

THANK YOU FOR JOINING US

Our presentation will begin momentarily

Tangipahoa Parish, Louisiana Feasibility Study Draft Integrated Feasibility Report with Environmental Assessment

Available for Public Review and Comment August 9 – September 23, 2024

View and Download the draft report:

<https://www.mvn.usace.army.mil/About/Tangipahoa-Parish-Feasibility-Study/>



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Website



TANGIPAHOA PARISH, LA FEASIBILITY STUDY

Tuesday, August 27, 2024, at 2 p.m. and 6 p.m.

Tangipahoa Parish Government Building
15485 West Club Deluxe Road
Hammond, Louisiana 70403

Wednesday, August 28, 2024, at 6 p.m.

Ponchatoula Community Center
300 North 5th Street
Ponchatoula Louisiana 70454



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OPENING REMARKS



LTC Nathaniel Weander
District Deputy Commander
New Orleans District
United States Army Corps of Engineers



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AGENDA

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1. Welcome & Introductions
2. Meeting Purpose
3. National Environmental Policy Act (NEPA) Process
4. Project Introduction
5. Objectives
6. Alternatives Considered - Structural & Nonstructural
7. Tentatively Selected Plan
8. Project Schedule
9. Public Input Process



MEETING PURPOSE



- Present the Draft Integrated Feasibility Report with Environmental Assessment
 - Provide background on Study
 - Study updates on alternative analysis
 - Tentatively Selected Plan (TSP)
- Receive Public Comments
 - Comments received through September 23, 2024
 - Full participation is encouraged.



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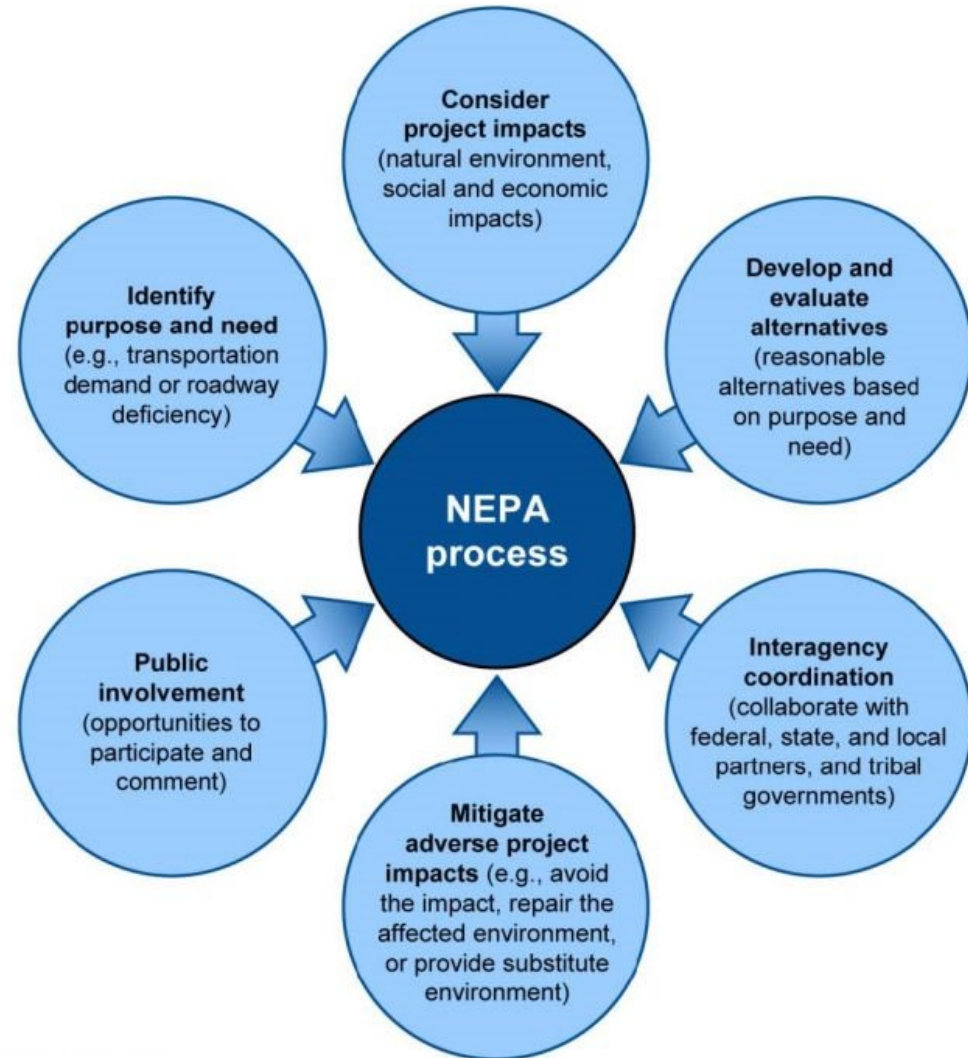
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

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Requires all federal agencies to:

- ❖ Consider the environmental impacts of any proposed action;
- ❖ Develop a range of alternatives;
- ❖ Provide opportunities for the public to provide input; and
- ❖ Document the decision-making process so that interested and affected stakeholders can understand how the agency came to a decision.



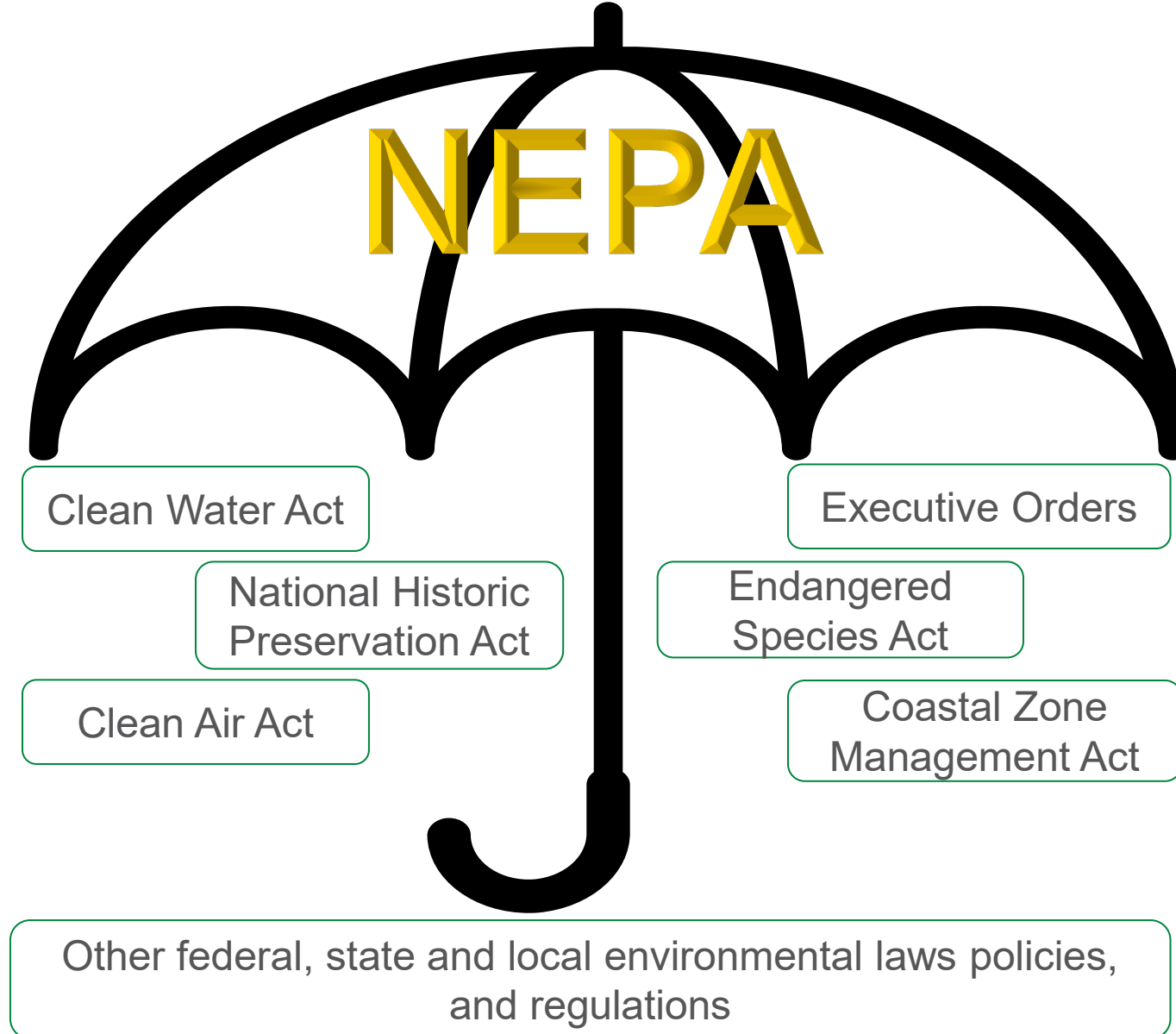
Source: GAO. | GAO-15-71



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THE NEPA UMBRELLA

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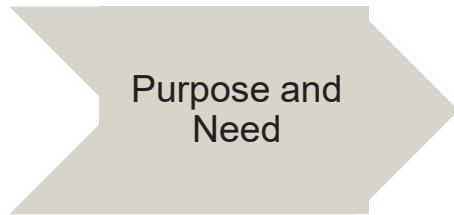


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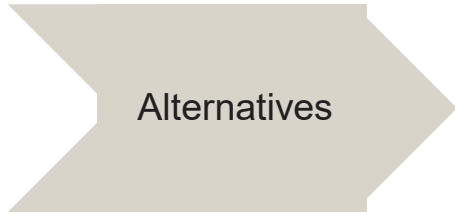
WHAT IS AN ENVIRONMENTAL ASSESSMENT (EA)?



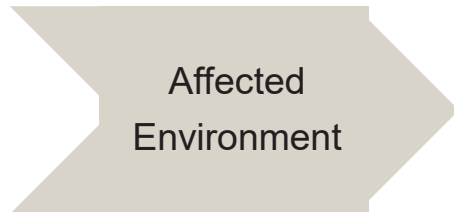
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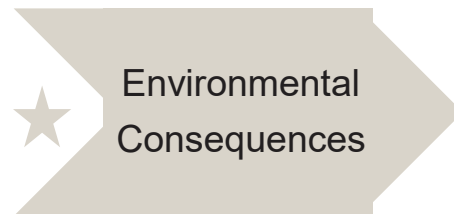
- What is the purpose of this project? What is the goal trying to be achieved?
- Why is this project needed? Is there a reasonable, foreseeable need for the proposed project?



- What alternatives will be looked at in the EA?



- What are the baseline conditions of the human and natural environment that could potentially be affected?



- How will building, operating, and maintaining this project affect those baseline conditions of the human and natural environment?

★ The public is given an opportunity to respond to the Draft EA. This is where we are today.



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45-DAY PUBLIC REVIEW PERIOD

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- The Draft EA is published for public review and comment. INSERT LINK TO FILE
- Your comments and input are **welcomed** and **encouraged**.
- Once comment period closes, study team will consider all substantive comments and, if necessary, conduct further analysis.
- The 45-day public comment period ends September 23, 2024.
- Responses to comments received during the comment review period will be included in the final EA.

Virtual Meeting

Tuesday, August 27, 2024, 6:00 p.m.

Tangipahoa Parish Government Building
15485 West Club Deluxe Road
Hammond, Louisiana 70403

Call In Meeting Information

www.Webex.com
1-844-800-2712 with Access Code:
2827 378 5117

Public Comments/Public Input

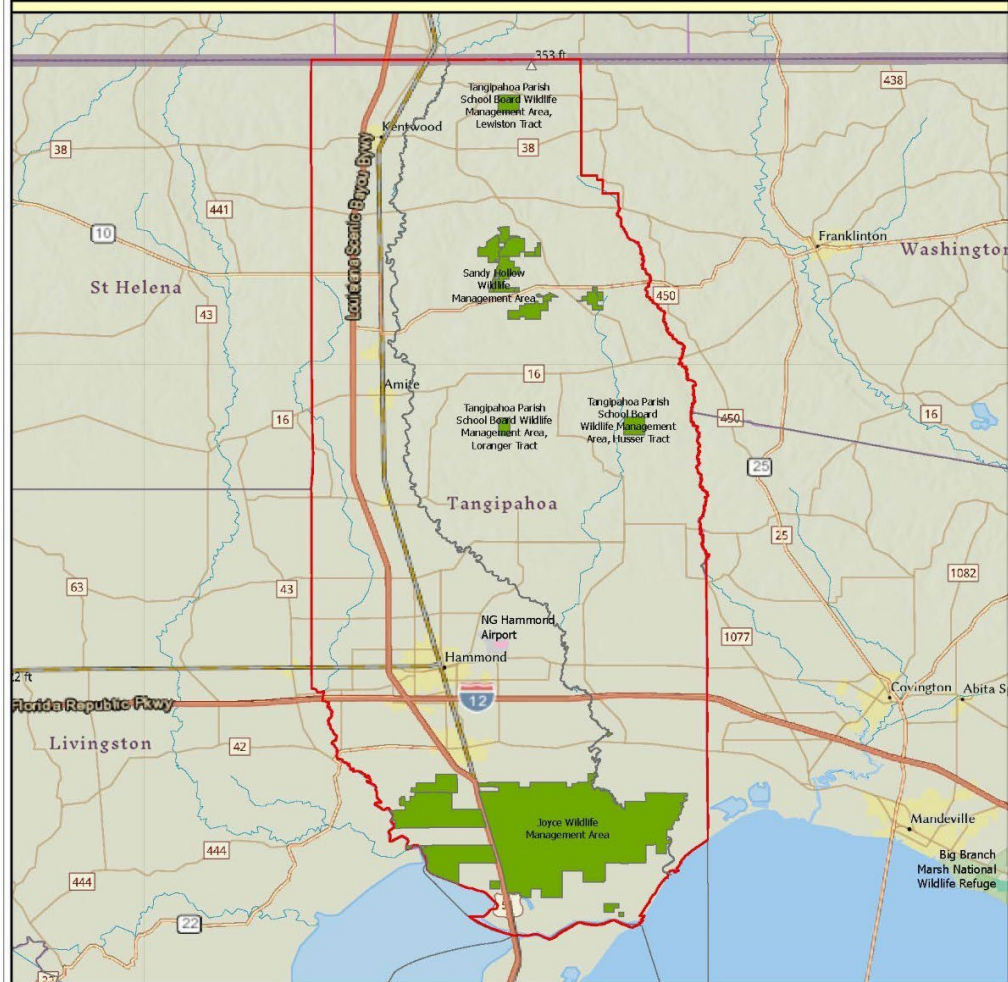
- **Traditional Mail:**
U.S. Army Corps of Engineers
St. Louis District (CEMVS), Room 3.200
Attention: Chief, Environmental Branch
1222 Spruce Street, St. Louis, MO 63103

- Email: tangipahoafs@usace.army.mil

Presentation will be available on YouTube and Facebook
@USACENOLA
Comments will be accepted through Sep. 23.

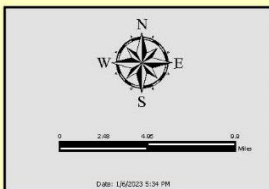


Tangipahoa Parish, Louisiana Flood Risk Management Study



Legend

- | | |
|---|---|
| Tangipahoa Parish Study Area | USA Federal Lands Department of Defense |
| Conservation Areas | Fish and Wildlife Service |
| Tangipahoa River | |



STUDY OVERVIEW



Authorization: Water Resources Development Act (WRDA) of 2020 for Flood Risk Management.

Non-Federal Sponsor:
Coastal Protection and Restoration Authority

Additional Resources Approved in April 2024

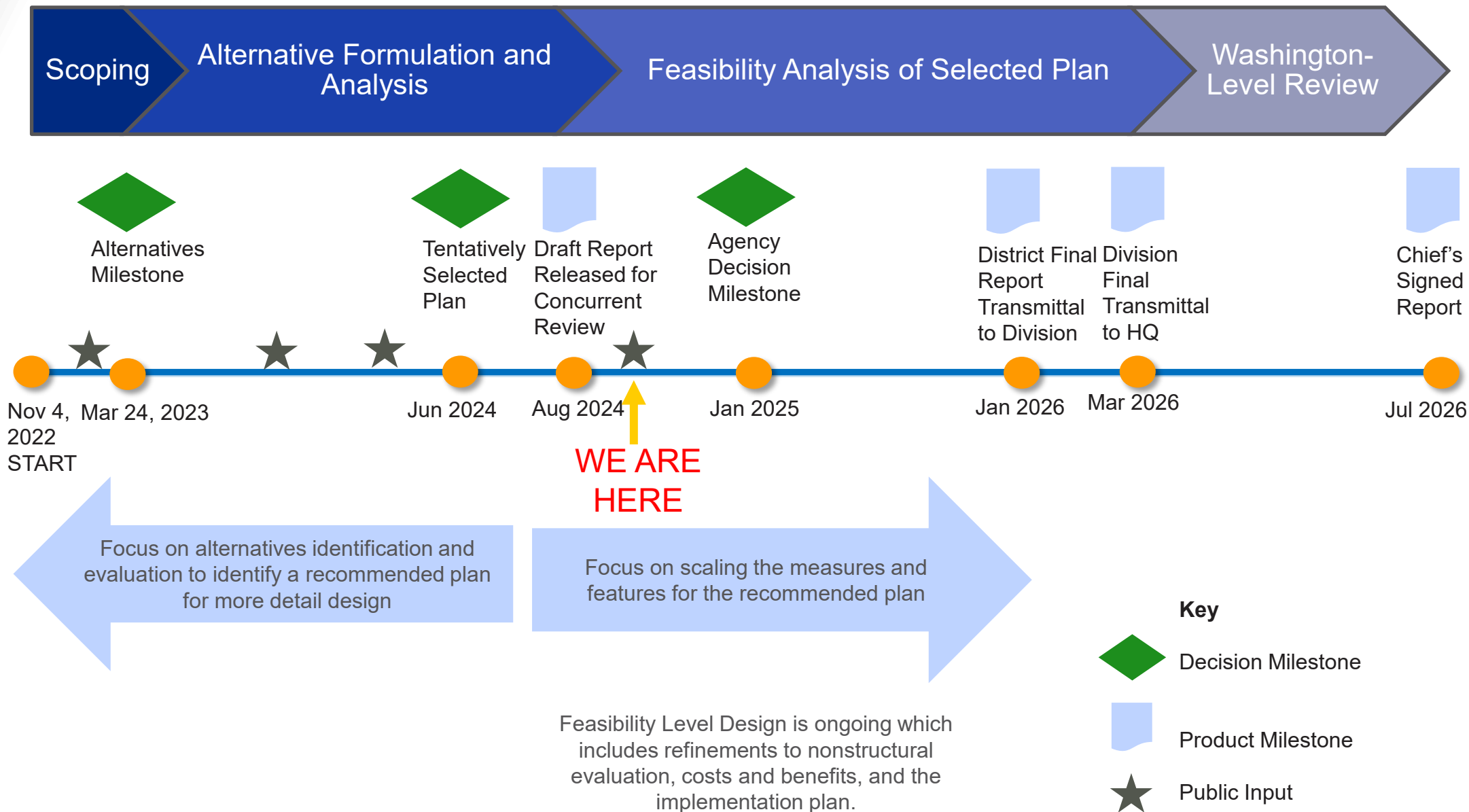
Funding: Federal funding through the Disaster Relief Supplemental Appropriations Act, 2022 Public Law 117-43 (DRSAA 22)



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PLANNING PROCESS

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FEDERAL INTEREST - STUDY SCOPE

Complex Study, Parish-wide with Multiple sources of flooding (riverine, coastal, urban, backwater, etc.)

Study Purpose is **Flood Risk Management (FRM)**
Scope also includes analysis of impacts caused by coastal flooding, such as storm surge and waves, where there is overlapping risk of riverine and coastal flooding. (Southern portion of Parish)

Channels with discharges greater than 800 cfs for the 10% Annual Exceedance Probability (AEP) event (10yr-flood) were examined.



Parish flooding, photo courtesy of abcnews.go.com

National Climate Data Center Shows the following major disaster declarations in Tangipahoa Parish since 2005:

- 2005 Hurricane Katrina
- 2005 Hurricane Rita
- 2008 Hurricane Gustav
- 2008 Hurricane Ike
- 2012 Hurricane Isaac
- 2016 March Floods
- 2016 August Floods
- 2020 Hurricane Laura
- 2021 Hurricane Ida



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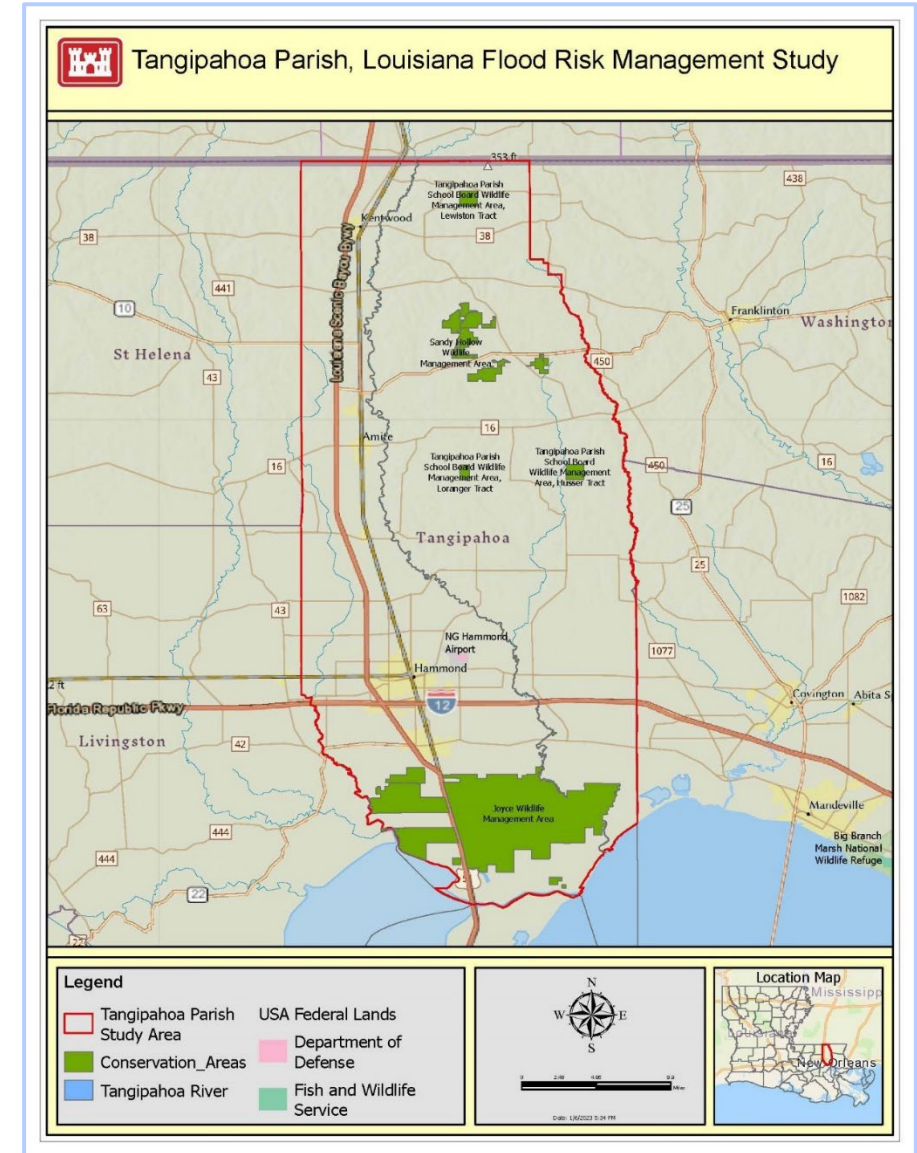
Reduce the risk to public safety associated with riverine flood impacts to residential and nonresidential structures, evacuation routes, and access to critical infrastructure.

Reduce economic loss due to flood damage to structures (i.e., businesses, residential, commercial, and public structures) from riverine flooding.

Reduce interruption of national transportation corridors, e.g., Interstates 55 & 12 during flood events.

Increase community resiliency, the sustained ability of a community to use available resources, before, during and after riverine flood events.

In conjunction with reducing flood risk and economic flood damages in the study area, act to benefit underserved communities and avoid disproportionate impacts to disadvantaged communities.





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COORDINATION



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Non-Federal Sponsor

- **Louisiana Coastal Protection and Restoration Authority Board (CPRA)**

Governmental Stakeholders

- Tangipahoa Parish Government
- Tribal Nations (specifically, the 11 that have expressed interests in the Parish)
- Natural Resource Agencies
- State of Louisiana Agencies
- Tangipahoa Drainage and Conservation District
- City Officials

EJ Outreach meetings were conducted with civic/non-profits organizations

Working closely with previous and ongoing studies, i.e., CPRA MP, Parish Plans



FLOODING IN THE PARISH



Flooding:

- Types of flooding in Parish that we are looking at are riverine, coastal surge, and compound flooding.
 - Compound flooding is the combination of riverine and coastal surge
- For compound flooding consideration, computed riverine inundation was merged with coastal surge inundation. In the areas where the flooding overlapped, the greater flood depths were taken

USACE Study Scope:

- Channels with discharges greater than 800 cfs for the 10% AEP event (10yr-flood) were examined.
 - Threshold for structural measure consideration
 - This means the main areas of interest are areas where the source of flooding is from the main rivers or larger tributaries
- Areas where flow is less than the threshold is considered local drainage
 - Out of scope for structural measures consideration
- Specific structural measures considered and designed for:
 - 1% AEP event (100yr-flood) for levees
 - 10% AEP event (10yr-flood) for detention basins



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RIVERS, STREAMS, AND CREEKS

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- 2 main watersheds in the Parish

- Tangipahoa River Watershed
- Natalbany River Watershed

- Major tributaries in the Parish

Terry's Creek, Beaver Creek, Big Creek, Chappepeela Creek, Washley Creek, Bedico Creek, Sims Creek, Little Natalbany River, Yellow Water River, Ponchatoula Creek, Selser's Creek

- March 2016 event was greater than 100yr (1% AEP) for the Lower Tangipahoa river system
- August 2016 event was greater than 500yr (0.2% AEP) for the Lower Tangipahoa river system

Modeled Flood Events	
AEP	Return Period*
50%	2-year
20%	5-year
10%	10-year
4%	25-year
2%	50-year
1%	100-year
0.5%	200-year
0.2%	500-year

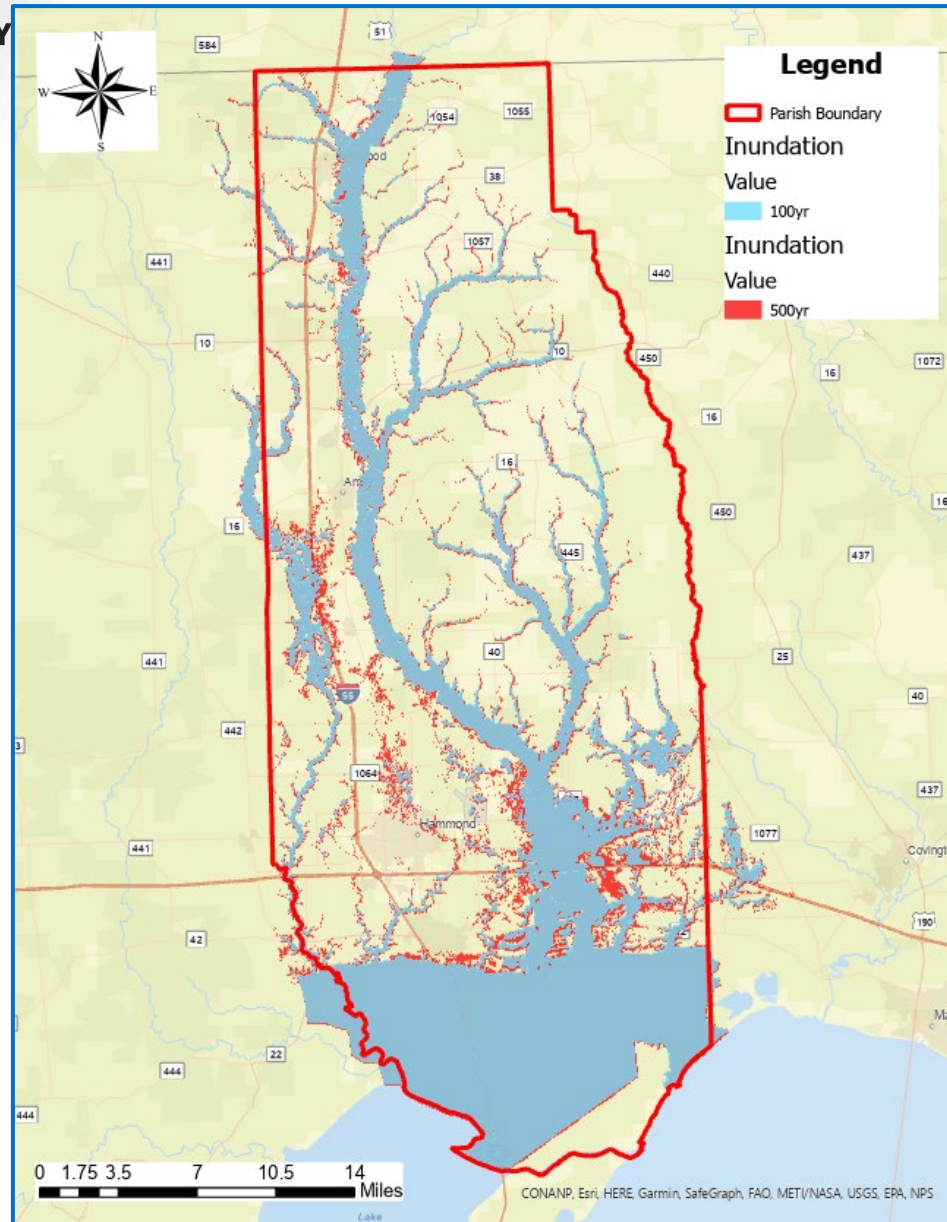




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BIG PICTURE FLOODING IN THE PARISH



- Most significant inundation along Tangipahoa River is between Robert and Lake Pontchartrain
- South of LA-22 to both Lakes is sometimes inundated by coastal surge
- Large amount of inundation and flood damage around Robert where Washley Creek comes into the Tangipahoa River
- Large amount of inundation on Natalbany River along I-55 corridor between Amite and Independence



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ALTERNATIVE FORMULATION

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Structural Measures

1. Detention Ponds
2. Diversion Channels
3. Bridge Improvements
4. Channel Improvements / Dredging
5. Elevate Roadway
6. Levees/Floodwalls / Water Control Structure
7. Reservoir
8. Revetment (shoreline)
9. Snagging and Clearing

Non-Structural Measures

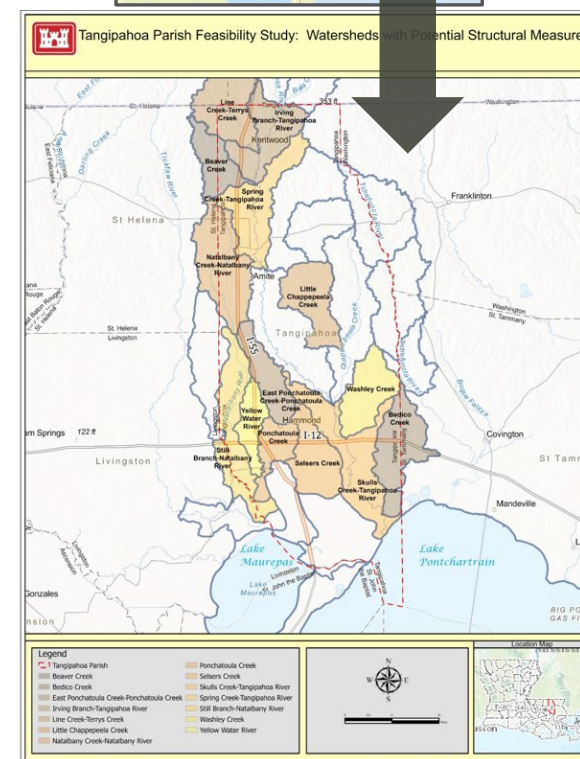
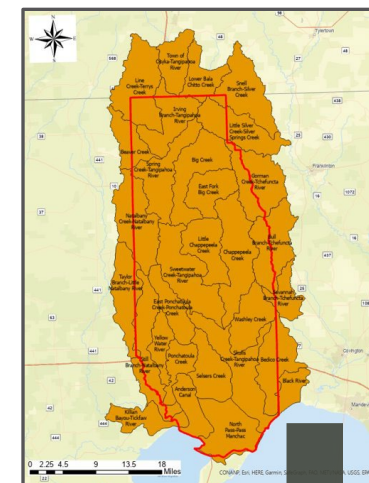
1. Elevation of Homes
2. Evacuation Plans
3. Flood Proofing Critical Infrastructure Dry
4. Flood Proofing Critical Infrastructure Wet
5. Flood Proofing Residential Dry
6. Flood Proofing Residential Wet
7. Flood Warning System
8. Optimize Operation of Existing Structures or Project
9. Property Acquisition Buyouts
10. Relocations

Natural and Nature Based Measures

1. Riparian Habitat to Slow Inland Water Transfer
2. Use of Abandoned Quarries as Flood Storage
3. Detention Ponds/Wetland Restoration
4. Reservoir and Habitat Creation
5. Beneficial Use of Dredge Material
6. Beneficial Use of Borrow Areas
7. Louisiana Watershed Initiative – Examples

- Evaluated each measure separately to determine if justified. Measures were combined based on HUCs to develop Alternatives through the plan formulation process.
- Depth of inundation, number of impacted structures, SV, life safety considered when looking into measures.
- Then evaluated, screened and compared measures within the 30 HUCs
- Structural, nonstructural and NNBF site-specific measures identified by utilizing H&H data, sponsor, Parish, stakeholders, prior reports, public scoping, subject matter expertise, etc.

All structural measures were screened mainly due to ineffectiveness at flood risk reduction and cost effectiveness





SCREENING CRITERIA



- Principles and Guidelines Criteria
 - Completeness
 - Effectiveness – Degree to which meets project objectives and avoids constraints
 - Efficiency - Cost Effectiveness
 - Acceptability – Laws and Regulations
- Risk Analysis
- Economic Benefits
- Environmental Resource Evaluations
- Impacts to Life Safety
- Social Effects Impacts
- Real Estate Impacts
- Contribution to Federal Objectives and Accounts



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NONSTRUCTURAL MEASURES

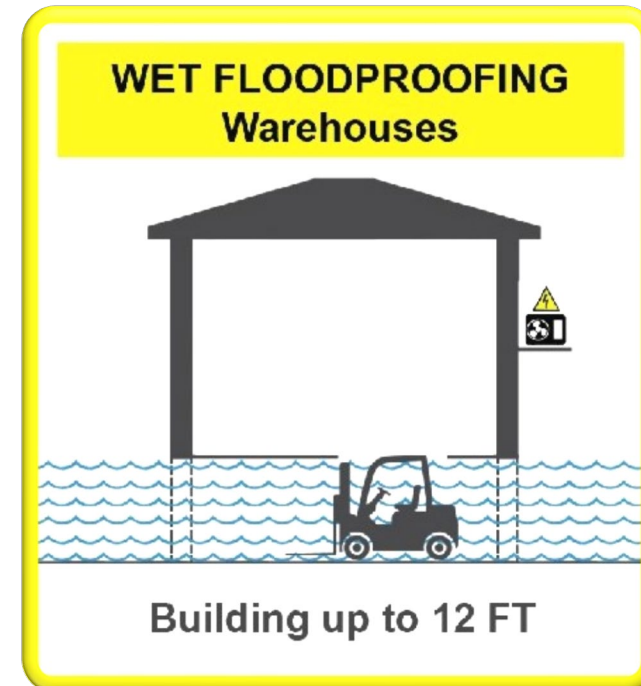
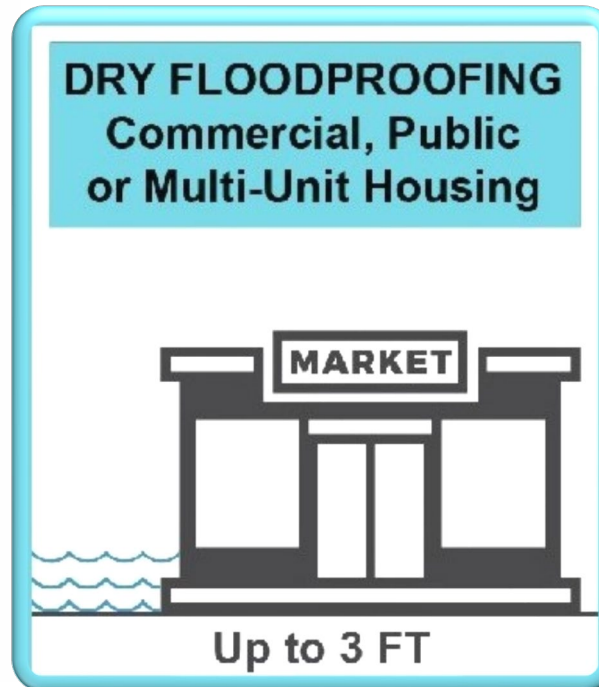
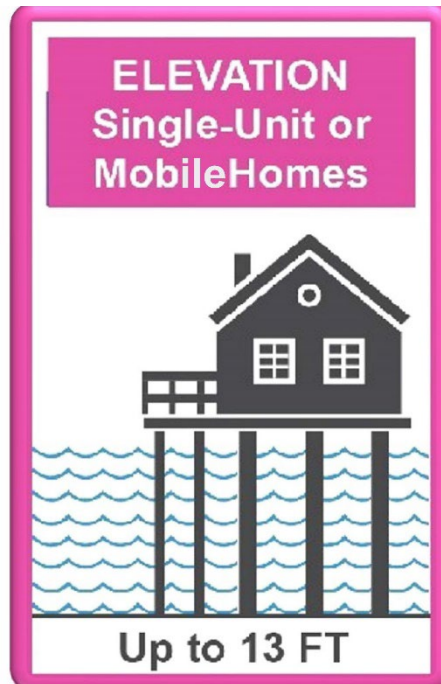
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Elevating residential structures

Flood proofing non-residential structures (Wet flood proofing/Dry flood proofing)

Other risk mitigation measures such as floodplain management plans



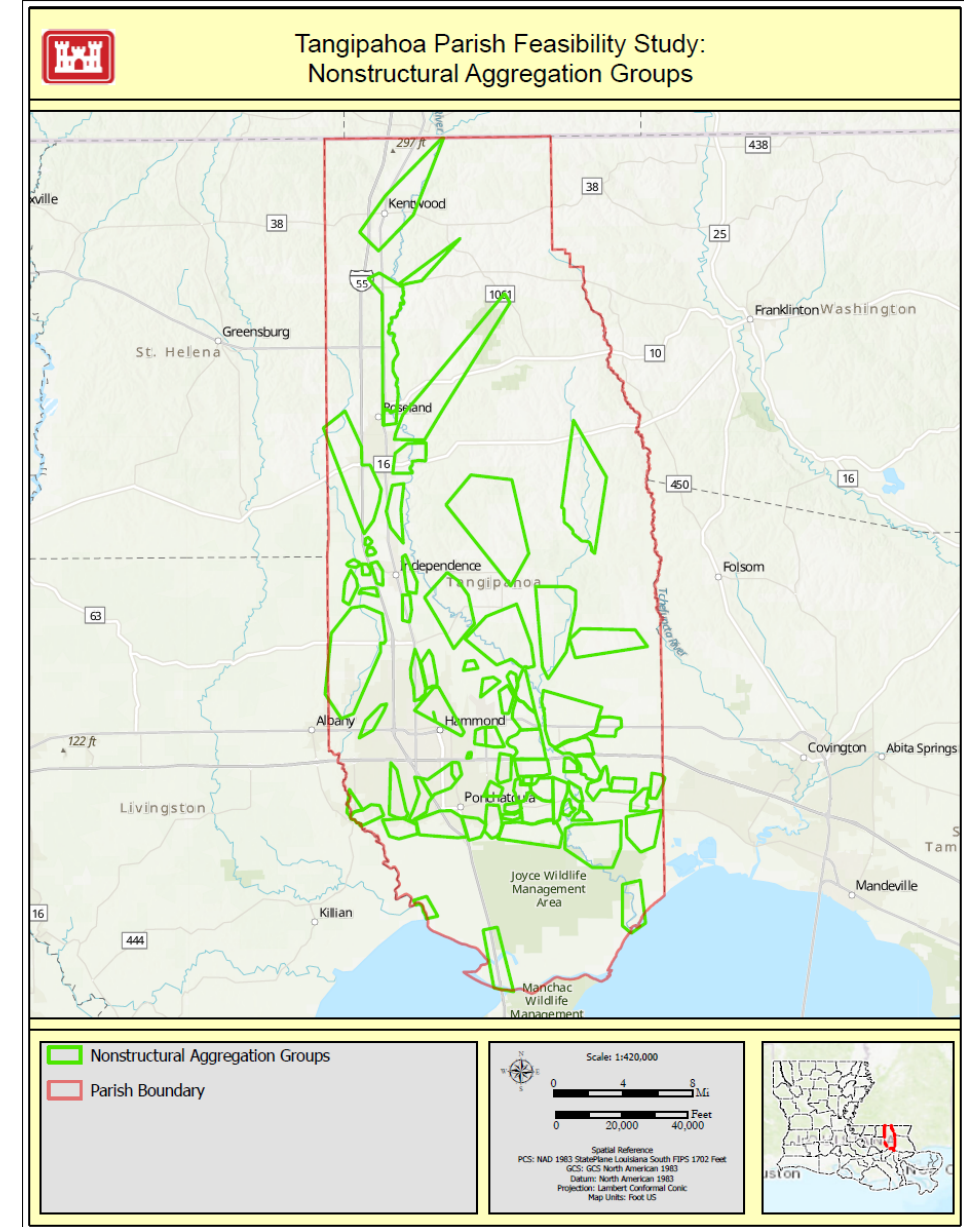
Total acquisition and relocation of structures in the study area were not cost effective and did not move forward.



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NONSTRUCTURAL PLAN DEVELOPMENT

- Logical Aggregation Methodology
- 62 Areas Identified
 - Hydraulic & Hydrologic Characteristics
 - Community Characteristics
- Identification of the number of structures in the 10, 25, 50-year floodplain
- Plan developed by identifying the highest net benefits by floodplain within each reach.



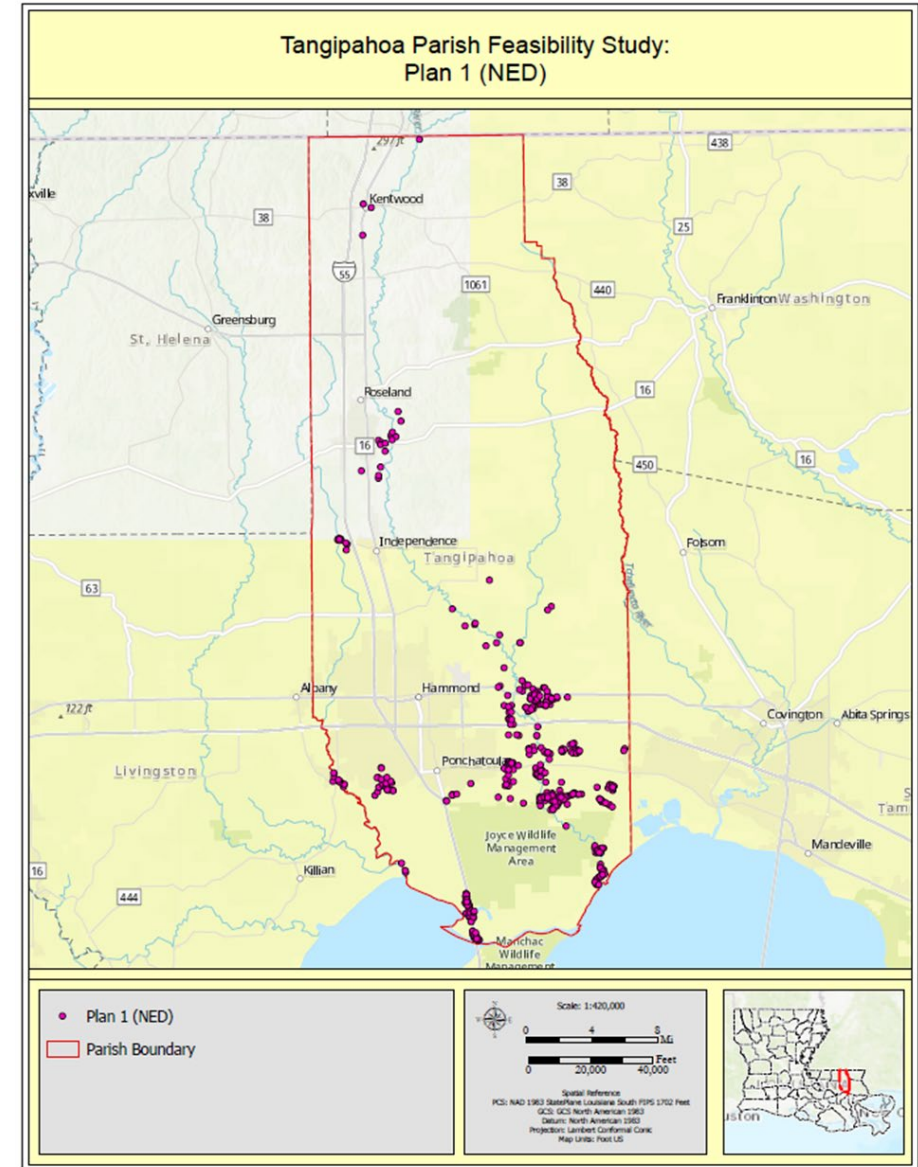
Plan 1:

National Economic Development (NED) Plan

The plan that reasonably maximizes net benefits when compared to costs

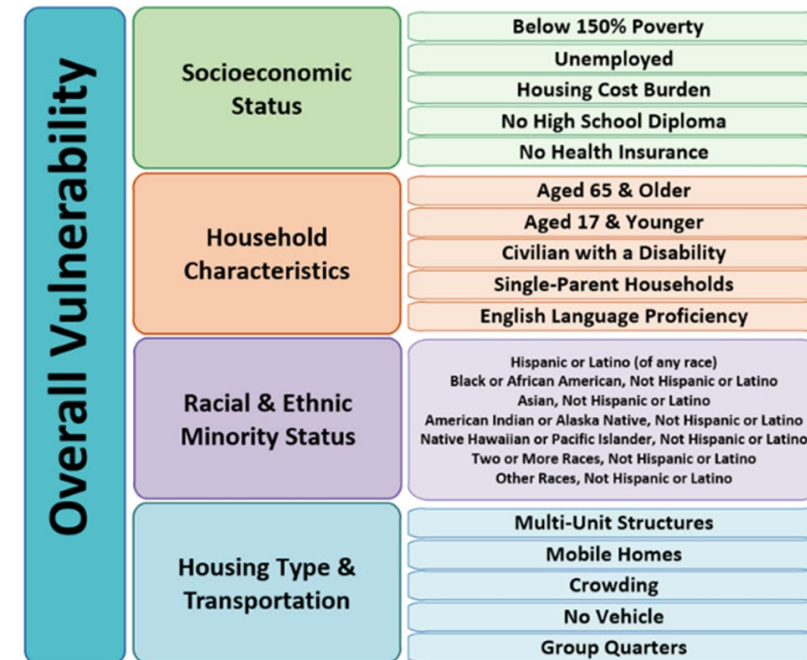
Total of 597 structures

- Elevating 539 residential structures
- Floodproof 58 nonresidential structures





- Additional plans were developed based on comprehensive benefits (non-monetary benefits).
- Evaluated benefits related to “Other Social Effects” (OSE), such as:
 - Number of Structures
 - Social Vulnerability
 - Community Cohesion
 - Critical Infrastructure
 - Community Resiliency





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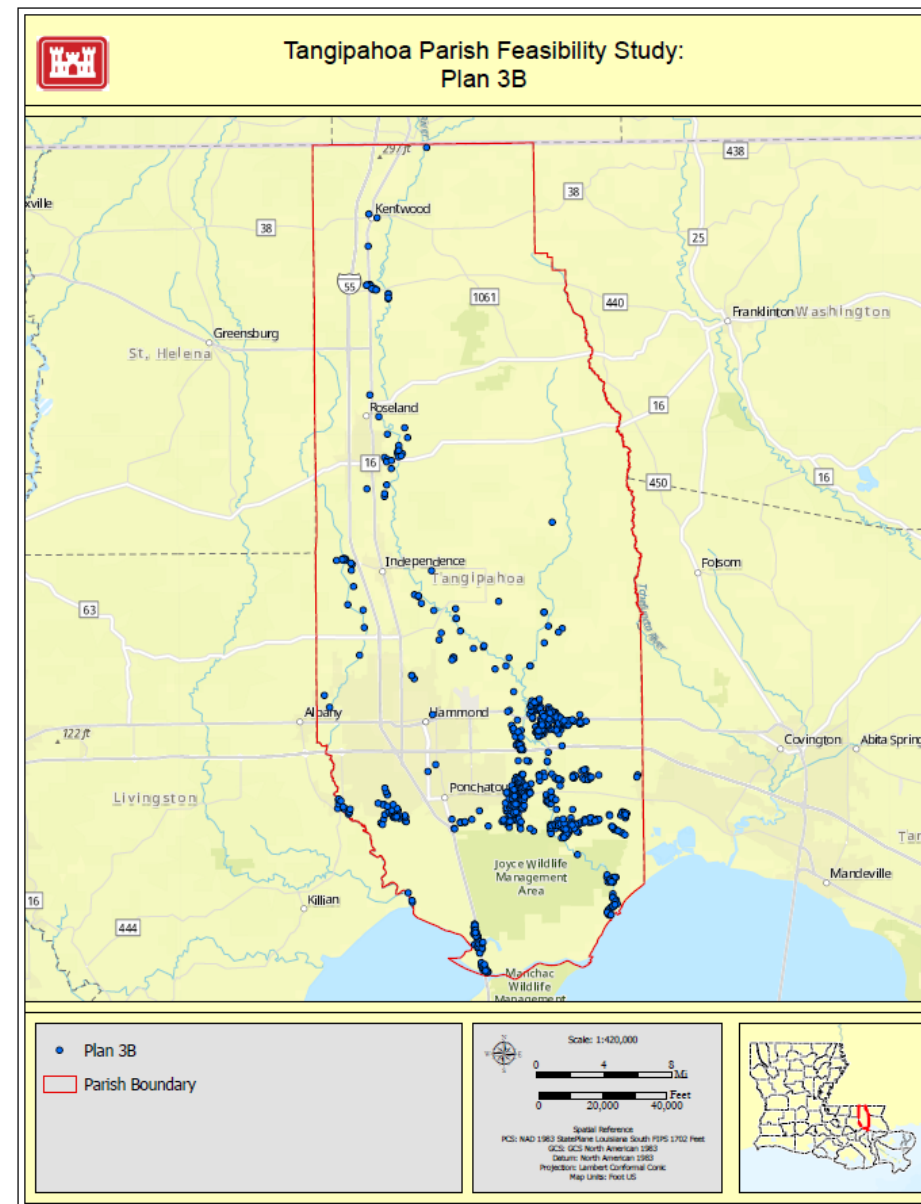
TENTATIVELY SELECTED PLAN

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Total Net Benefits Plan (Plan 3b)

- Includes 1,088 structures
 - Elevation of 1006 residential structures
 - Dry floodproofing of 87 nonresidential structures
- A policy exception must be granted to recommend the total net benefits plan. If not granted, the TSP will be the NED plan (Plan 1)
- Draft Plan and will undergo refinement





PLAN COMPARISON



Final Array	Plan 1	Plan 3a	Plan 3b	Plan 3c
Total Construction Cost	\$346,324,426	\$382,516,950	\$597,089,351	667,336,160
Annual Net Benefits	\$10,540,960	\$10,414,250	\$8,625,590	\$7,247,700
Benefit-to-Cost Ratio (BCR)	1.82	1.74	1.39	1.29
Total # Structures included in plan	597	675	1088	1234
Total # of Structures in Socially Vulnerable areas	480	546	860	952

NED Plan

TSP: Total Net Benefits Plan

A policy exception must be granted to recommend the total net benefits plan. If not granted, the TSP will be the NED plan.



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SCHEDULE TO COMPLETE

Activity	Approved Additional Resources Schedule
Feas. Cost Share Agreement (FCSA) Executed	4 November 2022
Alternatives Milestone	24 March 2023
ASA(CW) Approval of Additional Resources	26 April 2024
Tentatively Selected Plan Milestone	20 May 2024
Draft Report Release	09 August 2024
Agency Decision Milestone	27 January 2025
District Transmittal of Final Report	30 January 2026
MSC Transmittal of Final Report to HQUSACE	11 March 2026
Chief's Report	17 July 2026

★ Public Meetings February 2023

★ Public Meetings September 2023

★ Public Meetings August 2024



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INPUT WE NEED FROM YOU

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- Does the Tentatively Selected Plan (TSP) meet the needs of the community?
- Are there additional problems related to flooding in the project area that are not captured by nonstructural components of the TSP?
- Are there any modifications that could be made to the TSP to further reduce flooding?
- Is there anything in the draft report that needs further explanation in the final report?



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TO SUBMIT COMMENTS / PROVIDE INPUT

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Comments accepted now through September 23, 2024

To view and download the draft report:

<https://www.mvn.usace.army.mil/About/Tangipahoa-Parish-Feasibility-Study/>

- **Comment Cards Available Tonight**
- **Email:** TangipahoaFS@usace.army.mil
- **Mail to:**
U.S. Army Corps of Engineers
St. Louis District (CEMVS), Room 3.200
Attention: Chief, Environmental Branch
1222 Spruce Street, St. Louis, MO 63103

Website



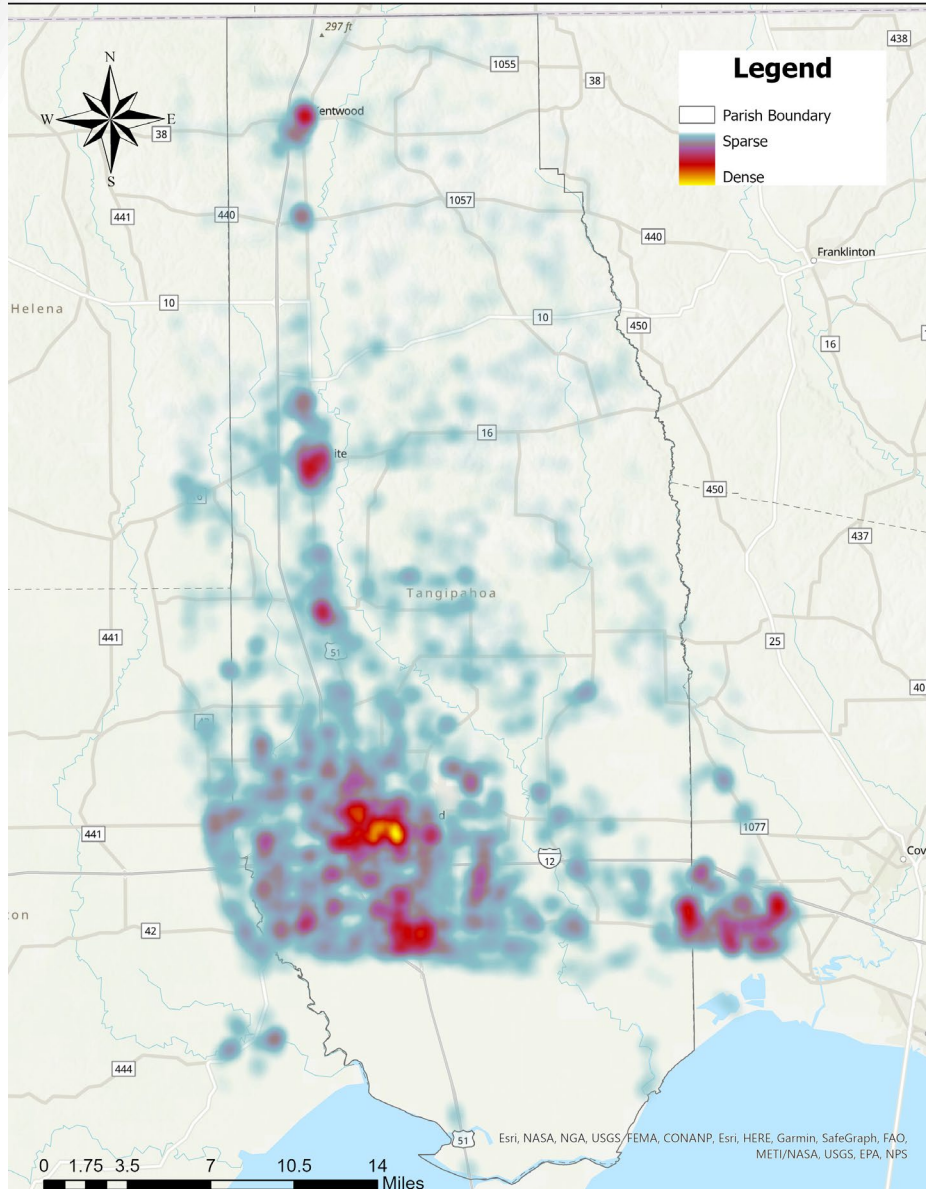
ADDITIONAL SLIDES



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TANGIPAHOA PARISH, LA STRUCTURE INVENTORY

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- What is the Structure Inventory?
- The Structure Inventory is a database of structures to facilitate the assessment and analysis of natural hazards.
- What is it used for?
 - Pairing this inventory with hydrologic and hydraulic data, it will help inform us as to which buildings are expected to experience flood damages and also to what extent



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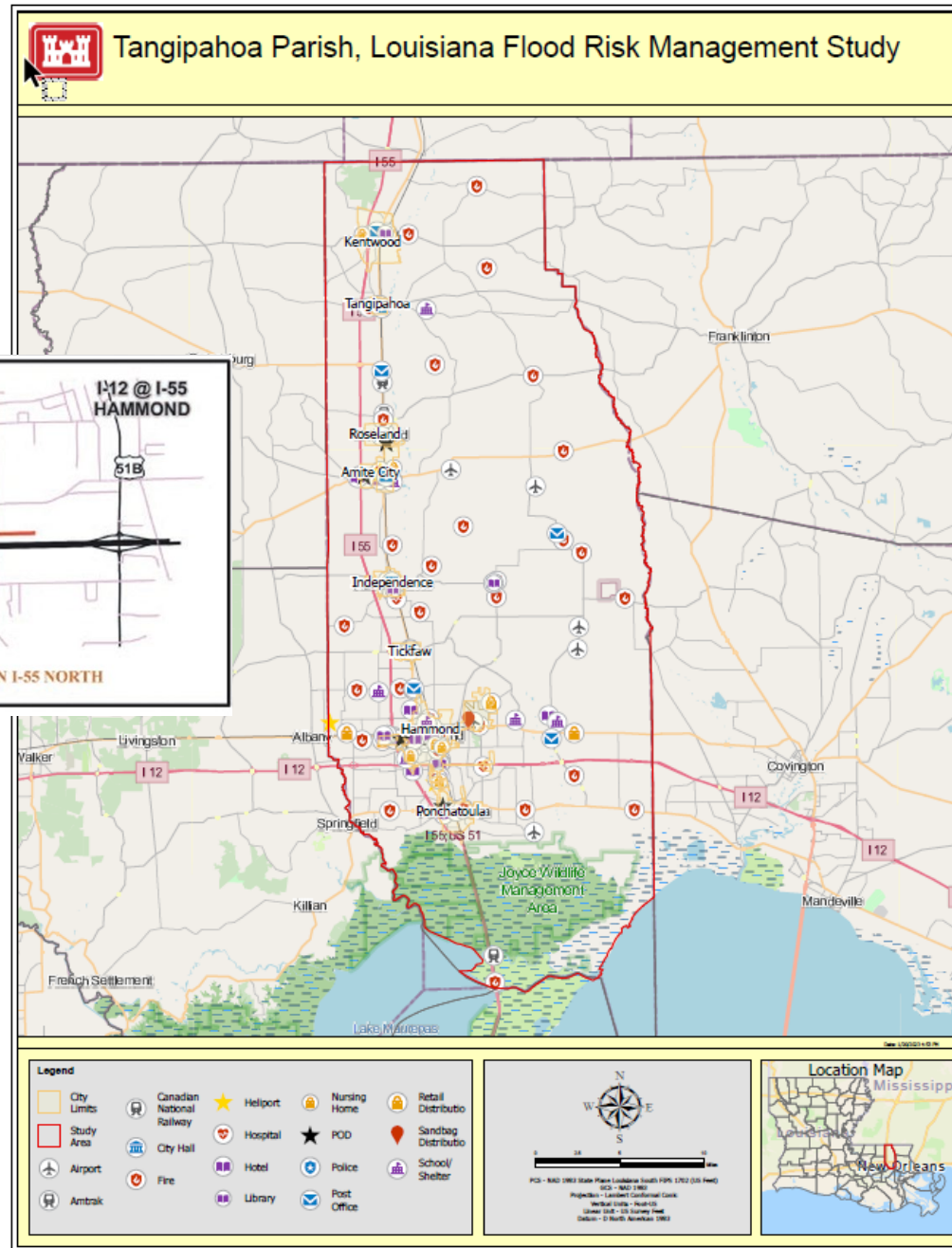
CRITICAL INFRASTRUCTURE



Southeastern Louisiana University, Hammond, LA



Flooding in School complex, Hammond, LA





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FUTURE WITHOUT PROJECT

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- Increased flood risk
 - Climate change impacts
 - Change in floodplain hydrology due to increase in development activities
- Anticipated effects
 - Sea level rise & impact on downstream boundary conditions
 - Subsidence and loss of coastal marsh
 - Changes in precipitation
 - Increased damages from tropical events
 - Potential changes in frequency and intensity
- CPRA Master Plan and Parish Plans (such as the Hazard Mitigation Plan)



EVALUATION CRITERIA AND METRICS



Evaluation Criteria	Evaluation Metrics
Efficiency (Cost-effectiveness)	Net benefits/BCR/cost per unit of benefit
Effectiveness	Damages, residual risk, transportation impacts reduced
Acceptability (Implementation)	Legal and Policy Compliant
Completeness	Presence of all measures necessary to produce stated benefits
Environmental Quality – Ecological and Aesthetic Environment	Environmental Benefits and Impacts
Environmental Quality – Natural and Scenic River	Impacts to permitted activities within State designated natural and scenic rivers
Environmental Quality – Tribal Interest and Cultural Resources	Benefits and impacts to historic and cultural resources
Other Social Effects (OSE) – Life Safety	Change in Life Risk from existing conditions (Life Loss, Depths/Velocities, Population at Risk)
Other Social Effects (OSE) – Environmental Justice	Benefits and impacts in disadvantaged communities
Others Social Effects (OSE) – Resiliency (Critical Infrastructure)	Residual risk and access to critical infrastructure
Regional Economic Development (RED)	Gross Regional Product/Jobs/Regional Output