

Draft Environmental Assessment  
Jefferson County Drainage District No. 6  
Ditch 600 Community Flood Control East China Relief Project  
EMT-2020-FM-007-0011  
Jefferson County, Texas  
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## LIST OF ACRONYMS

AAI – All Appropriate Inquiries  
ACT – Antiquities Code of Texas  
AJD – Approved Jurisdictional Determination  
ALERT – Automated Local Evaluation in Real Time  
APE – Area of Potential Effect  
ASTM – American Society for Testing and Materials  
BMP – Best Management Practice  
CAA – Clean Air Act  
CEQ – Council on Environmental Quality  
CFR – Code of Federal Regulations  
CGP – Construction General Permit  
CIP – Capital Improvements Project  
CNN – Certificate of Convenience and Necessity  
CWA – Clean Water Act  
DOI – Department of the Interior  
EA – Environmental Assessment  
EIS – Environmental Impact Statement  
EO – Executive Order  
EPA – US Environmental Protection Agency  
ESA – Endangered Species Act  
FEMA – Federal Emergency Management Agency  
FIRM – Flood Insurance Rate Map  
FMA – Flood Mitigation Assistance  
FNI – Freese and Nichols, Inc.  
FONSI – Finding of No Significant Impact  
FPPA – Farmland Protection Policy Act  
GIS – Geographic Information Systems  
GLO – General Land Office  
GPS – Global Positioning Systems  
HEC-RAS – Hydrologic Engineering Center River Analysis System  
HEC-HMS – Hydrologic Engineering Center Hydrologic Modeling System  
HREC – Historical Recognized Environmental Condition  
HW – Hazardous Waste  
IH – Interstate Highway  
IPaC – Information for Planning and Consultation  
JCDD6 – Jefferson County Drainage District No. 6  
LOMA – Letter of Map Adjustment  
LOMR – Letter of Map Revision  
LNVA – Lower Neches Valley Authority  
LPST – Leaking Petroleum Storage Tank  
MSL – Mean Sea Level  
NAAQS – National Ambient Air Quality Standards  
NDD – Natural Diversity Database  
NEPA – National Environmental Policy Act  
NFIA – National Flood Insurance Act  
NFIP – National Flood Insurance Program  
NHPA – National Historic Preservation Act

NMFS – National Marine Fisheries Service  
NOAA – National Oceanic and Atmospheric Administration  
NOI – Notice of Intent  
NRCS – Natural Resources Conservation Service  
NRHP – National Register of Historic Places  
NWI – National Wetland Inventory  
NWS – National Weather Service  
O3 – Ozone  
Pf – palustrine, farmed  
PST – Petroleum Storage Tank  
PUC – Public Utility Commission  
RCRA – Resource Conservation and Recovery Act  
REC – Recognized Environmental Condition  
ROW – right of way  
RRC – Railroad Commission of Texas  
SALs – State Archeological Landmarks  
SHPO – State Historic Preservation Office  
SIP – State Implementation Plan  
SWPPP – Storm Water Pollution Prevention Plan  
TASA – Texas Archeological Sites Atlas  
TCEQ – Texas Commission on Environmental Quality  
TDAT – Tribal Directory Assessment Tool  
THC – Texas Historical Commission  
TMDL – Total Maximum Daily Load  
TPDES – Texas Pollutant Discharge Elimination System  
TPWD – Texas Parks and Wildlife Department  
TWDB – Texas Water Development Board  
USACE – US Army Corps of Engineers  
USDA – US Department of Agriculture  
USFWS – US Fish and Wildlife Service  
UT-BEG – University of Texas Bureau of Economic Geology  
WOTUS – Waters of the United States

## INTRODUCTION

### PROJECT AUTHORITY

Jefferson County Drainage District No. 6 (JCDD6) (the Applicant) is a Conservation and Reclamation District and a political subdivision of the State of Texas. JCDD6 was established on 21 January 1920, after a favorable vote by the Texas Legislature on 10 January 1920. The JCDD6 district boundary was extended and enlarged (Vol. 63, P. 478) according to the authority of the 57th Legislature, Chapter 349, and Chapter 7, Title 128, Revised Civil Statutes of Texas, Article 8129. Enlargement came about in 1961 through legislation (HB 1063) that also established JCDD6 as a Conservation and Reclamation District under Section 59, Article XVI, of the Texas Constitution. Containing approximately 450 square miles, JCDD6 lies wholly within Jefferson County, which includes much of the City of Beaumont, and was created primarily to provide drainage for flood-prone areas within the district. JCDD6 is governed by a 5-member Board of Directors appointed by the County Commissioners Court of Jefferson County, Texas (the Commissioners Court).

Funding for the Ditch 600 Community Flood Control East China Relief Project (Project) is being requested from the Federal Emergency Management Agency (FEMA) under the Flood Mitigation Assistance (FMA) Program. FEMA's project number is EMT-2020-FM-007-0011. The purpose of this Environmental Assessment (EA) is to comply with FEMA's responsibilities under the National Environmental Policy Act (NEPA) of 1969, Section 7 of the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act (NHPA). This Environmental Assessment has been prepared in accordance with NEPA, the President's Council on Environmental Quality regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and FEMA's procedures for implementing NEPA (FEMA Instruction 108-1-1). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed Project. FEMA will use the findings in this EA to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

### PROJECT LOCATION

The Project is situated north of US 90 east of China, Jefferson County, Texas (**Appendix A, Figure 1**). The proposed improvements will benefit the community of China by increasing stormwater detention capacity during flood events (Benefit Area). Approximate GPS coordinates for the center of the Project Area are Latitude: 30.063391; Longitude: -94.321535. The adjacent land use surrounding the Project consists of residential development and undeveloped land.



Major transportation arteries in the area include US 90. Topography is generally flat with elevations ranging from 34 to 42 feet above mean sea level (msl) (**Appendix A, Figure 2**). Drainage is generally to the southeast toward Green Pond Gully. Representative photographs taken at the Project Area are provided in **Appendix B**.

## PROJECT BACKGROUND

Over the last five years, the Project Area has been subjected to several natural disasters including Hurricane Harvey and Tropical Storm Imelda both of which brought about unprecedented volumes of rainfall. The East China Relief Project is a drainage project that will address shallow and moderate home flooding that has and will continue to occur if not addressed. Ditch 600 is the main outlet for runoff flows from China. The existing drainage infrastructure within the Ditch 600 watershed is inadequate to convey flood flows from the area. A combination of improvements to existing ditches and new detention infrastructure are proposed to aid in flood relief.

## PROJECT COMPONENTS

JCDD6 proposes to widen Ditch 600 from its origin in China eastward tying into a previous widening project. From the origin to Ditch 600's crossing with Lower Neches Valley Authority (LNVA) Beaumont Irrigation Canal, the widening would be done with the objective of creating linear detention capacity. This would tie into a detention basin excavated in an agricultural field adjacent to the Beaumont Irrigation Canal. In conjunction, these detention features would have a capacity of 447 acre-feet. Visual representation of the Project components is presented on aerial background in **Figure 3 (Appendix A)**.

## PURPOSE AND NEED

### PURPOSE

The purpose of the Project is to provide flood relief to residents of East China and their homes/personal property. Through FMA, FEMA provides grants for flood hazard mitigation projects as well as plan development. The FMA Program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended (NFIA), 42. U.S.C. 4104c with the purpose of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

### NEED

Jefferson County experiences a relatively high level of rainfall. National Weather Service (NWS) statistics currently indicate an average annual rainfall rate at 56 inches. In 2001, Automated Local Evaluation in Real Time (ALERT) stations measured 103 inches of rainfall, and the Applicant's gauges have measured 80 inches of rainfall in

various years. The NWS statistics also indicate that a 24-hour rain event with a 100-year recurrence interval is 13 inches, though the highest point rainfall for a 24-hour period recorded by the Applicant is 24 inches, which occurred on June 7, 2001, during Tropical Storm Allison. Other tropical systems have impacted the region in recent years, including Rita, Ike, Harvey, and Imelda.

At the local level, China and the surrounding areas frequently experience high levels of rainfall that have resulted in moderate residential flood events. The capacity of Ditch 600 is inadequate to convey flows away from the Benefit Area, which includes approximately 273 homes and a population of 955 people. Thus, the residents of China need a solution to stormwater capacity/conveyance to reduce the frequency and likelihood of flooding to their properties.

## ALTERNATIVES

### NO ACTION ALTERNATIVE

The No Action Alternative would involve no acquisition of FEMA FMA grant funds and no construction of the proposed channel widening or detention areas. Thus, the No Action Alternative would result in continued flooding issues in East China.

### PROPOSED ACTION

The Proposed Action would improve Ditch 600 from its origin in China eastward tying into a previous widening project. From the origin to Ditch 600's crossing with the LNVA Beaumont Irrigation Canal, the widening would be done with the objective of creating linear detention capacity. This would tie into a detention basin excavated in an agricultural field adjacent to the Beaumont Irrigation Canal. In conjunction, these detention features would have a capacity of 447 acre-feet. It is important to note that channel widening would avoid impacts to the pilot channel and excavation would occur above the pilot channel elevation on either side, creating readily accessible benches for floodwaters, thus increasing the overall channel width.

### ALTERNATIVES CONSIDERED AND DISMISSED

For an Alternative Action, other parcels were considered for the detention basin and a different channel widening design was considered. Due to land use constraints and agricultural activities of the Project Area, finding an available parcel for the detention basin was not feasible or practicable. The design for channel widening under this alternative would have involved a complete widening of the channel bottom which would increase the overall added capacity as compared to the Proposed Action, but would also impact the existing pilot channel. Due to potential permitting requirements and general impacts to aquatic habitat, this channel design was determined to be unreasonable due to environmental constraints and impacts relative to the Proposed Action.

**Table 1. Summary of Alternatives Considered for East China Ditch 600 Flood Risk Reductions and Reasons for Selecting the Proposed Action.**

<b>Alternative Considered</b>	<b>Meets Purpose and Need</b>	<b>Practicability</b>	<b>Availability</b>	<b>Reason for Elimination</b>
No Action	No	No – does not meet purpose and need	N/A	Does not meet purpose and need
Proposed Action (Applicant’s Preferred Alternative)	Yes	Yes – alternative is within cost expectation, is logistically feasible, technologically feasible	Yes – locations for preferred detention locations and channel widening extents are available	N/A – carried forward for NEPA analysis
Alternative Action	Yes	Yes – alternative is within cost expectation, is logistically feasible, technologically feasible	No - minimal opportunities to secure an alternative parcel for detention	Other locations to accommodate a detention basin are not available and potential impacts to aquatic habitat due to channel modification approach would be greater than Proposed Action

## AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

### PHYSICAL RESOURCES

#### Geology, Soils, and Seismicity

Geologic development of the Texas Coastal Plain began approximately 220 million years ago and consisted of several periods of continental extension (rifting) and compression. As continental separation continued, rifts were eventually filled by marine salt, then subsequently buried by river sediment from the newly emerging Rocky Mountains. Additionally, rapid deposition of deltaic sands over marine mud resulted in linear fault zones of growth of various ages extending from northeastern Mexico into Louisiana also resulting in large oil and gas fields. The surface topography of the region tends to be

characterized by relict river channels, pimple mounds, and estuarine features and resources.

The proposed Project is located within the Beaumont Formation of Pleistocene age (UT-BEG, 1992). Regionally, soils consist of varying proportions of clays, silts, and sands originating from primarily stream channel, point-bar, natural levee, backswamp, and, to a lesser extent, coastal marsh and mud-flat depositional systems. Specifically, the Project Area is located on two general soil map units (NRCS, 2006) – the League-Beaumont-China and the Labelle-Morey-Meaton soil map units. Regarding detailed soil map units for the Project Area, this includes Labelle clay loam, Beaumont clay, League clay, and Viterbo silty clay loam (**Appendix A, Figure 4**). Labelle and League soils are considered Prime Farmland soils (NRCS, 2006). A letter was submitted to the NRCS on January 12, 2021 requesting review for the Project’s consistency with the Farmland Protection Policy Act (FPPA) and the NRCS responded on July 12, 2022 indicating that the Project is exempt from the provisions of the FPPA (**Appendix C**).

No known seismic faults occur on the site or in the nearby area (UT-BEG, 1992). Occasional earthquakes do occur within the Coastal Plain, but these are usually situated between San Antonio and Corpus Christi. Additionally, much seismic activity (earthquakes and subsidence) within the Coastal Plain has been attributed to well injections associated with oil and gas field operations and groundwater pumping. Seismic activity in the Project Area is considered to have a low probability of occurrence.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would not affect geology, soils, or seismicity.

#### *Proposed Alternative*

Under the proposed alternative no impacts to geology or seismicity would be expected. Soils in the Project Area would be impacted through physical disturbance during construction and soil moisture would be affected from increased ponding depths and duration of inundation within the widened channel and detention basin. Prime farmland soils, which comprise a portion of the Project Area, could be affected depending on where excavated soils are placed.

#### *Air Quality*

The Clean Air Act (CAA) of 1970 requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA established NAAQS for six criteria pollutants including carbon monoxide, nitrogen dioxide, lead, sulfur dioxide, fine particulate matter (PM10 and PM2.5), and ozone (O3). The EPA categorizes individual regions or counties into three levels of compliance with the NAAQS for criteria

pollutants: attainment, nonattainment, or unclassifiable. Attainment areas are those that meet the NAAQS; nonattainment areas are those that exceed the NAAQS and must develop and implement a plan to meet the NAAQS. Unclassifiable are areas that cannot be classified based on available information. Jefferson County in Texas is categorized as either unclassifiable or in attainment for all NAAQS (TCEQ, 2022).

Established under the CAA, the General Conformity Rule (40 CFR Part 51, subpart 54) ensures that Federal actions conform to the Texas State Implementation Plan (SIP). To proceed with a Federally funded project, a General Conformity program requires an emissions inventory to ensure that increased air pollution from the project does not negatively affect the state's emissions budget and SIP. The General Conformity Rule are applicable to projects located in nonattainment areas. A General Conformity Determination would not be required because Jefferson County is within attainment.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would result in no change to air quality. Jefferson County would continue to be in attainment status for NAAQS.

#### *Proposed Alternative*

During construction activities, particulate matter, carbon monoxide and nitrogen oxide, and other airborne pollutants may increase from earth moving activities and operation of construction machinery. However, the proposed Project is not expected to violate any federal, state, or local air quality standards. During construction activities, Best Management Practices (BMPs) would be implemented to reduce and control fugitive dust emissions. Impacts to air quality would be temporary and localized and expected to return to baseline conditions after construction is concluded. Jefferson County is expected to remain in attainment during and after project construction.

#### Climate Change

Texas has been experiencing climate change and the Project Area is no exception. Temperature increases of up to 1 degree (F) has happened in the past 100 years. Rainfall average has increased for the eastern portion of the state (but soil moisture is decreasing), but the timing and intensity of rainfall has changed as well (EPA, 2016). More catastrophic flooding has occurred in recent years, and several disaster declarations associated with flood impacts have resulted. These increased flood impacts are a significant driver of this Project.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, areas surrounding Ditch 600 will continue to

experience increased flood risks and potential damages. Climate change trends would continue.

### *Proposed Alternative*

Under the Proposed Action, flood risks and the potential for damages would be reduced or decreased through significant increases in stormwater storage capacity as well as improvements in conveyance. Climate change trends would continue, but the effects of climate change may be reduced in the East China area as it pertains to flooding.

## WATER RESOURCES

Water resources are abundant in Southeast Texas. Below the surface, the Chicot and Evangeline Aquifers are the two primary sources of groundwater in the Beaumont area and are the youngest aquifers within the Gulf Coast aquifer system. The hydrogeologic units are laterally discontinuous fluvial-deltaic deposits of gravel, sand, silt, and clay that dip and thicken from northwest to southeast. Recharge to the aquifers generally occurs through the percolation of fresh water (precipitation, stream flow, lakes, etc.) along the aquifers' area of outcrop at the surface. The aquifers crop out in bands inland from and approximately parallel to the coast and become progressively more deeply buried and confined toward the coast. The Chicot, which comprises the youngest sediments, outcrops nearest to the coast, followed farther inland by the Evangeline outcrop. These outcrop areas are located north and west of the Project Area. Groundwater movement is generally from the area of outcrop toward the southeast (down-dip) but may vary in the vicinity of natural discharge points, such as along stream banks, or artificial discharge points, such as groundwater wells (TWDB, 2022).

The Texas Water Development Board (TWDB) online Groundwater Data Viewer was accessed to search for water well records within a 0.5-mile radius from the Project Area. No water wells were located within the Project Area; however, twelve wells are recorded within 0.5 mile. The 0.5-mile radius search and well locations are depicted in **Figure 5 (Appendix A)**. These wells all draw or used to draw water from the Chicot Aquifer. While no water wells were observed during a site visit, the online search and field effort do not preclude the existence of a well.

At the surface level, the Project Area falls within the Taylor Bayou watershed. The Taylor Bayou watershed is a relatively small watershed that captures most of the overland flow and runoff in northwestern Jefferson County. Many of JCDD6's maintained channels, including Ditch 600, drain into the Taylor Bayou watershed.

### Water Quality

The receiving stream for the proposed Project, Taylor Bayou, is listed as an impaired stream above tidal. Segments 0701\_01 and 0701\_02 are listed as Category 5c segments with depressed dissolved oxygen levels by the Texas Commission on Environmental

Quality (TCEQ, 2022). The TCEQ is required, under Section 303(d) of the federal Clean Water Act (CWA), to identify water bodies for which effluent limitations are not stringent enough to implement water quality standards. Category 5a water bodies do not meet applicable water quality standards or are threatened for one or more designated uses by one or more pollutants and Total Maximum Daily Loads (TMDLs) are underway, scheduled, or will be scheduled for one or more parameters. Category 5b segment water bodies do not meet applicable water quality standards or are threatened for one or more designated uses by one or more pollutants and a review of the water quality standards for this water body is conducted before a TMDL is scheduled. The TCEQ monitors the condition of the state's surface waters and assesses the status of water quality every 2 years. The TCEQ also develops a schedule identifying TMDLs that will be initiated in the next 2 years for priority impaired waters. The TCEQ submits this assessment to the EPA. The report is also published on the TCEQ web site as the Texas Integrated Report and 303(d) List (TCEQ, 2022). The List assigns each assessed water body to 1 of 5 categories to provide information to the public, EPA, and internal agency programs about water quality status and management activities.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place, thus, the No Action Alternative would not affect water resources or water quality in any way. Ditch 600's water quality would presumably remain the same as would water quality in the downstream receiving waterbodies.

#### *Proposed Alternative*

The Proposed Alternative is not anticipated to have any adverse effects to water resources or water quality. In some cases, stormwater detention infrastructure can actually improve water quality (Heitz et al., 2000). Although the additional water storage capacity through inline detention and the detention basin is primarily proposed to detain stormwater and provide flood relief, water quality improvements are more likely than degradation. Beyond Ditch 600, no other waterbodies are anticipated to be impacted by the Project. JCDD6 will coordinate with LNVA as necessary as it pertains to their Beaumont Irrigation Canal, however, no impacts are proposed. Based on the Project Area and proposed land disturbance exceeding 5 acres, the Project will be subject to requirements of the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) TXR150000. As such, JCDD6 will prepare a Storm Water Pollution Prevention Plan (SWPPP) and will file a Notice of Intent (NOI) with TCEQ at least 48 hours prior to initiating construction. Monitoring and maintenance of erosion and sedimentation controls in accordance with BMPs will be conducted on a regular basis as prescribed by the TPDES CGP.

## Wetlands

Federal policy recognizes that wetlands have unique and significant public values and calls for the protection of wetlands. Executive Order (EO) 11990 sets forth policy directives associated with wetlands for federal agencies including (1) avoiding long and short-term adverse impacts associated with the destruction or modification of wetlands; (2) avoiding direct or indirect support of new construction in wetlands; (3) minimizing the destruction, loss, or degradation of wetlands; (4) preserving and enhancing the natural and beneficial values served by wetlands; and (5) involving the public throughout the wetlands protection decision-making process.

The term wetland refers to those areas that are inundated by surface water or groundwater with a frequency sufficient to support vegetation or aquatic life that requires saturated or seasonally saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, wet meadows, river overflows, mud flats, and natural ponds.

Under the CWA, the U.S. Army Corps of Engineers (USACE) is the regulatory authority for the discharge of dredged or fill material into waters of the U.S. (WOTUS), including jurisdictional wetlands, pursuant to Section 404 of the CWA.

According to the National Wetland Inventory (NWI) map (USFWS, 2022a), much of the Ditch 600 corridor within the Project Area is bordered by palustrine, farmed wetlands (Pf), including the proposed detention basin area. The farmed wetland designation is the result of past and present rice cultivation in the area. The NWI features identified in and around the Project Area are depicted in **Figure 6 (Appendix A)**.

Despite the NWI classifications, JCDD6 received an Approved Jurisdictional Determination (AJD) letter from the USACE on May 17, 2022, informing that the agricultural areas within the Project Area were not considered WOTUS, and therefore not regulated under Section 404. A copy of the AJD letter is provided in **Appendix C**.

### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would have no impacts to wetlands.

### *Proposed Alternative*

Similar to the No Action Alternative, the Proposed Alternative is not anticipated to impact wetlands or other WOTUS. As described above, the USACE has determined that no wetlands or WOTUS are located within the Project Area. Freese and Nichols, Inc. (FNI) conducted a site visit on April 29, 2022, and did not observe any wetlands within the Project Area. Wetland conditions are present in the proposed detention basin location; however, these conditions are being artificially supported by rice cultivation and/or crawfish farming activities.



## Floodplains

EO 11988 mandates that all federal agencies shall provide leadership and take action to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains in carrying out their responsibilities for (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting federal activities and programs affecting land use, including, but not limited to, water and related land resources planning, regulating, and licensing activities.

Before taking an action, each agency shall determine whether the proposed action will occur in a floodplain. For major federal actions significantly affecting the quality of the human environment, the evaluation would be included in any statement prepared under Section 102(2)(C) of the NEPA. The agency shall make a determination of the location of the floodplain based on the best available information.

There are many flood mitigation activities within areas of Jefferson County. The County of Jefferson has land use, building code, and permit authority over the land within its boundaries, including the authority to regulate development proposed within the special flood hazard areas designated on the county's Flood Insurance Rate Maps (FIRM). The Applicant seeks to obtain a FEMA grant that would help reduce the flooding of existing structures in the Benefit Area.

According to FEMA FIRMs, the proposed Ditch 600 drainage improvements are located in Zone X (unshaded), which is an area that is not inundated by 100- or 500-year flooding (**Appendix A, Figure 7**). The Project is located on FIRM panel numbers 4803850125C, 4803850110C, and 4803850120C dated August 6, 2002.

### *No Action Alternative*

The No Action Alternative would have no effect on floodplains and flooding events would continue to have the same impacts on the China community as observed during similar past events.

### *Proposed Alternative*

The Proposed Alternative will provide flood relief to the China community through significant increases in stormwater storage capacity as well as improvements in conveyance. Despite the Project Area not sitting within a mapped floodplain, JCDD6 has documented shallow to moderate structure (homes) flooding within the Benefit Area; the Benefit Area includes approximately 273 homes. The added detention area has been designed to accommodate the floodwaters troubling the China community, rather than accommodate additional growth. The Engineering Department at JCDD6 utilized Atlas 14 precipitation data and the USACE's Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) and River Analysis System (HEC-RAS) software to model the existing and proposed floodplain conditions for East China associated with the

Project, which are included in **Table 2** below. Since the FEMA 100-year floodplain will not be modified or affected the Project, a Letter of Map Adjustment (LOMA) or Letter of Map Revision (LOMR) should not be required.

**Table 2. Existing and Proposed Floodplain Conditions for East China Based on Atlas 14 Precipitation Data.**

Frequency	500-Year		100-Year		50-Year		10-Year	
	<i>Existing</i>	<i>Proposed</i>	<i>Existing</i>	<i>Proposed</i>	<i>Existing</i>	<i>Proposed</i>	<i>Existing</i>	<i>Proposed</i>
<b>Flow (cubic feet per second)</b>	3271	2700	2283	2188	1863	1733	1143	780
<b>Elevation (feet)</b>	34.25	33.15	33.86	32.25	33.24	31.68	32.60	30.84

## COASTAL RESOURCES

While Jefferson County’s boundary does extend as far as the Gulf Coast, Sabine Lake, and into the General Land Office (GLO) Coastal Management Zone, the City of China is inland away from any coastal resources. Furthermore, Horizon Environmental Services, Inc. (Horizon), on behalf of JCDD6, submitted a Federal Consistency review request to the Texas GLO on January 25, 2021. On January 29, 2021, the GLO responded that no review would be completed due to the Project’s location outside of the Coastal Zone (**Appendix C**).

Based on the Project Area existing beyond the limits of the Coastal Management Zone and the GLO’s response to the agency coordination letter, the effect on coastal resources for both the No Action and Proposed Alternatives should be considered none.

## BIOLOGICAL RESOURCES

### Threatened and Endangered Species and Critical Habitat

Section 7(a) of the ESA requires all federal agencies to consult with and with the assistance of the Department of the Interior (DOI) U.S. Fish and Wildlife Service (USFWS) and/or National Oceanographic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), to advance the purposes of the ESA by implementing programs for the conservation of endangered and threatened species, and to ensure that project actions and activities do not jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of the species’ Critical Habitat.

**Table 3**, which was generated from the USFWS Information for Planning and Consultation (IPaC) website (USFWS, 2022b), provides a list of federally listed species which have been identified as potentially occurring in area of potential affect within Jefferson County. Only species that are listed as threatened or endangered by the USFWS have complete federal protection under the ESA. Information such as life history, habitat requirements, and potential project effects are provided below.

**Table 3. List of Species Recognized by the USFWS as Threatened or Endangered and Which May Occur in Jefferson County<sup>1</sup>, Texas.**

	<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>	<b>Potential Habitat in Project Area</b>
<b>Mammals</b>	West Indian Manatee	<i>Trichechus manatus</i>	T	No
<b>Birds</b>	Eastern Black Rail	<i>Laterallus jamaicensis jamaicensis</i>	T	No
	Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	No
	Piping Plover	<i>Charadrius melodus</i>	T	No
	Red Knot	<i>Calidris canutus rufa</i>	T	No
	Whooping Crane	<i>Grus americana</i>	E	No
<b>Reptiles</b>	Green Sea Turtle	<i>Chelonia mydas</i>	T	No
	Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	E	No
	Kemp’s Ridley Sea Turtle	<i>Lepidochelys kempii</i>	E	No
	Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	E	No
	Loggerhead Sea Turtle	<i>Caretta caretta</i>	T	No
<b>Insects</b>	Monarch Butterfly	<i>Danaus plexippus</i>	C	No
<b>Plants</b>	Texas Trailing Phlox	<i>Ohlox nivalis texensis</i>	E	No

<sup>1</sup>USFWS IPaC website, 2022b

\* E = Endangered, T = Threatened, C = Candidate

### West Indian Manatee

Adult manatees are typically 9.8 feet long and can weigh around 2,200 pounds. They have two front flippers and a wide tail. West Indian Manatees are found in bays, estuaries, lakes, rivers, and shallow coastal waters. Manatees are herbivores and feed on a variety of submerged, floating, and emergent vegetation (USFWS, 2001). More recently, manatees were observed in Laguna Madre and South Padre Island in 2021 (Aguirre, 2021; Von Preysing, 2021). The USFWS has not designated Critical Habitat for the West Indian Manatee within Texas (USFWS, 2022b). It is unlikely that manatees would travel up the Neches River and occupy the Project area. The Project is not expected to affect the species.

### Eastern Black Rail

The Eastern Black Rail are small black birds with white speckling on their back and wings with long dark legs and red eyes. Black rails occupy salt, brackish, and freshwater marshes. The Gulf coast subspecies can be found in higher elevation wetland areas with shrubby vegetation and dense cover. Their habitats included high elevation zones dominated by gulf cordgrass (*Spartina spartinae*), salt meadow cordgrass (*S. patens*), eastern baccharis (*Baccharis halimifolia*), salt grass (*Distichlis spicata*), and sea oxeye (*Borrchia frutescens*). Black rails are found year-round in Texas (USFWS, 2020a). No Critical Habitat for the species has been designated within the Project Area (USFWS, 2022b). No preferred habitat for the species were observed within the Project Area. No effect to the species is expected from the Project.

### Red-cockaded Woodpecker

The endangered Red-cockaded Woodpecker (*Picoides borealis*) is small black-and-white woodpecker with a long bill. These woodpeckers live in mature pine forests and excavate cavities exclusively in living pine trees with preference for those infected with fungal red heart disease that softens heartwood. They also peck holes around actively used cavities so that the tree will exude resin that coats much of the tree, serving as defense against rat snakes and other predators (USFWS, 2003; Texas Parks and Wildlife Department [TPWD], 2022) database found no observations of red-cockaded woodpeckers within 5-miles of the Project Area. While it is possible that Red-cockaded Woodpeckers exist within vicinity of the Project Area, the Project Area itself lacks suitable mature pine forest habitat. Thus, the Project would have no effect on the species.

### Piping Plover

The threatened Piping Plover (*Charadrius melodus*) is a small shorebird that inhabits coastal beaches and tidal flats (Haig and Elliott-Smith, 2004). Approximately 35 percent of the known global population of Piping Plover winters along the Texas Gulf coast, where they spend 60 to 70 percent of the year (Campbell, 2003). The Piping Plover population that winters in Texas breeds on the northern Great Plains and around the Great Lakes. From September to March, Piping Plovers are typically found along the Gulf Coast shoreline using beaches, sandflats, tidal mudflats, dunes, and dredge islands as

loafing and foraging areas (Haig and Elliott-Smith, 2004). TPWD (2022) data show no observations of Piping Plover within 5-miles of the Project Area. Habitat suitable for Piping Plover was not observed within the Project Area and no effect to species would result from the Project.

### Red Knot

The threatened Red Knot (*Calidris canutus rufa*) is a medium-sized, stocky, short-necked sandpiper with a short, straight bill. The *rufa* subspecies, one of three subspecies occurring in North America, has one of the longest distance migrations known, travelling between its breeding grounds in the central Canadian Arctic to wintering areas in South America (USFWS, 2007). During migration and winter in Texas, Red Knots may be found feeding in small groups on sandy, shell-lined beaches, bay flats, and lagoons (Oberholser, 1974). It is an uncommon to common migrant along the coast, and a rare to casual inland, primarily in the eastern half of the state (USFWS, 2015). There have been no recorded observations of Red Knots within 5-miles of the Project Area (TPWD, 2022). No suitable habitat for the red knot was observed within the Project Area and no effects to the species would result from the Project.

### Whooping Cranes

The whooping crane (*Grus americana*) are the tallest birds in North America and are known for their call, size, and white plumage. The migratory Texas population breeds and nests in northern Alberta, Canada during the summer and flies south to Aransas National Wildlife Refuge near Rockport, Texas where they spend the winter (USFWS, 2012). During migration, whooping cranes stopover in wetlands, fallow cropland, and pastures to roost and feed. Based on migration data compiled from a variety of information (Austin and Richert, 2001), the Project Area is located within the designated migration corridor for the whooping crane. Their preferred habitat includes coastal marshes, estuaries, inland marshes, lakes, and ponds. For feeding, they forage in brackish bays, marshes, and salt flats. TPWD (2022) data show no official observations reported within 5-miles of the Project Area. There is no suitable stopover habitat within the Project Area. Based on desktop analysis, no potential habitat is present within the proposed Project Area.

### Sea Turtles

There are five species of sea turtles with the potential to occur within Jefferson County. Juvenile and adult sea turtles are more commonly found in shallow coastal and estuarine waters feeding on crabs, bivalves, jellyfish, and other crustaceans. Female sea turtles prefer to nest on beaches with deep sand (Campbell, 2003; USFWS, 2011). There are no Critical Habitat for sea turtles designated within the Project Area. It is highly unlikely that sea turtles would occupy the Project Area since there is no coastal habitat present. The Project is not expected to affect the five sea turtle species.

### Monarch Butterfly

The Monarch Butterfly (*Danaus plexipuss*) is a candidate species for federal listing. USFWS has determined that listing the species was warranted, but a timeline on when listing is undetermined (85 FR 81813-81822). Adult Monarch Butterflies are large with bright orange wings with black borders and white spots. During the breeding season, Monarch Butterflies lay their eggs on milkweed (*Asclepias* sp.) plants. Due to their short lifespan, there are multiple generations of Monarch Butterflies within a breeding season and along their 3,000-mile migratory route. Monarch migration begins in early spring from February to March. During their breeding season, Monarchs are typically found in open grassland areas and plains. Important nectar sources include *Coreopsis* sp., goldenrods (*Solidago* sp.), Asters (*Carlquistia* sp.), gayfeathers (*Latris* sp.), coneflowers (*Echinacea* sp.), and milkweeds (*Asclepias* sp.). During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.) (USFWS, 2019). The eastern population of Monarch Butterflies can be found throughout Texas during its migratory season. Construction for the Project is not expected to impact Monarch Butterfly migratory route and the butterfly's host plant, milkweed is not typically found within the Project Area. It is unlikely that the Project will affect populations of Monarch Butterfly.

### Texas Trailing Phlox

Texas Trailing Phlox is a fire-dependent, herbaceous perennial plant species. The flowering plant is often associated with long leaf pine (*Pinus palustris*) across the Big Thicket region of the East Texas Pineywoods in open pine-oak woods on sandy slopes. The phlox blooms in the spring and flowers are purple to lilac and rarely white. To date there are seven known extant populations of the species in Hardin, Polk, and Tyler Counties (USFWS, 2020b). There are no known observations of the plant within 5 miles of the Project Area (TPWD, 2022). The Project is not expected to affect the species.

### *No Action Alternative*

The Project Area does not appear to contain any habitat suitable or critical to the listed species. Thus, the No Action Alternative would have no effect on federally listed species.

### *Proposed Alternative*

Based on a review of the species life history, habitat requirements and the scope of the proposed Project, FEMA has determined that the proposed alternatives would have no effect on any federally listed species. There is no designated Critical Habitat within the Project Area, therefore the project alternatives would not adversely modify any Critical Habitat.

### Migratory Birds

The Migratory Bird Treaty Act of 1918 makes it illegal to kill, capture, possess, transport, buy, sell, or trade any migratory bird parts (bones, feathers, etc.), nest, or eggs without

prior authorization by the USFWS (USFWS, 2020c). Many birds may nest or roost in trees, brushy areas, and other suitable habitat. These areas provide nesting habitat and support rookeries for migratory birds. The USFWS Information for Planning and Consulting website lists 12 migratory species that may have the potential to occur within the study area (**Table 4**) (USFWS, 2022b).

**Table 4. Migratory Birds Listed by the USFWS that May be Found Within the Study Area**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Season(s)</b>
American Golden Plover	<i>Pluvialis dominica</i>	Migrating
American Kestrel	<i>Falco sparverius palus</i>	Breeding
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Year-round
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Breeding
Hudsonian Godwit	<i>Limosa haemastica</i>	Migrating
King Rail	<i>Rallus elegans</i>	Breeding
Lesser Yellowlegs	<i>Tringa flavipes</i>	Migrating
Prothonotary Warbler	<i>Protonotaria citrea</i>	Breeding
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Breeding
Ruddy Turnstone	<i>Arenaria interpres morinella</i>	Migrating
Short-billed Dowitcher	<i>Limnodromus griseus</i>	Migrating
Willet	<i>Tringa semipalmata</i>	Breeding

*No Action Alternative*

Migratory birds are expected to utilize the Project Area for nesting. The No Action Alternative would not result in any impacts to migratory bird species.

*Proposed Alternative*

Vegetation clearing activities related to the Project has to potential to affect migratory bird nesting habitat. However, if clearing can be phased to occur outside of nesting season (March 1 to August 30), impacts to migratory bird species can be reduced. If tree removal activities must occur during the nesting season, JCDD6 will deploy a qualified biological monitor with experience conducting breeding bird surveys to survey the vegetation management area for nests prior to conducting work. The biologist will determine the appropriate timing of surveys in advance of work activities. If an occupied migratory bird nest is found, work within a buffer zone around the nest will be postponed until the nest is vacated and juveniles have fledged. The biological monitor will determine an appropriate buffering radius based on species present, real-time site conditions, and proposed vegetation management methodology and equipment. For work

near an occupied nest, the biological monitor would prepare a report documenting the migratory species present, the rationale for the buffer radius determination, and submit that report to FEMA for inclusion in project files. Migratory birds may eventually benefit from the increased riparian areas after construction of the alternative.

### Wildlife Communities and Habitat

The Project Area is located within the Western Gulf Coastal Plains in the Northern Humid Gulf Coastal Prairies ecoregion. The ecoregion is characterized by gently sloping, mostly flat plains. Vegetation consists of tallgrass grasslands with clusters of oak mottes. Historically, wildlife included bison (*Bison bison*), pronghorn (*Antilocarpa americana*), and white-tailed deer (*Odocoileus virginianus*). Today, waterfowl and birds are still relatively abundant (Griffith et al., 2007). Other common wildlife species include raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), American bullfrog (*Rana catesbeiana*), Gulf Coast toad (*Bufo nebulifer*), diamond-backed watersnake (*Nerodia rhombifer*), American alligator (*Alligator mississippiensis*), red-tailed hawk (*Buteo jamaicensis*), and belted kingfisher (*Ceryle alcyon*) (Dixon, 2000; TPWD, 2022a). Common fish species may include largemouth bass (*Micropterus salmoides*), bullhead minnow (*Pimephales vigilax*), channel catfish (*Ictalurus punctatus*), and bluegill (*Lepomis macrochirus*). Invasive species such as red imported fire ants (*Solenopsis invicta*) and feral hogs (*Sus scrofa*) have been detrimental to native vegetation and wildlife (Griffith et al., 2007).

#### *No Action Alternative*

The No Action Alternative would not result in any direct impacts to wildlife or their habitats. Wildlife would continue to experience indirect impacts as human activity and development encroaches on or near wildlife habitats which can decrease abundance and overall species diversity within the ecosystem.

#### *Proposed Alternative*

In the proposed alternative, wildlife can be disturbed by construction noise and earth moving activities. Wildlife can temporarily relocate to other areas during construction activities, thereby temporarily decreasing species diversity and abundance within the Project Area. However, wildlife is expected to recolonize the area after construction is completed.

## CULTURAL RESOURCES

Sections 106 of NHPA and its implementing regulation 36 CFR Part 800, requires agencies to consider the effects on historic properties of projects they carry out, assist, fund, permit, license, or approve throughout the country. Historic properties are those included in or eligible for listing in the National Register of Historic Places (NRHP), which may include archeological sites, historic sites, building, structures, objects, and



districts. Additionally, the Antiquities Code of Texas (ACT) requires political subdivisions of the state, such as JCDD6, to coordinate with the Texas Historical Commission (THC) for projects that will disturb greater than 5 acres or 5,000 cubic yards.

An archival desktop review for known cultural resources for the proposed Area of Potential Effects (APE) was completed. The archival desktop review conducted on the THC's online Texas Archeological Sites Atlas (TASA) restricted-access database indicates that no documented cultural resources, archeological sites, cemeteries, or historic properties listed on the NRHP and/or designated as State Antiquities Landmarks (SAL) are located within or immediately adjacent to the boundaries of the Project Area.

### Historic Properties

Previously conducted surveys show an absence of historic-age structures within the Project Area. The site has been subject to historical farming practices, residential, and commercial use. The proposed Project includes the widening of existing man-made ditches and excavation of a detention basin, all within current and historical farmland, and the likelihood of remaining intact cultural deposits would be low. Horizon submitted a consultation letter to the THC requesting review by the State Historic Preservation Officer (SHPO) on January 12, 2021. The THC provided a response on January 26, 2021, stating that no identified historical property, archeological sites, or other cultural resources are present or affected. These letters are provided in **Appendix C**.

Based on the THC's response to the agency coordination letter, the effect on historic properties for both the No Action and Proposed Alternatives should be considered none.

### Native American Cultural/Religious Sites

In accordance with EO 13175 for *Consultation and Coordination with Indian Tribal Governments*, FEMA conducted tribal consultations with federally recognized Indian tribal governments with interest to exchange information, receive input, and consider their views on actions that have tribal implications. Consultation with the Kiowa Tribe, Tonkawa Tribe, Jena Band of Choctaw Indians, and Alabama-Coushatta Tribe of Texas was conducted per 36 CFR §800.2(c)(2)(i)(B), dated September 22, 2022. Tribes were given 30 days to respond and or identify possible historic properties effected by this Project. The Kiowa Tribe, Tonkawa Tribe, Jena Band of Choctaw Indians, and Alabama-Coushatta Tribe of Texas did not provide comments within 30 days or declined to comment.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would not result in any impacts to Native American or Tribal cultural/religious sites.

### *Proposed Alternative*

Based on tribal coordination and consultation, FEMA has determined that proposed project will not adversely affect traditional, religious, or culturally significant sites.

## SOCIOECONOMIC RESOURCES

U.S. Census Bureau estimates for 2021 indicate a population of 253,704 for Jefferson County. A demographic profile of the area shows that approximately 39% of the population is reported as white, 34% as black, 22% as Hispanic, and 5% as other. The Project is not expected to affect the population of the area. The county population is the reference population for the Environmental Justice analysis below.

Local employment in Jefferson County is dominated by manufacturing jobs, with retail, construction, healthcare, and education occupations also being common. The median household income is reported as \$50,840; the national median household was reported as \$69,560 for 2020 by the U.S. Census Bureau, whereas the U.S. Department of Housing and Urban Development reported this amount to be \$78,700 for 2020 and \$79,900 for 2021.

### Environmental Justice

EO 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations. The Council on Environmental Quality (CEQ) Environmental Justice guidance document defines minority populations as areas that have a substantially higher percentage of minorities in comparison to the general population or other appropriate unit of geographic analysis (CEQ, 1997). Based on the statistics presented in the socioeconomic analysis, there is a potential for individuals with environmental justice concerns within Jefferson County. However, by necessity, the proposed Project is in the vicinity of the area for which it is designed to provide flood protection and there are no low-income residences in the immediate vicinity of the Project.

### *No Action Alternative*

Under a No Action Alternative, continued flooding of structures would continue to place a burden on local, state, and federal flood relief resources and would also continue to depress property values. Although no low-income residents occur in the immediate vicinity, these continued flood impacts may have disproportionate effects to those residences with relatively lower income.

### *Proposed Alternative*

The proposed Project is not expected to have adverse or disproportionate impacts on minority or low-income populations. The benefits of the proposed Project are expected to

be proportional to all residents in the Benefit Area. No existing residential properties or structures will be adversely affected by the Project.

### Hazardous Material

FNI conducted a desktop hazardous materials review to evaluate the presence of regulated materials sites and recognized environmental conditions (RECs) in accordance with American Society for Testing and Materials (ASTM) International Standard E-1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (2013) and EPA Standards and Practices for All Appropriate Inquiries (AAI), Final Rule to characterize environmental conditions in the Project Area by evaluating factors such as land use, site history, obvious indicators of environmental contamination, and the presence of adjacent or nearby properties that could pose environmental concerns (Banks Environmental Data Inc., 2022)

**Table 5** below summarizes the findings of the regulatory database search. Thirteen records of mapped properties were identified, most of which were located along Highway 90. Of the thirteen, three properties were identified as a Low Historical REC (HREC). **Figure 8 (Appendix A)** depicts the location of all mapped properties listed in **Table 5**. After reviewing the surrounding properties identified in the regulatory record database search, none of the sites were determined to pose an ongoing potential REC or REC relative to the Property or the proposed Project.

A records search was conducted to determine the presence of active oil or gas wells that may exist on or within 500 feet from the Property. The records reviewed indicated the presence of three dry hole wells and one active oil well. None of these records indicate any release of contaminants that could affect the Project Area. No major utility pipelines occur within the Project Area.

#### *No Action Alternative*

The No Action Alternative would not impact or contribute to hazardous materials in the Project Area.

#### *Proposed Alternative*

Since no hazardous materials occur in the Project Area, the Proposed Alternative would not impact or contribute to hazardous materials in the Project Area.

**Table 5. Summary of Findings from the Banks Environmental Database Report.**

<b>Facility Name Address</b>	<b>Relative Location</b>	<b>Potential Environmental Risk</b>	<b>Regulatory Database</b>	<b>Comments</b>
<b>JD Resale</b> 140 E Highway 90 China, TX 77613	0.13 miles SW	Low	LPST	- Final pending well plug - No apparent receptors impacted. - Closure date 6/27/2008.
<b>Kibodeaux Grocery</b> 229 N Broadway St China, TX 77613	0.17 miles W	Low HREC	LPST	- Final concurrence issued. - Soil contamination only. - Site closure 1/11/2001.
<b>China Elementary Campus</b> 717 Broadway St, China, TX 77613	0.25 miles NW	Low HREC	LPST	- Final concurrence issued. - Soil contamination only. - Closure date 2/15/1991.
<b>Jefferson Hardin ISD</b> 717 Broadway St, China, TX 77613	0.25 miles NW	Low HREC	LPST	- Final concurrence issued. - Soil contamination only. - Closure date 9/1/1992.
<b>Frank Lewis</b> 303 Hwy 90 W China, TX 77613	0.1 miles S	Low	PST	- Three empty 2,000 gallon tanks removed from ground.
<b>Pricewise 107</b> 212 Hwy 90 E China, TX 77613	0.11 miles S	Low	PST	- Three 4,000 gallon tanks containing gasoline in use.

<b>Facility Name Address</b>	<b>Relative Location</b>	<b>Potential Environmental Risk</b>	<b>Regulatory Database</b>	<b>Comments</b>
<b>J&amp;D Resale</b> 140 E Hwy 90, China, TX 77613	0.13 miles SW	Low	PST	<ul style="list-style-type: none"> <li>- Two 1,000 gallon tanks containing gasoline removed from ground.</li> <li>- One 500 gallon tank containing gasoline removed from ground.</li> <li>- One 500 gallon tank containing kerosene removed from ground.</li> </ul>
<b>Road &amp; Bridge China SVC CTR</b> 111 W Railroad Ave China, TX 77613	0.16 miles W	Low	PST	<ul style="list-style-type: none"> <li>- One 1,000 gallon tank containing gasoline removed from ground.</li> <li>- One 500 gallon containing gasoline and one 1,000 gallon tank containing diesel permanently filled in place.</li> </ul>
<b>China Market</b> 229 N Broadway St China, TX 77613	0.17 miles W	Low	PST	<ul style="list-style-type: none"> <li>- One 4,000 gallon tank containing diesel in use.</li> <li>- Three 4,000 gallon tanks containing gasoline removed from ground.</li> <li>- One 4,000 gallon tank containing gasoline in use.</li> <li>- One 6,000 gallon tank containing gasoline in use.</li> <li>- One empty 4,000 gallon tank removed from ground.</li> </ul>
<b>China Elementary Campus</b> 717 Broadway St China, TX 77613	0.25 miles NW	Low	PST	<ul style="list-style-type: none"> <li>- One 1,000 tank containing gasoline removed from ground.</li> </ul>

<b>Facility Name Address</b>	<b>Relative Location</b>	<b>Potential Environmental Risk</b>	<b>Regulatory Database</b>	<b>Comments</b>
<b>Moreaux Brothers Trucking</b>  150 W Hwy 90 China, TX 77613	0.16 miles SW	Low	HW	- Inactive transporter - No violations found
<b>Moreaux Brothers Trucking Inc.</b>  150 W Hwy 90 China, TX 77613	0.16 miles SW	Low	HW	- Merged transporter - No violations found
<b>Moreaux Brothers Trucking Inc.</b>  150 W Hwy 90 China, TX 77613	0.16 miles SW	Low	RCRA	- Inactive non-generator

## Noise

The Project Area is generally surrounded by undeveloped agricultural land with some residential development present along the western terminus/origin of Ditch 600. Existing noise is generated by agricultural operations (e.g. tractors) and traffic along US 90 to south of the Project Area. The noise level is generally low.

### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, under a No Action Alternative, noise levels in and around the Project Area would remain unchanged and at generally low levels.

### *Proposed Alternative*

The Proposed Alternative will introduce temporary elevated noise levels associated with the heavy machinery and equipment needed to construct the Project. Following construction, there will be no continuous or permanent noise generation associated with the Project. Occasional mowing as part of the necessary maintenance regime would result in temporary noise generation, however, JCDD6 currently mows the Ditch 600 right of

way (ROW), so the changes associated with the Project should be considered minimal and not adverse.

## Traffic

The only major transportation corridor near the Project Area is US 90. Traffic is generally low on US 90, with peak flow correlated with accidents on Interstate Highway (IH) 10 to the south causing traffic between Houston and Beaumont to reroute via US 90. The remainder of the roadways in and around China are single-lane each way with relatively low traffic volumes.

### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would not affect traffic near the Project Area.

### *Proposed Alternative*

The Proposed Alternative is not expected to have any significant or long-term impacts to traffic. Construction access will be coordinated carefully as to not impede access of nearby residents to their homes or any public services. There may be short-term traffic congestion on Turner Road due to the movement of construction equipment and machinery and/or dump trucks should any fill material need to be hauled away from the Project Area for disposal. Appropriate traffic control measures and signage will be used during construction.

## Public Service and Utilities

Public Services are provided to local residents by the City of China as well as Jefferson County. The City is responsible for water utilities. Electric is provided via Entergy and Jasper-Newton Electric Co-op. FNI researched the Public Utility Commission (PUC) Water and Sewer Certificate of Convenience and Necessity (CCN) Viewer and did not observe any mapped utility lines within the Project Area. Similarly, FNI reviewed the Railroad Commission of Texas (RRC) for documented oil or gas wells and pipelines. One dry hole was observed in the Project Area. Beyond the Project Area there is one oil well, two gas wells and several other dry holes documented nearby.

### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would have no effect on public service and utilities.

### *Proposed Alternative*

The Proposed Alternative is not anticipated to impact public services to residents of China. JCDD6 will conduct appropriate utility surveys prior to construction and

coordinate with any utility providers as needed. If any undocumented utilities, pipelines, cables, or wells are encountered during construction, JCDD6 would stop activities and report to the appropriate agency.

### Public Health and Safety

Currently the site is agricultural fields or used as stormwater drainage features, and there are normally no safety risks associated with the proposed Project Area except potentially during flood events associated with storms and hurricanes. Safety issues during construction and machinery would include construction traffic entering and exiting the Project Area. The purpose of the Project is to convey stormwater during flood stages. Once the Project is completed, the risk of flooding in the affected area will be decreased.

#### *No Action Alternative*

The No Action Alternative would not change the risk of flooding within the affected area. Potentially life-threatening flooding during severe storms or hurricanes will still persist. Continued flooding of structures in the area would continue to place a burden on local, state, and federal flood relief resources and depress property values.

#### *Proposed Alternative*

The proposed alternative is intended to alleviate flooding risks and damages within the affected area. Public health and safety is expected to benefit from the Project's goal of conveying floodwaters from public property to detention areas.

### Zoning and Land Use

The Project Area lies just beyond any officially zoned areas in the City of China based on the City's zoning map viewer. The nearest zoned areas (and majority of the City's zoning in general) are classified as Single-Family Dwellings. Other zoning classifications include Neighborhood Business, Community Business District, Industrial, and Multi-Family Dwellings which are all closely associated with Broadway Ave and US 90. Land use in and around the Project Area is generally residential or agricultural.

#### *No Action Alternative*

Under the No Action Alternative, the construction of the proposed channel widening, or detention areas would not take place. Thus, the No Action Alternative would not affect zoning or land use.

#### *Proposed Alternative*

The Proposed Alternative is not anticipated to affect zoning in the City of China. The majority of the affected area is agricultural land. The Project will convert some agricultural land to stormwater infrastructure; however, these changes are considered minimal and necessary.



## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

**Table 6. Summary Table**

<b>Resource</b>	<b>Anticipated Effects</b>	<b>Mitigation Measures</b>
Geology, Seismicity, and Soils	Geology – no impacts. Seismicity – no impacts. Soils – Conversion of prime farmland soils.	Project is exempt from FPPA. No mitigation measures proposed.
Air Quality	Temporary increase of dust and exhaust emissions during construction. No post-construction effects.	Contractors will water down construction areas as needed to mitigate excess dust. Vehicle running times on site will be kept to a minimum and engines will be properly maintained.
Climate Change	No impacts; potential reduction of climate change effects via reduction of flooding.	No mitigation measures proposed.
Water Resources and Water Quality	Groundwater – no anticipated impacts. Surface water quality – temporary, minor impacts; potential improvements post-construction. Developed water resources – no impacts.	JCDD6 will comply with conditions of Construction Storm Water General Permit TXR 150000, including preparation of SWPPP and implementing BMPs.
Wetlands	Regulated impacts to jurisdictional wetlands or "waters of the US" will be avoided based on the USACE AJD. Spoil material will be disposed of in non-wetland areas.	BMPs will be implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. This includes equipment storage and staging of construction to prevent erosion and sedimentation.
Floodplains	No adverse impacts to the 100-year or 500-year floodplain.	No mitigation measures proposed.
Coastal Resources	No impacts; Project is not within the Coastal Zone Boundary.	No mitigation measures proposed.

Resource	Anticipated Effects	Mitigation Measures
Threatened or Endangered Species and Critical Habitat	No impacts.	No mitigation measures proposed.
Migratory Birds	Minor vegetation clearing activities would reduce available habitat; adverse impacts are not anticipated.	To minimize impacts to migratory bird species, JCDD6 will limit tree removal work during the peak migratory bird-nesting period of March through August as much as possible. Otherwise, JCDD6 will deploy a qualified biological monitor.
Wildlife Communities and Habitat	Land clearing activities would temporarily reduce available habitat; adverse impacts are not anticipated.	JCDD6 will review and implement BMPs as recommended by TPWD in their letter dated March 8, 2021 ( <b>Appendix C</b> ).
Cultural Resources	No anticipated impacts per SHPO letter dated January 26, 2021 ( <b>Appendix C</b> ).	In the event that archeological deposits, including any buried cultural resources or human remains, are uncovered, the Project shall be halted and the Applicant shall stop all work immediately in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured by JCDD6, and access to the sensitive area will be restricted by JCDD6. The applicant will inform FEMA immediately, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA determines that the appropriate measures have been taken to ensure complete project compliance with the NHPA.

<b>Resource</b>	<b>Anticipated Effects</b>	<b>Mitigation Measures</b>
Environmental Justice	No impacts.	No mitigation measures proposed.
Hazardous Materials	No impacts.	Unusable equipment, debris and material shall be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the Project, applicant shall handle, manage, and dispose of petroleum products, hazardous materials and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state and federal agencies.
Noise	Temporary equipment and machinery noise during construction; no long-term impacts anticipated.	Construction activities will take place during normal business hours. Machinery operating at the proposed Project Area will meet all local, state, and federal noise regulations.
Traffic	Potential, temporary traffic interruptions during construction; no long-term impacts anticipated.	Traffic control measures will be implemented during construction as needed.
Public Services and Utilities	Public services – no impacts. Utilities – no impacts Pipelines – no impacts.	No mitigation measures proposed. If any undocumented utilities or pipelines are uncovered during construction activities would cease and the proper entities (e.g. TCEQ or RRC) would be contacted.
Public Health and Safety	No adverse impacts; improvements to public health and safety as a result of decreased flooding.	The appropriate signage and barriers will be in place prior to construction activities to alert pedestrians and motorists of Project activities.

Resource	Anticipated Effects	Mitigation Measures
Zoning and Land Use	No impacts.	No mitigation measures proposed.

## CUMULATIVE IMPACTS

To qualitatively discuss potential cumulative impacts, it is necessary to consider past, present, and reasonably foreseeable actions that did or could result in lasting impacts. Following the identification of those impacts, it is necessary to consider the direct and indirect permanent impacts of the proposed alternatives. In considering potential cumulative impacts associated with the proposed alternatives and in conjunction with the past, present, and reasonably foreseeable actions, evaluation of cumulative impacts would be spatially bounded to the general Project region and temporally bounded by approximately 5 years in the past and 5 years into the future.

To consider past, present, and reasonably foreseeable actions in the general Project region within the past or future 5 years, we reviewed proposed Capital Improvement Projects (CIPs) for Jefferson County (Jefferson County, 2021) and City of Beaumont. In addition, the County flood risk reduction projects are also considered in this analysis. To capture actions occurring in the last 5 years, past aerial imagery was reviewed for construction activity in the region. Based on this review of CIP project and aerial imagery, the following past, present, and reasonably foreseeable actions that were considered include:

- Various Jefferson County park improvements
- Flood Risk Reduction Projects
- Agricultural Activities

Potential impacts of these past, present, or reasonably foreseeable projects are not readily available, so this discussion of their impacts is conceptual and qualitative. Park improvements, particularly land acquisition, can reduce flood impacts through the preservation of green space and floodways. Similarly, flood risk reduction projects could improve or maintain water quality, while reducing potential flood damages. Agricultural activities in the region can result in both positive and negative impacts in that rice, crawfish farming, turf farming, and fallow fields all provide wildlife with habitat and these areas may also help reduce flood impacts since they offer large pervious areas for infiltration or storage. Temporary and localized impacts for all of these projects would be expected during construction, but implementation of BMPs and compliance with environmental regulations may reduce or eliminate substantial temporary impacts.

The Proposed Action, in conjunction with some of these past, present, and reasonably foreseeable actions, could contribute to potential cumulative impacts. All of these kinds of projects have the potential to help with flood risk reduction, so in combination with the

Proposed Action, cumulative effects should be beneficial. This is particularly true when considering proposed flood risk reduction efforts for Ditch 505 and South Nome, which are within the same watershed or drainage area. Also, the past action of Ditch 600 channel widening performed downstream of this Project would also yield positive cumulative effects in terms of flood risk reductions.

## AGENCY COORDINATION, PERMITS AND PUBLIC INVOLVEMENT

### Agency Coordination

Prior to the preparation of this EA, JCDD6 contracted Horizon to complete environmental work related to the Project. As such, agency coordination was handled by Horizon and is summarized below:

- General Land Office (GLO)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - GLO responded on January 29, 2021
- Jefferson County (Local Floodplain Administrator)
  - A letter was submitted requesting review and concurrence on January 12, 2021
- Natural Resources Conservation Service (NRCS)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - NRCS responded on July 12, 2022
- Texas Commission on Environmental Quality (TCEQ)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - TCEQ responded on February 4, 2021
- Texas Historical Commission (THC)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - THC responded on January 26, 2021
- Texas Parks and Wildlife Department (TPWD)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - TPWD responded on March 8, 2021
- Texas Water Development Board (TWDB)

- A letter was submitted requesting review and concurrence on January 12, 2021
- U.S. Army Corps of Engineers (USACE)
  - A letter was submitted requesting review and concurrence on January 12, 2021
  - USACE responded on May 17, 2022
- U.S. Fish and Wildlife Service (USFWS)
  - A letter was submitted requesting review and concurrence on January 12, 2021

During the preparation of EA, FEMA contacted the following Federally Recognized Tribes with interest for consultation and invited them to participate in a historical review process by assisting in identifying historical properties of interest within the Project Area:

- Kiowa Tribe,
  - Tonkawa Tribe
  - Jena Band of Choctaw Indians
  - Alabama-Coushatta Tribe of Texas
- Consultation letters were sent to the tribes on September 22, 2022
  - Tribes were given 30 days to respond and or identify possible historic properties effected by this Project

No responses were received from any of the tribes. The agency coordination letters and responses received are included in **Appendix C**.

### Permits

The TPDES CGP TXR150000 and SWPPP are the only required permits that have been identified for the Project. Based on the Project Area not existing within a FEMA-mapped floodplain, no LOMA or LOMR are required. The USACE has determined that no Section 404 permit is required.

Approval for the Project is being sought via FEMA through this EA in order to obtain FMA grant funding.

### Public Involvement

A Notice of Availability of the Draft EA will be published in the Beaumont Enterprise (**Appendix D**) and on FEMA's website (<https://www.fema.gov/emergency-managers/practitioners/environmental-historic/region/6>) requesting public comments. FEMA will consider and respond to all public comments in the Final EA. If no substantive comments are received for the Draft EA, then it will become final and a FONSI will be issued for the Project.

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