considered for permanent conversion to non-agricultural uses. The Natural Resource Conservation Service (NRCS) acts as the national FPPA steward in reviewing and documenting conversion of farmland (i.e., Prime, Statewide Importance, and /or Local Importance) to non-agricultural use when the project utilizes federal funds.

NRCS has reviewed your project, Yuma Joint Processing Center, dealing with the FPPA. After reviewing your project proposal for Yuma Joint Processing Center, the following is noted:

The proposed project is not subject to FPPA due to being "Farmland 'already in' urban development… identified as 'urbanized area (UA) on the Census Bureau Map…" (7 CFR 658.2). Therefore, no further action is needed.

If you have any questions or concerns, please contact Keith Larson, Acting State Resource Conservationist, email Keith.Larson@usda.gov.

Sincerely,

Keith Larson
AZ NRCS Acting State Resource Conservationist

ec:
Keith Larson, Acting State Resource Conservationist, NRCS AZ
Emily Yulga, Resource Soil Scientist, NRCS AZ

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APPENDIX F

Air Quality Calculations

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Appendix F: Air Quality Calculations

1.1 Emissions Estimations Methodology

DHS has considered net emissions generated from all sources of air emissions that may be associated with the Proposed Action. More specifically, project-related direct emissions would result from the following:

- *Site preparation, demolition, and construction activities* – Use of heavy construction equipment, worker vehicles traveling to and from the project area, use of paints and architectural coatings, paving off gases, and fugitive dust from ground disturbance.
- *Operational activities* – Use emergency generators, fuel dispensing activities, and new personnel commuting to and from the JPC daily.

Emissions factors are representative values that attempt to relate the quantity of a pollutant released with the activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant emitted per unit weight, volume, distance, or duration of the pollutant emitting activity. In most cases, these factors are simply an average of all available data of acceptable quality and are generally assumed to be representative of long-term averages for all emitters in the source category. The emission factors presented in this appendix are generally from the *Compilation of Air Pollutant Emission Factors* (AP-42) and *WebFIRE* (USEPA's online emissions factor database).

All direct and indirect emissions associated with the Proposed Action were estimated. Construction emissions were estimated using predicted equipment use for demolition, site grading, trenching/excavation, construction, architectural coatings, and paving. Operational emissions were estimated using predicted equipment use for facility operation. Operational equipment considered includes emergency generators and fuel dispensing. Given the relatively hot climate of the region, it was assumed a heat pump or electric heating system will be installed at the JPC to supply heat, and no natural gas-, propane-, or oil-fired heaters would be needed.

The construction period would involve the use of various non-road equipment, power generators, and trucks. Pieces of equipment to be used for facility construction include, but are not limited to, backhoes, loaders, excavators, air compressors, chain saws, chipping machines, dozers, cranes, pavers, graders, rollers, and heavy trucks. Information regarding the number of pieces and types of construction equipment to be used on the project, the schedule for deployment of equipment (monthly and annually), and the approximate daily operating time (including power level or usage factor) were estimated for each individual construction project based on a schedule of construction activity.

The following on-road vehicle type abbreviations and their definitions are used throughout this appendix.

LDGV: Light-Duty Gasoline Vehicle (Passenger Cars)

LDGT: Light-Duty Gasoline Truck (0–8,500 Pounds Gross Vehicle Weight Rating [GVWR])
HDGV: Heavy-Duty Gasoline Vehicle (8,501 to > 60,000 Pounds GVWR)
LDDV: Light-Duty Diesel Vehicle (Passenger Cars)
LDDT: Light-Duty Diesel Truck (0–8,500 Pounds GVWR)
HDDV: Heavy-Duty Diesel Vehicle (8,501 to > 60,000 Pounds GVWR)
MC: Motorcycles (Gasoline)

1.1.1 Construction – Demolition Phase

1.1.1.1 Assumptions

Average days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.1.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Concrete/Industrial Saws Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	CH_4	CO_2e
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.1.3 Formulas

Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM_{10} Emissions (TONs)

0.00042: Emission Factor (lb/ft^3)

BA: Area of Building to be demolished (ft^2)

BH: Height of Building to be demolished (ft)

2000: Conversion Factor pounds to tons

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building being demolish (ft^2)

BH: Height of Building being demolish (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)

0.25: Volume reduction factor (material reduced by 75% to account for air space)

HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Workdays (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.2 Construction – Site Grading Phase

1.1.2.1 Assumptions

Average days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	3	8

Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.2.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0559	0.0013	0.2269	0.5086	0.0086	0.0086	0.0050	119.70
Graders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.2.3 Formulas

Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

- $PM10_{FD}$: Fugitive Dust PM_{10} Emissions (TONs)
- 20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
- ACRE: Total acres (acres)
- WD: Number of Total Workdays (days)
- 2000: Conversion Factor pounds to tons

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

- CEE_{POL}: Construction Exhaust Emissions (TONs)
- NE: Number of Equipment
- WD: Number of Total Workdays (days)
- H: Hours Worked per Day (hours)
- EF_{POL}: Emission Factor for Pollutant (lb/hour)
- 2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

- VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
- HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
- $HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
- HC: Average Hauling Truck Capacity (yd^3)
- (1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
- HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

- V_{POL}: Vehicle Emissions (TONs)
- VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
- 0.002205: Conversion Factor grams to pounds
- EF_{POL}: Emission Factor for Pollutant (grams/mile)
- VM: Vehicle Exhaust On Road Vehicle Mixture (%)
- 2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

- VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
- WD: Number of Total Workdays (days)
- WT: Average Worker Round Trip Commute (mile)
- 1.25: Conversion Factor Number of Construction Equipment to Number of Works
- NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.3 Construction – Trenching/Excavating Phase

1.1.3.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipment Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.3.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0559	0.0013	0.2269	0.5086	0.0086	0.0086	0.0050	119.70
Graders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89

Other Construction Equipment Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.3.3 Formulas

Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM_{10} Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Workdays (days)

2000: Conversion Factor pounds to tons

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Workdays (days)

H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)

HC: Average Hauling Truck Capacity (yd^3)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Workdays (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.4 Construction – Building Construction Phase

1.1.4.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6

Equipment Name	Number Of Equipment	Hours Per Day
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

Vendor Trips

Average Vendor Round Trip Commute (mile): 40

Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

1.1.4.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Cranes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.4.3 Formulas

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Workdays (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1,000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Workdays (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Vender Trips Emissions per Phase

VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)

BH: Height of Building (ft)

(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1,000 ft^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

1.1.5 Construction – Architectural Coatings Phase

1.1.5.1 Assumptions

Average Days worked per week: 5

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.5.2 Emission Factors

Worker Trips Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.5.3 Formulas

Worker Trips Emissions per Phase

$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

1: Conversion Factor man days to trips (1 trip / 1 man * day)

WT: Average Worker Round Trip Commute (mile)

PA: Paint Area (ft^2)

800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

Off-Gassing Emissions per Phase

$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft^2)

2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)

0.0116: Emission Factor (lb/ft^2)

2000: Conversion Factor pounds to tons

1.1.6 Construction – Paving Phase

1.1.6.1 Assumptions

Average Days worked per week: 5

Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	8
Rollers Composite	2	6

Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20

Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

Worker Trips

Average Worker Round Trip Commute (mile): 20

Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

1.1.6.2 Emission Factors

Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0559	0.0013	0.2269	0.5086	0.0086	0.0086	0.0050	119.70
Graders Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_X**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.099	002.870	000.004	000.004	000.000	000.024	00303.869
LDGT	000.209	000.003	000.175	003.239	000.006	000.005	000.000	000.026	00396.310
HDGV	000.856	000.006	000.851	013.446	000.024	000.021	000.000	000.051	00912.039
LDDV	000.074	000.001	000.080	003.109	000.003	000.002	000.000	000.008	00307.078
LDDT	000.081	000.001	000.120	002.137	000.003	000.003	000.000	000.009	00358.668
HDDV	000.118	000.004	002.424	001.549	000.042	000.039	000.000	000.032	01234.892
MC	002.457	000.003	000.660	012.092	000.022	000.020	000.000	000.054	00389.894

1.1.6.3 Formulas

Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Workdays (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Workdays (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Off-Gassing Emissions per Phase

$VOC_P = (2.62 * PA) / 43{,}560$

VOC_P: Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)

PA: Paving Area (ft^2)

43560: Conversion Factor square feet to acre (43,560 ft^2 / $acre)^2$ / acre)

1.1.7 Operation – Personnel

1.1.7.1 Assumptions

Average Personnel Round Trip Commute (mile): 20

Personnel Work Schedule:

Full-Time Personnel: 5 Days Per Week

1.1.7.2 Emission Factors

On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
LDGV	000.221	000.001	000.100	003.291	000.004	000.003	000.000	000.024	00309.498
LDGT	000.230	000.002	000.178	003.679	000.005	000.005	000.000	000.026	00401.828
HDGV	000.960	000.004	000.856	014.076	000.024	000.021	000.000	000.051	00923.477
LDDV	000.058	000.001	000.086	003.577	000.003	000.002	000.000	000.008	00314.547
LDDT	000.064	000.001	000.129	002.423	000.003	000.003	000.000	000.008	00365.414
HDDV	000.101	000.004	002.540	001.568	000.042	000.039	000.000	000.032	01254.683
MC	003.166	000.002	000.720	012.654	000.023	000.021	000.000	000.053	00388.847

1.1.7.3 Formulas

Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)

NP: Number of Personnel

WD: Work Days per Year

AC: Average Commute (miles)

Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)

VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_{C}: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

1.1.8 Operation – Emergency Generator

1.1.8.1 Assumptions

Type of Fuel used in Emergency Generator: Diesel
Emergency Generator's Horsepower: 135
Average Operating Hours Per Year (hours): 30

1.1.8.2 Emission Factors

Emergency Generators Emission Factor (lb/hp-hr)

VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
0.00279	0.00235	0.0115	0.00768	0.00251	0.00251	000.000	000.000	1.33

1.1.8.3 Formulas

Emergency Generator Emissions per Year

AEPOL= (NGEN * HP * OT * EFPOL) / 2000

AEPOL: Activity Emissions (TONs per Year)
NGEN: Number of Emergency Generators
HP: Emergency Generator's Horsepower (hp)
OT: Average Operating Hours Per Year (hours)
EFPOL: Emission Factor for Pollutant (lb/hp-hr)

1.1.9 Operation - Tanks

1.1.9.1 Assumptions

Chemical

Chemical Name: Gasoline (RVP 9)

Chemical Category: Petroleum Distillates
Chemical Density: 5.6
Vapor Molecular Weight (lb/lb-mole): 67
Stock Vapor Density (lb/ft3): 0.0508889883159548
Vapor Pressure: 4.19185
Vapor Space Expansion Factor (dimensionless): 0.068

Tank

Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

1.1.9.2 Formulas

Vapor Space Volume

VSV = (PI / 4) * D^2 * L / 2

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

Vented Vapor Saturation Factor

VVSF = 1 / (1 + (0.053 * VP * L / 2))

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

Standing Storage Loss per Year

SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

Number of Turnovers per Year

NT = (7.48 * ANT) / ((PI / 4.0) * D * L)

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)

Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

Working Loss per Year

WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

1.2 Alternative 1 Air Emissions Analysis

Action Location

State: Arizona
County: Yuma
Regulatory Areas: Yuma, AZ

Construction Period

Start: February 2024
End: December 2029

1.2.1 Action Description

The Proposed Action is to construct, operate, and maintain a JPC in Yuma County, Arizona on an approximately 40-acre property. Alternative 1 would include acquisition of an approximately 40-acre, privately-owned parcel used as the Yuma Swap Meet, which would be demolished prior to construction of the JPC. Alternative 2 would include acquisition of an approximate 40-acre lot owned by the Yuma Airport Authority and comprised of agricultural land. The JPC would be approximately 180,000 ft^2 and would accommodate 200 staff. The JPC would include additional support facilities and structures including a vehicle storage facility, loading facilities, outdoor

tactical support areas, public and private vehicle parking areas, vehicle wash rack, temporary fuel island with above-ground tanks, canine kennel, communications tower, stormwater management system, helipad, roadways, emergency generators, and all necessary utilities.

For the purposes of this analysis, it was assumed 85 percent of the 40-acre site would be developed (65 percent structures and 20 percent pavement). The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. The rest of the site would be developed over the next 5 years (i.e., 2025 through 2029).

The analysis also assumes the following: (1) no earth materials are required to be hauled on- or off-site due to site grading or trenching, excavated spoils will be used on-site and (2) if required, a heat pump or electric heating system will be installed at the JPC to supply heat; natural gas-, propane-, or oil-fired heaters would not be used.

1.2.1.1 JPC Construction

The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. It was assumed the JPC site would cover approximately 6.5 acres and would include the 180,000-ft^2 JPC and approximately 1.3 acres of pavement (e.g., parking, driveways, paved storage, sidewalks).

Demolition would be required for two permanent shade structures, approximately 30,000 ft^2 and 4,000 ft^2, respectively; one approximately 41,860-ft^2 grandstand building, and one approximately 1,500-ft^2 dog kennel. The height of all buildings for demolition was assumed to be 20 feet. Demolition would begin in February 2024 and last approximately 1 month.

Site grading would occur on approximately 6.5 acres (283,140 ft^2). Site grading would begin in March 2024 and last approximately 1 month.

Trenching for site utilities (approximately 1,500 linear feet) and perimeter fencing (approximately 2,000 linear feet) would occur on an area totaling approximately 6,500 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in April 2024 and last approximately 1 month.

Construction would include the 180,000 ft^2 JPC. Construction would begin in May 2024 and last approximately 6 months.

Architectural coatings would be applied to the JPC, for a total of 180,000 ft^2. Architectural coating application would begin in October 2024 and last approximately 1 month.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 1.3 acres (56,628 ft^2). Paving would begin in November 2024 and last approximately 2 months.

1.2.1.2 Ancillary Support Facilities Construction

The rest of the 40-acre site (i.e., 33.5 acres) would be developed for support facilities and structures. It was assumed 65 percent of the site would contain structures (21.8 acres) and 20 percent of the site would contain pavement (6.7 acres). For the purposes of this analysis, the site would be developed over a 5-year period from 2025 through 2029.

Site grading would occur on approximately 33.5 acres (1,459,260 ft^2). Site grading would begin in January 2025 and last approximately 6 months.

Trenching for site utilities (approximately 3,000 linear feet) and perimeter fencing (approximately 5,000 linear feet) would occur on an area totaling approximately 14,000 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in July 2025 and last approximately 6 months.

Construction would include approximately 21.8 acres of structures (949,608 ft^2). A 12-foot building height was assumed for all structures. Construction would begin in January 2026 and last approximately 3 years.

Architectural coatings would be applied to all structures, for a total of 949,608 ft^2. Architectural coating application would begin in January 2029 and last approximately 3 months.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 6.7 acres (291,852 ft^2). Paving would begin in April 2029 and last approximately 9 months.

1.2.1.3 Personnel

The JPC would accommodate 200 personnel. To equate operational emissions, it was assumed personnel would commute to the JPC starting in 2030.

1.2.1.4 Emergency Generators

Four diesel generators would be installed at the JPC. To equate operational emissions, it was assumed diesel generators would become operational in 2030.

1.2.1.5 Tanks

It was assumed two 5,000-gallon aboveground storage tanks would be installed for the temporary fuel island. It was assumed each tank would service 50 vehicles per month (50 gallons per vehicle per month) year round, for a total of 30,000 gallons per year. To equate operational emissions, it was assumed fuel dispensing would begin in 2030.

1.2.2 Assumptions

1.2.2.1 JPC Construction

Demolition Phase

Start: February 2024
Phase duration: 1 month

Area of building to be demolished (ft^2): 77,360
Height of building to be demolished (ft): 20

Site Grading Phase
Start: March 2024
Phase duration: 2 months
Area of site to be graded (ft^2): 283,140
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase
Start: May 2024
Phase duration: 1 month
Area of site to be trenched/excavated (ft^2): 6,500
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase
Start: June 2024
Phase duration: 6 months
Area of building (ft^2): 180,000
Height of building (ft): 20

Architectural Coatings Phase
Start: November 2024
Phase duration: 1 month
Total square footage (ft^2): 180,000

Paving Phase
Start: November 2024
Phase duration: 2 months
Paving area (ft^2): 56,628

1.2.2.2 Ancillary Support Facilities Construction

Site Grading Phase
Start: January 2025
Phase duration: 6 months
Area of site to be graded (ft^2): 1,459,260
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase
Start: July 2025
Phase duration: 6 months
Area of site to be trenched/excavated (ft^2): 14,000
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase

Start: January 2026
Phase duration: 36 months
Area of building (ft^2): 949,608
Height of building (ft): 12

Architectural Coatings Phase

Start: January 2029
Phase duration: 3 months
Total square footage (ft^2): 949,608

Paving Phase

Start: April 2029
Phase duration: 9 months
Paving area (ft^2): 291,852

1.2.2.3 Operations

Personnel - Addition of 200 Personnel

Start: January 2030
End: Indefinite
Full-Time Personnel: 200

Emergency Generator – Addition of 4 Emergency Generators

Start: January 2030
End: Indefinite
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 4

Tanks – Fuel Storage and Dispensing (Tank 1)

Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

Tanks – Fuel Storage and Dispensing (Tank 2)

Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

1.2.3 Alternative 1 Emissions Summary

Alternative 1 Total Estimated Construction Emissions – JPC Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	2.357002	0.004722	1.691928	2.143981	6.085116	0.061865	0.000	0.00386	532.6

Alternative 1 Total Estimated Construction Emissions – Ancillary Support Facilities Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	12.684843	0.032162	9.259593	13.595539	88.266957	0.330581	0.000	0.013295	3324.3

Alternative 1 Estimated Operations Emissions – Addition of Personnel (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.323365	0.00186	0.182176	4.243897	0.005689	0.005215	0.000	0.029491	420.6

Alternative 1 Estimated Operations Emissions – Addition of Emergency Generators (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.022599	0.019035	0.09315	0.062208	0.020331	0.020331	0.000	0.000	10.8

Alternative 1 Estimated Operations Emissions - Fuel Storage and Dispensing (Tank 1)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.855146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Alternative 1 Estimated Operations Emissions - Fuel Storage and Dispensing (Tank 2)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.855146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Alternative 1 Total Estimated Emissions by Year (tpy)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	CO_2e
2024	2.357	0.005	1.692	2.144	6.085	0.062	<0.001	532.6
2025	0.585	0.011	3.101	3.887	88.053	0.117	<0.001	1,090.3
2026	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2027	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2028	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2029	11.198	0.002	0.989	1.376	0.054	0.054	<0.001	233.6
2030 (steady state)	2.056	0.021	0.275	4.306	0.026	0.026	<0.001	431.4

1.3 Alternative 2 Air Emissions Analysis

Action Location

State: Arizona

County: Yuma

Regulatory Areas: Yuma, AZ

Construction Period

Start: February 2024

End: December 2029

1.3.1 Action Description

The Proposed Action is to construct, operate, and maintain a JPC in Yuma County, Arizona on an approximately 40-acre property. Alternative 1 would include acquisition of an approximately 40-acre, privately-owned parcel used as the Yuma Swap Meet, which would be demolished prior to construction of the JPC. Alternative 2 would include acquisition of an approximate 40-acre lot owned by the Yuma Airport Authority and comprised of agricultural land. The JPC would be approximately 180,000 ft^2 and would accommodate 200 staff. The JPC would include additional support facilities and structures including a vehicle storage facility, loading facilities, outdoor tactical support areas, public and private vehicle parking areas, vehicle wash rack, temporary fuel island with above-ground tanks, canine kennel, communications tower, stormwater management system, helipad, roadways, emergency generators, and all necessary utilities.

For the purposes of this analysis, it was assumed 85 percent of the 40-acre site would be developed (65 percent structures and 20 percent pavement). The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. The rest of the site would be developed over the next 5 years (i.e., 2025 through 2029).

The analysis also assumes the following: (1) no earth materials are required to be hauled on- or off-site due to site grading or trenching, excavated spoils will be used on-site and (2) if required, a heat pump or electric heating system will be installed at the JPC to supply heat; natural gas-, propane-, or oil-fired heaters would not be used.

1.3.1.1 JPC Construction

The JPC would be constructed over an 11-month construction period from February 2024 through December 2024. It was assumed the JPC site would cover approximately 6.5 acres and would include the 180,000-ft^2 JPC and approximately 1.3 acres of pavement (e.g., parking, driveways, paved storage, sidewalks).

Unlike Alternative 1, no demolition would be needed for Alternative 2 because there are no existing structures on the site.

Site grading would occur on approximately 6.5 acres (283,140 ft^2). Site grading would begin in February 2024 and last approximately 2 months.

Trenching for site utilities (approximately 1,500 linear feet) and perimeter fencing (approximately 2,000 linear feet) would occur on an area totaling approximately 6,500 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in April 2024 and last approximately 1 month.

Construction would include the 180,000-ft^2 JPC. Construction would begin in May 2024 and last approximately 6 months.

Architectural coatings would be applied to the JPC, for a total of 180,000 ft^2. Architectural coating application would begin in October 2024 and last approximately 1 month.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 1.3 acres (56,628 ft^2). Paving would begin in November 2024 and last approximately 2 months.

1.3.1.2 Ancillary Support Facilities Construction

The rest of the 40-acre site (i.e., 33.5 acres) would be developed for support facilities and structures. It was assumed 65 percent of the site would contain structures (21.8 acres) and 20 percent of the site would contain pavement (6.7 acres). For the purposes of this analysis, the site would be developed over a 5-year period from 2025 through 2029.

Site grading would occur on approximately 33.5 acres (1,459,260 ft^2). Site grading would begin in January 2025 and last approximately 6 months.

Trenching for site utilities (approximately 3,000 linear feet) and perimeter fencing (approximately 5,000 linear feet) would occur on an area totaling approximately 14,000 ft^2. A 3-foot trench width for utilities and a 1-foot trench width for perimeter fencing was assumed. Trenching would begin in July 2025 and last approximately 6 months.

Construction would include approximately 21.8 acres of structures (949,608 ft^2). A 12-foot building height was assumed for all structures. Construction would begin in January 2026 and last approximately 3 years.

Architectural coatings would be applied to all structures, for a total of 949,608 ft^2. Architectural coating application would begin in January 2029 and last approximately 3 months.

Paving for parking, driveways, paved storage, and sidewalks would occur on approximately 6.7 acres (291,852 ft^2). Paving would begin in April 2029 and last approximately 9 months.

1.3.1.3 Personnel

The JPC would accommodate 200 personnel. To equate operational emissions, it was assumed personnel would commute to the JPC starting in 2030.

1.3.1.4 Emergency Generators

Four diesel generators would be installed at the JPC. To equate operational emissions, it was assumed diesel generators would become operational in 2030.

1.3.1.5 Tanks

It was assumed two 5,000-gallon aboveground storage tanks would be installed for the temporary fuel island. It was assumed each tank would service 50 vehicles per month (50 gallons per vehicle per month) year round, for a total of 30,000 gallons per year. To equate operational emissions, it was assumed fuel dispensing would begin in 2030.

1.3.2 Assumptions

1.3.2.1 JPC Construction

Site Grading Phase

Start: February 2024
Phase duration: 2 months
Area of site to be graded (ft^2): 283,140
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase

Start: April 2024
Phase duration: 1 month
Area of site to be trenched/excavated (ft^2): 6,500
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase

Start: May 2024
Phase duration: 6 months
Area of building (ft^2): 180,000
Height of building (ft): 20

Architectural Coatings Phase

Start: October 2024
Phase duration: 1 month
Total square footage (ft^2): 180,000

Paving Phase

Start: November 2024
Phase duration: 2 months
Paving area (ft^2): 56,628

1.3.2.2 Ancillary Support Facilities Construction

Site Grading Phase

Start: January 2025
Phase duration: 6 months
Area of site to be graded (ft^2): 1,459,260
Amount of material to be hauled offsite (yd^3): 0

Trenching/Excavating Phase

Start: July 2025
Phase duration: 6 months
Area of site to be trenched/excavated (ft^2): 14,000
Amount of material to be hauled on or offsite (yd^3): 0

Building Construction Phase

Start: January 2026
Phase duration: 36 months
Area of building (ft^2): 949,608
Height of building (ft): 12

Architectural Coatings Phase

Start: January 2029
Phase duration: 3 months
Total square footage (ft^2): 949,608

Paving Phase

Start: April 2029
Phase duration: 9 months
Paving area (ft^2): 291,852

1.3.2.3 Operations

Personnel - Addition of 200 Personnel

Start: January 2030
End: Indefinite
Full-Time Personnel: 200

Emergency Generator – Addition of 4 Emergency Generators

Start: January 2030
End: Indefinite
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 4

Tanks – Fuel Storage and Dispensing (Tank 1)

Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

Tanks – Fuel Storage and Dispensing (Tank 2)

Start: January 2030
End: Indefinite
Type of Tank: Horizontal Tank
Tank Length (ft): 16
Tank Diameter (ft): 7
Annual Net Throughput (gallon/year): 30,000

1.3.3 Alternative 2 Emissions Summary

Alternative 2 Total Estimated Construction Emissions – JPC Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	2.3436	0.004456	1.578869	2.007695	5.756789	0.058514	0.000	0.003279	492.2

Alternative 2 Total Estimated Construction Emissions – Ancillary Support Facilities Construction (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	12.684843	0.032162	9.259593	13.595539	88.266957	0.330581	0.000	0.013295	3324.3

Alternative 2 Estimated Operations Emissions – Addition of Personnel (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.323365	0.00186	0.182176	4.243897	0.005689	0.005215	0.000	0.029491	420.6

Alternative 2 Estimated Operations Emissions – Addition of Emergency Generators (tons)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.022599	0.019035	0.09315	0.062208	0.020331	0.020331	0.000	0.000	10.8

Alternative 2 Estimated Operations Emissions - Fuel Storage and Dispensing (Tank 1)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.855146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Alternative 2 Estimated Operations Emissions - Fuel Storage and Dispensing (Tank 2)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	NH_3	CO_2e
Emissions	0.855146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Alternative 2 Total Estimated Emissions by Year (tpy)

	VOC	SO_X	NO_X	CO	PM_{10}	$PM_{2.5}$	Pb	CO_2e
2024	2.344	0.004	1.579	2.008	5.757	0.059	<0.001	492.2
2025	0.585	0.011	3.101	3.887	88.053	0.117	<0.001	1,090.3
2026	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2027	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2028	0.300	0.006	1.723	2.777	0.053	0.053	<0.001	666.8
2029	11.198	0.002	0.989	1.376	0.054	0.054	<0.001	233.6
2030 (steady state)	2.056	0.021	0.275	4.306	0.026	0.026	<0.001	431.4

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