LASALLE

PARISH HAZARD MITIGATION UPDATE – 2016

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LASALLE PARISH
HAZARD MITIGATION PLAN UPDATE

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LaSalle Parish

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Unincorporated LaSalle Parish
Town of Jena
Town of Olla
Town of Urania
Town of Tullos
Jena Band of Choctaw Indians

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The 2016 LaSalle Parish Hazard Mitigation Plan Update was written by the Stephenson Disaster Management Institute, Louisiana State University. Further comments should be directed to the LaSalle Parish Office of Homeland Security and Emergency Preparedness: 1050 Courthouse St. Room 24, Jena, LA 71342.

Contents

1. Introduction

Hazard Mitigation is defined as sustained actions taken to reduce or eliminate long-term risk from hazards and their effects. Hazard Mitigation Planning is the process through which natural hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies that would lessen the impacts are determined, prioritized, and implemented.

In that regard, this plan (a) documents the LaSalle Parish Hazard Mitigation Plan Update process; (b) identifies natural hazards and risks within the parish; and (c) identifies the parish's hazard mitigation strategy to make LaSalle Parish less vulnerable and more disaster resistant. It also includes mitigation project scoping to further identify the extent of work, estimated costs, and implementation timing requirements of proposed mitigation projects. Information in the plan will be used to help guide and coordinate mitigation activities and local policy decisions affecting future land use.

The LaSalle Parish Hazard Mitigation Plan is a multi-jurisdictional plan that includes the following jurisdictions which participated in the planning process:

- Unincorporated LaSalle Parish
- Town of Jena
- Town of Olla
- Town of Urania
- Town of Tullos
- Jena Band of Choctaw Indians

The Federal Emergency Management Agency (FEMA), now under the Department of Homeland Security, has made reducing losses from natural disasters one of its primary goals. The Hazard Mitigation Plan (HMP) and subsequent implementation of recommended projects, measures, and policies is the primary means to achieving these goals. Mitigation planning and project implementation has become even more significant in a post-Katrina and Rita environment in south Louisiana.

This Hazard Mitigation Plan is a comprehensive plan for disaster resiliency in LaSalle Parish. The parish is subject to natural hazards that threaten life and health and have caused extensive property damage. To better understand these hazards and their impacts on people and property, and to identify ways to reduce those impacts, the parish's Office of Homeland Security and Emergency Preparedness undertook this Natural Hazards Mitigation Plan.

"Hazard mitigation" does not mean that all hazards are stopped or prevented. It does not suggest complete elimination of the damage or disruption caused by such incidents. Natural forces are powerful and most natural hazards are well beyond our ability to control. Mitigation does not equal quick fixes. It is a long term approach to reduce hazard vulnerability. As defined by FEMA, "hazard mitigation" means any sustained action taken to reduce or eliminate the long-term risk to life and property from a hazard event.

Why this plan? Every community faces different hazards and every community has different resources and interests to bring to bear on its problems. Because there are many ways to deal with natural hazards and many agencies that can help, there is no one solution or "cookbook" for managing or mitigating their effects.

Planning is one of the best ways to correct these shortcomings and produce a program of activities that will best mitigate the impact of local hazards and meet other local needs. A well-prepared plan will ensure that

all possible activities are reviewed and implemented so that the problem is addressed by the most appropriate and efficient solutions. It can also ensure that activities are coordinated with each other and with other goals and programs, preventing conflicts and reducing the costs of implementing each individual activity.

Mitigation activities need funding. Under the Disaster Mitigation Act of 2000 (42 USC 5165), a mitigation plan is a requirement for federal mitigation funds. Therefore, a mitigation plan will both guide the best use of mitigation funding and meet the prerequisite for obtaining such funds from FEMA. FEMA also recognizes plans through its Community Rating System, a program that reduces flood insurance premiums in participating communities. This program is described at the end of Chapter 3: Capability Assessment.

This plan identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage caused by natural hazards. It fulfills the federal mitigation planning requirements, qualifies for Community Rating System credit, and provides the parish and its jurisdictions with a blueprint for reducing the impacts of these natural hazards on people and property.

Location, Demography, and Economy

Location

LaSalle Parish is located in east central Louisiana, northeast of Alexandria (*Figure 1-1*). Its location between Alexandria and Natchez has helped to make it a regional center of commerce and culture of central Louisiana. The Little River, Castro Creek, and Big Saline Bayou form the western border with Winn, Grant, and Rapides Parishes. Caldwell Parish is to the north and Catahoula Parish is to the east. To the south is Avoyelles Parish, located along Saline Lake.

Figure 1-1: Location of LaSalle Parish within the State of Louisiana

The main transportation arteries through LaSalle Parish are U.S. Highways 84 and 165, as well as State Highways 8, 28, 124, 125, 127, and 459. U.S. Highway 84 enters the parish from the east in Catahoula Parish, traveling northwest through Jena and into Winn Parish. U.S. Highway 165 runs in the northwest corner of the parish, from Grant Parish into Caldwell Parish. State Highway 8 enters the parish form Catahoula Parish on the northeast, runs through Jena, and then continues southwest into Grant Parish. State Highway 28 runs from Catahoula Parish into Rapides Parish, south of Catahoula Lake in the southern portion of LaSalle

Parish. State Highway 124 runs from Catahoula Parish westward through the northern portion of LaSalle into Winn Parish. State Highway 125 runs through Urania and Olla, and connects to U.S. Highway 165. State Highway 127 runs north from Jena into Olla, and runs south from Jena to Little River. State Highway 459 runs from Aimwell in Catahoula Parish into Jena.

LaSalle Parish consists of 640 square miles (408,320 acres) and is approximately 50 miles long by 26 miles wide. The geographical landscape of the parish varies. The northern part of the parish consists of upland hill terrain covered by slash pin and hardwood forests approximately 200 feet above sea level. In the south end of the parish, the land submerges into rich Mississippi River alluvial valley between Catahoula Lake and Saline Lake. LaSalle Parish is totally contained within the Ouachita Basin.

LaSalle Parish is located in Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) Region 6.

Figure 1-2: Louisiana Homeland Security Regions

Table 1-1: LaSalle Parish Population
(Source: U.S. Census Bureau)

	2010 Census	2013 Census	(Current Yr) Estimate	Percent Change 2010 - 2013	Percent Change 2010 - (Current Year)
Total Population	14,890	14,820	14,839	-0.50%	-0.30%
Population Density (Pop/Sq. Mi.)	23.8	___	___	___	___
Total Households	5,619	5,619	___	___	___

Economy

LaSalle Parish's location between Alexandria and Natchez, Mississippi has helped to make it a regional center of commerce and culture. Its early settlers were mostly devout Protestant pioneers who quickly established churches, schools, and broad field of cotton. This attitude of faith, education, and hard work prevails to this day.

Of all the resources of LaSalle Parish, the most remarkable is the proud spirit of the population. Hard working people with an agricultural background, they have learned to respect the natural resources such as the land and the water. As the great transportation corridors have linked them to the nearby urban areas, they have taken advantage of their location and have diversified their industries, broadened the educational base of the population, and drawn cultural amenities beyond the capability of most communities of its size, while being ever mindful of the effect of the growth on their rural values.

Unlike early settlers, modern-day residents are engaged in farming, with a substantial percentage of the parish's economy resulting from agricultural production. Principal crops include cotton, peanuts, corn, and sweet potatoes. The parish also receives revenue from the cattle, forestry, and petroleum industries. LaSalle Parish has a rich history that reflects two industries crucial to Louisiana's development – Olla's oil fields and Urania's lumber industry. Tough economic times have silenced Urania's manufacturing plants now, but the plants remain poised to reopen when needed. Additionally, the once lucrative lumber industry has left the parish.

Industry data for business patterns in LaSalle Parish can be found in the table below:

Table 1-2: Business Patterns in LaSalle Parish
(Source: http://censtats.census.gov/cgi-bin/cbpnaic/cbpsect.pl)

Business Description	Number of Employees	Number of Establishments	Annual Payroll ($1,000)
Retail Trade	573	53	12,475
Manufacturing	20-99	5	___
Health Care and Social Assistance	776	21	25,640
Mining, Quarrying, Oil and Gas Extraction	501	35	26,398
Transportation and Warehousing	49	9	2,459
Construction	100-249	12	4,303
Administration and Support and Waste Management and Remediation Services	250-499	11	___
Real Estate and Rental and Leasing	20-99	9	916
Wholesale Trade	100-249	9	___
Other Services (except Public Administration)	197	33	6,907
Accommodation and Food Services	234	14	2,589
Financial and Insurance	149	22	4,925
Professional, Scientific, and Technical Services	100-249	109	6,417
Information	20-99	4	___
Educational Services	0-19	1	___
Arts, Entertainment, and Recreation	0-19	2	___
Agriculture, Forestry, Fishing and Hunting	85	7	2,999
Utilities	0-19	2	___

While nature has presented the parish with a variety of hazards, the parish has the human resources that can face those hazards and manage the impact they have on people and property. This plan will discuss hazards affecting LaSalle Parish. Hazard Profiles (see Section Two) contain detailed information on the likelihood of occurrence, possible magnitude or intensity, areas of the parish that could be affected, and conditions that could influence the manifestation of the hazard.

Hazard Mitigation

To fully understand hazard mitigation efforts in LaSalle Parish and throughout Louisiana, it is first crucial to understand how hazard mitigation relates to the broader concept of emergency management. In the early 1980s, the newly-created Federal Emergency Management Agency (FEMA) was charged with developing a structure for how the federal, state, and local governments would respond to disasters. FEMA developed the f*our phases of emergency management*, an approach which can be applied to all disasters. The four phases are as follows:

- **Hazard Mitigation**—described by FEMA and the Disaster Mitigation Act of 2000 (DMA 2000) as "any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event." The goal of mitigation is to save lives and reduce property damage. Besides significantly aiding in the obviously desirous goal of saving human lives, mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities and minimize community disruption, helping communities return to usual daily living in the aftermath of disaster. Examples of mitigation involve a range of activities and actions including the following: land-use planning, adoption and enforcement of building codes, and construction projects (e.g., flood proofing homes through elevation, or acquisition or relocation away from floodplains).
- **Emergency Preparedness**—includes plans and preparations made to save lives and property and to facilitate response operations before a disaster event.
- **Disaster Response**—includes actions taken to provide emergency assistance, save lives, minimize property damage, and speed recovery immediately following a disaster.
- **Disaster Recovery**—includes actions taken to return to a normal or improved operating condition following a disaster.

Figure 1-3 illustrates the basic relationship between these phases of emergency management. While hazard mitigation may occur both before and after a disaster event, it is significantly more effective when implemented before an event occurs. This is one of the key elements of this plan and its overall strategy: reduce risk before disaster strikes in order to minimize the need for post-disaster response and recovery.

Figure 1-3: The Four Phases of Emergency Management and their Relation to Future Hazard Mitigation
(Source: Louisiana State Hazard Mitigation Plan 2014)

As *Figure 1-3* demonstrates, mitigation relies on updating in the wake of disaster. This can give the appearance that mitigation is only reactive rather than proactive. In reality, however, post-disaster revision is a vital component of improving mitigation. Each hazardous

event affords an opportunity to reduce the consequences of future occurrences.

Unfortunately, this cycle can be painful for a community. For instance, the risks of disasters that could create catastrophic incidents in Louisiana were thought to be relatively well-understood prior to 2005. However, the impact of the 2005 hurricane season on the Gulf Coast region of the United States prompted a new level of planning and engagement related to disaster response, recovery, and hazard mitigation. Hurricanes Katrina and Rita hit three weeks apart and together caused astonishing damage to human life and to property. The two storms highlighted a hurricane season that spawned 28 storms—unparalleled in American history. The 2005 hurricane season confirmed Louisiana's extreme exposure to natural disasters and both the positive effects and the concerns resulting from engineered flood-protection solutions.

The catastrophic events of 2005 had profound impacts on emergency management and hazard mitigation throughout Louisiana. As detailed later in this document, significant funding has been made available to the State of Louisiana and its parishes for the purpose of hazard mitigation planning. The storms also raised awareness of the importance of hazard mitigation among decision-makers and the general population, which has been particularly important since natural hazards will likely be increasing in frequency, magnitude, and impact in the coming years due to climate change.

General Strategy

During the last update to the Louisiana State Hazard Mitigation Plan, the State Hazard Mitigation Team (SHMT) began a long-term effort to better integrate key components of all plans with hazard mitigation implications in Louisiana to ensure that the programs, policies, recommendations, and implementation strategies are internally consistent. As each of these documents has been adopted by various agencies within the state, the SHMT has worked to incorporate this information into the decision process.

Part of the ongoing integration process is that GOHSEP encourages the parishes and the local municipalities with independent hazard mitigation plans to utilize the same plan format and methodologies as the State Hazard Mitigation Plan in order to create continuity of information from local to state mitigation plans and programs.

The 2016 LaSalle Parish Hazard Mitigation Plan maintains much of the information from the 2006 and 2011 plan versions, but it now reflects the order and methodologies of the 2011 Louisiana State Hazard Mitigation Plan.

The sections in the 2011 LaSalle Hazard Mitigation Plan were as follows:

- Section One Introduction
- Section Two Parish Profile
- Section Three Planning Process
- Section Four Risk Assessment
- Section Five Mitigation Strategy
- Section Six Plan Maintenance Procedures
- Section Seven Action Plan
- Tables
- Appendices

This plan update now also coheres with the Plain Writing Act of 2010, which requires federal agencies to use clear communication that is accessible, consistent, understandable, and useful to the public. While the state of Louisiana and its political subdivisions are not required to meet such standards, the Act aligns with best

practices in hazard mitigation. Since successful hazard mitigation relies on full implementation and cooperation at all levels of government and community, a successful hazard mitigation plan must also be easily used at all of these levels. Nevertheless, the LaSalle Parish Hazard Mitigation Steering Committee was not ignorant or dismissive of the successful analysis and mitigation planning executed in previous plan updates. This plan update remains coherent with those documents, retaining language and content when needed, deleting it when appropriate, and augmenting it when constructive.

2016 Plan Update

This 2016 plan update proceeds with the previous goals of the LaSalle Parish Hazard Mitigation Plan. The current goals are as follows:

- Identify and pursue preventative measures that will reduce future damages from hazards
- Enhance public awareness and understanding of disaster preparedness
- Reduce repetitive flood losses in the parish and municipalities
- Facilitate sound development in the parish and municipalities so as to reduce or eliminate the potential impact of hazards

This plan update makes a number of textual changes throughout, but the most obvious changes are data related and structural edits. First, the Spatial Hazard Events and Losses Database for the United States (SHELDUS) was used as a data source for hazard identification because it incorporates all storm event data from the National Climatic Data Center (NCDC) Storm Events Database used in previous plans, as well as storm event data from other sources including the NOAA Storm Prediction Center, National Hurricane Center, and U.S. Fire Administration. Furthermore, all of the sections were updated to reflect the most current information and the most current vision of the plan update. Second, instead of nine separate sections for numerous tables, maps, and appendices, the present plan update has four sections and five appendices. The most significant changes are the newly developed hazard profiles and risk assessments, as well as the removal of repetition between sections from the previous plan updates.

The 2016 plan update is organized generally as follows:

- Section One Introduction
- Section Two Hazard Identification and Parish wide Risk Assessment
- Section Three Capability Assessment
- Section Four Mitigation Strategy
- Appendix A Planning Process
- Appendix B Plan Maintenance
- Appendix C Essential Facilities
- Appendix D Plan Adoption
- Appendix E State Required Worksheets

Table 1-4: Plan Crosswalk

2011 Plan	Revised Plan (2016)
Section 1: Introduction	Section 1: Introduction
Section 2: Parish Profile	Section 1: Introduction
Section 3: Planning Process	Appendix A: Planning Process
Section 4: Risk Assessment	Section 2: Hazard Identification and Risk Assessment, Section 3: Capability Assessment
Section 5: Mitigation Strategy	Section 4: Mitigation Strategy
Section 6: Plan Maintenance Procedures	Appendix B: Plan Maintenance
Tables and Appendices	Appendices C, D, E

Despite changes in this plan update, the plan remains consistent in its emphasis on the few types of hazards that pose the most risk to loss of life, injury, and property in LaSalle Parish and its municipalities. The extent of this risk is dictated primarily by its geographic location. Most significantly, LaSalle Parish remains at high risk of water inundation from various sources, including flooding, tornadoes, and tropical cyclone activity. All of the parish is also at high risk of damages from high winds and wind-borne debris caused by various meteorological phenomena. Other hazards threaten the parish and/or its municipalities, although not to such great degrees and not in such widespread ways. In all cases, the relative social vulnerability of areas threatened and affected plays a significant role in how governmental agencies and their partners (local, parish, state, and federal) prepare for and respond to disasters.

Mitigation efforts related to particular hazards are highly individualized by jurisdiction. Flexibility in response and planning is essential. The most important step forward to improve hazard management capability is to improve coordination and information sharing between the various levels of government regarding hazards.

LaSalle Parish, the jurisdictions, and the Indian Tribal government will continue to comply with all applicable Federal statutes and regulations during the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c).

2. Hazard Identification and Parish-Wide Risk Assessment

This section assesses the various hazard risks that LaSalle Parish faces in order to identify a strategy for mitigation. Having identified the categories of hazards, emergencies, disasters, and catastrophes, this section details the major climatological and natural/human-influenced hazards by (1) defining them, (2) explaining how they are measured, (3) describing their geographic extent, (4) surveying their previous occurrences, and (5) evaluating their future likelihood of occurrences.

The table below provides an overview of the hazards that had been previously profiled in the LaSalle Parish Hazard Mitigation Plan published in 2010, as well as the hazards that were identified in the state's 2014 Hazard Mitigation Plan that were considered to be of high or medium risk for the parish by the state. Those hazards identified as high or medium risk by the state or previously identified as a risk by the parish, have been determined to provide a risk to the parish and will be profiled in this section.

Table 2-1: Hazard Profile Summary

Hazard	Profiled in Last Plan	Considered Medium or High Risk in the State's HM Plan	Profiled in the 2016 Update
Subsidence/Coastal Land Loss			
Drought	X		X
Earthquakes			
Expansive Soils			
Fog			
Flooding	X	X	X
Extreme Heat			
Sinkholes		X	
Thunderstorms (Hail, Lightning, & Wind)	X	X	X
Tornadoes	X	X	X
Tropical Cyclones	X	X	X
Tsunamis			
Wildfires	X		X
Winter Storms	X		X

Prevalent Hazards to the Community

While many of the hazards identified in *Table 2-1* occur in the parish, their occurrence was not merited for further study by the planning committee. The determination was made to focus attention and resources on the most prevalent hazards, which include the hazards previously profiled.

The following hazards have been selected to be included in this risk assessment:

a) Drought
b) Flooding (backwater, riverine, localized stormwater event)
c) Thunderstorms (hail, lightning, wind)
d) Tornadoes
e) Tropical Cyclones (flooding and high winds)
f) Wildfires
g) Winter Storms

For analysis purposes, the impact of the critical and prevalent hazards is summarized as follows:

- Flooding from rivers and waterways, rain storms, tropical cyclones, and hurricanes in the following forms:
  a) Riverine
  b) Stormwater
  c) Surge
  d) Backwater flooding (as the result of river flooding and surge)
- High wind damage most commonly resulting from hurricanes, thunderstorms, and tornadoes
- Property and crop damage resulting from drought and wildfires

The potential destructive power of tropical cyclones and flooding were determined to be the most prevalent hazards to the parish. Seventeen of the eighteen Presidential Declarations that LaSalle Parish has received have resulted from either flooding (12 declarations) or tropical cyclones (5 declarations), which validates these as the most significant hazards. Therefore, the issues of tropical cyclones and flooding will both serve as the main focus during the mitigation planning process. Hurricanes present risks for the potential for flooding, primarily resulting from storm surge, and high wind speeds. While storm surge is considered the hazard with the most destructive potential, the risk assessment will also assess non-storm surge flooding as well. Flooding can also occur from non-hurricane events, as flash floods are a common occurrence due to heavy rainfall.

Hurricanes, tropical storms, and heavy storms are fairly common occurrences, and resultant wind damage is of utmost concern. Damage from high winds can include roof damage, destruction of homes and commercial buildings, downed trees and power lines, and damage and disruption to services caused by heavy debris. A wind map for LaSalle Parish is included in the tropical cyclone risk assessment.

LaSalle Parish is also susceptible to tornadoes. Tornadoes can spawn from tropical cyclones or severe weather systems that pass through LaSalle Parish. High winds produced by tornadoes have the potential to destroy residential and commercial buildings, as well as create wind-borne objects from the debris produced by the destruction of the natural and human environment, such as building materials and trees.

Previous Occurrences

Table 2-2 summarizes federal disaster declarations for LaSalle Parish since 1965. Information includes names, dates, and types of disaster.

Table 2-2: LaSalle Parish Major Disaster Declarations

Disaster Declaration Number	Date	Type of Disaster
374	4/27/1973	Severe Storms, Flooding
418	2/23/1974	Severe Storms, Flooding
3011	4/12/1975	Severe Storms, Flooding
470	6/6/1975	Tornadoes, Flooding
3031	2/22/1977	Drought and Freezing
584	5/2/1979	Severe Storms, Flooding
675	1/11/1983	Severe Storms, Flooding
804	11/30/1987	Tornadoes and Flooding
829	5/20/1989	Severe Storms, Flooding
904	5/3/1991	Severe Storms, Tornadoes, and Flooding
1437	10/3/2002	Tropical Cyclone – Hurricane Lili
1603	8/29/2005	Tropical Cyclone – Hurricane Katrina
1607	9/24/2005	Tropical Cyclone – Hurricane Rita
1668	11/2/2006	Severe Storms, Flooding
1786	9/2/2008	Tropical Cyclone – Hurricane Gustav
3322	5/6/2011	Severe Storms, Flooding
4015	8/18/2011	Severe Storms, Flooding
4080	8/29/2012	Tropical Cyclone – Hurricane Isaac

Probability of Future Hazard Events

The probability of a hazard event occurring in LaSalle Parish is estimated in the table on the following page. The percent chance of an event happening during any given year was calculated by posting past events and dividing by the time period. Unless otherwise indicated, the time period used to access probability followed the method used in the State of Louisiana's most current Hazard Mitigation Plan. The primary source for historical data used throughout the plan is the Spatial Hazards Events and Losses Database (SHELDUS), which provides historical hazard data from 1960 to 2014. In staying consistent with the state plan, the SHELDUS database was evaluated for the last twenty five years (1989 – 2014) in order to determine future probability of a hazard occurring. While the 25-year record used by the State was adopted for the purpose of determining the overall probability, in order to assist with determining estimated losses, unless otherwise stated, the full 54-year record was used when Hazus-Multi-Hazard (MH) wasn't available to determine losses. This full record was used to provide a more extensive record to determine losses. All assessed damages were adjusted for inflation in order to reflect the equivalent amount of damages with the value of the U.S. dollar today. In addition, the National Climatic Data Center (NCDC) was also used to help identify hazard data specific to the municipalities. This was used due to it containing specific data for cities, whereas the data within SHELDUS is limited to parishes.

The following table shows the annual probability for each hazard occurring across the parish and in separate jurisdictions:

Table 2-3: Probability of Future Hazard Reoccurrence

Hazard	Probability					
	LaSalle Parish (Unincorporated)	Jena	Olla	Tullos	Urania	Jena Band of Choctaw
Drought	4%	4%	4%	4%	4%	4%
Flooding	32%	20%	4%	4%	4%	4%
Thunderstorms (Hail)	<1%	<1%	<1%	<1%	<1%	<1%
Thunderstorms (Lightning)	<1%	<1%	<1%	<1%	<1%	<1%
Thunderstorms (Wind)	52%	52%	52%	52%	52%	52%
Tornadoes	40%	40%	40%	40%	40%	40%
Tropical Cyclones	28%	28%	28%	28%	28%	28%
Wildfires	<1%	<1%	<1%	<1%	<1%	<1%
Winter Storms	16%	16%	16%	16%	16%	16%

As shown in Table 2-3: Probability of Future Hazard Reoccurrence, thunderstorm winds for the entire planning area have the highest annual chance of occurrence in the parish (52%). Tornadoes have a 40% annual chance of occurrence, followed by flooding in unincorporated areas (32%), tropical cyclones (28%), and flooding in the incorporated area of Jena (20%). Winter storms have a 16% chance of occurrence, followed by drought (4%) and flooding for the incorporated areas of Olla, Tullos, Urania, and the Jena Band of Choctaw areas (4%). Thunderstorm hail, thunderstorm lightning, and wildfires have the lowest chance of occurrence at <1%.

Inventory of Assets for the Entire Parish

As part of the Risk Assessment, the planning team identified essential facilities throughout the parish. Several methods were used to assist in identifying all essential facilities, including field data collected by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) on critical infrastructure from a previous hazard mitigation project.

Within the entire planning area, there is an estimated value of $1,320,148,000 in structures throughout the parish. The table on the following page provides the total estimated value for each type of structure by occupancy.

Table 2-4: Estimated Total of Potential Losses throughout LaSalle Parish

Occupancy	LaSalle Parish	Unincorporated LaSalle Parish	Jena	Olla	Tullos	Urania
Agricultural	$1,632,000	$1,189,000	$179,000	$264,000	$0	$0
Commercial	$119,156,000	$42,613,000	$54,106,000	$20,994,000	$445,000	$872,000
Government	$8,909,000	$8,404,000	$247,000	$0	$0	$130,000
Industrial	$34,667,000	$16,918,000	$14,084,000	$3,402,000	$22,000	$241,000
Religion	$23,087,000	$12,870,000	$4,775,000	$4,314,000	$0	$1,128,000
Residential	$1,125,404,000	$682,009,000	$280,868,000	$92,268,000	$28,795,000	$41,280,000
Education	$7,293,000	$3,973,000	$0	$1,846,000	$0	$1,474,000
Total	$1,320,148,000	$767,976,000	$354,259,000	$123,088,000	$29,262,000	$45,125,000

Table 2-4: Estimated Total of Potential Losses (Continued)

Occupancy	Jena Band of Choctaw
Agricultural	$0
Commercial	$126,000
Government	$128,000
Industrial	$0
Religion	$0
Residential	$184,000
Education	$0
Total	$438,000

Essential Facilities of the Parish

The following figures show the locations and names of the essential facilities within the parish:

Government	
Map ID	Name
1	District 3 Precint 2 Voting Building
2	Jena Municipal Building
3	Jena Town Hall
4	LA DOTD
5	La Salle District Attorney's Office
6	La Salle Economic Development Center
7	La Salle Landfill
8	La Salle Parish Courthouse
9	La Salle Police Jury
10	La Salle School Board Media Center
11	La Salle School Board Office
12	Office of Motor Vehicles
13	Social Security Office
14	Tullos Town Hall
15	Jena Band of Choctaw Indians Admin Building
16	Jena Band of Choctaw Indians Health and SS Clinic
17	Jena Band of Choctaw Indians Tribal Historic Preservation
18	Jena Band of Choctaw Indians Maintenance Department

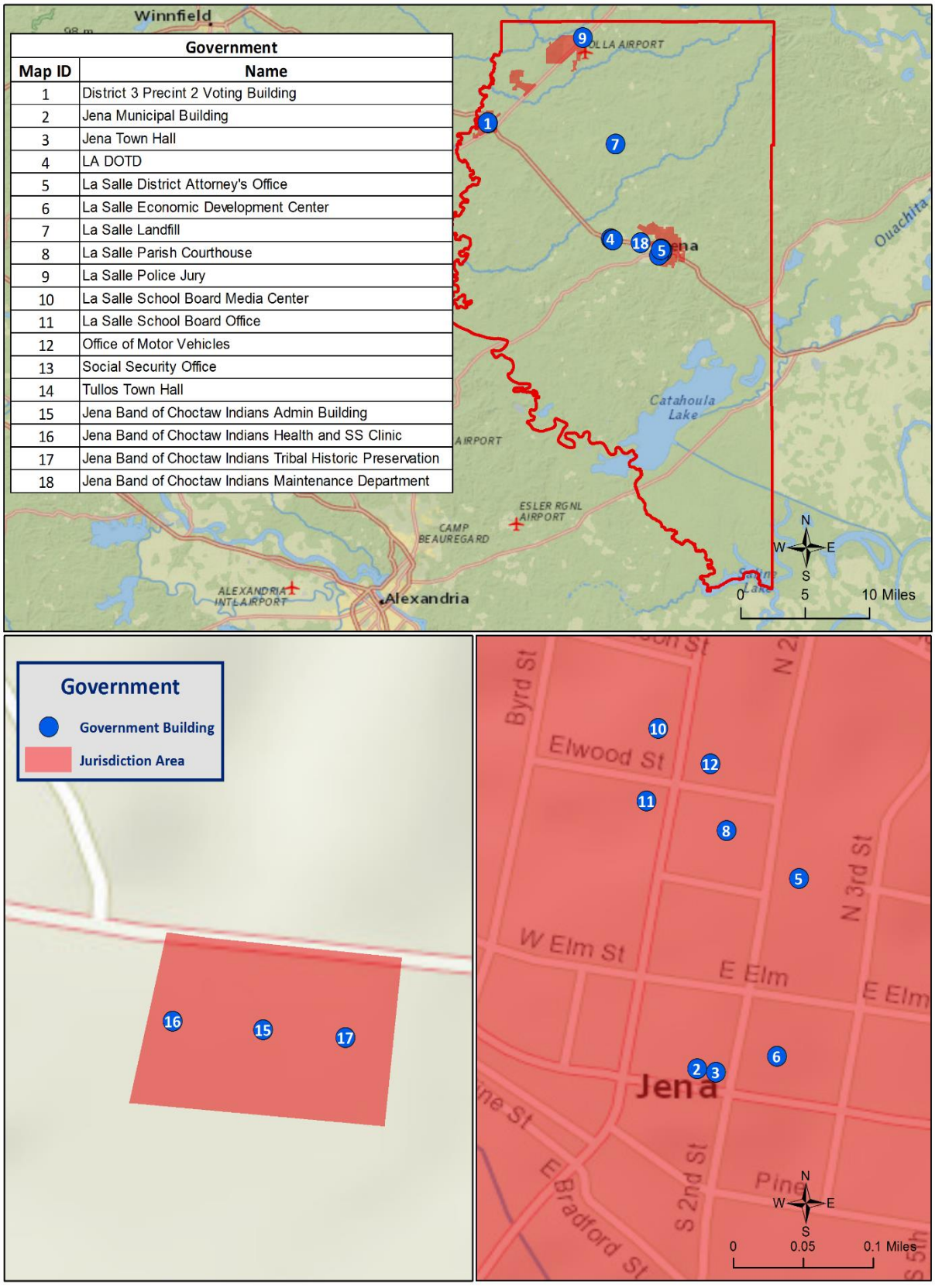

Figure 2-1: Government Buildings in LaSalle Parish

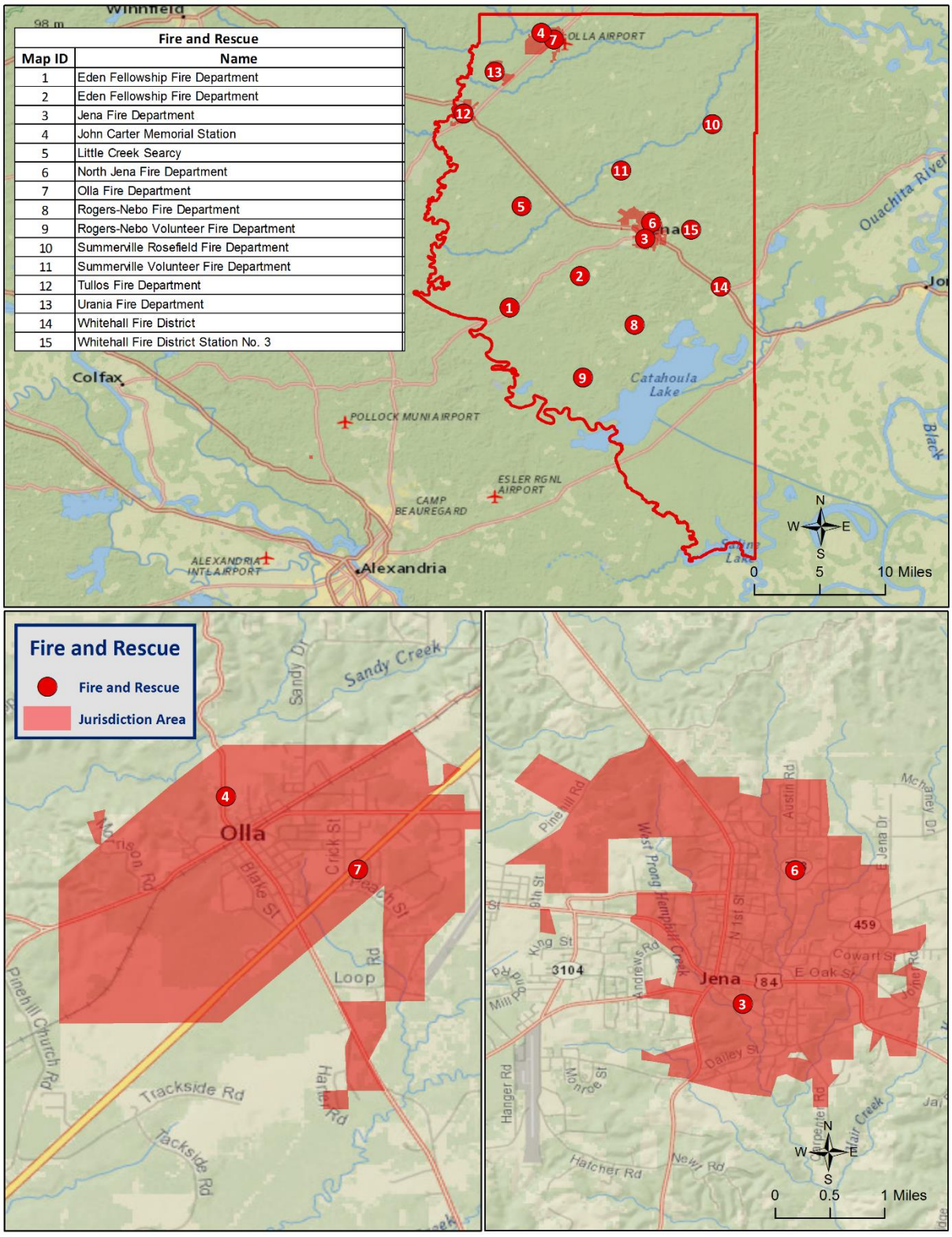

Figure 2-2: Fire and Rescue Buildings in LaSalle Parish

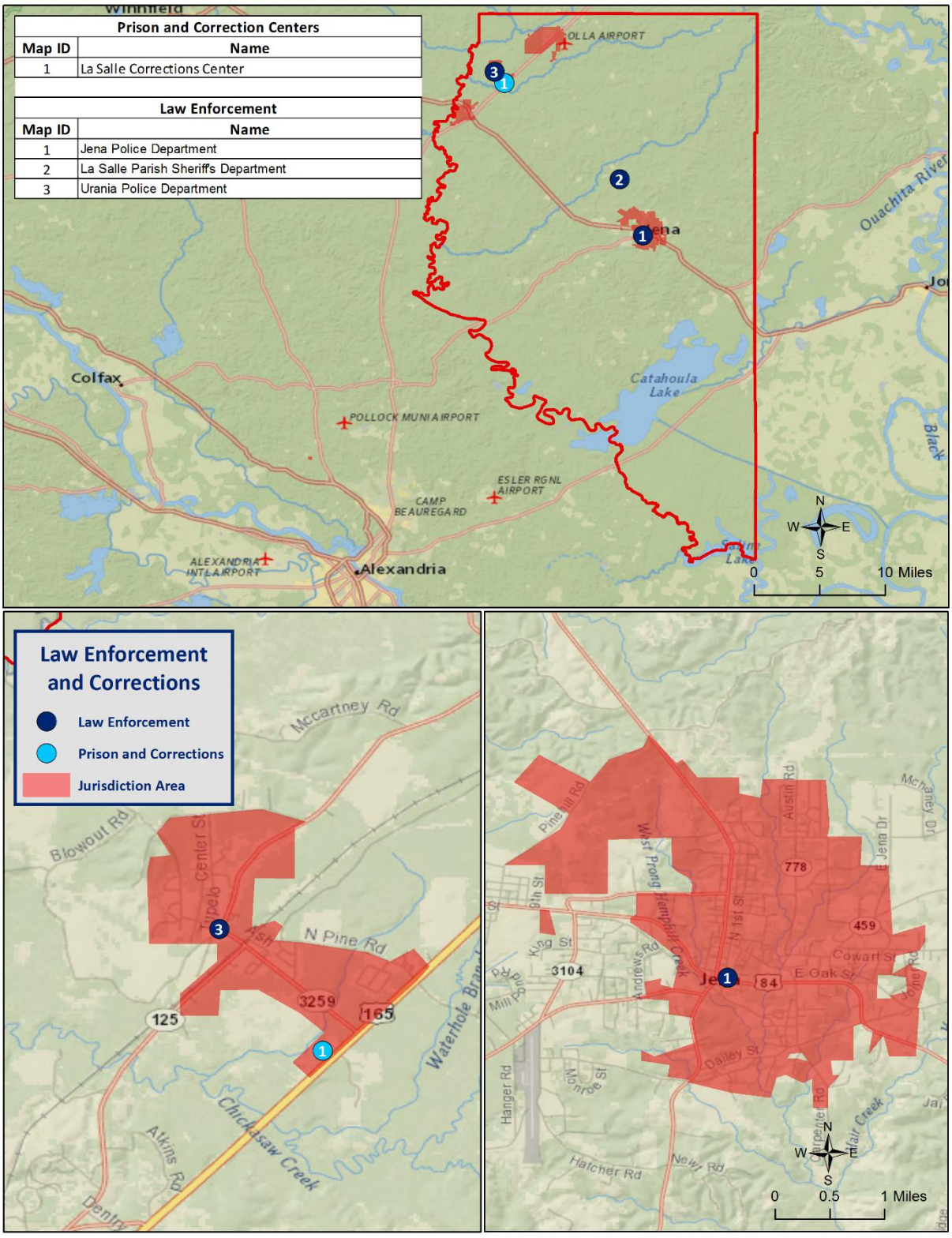

Figure 2-3: Law Enforcement Buildings in LaSalle Parish

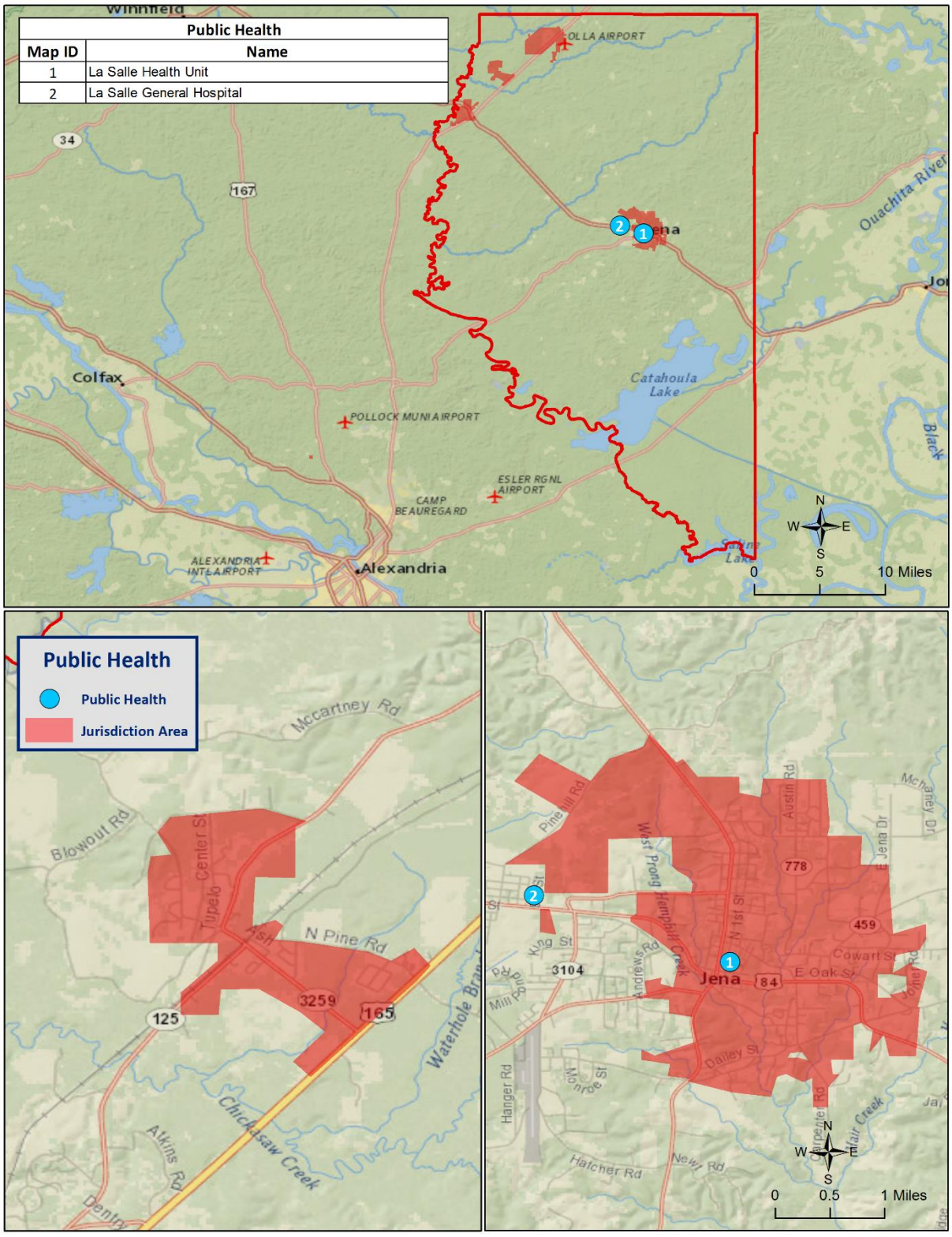

Figure 2-4: Public Health Facilities in LaSalle Parish

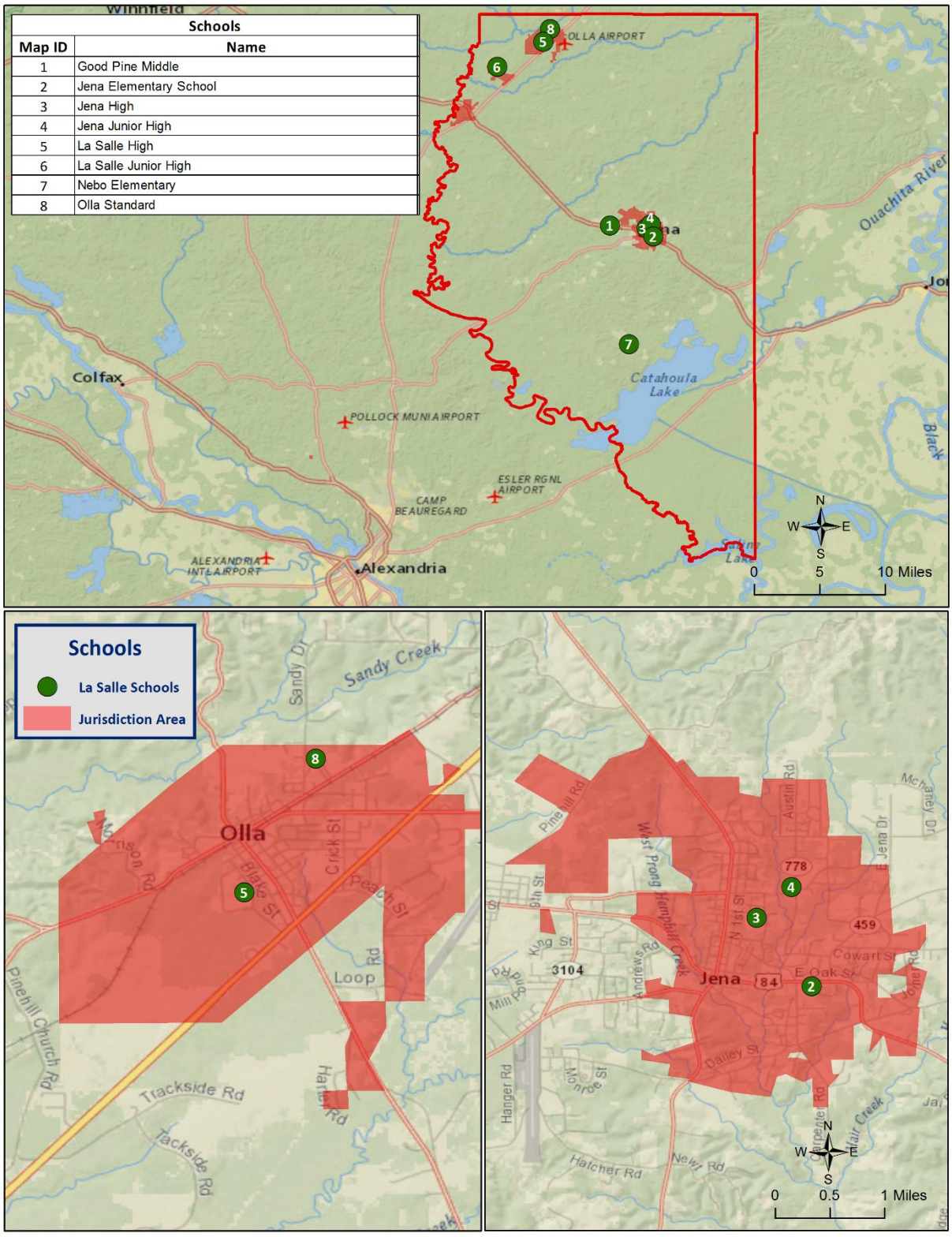

Figure 2-5: School Buildings in LaSalle Parish

Future Development Trends

LaSalle Parish experienced a small growth in population and housing between the years of 2000 and 2014, growing from a population of 14,282 with 6,271 housing units in 2000 to a population of 14,839 with 6,575 housing units in 2014. This growth largely occurred in the incorporated areas of Urania and Jena from the years 2000 to 2010. From 2010 to 2014, population numbers fell slightly in the unincorporated areas of LaSalle Parish and all incorporated areas. The future population and number of housing units can be estimated using U.S. Census Bureau housing and population data. No data is available from the Census Bureau's Population Estimates Program for Jena Band of Choctaw, therefore no details regarding development trends for the tribal area are included in the plan. The following tables show population and housing unit estimates from 2000 to 2013:

Table 2-5: Population Growth Rate for LaSalle Parish

Total Population	LaSalle Parish	LaSalle Parish (Unincorporated)	Jena	Olla	Tullos	Urania
1-Apr-00	14,282	8,775	2,971	1,417	419	700
1-Apr-10	14,890	8,409	3,398	1,385	385	1,313
1-Jul-13	14,839	8,384	3,387	1,375	384	1,309
Population Growth between 2000 – 2010	4.3%	-4.2%	14.4%	-2.3%	-8.1%	87.6%
Average Annual Growth Rate between 2000 – 2010	0.4%	-0.4%	1.4%	-0.2%	-0.8%	8.8%
Population Growth between 2010 – 2014	-0.3%	-0.3%	-0.3%	-0.7%	-0.3%	-0.3%
Average Annual Growth Rate between 2010 – 2014	-0.09%	-0.07%	-0.08%	-0.18%	-0.06%	-0.08%

* No data is available from the Census Bureau's Population Estimates Program for Jena Band of Choctaw.

Table 2-6: Housing Growth Rate for LaSalle Parish

Total Housing Units	LaSalle Parish	LaSalle Parish (Unincorporated)	Jena	Olla	Tullos	Urania
1-Apr-00	6,271	3,812	1,264	681	203	311
1-Apr-10	6,560	4,034	1,375	644	191	316
1-Jul-13	6,575	3,894	1,560	652	201	268
Housing Growth between 2000 – 2010	4.6%	5.8%	8.8%	-5.4%	-5.9%	1.6%
Average Annual Growth Rate between 2000 – 2010	0.5%	0.6%	0.9%	-0.5%	-0.6%	0.2%
Housing Growth between 2010 – 2014	0.2%	-3.5%	13.5%	1.2%	5.2%	-15.2%
Average Annual Growth Rate between 2010 – 2014	0.1%	-0.9%	3.4%	0.3%	1.3%	-3.8%

* No data is available from the Census Bureau's Population Estimates Program for Jena Band of Choctaw

As shown in the previous tables, LaSalle Parish has experienced slight growth in both population and housing units. Housing growth rates grew at 0.5% annually from 2000 to 2010, and at 0.1% annually from 2010 to 2014. Population growth rates for the parish were slightly lower at 0.4% annually from 2000 to 2010. From 2010 to 2014, population growth rates declined at a percentage of -0.09% annually. From 2000 to 2010, the incorporated area of Urania had the largest increase in population at an annual rate of 8.8%, followed by the incorporated area of Jena at 1.4% annually. The incorporated area of Tullos had the largest decrease in population during this time period at an annual rate of -0.8%. From 2010 to 2014, the unincorporated areas of LaSalle Parish and the all the incorporated areas experienced a decline in population, with the incorporated area of Olla experiencing the largest decline at an annual rate of -0.18%.

The incorporated area of Jena experienced the largest increase in housing units from 2000 to 2010 at an annual rate of 0.9%, followed by the unincorporated areas of LaSalle Parish at an annual rate of 0.6%. The incorporated areas of Olla and Tullos experienced a decline in housing units during this time period at annual rates of -0.5% and -0.6% respectively. From 2010 to 2014, the incorporated area of Jena experienced the largest growth in housing at an annual rate of 3.4%, followed by the town of Tullos at 1.3% annually. The incorporated area of Urania experienced the largest decline in housing during this time period at an annual rate of -3.8%.

Future Hazard Impacts

Hazard impacts were estimated for five years and ten years in the future (2019 and 2024). Yearly population and housing growth rates were applied to parish inventory assets for composite flood and tropical cyclones. Based on a review of available information, it is assumed that population and housing units will continue to grow slightly within LaSalle Parish from the present until 2024. A summary of estimated future impacts is shown in the table below. Dollar values are expressed in future costs and assume an annual rate of inflation of 1.02%. All jurisdictions in the parish and the Jena Band of Choctaw are included in these estimates if population and structures within these areas are located in the hazard area. Currently, there are no new developments involving critical facilities within the jurisdictions or the Jena Band of Choctaw Tribal area. There have been no changes in development to impact the communities' and tribal areas vulnerability since the last update.

Table 2-7: Estimated Future Impacts, 2019-2024
(Source: Hazus, US Census Bureau)

Hazard / Impact	Total in Parish (2014)	Hazard Area (2014)	Hazard Area (2019)	Hazard Area (2024)
Flood Damage				
Structures	6,579	4,327	4,339	4,354
Value of Structures	$1,334,375,865	$877,605,295	$925,927,570	$987,439,172
# of People	14,854	9,769	9,818	9,877
Tropical Cyclones				
Structures	6,579	6,579	6,598	6,620
Value of Structures	$1,334,375,865	$1,334,375,865	$1,407,848,617	$1,501,375,398
# of People	14,854	14,854	14,928	15,018

Land Use

The LaSalle Parish Land Use table is provided below, and the Land Use map is provided on the following page. Residential, commercial, and industrial areas account for only 6% of the parish's land use. Forest land is the largest category at 217,404 acres, accounting for 57% of parish land. The second largest category is comprised of 106,285 acres of wetlands, which account for 28% of parish land. At 20, 656 acres, open water areas account for 5% of parish lands. The parish also consists of 13,001 acres of agricultural areas, accounting for 3% of all parish lands.

Table 2-8: LaSalle Parish Land Use
(Source: USGS Land Use Map)

Land Use	Acres	Percentage
Agricultural Land, Cropland, and Pasture	13,001	3%
Wetlands	106,285	28%
Forest Land (not including forested wetlands)	217,404	57%
Urban/Development	20,930	6%
Water	20,656	5%

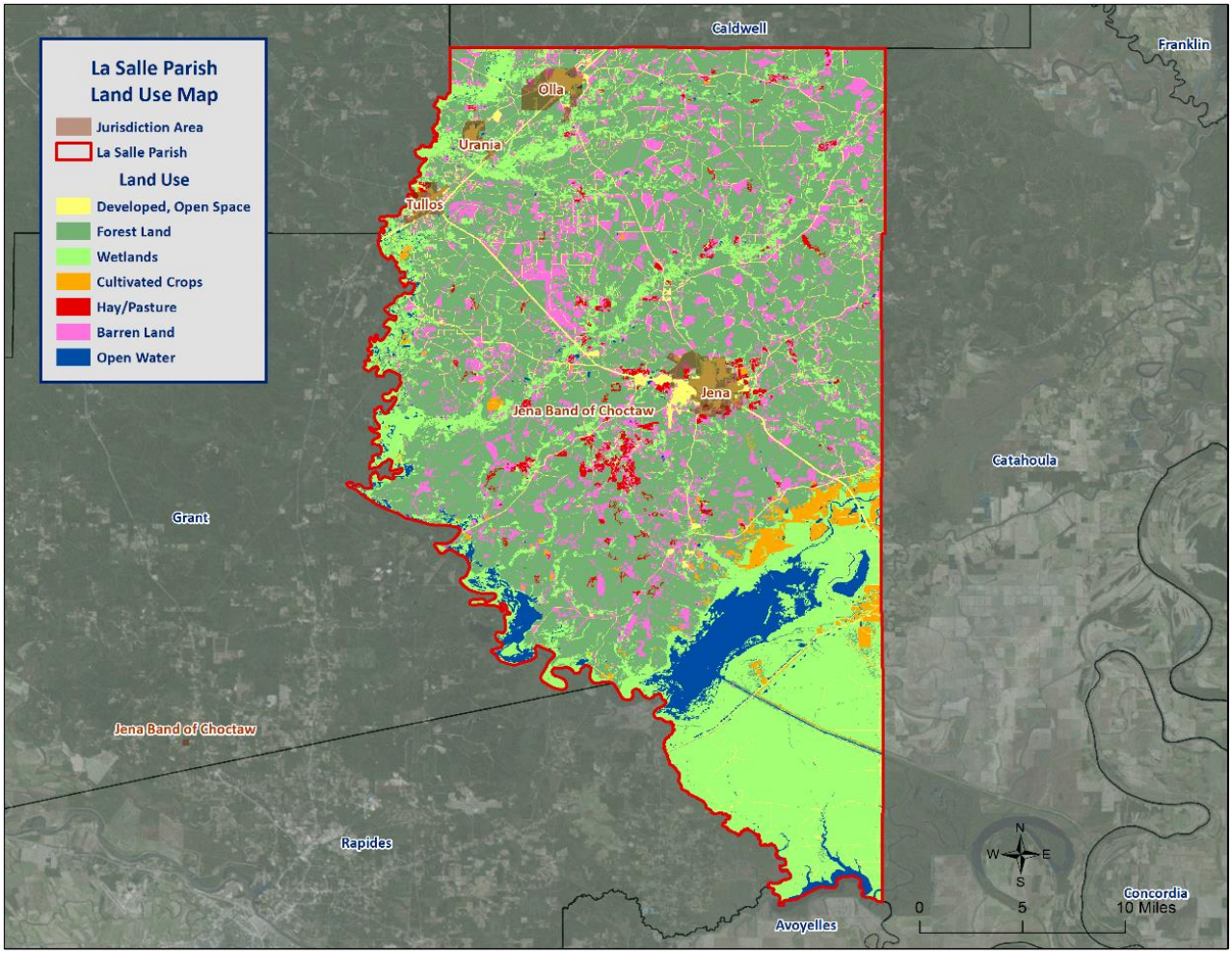

Figure 2-6: LaSalle Parish Land Use Map
(Source: USGS Land Use Map)

Hazard Identification

Drought

A drought is a deficiency in water availability over an extended period of time, caused by precipitation totals and soil water storages that do not satisfy the environmental demand for water, either by evaporation or transpiration through plant leaves. It is important to note that the lack of precipitation alone does not constitute drought; the season during which the precipitation is lacking has a major impact on whether or not drought occurs. For example, a week of no precipitation in July, when the solar energy to evaporate water and vegetation's need for water to carry on photosynthesis are both high, may trigger a drought, while a week of no precipitation in January may not initiate a drought.

Drought is a unique and insidious hazard. Unlike other natural hazards, no specific threshold of "dryness" exists for declaring a drought. In addition, the definition of drought depends on stakeholder needs. For instance, the onset (and demise) of agricultural drought is quick, as crops need water every few days; once they get rainfall, they improve. But hydrologic drought sets in (and is alleviated) only over longer time periods. A few dry days will not drain a reservoir, but a few rain showers cannot replenish it either. Moreover, different geographical regions define drought differently based on the deviation from local, normal precipitation. Drought can occur anywhere, triggered by changes in the local-to-regional-scale atmospheric circulation over an area, or by broader-scale circulation variations such as the expansion of semi-permanent oceanic high-pressure systems or the stalling of an upper-level atmospheric ridge in place over a region. The severity of a drought depends upon the degree and duration of moisture deficiency, as well as the size of the affected area. Periods of drought also tend to be associated with other hazards, such as wildfires and/or heat waves. Lastly, drought is a slow onset event, causing less direct—but tremendous indirect—damage. Depletion of aquifers, crop loss, and livestock and wildlife mortality rates are examples of direct impacts. Since the groundwater found in aquifers is the source of about 38% of all county and city water supplied to households (and comprises 97% of the water for all rural populations that are not already supplied by cities and counties), droughts can potentially have direct, disastrous effects on human populations. The indirect consequences of drought, such as unemployment, reduced tax revenues, increased food prices, reduced outdoor recreation opportunities, higher energy costs as water levels in reservoirs decrease and consumption increases, and water rationing, are not often fully known. This complex web of impacts causes drought to affect people and economies well beyond the area physically experiencing the drought.

This hazard is often measured using the Palmer Drought Severity Index (PDSI, also known operationally as the Palmer Drought Index). The PDSI, first developed by Wayne Palmer in a 1965 paper for the U.S. Weather Bureau, measures drought through recent precipitation and temperature data with regard to a basic supply-and-demand model of soil moisture. It is most effective in long-term calculations. Three other indices used to measure drought are the Palmer Hydrologic Drought Index (PHDI), the Crop Moisture Index (CMI), which is derived from the PDSI, and the Keetch-Byram Drought Index (KBDI), created by John Keetch and George Byram in 1968 for the U.S. Forest Service. The KBDI is used mainly for predicting the likelihood of wildfire outbreaks. As a compromise, the PDSI is used most often for droughts since it is a medium-response drought indicator. The objective of the PDSI is to provide measurements of moisture conditions that are standardized so that comparisons using the index can be made between locations and between months. *Table 2-9* displays the range and Palmer classifications of the PDSI index. *Figure 2-7* displays the current drought monitor for the State of Louisiana and its parishes.

Table 2-9: Palmer Drought Severity Index Classification and Range

Range	Palmer Classifications
4.0 or more	Extremely Wet
3.0 to 3.9	Very Wet
2.0 to 2.9	Moderately Wet
1.0 to 1.99	Slightly Wet
0.5 to 0.99	Incipient Wet Spell
0.49 to -0.49	Near Normal
-0.5 to -0.99	Incipient Dry Spell
-1.0 to -1.99	Mild Drought
-2.0 to -2.99	Moderate Drought
-3.0 to -3.99	Severe Drought
-4.0 or less	Extreme Drought

The PDSI best measures the duration and intensity of drought-inducing circulation patterns at a somewhat long-term time scale, although not as long-term as the PHDI. Long-term drought is cumulative, so the intensity of drought during the current month is dependent on the current weather patterns in addition to the effects of cumulative patterns of previous months. Although weather patterns can change almost overnight from a long-term drought pattern to a long-term wet pattern, as a medium-response indicator, the PDSI responds relatively rapidly. Data compiled by the National Drought Mitigation Center indicates normal conditions exist in LaSalle Parish at the time this plan went to publication (*Figure 2-7*).

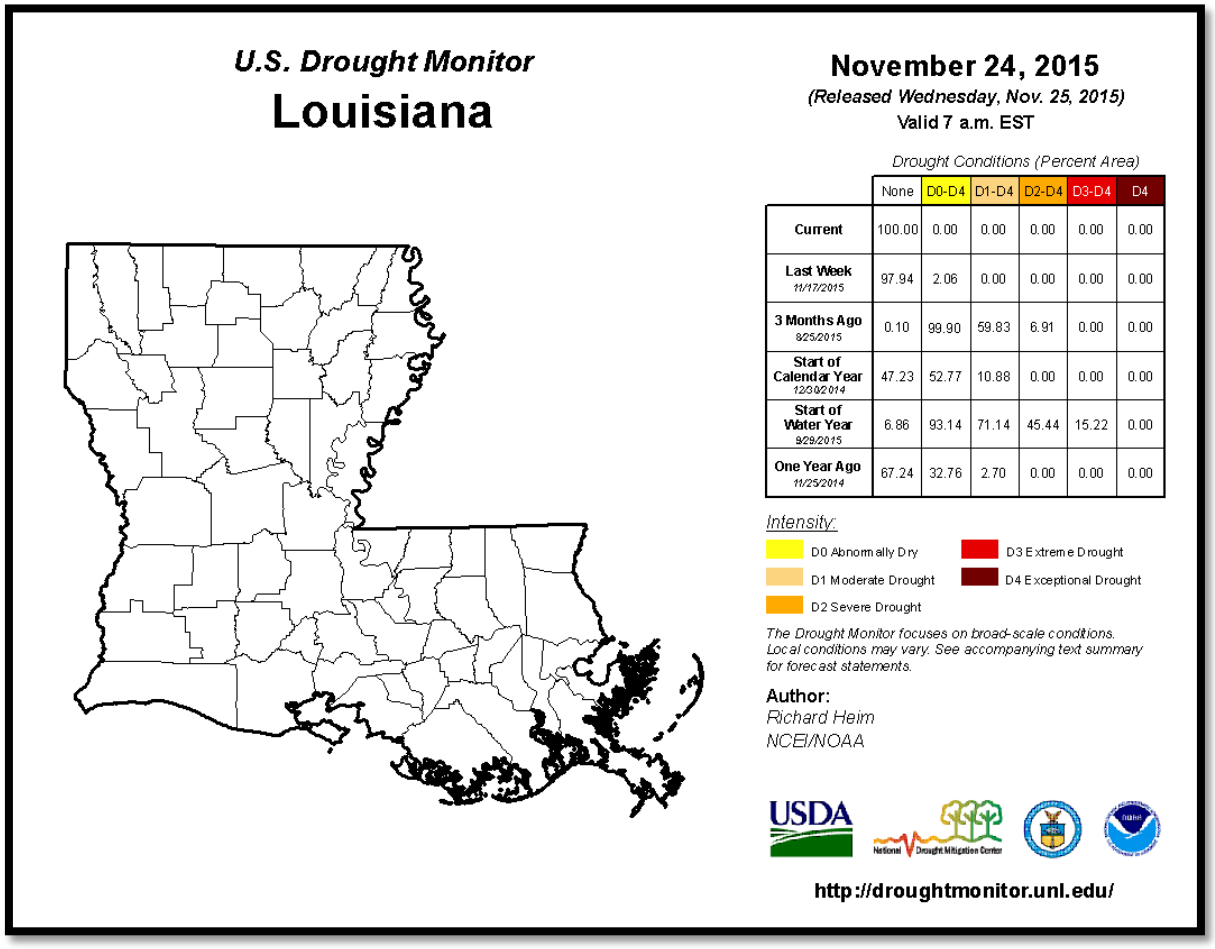

Figure 2-7: United States Drought Monitor for the State of Louisiana and its Parishes (Source: The National Drought Mitigation Center)

Location

Drought typically impacts a region and not one specific parish or jurisdiction. While the entire planning area can experience drought, the major impact of a drought event in LaSalle Parish is on the agricultural community.

Previous Occurrences / Extents

The SHELDUS database reports one drought event having occurred within the boundaries of LaSalle Parish between the years of 1989 - 2014. *Table 2-10* identifies the date of occurrence, estimated crop damage, and severity of the events that have occurred in LaSalle Parish. Based on previous occurrences, and in accordance with the Palmer Drought Index, the worst case scenario for drought in LaSalle Parish would be a severe drought event.

Table 2-10: Drought Events with Crop Damage Totals for LaSalle Parish (Source: SHELDUS)

Date	Crop Damage	Palmer Classification
June 1998	$1,261,041	Severe Drought

Frequency / Probability

Based on previous occurrences of one drought event in 25 years, the probability of drought occurrence in the planning area in any given year is 4%.

Estimated Potential Losses

According to the SHELDUS database, there has been one drought event that have caused some level of crop damage. The total agricultural damage from this event was $1,261,041, resulting in an average cost of $1,261,041 per drought event. When annualizing the total cost over the 25-year record, total annual losses based on drought are estimated to be $50,442. *Table 2-11* presents an analysis of agricultural exposure that is susceptible to drought by major crop type for LaSalle Parish.

Table 2-11: Agricultural Exposure by Crop Type for Droughts in LaSalle Parish (Source: LSU Ag Center 2014 Parish Totals)

Agricultural Exposure by Type for Drought					
Forestry	**Mayhaws**	**Hay**	**Southern Peas**	**Watermelon**	**Total**
$38,689,864	$259,875	$119,000	$15,600	$53,200	$39,137,539

There have been no reported injuries or deaths as a direct result to drought in LaSalle Parish.

Flooding

A flood is the overflow of water onto land that is usually not inundated. The National Flood Insurance Program (NFIP) defines a flood as:

> A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waves, unusual and rapid accumulation or runoff of surface waters from any source, mudflow, or collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Factors influencing the type and severity of flooding include natural variables such as precipitation, topography, vegetation, soil texture, and seasonality, as well as anthropogenic factors such as urbanization (extent of impervious surfaces), land use (agricultural and forestry tend to remove native vegetation and accelerate soil erosion), and the presence of flood-control structures such as levees and dams.

Excess precipitation, produced from thunderstorms or hurricanes, is often the major initiating condition for flooding, and Louisiana can have high rainfall totals at any time of day or year. During the cooler months, slow-moving frontal weather systems produce heavy rainfall, while the summer and autumn seasons produce major precipitation in isolated thunderstorm events (often on warm afternoons) that may lead to localized flooding. During these warmer seasons, floods are overwhelmingly of the flash flood variety, as opposed to the slower-developing river floods caused by heavy stream flow during the cooler months.

In cooler months, particularly in the spring, Louisiana is in peak season for severe thunderstorms. The fronts that cause these thunderstorms often stall while passing over the state, occasionally producing rainfall totals exceeding ten inches within a period of a few days. Since soil tends to be nearly saturated at this time (due to relatively low overall evaporation rates), spring typically becomes the period of maximum stream flow across the state. Together, these characteristics increase the potential for high water, with low-lying, poorly drained areas being particularly susceptible to flooding during these months.

In Louisiana, six specific types of flooding are of main concern: riverine, flash, ponding, backwater, urban, and coastal.

- **Riverine flooding** occurs along a river or smaller stream. It is the result of runoff from heavy rainfall or intensive snow or ice melt. The speed with which riverine flood levels rise and fall depends not only on the amount of rainfall, but even more on the capacity of the river itself, as well as the shape and land cover of its drainage basin. The smaller the river, the faster that water levels rise and fall. Thus, the Mississippi River levels rise and fall slowly due to its large capacity. Generally, elongated and intensely-developed drainage basins will reach faster peak discharges and faster falls than circular-shaped and forested basins of the same area.
- **Flash flooding** occurs when locally intense precipitation inundates an area in a short amount of time, resulting in local stream flow and drainage capacity being overwhelmed.
- **Ponding** occurs when concave areas (e.g., parking lots, roads, and clay-lined natural low areas) collect water and are unable to drain.
- **Backwater flooding** occurs when water slowly rises from a normally unexpected direction where protection has not been provided. A model example is the flooding that occurred in LaPlace during Hurricane Isaac in 2012. Although the town was protected by a levee on the side facing the

Mississippi River, floodwaters from Lake Maurepas and Lake Pontchartrain crept into the community on the side of town opposite the Mississippi River.

- **Urban flooding** is similar to flash flooding but is specific to urbanized areas. It takes place when storm water drainage systems cannot keep pace with heavy precipitation, and water accumulates on the surface. Most urban flooding is caused by slow-moving thunderstorms or torrential rainfall.
- **Coastal flooding** can appear similar to any of the other flood types, depending on its cause. It occurs when normally dry coastal land is flooded by seawater, but may be caused by direct inundation (when the sea level exceeds the elevation of the land), overtopping of a natural or artificial barrier, or the breaching of a natural or artificial barrier (i.e., when the barrier is broken down by the sea water). Coastal flooding is typically caused by storm surge, tsunamis, or gradual sea level rise.

For purposes of this assessment, ponding, flash flood, and urban flooding are considered to be flooding as a result of storm water from heavy precipitation thunderstorms

Based on stream gauge levels and precipitation forecasts, the National Weather Service (NWS) posts flood statements, watches, and warnings. The NWS issues the following weather statements with regard to flooding:

- **Flood Categories**
  - Minor Flooding: Minimal or no property damage, but possibly some public threat.
  - Moderate Flooding: Some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations.
  - Major Flooding: Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations.
  - Record Flooding: Flooding which equals or exceeds the highest stage or discharge at a given site during the period of record keeping.

- **Flood Warning**
  - Issued along larger streams when there is a serious threat to life or property.

- **Flood Watch**
  - Issued when current and developing hydrometeorological conditions are such that there is a threat of flooding, but the occurrence is neither certain nor imminent.

Floods are measured mainly by probability of occurrence. A 10-year flood event, for example, is an event of small magnitude (in terms of stream flow or precipitation) but with a relatively high annual probability of reoccurrence (10%). A 100-year flood event is larger in magnitude, but it has a smaller chance of reoccurrence (1%). A 500-year flood is significantly larger than both a 100-year event and a 10-year event, but it has a lower probability than both to occur in any given year (0.2%). It is important to understand that an X-year flood event does not mean an event of that magnitude occurs only once in X years. Instead, it means that on average, we can expect a flood event of that magnitude to occur once every X years. Given that such statistical probability terms are inherently difficult for the general population to understand, the Association of State Floodplain Managers (ASFPM) promotes the use of more tangible expressions of flood probability. As such, the ASFPM also expresses the 100-year flood event as having a 25% chance of occurring over the life of a 30-year mortgage.

It is essential to understand that the magnitude of an X-year flood event for a particular area depends on the source of flooding and the area's location. The size of a specific flood event is defined through historic data of precipitation, flow, and discharge rates. Consequently, different 100-year flood events can have very different impacts. The 100-year flood event in two separate locations have the same likelihood to occur, but they do not necessarily have the same magnitude. For example, a 100-year event for the Mississippi River means something completely different in terms of discharge values (ft^3/s) than for the Amite River. Not only are the magnitudes of 100-year events different between rivers, they can be different along any given river. A 100-year event upstream is different from one downstream due to the variation of river characteristics (volume, discharge, and topography). As a result, the definition of what constitutes a 100-year flood event is specific to each location, river, and time, since floodplain and river characteristics temporally fluctuate. Finally, it is important to note that each flood event is unique. Two hypothetical events at the same location, given the same magnitude of stream flow, may still produce substantially different impacts if there were different antecedent moisture characteristics, different times of day of occurrence (which indicates the population's probable activities at the flood's onset), or other characteristic differences.

The 100-year flood event is of particular significance since it is the regulatory standard that determines the obligation (or lack thereof) to purchase flood insurance. Flood insurance premiums are set depending on the flood zone, as modeled by NFIP Rate Maps. The NFIP and FEMA suggest insurance rates based on Special Flood Hazard Areas (SFHAs), as diagrammed in *Figure 2-8*.

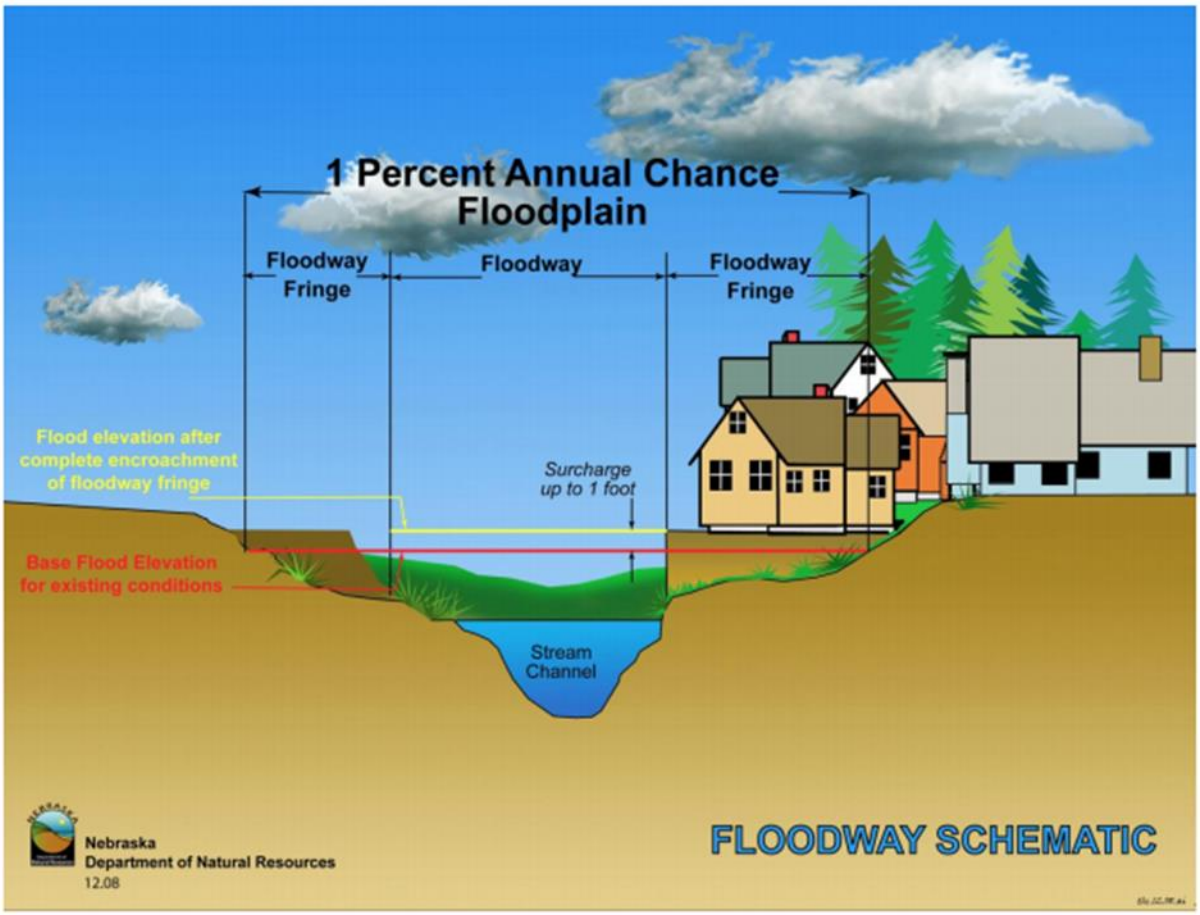

Figure 2-8: Schematic of 100-Year Floodplain. The Special Flood Hazard Area (SFHA) extends to the end of the floodway fringe
(Source: Nebraska Department of Natural Resources)

A SFHA is the land area covered by the floodwaters of the base flood (red line in *Figure 2-8*), where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

Property Damage

The depth and velocity of flood waters are the major variables in determining property damage. Flood velocity is important because the faster water moves, the more pressure it puts on a structure and the more it will erode stream banks and scour the earth around a building's foundation. In some situations, deep and fast moving waters can push a building off its foundation. Structural damage can also be caused by the weight of standing water (hydrostatic pressure).

Another threat to property from a flood is called "soaking". When soaked, many materials change their composition or shape. Wet wood will swell, and if dried too quickly, will crack, split, or warp. Plywood can come apart and gypsum wallboard can deteriorate if it is bumped before it has time to completely dry. The longer these materials are saturated, the more moisture, sediment, and pollutants they absorb.

Soaking can also cause extensive damage to household goods. Wooden furniture may become warped, making it unusable, while other furnishings such as books, carpeting, mattresses, and upholstery are usually not salvageable. Electrical appliances and gasoline engines will flood, making them worthless until they are professionally dried and cleaned.

Many buildings that have succumbed to flood waters may look sound and unharmed after a flood, but water has the potential to cause severe property damage. Any structure that experiences a flood should be stripped, cleaned, and allowed to dry before being reconstructed. This can be an extremely expensive and time consuming effort.

Repetitive Loss Properties

Repetitive loss structures are structures covered by a contract for flood insurance made available under the NFIP that:

a. Have incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and
b. At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Severe repetitive loss (SRL) is defined by the Flood Insurance Reform Act of 2004 and updated in the Biggert-Waters Flood Insurance Reform Act of 2012. For a property to be designated SRL, the following criteria must be met:

a. It is covered under a contract for flood insurance made available under the NFIP; and
b. It has incurred flood related damage –
    1) For which four or more separate claims payments have been made under flood insurance coverage with the amount of each claim exceeding $5,000 and with the cumulative amount of such claims payments exceeding $20,000; or
    2) For which at least two separate claims payments have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

Figures regarding repetitive loss structures for LaSalle Parish are provided in the table below:

Table 2-12: Repetitive Loss Structures for LaSalle Parish

Jurisdiction	Number of Structures	Residential	Commercial	Government	Total Claims	Total Claims Paid	Average Claim Paid
LaSalle Parish (Unincorporated)	77	76	1	0	303	2,889,352	$9,536
Jena	1	1	0	0	3	$86,132	$28,711
Olla	0	0	0	0	0	$0	$0
Tullos	0	0	0	0	0	$0	$0
Urania	0	0	0	0	0	$0	$0
Jena Band of Choctaw	0	0	0	0	0	$0	$0
Total	78	77	1	0	306	$2,975,484	$9,724

Of the 78 repetitive loss structures, 41 were able to be geocoded in order to provide an overview of where the repetitive loss structures were located throughout the parish. *Figure 2-9* shows the approximate location of the 41 structures, while *Figure 2-10* shows where the highest concentration of repetitive loss structures are located. Through the repetitive loss map, it is clear that the primary concentrated area of repetitive loss structures is focused along the eastern border of the LaSalle Parish.

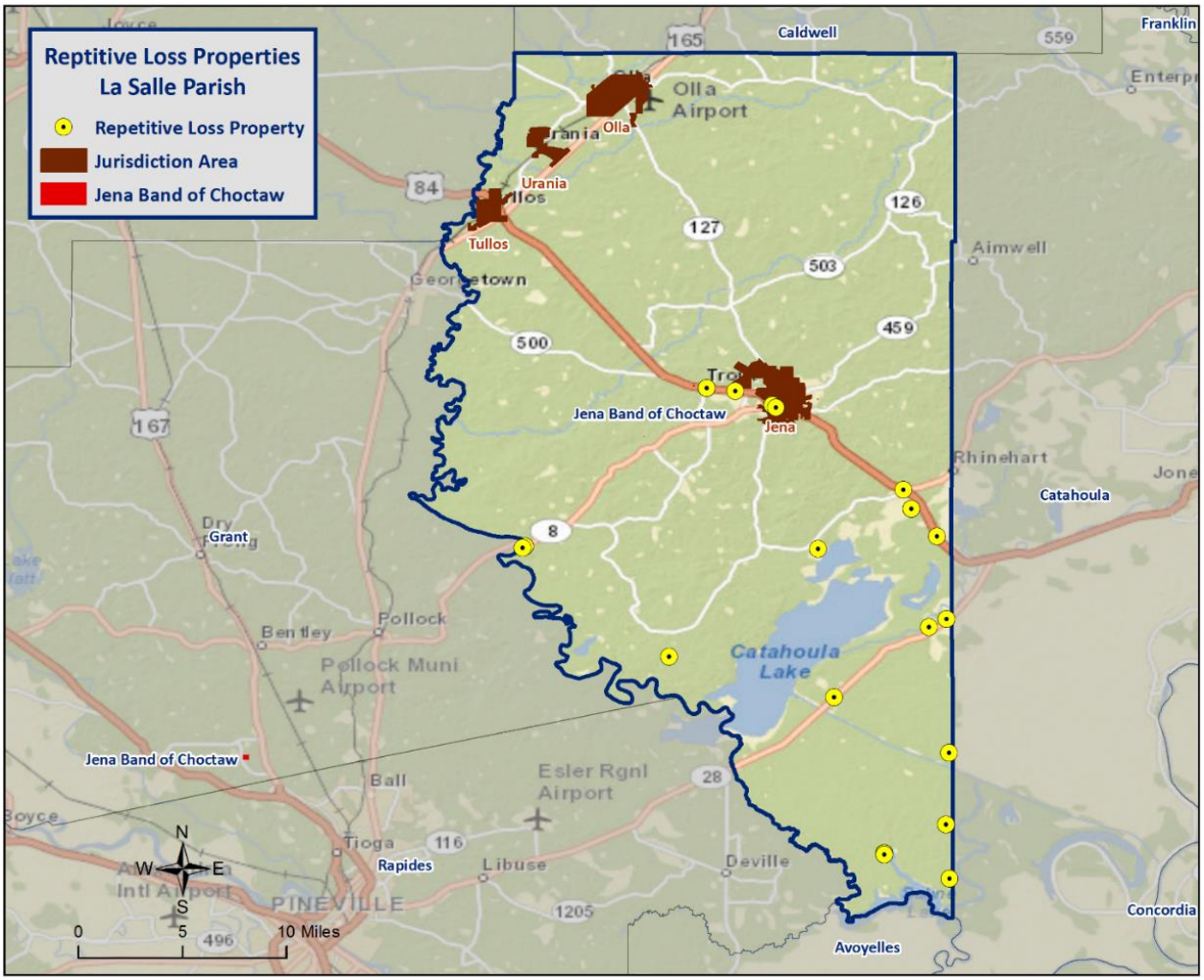

Figure 2-9: Repetitive Loss Properties in LaSalle Parish

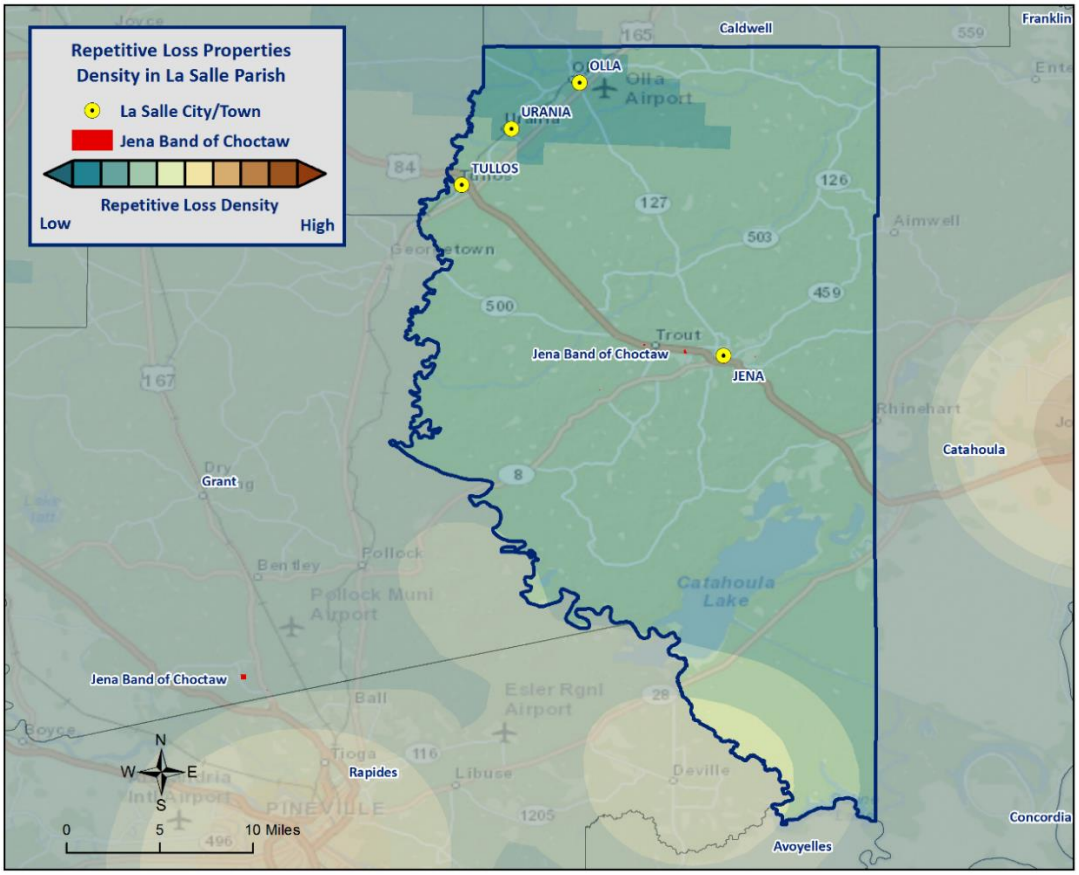

Figure 2-10: Repetitive Loss Property Densities in LaSalle Parish

National Flood Insurance Program

Flood insurance statistics indicate that LaSalle Parish has 80 flood insurance policies with the NFIP, with total annual premiums of $51,933. LaSalle Parish and the incorporated areas of Jena, Olla, Tullos, and Urania are participants in the NFIP. LaSalle Parish and each of the incorporated jurisdictions will continue to adopt and enforce floodplain management requirements, including regulating new construction in Special Flood Hazard Areas, and will continue to monitor activities including local requests for new map updates. Flood insurance statistics and additional NFIP participation details for LaSalle Parish are provided in the tables to follow.

Table 2-13: Summary of NFIP Policies for LaSalle Parish

Location	No. of Insured Structures	Total Insurance Coverage Value	Annual Premiums Paid	No. of Insurance Claims Filed Since 1978	Total Loss Payments
LaSalle Parish (Unincorporated)	72	$9,191,000	$45,273	802	$5,612,306
Jena	5	$920,000	$4,995	5	$104,315
Olla	3	$760,000	$1,665	0	$0
Tullos	0	$0	$0	0	$0
Urania	0	$0	$0	0	$0
Jena Band of Choctaw	0	$0	$0	0	$0
Total	80	$10,871,000	$51,933	807	$5,716,621

Table 2-14: Summary of Community Flood Maps for LaSalle Parish

CID	Community Name	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Date Joined the NFIP	Tribal
220112	LaSalle Parish	5/6/1977	11/1/1985	11/1/85 (M)	11/1/1985	No
220334	Jena, Town of	12/24/1976	3/1/1987	3/1/87 (L)	3/1/1987	No
220343	Olla, Town of	11/12/1976	11/1/1985	11/1/85 (M)	8/8/1979	No
220397#	Urania, Town of	4/3/1979	-	4/3/1979	6/5/2013	No

According to the Community Rating System (CRS) list of eligible communities dated June 1, 2014, LaSalle Parish and the incorporated areas of Jena, Olla, Tullos, Urania, and Jena Band of Choctaw do not participate in the CRS.

Threat to People

Just as with property damage, water depth and velocity are major factors in determining the threat posed to people by flooding. It takes very little depth or velocity for flood waters to become dangerous. A car will float in less than two feet of moving water, and can be swept downstream into deeper waters, trapping passengers within the vehicle. Victims of flooding have often put themselves in perilous situations by entering flood waters that they believe to be safe, or by ignoring travel advisories.

Major health concerns are also associated with floods. Flood waters can transport materials such as dirt, oil, animal waste, and chemicals (e.g., farm, lawn, and industrial) that may cause illnesses of varying degrees when coming in contact with humans. Flood waters can also infiltrate sewer lines and inundate wastewater treatment plants, causing sewage to backup and creating a breeding ground for dangerous bacteria. This infiltration may also cause water supplies to become contaminated and undrinkable.

Flooding in LaSalle Parish

By definition, flooding is caused when an area receives more water than the drainage system can convey. The following is a synopsis of the types of flooding that LaSalle Parish experiences.

Flash Flooding: Flash flooding is characterized by a rapid rise in water level, high velocity, and large amounts of debris. It is capable of uprooting trees, undermining buildings and bridges, and scouring new channels. Major factors in flash flooding are the high intensity and short duration of rainfall, as well as the steepness of watershed and stream gradients.

Local Drainage or High Groundwater Levels: Locally heavy precipitation may produce flooding in areas other than delineated floodplains or along recognizable drainage channels. If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems.

Backwater Flooding: Backwater flooding is normally associated with riverine flooding and connotes minimal velocity. All low lying areas are at risk. A heavy rainfall event coupled with a swollen river, canal, bayou, or marsh hinders drainage outflow, causing backwater flooding to the same areas susceptible to storm surge.

Riverine Flooding: Riverine flooding is, by definition, river-based. Most of the riverine flooding problems occur when the Little River and Old River crests at flood stage levels, causing extensive flooding in low-lying areas.

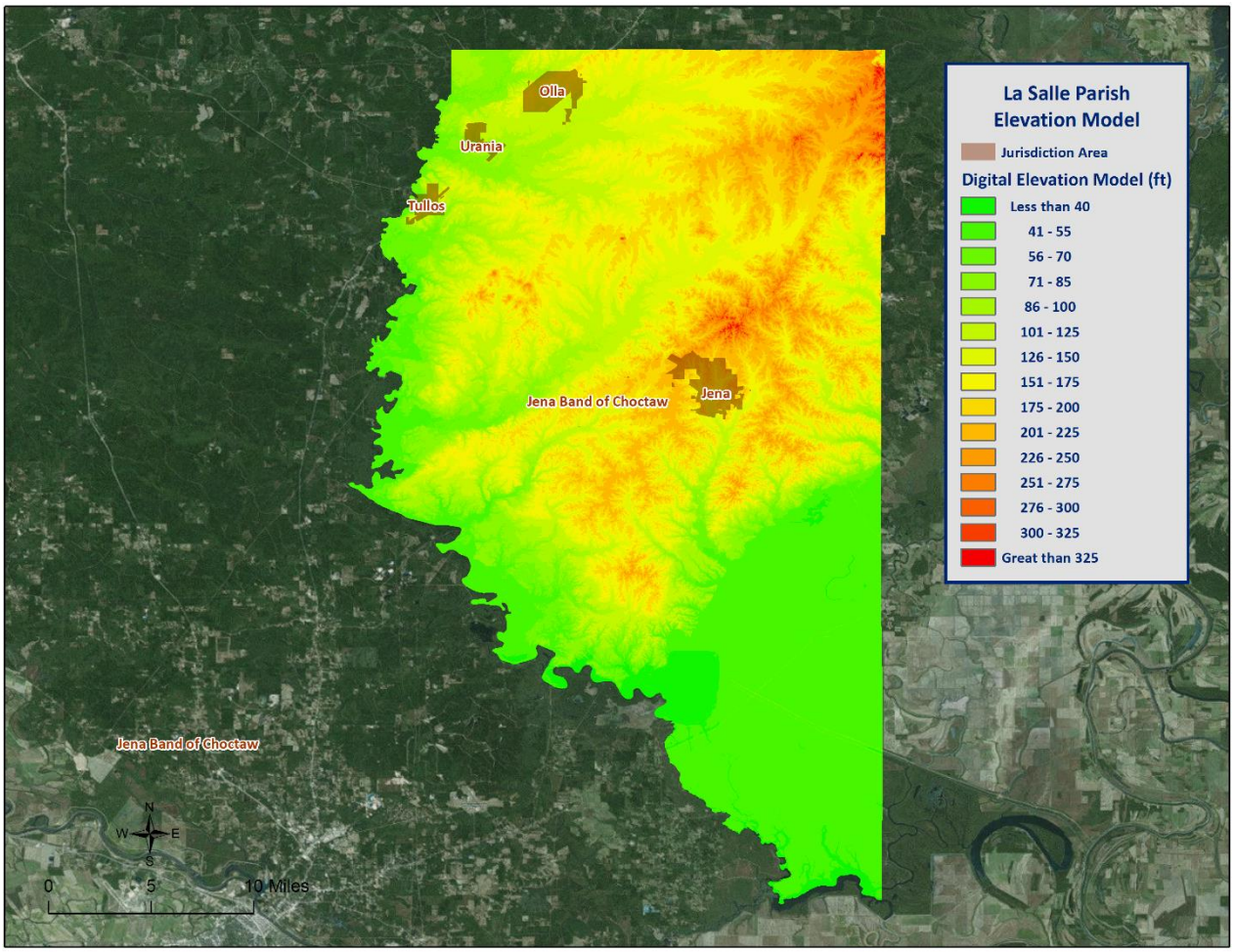

Figure 2-11: Elevation throughout LaSalle Parish

Looking at the digital elevation model (DEM) in the figure above for LaSalle Parish is instructive in visualizing where the low lying and high risk areas are for the parish. Elevations in the parish range from less than 40 feet to approximately 325 feet. The highest elevations in the parish are approximately 325 feet, located in the unincorporated area of the parish. These higher elevations are sporadic throughout the parish and are not common for the majority of the area. The other incorporated areas ranged in elevation from 92 to 162 feet, with the town of Jena averaging 162 feet, the town of Olla averaging 157 feet, the town of Urania averaging 92 feet, the incorporated area of Tullos averaging 125 feet, and the Jena Band of Choctaw areas averaging approximately 150 feet. The lowest elevations of the parish are below 40 feet, and are located in the unincorporated areas of LaSalle Parish.

Location

LaSalle Parish has experienced significant flooding in its history and can expect more in the future. Heavy rains have caused flooding in the unincorporated communities of Zenoria near Little River, the Pritchard area northeast of Catahoula Lake bounded on the east by Little River and Old River to the north, and the Catahoula

Lake vicinity between Louisiana Highway 28 and Little River. Flooding along major transportation routes has occurred along U.S. Highway 84, Louisiana Highway 28, Pritchard Loop, and the Parish road near Old River.

The following are enlarged maps of the incorporated areas showing the areas within each jurisdiction that are at risk of flooding:

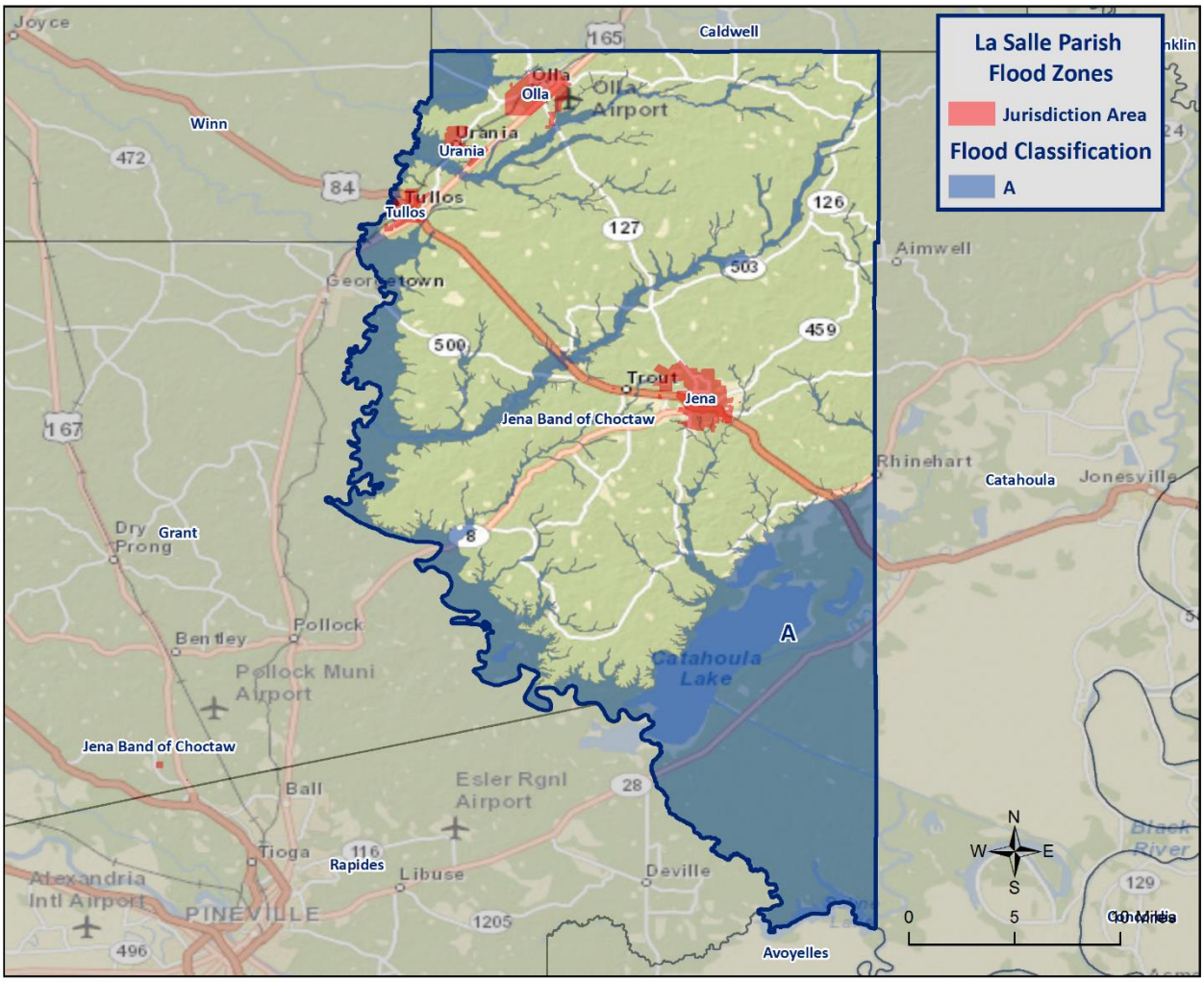

Figure 2-12: LaSalle Parish Areas within the Flood Zones

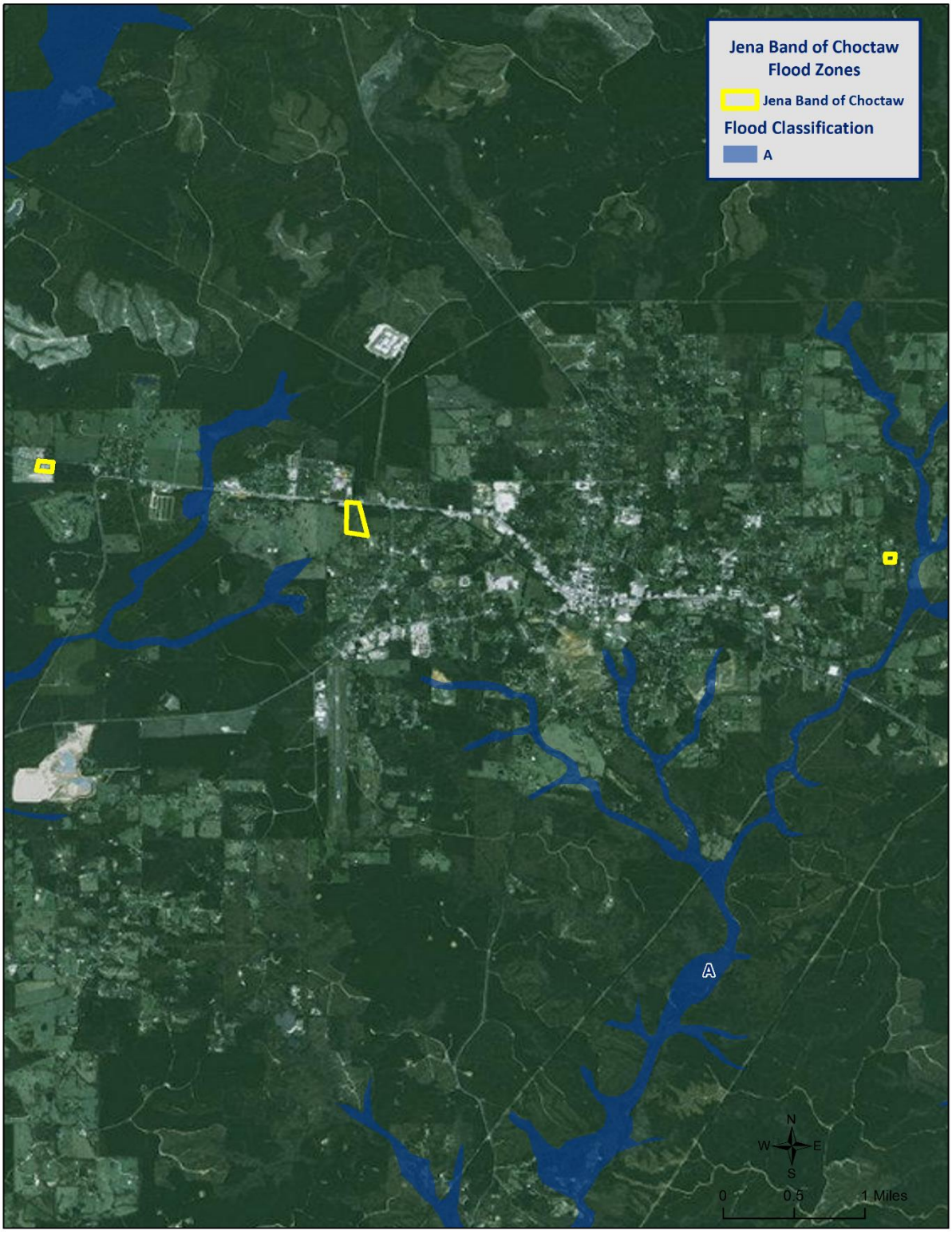

Figure 2-13: Jena Band of Choctaw Areas within the Flood Zones

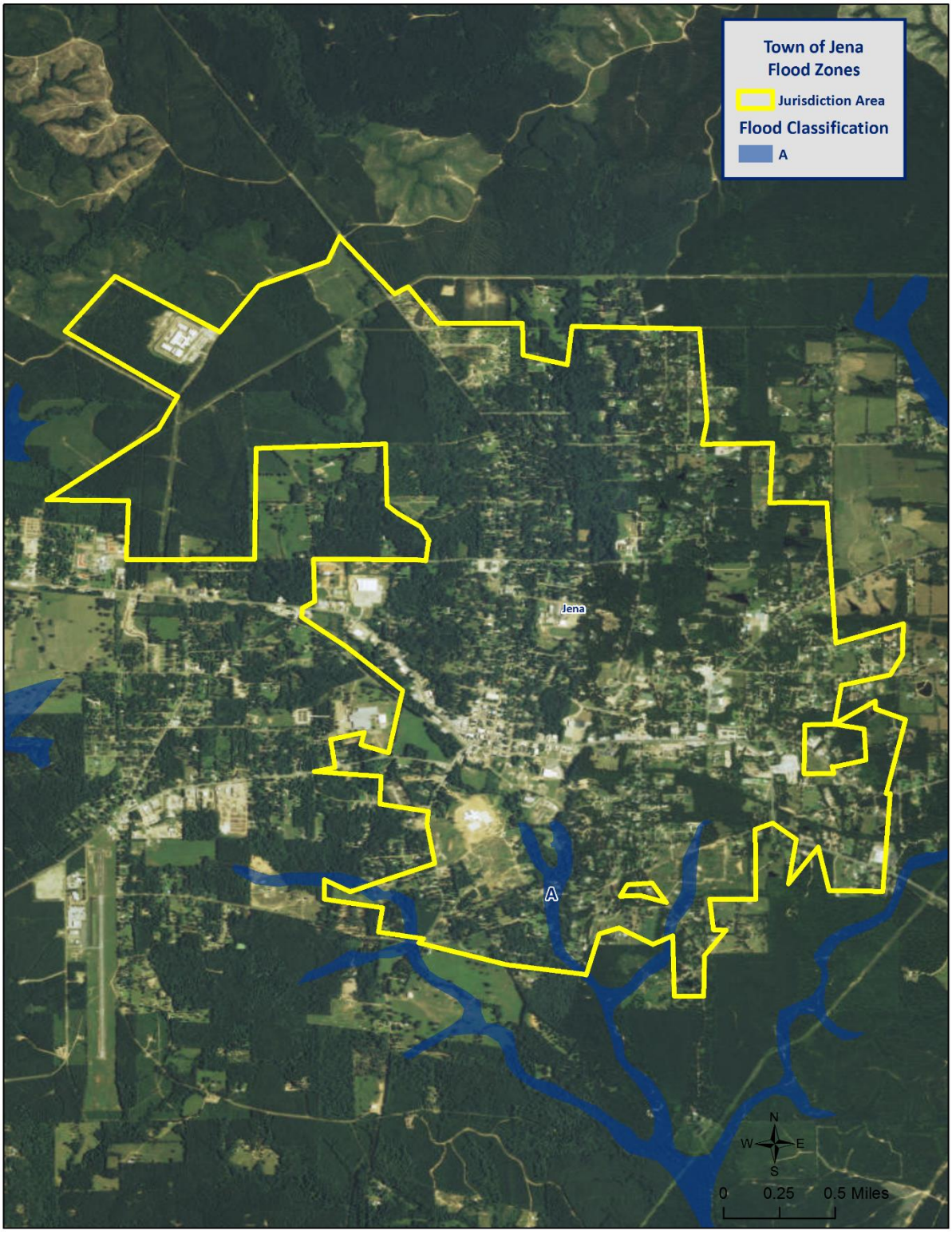

Figure 2-14: Town of Jena Areas within the Flood Zones

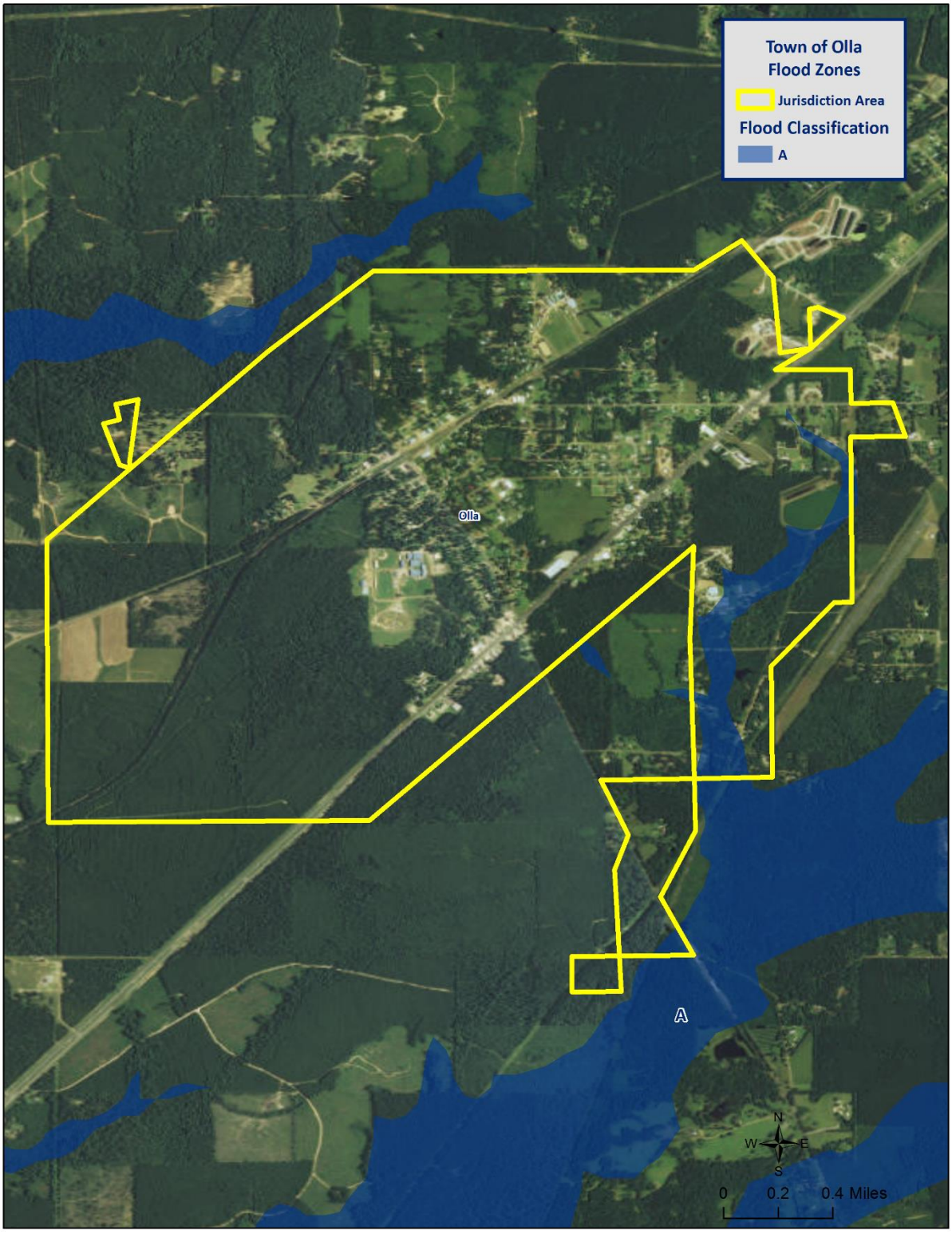

Figure 2-15: Town of Olla Areas within the Flood Zones

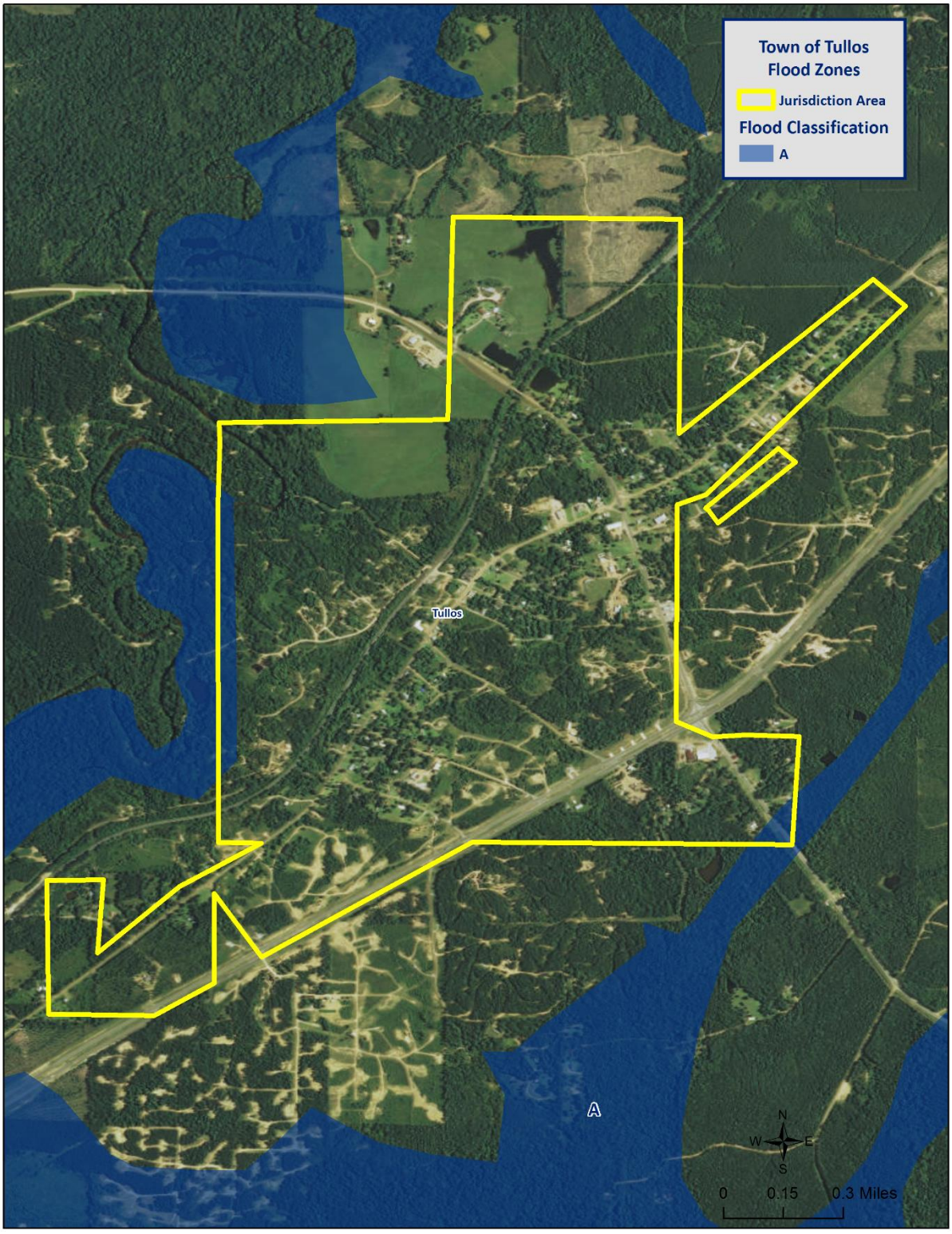

Figure 2-16: Town of Tullos Areas within the Flood Zones

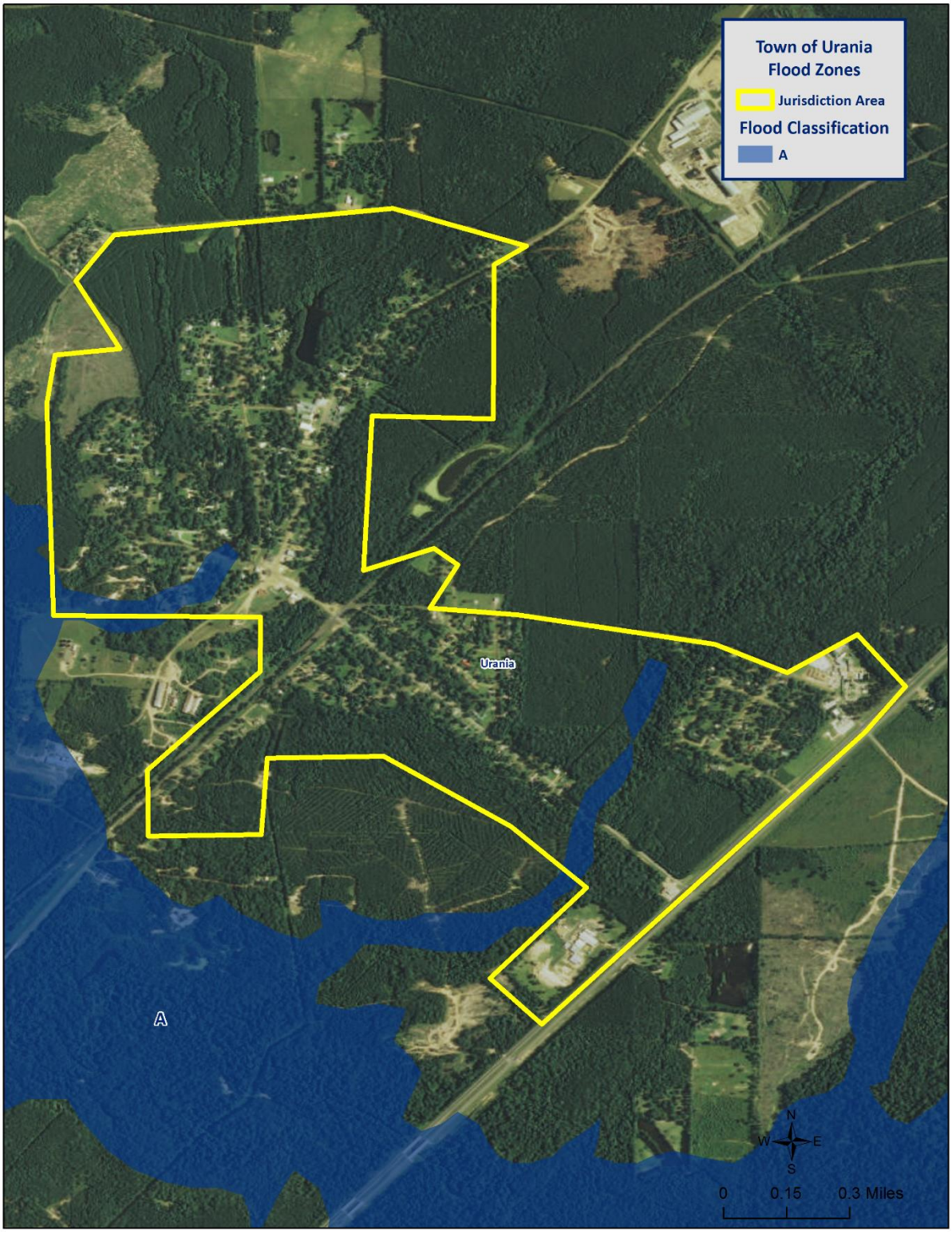

Figure 2-17: Town of Urania Areas within the Flood Zones

Previous Occurrences / Extents

Historically, there have been 13 flooding events that have created significant flooding in LaSalle Parish between 1989 and 2014. Below is a brief synopsis of the four flooding events that have occurred since 2009, including those events that have occurred since the parish's last planning update.

Table 2-15: Historical Floods in LaSalle Parish with Locations from 2009 - 2014

Date	Extents	Type of Flooding	Estimated Damages	Location
March 9, 2011	Heavy rainfall caused widespread flooding in Jena. Road closures included Highway 84, Elm Street, Coward Street, and Jackson Street.	Flash Flood	$0	JENA
March 9, 2011	Heavy rainfall caused flooding of roadways south of Jena. Portions of Highway 460 were closed due to flash flooding.	Flash Flood	$0	UNINCORPORATED AREA
August 31, 2012	Excessive rainfall from the remnants of Tropical Storm Lee resulted in flash flooding. Several roads were closed across LaSalle Parish due to flooding.	Flash Flood	$0	UNINCORPORATED AND INCORPORATED AREAS INCLUDING JENA BAND OF CHOCTAW
May 18, 2015	Excessive heavy rainfall caused flooding in the unincorporated areas of the parish. McCann Road in the Trout community experienced water overtopping the roadway.	Flash Flood	$0	UNINCORPORATED AREAS

The worst-case scenarios are based on several different types of flooding events. Storm water excesses and riverine flooding primarily affect the low-lying areas of the parish, and flood depths of up to three feet can be expected in the unincorporated areas of the parish. The incorporated areas of Jena, Olla, Tullos, Urania, and the Jena Band of Choctaw areas can expect flood depths of one to three feet.

Frequency / Probability

While other parts of this plan, along with the State's Hazard Mitigation Plan, have relied on the SHELDUS database to provide the annual probability, due to LaSalle having multiple jurisdictions, it was necessary to assess the historical data found in the National Climatic Data Center for LaSalle and its jurisdictions to properly determine probability for future flood events. The table below shows the probability and return frequency for each jurisdiction.

Table 2-16: Annual Flood Probabilities for LaSalle Parish

Jurisdiction	Annual Probability	Return Frequency
LaSalle (Unincorporated)	32%	3 – 4 years
Jena	20%	5 years
Olla	4%	25 years
Tullos	4%	25 years
Urania	4%	25 years
Jena Band of Choctaw	4%	25 years

Based on historical record, the overall flooding probability for the entire LaSalle Parish planning area is 52%, with 13 events occurring over a 25-year period.

Estimated Potential Losses

Using the Hazus 2.2 Flood Model, along with the Parish DFIRM, the 100-year flood scenario was analyzed to determine losses from this worst-case scenario. *Table 2-17* shows the total economic losses that would result from this occurrence.

Table 2-17: Estimated Losses in LaSalle Parish from a 100-Year Flood Event (Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Flood Event
LaSalle (Unincorporated)	$42,801,000
Jena	$629,000
Olla	$292,000
Tullos	$23,000
Urania	$67,000
Jena Band of Choctaw	$0
Total	$43,812,000

The Hazus 2.2 Flood Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the following tables:

Table 2-18: Estimated 100-Year Flood Losses for Unincorporated LaSalle Parish by Sector (Source: Hazus 2.2)

LaSalle Parish (Unincorporated)	Estimated Total Losses from 100-Year Flood Event
Agricultural	$40,000
Commercial	$3,594,000
Government	$131,000
Industrial	$1,405,000
Religious / Non-Profit	$721,000
Residential	$36,696,000
Schools	$214,000
Total	$42,801,000

Table 2-19: Estimated 100-Year Flood Losses for Jena by Sector (Source: Hazus 2.2)

Jena	Estimated Total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$16,000
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$613,000
Schools	$0
Total	$629,000

Table 2-20: Estimated 100-Year Flood Losses for Olla by Sector (Source: Hazus 2.2)

Olla	Estimated Total Losses from 100-Year Flood Event
Agricultural	$10,000
Commercial	$23,000
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$259,000
Schools	$0
Total	$292,000

Table 2-21: Estimated 100-Year Flood Losses for Tullos by Sector
(Source: Hazus 2.2)

Tullos	Estimated Total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$0
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$23,000
Schools	$0
Total	$23,000

Table 2-22: Estimated 100-Year Flood Losses for Urania by Sector
(Source: Hazus 2.2)

Urania	Estimated total Losses from 100-Year Flood Event
Agricultural	$0
Commercial	$0
Government	$0
Industrial	$0
Religious / Non-Profit	$0
Residential	$67,000
Schools	$0
Total	$67,000

Threat to People

The total population within the parish that is susceptible to a flood hazard is shown in the table below:

Table 2-23: Vulnerable Populations Susceptible to a 100-Year Flood Event
(Source: Hazus 2.2)

Number of People Exposed to Flood Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
LaSalle Parish (Unincorporated)	**8,249**	**7,902**	**95.8%**
Jena	**3,398**	**1,017**	**29.9%**
Olla	**1,385**	**510**	**36.8%**
Tullos	**385**	**57**	**14.8%**
Urania	**1,313**	**307**	**23.4%**
Jena Band of Choctaw	**160**	**0**	**0.0%**
Total	**14,890**	**9,793**	**65.8%**

The Hazus 2.2 Flood Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions in the following tables:

Table 2-24: Vulnerable Populations Susceptible to a 100-Year Flood Event in Unincorporated LaSalle Parish (Source: Hazus 2.2)

LaSalle Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	7,902	95.8%
Persons Under 5 Years	508	6.4%
Persons Under 18 Years	1,870	23.7%
Persons 65 Years and Over	1,169	14.8%
White	6,734	85.2%
Minority	1,168	14.8%

Table 2-25: Vulnerable Populations Susceptible to a 100-Year Flood Event in Jena (Source: Hazus 2.2)

Jena		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	1,017	29.9%
Persons Under 5 Years	55	5.4%
Persons Under 18 Years	212	20.9%
Persons 65 Years and Over	169	16.6%
White	856	84.1%
Minority	161	15.9%

Table 2-26: Vulnerable Populations Susceptible to a 100-Year Flood Event in Olla (Source: Hazus 2.2)

Olla		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	510	36.8%
Persons Under 5 Years	49	9.6%
Persons Under 18 Years	141	27.7%
Persons 65 Years and Over	83	16.3%
White	490	96.0%
Minority	20	4.0%

Table 2-27: Vulnerable Populations Susceptible to a 100-Year Flood Event in Tullos (Source: Hazus 2.2)

Tullos		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	57	14.8%
Persons Under 5 Years	4	6.5%
Persons Under 18 Years	12	21.6%
Persons 65 Years and Over	9	15.1%
White	54	94.6%
Minority	3	5.5%

Table 2-28: Vulnerable Populations Susceptible to a 100-Year Flood Event in Urania (Source: Hazus 2.2)

Urania		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	307	23.4%
Persons Under 5 Years	10	3.3%
Persons Under 18 Years	40	13.0%
Persons 65 Years and Over	28	9.1%
White	210	68.3%
Minority	97	31.7%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to flooding due to proximity within the 100-year floodplain.

Thunderstorms

The term "thunderstorm" is usually used as a catch-all term for several kinds of storms. Here, "thunderstorm" is defined to include any precipitation event in which thunder is heard or lightning is seen. Thunderstorms are often accompanied by heavy rain and strong winds, and depending on conditions, occasionally by hail or snow. Thunderstorms form when humid air masses are heated, which causes them to become convectively unstable. Consequently, the air masses rise. Upon rising, the air masses' water vapor condenses into liquid water and/or deposits directly into ice when they rise sufficiently to cool to the dew-point temperature.

Thunderstorms are classified into four main types (single-cell, multi-cell, squall line, and supercell), depending on the degree of atmospheric instability, the change in wind speed with height (called wind shear), and the degree to which the storm's internal dynamics are coordinated with those of adjacent storms. There is no such interaction for single-cell thunderstorms, but there is significant interaction with clusters of adjacent thunderstorms in multi-cell thunderstorms, and with a linear "chain" of adjacent storms in squall line thunderstorms. Though supercell storms have no significant interactions with other storms, they have very well-organized and self-sustaining internal dynamics, which allows them to be the longest-lived and most severe of all thunderstorms.

The life of a thunderstorm proceeds through three stages: the developing (or cumulus) stage, the mature stage, and the dissipation stage. During the developing stage, the unstable air mass is lifted as an updraft into the atmosphere. This sudden lift rapidly cools the moisture in the air mass, releasing latent heat as condensation and/or deposition occurs, which warms the surrounding environment, thus making it less dense than the surrounding air. This process intensifies the updraft and creates a localized lateral rush of air from all directions into the area beneath the thunderstorm to feed continued updrafts. At the mature stage, the rising air is accompanied by downdrafts caused by the shear of falling rain (if melted completely), or hail, freezing rain, sleet, or snow (if not melted completely). The dissipation stage is characterized by the dominating presence of the downdraft as the hot surface that gave the updrafts their buoyancy is cooled by precipitation. During the dissipation stage, the moisture in the air mass largely empties out.

The Storm Prediction Center, in conjunction with the National Weather Service, has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued, along with definitions of each:

- *Severe Thunderstorm Watch*: Issued to alert people to the possibility of a severe thunderstorm developing in the area. Expected time frame for these storms is three to six hours.

- *Severe Thunderstorm Warning*: Issued when severe thunderstorms are imminent. This warning is highly localized and covers parts of one to several parishes (counties).

A variety of hazards might be produced by thunderstorms, including lightning, hail, tornadoes or waterspouts, flash flooding, and high-speed winds called downbursts. Nevertheless, given the criteria, the National Oceanic and Atmospheric Administration (NOAA) characterizes a thunderstorm as severe when it produces one or more of the following:

- Hail of one inch in diameter or larger
- Wind gusts to 58 mph or greater
- One or more tornadoes

Tornadoes and flooding hazards have been profiled within this report; therefore, for the purpose of thunderstorms, the sub-hazards of hail, high winds, and lightning will be profiled.

Thunderstorms occur throughout Louisiana at all times of the year, although the types and severity of those storms vary greatly depending on a wide variety of atmospheric conditions. Thunderstorms generally occur more frequently during the late spring and early summer when extreme variations exist between ground surface temperatures and upper atmospheric temperatures.

Hazard Description

Hailstorms

Hailstorms are severe thunderstorms in which balls or chunks of ice fall along with rain. Hail initially develops in the upper atmosphere as ice crystals that are bounced about by high-velocity updraft winds. The ice crystals grow through deposition of water vapor onto their surface. They then fall partially to a level in the cloud where the temperature exceeds the freezing point, melt partially, and then get caught in another updraft whereupon re-freezing and deposition grows another concentric layer of ice. After several trips up and down the cloud, they develop enough weight to fall. The size of hailstones varies depending on the severity and size of the thunderstorm. Higher surface temperatures generally mean stronger updrafts, which allow more massive hailstones to be supported by updrafts, leaving them suspended longer. This longer suspension time results in larger hailstone sizes. The tables on the following page display the TORRO Hailstorm Intensity Scale, along with a spectrum of hailstone diameters and their everyday equivalents.

Table 2-29: TORRO Hailstorm Intensity Scale

Intensity Category		Hail Diameter (mm)	Probable Kinetic Energy	Typical Damage Impacts
H0	Hard Hail	5	0 - 20	No damage
H1	Potentially Damaging	5 - 15	>20	Slight general damage to plant, crops
H2	Significant	10 - 20	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20 - 30	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25 - 40	>500	Widespread glass damage, vehicle body work
H5	Destructive	30 - 50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40 - 60		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50 - 75		Severe roof damage, risk of serious injuries
H8	Destructive	60 - 90		Severe damage to aircraft bodywork
H9	Super Hailstorms	75 - 100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Table 2-30: Spectrum of Hailstone Diameters and their Everyday Description (Source: National Weather Service)

Spectrum of Hailstone Diameters	
Hail Diameter Size	**Description**
1/4”	Pea
1/2”	Plain M&M
3/4”	Penny
7/8”	Nickle
1” (severe)	Quarter
1 1/4”	Half Dollar
1 1/2”	Ping Pong Ball / Walnut
1 3/4”	Golf Ball
2”	Hen Egg / Lime
2 1/2"	Tennis Ball
2 3/4"	Baseball
3”	Teacup / Large Apple
4”	Softball
4 1/2"	Grapefruit
4 3/4” – 5”	Computer CD-DVD

Hailstorms can cause widespread damage to structures, automobiles, and crops. While the damage to individual structures or vehicles is often minor, the cumulative cost to communities, especially across large metropolitan areas, can be quite significant. Hailstorms can also be devastating to crops. Thus, the severity of hailstorms depends on the size of the hailstones, the length of time the storm lasts, and where it occurs.

Hail rarely causes loss of life, although large hailstones can cause bodily injury.

High Winds

In general, high winds can occur in a number of different ways, with and without thunderstorms. The Federal Emergency Management Agency distinguishes these as shown in the following table.

Table 2-31: High Winds Categorized by Source, Frequency, and Duration
(Source: Making Critical Facilities Safe from High Wind, FEMA)

High Winds Categories			
High Wind Type	**Description**	**Relative Frequency in Louisiana**	**Relative Maximum Duration in Louisiana**
Straight-line Winds	Wind blowing in straight line; usually associated with intense low-pressure area	High	Few minutes – 1 day
Downslope Winds	Wind blowing down the slope of a mountain; associated with temperature and pressure gradients	N/A	N/A
Thunderstorm Winds	Wind blowing due to thunderstorms, and thus associated with temperature and pressure gradients	High (especially in the spring and summer	Few minutes – several hours
Downbursts	Sudden wind blowing down due to downdraft in a thunderstorm; spreads out horizontally at the ground, possibly forming horizontal vortex rings around the downdraft	Medium-to-High(~5% of all thunderstorms)	~15 – 20 minutes
Northeaster (nor'easter) Winds	Wind blowing due to cyclonic storm off the east coast of North America; associated with temperature and pressure gradients between the Atlantic and land	N/A	N/A
Hurricane Winds	Wind blowing in spirals, converging with increasing speed toward eye; associated with temperature and pressure gradients between the Atlantic and Gulf and land	Low-to-Medium	Several days
Tornado Winds	Violently rotating column of air from base of a thunderstorm to the ground with rapidly decreasing winds at greater distances from center; associated with extreme temperature gradient	Low-to-Medium	Few minutes – few hours

The only high winds of present concern are thunderstorm winds and downbursts. Straight-line winds are common but are a relatively insignificant hazard (on land) compared to other high winds. Downslope winds are common but relatively insignificant in the mountainous areas of Louisiana where they occur. Nor'easters are cyclonic events that have at most a peripheral effect on Louisiana, and none associated with high winds. Winds associated with hurricanes and tornadoes will be considered in their respective sections.

The following table presents the Beaufort Wind Scale, first developed in 1805 by Sir Francis Beaufort, which aids in determining relative force and wind speed based on the appearance of wind effects.

Table 2-32: Beaufort Wind Scale
(Source: NOAA's SPC)

Beaufort Wind Scale			
Force	**Wind (MPH)**	**WMO Classification**	**Appearance of Wind Effects on Land**
			Calm, smoke rises vertically
1	1-3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4-7	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	8-12	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	13-17	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	18-24	Fresh Breeze	Small trees in leaf begin to sway
6	25-30	Strong Breeze	Larger tree branches moving, whistling in wires
7	31-38	Near Gale	Whole trees moving, resistance felt walking against wind
8	39-46	Gale	Twigs breaking off trees, generally impedes progress
9	47-54	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	55-63	Storm	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	54-73	Violent Storm	N/A
12	74+	Hurricane	N/A

Major damage directly caused by thunderstorm winds is relatively rare, while minor damage is common and pervasive, and most noticeable when it contributes to power outages. These power outages can have major negative impacts such as increased tendency for traffic accidents, loss of revenue for businesses, increased vulnerability to fire, food spoilage, and other losses that might be sustained by a loss of power. Power outages may pose a health risk for those requiring electric medical equipment and/or air conditioning.

Lightning

Lightning is a natural electrical discharge in the atmosphere that is a by-product of thunderstorms. Every thunderstorm produces lightning. There are three primary types of lightning: intra-cloud, cloud-to-ground, and cloud-to-cloud. Cloud-to-ground lightning has the potential to cause the most damage to property and crops, while also posing as a health risk to the populace in the area of the strike.

Damage caused by lightning is usually to homes or businesses. These strikes have the ability to damage electrical equipment inside the home or business, and can also ignite a fire that could destroy homes or crops.

Lightning continues to be one of the top three storm-related killers in the United States per FEMA, but it also has the ability to cause negative long-term health effects to the individual that is struck. The following table outlines the lightning activity level, which is a measurement of lightning activity.

Table 2-33: Lightning Activity Level (LAL) Grids

LAL	Cloud and Storm Development	Lightning Strikes/15 Min
1	No thunderstorms.	-
2	Cumulus clouds are common but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. Lightning is very infrequent.	1-8
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are few, but two to three must occur within the observation. Light to moderate rain will reach the ground, and lightning is infrequent.	9-15
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are scattered and more than three must occur within the observation area. Moderate rain is common and lightning is frequent.	16-25
5	Towering cumulus and thunderstorms are numerous. They cover more than three-tenths and occasionally obscure the sky. Rain is moderate to heavy and lightning is frequent.	>25
6	Similar to LAL 3 except thunderstorms are dry	

Hazard Profile

Hailstorms

Location

Because hailstorms are a climatological based hazard, the entire planning area for LaSalle Parish is equally at risk for hailstorms.

Previous Occurrences / Extents

There have been no reports of significant hailstorm events occurring within the boundaries of LaSalle Parish between the years of 1989-2014. According to the National Climatic Data Center, hailstorm diameters experienced in LaSalle Parish have ranged from 0.75 inches to 2.75 inches. The most frequently recorded hail size has been 0.75 inch diameters. *Figure 2-18* displays the density of hailstorms in LaSalle Parish and adjacent parishes. LaSalle Parish can expect to experience hail up to 2.75 inches in diameter for future events. There have been no significant hailstorm events in the incorporated areas of Jena, Olla, Urania, or the Jena Band of Choctaw areas, as well as the unincorporated areas of LaSalle Parish since 2009.

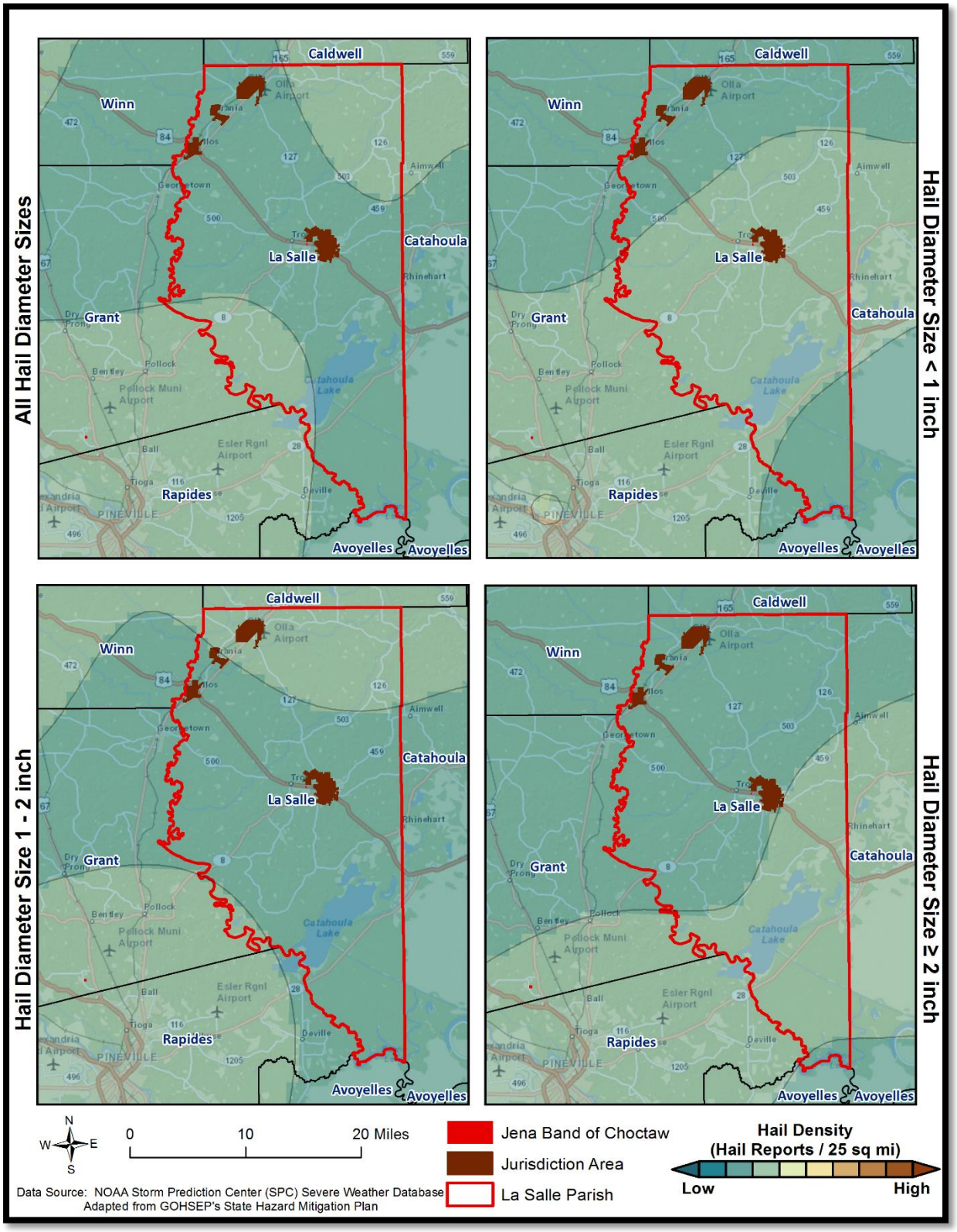

Figure 2-18: Density of Hailstorms by Diameter from 1950-2012
(Source: State of Louisiana Hazard Mitigation Plan 2014)

Frequency

Based on historical data from SHELDUS for the past 25 years, it is estimated the probability of occurrence for a significant hailstorm event is less than 1%.

Estimated Potential Losses

There have been no hailstorm events that have caused significant damage to property in LaSalle Parish since 1989. There also have been no deaths or injuries due to hailstorms from 1989 – 2014 in LaSalle Parish.

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to hailstorms.

High Winds

Location

Because high winds are a climatological based hazard, the entire planning area for LaSalle Parish is equally at risk for high winds.

Previous Occurrences / Extents

The SHELDUS database reports a total of 13 thunderstorm wind events occurring within the boundaries of LaSalle Parish between the years of 1989 to 2014. The significant thunderstorm wind events experienced in LaSalle Parish have ranged in wind speed from 60 mph to 81 mph. LaSalle Parish can expect to receive thunderstorm winds up to 81 mph for future high wind events. The table below provides an overview of significant high wind events over the last five years:

Table 2-34: Previous Occurrences for Thunderstorm High Wind Events 2009 - 2014

Location	Date	Recorded Wind Speeds (mph)	Property Damage	Crop Damage
JENA	May 3, 2009	81	$50,000	$0
JENA	May 31, 2012	60	$5,000	$0
JENA	August 9, 2012	61	$10,000	$0
JENA	March 28, 2014	67	$250,000	$0
SUMMERVILLE	May 25, 2015	75	$150,000	$0

The incorporated areas of Olla, Tullos, Urania, and the Jena Band of Choctaw areas have not experienced any high wind events since 2009.

Frequency

High winds are a fairly common occurrence within LaSalle Parish, with an annual chance of occurrence calculated at 52%.

Estimated Potential Losses

Since 1989, there have been 13 significant wind events that have resulted in property damages according to the SHELDUS database. The total property damages associated with those storms have totaled $202,017. To estimate the potential losses of a wind event on an annual basis, the total damages recorded for wind events

was divided by the total number of years of available wind data in SHELDUS (1989 – 2014). This provides an annual estimated potential loss of $15,540. The following table provides an estimate of potential property losses for LaSalle Parish:

Table 2-35: Estimated Annual Property Losses in LaSalle Parish Resulting from High Winds

Estimated Annual Potential Losses from Thunderstorm Winds for LaSalle Parish					
Unincorporated LaSalle Parish (55.4% of Population)	**Jena (22.8% of Population)**	**Olla (9.3% of Population)**	**Tullos (2.6% of Population)**	**Urania (8.8% of Population)**	**Jena Band of Choctaw (1.1% of Population)**
$4,477	$1,844	$752	$209	$713	$87

There have been no reported injuries or fatalities as a result of a thunderstorm wind event over the 25-year record.

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to high winds.

Lightning

Location

Like hail and high winds, lightning is a climatological based hazard and has the same probability of occurring throughout the entire planning area for LaSalle Parish.

Previous Occurrences / Extents

There have been no significant lightning events occurring within the boundaries of LaSalle Parish between the years of 1989-2014. The SHELDUS database only records lightning events that cause death, injuries, crop damage, and/or property damage, so these numbers do not accurately reflect the number of lightning events in LaSalle Parish, which occur on a nearly monthly basis. The planning area can expect to have a lightning density of 11-12 flashes per sq. mile per year.

Since 2009, there have been no lightning events that have caused property damage or loss of life in the incorporated areas of Jena, Olla, Tullos, Urania, and the Jena Band of Choctaw areas, as well as the unincorporated areas of LaSalle Parish.

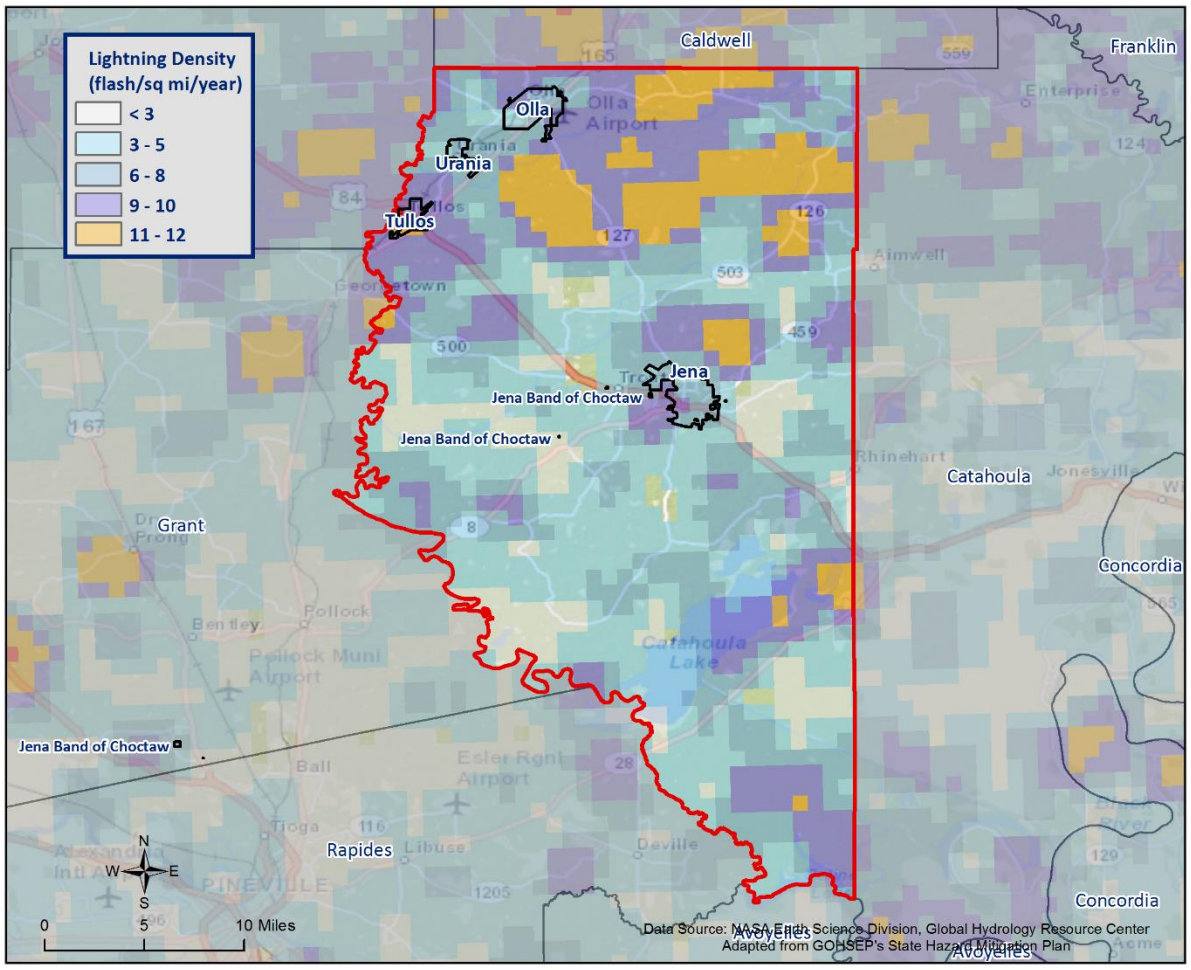

Figure 2-19: Lightning Density Reports for LaSalle Parish

Frequency

Lightning can strike anywhere and is produced by every thunderstorm, so the chance of lightning occurring in LaSalle Parish is high. However, lightning that meets the definition used by SHELDUS and the NCDC that actually results in damages to property and injury or death is a less likely event. There have been no lightning events that have caused property damages or injuries over the last 25 years, establishing an annual probability of less than 1%.

Estimated Potential Losses

Since 1989, there have been no significant lightning events that have resulted in property damages. There also have been no reported injuries or fatalities in LaSalle Parish as a result of a lightning strikes over the 25-year record.

Vulnerability

See Appendix C for parish and municipality building exposure to lightning hazards.

Tornadoes

Tornadoes (also called twisters or cyclones) are rapidly rotating funnels of wind extending between storm clouds and the ground. For their size, tornadoes are the most severe storms, and 70% of the world's reported tornadoes occur within the continental United States, making them one of the most significant hazards Americans face. Tornadoes and waterspouts form during severe weather events, such as thunderstorms and hurricanes, when cold air overrides a layer of warm air, causing the warm air to rise rapidly. This usually results in a counterclockwise rotation in the northern hemisphere. The updraft of air in tornadoes always rotates because of wind shear (differing speeds of moving air at various heights), and it can rotate in either a clockwise or counterclockwise direction; clockwise rotations (in the northern hemisphere) will sustain the system, at least until other forces cause it to die seconds to minutes later.

Since February 1, 2007, the Enhanced Fujita (EF) Scale has been used to classify tornado intensity. The EF Scale classifies tornadoes based on their damage pattern rather than wind speed; wind speed is then derived and estimated. This contrasts with the Saffir-Simpson scale used for hurricane classification, which is based on measured wind speed. *Table 2-36* shows the EF scale in comparison with the old Fujita (F) Scale, which was used prior to February 1, 2007. When discussing past tornadoes, the scale used at the time of the hazard is used. Damage and adjustment between scales can be made using the following tables.

Table 2-36: Comparison of the Enhanced Fujita (EF) Scale to the Fujita (F) Scale

	Enhanced Fujita Scale					
	EF0	**EF1**	**EF2**	**EF3**	**EF4**	**EF5**
Wind speed (mph)	65-85	86-110	111-135	136-165	166-200	>200
	Fujita Scale					
	F0	**F1**	**F2**	**F3**	**F4**	**F5**
	<73	73-112	113-157	158-206	207-260	>261

Table 2-37: Fujita and Enhanced Fujita Tornado Damage Scale

Scale	Typical Damage
F0/EF0	Light damage. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1/EF1	Moderate damage. Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
F2/EF2	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; light-object missiles generated; cars lifted off ground.
F3/EF3	Severe damage. Roofs and some walls torn of well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4/EF4	Devastating damage. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5/EF5	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yards); trees debarked; incredible phenomena will occur.

The National Weather Service has the ability to issue advisory messages based on forecasts and observations. The following are the advisory messages that may be issued, along with definitions of each:

- *Tornado Watch*: Issued to alert people to the possibility of a tornado developing in the area. A tornado has not been spotted but the conditions are favorable for tornadoes to occur.

- *Tornado Warning*: Issued when a tornado has been spotted or when radar identifies a distinctive "hook-shaped" area within a thunderstorm line.

Structures within the direct path of a tornado vortex are often reduced to rubble. Structures adjacent to the tornado's path are often severely damaged by high winds flowing into the tornado vortex, known as inflow winds. It is here, adjacent to the tornado's path, that the building type and construction techniques are critical to the structure's survival. Although tornadoes strike at random, making all buildings vulnerable, mobile homes, homes with crawlspaces, and buildings with large spans are more likely to suffer damage.

The major health hazard from tornadoes is physical injury from flying debris, or being in a collapsed building or mobile home. Within a building, flying debris or projectiles are generally stopped by interior walls. However, if a building has no partitions, any glass, brick, or other debris blown into the interior is life threatening. Following a tornado, damaged buildings are a potential health hazard due to instability, electrical system damage, and gas leaks. Sewage and water lines may also be damaged.

Peak tornado activity in Louisiana occurs during the spring, as it does in the rest of the United States. Nearly one-third of observed tornadoes in the United States occur during April. About half of those in Louisiana, including many of the strongest, occur between March and June. Fall and winter tornadoes are less frequent, but the distribution of tornadoes throughout the year is more uniform in Louisiana than in locations farther north.

Location

While there is a significant tornado record in LaSalle Parish with specific locations, tornadoes in general are a climatological based hazard and have the same approximate probability of occurring in LaSalle Parish as all of its jurisdictions. Because a tornado has a similar probability of striking anywhere within the planning area for LaSalle Parish, all jurisdictions are equally at risk for tornadoes.

Previous Occurrences / Extents

SHELDUS reports a total of ten tornadoes or waterspouts occurring within the boundaries of LaSalle Parish between the years of 1989-2014. The tornadoes experienced in LaSalle Parish have from ranged EF0 to EF2 on the EF scale, and ranged from F0 to F4 on the F scale. The worst case scenario LaSalle Parish can expect in the future is an EF4 tornado.

The tornado that caused the most damage to property occurred on May 19, 1983. The F3 tornado was responsible for over $25 million in damages. The tornado touched down near the town of Urania proceeding to the town of Olla before dissipating near the town of Kelly in Caldwell Parish. Approximately 70% of the buildings (300) sustained moderate to major damage. Additionally, nearly 800 homes in the town of Olla sustained major damage with 25 being destroyed. The tornado responsible for the most injuries occurred

on December 23, 2004. The F3 tornado was responsible for 20 injuries. The tornado responsible for the most fatalities was a F4 tornado that occurred on December 3, 1952, which caused two fatalities.

Table 2-38: Historical Tornadoes in LaSalle Parish with Locations from 2009-2014

Date	Impacts	Property Damage	Location	Magnitude
December 31, 2010	0.38 mile path with a width of 50 yards. Removed the front porch from a trailer house and downed several trees.	$21,368	ROGERS	EF0
April 4, 2011	6.03 mile path with a width of 275 yards. Downed numerous trees. One car was crushed from a downed tree. A home had shingles removed from the roof and a shop had a tin roof removed due to wind.	$200,000	ZENORIA	EF1
April 4, 2011	7.57 mile path with a width of 225 yards. Uprooted several trees.	$75,000	SUMMERVILLE	EF2
April 27, 2011	7.98 mile path with a width of 100 yards. Destroyed an old building and uprooted several trees.	$40,00	TULLOS	EF0

The incorporated areas of Jena, Olla, Urania, and the areas of the Jena Band of Choctaw have not experienced a tornado event from 2009 to the present. Since 2010, the year in which the last update to this Hazard Mitigation Plan was written, LaSalle Parish has had three tornadoes touchdown in the unincorporated areas of the parish and in the incorporated area of Tullos. The following is a brief synopsis of these events:

April 4, 2011 – EF1 near Zenoria

A tornado touched down in northeastern Grant Parish and travelled through the Zenoria community before it lifted just northeast of Highway 84. Numerous trees along the path were snapped or uprooted. Falling trees blocked Highway 84. Several homes were damaged when trees fell on them. One car was crushed from a falling tree and one home had shingles removed from its roof due to high winds.

April 4, 2011 – EF2 near Summerville

A tornado touched down in a heavily wooded area south of IP 13, west of Brasher Road. The tornado traveled across Highway 125 and through an unpopulated area in Northeast LaSalle Parish. The tornado damaged or uprooted numerous trees in LaSalle Parish, but the majority of the damage occurred when the tornado crossed into Catahoula Parish.

April 27, 2011 – EF0 in Tullos

A weak tornado touched down on the southwest side of Tullos, where an old building was destroyed when the walls collapsed. Several trees were snapped off on both side of Highway 165 as the tornado continued traveling east towards Highway 84. Maximum winds were estimated at 70 – 75 mph.

Frequency / Probability

Tornadoes are a sporadic occurrence within LaSalle Parish, with an annual chance of occurrence calculated at 40% based on the records for the past 25 years (1989-2014). The following figure displays the density of tornado touch downs in LaSalle Parish and neighboring parishes.

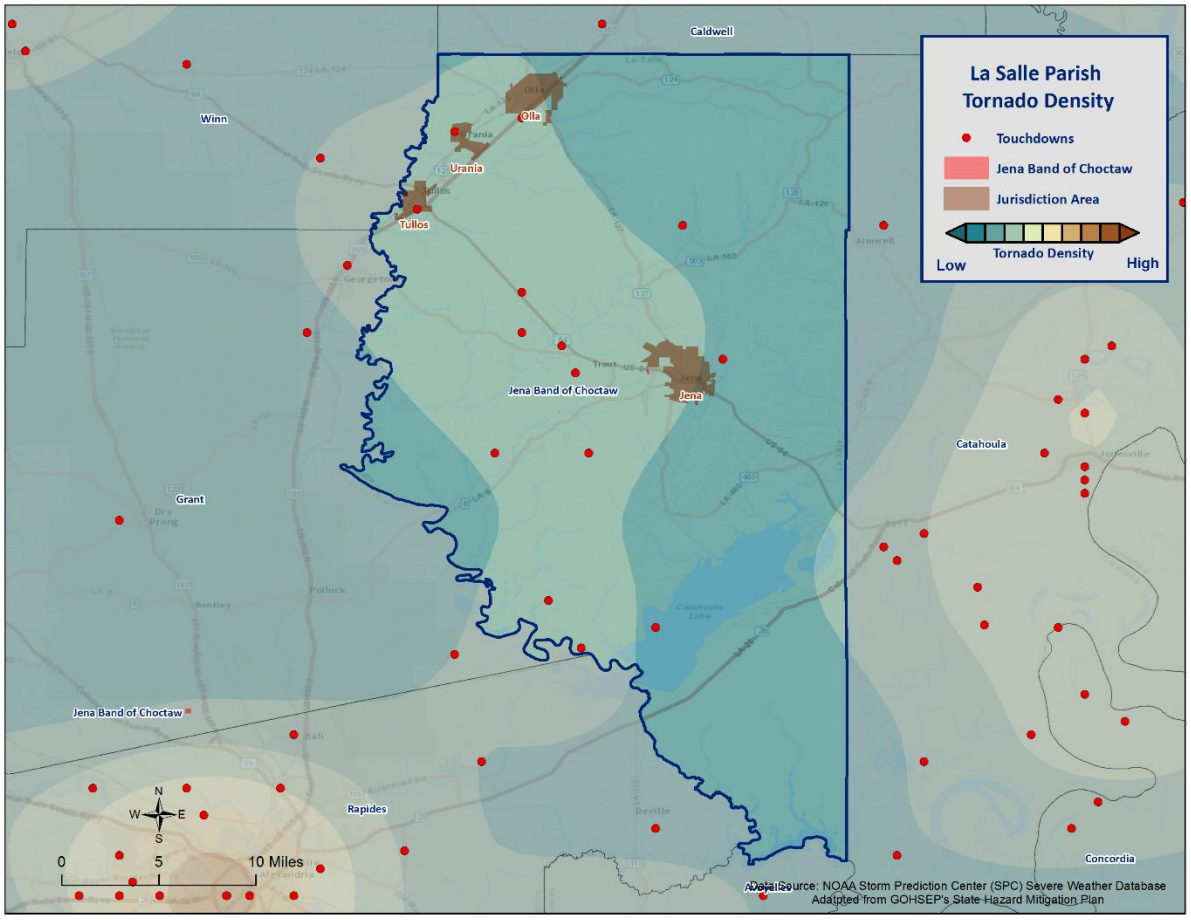

Figure 2-20: Location and Density of Tornadoes to Touch Down in LaSalle Parish (Source: NOAA/SPC Severe Weather Database)

Estimated Potential Losses

According to the SHELDUS database, there have been 10 tornadoes that have caused some level of property damage since 1989. The total damage from the actual claims for property is $8,410,534, with an average cost of $841,053 per tornado strike. When annualizing the total cost over the 25-year record, total annual loses based on tornadoes are estimated to be $336,421. To provide an estimated annual potential loss per jurisdiction, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. Based on the 2010 Census data, the table on the following page provides an annual estimate of potential losses for LaSalle Parish.

Table 2-39: Estimated Annual Losses from Tornadoes in LaSalle Parish

Estimated Annual Potential Losses from Tornadoes for LaSalle Parish					
Unincorporated LaSalle Parish (55.4% of Population)	Jena (22.8% of Population)	Olla (9.3% of Population)	Tullos (2.6% of Population)	Urania (8.8% of Population)	Jena Band of Choctaw (1.1% of Population)
$186,376	$76,774	$31,292	$8,699	$29,666	$3,615

Table 2-40 presents an analysis of building exposure that is susceptible to tornadoes by general occupancy type for LaSalle Parish, along with the percentage of building stock that are mobile homes.

Table 2-40: Building Exposure by General Occupancy Type for Tornadoes in LaSalle Parish (Source: FEMA's Hazus 2.2)

Building Exposure by General Occupancy Type for Tornadoes Exposure Types ($1,000)							
Residential	Commercial	Industrial	Agricultural	Religion	Government	Education	Mobile Homes (%)
1,125,404	119,156	34,667	1,632	23,087	8,909	7,293	19.5%

The parish has suffered through a total of two days in which tornadoes or waterspouts have accounted for eight injuries and two fatalities during this 25-year period (*Table 2-41*). The average number of injuries per event for LaSalle Parish is 2.1 per tornado, with an average of 0.84 per year for the 25-year period. The average number of fatalities per event for LaSalle Parish is 0.1 per tornado, with an average of 0.04 per year for the 25-year period.

Table 2-41: Tornadoes in LaSalle Parish by Magnitude that Caused Injuries or Deaths

Date	Magnitude	Deaths	Injuries
November 23, 2004	F3	1	20
December 9, 2008	EF2	1	0

In assessing the overall risk to population, the most vulnerable population throughout the parish are those residing in manufacturing housing. Approximately 19.5% of all housing in LaSalle Parish consists of manufactured housing. Based on location data collected in a previous hazard mitigation project, there are five known locations where manufactured housing is concentrated. Each of those five locations have an overall number of manufactured houses ranging from six to 12. The location and density of manufactured houses can be seen in *Figure 2-21*.

Manufactured housing is more likely to sustain damage from a tornado than any other residential structure. The highest concentration of manufactured home parks is located in the unincorporated area of LaSalle Parish and the incorporated area of Jena (*Table 2-42*). However, this does not influence the risk associated with a tornado event since they strike at random, making all structures and population within the planning area equally vulnerable.

Table 2-42: Manufactured Home Distribution throughout LaSalle Parish

Location	Number of Manufactured Home Parks	% of Manufactured Home Parks
Unincorporated Area	2	40%
Jena	2	40%
Olla	1	20%
Tullos	0	0%
Urania	0	0%
Jena Band of Choctaw	0	0%

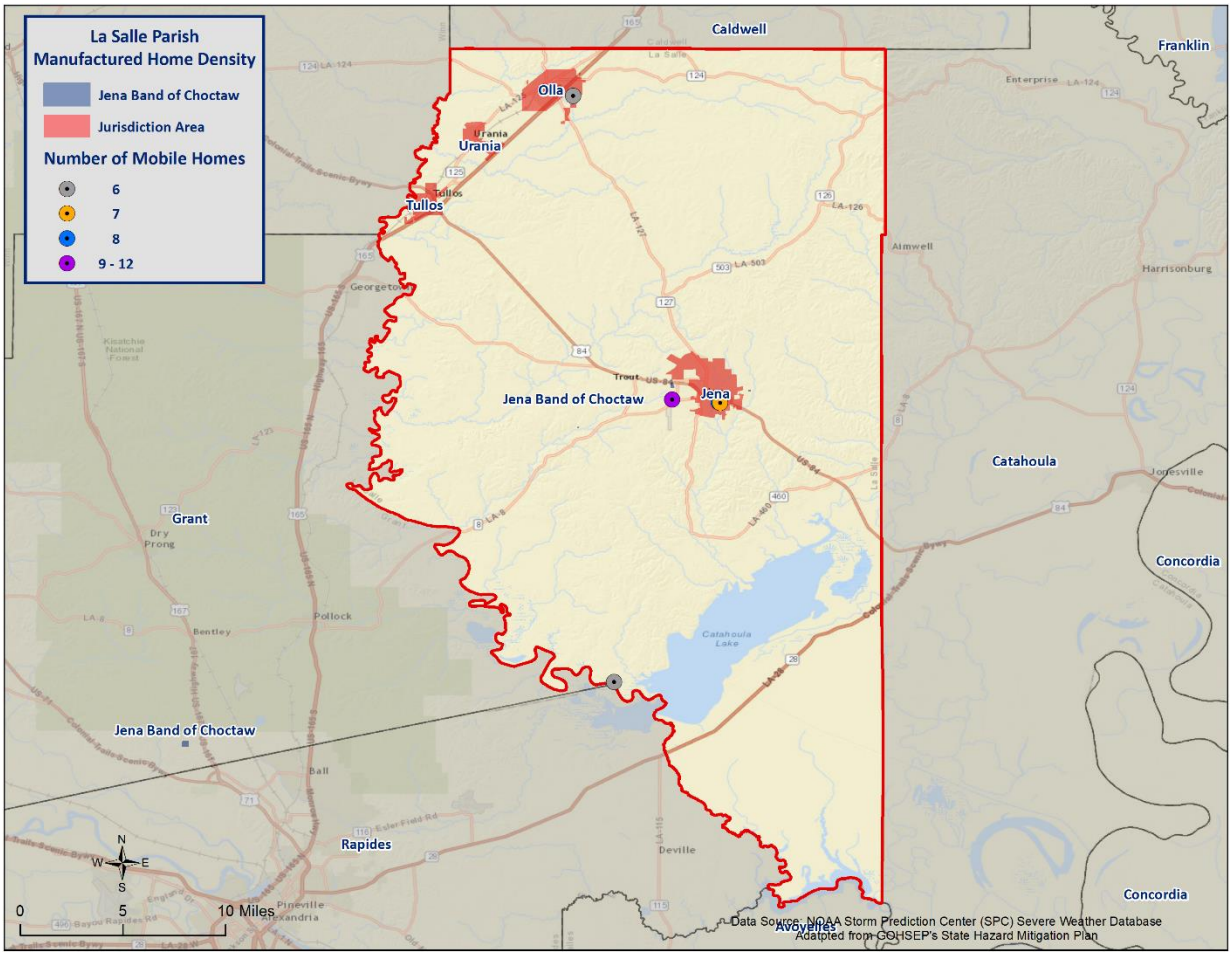

Figure 2-21: Location and Approximate Number of Units in Manufactured Housing Locations throughout LaSalle Parish.

Vulnerability

See Appendix C for parish and municipality building exposure to tornado hazards.

Tropical Cyclones

Tropical cyclones are among the worst hazards that Louisiana faces. These spinning, low-pressure air masses draw surface air into their centers and attain strength ranging from weak tropical waves to the most intense hurricanes. Usually, these storms begin as clusters of oceanic thunderstorms off the western coast of Africa, moving westward in the trade wind flow. The spinning of these thunderstorm clusters begins because of the formation of low pressure in a perturbation in the westerly motion of the storms associated with differential impacts of the Earth's rotation. The west-moving, counterclockwise-spinning collection of storms, now called a tropical disturbance, may then gather strength as it draws humid air toward its low-pressure center. This results in the formation of a tropical depression (defined when the maximum sustained surface wind speed is 38 mph or less), then a Tropical Cyclone (when the maximum sustained surface wind ranges from 39 mph to 73 mph), and finally a hurricane (when the maximum sustained surface wind speeds exceed 73 mph). On the next page,

Table 2-43 Table 2-43 presents the Saffir-Simpson Hurricane Wind Scale, which categorizes tropical cyclones based on sustained winds.

Table 2-43: Saffir-Simpson Hurricane Wind Scale

Saffir-Simpson Hurricane Wind Scale			
Category	**Sustained Winds**	**Pressure**	**Types of Damage Due to Winds**
Tropical Depression	<39 mph	N/A	N/A
Tropical Cyclone	39-73 mph	N/A	N/A
1	74-95 mph	>14.2 psi	Very dangerous winds will produce some damage. Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap and shallow-rooted trees may be toppled, especially after the soil becomes waterlogged. Extensive damage to power lines and poles will likely result in power outages that could last several days.
2	96-110 mph	14-14.2 psi	Extremely dangerous winds will cause extensive damage. Well-constructed frame homes could sustain major roof and siding damage. Many shallow-rooted trees will be snapped or uprooted, especially after the soil becomes waterlogged, and block numerous roads. Near total power loss is expected, with outages that could last from several days to weeks.
3	111-129 mph	13.7 -14 psi	Devastating damage will occur. Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, especially after the soil becomes waterlogged, blocking numerous roads. Electricity and water may be unavailable for several days to weeks after the storm passes.
4	130-156 mph	13.3-13.7 psi	Catastrophic damage will occur. Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, especially after the soil becomes waterlogged, and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	<13.7 psi	Catastrophic damage will occur. A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks to months.

Many associated hazards can occur during a hurricane, including heavy rains, flooding, high winds, and tornadoes. A general rule of thumb in coastal Louisiana is that the number of inches of rainfall to be expected from a tropical cyclone is approximately 100 divided by the forward velocity of the storm in mph; so a fast-moving storm (20 mph) might be expected to drop five inches of rain while a slow-moving (5 mph) storm could produce totals of around 20 inches. However, no two storms are alike, and such generalizations have limited utility for planning purposes. Hurricane Beulah, which struck Texas in 1967, spawned 115 confirmed tornadoes. In recent years, extensive coastal development has increased the storm surge resulting from these storms so much that this has become the greatest natural hazard threat to property and loss of life in the state. Storm surge is a temporary rise in sea level generally caused by reduced air pressure and strong onshore winds associated with a storm system near the coast. Although storm surge can technically occur at any time of the year in Louisiana, surges caused by hurricanes can be particularly deadly and destructive. Such storm surge events are often accompanied by large, destructive waves (exceeding ten meters in some places) that can inflict a high number of fatalities and economic losses. In 2005, Hurricane Katrina clearly demonstrated the destructive potential of this hazard, as it produced the highest modern-day storm surge levels in the State of Louisiana, reaching up to 18.7 feet near Alluvial City in St. Bernard Parish.

Property can be damaged by the various forces that accompany a tropical cyclone. High winds can directly impact structures in three ways: wind forces, flying debris, and pressure. By itself, the force of the wind can knock over trees, break tree limbs, and destroy loose items, such as television antennas and power lines. Many things can be moved by high winds. As winds increase, so does the pressure against stationary objects. Pressure against a wall rises with the square of the wind speed. For some structures, this force is enough to cause failure. The potential for damage to structures is increased when debris breaks the building “envelope” and allows the wind pressure to impact all surfaces (the building envelope includes all surfaces that make up the barrier between the indoors and the outdoors, such as the walls, foundation, doors, windows, and roof). Mobile homes and buildings in need of maintenance are most subject to wind damage. High winds mean bigger waves. Extended pounding by waves can demolish any poorly or improperly designed structures. The waves also erode sand beaches, roads, and foundations. When foundations are compromised, the building will collapse.

Nine out of ten deaths during hurricanes are caused by storm surge flooding. Falling tree limbs and flying debris caused by high winds have the ability to cause injury or death. Downed trees and damaged buildings are a potential health hazard due to instability, electrical system damage, broken pipelines, chemical releases, and gas leaks. Sewage and water lines may also be damaged. Salt water and fresh water intrusions from storm surge send animals, such as snakes, into areas occupied by humans.

Location

With any single hurricane having the potential to devastate multiple parishes at once, the risk of a tropical cyclone has the probability of impacting anywhere within the planning area for LaSalle Parish. As such, all jurisdictions are equally at risk for tropical cyclones.

Previous Occurrences / Extents

The central Gulf of Mexico coastline is among the most hurricane-prone locations in the United States, and hurricanes can affect every part of the state. The SHELDUS database reports a total of five tropical cyclone events occurring within the boundaries of LaSalle Parish between the years 2002 and 2014 (*Table 2-44*). The tropical cyclone events experienced in LaSalle Parish include depressions, storms, and hurricanes. As a worst case scenario, LaSalle Parish can expect to experience hurricanes at the Category 1 level in the future.

Table 2-44: Historical Tropical Cyclone Events in LaSalle Parish from 2002- 2014 (Source: SHELDUS)

Date	Name	Storm Type At Time of Impact
October 3, 2005	Lili	Tropical Storm
August 29, 2005	Katrina	Hurricane – Category 1
September 24, 2005	Rita	Hurricane –Category 1
September 1, 2008	Gustav	Tropical Storm
September 13, 2008	Ike	Tropical Storm
September 3, 2011	Lee	Tropical Storm
August 30, 2012	Isaac	Tropical Storm

Hurricane Lili (2002)

Hurricane Lili made landfall on the Louisiana coast on October 3, 2002, with an estimated intensity of 80 knots. Although Lili weakened considerably before making landfall on the central Louisiana coast, it caused significant wind and flood damage in the area. Strong winds toppled trees onto houses and into roadways, stripped shingles from roofs, and blew out windows. The wind and driving rain flattened sugarcane fields throughout southern Louisiana. A combination of storm surge and rain caused levees to fail in Montegut and Franklin, Louisiana. Lili also temporarily curtailed oil production in the Gulf of Mexico.

The strongest winds were felt near and to the east of the decaying eye wall of the tropical storm which moved through Natchitoches, Caldwell, LaSalle, Winn, Lincoln, Jackson, and Ouachita Parishes. Numerous reports of downed trees and power lines were reported throughout LaSalle Parish. While the wind damage was scattered throughout the parish, very little, if any structural damage was reported.

Hurricane Katrina (2005)

Hurricane Katrina was one of the strongest and most destructive hurricanes on record to impact the coast of the United States. The National Hurricane Center ranked Katrina as the costliest storm (both before and after adjusting for inflation) and the third deadliest in the U.S. since 1851. The hurricane initially made landfall in Plaquemines Parish on August 29, 2005, as a Category 3 storm and continued on a north-northeast track, with a second landfall occurring near the Louisiana- Mississippi border. Hurricane Katrina caused widespread devastation along the central Gulf Coast states. Following the passage of Katrina, the flooding of New Orleans was catastrophic, resulting in the displacement of more than 250,000 people.

LaSalle Parish experienced high winds and some flooding during Hurricane Katrina. Homes sustained severe structural damage due to winds, and some flooding events occurred. The parish quickly became overwhelmed with evacuees, and the hospitals were forced to rely on generator power due to downed power lines. In particular, Hardtner relied on generator power for over 44 hours.

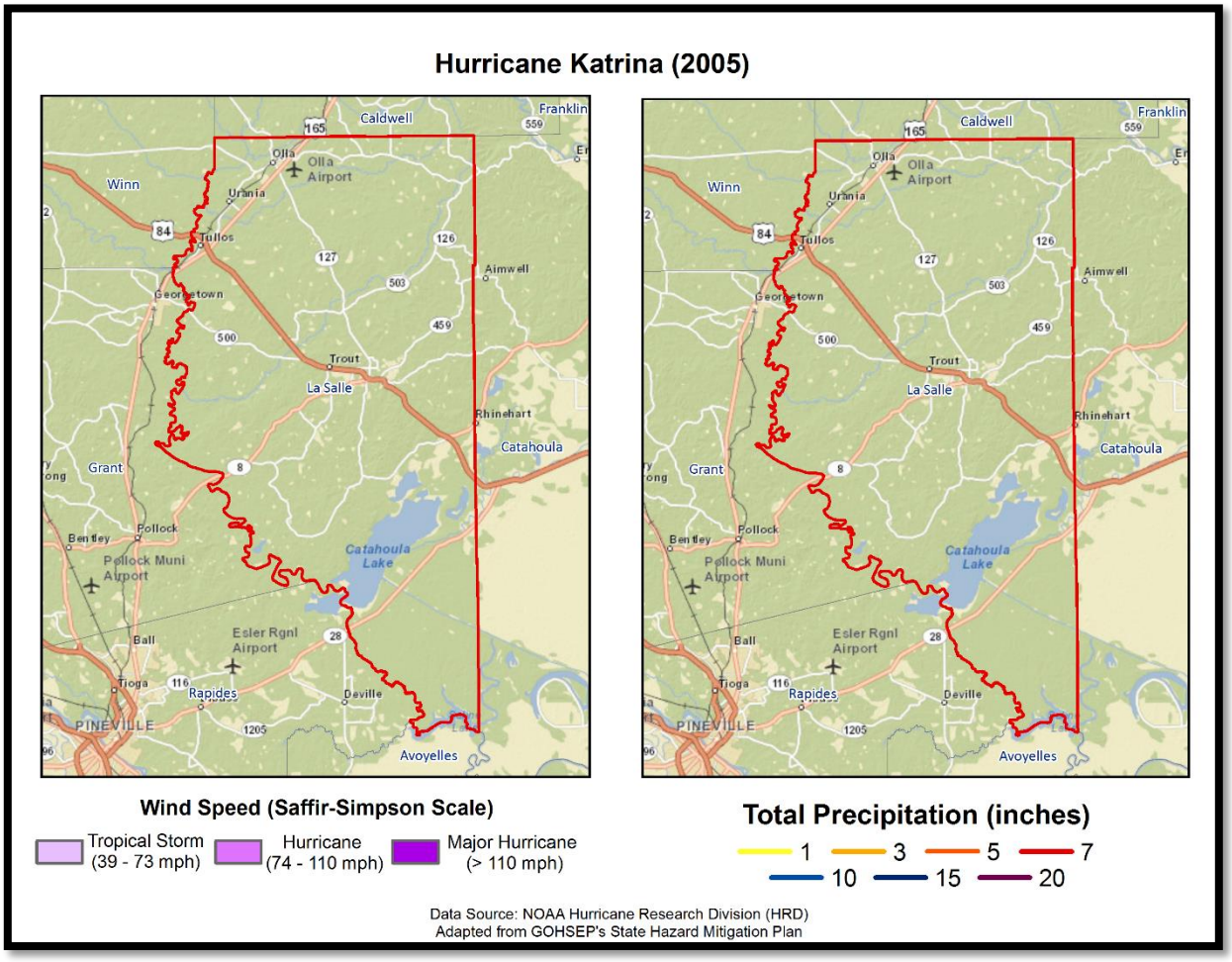

Figure 2-22: Wind Speed and Precipitation Totals in LaSalle Parish for Hurricane Katrina

Hurricane Rita (2005)

While Hurricane Katrina and resulting levee failures captured headlines worldwide, lesser known (but just as destructive) Hurricane Rita wreaked havoc on southwestern Louisiana less than a month later. The storm made landfall as a Category 3 hurricane in Cameron Parish. Across southeast Louisiana, the main effect from Hurricane Rita was the substantial storm surge flooding that occurred in low lying communities across coastal areas of southern Terrebonne, southern Lafourche, and southern Jefferson Parishes, where numerous homes and businesses were flooded. Some of the most substantial damage occurred in southern Terrebonne Parish, where storm surge of five to seven feet above normal overtopped or breached local drainage levees, inundating many small communities. Newspaper accounts indicated that approximately 10,000 structures were flooded in Terrebonne Parish. Lafitte and other communities in lower Jefferson Parish also suffered extensive storm surge flooding. Storm surge flooding also occurred in areas adjacent to Lake Pontchartrain and Lake Maurepas, affecting homes and businesses from Slidell to Mandeville and Madisonville. Approximately 1,500 structures were reported as flooded in Livingston Parish near Lake Maurepas. Repaired levees damaged by Hurricane Katrina in late August were overtopped or breached along the Industrial Canal in New Orleans, resulting in renewed flooding in adjacent portions of New Orleans and St. Bernard Parish. However, the flooding was much more limited in scope than during Hurricane Katrina.

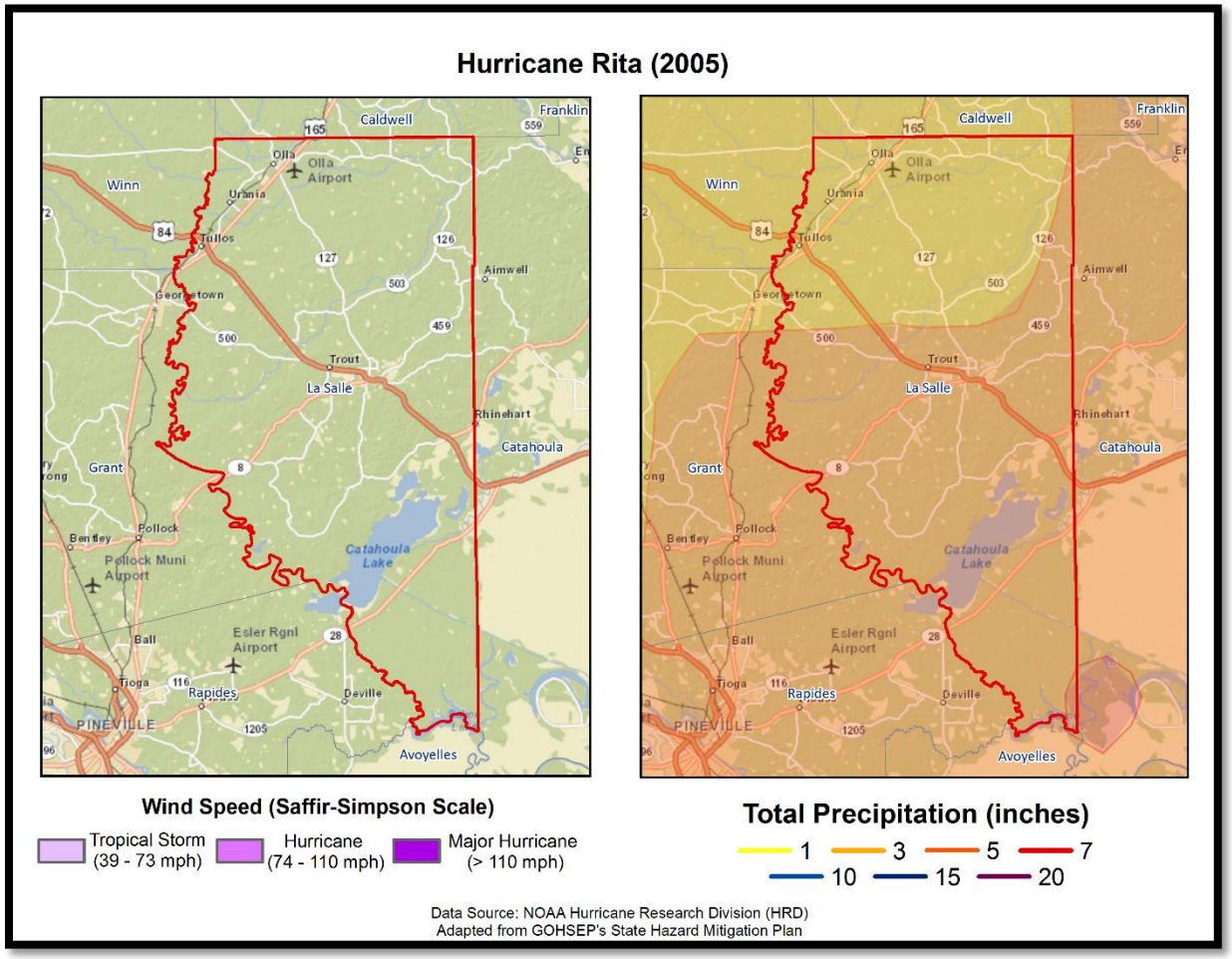

Figure 2-23: Wind Speed and Precipitation Totals in LaSalle Parish for Hurricane Rita

Hurricane Rita was the most powerful hurricane to impact southwestern Louisiana since Hurricane Audrey in 1957. Estimated damages in southwest Louisiana totaled near $4 billion, with the majority of those losses occurring in Cameron and Calcasieu Parishes. Entire towns were destroyed in Cameron Parish, including downtown Cameron, Creole, Holly Beach, and Grand Chenier. An estimated 90 to 95 percent of the homes in the parish were severely damaged or destroyed. Storm surge values were estimated around 15 feet in parts of Cameron Parish.

In LaSalle Parish, localized flooding occurred in the unincorporated and incorporated areas of the parish. The parish, which was already overwhelmed with evacuees, once again became a refuge for those seeking aid.

Hurricane Gustav (2008)

Hurricane Gustav entered the southeast Gulf of Mexico as a major Category 3 hurricane on August 31, 2008, after developing in the Caribbean Sea and moving across western Cuba. Gustav tracked northwestward across the Gulf toward Louisiana and made landfall as a Category 2 hurricane near Cocodrie, Louisiana, during the morning of September 1st. Gustav continued to move northwest across south Louisiana and weakened to a Category 1 storm over south central Louisiana later that day. The storm diminished to a tropical depression over northwestern Louisiana on September 2nd.

The highest wind gust recorded was 117 mph (102 kts) at a USGS site at the Houma Navigational Canal and at the Pilot Station East C-MAN near the Southwest Pass of the Mississippi River. The highest sustained wind of 91 mph was recorded at the Pilot's Station East C-MAN site. However, due to the failure of equipment at some observation sites during the storm, higher winds may have occurred. The minimum sea level pressure measured was 951.6 millibars at a USGS site at Caillou Lake, southwest of Dulac, and 954.5 millibars at the LUMCON facility near Dulac. Rainfall varied considerably across southeast Louisiana, ranging from around four inches to just over 11 inches.

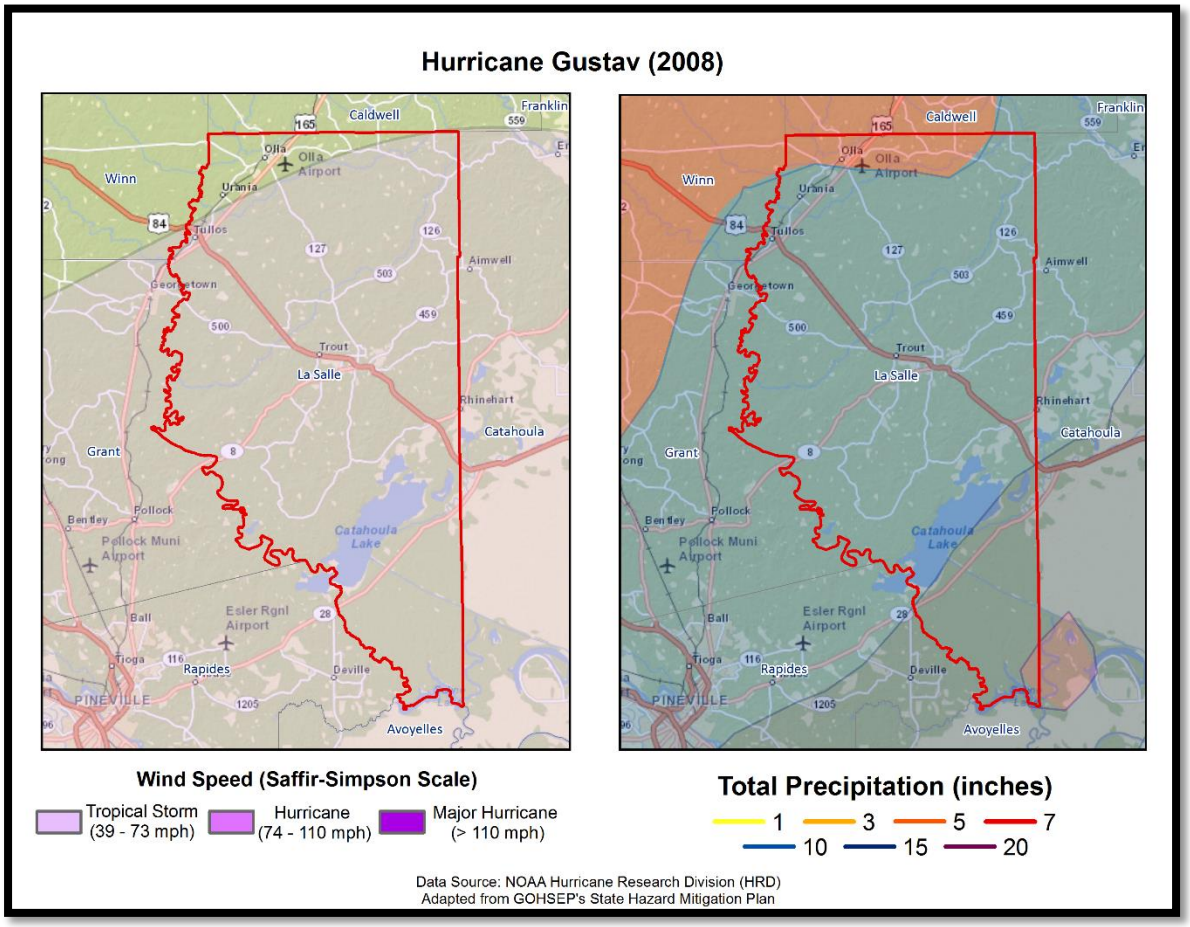

Figure 2-24: Wind Speed and Precipitation Totals in LaSalle Parish for Hurricane Gustav

Hurricane Gustav produced widespread wind damage across southeast Louisiana, especially in the area from Houma and Thibodaux through the greater Baton Rouge area. Hurricane force wind gusts occurred also across the inland areas, including the Baton Rouge area and surrounding parishes. A peak wind gust of 91 mph was recorded at the Baton Rouge (Ryan Field) Airport at 1:12 PM CST. This was only one mph less than the highest wind gust recorded during Hurricane Betsy in 1965. After the storm, the electric utility serving most of southeast Louisiana reported 75 to 100 percent of utility customers were without power, in areas ranging from Lafourche and Terrebonne Parishes northwest through the Baton Rouge area to central Louisiana and southwest Mississippi. Considerable damage occurred to many houses and structures as large tree limbs and trees were toppled by the hurricane force winds. Preliminary estimates from the American Red Cross indicated that around 13,000 single family dwellings were damaged by the hurricane in southeast Louisiana, and several thousand more apartments and mobile homes were also damaged. Early estimates

from Louisiana Economic Development indicated that Gustav caused at least $4.5 billion in property damage in Louisiana, including insured and uninsured losses.

Hurricane Gustav caused widespread power outages across LaSalle Parish. Numerous trees were downed and several secondary roads were deemed impassable during the height of the storm. The incorporated and unincorporated areas of the parish experienced localized flooding due to Gustav.

Hurricane Ike (2008)

Hurricane Ike caused wind damage, storm surge flooding, and tornadoes across southwest Louisiana. Ike made landfall near Galveston, TX early in the morning on September 13, 2008, as a strong category 2 hurricane. Sustained hurricane force winds were confined to extreme western Cameron Parish. The highest recorded winds in southwest Louisiana were experienced at Lake Charles Regional Airport, with sustained winds of 53 mph (46 kts) and gusts of 77 mph (67 kts). The lowest pressure reading occurred at Southland Field near Sulphur, LA, with a low of 994.6 millibars. Several tornadoes were reported across southwest Louisiana. The most significant one was near Mamou, where ten to fifteen homes were damaged, including one that lost its roof. Storm surge was a significant event. Water levels ranged from 14 feet in western Cameron Parish, to eight feet in St. Mary Parish. This resulted in widespread flooding of the same areas that flooded during Hurricane Rita in 2005. Most of Cameron Parish was under water. Over 3,000 homes were flooded. This extended north into Calcasieu Parish, where another 1,000 homes flooded in Lake Charles, Westlake, and Sulphur. In Vermilion Parish, at least 1,000 homes flooded in Pecan Island, Forked Island, Intracoastal City, and Henry. This extended east into Iberia Parish, where another 1,000 homes flooded south of Highway 14 and Highway 90. In St. Mary Parish, some of the worst flooding occurred in Franklin, where a man-made levee failed, flooding over 450 homes. Maximum storm total rainfall ranged from six to eight inches across Cameron, Calcasieu, and Beauregard Parishes. No fatalities were reported in southwest Louisiana. Total property damages, however, were high. Losses were estimated to be almost $420 million across southwest Louisiana. Agricultural losses were over $225 million.

The remnants of Hurricane Ike resulted in tropical storm force winds across much of LaSalle Parish. Several trees and power lines were downed throughout the parish, resulting in scattered power outages having been reported in the parish.

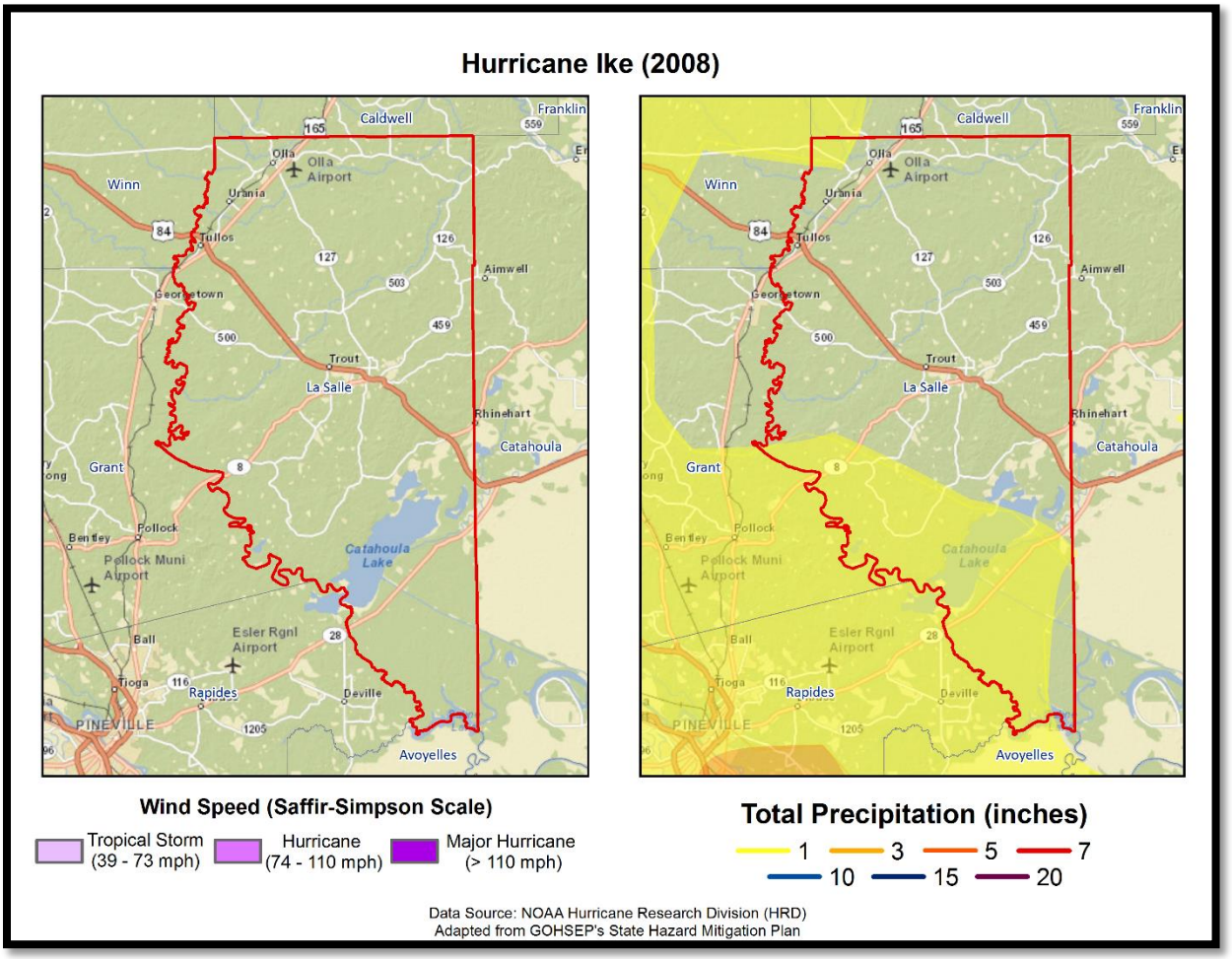

Figure 2-25: Wind Speed and Precipitation Totals in LaSalle Parish for Hurricane Ike

Tropical Storm Lee (2011)

Tropical Storm Lee initially developed as Tropical Depression Thirteen in the middle of the Gulf of Mexico on the evening of Thursday, September 1, 2011. The depression moved slowly north and gradually strengthened, eventually reaching Tropical Storm strength just south of the Louisiana coast on Friday afternoon September 2, 2011. Tropical Storm Lee made only slow and haltingly northward progress over the next 24 hours, eventually moving onshore at the Louisiana coast Saturday night, September 3, 2011, with a maximum sustained wind estimated around 60 mph. Lee moved slowly inland to the north of Baton Rouge late Sunday September 4, 2011, and eventually weakened to a tropical depression Sunday evening. Tropical Depression Lee then moved steadily northeast throughout Monday, September 5, 2011, taking on extra-tropical characteristics over the next 24 hours as it interacted with an upper level disturbance moving through the region. The maximum winds observed in Louisiana were a southerly wind of 46 mph (40 kts) sustained, with a 58 mph (50 kts) gust at New Orleans Lakefront Airport on September 4, 2012, at 0528CST. The lowest minimum central pressure was 993.2 millibars, recorded at Baton Rouge Ryan Field on September 4, 2012, at 0959CST. As Tropical Depression Lee was moving northeast and taking on mid-latitude characteristics, strong northerly winds were experienced across the region, occasionally gusting to higher levels than experienced when Lee was characterized as a tropical cyclone. No fatalities or injuries were associated with any Tropical Storm Lee hazards.

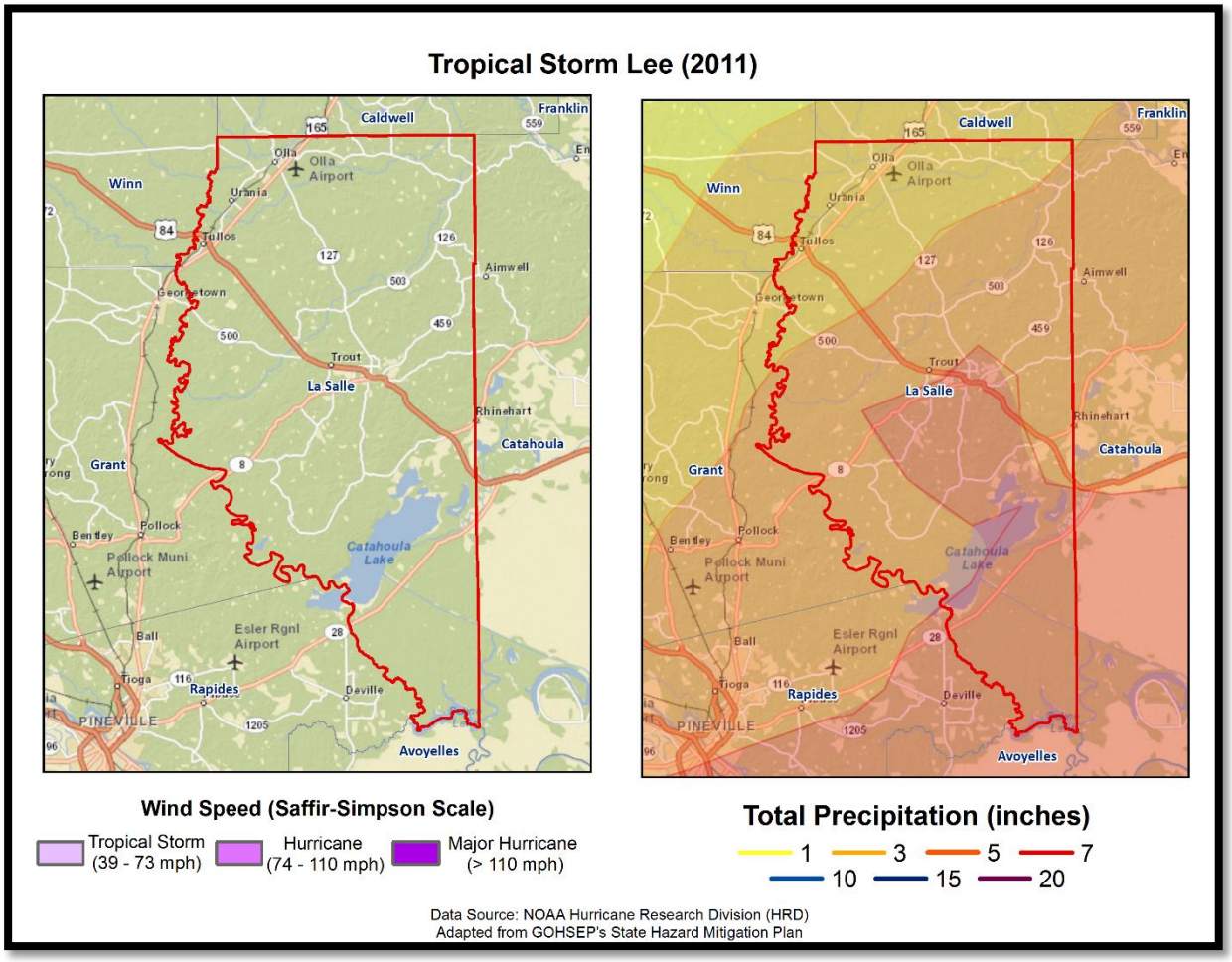

Figure 2-26: Wind Speed and Precipitation Totals in LaSalle Parish for Tropical Storm Lee

The main impacts associated with Tropical Storm Lee were storm surge and rainfall. Both of these impacts were related to its slow speed as it crossed the region, which allowed the circulation to linger over the area for several days. Storm surge associated with Lee caused storm tides three to five feet above normal, resulting in lowland flooding. Additional detailed information about Tropical Storm Lee's storm surge is contained in the separate storm surge report. Four day rainfall totals ranged from seven to 15 inches across the area. A maximum of 15.48 inches was recorded near Holden in Livingston Parish. Due to dry antecedent conditions, river flooding was minimal for the amount of rainfall that occurred. Wind impacts were generally minimal due to only tropical cyclone strength winds being recorded, resulting in tree limbs being blown down and weak trees toppling, causing power outages.

Overall, there were minimal reports of damage to residences or infrastructure in LaSalle Parish. Localized flooding was experienced in low-lying areas of the parish, but flood damage was minimal. Isolated power outages due to a few downed trees were also reported across the parish. One downed tree in Jena fell on a house, but no injuries or deaths were reported.

Hurricane Isaac (2012)

Isaac entered the Gulf of Mexico as a tropical storm on August 26, moving northwest after crossing Haiti, Cuba and the Florida Straits. Isaac strengthened into a hurricane on the morning of the 28th when it was 75 miles south-southeast of the mouth of the Mississippi River. Isaac made landfall in Plaquemines Parish as a Category 1 Hurricane near Southwest Pass of the Mississippi River on the evening of the 28th. A second landfall occurred near Port Fourchon the following morning. The storm weakened to a tropical storm on the afternoon of the 29th about 50 miles west southwest of New Orleans, and weakened further to a tropical depression on the afternoon of the 30th near Monroe, Louisiana.

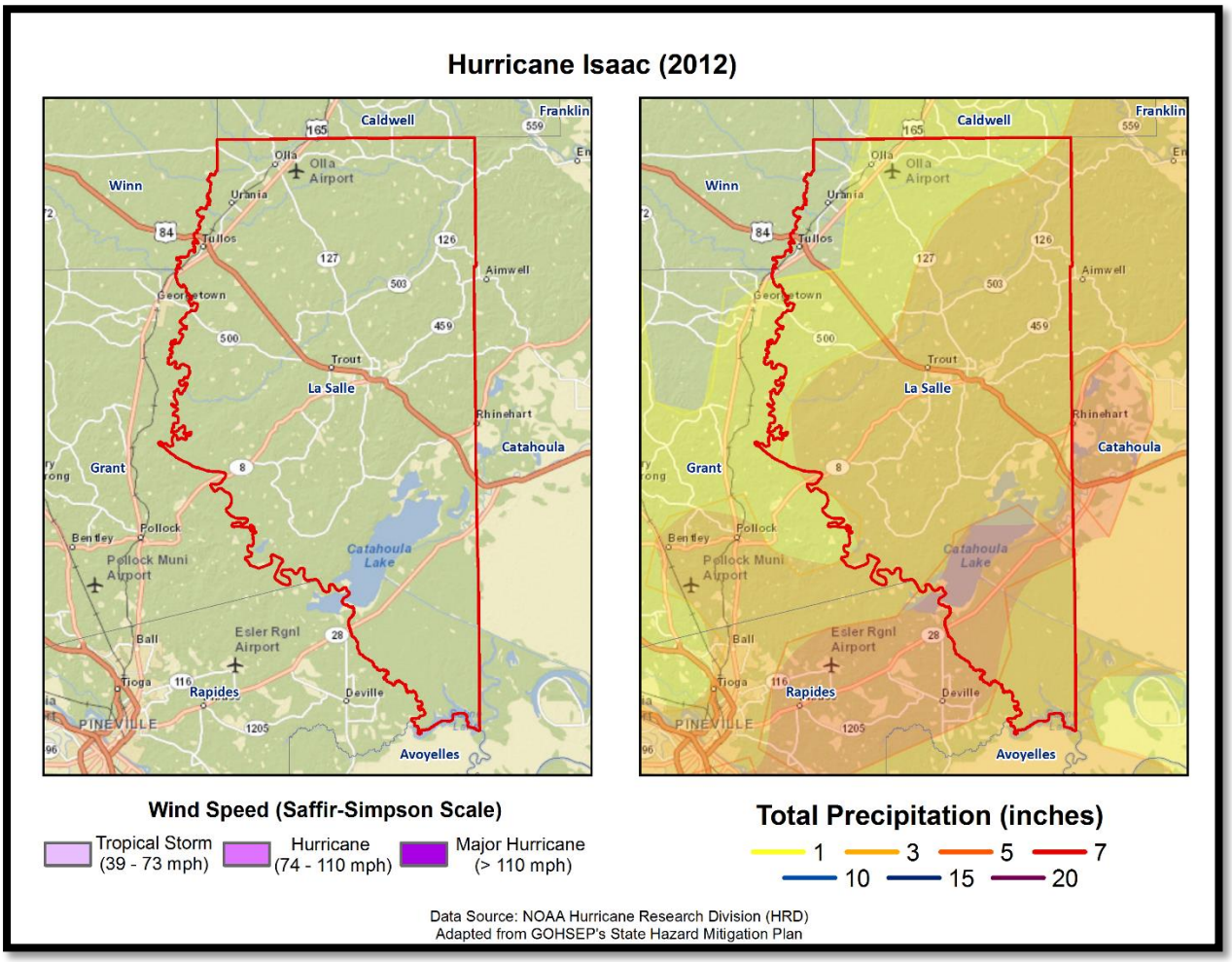

Figure 2-27: Wind Speed and Precipitation Totals in LaSalle Parish for Hurricane Isaac

Due to Isaac's very large size, and slow forward speed, tropical storm force winds lasted in excess of 48 hours in many areas of coastal southeast Louisiana. Occasional hurricane gusts of 70 to 85 mph were recorded across southeast Louisiana during the night of the Aug 28th and early on the 29th, especially south of Lake Pontchartrain. Interior areas of southeast Louisiana such as around Baton Rouge and northward experienced tropical storm force winds. Widespread power outages occurred across the area. Local utility companies reported over 700,000 customers were without power at the peak of the storm in southeast Louisiana. Generally, most of the wind damage was limited to downed trees and power lines, and roof damage caused by wind and falling trees and tree limbs.

Significant impact also occurred around Lakes Pontchartrain and Maurepas with a storm tide of 5 to 9 feet. 5 to 10 thousand homes were flooded in low lying areas of that border these lakes of the following parishes: St. Tammany, Tangipahoa, Livingston, Ascension, St James and St John the Baptist. Laplace in St. John the Baptist was especially hard hit with over 5,000 homes flooded by storm surge.

Storm surge flooding also affected areas south and southwest of New Orleans with a storm tide of 4 to 7 feet. Roadways and low lying property were flooded. Local levees around Lafitte and Myrtle Grove were overtopped and/or breached resulting flooding of numerous houses and property in this area.

Overall impacts of Isaac resulted in at least $600 million in damages in southeast Louisiana, 3 direct fatalities, and 2 indirect fatalities. Storm surge flooding accounted for the bulk of damage, estimated around $500 million and the three direct storm surge fatalities in Louisiana. Winds accounted for a much lesser amount of slightly more than a $100 million.

In LaSalle Parish, Hurricane Isaac was responsible for the downing of numerous trees and powerlines.

The following figure displays the wind zones that affect LaSalle Parish in relation to critical facilities throughout the parish.

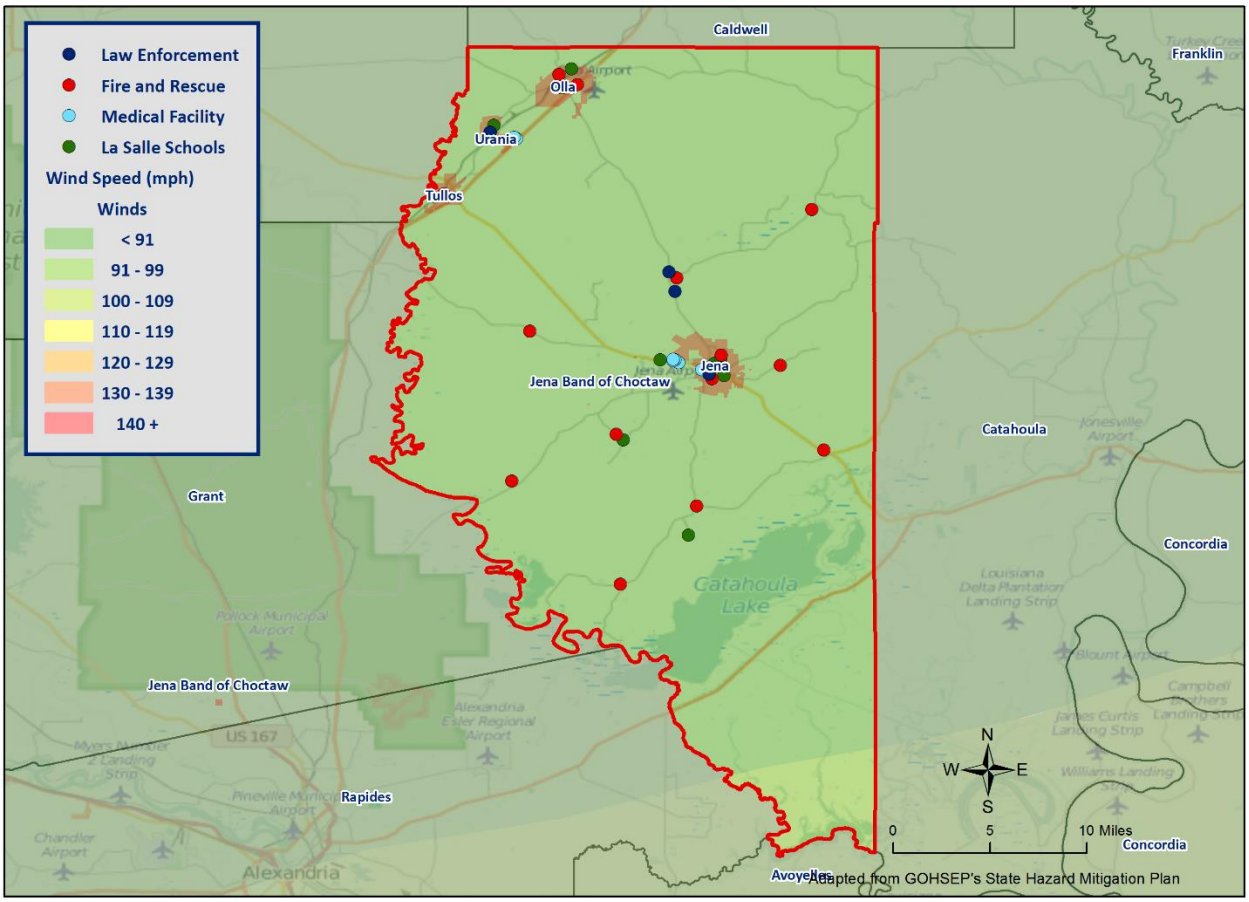

Figure 2-28: Winds Zones for LaSalle Parish in Relation to Critical Facilities

Frequency / Probability

Tropical cyclones are large natural hazard events that impact LaSalle Parish. The annual chance of occurrence for a tropical cyclone is estimated at 28% for LaSalle Parish and its jurisdictions, with seven events having occurred within 25 years. The tropical cyclone season for the Atlantic Basin is from June 1st through November 30th, with most of the major hurricanes (Saffir-Simpson Categories 3, 4, & 5) occurring between the months of August and October.

Estimated Potential Losses

Using Hazus 2.2 100-Year Hurricane Model, the 100-year hurricane scenario was analyzed to determine losses from this worst-case scenario. The following table shows the total economic losses that would result from this occurrence.

Table 2-45: Total Estimated Losses for a 100-Year Hurricane Event
(Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event
LaSalle Parish (Unincorporated)	$1,329,247
Jena	$547,555
Olla	$223,179
Tullos	$62,039
Urania	$211,577
Jena Band of Choctaw	$25,782
Total	$2,399,380

Total losses from a 100-year hurricane event for each jurisdiction were compared with the total value of assets to determine the ratio of potential damage to total inventory in the table below.

Table 2-46: Ratio of Total Losses to Total Estimated Value of Assets for each Jurisdiction in LaSalle Parish
(Source: Hazus 2.2)

Jurisdiction	Estimated Total Losses from 100-Year Hurricane Event	Total Estimated Value of Assets	Ratio of Estimated Losses to Total Value
Unincorporated	$1,566,606	$767,976,000	0.2%
Jena	$547,555	$354,259,000	0.2%
Olla	$223,179	$123,088,000	0.2%
Tullos	$62,039	$29,262,000	0.2%
Urania	$211,577	$45,125,000	0.5%
Jena Band of Choctaw	$25,782	$438,000	5.9%

Based on the Hazus 2.2 Hurricane Model, estimated total losses range from 0.2% to 5.9% of the total estimated value of all assets for the unincorporated area of LaSalle Parish, and the incorporated areas of Jena, Olla, Tullos, Urania, and the Jena Band of Choctaw areas. The ratio of estimated losses to total value is high for the Jena Band of Choctaw area due to the limited size of the areas.

The Hazus 2.2 Hurricane Model also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. The losses for each jurisdiction by sector are listed in the following tables:

Table 2-47: Estimated Losses in Unincorporated LaSalle Parish for a 100-Year Hurricane Event (Source: Hazus 2.2)

LaSalle Parish (Unincorporated)	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$109
Commercial	$8,251
Government	$586
Industrial	$2,266
Religious / Non-Profit	$1,519
Residential	$1,553,400
Schools	$476
Total	$1,566,606

Table 2-48: Estimated Losses in Jena for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jena	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$38
Commercial	$2,884
Government	$205
Industrial	$792
Religious / Non-Profit	$531
Residential	$542,939
Schools	$166
Total	$547,555

Table 2-49: *Estimated Losses in Olla for a 100-Year Hurricane Event (Source: Hazus 2.2)*

Olla	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$16
Commercial	$1,175
Government	$83
Industrial	$323
Religious / Non-Profit	$216
Residential	$221,298
Schools	$68
Total	$223,179

Table 2-50: Estimated Losses in Tullos for a 100-Year Hurricane Event (Source: Hazus 2.2)

Tullos	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$4
Commercial	$327
Government	$23
Industrial	$90
Religious / Non-Profit	$60
Residential	$61,516
Schools	$19
Total	$62,039

Table 2-51: Estimated Losses in Urania a 100-Year Hurricane Event (Source: Hazus 2.2)

Urania	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$15
Commercial	$1,114
Government	$79
Industrial	$306
Religious / Non-Profit	$205
Residential	$209,794
Schools	$64
Total	$211,577

Table 2-52: Estimated Losses for Jena Band of Choctaw for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jena Band of Choctaw	Estimated Total Losses from 100-Year Hurricane Event
Agricultural	$2
Commercial	$136
Government	$10
Industrial	$37
Religious / Non-Profit	$25
Residential	$25,565
Schools	$8
Total	$25,782

Threat to People

The total population within the parish that is susceptible to a hurricane hazard is shown in the table below:

Table 2-53: Number of People Susceptible to a 100-Year Hurricane Event in LaSalle Parish (Source: Hazus 2.2)

Number of People Exposed to Hurricane Hazards			
Location	**# in Community**	**# in Hazard Area**	**% in Hazard Area**
LaSalle Parish (Unincorporated)	**8,249**	**8,249**	**100.0%**
Jena	**3,398**	**3398**	**100.0%**
Olla	**1,385**	**1385**	**100.0%**
Tullos	**385**	**385**	**100.0%**
Urania	**1,313**	**1313**	**100.0%**
Jena Band of Choctaw	**160**	**160**	**100.0%**
Total	**14,890**	**14,890**	**100%**

The HAZUS-MH Hurricane Model was also extrapolated to provide an overview of vulnerable populations throughout the jurisdictions. These populations are illustrated in the following tables:

Table 2-54: Vulnerable Populations in Unincorporated LaSalle Parish for a 100-Year Hurricane Event (Source: Hazus 2.2)

LaSalle Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	8,249	100.0%
Persons Under 5 Years	530	6.4%
Persons Under 18 Years	1,953	23.7%
Persons 65 Years and Over	1,221	14.8%
White	7,030	85.2%
Minority	1,219	14.8%

Table 2-55: Vulnerable Populations in Jena for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jena		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	3,398	100.0%
Persons Under 5 Years	185	5.4%
Persons Under 18 Years	710	20.9%
Persons 65 Years and Over	563	16.6%
White	2,859	84.1%
Minority	539	15.9%

Table 2-56: Vulnerable Populations in Olla for a 100-Year Hurricane Event (Source: Hazus 2.2)

Olla		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	1,385	100.0%
Persons Under 5 Years	133	9.6%
Persons Under 18 Years	383	27.7%
Persons 65 Years and Over	225	16.3%
White	1,330	96.0%
Minority	55	4.0%

Table 2-57: Vulnerable Populations in Tullos for a 100-Year Hurricane Event (Source: Hazus 2.2)

Tullos		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	385	100.0%
Persons Under 5 Years	25	6.5%
Persons Under 18 Years	83	21.6%
Persons 65 Years and Over	58	15.1%
White	364	94.6%
Minority	21	5.5%

Table 2-58: Vulnerable Populations in Urania for a 100-Year Hurricane Event (Source: Hazus 2.2)

Urania		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	1,313	100.0%
Persons Under 5 Years	43	3.3%
Persons Under 18 Years	171	13.0%
Persons 65 Years and Over	119	9.1%
White	897	68.3%
Minority	416	31.7%

Table 2-59: Vulnerable Populations for Jena Band of Choctaw for a 100-Year Hurricane Event (Source: Hazus 2.2)

Jena Band of Choctaw		
Category	**Total Numbers**	**Percentage of People in Hazard Area**
Number in Hazard Area	160	100.0%
Persons Under 18 Years	68	42.5%
Persons 55 Years and Over	9	5.6%

Vulnerability

See Appendix C for parish and municipality buildings that are susceptible to tropical cyclones.

Wildfires

A wildfire is combustion in a natural setting, marked by flames or intense heat. Most frequently, wildfires are ignited by lightning or unintentionally by humans. Fires set purposefully (but lawfully) are referred to as controlled fires or burns. There are three different types of wildfires: (1) **Ground fires** burn primarily in the thick layers of organic matter directly on the forest floor and even within the soil. Ground fires destroy root networks, peat, and compact litter. These fires spread extremely slowly and can smolder for months. (2) **Surface fires** burn litter and vegetative matter in the underbrush of a forest. (3) **Crown fires** spread rapidly by wind and move quickly by jumping along the tops of trees. There are two types of crown fires: (a) *passive (or dependent)* crown fires rely on heat transfer from surface fire, whereas (b) *active (or independent)* crown fires do not require any heat transfer from below. Active crown fires tend to occur with greater tree density and drier conditions. A firestorm is a mass, crown fire (also called a running crown fire, area fire, or conflagration). They are large, continuous, intense fires that lead to violent convection. They are characterized by destructively violent surface in-drafts near and beyond their perimeter. Crown fires are the most damaging and most difficult to contain. The intensity of crown fires enables the fire to produce its own wind gusts. These so-called *fire whirls* can move embers ahead of the fire front and ignite new fires. Fire whirls are spinning vortex columns of ascending hot air and gases rising from the fire. Large fire whirls have the intensity of a small tornado.

The conditions conducive to the occurrence of wildfires are not distributed equally across the United States. Wildfires have a much greater likelihood of occurring in the western part of the country. Although less frequent than in other areas, wildfires do occur in Louisiana. Wildfire danger can vary greatly season to season, and is exacerbated by dry weather conditions. Factors that increase susceptibility to wildfires are the availability of fuel (e.g., litter and debris), topography (i.e., slope and elevation affect various factors like precipitation, fuel amount, and wind exposure), and specific meteorological conditions (e.g., low rainfall, high temperatures, low relative humidity, and winds). The potential for wildfire is often measured by the Keetch–Byram Drought Index (KBDI), which represents the net effect of evapotranspiration and precipitation in producing cumulative moisture deficiency in the soil. The KBDI tries to measure the amount of precipitation needed to return soil to its full field capacity, with KBDI values ranging from 0 (moist soil) to 800 (severe drought).

According to the State of Louisiana Forestry Division, most forest fires in Louisiana are caused by intentional acts (arson) or carelessness and negligence committed by people, exacerbated by human confrontation with nature. The wildland–urban interface is the area in which development meets wildland vegetation, where both vegetation and the built environment provide fuel for fires. As development near wildland settings continues, more people and property are exposed to wildfire danger. On the following page, Figure 2-29 displays the areas of wildland-urban interaction in LaSalle Parish.

The Southern Group of State Foresters developed the Southern Wildfire Risk Assessment Portal to create awareness among the public and government sectors about the threat of wildfires in their areas. The Southern Wildfire Assessment Portal allows users to identify areas that are most prone to wildfires. The table on the next page summarizes the intensity levels assigned to areas in the Southern Wildfire Assessment Portal.

Table 2-60: Southern Group of State Foresters Wildfire Risk Assessment Fire Intensity Scale (Source: Southern Wildfire Assessment Portal)

Fire Intensity Scale	
Level	**Definition**
1	Lowest Intensity: Minimal direct wildfire impacts. Location has a minimal chance of being directly impacted by a wildfire.
2	Low Intensity: Small flames usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress.
3	Moderate Intensity: Flames up to eight feet in length; short-range spotting is possible.
4	High Intensity: Large flames up to 30 feet in length; short-range spotting common; medium range spotting possible.
5	Highest Intensity: Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire induced winds.

Location

Wildfires impact areas that are populated with forests and grasslands. The following figure displays the areas of wildland-urban interface and intermix in LaSalle Parish and its jurisdictions.

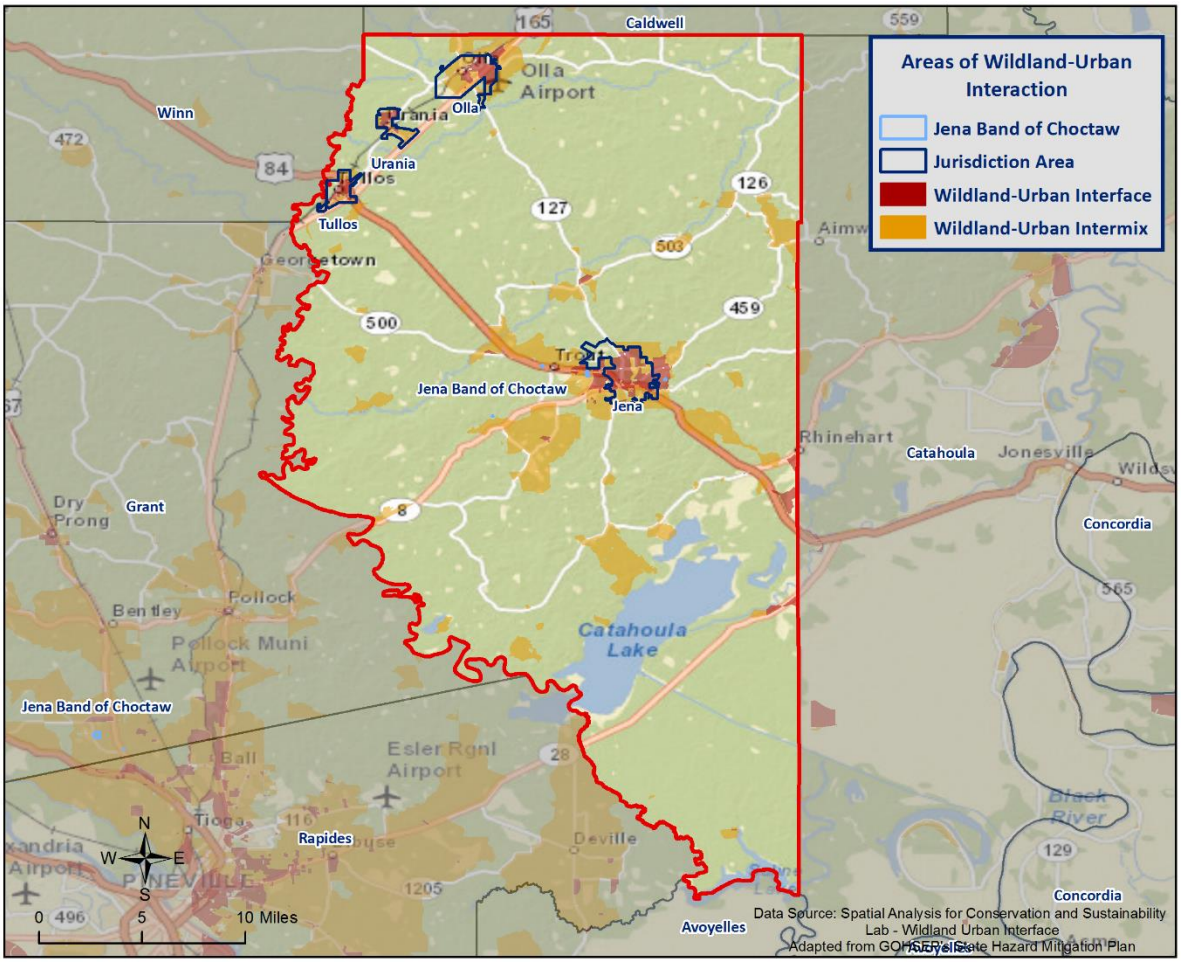

Figure 2-29: Wildland-Urban Interaction in LaSalle Parish

Previous Occurrences / Extents

There have been no reported wildfire events that have occurred within the boundaries of LaSalle Parish between the years of 1989 and 2014. Since 2009, there have been no reported wildfire events in the incorporated areas of Jena, Olla, Tullos, Urania, and the Jena Band of Choctaw, nor in the unincorporated areas of LaSalle Parish.

Based on the Southern Group of State Foresters Risk Assessment Portal, the following table outlines the intensity that each jurisdictional area within LaSalle Parish could potential experience due to a wildfire event.

Table 2-61: Potential Wildfire Intensity Levels for LaSalle Parish
(Source: Southern Wildfire Assessment Portal)

Potential Wildfire Intensity	
LaSalle Parish (Unincorporated)	Highest Intensity Level 5
Jena	Moderate Intensity Level 3
Olla	Moderate Intensity Level 3
Tullos	Low Intensity Level 2
Urania	Low Intensity Level 2
Jena Band of Choctaw	Moderate Intensity Level 3

Frequency / Probability

Wildfire events within the boundaries of LaSalle Parish have an annual chance of occurrence calculated at less than 1% based on the 25 year record.

Estimated Potential Losses

According to the SHELDUS database, there have been no wildfire events that have caused property damage, crop damage, injuries, or fatalities in LaSalle Parish. In assessing the overall risk to population, the most vulnerable population throughout the parish consists of those residing in areas of wildland-urban interaction. Figure 2-29 displays the areas of wildland-urban interaction in LaSalle Parish.

Using Hazus 2.2, along with wildland-urban interaction areas, the following table presents an analysis of total building exposure that is located within the wildland-urban interaction areas.

Table 2-62: Total Building Exposure by Wildland-Urban Interaction Areas
(Source: Hazus 2.2)

Jurisdiction	Estimated Total Building Exposure
LaSalle Parish (Unincorporated)	$660,263,000
Jena	$345,952,000
Olla	$117,392,000
Tullos	$30,976,000
Urania	$45,345,000
Jena Band of Choctaw	$340,000
Total	$1,200,268,000

Hazus 2.2 also provides a breakdown by jurisdiction for seven primary sectors (Hazus occupancy) throughout the parish. Utilizing this information with the wildland-urban interaction areas allows for identifying the total exposure by jurisdiction. The total exposure for each jurisdiction by sector is listed in the following tables:

Table 2-63: Estimated Exposure for Unincorporated LaSalle Parish by Sector (Source: Hazus 2.2)

LaSalle Parish (Unincorporated)	Estimated Total Building Exposure by Sector
Agricultural	$770,000
Commercial	$30,123,000
Government	$7,537,000
Industrial	$10,602,000
Religious / Non-Profit	$9,069,000
Residential	$599,245,000
Schools	$2,917,000
Total	$660,263,000

Table 2-64: Estimated Exposure for Jena by Sector (Source: Hazus 2.2)

Jena	Estimated Total Building Exposure by Sector
Agricultural	$179,000
Commercial	$53,695,000
Government	$247,000
Industrial	$13,854,000
Religious / Non-Profit	$4,775,000
Residential	$273,202,000
Schools	$0
Total	$345,952,000

Table 2-65: Estimated Exposure for Olla by Sector (Source: Hazus 2.2)

Olla	Estimated Total Building Exposure by Sector
Agricultural	$264,000
Commercial	$16,603,000
Government	$0
Industrial	$3,141,000
Religious / Non-Profit	$3,270,000
Residential	$92,268,000
Schools	$1,846,000
Total	$117,392,000

Table 2-66: Estimated Exposure for Tullos by Sector
(Source: Hazus 2.2)

Tullos	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$445,000
Government	$0
Industrial	$22,000
Religious / Non-Profit	$0
Residential	$30,509,000
Schools	$0
Total	$30,976,000

Table 2-67: Estimated Exposure for Urania by Sector
(Source: Hazus 2.2)

Urania	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$872,000
Government	$130,000
Industrial	$1,128,000
Religious / Non-Profit	$461,000
Residential	$41,280,000
Schools	$1,474,000
Total	$45,345,000

Table 2-68: Estimated Exposure for Jena Band of Choctaw by Sector
(Source: Hazus 2.2)

Jena Band of Choctaw	Estimated Total Building Exposure by Sector
Agricultural	$0
Commercial	$94,000
Government	$101,000
Industrial	$0
Religious / Non-Profit	$0
Residential	$145,000
Schools	$0
Total	$340,000

Threat to People

The total population within the parish that is located within a wildland-urban interaction area is shown in the table below:

Table 2-69: Populations Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Number of People Located in Wildland-Urban Interaction Areas.			
Location	**# in Community**	**# in Area**	**% in Area**
LaSalle Parish (Unincorporated)	**8,249**	**7,995**	**96.9%**
Jena	**3,398**	**2,941**	**86.6%**
Olla	**1,385**	**1,385**	**100.0%**
Tullos	**385**	**385**	**100.0%**
Urania	**1,313**	**609**	**46.4%**
Jena Band of Choctaw	**160**	**147**	**91.9%**
Total	**14,890**	**13,462**	**90.4%**

The 2010 U.S. Census data was also extrapolated to provide an overview of populations located within wildland-urban interaction areas throughout the jurisdictions. That data is illustrated in the following tables:

Table 2-70: Population in Unincorporated LaSalle Parish Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

LaSalle Parish (Unincorporated)		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	7,995	96.9%
Persons Under 5 Years	514	6.4%
Persons Under 18 Years	1,892	23.7%
Persons 65 Years and Over	1,183	14.8%
White	6,813	85.2%
Minority	1,182	14.8%

Table 2-71: Population in Jena Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Jena		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	2,941	86.6%
Persons Under 5 Years	160	5.4%
Persons Under 18 Years	614	20.9%
Persons 65 Years and Over	487	16.6%
White	2,475	84.1%
Minority	466	15.9%

Table 2-72: Population in Olla Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Olla		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	1,385	100.0%
Persons Under 5 Years	133	9.6%
Persons Under 18 Years	383	27.7%
Persons 65 Years and Over	225	16.3%
White	1,330	96.0%
Minority	55	4.0%

Table 2-73: Population in Tullos Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Tullos		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	385	100.0%
Persons Under 5 Years	25	6.5%
Persons Under 18 Years	83	21.6%
Persons 65 Years and Over	58	15.1%
White	364	94.6%
Minority	21	5.5%

Table 2-74: Population in Urania Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Urania		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	609	46.4%
Persons Under 5 Years	20	3.3%
Persons Under 18 Years	79	13.0%
Persons 65 Years and Over	55	9.1%
White	416	68.3%
Minority	193	31.7%

Table 2-75: Population of Jena Band of Choctaw Located within a Wildland-Urban Interaction Area (Source: 2010 U.S. Census Data)

Jena Band of Choctaw		
Category	**Total Numbers**	**Percentage of People in Wildland-Urban Interaction Area**
Number in Hazard Area	147	0.7%
Persons Under 5 Years	62	42.5%
Persons 55 Years and Over	8	5.6%

Vulnerability

See Appendix C for parish and municipality facilities that could potentially be exposed to a wildfire hazard. Buildings were determined based on whether or not they fall within the wildfire-urban interface and/or intermix.

Winter Storms

For Louisiana and other parts of the southeastern United States, a severe winter storm occurs when humid air from the Gulf of Mexico meets a cold air mass from the north. Once the cold air mass crosses Louisiana, and the temperature drops, precipitation may fall in the form of snow or sleet. If the ground temperature is cold enough but air temperature is above freezing, rain can freeze instantly on contact with the surface, causing massive ice storms.

The winter storm events that affect the state of Louisiana are ice storms, freezes, and snow events. Of the winter storm types listed above, ice storms are the most dangerous. Ice storms occur during a precipitation event when warm air aloft exceeds 32 °F, while the surface remains below the freezing point. Ice will form on all surfaces when precipitation originating as rain or drizzle contacts physical structures. These ice storms are usually accompanied by freezing temperatures and occasionally snow.

Winter storms can be accompanied by strong winds, creating blizzard conditions with blinding, wind driven snow, severe drifting, and dangerous wind chill. These types of conditions are very rare in Louisiana, even in north Louisiana, but ice storms are more common. The climatic line between snow and rain often stalls over north Louisiana, creating ideal conditions for ice accumulation.

In a typical winter storm event, homes and buildings are damaged by ice accumulation, either directly by the weight of the ice on the roofs or by trees and/or limbs falling on buildings. While it is not very prevalent, this type of damage can occur in Louisiana, particularly in north Louisiana. Effects of winter weather more likely to occur in Louisiana, especially southern Louisiana, include extreme temperatures which can cause waterlines to freeze and sewer lines to rupture. This is especially true with elevated or mobile homes, since cold air is able to access more of the building's infrastructure. Winter storms can also have a devastating effect on agriculture, particularly on crops (like citrus) that are dependent on warm weather. Long exposures to low temperatures can kill many kinds of crops, and ice storms can weigh down branches and fruit.

Winter storms are not only a direct threat to human health through conditions like frostbite and hypothermia, but they are also an indirect threat to human health due to vehicle accidents and loss of power and heat, which can be disrupted for days. However, these impacts are rarely seen in Louisiana. As people use space heaters and fireplaces to stay warm, the risk of household fires and carbon monoxide poisoning increases.

Winter storm events occur throughout Louisiana usually during the colder calendar months of December, January, and February. Severe weather events do not occur with the same frequency across all parts of Louisiana. The northern quarter of Louisiana has historically experienced the most severe winter events between 1987 and 2012. The central, and to an even greater extent the southern parts of the state, such as Ascension Parish, have experienced the fewest severe winter events. The table on the following page shows the Sperry-Piltz Ice Accumulation Index which is utilized to predict the potential damage to overhead utility systems from freezing rain and ice storms.

Table 2-76: Sperry-Piltz Ice Accumulation Index

Ice Damage Index	Damage and Impact Descriptions
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structure. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

Location

Because a winter storm is a climatological based hazard and has the same probability of occurring in LaSalle Parish as all of the adjacent parishes, the entire planning area for LaSalle Parish is equally at risk for winter storms.

Previous Occurrences / Extents

According to SHELDUS, there have been four reported winter storm events that have occurred within the boundaries of LaSalle Parish between the years of 1989 and 2014. The following table provides a brief synopsis of the single event that occurred between the years of 2009 - 2014. Based on historic data, LaSalle Parish can expect an ice damage index of 2 on the Sperry-Piltz Ice Accumulation Index.

Table 2-77: Previous Occurrences for Winter Storm Events 2009 - 2014

Date	Synopsis	Property Damage	Crop Damage
January 7, 2010	Bitterly cold temperatures swept into the region with a hard freeze being observed throughout LaSalle Parish. The cold temperatures froze the water pipes of many homes in LaSalle Parish. Some city and parish water lines burst as well, which resulted in many residents without water for a short period of time.	$37,500	$0

Based on previous winter storm events, the worst-case scenario for the unincorporated area of LaSalle Parish and the incorporated areas of Tullos, Urania, and Olla is approximately two to four inches of snow accumulation and approximately one quarter inch of ice accumulation. The incorporated area Jena and the Jena Choctaw Band areas can expect snow accumulation up to approximately three inches and ice accumulation of approximately one quarter inch.

Frequency / Probability

With four recorded events in 25 years, winter storm events within the boundaries of LaSalle Parish have an annual chance of occurrence calculated at 16% based on the SHELDUS dataset.

Estimated Potential Losses

Since 1989, there have been four reported winter weather events that have resulted in property and/or crop damages according to the SHELDUS database. The total property damages associated with these storms have totaled $363,000. To estimate the potential losses of a winter weather event on an annual basis, the total damage recorded for winter weather events was divided by the total number of years of available winter weather data in SHELDUS (1989 – 2014). This provides an annual estimated potential loss of $14,520. To assess potential losses to the participating jurisdictions, the 2010 Census population was used to assign the estimated potential losses proportionally across the jurisdictions. The following table provides an estimate of potential property losses for LaSalle Parish based on the 2010 Census data:

Table 2-78: Estimated Annual Losses for Winter Weather Events in LaSalle Parish

Estimated Annual Potential Losses from Winter Weather Events for LaSalle Parish					
Unincorporated LaSalle Parish (55.4% of Population)	**Jena (22.8% of Population)**	**Olla (9.3% of Population)**	**Tullos (2.6% of Population)**	**Urania (8.8% of Population)**	**Jena Band of Choctaw (1.1% of Population)**
$8,044	$3,314	$1,351	$375	$1,280	$156

From 1989 - 2014, there have been no injuries or fatalities as a result of winter weather in LaSalle Parish.

Vulnerability

See Appendix C for parish and municipality building exposure to winter weather hazards.

3. Capability Assessment

This section summarizes the results of the LaSalle Parish jurisdictions and other agency efforts to develop policies, programs, and activities that directly or indirectly support hazard mitigation. It also provides information on resources and gaps in the parish's infrastructure, as well as relevant changes in its law since the last plan update, in order to suggest a mitigation strategy.

Through this assessment, LaSalle Parish and the participating jurisdictions are able to identify strengths that could be used to reduce losses and reduce risk throughout the community. It also helps to identify areas where mitigation actions might be used to supplement current capabilities and create a more resilient community before, during, and after a hazard event.

Policies, Plans, and Programs

LaSalle Parish capabilities are unique to the parish, including planning, regulatory, administrative, technical, financial, and education and outreach resources. There are a number of mitigation-specific acts, plans, executive orders, and policies that lay out specific goals, objectives, and policy statements which already support or could support pre- and post-disaster hazard mitigation. Many of the ongoing plans and policies hold significant promise for hazard mitigation. They take an integrated and strategic look holistically at hazard mitigation in LaSalle Parish to propose ways to continually improve it. These tools are valuable instruments in pre- and post-disaster mitigation as they facilitate the implementation of mitigation activities through the current legal and regulatory framework.

Examples of existing documents in LaSalle Parish and its jurisdictions are shown in the table on the following page.

Table 3-1: LaSalle Parish Planning and Regulatory Capabilities

Planning and Regulatory							
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.							
	Lasalle Parish	Jena	Olla	Urania	Tullos	Jena Band Chocotaw Indians	Comments
Plans				Yes / No			
Comprehensive / Master Plan	No	Yes	No	No	No	Yes	n/a
Capital Improvements Plan	Yes	No	No	No	No	Yes	n/a
Economic Development Plan	Yes	No	No	No	No	Yes	LEDD
Local Emergency Operations Plan	Yes	Yes	No	No	No	Yes	n/a
Continuity of Operations Plan	No	Yes	No	No	No	Yes	n/a
Transportation Plan	Yes	Yes	No	No	No	Yes	n/a
Stormwater Management Plan	No	Yes	No	No	No	No	n/a
Community Wildfire Protection Plan	Yes	Yes	No	No	No	Yes	National Forest/Fire
Other plans (redevelopment, recovery, coastal zone management)	Yes	Yes	No	No	No	No	n/a
Building Code, Permitting and Inspections				Yes / No			
Building Code	Yes	Yes	No	No	No	Yes	n/a
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	Handled by Parish	No	No	No	No	n/a
Fire Department ISO/PIAL rating	Yes	Yes	No	No	No	No	n/a
Site plan review requirements	Yes	Yes	No	No	No	Yes	n/a
Land Use Planning and Ordinances				Yes / No			
Zoning Ordinance	Yes	No	No	No	No	No	n/a
Subdivision Ordinance	Yes	No	No	No	No	No	n/a
Floodplain Ordinance	Yes	Yes	No	No	No	No	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	No	No	No	No	No	n/a
Flood Insurance Rate Maps	No	Yes	No	No	No	Yes	n/a
Acquisition of land for open space and public recreation uses	Yes	No	No	No	No	No	n/a
Other	No	No	No	No	No	No	n/a

Since the last Hazard Mitigation Plan Update, there have not been any changes in Hazard Management laws, policies, programs, capabilities, or funding capabilities of the Tribal government of Jena Band of Choctaw Indians.

Building Codes, Permitting, Land Use Planning and Ordinances

The LaSalle Parish Police Jury provides oversight for building permits and codes, land use planning, and all parish ordinances.

As of the 2016 update, LaSalle Parish and its jurisdictions ensure that all adopted building codes are enforced and in compliance relating to the construction of any structure within the boundaries of the parish. Building permits are required prior to beginning any type of construction or renovation projects, installation of electrical wiring, plumbing or gas piping, moving manufactured/modular or portable buildings, and reroofing or demolitions.

The LaSalle Parish Police Jury is also responsible for enforcing the Parish Ordinances relating to health and safety, property maintenance standards, condemnation of unsafe structures, and zoning compliance. Meetings are regularly held to consider any proposed ordinance changes, and to take final actions on proposed changes.

While assessing their capabilities, the tribe evaluated current plans, programs, regulations and capabilities which already support or could support pre- and post-disaster hazard mitigation and development. Many of the ongoing plans and policies hold significant promise for hazard mitigation. While there have not been any changes since the last update, the identified plans, programs, regulations and capabilities are valuable instruments in pre- and post-disaster mitigation as they facilitate the implementation of mitigation activities within the tribal area.

While local capabilities for mitigation can vary from community to community, LaSalle Parish as a whole has a system in place to coordinate and share these capabilities through LaSalle Parish Government and through this Parish Hazard Mitigation Plan.

Some programs and policies, such as the above described, might use complementary tools to achieve a common end, but fail to coordinate with or support each other. Thus, coordination among local mitigation policies and programs is essential to hazard mitigation.

Administration, Technical, and Financial

As a community, LaSalle Parish has administrative and technical capabilities in place that may be utilized in reducing hazard impacts or implementing hazard mitigation activities. Such capabilities include staff, skillset, and tools available in the community that may be accessed to implement mitigation activities and to effectively coordinate resources. The ability to access and coordinate these resources is also important. The table below shows examples of resources in place in LaSalle Parish and its jurisdictions.

Table 3-2: LaSalle Parish Administrative and Technical Capabilities

Administration and Technical							
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.							
	Lasalle Parish	Jena	Olla	Urania	Tullos	Jena Band Choctaw Indians	Comments
Administration	**Yes / No**						
Planning Commission	No	No	No	No	No	Yes	JBC - Tribal Council
Mitigation Planning Committee	Yes	No	No	No	No	Yes	JBC - Tribal Council
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	Yes	No	No	No	Yes	JBC - Tribal Council
Mutual Aid Agreements	No	No	No	No	No	No	n/a
Staff	**Yes / No; FT/PT; % Hazard Mitigation**						
Chief Building Official	Yes	No	No	No	No	No	Jena - uses contractor
Floodplain Administrator	Yes	Yes	No	No	No	No	n/a
Emergency Manager	Yes	No	No	No	No	Yes	n/a
Community Planner	No	No	No	No	No	Yes	JBC - Tribal Council
Civil Engineer	Yes	No	No	No	No	No	Jena - uses contractor
GIS Coordinator	Yes	No	No	No	No	Yes	LaSalle Parish Assessor
Grant Writer	Yes	No	No	No	No	Yes	Jena - uses contractor
Other	No	No	No	No	No	No	n/a
Technical	**Yes / No**						
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	No	No	No	No	No	n/a
Hazard Data & Information	Yes	No	No	No	No	No	n/a
Grant Writing	Yes	No	No	No	No	Yes	n/a
Hazus Analysis	No	No	No	No	No	No	n/a
Other	No	No	No	No	No	No	n/a

Since the last Hazard Mitigation Plan Update, there have not been any changes in Hazard Management Laws, policies, programs, capabilities or funding capabilities of the Tribal government of Jena Band of Choctaw Indians.

Financial capabilities are the resources that LaSalle Parish and its incorporated jurisdictions have access to or are eligible to use in order to fund mitigation actions. Costs associated with implementing the actions identified by the jurisdictions may vary from little/no cost actions, such as outreach efforts, to substantial action costs such acquisition of flood prone properties. The following resources are available to fund mitigation actions in LaSalle Parish and its jurisdictions:

Table 3-3: LaSalle Parish Financial Capabilities

Financial							
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.							
	Lasalle Parish	Jena	Olla	Urania	Tullos	Jena Band Choctaw Indians	Comments
Funding Resource	Yes / No						
Capital Improvements project funding	Yes	Yes	No	No	No	Yes	Capital Outlay
Authority to levy taxes for specific purposes	Yes	Yes	No	No	No	Yes	With Parish Vote
Fees for water, sewer, gas, or electric services	No	Yes	No	No	No	No	Per District
Impact fees for new development	No	No	No	No	No	No	n/a
Stormwater Utility Fee	No	No	No	No	No	No	n/a
Community Development Block Grant (CDBG)	Yes	Yes	No	Yes	No	Yes	n/a
Other Funding Programs	No	No	No	Yes	No	No	Urania - LEDD, BCBS

The Jena Band of Choctaw identified the above funding resources for use in hazard mitigation projects, however, the tribal area relies primarily on the FEMA Hazard Mitigation Grant Program to fund all hazard mitigation activities and projects within the tribal area. Since the last Hazard Mitigation Plan Update, there have not been any changes in Hazard Management Laws, policies, programs, capabilities or funding capabilities of the Tribal government of Jena Band of Choctaw Indians.

Education and Outreach

A key element in hazard mitigation is promoting a safer, more disaster resilient community through education and outreach activities and/or programs. Successful outreach programs provide data that improves overall quality and accuracy of important information for citizens to feel better prepared and educated with mitigation activities. These programs enable the individual jurisdictions and the parish as a whole to maximize opportunities for implementation of activities through greater acceptance and consensus of the community.

LaSalle Parish and its jurisdictions have existing education and outreach programs to implement mitigation activities, as well as to communicate risk and hazard related information to its communities. The existing programs are listed on the following page.

Table 3-4: LaSalle Parish Education and Outreach Capabilities

Education and Outreach							
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.							
Program / Organization	Lasalle Parish	Jena	Olla	Urania	Tullos	Jena Band Choctaw Indians	Comments
	Yes / No						
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	No	No	No	No	Yes	Safety Expos/Facebook Post; JBC - Tribal Community
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	Yes	No	No	No	No	Yes	Safety Expos/Facebook Post; JBC - Tribal Newsletter
Natural Disaster or safety related school program	Yes	No	No	No	No	Yes	Safety Expos/Facebook Post
Storm Ready certification	No	No	No	No	No	No	n/a
Firewise Communities certification	Yes	No	No	No	No	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	Yes	No	No	No	No	Yes	JBC - Local Community
Other	No	No	No	No	No	No	n/a

Since the last Hazard Mitigation Plan Update, there have not been any changes in Hazard Management Laws, policies, programs, capabilities or funding capabilities of the Tribal government of Jena Band of Choctaw Indians.

In some cases, the jurisdictions rely on LaSalle Parish OHSEP and/or LaSalle Parish Government Agencies for the above listed planning and regulatory, administrative and technical, financial, and education and outreach capabilities. Comments regarding the jurisdictions' utilization or intentions to utilize and leverage the capabilities of the parish government can be found in the jurisdictional specific worksheets provided in Appendix E.

As reflected in the aforementioned existing regulatory mechanisms, programs, and resources within each jurisdiction, LaSalle Parish and its jurisdictions remain committed to expanding and improving upon the existing capabilities within the parish. All included jurisdictions will work toward increased participation in funding opportunities and available mitigation programs. Should funding become available, the hiring of additional personnel to dedicate to hazard mitigation initiatives and programs, as well as increasing ordinances within the jurisdictions, will help to enhance and expand risk reduction measures within the parish.

With the sharing of these capabilities, the following jurisdictions and entities are recognized by the Parish of LaSalle under the Hazard Mitigation Plan, allowing them to apply for available hazard mitigation funding for as long as these jurisdictions and entities notify the parish of their intentions and the parish concurs:

- Unincorporated LaSalle Parish
- Town of Jena
- Town of Olla
- Town of Urania
- Town of Tullos
- Jena Band of Choctaw Indians

Flood Insurance and Community Rating System

LaSalle Parish is not a participant in the Community Rating System (CRS), nor are any of its jurisdictions. Obtaining the CRS rating for the parish and participating jurisdictions is recognized as an eventual goal by the Hazard Mitigation Steering Committee. Participation in the CRS strengthens local capabilities by lowering flood insurance premiums for jurisdictions that exceed NFIP minimum requirements.

Under the Federal Emergency Management Agency (FEMA), the National Flood Insurance Program (NFIP) administers the Community Rating System. Under the CRS, flood insurance premiums for properties in participating communities are reduced to reflect the flood protection activities that are being implemented. This program can have a major influence on the design and implementation of flood mitigation activities, so a brief summary is provided below.

A community receives a CRS classification based upon the credit points it receives for its activities. It can undertake any mix of activities that reduce flood losses through better mapping, regulations, public information, flood damage reduction and/or flood warning and preparedness programs.

There are ten CRS classes: class 1 requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction (see *Figure 3-1*). A community that does not apply for the CRS or that does not obtain the minimum number of credit points is a class 10 community.

During the last update, 38 Louisiana communities participated. Mandeville, Shreveport, and Jefferson and East Baton Rouge Parishes had the best classifications in the state, class 7. As of the 2016 update, Jefferson, East Baton Rouge, and Terrebonne Parishes all lead the state with best classifications, class 6.

CLASS	DISCOUNT	CLASS	DISCOUNT
1	45%	6	20%
2	40%	7	15%
3	35%	8	10%
4	30%	9	5%
5	25%	10	–

SFHA (Zones A, AE, A1–A30, V, V1–V30, AO, and AH): Discount varies depending on class.

SFHA (Zones A99, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO): 10% discount for Classes 1–6; 5% discount for Classes 7–9.*

Non-SFHA (Zones B, C, X, D): 10% discount for Classes 1–6; 5% discount for Classes 7–9.

* In determining CRS Premium Discounts, all AR and A99 Zones are treated as non-SFHAs.

Figure 3-1: CRS Discounts by Class (Source: FEMA)

As of May 2012, 310 communities in the State of Louisiana participate in the Federal Emergency Management Agency's NFIP. Of these communities, 41 (or 13%) participate in the Community Rating System (CRS). Of the top fifty Louisiana communities, in terms of total flood insurance policies held by residents, 27 participate in the CRS. The remaining 23 communities present an outreach opportunity for encouraging participation in the CRS.

The CRS provides an incentive not just to start new mitigation programs, but to keep them going. There are two requirements that "encourage" a community to implement flood mitigation activities.

First, the parish will receive CRS credit for this plan when it is adopted. To retain that credit, though, the parish must submit an evaluation report on progress toward implementing this plan to FEMA by October 1st of each year. That report must be made available to the media and the public.

Second, the parish must annually recertify to FEMA that it is continuing to implement its CRS credited activities. Failure to maintain the same level of involvement in flood protection can result in a loss of CRS credit points, which in turn will increase flood insurance rates to residents.

In 2011[1], the National Flood Insurance Program (NFIP) completed a comprehensive review of the Community Rating System which resulted in the release of a new CRS Coordinator's Manual.

The changes to the 2013 CRS Coordinator's Manual are the result of a multi-year program evaluation that included input from a broad group of contributors in order to evaluate the CRS and refine the program to meet its stated goals.

The upcoming changes will drive new achievements in the following six core flood loss reduction areas important to the NFIP: (1) reduce liabilities to the NFIP Fund; (2) improve disaster resiliency and sustainability of communities; (3) integrate a whole community approach to addressing emergency management; (4) promote natural and beneficial functions of floodplains; (5) increase understanding of risk, and; (6) strengthen adoption and enforcement of disaster-resistant building codes.

The 2013 CRS Coordinator's Manual changes will impact each CRS community differently. Some communities will see an increase in the points they receive since points for certain activities have increased (e.g., Activity 420 Open Space Preservation). Other communities will receive fewer points for certain activities (e.g., Activity 320 Map Information Service). It is likely that some communities with marginal CRS class 9 programs will have to identify new CRS credits in order to remain in the CRS.
Typically, CRS communities do not request credit for all of the activities they are currently implementing unless it would earn enough credit to advance the community to a higher CRS class. A community that finds itself losing CRS credit with the 2013 manual could likely identify activities deserving credit they had not previously received.

Due to the changes in both activities and CRS points, community CRS coordinators should speak with their ISO/CRS Specialist to understand how and when the 2013 manual will impact their community.

[1] https://www.fema.gov/national-flood-insurance-program-community-rating-system

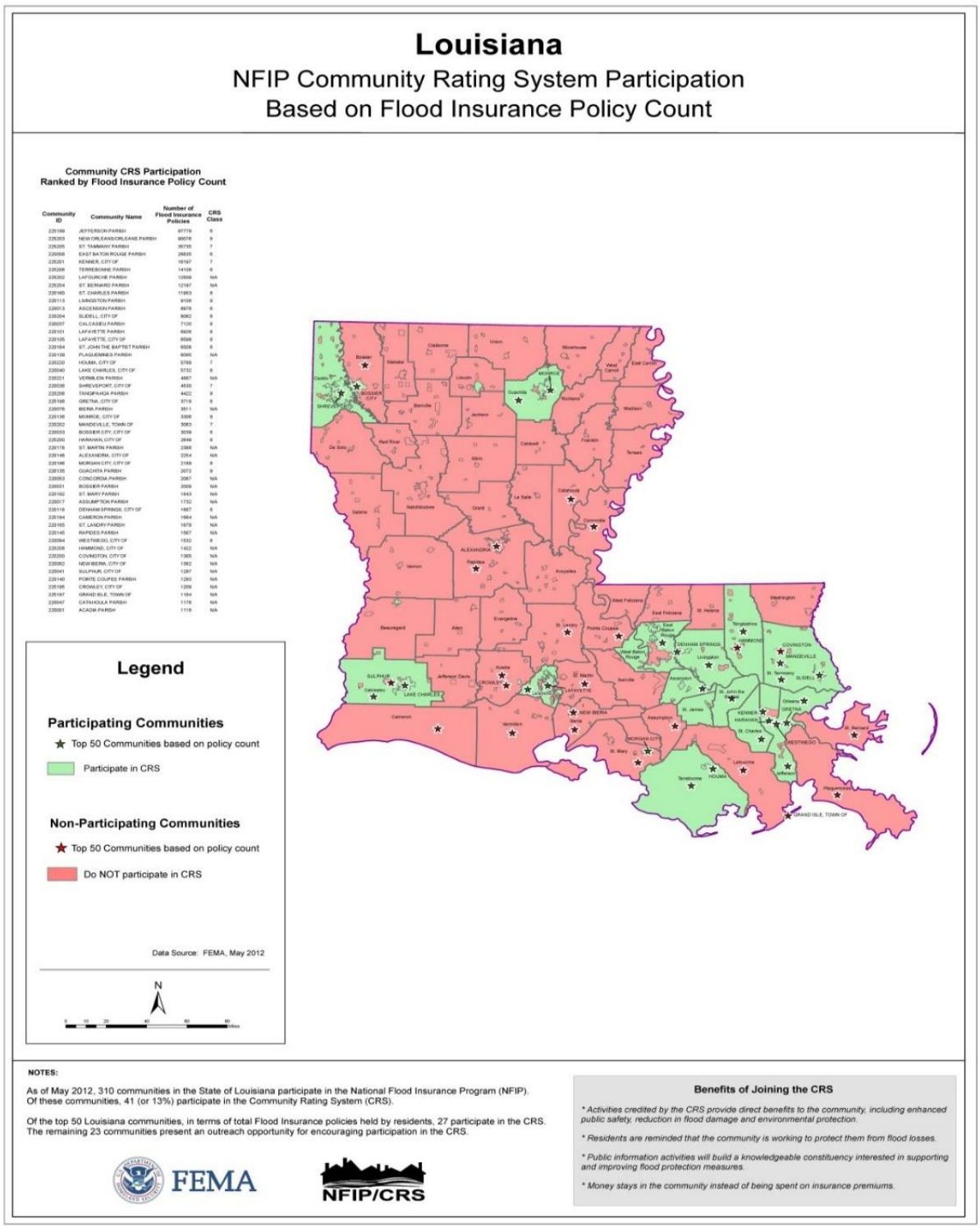

Figure 3-2: Louisiana CRS NFIP Participation
(Source: FEMA[2])

[2] http://www.fema.gov/media-library-data/20130726-2128-31471-9581/ks_ky_la_crs_may_2012_508.zip

In addition to the direct financial reward for participating in the Community Rating System, there are many other reasons to participate in the CRS. As FEMA staff often say, "If you are only interested in saving premium dollars, you're in the CRS for the wrong reason." The other benefits that are more difficult to measure in dollars include:

1. The activities credited by the CRS provide direct benefits to residents, including:
   – Enhanced public safety
   – A reduction in damage to property and public infrastructure
   – Avoidance of economic disruption and losses
   – Reduction of human suffering
   – Protection of the environment

2. A community's flood programs will be better organized and more formal. Ad hoc activities, such as responding to drainage complaints rather than an inspection program, will be conducted on a sounder, more equitable basis.

3. A community can evaluate the effectiveness of its flood programs against a nationally recognized benchmark.

4. Technical assistance in designing and implementing a number of activities is available at no charge from the Insurance Services Office.

5. The public information activities will build a knowledgeable constituency interested in supporting and improving flood protection measures.

6. A community would have an added incentive to maintain its flood programs over the years. The fact that its CRS status could be affected by the elimination of a flood related activity or a weakening of the regulatory requirements for new developments would be taken into account by the governing board when considering such actions.

7. Every time residents pay their insurance premiums, they are reminded that the community is working to protect them from flood losses, even during dry years.

More information on the Community Rating System can be found at www.fema.gov/nfip/crs.shtm

NFIP Worksheets

Parish and participating jurisdiction NFIP worksheets can be found in Appendix E: State Required Worksheets

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4. Mitigation Strategy

Introduction

LaSalle Parish's Hazard Mitigation Strategy has a common guiding principle and is the demonstration of the parish's and participating jurisdictions' commitment to reduce risks from hazards. The strategy also serves as a guide for parish and local decision makers as they commit resources to reducing the effects of hazards.

LaSalle Parish confirmed the goals, objectives, actions, and projects over the period of the Hazard Mitigation Plan Update process. The mitigation actions and projects in this 2016 update are a product of analysis and review by the LaSalle Parish Hazard Mitigation Plan Steering Committee, under the coordination of the LaSalle Parish Office of Homeland Security and Emergency Preparedness. The committee was presented a list of projects and actions, new and from the 2011 plan, for review from May 2015 – September 2015.

An online public opinion survey was conducted of LaSalle Parish residents between October and December 2015. The survey was designed to capture public perceptions and opinions regarding natural hazards in LaSalle Parish. In addition, the survey collected information regarding the methods and techniques preferred by the respondents for reducing the risks and losses associated with local hazards.

This activity confirms that the goals and action items developed by the LaSalle Parish Hazard Mitigation Plan Steering Committee are representative of the outlook of the community at large. The full LaSalle Parish survey results can be found at the following link:

https://www.surveymonkey.com/results/SM-PNZ6YDWJ/

During the public meeting in December, the committee provided a status of the projects from 2011 and the proposed actions for the 2016 update. Committee members then agreed on the submission of each project based on feasibility for funding, ease of completion, and other community specific factors. The actions were later prioritized.

Goals

The goals represent the guidelines that the parish and its jurisdictions want to achieve with this plan update. To help implement the strategy and adhere to the mission of the Hazard Mitigation Plan, the preceding section of the plan update focused on identifying and quantifying the risks faced by the residents and property owners in LaSalle Parish from natural and manmade hazards. By articulating goals and objectives based on the previous plans, the risk assessment results, and intending to address those results, this section sets the stage for identifying, evaluating, and prioritizing feasible, cost effective, and environmentally sound actions to be promoted at the parish and municipal level – and to be undertaken by the state for its own property and assets. By doing so, LaSalle Parish and its jurisdictions can make progress toward reducing identified risks.

For the purposes of this plan update, goals and action items are defined as follows:

- **Goals** are general guidelines that explain what the parish wants to achieve. Goals are expressed as broad policy statements representing desired long-term results.
- **Action Items** are the specific steps (projects, policies, and programs) that advance a given goal. They are highly focused, specific, and measurable.

The current goals of the LaSalle Parish Hazard Mitigation Plan Update Steering Committee represent long-term commitments by the parish and its jurisdictions. After assessing these goals, the committee decided that the current four goals remain valid.

The goals are as follows:

- Identify and pursue preventative measures that will reduce future damages from hazards
- Enhance public awareness and understanding of disaster preparedness
- Reduce repetitive flood losses in the parish and its municipalities
- Facilitate sound development in the parish and its municipalities so as to reduce or eliminate the potential impact of hazards

The Mitigation Action Plan focuses on actions to be taken by LaSalle Parish and its jurisdictions. All of the activities in the Mitigation Action Plan will be focused on helping the parish and its municipalities in developing and funding projects that are not only cost effective, but also meet the other DMA 2000 criteria of environmental compatibility and technical feasibility.

The Hazard Mitigation Plan Steering Committee and each jurisdiction reviewed and evaluated the potential action and project lists in which consideration was given to a variety of factors. Such factors include determining a project's eligibility for federal mitigation grants, as well as its ability to be funded. This process required evaluation of each project's engineering feasibility, cost effectiveness, and environmental and cultural factors.

2016 Mitigation Actions and Update on Previous Plan Actions

The LaSalle Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions each identified actions that would reduce and/or prevent future damage within LaSalle Parish and their respective communities. In that effort, each jurisdiction focused on a comprehensive range of specific mitigation actions. These actions were identified in thorough fashion by the consultant team, the committee, and the individual jurisdictions by way of frequent and open communications and meetings held throughout the planning process.

As outlined in the Local Mitigation Planning Handbook, the following are eligible types of mitigation actions:

- **Local Plans and Regulations –** These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.
- **Structure and Infrastructure Projects –** These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area, and also includes projects to construct manmade structures to reduce the impact of hazards.
- **Natural System Protection –** These actions minimize the damage and losses and also preserve or restore the functions of natural systems.
- **Education and Awareness Programs –** These actions inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.

The established and agreed upon parish and jurisdiction and Jena Band of Choctaw actions relative to the parish-wide goals are below. Additionally, action updates from the previous plan updates can be found in the first table below. Implemented, ongoing and deleted actions below reflect the jurisdictions and the Jena Band of Choctaw's progress on implementation of mitigation actions from the previous plan update.

LaSalle 2011 Hazard Mitigation Action Update

LaSalle Parish – Action Update					
Jurisdiction-Specific Action	**Action Description**	**Jurisdiction (LaSalle Parish, Jena, Olla, Urania, Tullos, Jena Band of Choctaw)**	**Funding Source**	**Hazard**	**Status**
Drainage Improvement	Improve drainage ways, along the Little River, in the Pritchard area northeast of Catahoula Lake bounded on the east by Little River and Old River to the north, and the Catahoula Lake vicinity, between Louisiana Highway 28 and Little River, by enlarging any inferior culverts and replacing any substandard bridges along the major drainage laterals.	LaSalle Parish Police Jury	N/A	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Deleted
Mobile Morgue Trailers	Hardtner Medical Center and LaSalle General Hospital are in need of Mobile Morgue Trailers.	LaSalle General - LaSalle Parish Hardtner - Town of Olla/Urania	HMGP	All Hazards	Not Started
Land Use Plan Development	Formalize and Land Use Development Plan with parish planning and zoning committees. Provide	LaSalle Parish Fire Station	N/A	Wildfires	Deleted

LaSalle Parish – Action Update					
Jurisdiction-Specific Action	**Action Description**	**Jurisdiction (LaSalle Parish, Jena, Olla, Urania, Tullos, Jena Band of Choctaw)**	**Funding Source**	**Hazard**	**Status**
	information on fire safe practices in affected areas.				
Master Drainage Plan	Develop a master drainage plan which will evaluate drainage projects at major drainage laterals to determine best method of increasing drainage capacity. Implement recommended projects resulting from drainage plan.	LaSalle Parish Police Jury	N/A	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Deleted
Generators and Safe Rooms	Add back-up power supply/generators and construct safe rooms at the Continuity of Operations (COOP), the Jena Band of Choctaw Recreation facility, the Whitehall Fire Station, Plum Street Water Well #3, Lower Water Well, the LaSalle Parish Courthouse, the Hardtner Medical Center, and the Urania Sewage Treatment Plant.	Jena Band of Choctaw - Jena Band of Choctaw All others - LaSalle Parish	HMGP	All Hazards	Ongoing
Flood Insurance	Promote the purchase of flood insurance. Advertise the availability, cost, and coverage of flood insurance through the National Flood Insurance Program (NFIP).	LaSalle Parish Police Jury - this is not handled through LaSalle Parish Office of Homeland Security	HMGP	Thunderstorms with Lightning and Hailstorms / Hurricanes / Flooding	Not Started
Auto Call Out System	Auto call out system for the Sheriff's Department.	LaSalle Parish	HMGP	All Hazards	Not Started

LaSalle Parish – Action Update					
Jurisdiction-Specific Action	**Action Description**	**Jurisdiction (LaSalle Parish, Jena, Olla, Urania, Tullos, Jena Band of Choctaw)**	**Funding Source**	**Hazard**	**Status**
Public Awareness	Increase public awareness of hazards and hazardous areas. Distribute public awareness information regarding flood hazards, SFHA's, and potential mitigation measures using the local newspaper, utility bill inserts, inserts in the phone book, and parish hazards awareness website, and an educational program for school age children or "how to" classes in retrofitting by local merchants. Integrate "Disaster Resistance Education" into the public school curriculum. Provide public education on the importance of maintaining the ditches. Implement a public notification system, such as sirens or a call down system with a backup communication system.	LaSalle Parish Police Jury LaSalle Parish OHSEP	HMGP	All Hazards	Ongoing
Multi-Hazard Awareness Week	Sponsor a "Multi-Hazard Awareness Week", to educate the public on tornadoes, severe storms, and hurricanes (sheltering in place, evacuation, emergency preparedness, and structural retrofitting), flooding (evacuation, emergency preparedness, retrofitting, and flood insurance), thunderstorms and lightning (emergency preparedness).	LaSalle Parish OHSEP	HMGP	All Hazards	Ongoing

LaSalle Parish – Action Update					
Jurisdiction-Specific Action	**Action Description**	**Jurisdiction (LaSalle Parish, Jena, Olla, Urania, Tullos, Jena Band of Choctaw)**	**Funding Source**	**Hazard**	**Status**
Flood Preparation	Pursue elevation/ acquisition/ floodproofing/ reconstruction projects and structural solutions to flooding using available grant funding for repetitive loss structures and severe repetitive loss structures. Annually review and correct the Repetitive Loss List by submitting correction worksheets to FEMA.	LaSalle Parish Police Jury	N/A	Hurricanes / Flooding	Deleted
Drainage Project	Investigate and implement a localized interior drainage project along U.S. Highway 84, Louisiana Highway 28, Pritchard Loop and the Parish road near Old River to prevent backwater flooding from the Red River, which are repetitive loss areas, and reduce its flood potential.	LaSalle Parish Police Jury	N/A	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Deleted
Pilot Programs	Participate in future pilot programs such as the FEMA Pilot Reconstruction Program.	LaSalle Parish Police Jury	N/A	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Deleted
Community Rating System	Participate in the "Community Rating system (CRS)" of the NFIP. Inform the public about the CRS program and the fact that it could result in a discount in Flood Insurance Premiums. Review the existing floodplain ordinance and see how it could be augmented to increase CRS potential and further reduce the flood insurance premiums.	LaSalle Parish Police Jury	N/A	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Deleted

LaSalle Parish – Action Update					
Jurisdiction-Specific Action	**Action Description**	**Jurisdiction (LaSalle Parish, Jena, Olla, Urania, Tullos, Jena Band of Choctaw)**	**Funding Source**	**Hazard**	**Status**
International Building Codes	Adopt the current International Building Codes by ordinance, which would result in additional techniques to harden structures.	LaSalle Parish Police Jury	HMGP	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Not Started
Regulating New Developments	Develop and pass out ordinances to help regulate new development in the Parish, such as requiring proper drainage with adequate sloping; stormwater retention ponds; dikes; levees and floodwalls if appropriate, and requiring freeboard above the Base Flood Evaluation (BFE) in flood prone areas. Develop codes that will require new subdivision developments to install underground utilities, which would help reduce the chances of power outages.	LaSalle Parish Police Jury	HMGP	Winter Storms, Thunderstorms with Lightning and Hailstorms / Hurricanes / Floods	Not Started
Retrofitting	Retrofit municipal building and critical facilities using hardening measures including, but not limited to, safe rooms.	LaSalle Parish or Towns, whichever the buildings falling under	HMGP	Tornadoes	Not Started

Unincorporated LaSalle New Mitigation Actions

LaSalle Parish - Unincorporated							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
L1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
L2: Mobile Morgue Trailers	Hardtner Medical Center and LaSalle General Hospital are in need of Mobile Morgue Trailers.	DHH Grants	1-5 Years	LaSalle Parish, Parish Emergency Manager / Hospital Administrator	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires	4	New
L3: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure continued operations during and after events.	Parish Budget	1-5 Years	LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Storm	4	Ongoing
L4: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New

L5: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storm	1, 2, 4	New
L6: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week", to educate the public on all hazards.	Parish Budget, Grant Funding	1-5 Years	LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storm	1, 2, 4	Ongoing

L7: Adoption of International Building Codes and Regulation of New Development	Adopt the current International Building Codes by ordinance, which would result in additional techniques to harden structures. Develop and pass out ordinances to help regulate new development in the parish to implement drainage standards, develop codes that will require new subdivision developments to install underground utilities, which would help reduce the chances of power outages.	Parish Budget	1-5 Years	LaSalle Parish Police Jury	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires	4	New
L8: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
L9: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding	Parish Budget	1-5 Years	LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New
L10: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors	Parish Budget	1-5 Years	LaSalle Parish	Thunderstorms - Lightning	1, 4	New

	for public buildings to preserve life and property.						
L11: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	LaSalle Parish	Drought	4	New

Town of Jena - New Mitigation Actions

Town of Jena							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
J1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
J2: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure continued operations during and after events.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Storms	4	Ongoing
J3: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New

Town of Jena							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
J4: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	Town of Jena, LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	New
J5: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week",	Parish Budget, Grant Funding	1-5 Years	Town of Jena, LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	Ongoing

Town of Jena							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
	to educate the public on all hazards.						
J6: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	Town of Jena, LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
J7: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New

Town of Jena							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
J8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish	Thunderstorms - Lightning	1, 4	New
J9: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	Town of Jena, LaSalle Parish	Drought	4	New

Town of Olla - New Mitigation Actions

Town of Olla							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
O1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
O2: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure continued operations during and after events.	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Storms	4	Ongoing
O3: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
O4: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	Town of Olla, LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	New

O5: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week", to educate the public on all hazards.	Parish Budget, Grant Funding	1-5 Years	Town of Olla, LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	Ongoing
O6: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	Town of Olla, LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New

O7: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New
O8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish	Thunderstorms - Lightning	1, 4	New
O9: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	Town of Olla, LaSalle Parish	Drought	4	New

Town of Urania - New Mitigation Actions

Town of Urania							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
U1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
U2: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical	4	Ongoing

Town of Urania							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
	continued operations during and after events.				Cyclones, Winter Storms		
U3: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
U4: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	Town of Urania, LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	New
U5: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school	Parish Budget, Grant Funding	1-5 Years	Town of Urania, LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	Ongoing

Town of Urania							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
	curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week", to educate the public on all hazards.						
U6: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	Town of Urania, LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
U7: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New
U8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish	Thunderstorms - Lightning	1, 4	New

Town of Urania							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
U9: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	Town of Urania, LaSalle Parish	Drought	4	New

Town of Tullos - New Mitigation Actions

Town of Tullos							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
T1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
T2: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure continued operations during and after events.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Storms	4	Ongoing
T3: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New

Town of Tullos							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
T4: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	Town of Tullos, LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	New
T5: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week", to educate the	Parish Budget, Grant Funding	1-5 Years	Town of Tullos, LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	Ongoing

Town of Tullos							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
	public on all hazards.						
T6: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	Town of Tullos, LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
T7: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New
T8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Thunderstorms - Lightning	1, 4	New
T9: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Drought	4	New

Jena Band of Choctaw Indians - New Mitigation Actions

Jena Band OF Choctaw Indians							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
JB1: Drainage Improvement Projects	Implementation of drainage improvement/flood mitigation projects to relieve flooding problems, reduce flood damage and costs of damage, overtopping of roads with drain water, while also keeping open roadways during periods of high precipitation.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish, Parish Engineer and/or Parish Department of Public Works	Flooding, Tropical Cyclones	1, 3, 4	New
JB2: Generator Installation	Procurement and Installation of generators at essential facilities and governmental buildings to ensure continued operations during and after events.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish, OHLS/EP Director	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones, Winter Storms	4	Ongoing
JB3: Construction of Safe Rooms	Construction of a safe room for first responders located in LaSalle Parish. Other locations will be identified based on funding availability.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish OHSEP	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New
JB4: Communications Systems	Implement upgrades and additions to communications systems, including the Auto call out system for the Sheriff's Department. Implement a public notification system, such as sirens or a call down system with backup capabilities.	State Budget	1-5 Years	Town of Tullos, LaSalle Parish Sheriff	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	New

Jena Band OF Choctaw Indians							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
JB5: Mitigation Outreach and Education	Increase public awareness of hazards and hazardous areas. Actions may include distribution of public awareness information regarding all hazards and potential mitigation measures; implementation of educational program for children and merchants; Integrate "Disaster Resistance Education" into the public school curriculum, providing public education on the importance of maintaining the ditches, promotion of the purchase of flood insurance for public. Sponsor a "Multi-Hazard Awareness Week", to educate the public on all hazards.	Parish Budget, Grant Funding	1-5 Years	Town of Tullos, LaSalle Parish OHSEP, School Board	Drought, Flooding, Thunderstorms - High Wind, Hail, and Lightning, Tornadoes, Tropical Cyclones, Wildfires, Winter Storms	1, 2, 4	Ongoing
JB6: Building Retrofit Projects	Retrofit public buildings exterior shell to maintain use during and after storm events. Benefits: Reduces damage from high winds, and helps assure that the public buildings can be used, occupied and operable during or after storms.	Hazard Mitigation Grant Program	1-5 Years	Town of Tullos, LaSalle Parish	Thunderstorms - High Wind and Hail, Tornadoes, Tropical Cyclones	1, 4	New

Jena Band OF Choctaw Indians							
Jurisdiction-Specific Action	**Action Description**	**Funding Source**	**Target Completion Date**	**Responsible Party, Agency, or Department**	**Hazard**	**Goal**	**Status**
JB7: Flood Mitigation of Repetitive Loss Properties and Other Flood Prone Structures	Elevation, acquisition-demolition, acquisition-relocations, and reconstruction of repetitive loss or flood prone properties. Benefits: Relieves property owners of the continual flooding	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Flooding, Tropical Cyclones	1, 3, 4	New
JB8: Lightning Mitigation	Procurement and Installation of lightning rods and surge protectors for public buildings to preserve life and property.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Thunderstorms - Lightning	1, 4	New
JB9: Water Conservation Measures	Adopt ordinance requiring water-saving measures in time of drought.	Parish Budget	1-5 Years	Town of Tullos, LaSalle Parish	Drought	4	New

Action Prioritization

During the prioritization process, each jurisdiction and the steering committee considered the costs and relative benefits of each new action. Costs can usually be listed in terms of dollars, although at times it involves staff time rather than the purchase of equipment or services that can be readily measured in dollars. In most cases, benefits, such as lives saved or future damage prevented, are hard to measure in dollars, many projects were prioritized with these factors in mind.

In all cases, the jurisdictions concluded that the benefits (in terms of reduced property damage, lives saved, health problems averted and/or economic harm prevented) outweighed the costs for the recommended action items.

The steering committee met internally for mitigation action meetings to review and approve LaSalle Parish and the jurisdiction's mitigation actions. On-going actions, as well as actions which can be undertaken by existing parish or local staff without need for additional funding, were given high priority. The actions with high benefit and low cost, political support, and public support but require additional funding from parish or external sources were given medium priority. The actions that require substantial funding from external sources with relatively longer completion time were given low priority.

LaSalle Parish and the participating jurisdictions will implement and administer the identified actions based off of the proposed timeframes and priorities for each reflected in the portions of this section where actions are summarized. The inclusion of any specific action item in this document does not commit the parish to implementation. Each action item will be subject to availability of staff and funding. Certain items may require regulatory changes or other decisions that must be implemented through standard processes, such as changing regulations. This plan is intended to offer priorities based on an examination of hazards.

Appendix A: Planning Process

Purpose

The Hazard Mitigation Plan Update process prompts local jurisdictions to keep their hazard mitigation plan current and moving toward a more resilient community. The plan update builds on the research and planning efforts of previous plans while reviewing recent trends. The steering committee followed FEMA's hazard mitigation planning process per the FEMA Local Mitigation Planning Handbook. This planning process assured public involvement and the participation of interested agencies and private organizations. Documentation of the planning process for the updated plan is addressed in this section.

The LaSalle Parish Hazard Mitigation Plan Update

The LaSalle Parish Hazard Mitigation Plan Update process began in June 2015 with a series of meetings and collaborations between the contractor (SDMI) and the participating jurisdictions. Update activities were intended to give each jurisdiction the opportunity to shape the plan to best fit their community's goals. Community stakeholders and the general public were invited to attend and contribute information to the planning process during specific time periods or meetings.

LaSalle Parish includes the following incorporated municipalities that participated in the plan update process – Town of Jena, Town of Olla, Town of Tullos, Town of Urania, and the Jena Band of Choctaw Indians. There were no other tribal groups included in the planning process. The LaSalle Parish Office of Homeland Security and Emergency Preparedness (OHSEP) invited communities' representatives to meetings, where they supplied critical infrastructure data and reviewed work-in-progress for the plan update.

Similar to the development of the original Hazard Mitigation Plan, the role of the steering committee members during the plan update was to attend the planning meetings and provide valuable information on the parish, develop parts of the plan update, and review the results of research conducted by SDMI. Tasks completed by the steering committee include:

- Reviewing and revising the list of potential hazards included in the plan update
- Assembling a list of critical facilities, such as hospitals, police stations, and shelters
- Updating mitigation goals and objectives
- Determining prudent mitigation measures
- Prioritization of identified mitigation measures

The table below details the meeting schedule and purpose for the planning process:

Date	Meeting or Outreach	Location	Public Invited	Purpose
6/29/2015	Initial Coordination	Telephone/ Email	No	Discuss with Parish HM coordinator and any steering committee members expectations and requirements of the project.
8/11/2015	Kick-Off Meeting	LaSalle Parish, Jena, LA	No	Discuss with the plan steering committee expectations and requirements of the project. Assign plan worksheets to jurisdictions.
12/2/2015	Risk Assessment Overview	LaSalle Parish, Jena, LA	No	Discuss and review the risk assessment with the steering committee discuss and review expectations for public meeting.
12/2/2015	Public Meeting	LaSalle Parish, Jena, LA	Yes	The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the LaSalle Parish jurisdictions were provide for the meeting attendees to identify specific areas where localized hazards occur.
Ongoing	Public Survey Tool	Online	Yes	This survey asked participants about public perceptions and opinions regarding natural hazards in LaSalle Parish. In addition, we asked about the methods and techniques preferred for reducing the risks and losses associated with these hazards. Survey Results: https://www.surveymonkey.com/results/SM-PNZ6YDWJ/
2 Week Period	Public Plan Review (Digital)		Yes	Parish Website and LaSalle Parish OHSEP

Planning

The plan update process consisted of several phases:

Phase	Month 1-2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Plan Revision								
Data Collection								
Risk Assessment								
Public Input								
Mitigation Strategy and Actions								
Plan Review by GOHSEP and FEMA								
Plan Adoption								
Plan Approval								

Coordination

The LaSalle Parish OHSEP oversaw the coordination of the 2016 Hazard Mitigation Plan Update Steering Committee during the update process. The LaSalle Parish OHSEP and participating jurisdictions were responsible for identifying members for the committee.

The Parish Director and SDMI were jointly responsible for inviting the Steering Committees and key stakeholders to planned meetings and activities by email invitations and calendar invites. SDMI assisted the Parish Director with meeting notices, website and social media statements for notification to the media and general public for public meetings and public outreach activities.

SDMI was responsible for facilitating meetings and outreach efforts during the update process.

Neighboring Community, Local and Regional Planning Process Involvement

From the outset of the planning process, the Hazard Mitigation Team encouraged participation from a broad range of jurisdictional entities. The involvement of representatives from the city, state, and regional agencies provided diverse perspectives and mitigation ideas.

Formal participation in this plan includes but is not limited to the following activities:

- Participation in Hazard Mitigation Team meetings at the local and parish level
- Sharing local data and information
- Local action item development
- Plan document draft review
- Formal adoption of the Hazard Mitigation Plan document by each jurisdiction following provisional approval by the State of Louisiana and FEMA

The 2016 Hazard Mitigation Plan Update Steering Committee consists of representatives from the following parish, municipal, or community stakeholders:

- LaSalle Parish Government
- LaSalle Office of Homeland Security and Emergency Preparedness
- Town of Jena
- Town of Tullos
- Town of Olla
- Town of Urania
- Jena Band of Choctaw Indians

The Parishes of Catahoula and Franklin were invited by the LaSalle Parish OHSEP to participate in all meetings and activities as well in an effort to collaborate with neighboring communities. In addition, the participation of the GOHSEP Region 6 Coordinator during the process also contributed to neighboring community representation.

As part of the coordination and planning process, each jurisdiction was provided the State Required Hazard Mitigation Plan Update Worksheet. Jurisdictions with the capability to complete and return these worksheets did so in order to assist with the 2016 update. The completed worksheets can be found in Appendix E – State Required Plan Update Worksheets.

Below is a detailed list of the 2016 Hazard Mitigation Plan Update Steering Committee:

Name	Title	Email	Phone	Address
Scott Franklin	LPSO Sheriff/Director LP OHSEP	sfranklin@lasalleso.com	318.992.2151	P O Box 70, Jena, LA 71342
Dana Chapman	Asst. Director LP OHSEP	dchapman@lasalleso.com	318.992.0673	P O Box 70, Jena, LA 71342
Josh Corley	Chief LP Fire Association	joshcrly@yahoo.com	318.419.6921	P O Box 26, Jena, LA 71342
Cherry Beth Salther	DON Hardtner Medical Center	csalter@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Melissa Wold	Hardtner Medical Center	Mwold@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Ray Atwell	Hardtner Medical Center	ray@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Brenda Smith	LaSalle General Hospital	BSmith@lgh-jena.org	318.992.9200	187 9th Street, Jena, LA 71342
Jennifer Mason	LaSalle General Hospital	Jmason@lgh-jena.org	318.992.9200	187 9th Street, Jena, LA 71342

Bard Lambeth	LPPJ President	office.lppj@centurytel.net	318.992.2101	P O Box 1288, Jena, LA 71342
Mike Crooks	LPPJ Vice-President	office.lppj@centurytel.net	318.992.2101	P O Box 1288, Jena, LA 71342
Rhonda Elliott	Town of Olla Mayor	mayor@townofolla.com	318.495.5151	P O Box 223, Olla, LA 71465
LaDawn Edwards	Town of Jena Mayor	townofjena@centurytel.net	318.992.2148	P O Box 26, Jena, LA 71342
Charley Newsom	Town of Tullos Mayor	townoftullos@centurytel.net	318.534.6499	P O Box 705 Tullos, LA 71479
Terri B. Corley	Town of Urania Mayor	uraniatown@centurytel.net	318.495.3452	P O Box 488, Urania, LA 71480
Roy Breithaupt	LaSalle Parish School Board Super.	rbreithaupt@lasallepsb.com	318.992.2161	P O Box 90, Jena, LA 71342
Melinda Edwards	LaSalle Parish School Board	melindae@lasallepsb.com	318.992.2161	P O Box 90, Jena, LA 71342
John Smith	LaSalle Water Works Super.	lasallewaterworks@yahoo.com	318.992.4777	P O Box 1, Trout, LA 71371
Joe Thompson	Olla Fire Department Chief	ovfd101@yahoo.com	318.495.5028	P O Box 223, Jena, LA 71465
Lillie Williamson	Jena Band of Choctaws	lwilliamson@jenachoctaw.org	318.992.4169	P O Box 14, Jena, LA 71342
Chief Scott McLendon	Jena Police Department	jena_pd@yahoo.com	318.992.5111	P O Box 26, Jena, LA 71342
Chief Gary McDaniel	Tullos Police Department	gwm19570@gmail.com	318.534.6499	P O Box 705 Tullos, LA 71479
Chief John Stott	Olla Police Department	opdlawman@yahoo.com	318.495.5128	P O Box 223, Olla, LA 71465
Chief Wayne Corley	Urania Police Department	uraniatown@centurytel.net	318.495.3452	P O Box 488, Urania, LA 71480

Program Integration

Local governments are required to describe how their mitigation planning process is integrated with other ongoing local and area planning efforts. This subsection describes LaSalle Parish programs and planning.

A measure of integration and coordination is achieved through the Hazard Mitigation Plan participation of steering committee members, community and tribal stakeholders, who administer programs such as floodplain management under the National Flood Insurance Program (NFIP) and parish planning and zoning and building code enforcement.

Opportunities to integrate the requirements of this Hazard Mitigation Plan into other local and tribal planning mechanisms will continue to be identified through future meetings of the parish, jurisdictions, and Jena Band of Choctaw Tribe and through the five-year review process described in the Plan Maintenance section. The primary means for integrating mitigation strategies into other local and tribal planning mechanisms will be through the revision, update, and implementation of each jurisdictional and tribal individual plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.).

The members of the LaSalle Parish Hazard Mitigation Steering Committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Hazard Mitigation Plan, and will not contribute to increased

hazard vulnerability in the parish. Existing plans, studies, and technical information were incorporated in the planning process. Examples include flood data from FEMA, the U.S. Army Corps of Engineers (USACE or Corps), and the U.S. Geological Survey. Much of this data was incorporated into the risk assessment component of the plan relative to plotting historical events and the magnitude of damages that occurred. The parish's 2005 Hazard Mitigation Plan was also used in the planning process. Other existing parish and jurisdiction data and plans reviewed and/or incorporated into the planning process include those listed below:

- Emergency Operations Plan (Parish and Jurisdictions)
- Floodplain Ordinances
- Flood Insurance Rate Maps

The mitigation planning process can be integrated with other FEMA mitigation programs and initiatives. The Jena Band of Choctaw Indians currently do not participate in any other FEMA programs or initiatives in which the hazard mitigation planning process can be integrated.

Further information on other plans and capabilities reviewed can be found in the Capabilities Assessment, Section 3.

Meeting Documentation and Public Outreach Activities

The following pages contain information from the meetings and public outreach activities conducted during this Hazard Mitigation Plan Update for LaSalle Parish.

Meeting #1: Coordination Discussion

Date: June 29, 2015
Location: Email
Purpose: Discuss with the Hazard Mitigation Lead for the parish (OHSEP Director) the expectations and requirements of the Hazard Mitigation Plan Update process and to establish and initial project timeline.
Public Initiation: No
Invitees Included: LaSalle Parish OHSEP, SDMI Staff

Meeting #2: Hazard Mitigation Plan Update Kick-Off

Date: August 11, 2015
Location: Jena, Louisiana
Purpose: To discuss the expectations and requirements of the Hazard Mitigation Plan Update process and to establish an initial project timeline with the parish's Hazard Mitigation Plan Steering Committee. Assign each individual jurisdiction and the parish data collection for the plan update.
Public Initiation: No
Invitees Included:

Name	Title
Scott Franklin	LPSO Sheriff/Director LP OHSEP
Dana Chapman	Asst. Director LP OHSEP
Josh Corley	Chief LP Fire Association
Cherry Beth Salther	DON Hardtner Medical Center
Melissa Wold	Hardtner Medical Center
Ray Atwell	Hardtner Medical Center
Brenda Smith	LaSalle General Hospital
Jennifer Mason	LaSalle General Hospital
Bard Lambeth	LPPJ President
Mike Crooks	LPPJ Vice-President
Rhonda Elliott	Town of Olla Mayor
LaDawn Edwards	Town of Jena Mayor
Charley Newsom	Town of Tullos Mayor
Terri B. Corley	Town of Urania Mayor
Roy Breithaupt	LaSalle Parish School Board Super.
Melinda Edwards	LaSalle Parish School Board
John Smith	LaSalle Water Works Super.
Joe Thompson	Olla Fire Department Chief
Lillie Williamson	Jena Band of Choctaws
Chief Scott McLendon	Jena Police Department
Chief Gary McDaniel	Tullos Police Department
Chief John Stott	Olla Police Department
Chief Wayne Corley	Urania Police Department

Ellis Boothe	Catahoula Parish
Mitch Reynolds	Franklin Parish

Meeting #3: Risk Assessment Overview

Date: December 2, 2015
Location: Jena, LA
Purpose: Members of the Hazard Mitigation Plan Update Steering Committee were invited and were presented the results of the most recent risk assessment and an overview of the public meeting presentation during this overview. The assessment was conducted based on hazards identified during previous plans.
Public Initiation: No
Invitees Included:

Name	Title
Scott Franklin	LPSO Sheriff/Director LP OHSEP
Dana Chapman	Asst. Director LP OHSEP
Josh Corley	Chief LP Fire Association
Cherry Beth Salther	DON Hardtner Medical Center
Melissa Wold	Hardtner Medical Center
Ray Atwell	Hardtner Medical Center
Brenda Smith	LaSalle General Hospital
Jennifer Mason	LaSalle General Hospital
Bard Lambeth	LPPJ President
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Rhonda Elliott	Town of Olla Mayor
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Roy Breithaupt	LaSalle Parish School Board Super.
Melinda Edwards	LaSalle Parish School Board
John Smith	LaSalle Water Works Super.
Joe Thompson	Olla Fire Department Chief
Lillie Williamson	Jena Band of Choctaws

Chief Scott McLendon	Jena Police Department
Chief Gary McDaniel	Tullos Police Department
Chief John Stott	Olla Police Department
Chief Wayne Corley	Urania Police Department
Ellis Boothe	Catahoula Parish
Mitch Reynolds	Franklin Parish

Meeting #4: Public Meeting

Date: December 2, 2015

Location: Jena, LA

Purpose: The public meeting allowed the public and community stakeholders to participate and provide input into the hazard mitigation planning process. Maps of the LaSalle Parish communities were provided for the meeting attendees to identify specific areas where localized hazards occur.

Public Initiation: Yes

Invitees Included:

Name	Title
Scott Franklin	LPSO Sheriff/Director LP OHSEP
Dana Chapman	Asst. Director LP OHSEP
Josh Corley	Chief LP Fire Association
Cherry Beth Salther	DON Hardtner Medical Center
Melissa Wold	Hardtner Medical Center
Ray Atwell	Hardtner Medical Center
Brenda Smith	LaSalle General Hospital
Jennifer Mason	LaSalle General Hospital
Bard Lambeth	LPPJ President
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Rhonda Elliott	Town of Olla Mayor
LaDawn Edwards	Town of Jena Mayor
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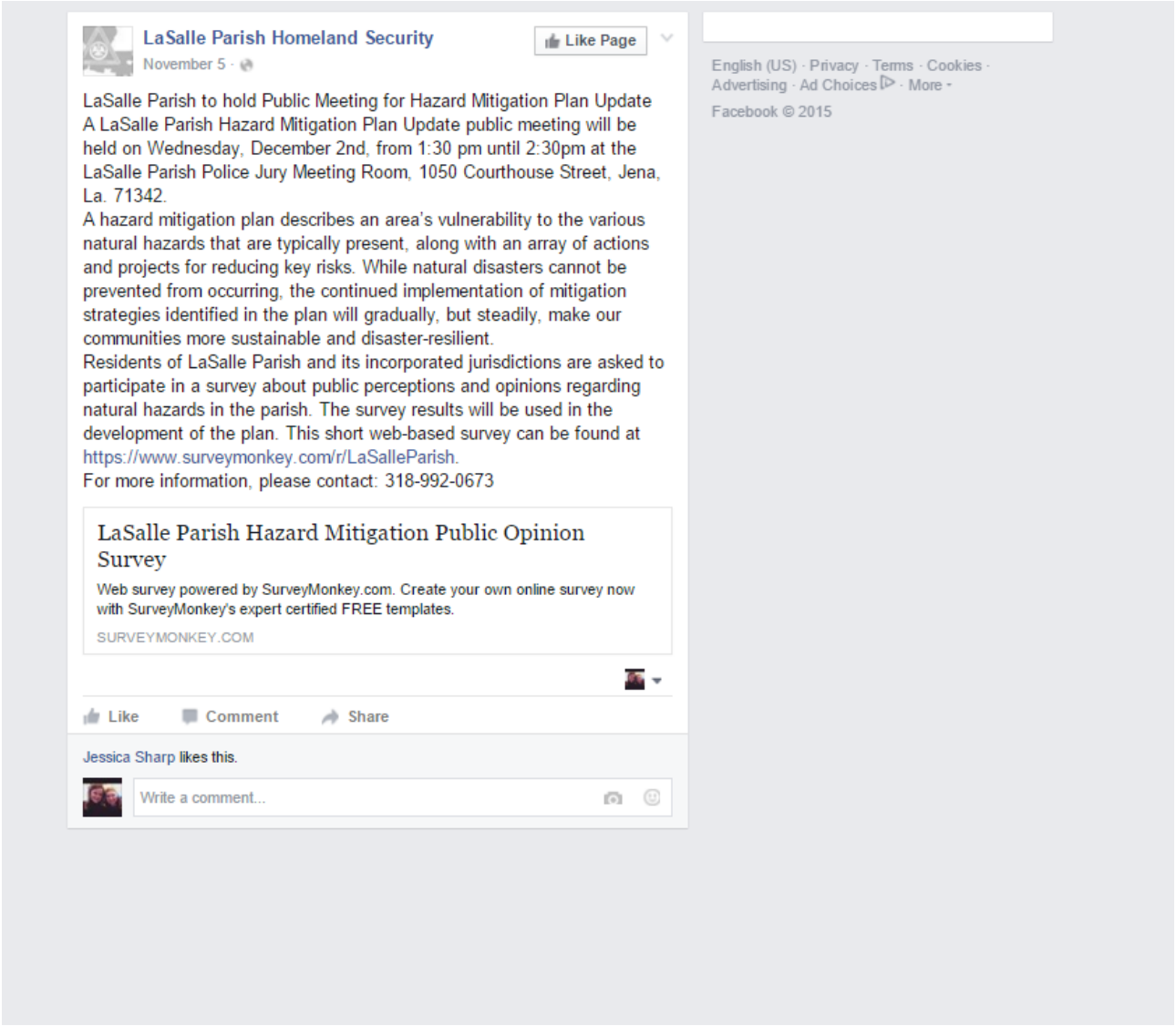
Terri B. Corley	Town of Urania Mayor
Roy Breithaupt	LaSalle Parish School Board Super.

Melinda Edwards	LaSalle Parish School Board
John Smith	LaSalle Water Works Super.
Joe Thompson	Olla Fire Department Chief
Lillie Williamson	Jena Band of Choctaws
Chief Scott McLendon	Jena Police Department
Chief Gary McDaniel	Tullos Police Department
Chief John Stott	Olla Police Department
Chief Wayne Corley	Urania Police Department
Ellis Boothe	Catahoula Parish
Mitch Reynolds	Franklin Parish

****Subject Matter Experts from parish government were present to answer specific questions about proposed projects from any citizens.****

Meeting Public Notice



LaSalle Parish Homeland Security
November 5 ·
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LaSalle Parish to hold Public Meeting for Hazard Mitigation Plan Update
A LaSalle Parish Hazard Mitigation Plan Update public meeting will be held on Wednesday, December 2nd, from 1:30 pm until 2:30pm at the LaSalle Parish Police Jury Meeting Room, 1050 Courthouse Street, Jena, La. 71342.
A hazard mitigation plan describes an area's vulnerability to the various natural hazards that are typically present, along with an array of actions and projects for reducing key risks. While natural disasters cannot be prevented from occurring, the continued implementation of mitigation strategies identified in the plan will gradually, but steadily, make our communities more sustainable and disaster-resilient.
Residents of LaSalle Parish and its incorporated jurisdictions are asked to participate in a survey about public perceptions and opinions regarding natural hazards in the parish. The survey results will be used in the development of the plan. This short web-based survey can be found at https://www.surveymonkey.com/r/LaSalleParish.
For more information, please contact: 318-992-0673

LaSalle Parish Hazard Mitigation Public Opinion Survey
Web survey powered by SurveyMonkey.com. Create your own online survey now with SurveyMonkey's expert certified FREE templates.
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Outreach Activity #1: Public Opinion Survey

Date: Ongoing throughout planning process
Location: Web Survey
Public Initiation: Yes

Outreach Activity #2: Incident Questionnaire

Date: Public Meeting Activity
Location: Public Meeting
Public Initiation: Yes

Outreach Activity #3: Mapping Activities

Public meeting attendees were asked to identify areas on jurisdictional maps provided that were "problem areas". They were also asked to indicate any areas of new development. This activity gave the public an opportunity to interact with SDMI's GIS Mapping section, as well as provide valuable input on areas that may flood repeatedly during rain events that may not get reported to local emergency managers as significant events.

Public Plan Review Documentation

The LaSalle Parish Hazard Mitigation Draft Plan was placed on the LaSalle Parish website to collect comments and feedback from the public. This outreach provided the public an opportunity to comment on the plan during the drafting stage and prior to plan approval.

Appendix B: Plan Maintenance

Purpose

The section of the Code of Federal Regulations (CFR) pertaining to Local Mitigation Plans lists five required components for each plan: a description of the planning process; risk assessments; mitigation strategies; a method and system for plan maintenance; and documentation of plan adoption. This section details the method and system for plan maintenance, following the CFR's guidelines that the plan update must include (1) "a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle," (2) "a process by which local governments incorporated the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans", and (3) "discussion on how the community will continue public participation in the plan maintenance process."

Monitoring, Evaluating, and Updating the Plan

By law, the plan must be updated every five years prior to re-submittal to the Federal Emergency Management Agency (FEMA) for re-approval. The first part of this subsection describes the whole update process, including the responsible parties, methods to be used, evaluation criteria to be applied, and, scheduling for monitoring and evaluating the plan. These descriptions are followed by an explanation of how and when the plan will be periodically updated. The plan must be updated every five years prior to re-submittal to FEMA for re-approval. The first part of this subsection describes the whole update process, including sections on the following:

- Responsible parties
- Methods to be used
- Evaluation criteria to be applied
- Scheduling for monitoring and evaluating the plan

Responsible Parties

LaSalle Parish has developed a method to ensure that a regular review and update of the Hazard Mitigation Plan occurs. This will be the responsibility of the steering committee which consists of representatives from governmental organizations, local businesses, and private citizens, who will be involved in the process of monitoring, evaluating and updating the plan. All jurisdictions participating in this plan will remain active in the steering committee. Each of the jurisdictions are listed below:

- Unincorporated LaSalle Parish
- Town of Jena
- Town of Tullos
- Town of Olla
- Town of Urania
- Jena Band of Choctaw Indians

Although the people filling the positions may change from year to year, each jurisdiction will have a representative on the steering committee. The future steering committee will continue to be comprised of the same job functions as currently evident in the present steering committee. However, the decision of specific job duties will be left to the Parish Emergency Manager to be assigned as deemed appropriate.

Methods for Monitoring and Evaluating the Plan and Plan Evaluation Criteria

LaSalle Parish has developed a method to ensure monitoring, evaluating, and updating of the HMP occurs during the five-year cycle of the plan. The planning committee will become a permanent body and will be responsible for monitoring, evaluating, and updating of the plan. The planning committee meeting will be held annually in order to monitor, evaluate, and update the plan. The LaSalle Parish OHSEP Director will be responsible for conducting the annual planning committee meetings.

The lead person of the agency responsible for the implementation of a specific mitigation action will submit a progress report to the Director at least thirty days prior to the planning committee meeting. The progress report will provide project status monitoring to include the following: whether the project has started; if not started, reason for not starting; if started, status of the project; if the project is completed, whether it has eliminated the problem; and any changes recommended to improve the implementation of the project etc. In addition, the progress report will provide status monitoring on the plan evaluation, changes to the hazard profile, changes to the risk assessment, and public input on the Hazard Mitigation Plan updates and reviews.

Progress on the mitigation action items and projects will be reviewed during the annual planning committee meeting. The criteria that would be utilized in the project review will include the following:

1) Whether the action was implemented and reasons, if the action was not implemented

2) What were the results of the implemented action

3) Were the outcomes as expected, and reasons if the outcomes were not as expected

4) Did the results achieve the stated goals and objectives

5) Was the action cost-effective

6) What were the losses avoided after completion of the project

7) In case of a structural project, did it change the hazard profile

In addition to monitoring and evaluating the progress of the mitigation plan actions and projects, the mitigation plan is required to be maintained and monitored annually, and updated every five years. The annual maintenance, monitoring and evaluation of the plan will be conducted in the annual planning committee meeting. The planning committee will review each goal and objective to determine their relevance to changing situations in the parish, as well as changes to state or federal policy, and to ensure that they are addressing current and expected conditions. The planning committee will evaluate if any change in hazard profile and risk in the parish occurred during the past year. In addition, the evaluation will include the following criteria in respect of plan implementation:

1) Any local staffing changes that would warrant inviting different members to the planning committee

2) Any new organizations that would be valuable in the planning process or project implementation need to be included in the planning committee

3) Are there any procedures that can be done more efficiently

4) Are there more ways to gain more diverse and widespread cooperation

5) Are there any different or additional funding sources available for mitigation planning and implementation

The HMP will be updated every five years to remain eligible for continued HMGP funding. The planning committee will be responsible for updating the HMP. The OHSEP Director will be the lead person for the HMP update. The HMP update process will commence at least one year prior to the expiration of the plan. The HMP will be updated after a major disaster if an annual evaluation of the plan indicate a substantial change in hazard profile and risk assessment in the parish.

Additionally, the public will be canvassed to solicit public input to continue LaSalle Parish's dedication to involving the public directly in review and updates of the Hazard Mitigation Plan. Meetings will be scheduled as needed by the plan administrator to provide a forum for which the public can express their concerns, opinions, and/or ideas about the plan. The plan administrator will be responsible for using parish resources to publicize the annual public meetings and maintain public involvement through the newspapers, radio, and public access television channels. Copies of the plan will be catalogued and kept at all appropriate agencies in the city government, as well as at the Public Library.

The review by the steering committee and input from the public will determine whether a plan update is needed prior to the required five-year update.

Annual Reports on the progress of actions, plan maintenance, monitoring, evaluation, incorporation into existing planning programs, and continued public involvement will be documented at each annual meeting of the committee and kept by the Parish OHSEP Director. The steering committee will work together as a team, with each member sharing responsibility for completing the monitoring, evaluation and updates. It is the responsibility of the Parish OHSEP Director for contacting committee members, organizing the meeting and providing public noticing for the meeting to solicit public input.

2016 Plan Version Plan Method and Schedule Evaluation

For the current plan update, the previously approved plan's method and schedule were evaluated to determine if the elements and processes involved would be sufficient for the 2016 update. As in past plan updates, the previously approved plan method and schedule were evaluated for the 2016 update. From June – August 2015, SDMI convened meetings with the parish, jurisdictional representatives and the tribe to discuss the update process. These meetings included full explanations and expectations of jurisdictions and the tribal area throughout the Mitigation Planning Process and included the overall concept of mitigation planning. As in the 2006 and 2011 Plan, a steering committee was selected, and parish/local/tribal planning efforts and FIRM maps would continue to be incorporated for use in developing the 2016 update. These meetings also discussed previous update planning meeting schedules and future meeting schedules and expectations for this update. These initial meetings allowed the steering committee to analyze and approve the process and schedule, and nothing was changed for this update. Based on this analysis, the method and schedule were deemed to be acceptable, and nothing was changed for this update.

Incorporation into Existing Planning Programs

It is and has been the responsibility of the LaSalle Parish Hazard Mitigation Plan Steering Committee and participating jurisdictions to determine additional implementation procedures when appropriate. This may include integrating the requirements of the LaSalle Parish Hazard Mitigation Plan into each jurisdiction's planning documents, processes, or mechanisms as follows:

- Ordinances, Resolutions, Regulations
- Floodplain Ordinances (Parish and Jurisdictions)
- Emergency Operations Plan (Parish and Jurisdictions)
- Comprehensive Master Plan (Entire Parish)
- Economic Development Plan (Parish and Jurisdictions)
- Stormwater Management Plan
- Continuity of Operations Plan

Opportunities to integrate the requirements of this plan into other local planning mechanisms will continue to be identified through future meetings of the LaSalle Parish Hazard Mitigation Steering Committee and through the five-year review process described herein. The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update and implementation of each jurisdiction's individual plans that require specific planning and administrative tasks (e.g. risk assessment, plan amendments, ordinance revisions, capital improvement projects, etc.). The members of the steering committee will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the LaSalle Parish Hazard Mitigation Plan, and will not contribute to increased hazard vulnerability within the parish.

During the planning process for new and updated local planning documents at the parish and jurisdiction level, such as a risk assessment, comprehensive plan, capital improvements plan, or emergency operations plan, the jurisdictions will provide a copy of the Parish Hazard Mitigation Plan to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Parish Hazard Mitigation Plan and will not contribute to increased hazards.

Although it is recognized that there are many possible benefits to integrating components of this plan into other parish and jurisdiction planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the steering committee to be the most effective and appropriate method to ensure implementation of Parish and local hazard mitigation actions.

On behalf of the jurisdictions of the Town of Jena, Town of Tullos, Town of Olla, Town of Urania, and the Jena Band of Choctaw Indians, LaSalle Parish has the authority to incorporate the contents of the Hazard Mitigation Plan into the parish's existing regulatory mechanisms. Agreements are currently in place with jurisdictions to allow for the parish incorporation mechanisms to take place.

The following parish, tribal, and local plans incorporate requirements of this HMP Update as follows through steering committee member and jurisdiction representation throughout the planning process as described above:

Unincorporated LaSalle Parish
Capital Improvements-Master Plan/Updated as needed/LaSalle Parish Police Jury
Economic Development Plan/Updated as needed/LaSalle Parish OHSEP

Local Emergency Operations Plan/Updated as needed/LaSalle Parish OHSEP
Transportation Plan/Updated as needed/LaSalle Parish OHSEP
Community Wildfire Protection Plan/Updated as needed/LaSalle Parish OHSEP
Other Plans/Updated as needed/LaSalle Parish OHSEP

Town of Jena
Comprehensive Master Plan/Updated as needed/Town of Jena
Local Emergency Operations Plan/Updated as needed/Town of Jena, LaSalle Parish OHSEP
Continuity of Operations Plan/Updated as needed/Town of Jena, LaSalle Parish OHSEP
Transportation Plan/Updated as needed/Town of Jena, LaSalle Parish OHSEP
Stormwater Management Plan/Updated as needed/Town of Jena, LaSalle Parish OHSEP
Community Wildfire Protection Plan/Updated as needed/Town of Jena, LaSalle Parish OHSEP
Other plans/Updated as needed/Town of Jena, LaSalle Parish OHSEP

Town of Olla
There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Town of Tullos
There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Town of Urania
There are no additional plans within this jurisdiction for the Hazard Mitigation Plan to be integrated.

Jean Band of Choctaw Indians
Comprehensive Master Plan/Updated as needed/Jena Band of Choctaw Indians
Capital Improvements Plan/Updated as needed/Jena Band of Choctaw Indians
Economic Development Plan/Updated as needed/Jena Band of Choctaw Indians
Local Emergency Operations Plan/Updated as needed/ Jena Band of Choctaw Indians
Continuity of Operations Plan/Updated as needed/ Jena Band of Choctaw Indians
Transportation Plan/Updated as needed/ Jena Band of Choctaw Indians
Community Wildfire Protection Plan/Updated as needed/ Jena Band of Choctaw Indians

Continued Public Participation

Public participation is an integral component of the mitigation planning process and will continue to be essential as this Plan evolves over time. Significant changes or amendments to the Plan require a public hearing prior to any adoption procedures. Other efforts to involve the public in the maintenance, evaluation, and revision process will be made as necessary. These efforts may include:

- Advertising meetings of the Mitigation Committee in the local newspaper, public bulletin boards, and/or city and county office buildings
- Designating willing and voluntary citizens and private sector representatives as official members of the Mitigation Committee
- Utilizing local media to update the public of any maintenance and/or periodic review activities taking place
- Utilizing city and parish web sites to advertise any maintenance and/or periodic review activities taking place
- Keeping copies of the plan in appropriate public locations

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Appendix C: Essential Facilities

LaSalle Parish Essential Facilities – All Jurisdictions

LaSalle Parish Unincorporated Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Fire and Rescue	Eden Fellowship Fire Department			X	X	X	X	X	X	
	Eden Fellowship Fire Department			X	X	X	X	X	X	
	Little Creek Searcy			X	X	X	X	X	X	
	Rogers-Nebo Fire Department		X	X	X	X	X	X	X	
	Rogers-Nebo Volunteer Fire Department		X	X	X	X	X	X	X	
	Summerville Rosefield Fire Department			X	X	X	X	X	X	
	Summerville Volunteer Fire Department			X	X	X	X	X	X	
	Whitehall Fire District			X	X	X	X	X	X	
	Whitehall Fire District Station No. 3			X	X	X	X	X		
Government	Louisiana DOTD			X	X	X	X	X	X	
	Louisiana Landfill			X	X	X	X	X	X	
Law Enforcement	LaSalle Parish Sheriff's Department			X	X	X	X	X	X	
Public Health	LaSalle General Hospital			X	X	X	X	X	X	
Schools	Good Pine Middle			X	X	X	X	X	X	
	Nebo Elementary			X	X	X	X	X	X	

Jena Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Fire and Rescue	Jena Fire Department		X	X	X	X	X	X	X	
	North Jena Fire Department			X	X	X	X	X	X	
Government	Jena Municipal Building			X	X	X	X	X	X	
	Jena Town Hall			X	X	X	X	X	X	
	LaSalle District Attorney's Office			X	X	X	X	X	X	
	LaSalle Economic Development Center			X	X	X	X	X	X	
	LaSalle Parish Courthouse			X	X	X	X	X	X	
	LaSalle School Board Media Center			X	X	X	X	X	X	
	LaSalle School Board Office			X	X	X	X	X	X	
	Office of Motor Vehicles			X	X	X	X	X	X	
	Social Security Office			X	X	X	X	X	X	
Law Enforcement	Jena Police Department			X	X	X	X	X	X	
Public Health	LaSalle Health Unit			X	X	X	X	X	X	
Schools	Jena Elementary School			X	X	X	X	X	X	
	Jena High			X	X	X	X	X	X	
	Jena Junior High			X	X	X	X	X	X	

Olla Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Fire and Rescue	John Carter Memorial Station			X	X	X	X	X	X	
	Olla Fire Department			X	X	X	X	X	X	
Government	LaSalle Police Jury			X	X	X	X	X	X	
Schools	LaSalle High			X	X	X	X	X	X	
	Olla Standard			X	X	X	X	X	X	

Tullos Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Fire and Rescue	Tullos Fire Department			X	X	X	X	X	X	
Government	District 3 Precinct 2 Voting Building			X	X	X	X	X	X	
	Tullos Town Hall			X	X	X	X	X	X	

Urania Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Fire and Rescue	Urania Fire Department			X	X	X	X	X	X	
Law Enforcement	Urania Police Department			X	X	X	X	X	X	
Prison	LaSalle Corrections Center			X	X	X	X	X	X	
Schools	LaSalle Junior High			X	X	X	X	X	X	

Jena Band of Choctaw Essential Facilities										
Type	Name	Drought*	Flooding	Hail	Lightning	Wind	Tornado	Tropical Cyclone	Wildfire	Winter Storms*
Government	Jena Band of Choctaw Administrative Building			X	X	X	X	X	X	
	Jena Band of Choctaw Indians Health and Social Services Clinic			X	X	X	X	X	X	
	Jena Band of Choctaw Indians Health and Social Services Clinic			X	X	X	X	X	X	
	Jena Band of Choctaw Indians Maintenance Department			X	X	X	X	X	X	

*No essential facilities are vulnerable to the hazard.

Appendix D: Plan Adoption

State of Louisiana

Parish of LaSalle
In the Name and By the Authority of The Police
Jury of LaSalle Parish

RESOLUTION # 2016-009

A RESOLUTON ADOPTING THE

LASALLE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS the LaSalle Parish Police Jury has prepared a multi-hazard mitigation plan hereby known as the LaSalle Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS LaSalle Parish Police Jury has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS LaSalle Parish Police Jury is participating in the Hazard Mitigation Plan prepared by the LaSalle Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, LaSalle Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the LaSalle Parish Police Jury does hereby adopt the LaSalle Parish Hazard Mitigation Plan Update 2016.

Adopted by a vote of **10** in favor and **0** against, and **0** abstaining, on this the 9th day of May, 2016.

Kay Smith

Kay Smith, Secretary

LaSalle Parish Police Jury

STATE OF LOUISIANA
PARISH OF LA SALLE

IN GOD
WE TRUST

Town of Jena

A RESOLUTION ADOPTING THE
LASALLE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS the Parish of LaSalle has prepared a multi-hazard mitigation plan hereby known as the LASALLE PARISH HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the Town of Jena has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS the Town of Jena is participating in the Hazard Mitigation Plan prepared by the LaSalle Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS LaSalle Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Town of Jena does hereby adopt the LaSalle Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, on this the 3rd day of May, 2016.

LaDawn Cooper Edwards
Mayor

ATTEST:
Cory Floyd
Cory Floyd
Town Clerk

Jena Band of Choctaw Indians

P. O. Box 14 • Jena, Louisiana 71342-0014 • Phone: 318-992-2717 • Fax: 318-992-8244

TRIBAL COUNCIL RESOLUTION

RESOLUTION JBC 2016-- 0429

A RESOLUTION OF THE JENA BAND OF CHOCTAW INDIANS ADOPTING THE

LASALLE PARISH – TRIBAL HAZARD MITIGATION PLAN 2016

WHEREAS, The Jena Band of Choctaw Indians is a federally recognized Indian Tribe, and

WHEREAS, The Jena Choctaw Tribal Council is the governing body of the Jena Band of Choctaw Indians, and

WHEREAS the JENA BAND OF CHOCTAW INDIANS has prepared a multi-hazard mitigation plan hereby known as the LASALLE PARISH -- TRIBAL HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the JENA BAND OF CHOCTAW INDIANS has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS **THE LASALLE PARISH –TRIBAL HAZARD MITIGATION PLAN --UPDATE 2016** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in LaSalle Parish from the impacts of future hazards and disasters; and

WHEREAS adoption by the JENA BAND OF CHOCTAW INDIANS TRIBAL COUNCIL demonstrates their commitment to the hazard mitigation and achieving the goals outlined in THE LASALLE PARISH – TRIBAL HAZARD MITIGATION PLAN UPDATE 2016.

NOW THEREFORE, BE IT RESOLVED that the Jena Band of Choctaw Indians Tribal Council hereby adopts and approves the LASALLE PARISH – TRIBAL HAZARD MITIGATION UPDATE 2016.

ADOPTED by a vote of 5 in favor and _____ against, on this the 29 day of April _____, 2016.

B. Cheryl Smith
B. Cheryl Smith, Tribal Chairperson

Christy Murphy
Christy Murphy, Tribal Council

Christine Norris
Christine Norris, Tribal Council

Dana Hauffe
Dana Hauffe, Tribal Council

Libby Rogers
Libby Rogers, Tribal Council

State of Louisiana

Town of Olla
In the Name and By the Authority of the Town of Olla
of LaSalle Parish

RESOLUTION 2016-002

A RESOLUTION ADOPTING THE
LASALLE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS, the Olla Mayor and Town Council recognize the threat that natural hazards pose to people and property within Olla; and

WHEREAS LaSalle Parish has prepared a multi-hazard mitigation plan hereby known as the LASALLE PARISH HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, LASALLE PARISH has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS, TOWN OF OLLA IS participating in the Hazard Mitigation Plan prepared by the LASALLE Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS, LASALLE Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the TOWN OF OLLA does hereby adopt the LASALLE Parish Hazard Mitigation Plan Update 2016.

Yeas: Bailey, Cassels, Long & Rachal
Nays:
Abstain:
Absent: Richardson

Rhonda Elliott, Mayor

CERTIFICATE

Town of Olla Special Meeting Minutes

Proceedings of the Olla Town Council special meeting held on Tuesday, April 26, 2016 6:00 p.m., at the Olla Town Hall – 1907 Louisiana Street. Mayor Elliott called the regular monthly meeting to order; opened with prayer and Pledge of Allegiance.

Wendy Allbritton called roll. Present: Mayor Elliott, Madge Bailey, Al Cassels, Jake Long, and Joe Rachal. Absent: Mark Richardson.

Bailey made a motion, second by Long to approve the agenda as presented. Motion carried.

Rachal made a motion, second by Cassels to adopt Resolution 2016-002: A resolution adopting the LaSalle Parish Hazard Mitigation Plan 2016 in accordance with the Disaster Mitigation Act of 2000. Motion Carried.

Long made a motion, second by Cassels to adjourn at 6:05 p.m. Motion carried.

Rhonda Elliott, Mayor

Wendy Allbritton, Town Clerk

"THIS INSTITUTION IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER"

TOWN OF URANIA
P. O. Box 339
2021 East Hardtner Drive
Urania, Louisiana 71480
Phone: (318) 495-3452
Fax: (318) 495-3425
e-Mail: uraniatown@centurytel.net

Mayor
Terri B. Corley

Town Clerk
Sandy Callender

Aldermen
Patrick McDougald
William "Bill" Brown
Jay Ivy
Stacie Strain
Dawn Book

RESOLUTION 2016-4

A RESOLUTION ADOPTING THE
LASALLE PARISH HAZARD MITIGATION PLAN 2016

WHEREAS the Parish of LaSalle has prepared a multi-hazard mitigation plan hereby known as the LASALLE PARISH HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS Town of Urania has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS Town of Urania is participating in the Hazard Mitigation Plan prepared by the LaSalle Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS LaSalle Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Town of Urania does hereby adopt the LaSalle Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, on this the 2nd day of May, 2016.

Terri B. Corley, Mayor

Sandy Callender, Clerk

"This institution is an equal opportunity provider."

RESOLUTION

A RESOLUTION ADOPTING THE
LaSalle PARISH HAZARD MITIGATION PLAN 2016

WHEREAS the Town of Tullos has prepared a multi-hazard mitigation plan hereby known as the LaSalle PARISH HAZARD MITIGATION PLAN 2016 in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS Town of Tullos has participated in the process to prepare a DMA compliant Hazard Mitigation Plan based in the FEMA guidance available in the How to Guides;

WHEREAS Town of Tullos is participating in the Hazard Mitigation Plan prepared by the LaSalle Parish Government under the oversight of a Steering Committee comprised of Parish-Wide representatives;

WHEREAS LaSalle Parish and local city representatives and governments have participated in the mitigation planning process;

WHEREAS appropriate opportunity for input by public and community officials has been provided through meeting notices, open meetings and availability of draft documents;

WHEREAS the Plan has been recommended for adoption by the steering committee;

WHEREAS adoption of the Plan is required prior to further consideration for FEMA funding under the following programs:

- Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
- Flood Mitigation Assistance Program

Therefore, the Town of Tullos does hereby adopt the LaSalle Parish Hazard Mitigation Plan Update 2016.

ADOPTED by a vote of 3 in favor and Ø against, and Ø abstaining, on this 9th day of May, 20 16.

CERTIFICATE

I hereby certify that the foregoing is a true and exact copy of the resolution adopted at the board meeting held on **May 9, 2015,** at which meeting a quorum was present and voting.

Tullos, Louisiana, this 9th day of May, 2015.

Charles Newsom, Mayor

Attest:

Melody Strawn, Clerk

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Appendix E: State Required Worksheets

During the planning process (Appendix A) the Hazard Mitigation Plan Update Steering Committee was provided state-required plan update process worksheets to be filled out by each jurisdiction. The worksheets were presented at the Kickoff Meeting by the contractor as tools for assisting in the update of the Hazard Mitigation Plan. The plan update worksheets allowed for collection of information such as planning team members, community capabilities, critical infrastructure and vulnerable populations and NFIP information. The following pages contain documentation of the worksheets.

Mitigation Planning Team

Name	Title	Email	Phone	Address
Scott Franklin	LPSO Sheriff/Director LP OHSEP	sfranklin@lasalleso.com	318.992.2151	P O Box 70, Jena, LA 71342
Dana Chapman	Asst. Director LP OHSEP	dchapman@lasalleso.com	318.992.0673	P O Box 70, Jena, LA 71342
Josh Corley	Chief LP Fire Association	joshcrly@yahoo.com	318.419.6921	P O Box 26, Jena, LA 71342
Cherry Beth Salther	DON Hardtner Medical Center	csalter@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Melissa Wold	Hardtner Medical Center	Mwold@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Ray Atwell	Hardtner Medical Center	ray@hardtnermedical.com	318.495.3131	1102 N. Pine Street, Olla, LA 71465
Brenda Smith	LaSalle General Hospital	BSmith@lgh-jena.org	318.992.9200	187 9th Street, Jena, LA 71342
Jennifer Mason	LaSalle General Hospital	Jmason@lgh-jena.org	318.992.9200	187 9th Street, Jena, LA 71342
Bard Lambeth	LPPJ President	office.lppj@centurytel.net	318.992.2101	P O Box 1288, Jena, LA 71342
Mike Crooks	LPPJ Vice-President	office.lppj@centurytel.net	318.992.2101	P O Box 1288, Jena, LA 71342
Rhonda Elliott	Town of Olla Mayor	mayor@townofolla.com	318.495.5151	P O Box 223, Olla, LA 71465
LaDawn Edwards	Town of Jena Mayor	townofjena@centurytel.net	318.992.2148	P O Box 26, Jena, LA 71342
Charley Newsom	Town of Tullos Mayor	townoftullos@centurytel.net	318.534.6499	P O Box 705 Tullos, LA 71479

Terri B. Corley	Town of Urania Mayor	uraniatown@centurytel.net	318.495.3452	P O Box 488, Urania, LA 71480
Roy Breithaupt	LaSalle Parish School Board Super.	rbreithaupt@lasallepsb.com	318.992.2161	P O Box 90, Jena, LA 71342
Melinda Edwards	LaSalle Parish School Board	melindae@lasallepsb.com	318.992.2161	P O Box 90, Jena, LA 71342
John Smith	LaSalle Water Works Super.	lasallewaterworks@yahoo.com	318.992.4777	P O Box 1, Trout, LA 71371
Joe Thompson	Olla Fire Department Chief	ovfd101@yahoo.com	318.495.5028	P O Box 223, Jena, LA 71465
Lillie Williamson	Jena Band of Choctaws	lwilliamson@jenachoctaw.org	318.992.4169	P O Box 14, Jena, LA 71342
Chief Scott McLendon	Jena Police Department	jena_pd@yahoo.com	318.992.5111	P O Box 26, Jena, LA 71342
Chief Gary McDaniel	Tullos Police Department	gwm19570@gmail.com	318.534.6499	P O Box 705 Tullos, LA 71479
Chief John Stott	Olla Police Department	opdlawman@yahoo.com	318.495.5128	P O Box 223, Olla, LA 71465
Chief Wayne Corley	Urania Police Department	uraniatown@centurytel.net	318.495.3452	P O Box 488, Urania, LA 71480

Capability Assessment

LaSalle Unincorporated

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Lasalle Unincorporated Areas		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	n/a
Capital Improvements Plan	Yes	n/a
Economic Development Plan	Yes	LEDD Does
Local Emergency Operations Plan	YES	n/a
Continuity of Operations Plan	No	LPPJ doesnot have
Transportation Plan	YES	n/a
Stormwater Management Plan	No	n/a
Community Wildfire Protection Plan	YES	National Forest/Fire Does
Other plans (redevelopment, recovery, coastal zone management)	YES	n/a
Building Code, Permitting and Inspections		
Building Code	Yes	n/a
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	n/a
Fire Department ISO/PIAL rating	YES	n/a
Site plan review requirements	Yes	n/a
Land Use Planning and Ordinances		
Zoning Ordinance	Yes	n/a
Subdivision Ordinance	Yes	n/a
Floodplain Ordinance	Yes	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	n/a
Flood Insurance Rate Maps	No	n/a
Acquisition of land for open space and public recreation uses	Yes	n/a
Other	No	n/a

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	Yes/No	Comments
Planning Commission	No	Towns Does
Mitigation Planning Committee	Yes	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	YES	n/a
Staff		
Chief Building Official	Yes	n/a
Floodplain Administrator	YES	n/a
Emergency Manager	YES	n/a
Community Planner	No	Towns Does
Civil Engineer	Yes	n/a
GIS Coordinator	Yes	LaSalle Parish Assessors
Grant Writer	Yes	n/a
Other	No	n/a
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	YES	n/a
Hazard Data & Information	YES	n/a
Grant Writing	Yes	n/a
Hazus Analysis	No	n/a
Other	No	n/a

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	YES	Capital Outlay
Authority to levy taxes for specific purposes	YES	With Parish Vote
Fees for water, sewer, gas, or electric services	NO	Each District Does
Impact fees for new development	No	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	No	n/a
		n/a
Education and Outreach		
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	YES	Safety Expos/Facebook Post
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	YES	Safety Expos/Facebook Post
Natural Disaster or safety related school program	YES	Safety Expos/Facebook Post
Storm Ready certification	No	n/a
Firewise Communities certification	Yes	n/a
Public/Private partnership initiatives addressing disaster-related issues	Yes	n/a
Other	No	n/a

Town of Jena

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Town of Jena		
Plans	Yes/No	Comments
Comprehensive / Master Plan	Yes	n/a
Capital Improvements Plan	No	n/a
Economic Development Plan	No	n/a
Local Emergency Operations Plan	Yes	n/a
Continuity of Operations Plan	Yes	n/a
Transportation Plan	Yes	n/a
Stormwater Management Plan	Yes	n/a
Community Wildfire Protection Plan	Yes	n/a
Other plans (redevelopment, recovery, coastal zone management)	Yes	n/a
Building Code, Permitting and Inspections		
Building Code	Yes	n/a
Building Code Effectiveness Grading Schedule (BCEGS) Score	Handled by Parish	n/a
Fire Department ISO/PIAL rating	Yes	n/a
Site plan review requirements	Yes	n/a
Land Use Planning and Ordinances		
Zoning Ordinance	No	n/a
Subdivision Ordinance	No	n/a
Floodplain Ordinance	Yes	n/a
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	n/a
Flood Insurance Rate Maps	Yes	n/a
Acquisition of land for open space and public recreation uses	No	n/a
Other	No	n/a

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	Yes/No	Comments
Planning Commission	No	n/a
Mitigation Planning Committee	No	n/a
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	Yes	n/a
Staff		
Chief Building Official	No	Use contractor
Floodplain Administrator	Yes	n/a
Emergency Manager	No	n/a
Community Planner	No	n/a
Civil Engineer	No	Use contractor
GIS Coordinator	No	n/a
Grant Writer	No	Use contractor
Other	No	n/a
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	n/a
Hazard Data & Information	No	n/a
Grant Writing	No	Use contractor
Hazus Analysis	No	n/a
Other	No	n/a

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes/No	Comments
Capital Improvements project funding	Yes	n/a
Authority to levy taxes for specific purposes	Yes	with voter approval
Fees for water, sewer, gas, or electric services	Yes	n/a
Impact fees for new development	No	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	No	n/a

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	n/a
Natural Disaster or safety related school program	No	n/a
Storm Ready certification	No	n/a
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other	No	n/a

Town of Olla

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Olla		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	4	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Subdivision Ordinance	No	
Floodplain Ordinance	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	
Flood Insurance Rate Maps	No	
Acquisition of land for open space and public recreation uses	No	
Other	No	

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	Yes/No	Comments
Planning Commission	Yes	Volunteer Board
Mitigation Planning Committee	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Floodplain Administrator	No	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	No	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	Yes	Outdoor sirens
Hazard Data & Information	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Grant Writing	No	
Hazus Analysis	No	
Other	No	

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	No	
Other Funding Programs	No	
	No	
Education and Outreach		
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	*Based on current parish agreements, Olla has the ability to utilize the capabilities of the parish government
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Town of Tullos

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Tullos		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	No	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Subdivision Ordinance	No	
Floodplain Ordinance	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	
Flood Insurance Rate Maps	No	
Acquisition of land for open space and public recreation uses	No	
Other	No	

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	**Yes/No**	**Comments**
Planning Commission	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Floodplain Administrator	No	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	No	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Hazard Data & Information	No	
Grant Writing	No	
Hazus Analysis	No	
Other	No	

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Stormwater Utility Fee	No	
Community Development Block Grant (CDBG)	No	
Other Funding Programs	No	
	No	

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	*Based on current parish agreements, Tullos has the ability to utilize the capabilities of the parish government
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	
Natural Disaster or safety related school program	No	
Storm Ready certification	No	
Firewise Communities certification	No	
Public/Private partnership initiatives addressing disaster-related issues	No	
Other	No	

Town of Urania

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Urania		
Plans	Yes/No	Comments
Comprehensive / Master Plan	No	*Based on current parish agreements, Urania has the ability to utilize the capabilities of the parish government
Capital Improvements Plan	No	
Economic Development Plan	No	
Local Emergency Operations Plan	No	
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	No	
Other plans (redevelopment, recovery, coastal zone management)	No	
Building Code, Permitting and Inspections		
Building Code	No	*Based on current parish agreements, Urania has the ability to utilize the capabilities of the parish government
Building Code Effectiveness Grading Schedule (BCEGS) Score	No	
Fire Department ISO/PIAL rating	No	
Site plan review requirements	No	
Land Use Planning and Ordinances		
Zoning Ordinance	No	*Based on current parish agreements, Urania has the ability to utilize the capabilities of the parish government
Subdivision Ordinance	No	
Floodplain Ordinance	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	No	
Flood Insurance Rate Maps	No	
Acquisition of land for open space and public recreation uses	No	Open space acquisition as needed
Other	No	n/a

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	**Yes/No**	**Comments**
Planning Commission	No	*Based on current parish agreements, Urania has the ability to utilize the capabilities of the parish government
Mitigation Planning Committee	No	
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	No	
Staff		
Chief Building Official	No	*Based on current parish agreements, Urania has the ability to utilize the capabilities of the parish government
Floodplain Administrator	No	
Emergency Manager	No	
Community Planner	No	
Civil Engineer	No	
GIS Coordinator	No	
Grant Writer	No	
Other	No	
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	No	n/a
Hazard Data & Information	No	n/a
Grant Writing	No	Consult as needed
Hazus Analysis	No	n/a
Other	No	n/a

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Yes/No	Comments
Capital Improvements project funding	No	n/a
Authority to levy taxes for specific purposes	No	n/a
Fees for water, sewer, gas, or electric services	No	n/a
Impact fees for new development	No	n/a
Stormwater Utility Fee	No	n/a
Community Development Block Grant (CDBG)	Yes	n/a
Other Funding Programs	Yes	LEDD, Blue Cross/Blue Shield

Education and Outreach

Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	No	n/a
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	No	n/a
Natural Disaster or safety related school program	No	n/a
Storm Ready certification	No	n/a
Firewise Communities certification	No	n/a
Public/Private partnership initiatives addressing disaster-related issues	No	n/a
Other	No	n/a

Jena Band of Choctaw Indians

Planning and Regulatory		
Please indicate which of the following plans and regulatory capabilities your jurisdiction has in place.		
Jena Band Choctaw Indians		
Plans	Yes/No	Comments
Comprehensive / Master Plan	YES	N/A
Capital Improvements Plan	YES	N/A
Economic Development Plan	YES	N/A
Local Emergency Operations Plan	YES	N/A
Continuity of Operations Plan	YES	N/A
Transportation Plan	YES	N/A
Stormwater Management Plan	No	N/A
Community Wildfire Protection Plan	YES	N/A
Other plans (redevelopment, recovery, coastal zone management)	No	N/A
Building Code, Permitting and Inspections		
Building Code	YES	N/A
Building Code Effectiveness Grading Schedule (BCEGS) Score	N/A	N/A
Fire Department ISO/PIAL rating	N/A	N/A
Site plan review requirements	YES	N/A
Land Use Planning and Ordinances		
Zoning Ordinance	NO	N/A
Subdivision Ordinance	NO	N/A
Floodplain Ordinance	NO	N/A
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire)	NO	N/A
Flood Insurance Rate Maps	YES	N/A
Acquisition of land for open space and public recreation uses	NO	N/A
Other	N/A	N/A

Administration and Technical		
Identify whether your community has the following administrative and technical capabilities. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, indicate so in your comments.		
Administration	Yes/No	Comments
Planning Commission	YES	JBC TRIBAL COUNCIL
Mitigation Planning Committee	YES	JBC TRIBAL COUNCIL
Maintenance programs to reduce risk (tree trimming, clearing drainage systems)	YES	N/A
Staff		
Chief Building Official	N/A	N/A
Floodplain Administrator	N/A	N/A
Emergency Manager	YES	N/A
Community Planner	YES	JBC TRIBAL COUNCIL
Civil Engineer	N/A	N/A
GIS Coordinator	YES	N/A
Grant Writer	YES	N/A
Other	N/A	N/A
Technical		
Warning Systems / Service (Reverse 911, outdoor warning signals)	NO	N/A
Hazard Data & Information	NO	N/A
Grant Writing	YES	N/A
Hazus Analysis	NO	N/A
Other	N/A	N/A

Financial		
Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.		
Funding Resource	Yes/No	Comments
Capital Improvements project funding	YES	N/A
Authority to levy taxes for specific purposes	YES	N/A
Fees for water, sewer, gas, or electric services	NO	N/A
Impact fees for new development	N/A	N/A
Stormwater Utility Fee	N/A	N/A
Community Development Block Grant (CDBG)	YES	N/A
Other Funding Programs	N/A	N/A
Education and Outreach		
Identify education and outreach programs and methods, already in place that could be used to implement mitigation activities and communicate hazard-related information.		
Program / Organization	Yes/No	Comments
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	YES	TRIBAL COMMUNITY
Ongoing public education or information program (responsible water use, fire safety, household preparedness, environmental education)	YES	TRIBAL NEWSLETTER
Natural Disaster or safety related school program	YES	N/A
Storm Ready certification	NO	N/A
Firewise Communities certification	NO	N/A
Public/Private partnership initiatives addressing disaster-related issues	YES	LOCAL COMMUNITY
Other	N/A	N/A

Referenced regulations, policies, programs, and capabilities of the Jena Band of Choctaw Indians have been and will continue to be effective in all pre- and post-disaster environments. Each of the plans, regulations etc. are managed and maintained directly in the Tribal government offices by Tribal officials. This provides constant oversight and engagement of leadership who administer the laws. This continued and engaged oversight of Tribal capabilities leads to effective preparedness, response, and recovery on all levels. The Jena Band of Choctaw Indians have also seen great results through the judicious use of regulations, policies, programs, and capabilities related to development in hazard prone areas. Particularly, the Tribe's use of building codes and site plan review requirements ensure that new developments are constructed to withstand any potential hazard to which an area may be vulnerable.

Building Inventory

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
LaSalle Unincorp									
X	Eden Fellowship Volunteer FD	Fire Department	283 Hwy 774	Trout	n/a	n/a	n/a	n/a	Metal
X	Wite Sulpher Spring FD	Fire Department	199 Blondie Road	Trout	n/a	n/a	n/a	n/a	Metal
X	Little Creek-Searcy VFD	Fire Department	113 Melody Acres Road	Trout	n/a	n/a	n/a	n/a	Metal
X	Whitehall VFD Substation	Fire Department	606 Cypress Bayou Loop	Jonesville	n/a	n/a	n/a	n/a	Metal
X	Fellowship Elementary School	School	1650 Hwy 773	Trout	31.634005422718 N	92.196427168991 W	n/a	n/a	n/a
X	Belah Water District	Water District	250 Alonzo Road	Trout	n/a	n/a	n/a	n/a	n/a
X	Whitehall Water District	Water District	443 Cooper Road	Jonesville	n/a	n/a	n/a	n/a	n/a
X	Manifest-Rhinehart Water District	Water District	12080 Hwy 8		n/a	n/a	n/a	n/a	n/a
X	Belah Water System Tank	Water Tank	250 Alonzo Road	Trout	n/a	n/a	n/a	n/a	n/a
X	Catahoula Lake Diversion Canal Control Structure	Diversion Canal Control Structure	7719 Diversion Canal Road	Jonesville	31.479436529912 N	92.113385439851 W	n/a	n/a	n/a
X	Little River Bridge	Bridge	6945 Hwy 500	Trout	31.754854934503 N	92.344890709731 W	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Little River Bridge	Bridge	19860 US HWY 165 (South Bound Bridge)	n/a	31.792980828519 N	92.361322596594 W	n/a	n/a	n/a
X	Little River Bridge	Bridge	19870 US HWY 165 (North Bound Bridge)		31.792749990911 1N	92.361129352681 W	n/a	n/a	n/a
X	Little River Bridge	Bridge	26699 Hwy 8W	Trout	31.587190733477 N	92.305230122782 W	n/a	n/a	n/a
X	Old River Bridge	Bridge	8464 Hwy 84 E	Jonesville	31.610297168621 N	92.027632679264 W	n/a	n/a	n/a
Jena									
X	Jena Fire Department	Fire Department	540 E Bradford St	Jena	n/a	n/a	n/a	n/a	Metal
X	Jena Fire Department Substation	Fire Department	4197 Hwy 3104	Jena	n/a	n/a	n/a	n/a	Metal
X	Jena Fire Department Substation 2	Fire Department	3360 Austin Road	Jena	n/a	n/a	n/a	n/a	Metal
X	Rogers-Nebo Volunteer FD	Fire Department	8611 Hwy 127 S	Jena	n/a	n/a	n/a	n/a	Metal
X	Rogers-Nebo Volunteer FD	Fire Department	9824 Hwy 127 S	Jena	n/a	n/a	n/a	n/a	Metal
X	Whitehall VFD	Fire Department	9920 Hwy 84 E	Jena	n/a	n/a	n/a	n/a	Metal
X	Whitehall VFD Substation 3	Fire Department	529 Hwy 7720 E	Jena	n/a	n/a	n/a	n/a	Metal
X	Central Louisiana Technical Community College	School	521 E Bradford Street	Jena	31.679029199246 N	92.129899085262 W	n/a	n/a	n/a
X	Goodpine Middle School	School	12642 Hwy 84 W	Jena	31.693969217932 N	92.168452788545 W	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Jena Elementary School	School	758 E Sharbono Street	Jena	31.67710 133200N	92.13300 2392338 W	n/a	n/a	n/a
X	Jena High School	School	243 E High School Drive	Jena	31.69156 9765761 N	92.12795 0172272 W	n/a	n/a	n/a
X	Jena Junior High School	School	114 E Southern Ave	Jena	31.69493 6146366 N	92.12341 3540391 W	n/a	n/a	n/a
X	LaSalle Parish Alternative School	School	12646 Hwy 84 W	Jena	31.69436 8764221 6N	92.16926 6974534 W	n/a	n/a	n/a
X	Nebo Elementary School	School	300 Hwy 777	Jena	31.56308 5758255 N	92.14797 168815W	n/a	n/a	n/a
X	Temple Christian Academy	School	5933 Aimwell Road	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Parish Headstart School	School	1465 School Street	Jena	31.69096 8237342 N	92.16751 9579595 W	n/a	n/a	n/a
X	LaSalle Parish School Board	School	3012 North 1st Street	Jena	31.68651 8823984 N	92.13289 5495902 W	n/a	n/a	n/a
X	East Jena Water District	Water District	114 Hummingbird Ln	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Water/SewageDistrict No 1	Water District	410 McIntyre ST	Jena	n/a	n/a	n/a	n/a	n/a
X	Nebo Water District	Water District	285 Indian Bluff Road	Jena	n/a	n/a	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Pleasant Ridge Water System	Water District	250 Cassidy LN	Jena	n/a	n/a	n/a	n/a	n/a
X	Rogers Water District	Water District	466 HWY 776	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Water/Sewage System	Water District & Sewer	431 E Bradford Street	Jena	n/a	n/a	n/a	n/a	n/a
X	East Jena Water System Tank	Water Tank	114 Hummingbird Lane	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Bellen Water Tank	Water Tank	554 Airport Dr	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Duke Well	Water Tank	1114 Jackson Street	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Gaharan Well	Water Tank	1256 Azalea Street	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena High School Well	Water Tank	398 Peyton Street	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Park Water Take	Water Tank	246 Edwards Drive	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Sandifer Well	Water Tank	1506 W Tennessee Street	Jena	n/a	n/a	n/a	n/a	n/a
X	Town of Jena Welch Well & Take	Water Tank	1230 N First Street	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Water Works District 1 Knapp Water Well	Water Tank	1174 Petunia Drive	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Water Works District 1 New Office Water Well	Water Tank	464 McIntyre Street	Jena	n/a	n/a	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	LaSalle Water Works District 1 Old Office Water Well	Water Tank	1840 Pinehill Road	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Water Works District 1 Charlie Walker Well Chlorine	Water Tank	1107 Aster Street	Jena	n/a	n/a	n/a	n/a	n/a
X	LaSalle Water Works District 1 Charlie Walker Well Chlorine	Water Tank	1089 Aster Street	Jens	n/a	n/a	n/a	n/a	n/a
X	Manifest Rhinehart Water System Tank & Booster Station	Water Tank	8838 Hwy 84 E	Jena	n/a	n/a	n/a	n/a	n/a
X	Manifest Rhinehart Water System Tank & Pump	Water Tank	1211 Bade Loop	Jena	n/a	n/a	n/a	n/a	n/a
X	Nebo Water System Tank & Well	Water Tank	2200 Nebo Belah Road	Jena	n/a	n/a	n/a	n/a	n/a
X	Nebo Water System Well	Water Tank	8890 Hwy 127 S	Jena	n/a	n/a	n/a	n/a	n/a
X	Rogers Community Water System Tank & Well	Water Tank	9414 Hwy 127 S	Jena	n/a	n/a	n/a	n/a	n/a
X	Summerville-Rosefield Water System Tank	Water Tank	115 Pineville Road	Jena	n/a	n/a	n/a	n/a	n/a
X	Summerville-Rosefield Water System Two Wells & Pump	Water Tank	1380 Black Road	Jena	n/a	n/a	n/a	n/a	n/a
X	Jena Town Hall	Town Hall	2908 E Oak Street	Jena	31.68310 357155N	92.13245 7271120 W	n/a	n/a	n/a
X	LaSalle Parish Courthouse	Courthouse	1050 Courthouse Street	Jena	31.68533 4418177 N	92.13241 1637108 W	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	LaSalle Parish Fair Barn	DNSAP Site/ Public Gathering	1245 Fairgrounds Drive	Jena	31.692156422664N	92.142542395154W	n/a	n/a	n/a
X	LaSalle General Hospital	Hospital	187 Ninth Street	Jena	31.693663343727N	92.157684055216W	n/a	n/a	n/a
X	LaSalle Nursing Home	Nursing Home	139 Nine Street	Jena	31.695507284387N	92.157174246762W	n/a	n/a	n/a
X	Jena Nursing & Rehabilitation	Nursing Home	5877 Aimwell Road	Jena	31.686368379739N	92.117792757204W	n/a	n/a	n/a
X	Jena Airport	Airport	289 Hanger Road	Jena	31.669279348563N	92.159788863045W	n/a	n/a	n/a
X	LaSalle Parish Police Jury Maintenance Department - Jena	Maintenance Dept	21389 Hwy 8	Jena	31.679429000951 8N	92.151759589234W	n/a	n/a	n/a
X	LaSalle Parish Health Unit	Health Unit	1673 N Second Street	Jena	31.685324164406N	92.131681382497W	n/a	n/a	n/a
	Town of Jena Maintenance Shop & Sewer Fac.	Maintenance & Sewer Facilities	431 E Bradford ST	Jena	31.683799712592N	92.132254784392W	n/a	n/a	n/a
	Town of Jena Police Department	Police Department	1810 N Second St	Jena	31.68799712592N	92.132254784392W	n/a	n/a	n/a
	Jena Senior Citizens Center	Recreation	1850 N Second Street	Jena	31.683588	-92.132254	225,000	1940	Unreinforced Masonry

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Jena Wastewater Treatment Plant	Public Utility	441 E Bradford Street	Jena	31.678263	-92.129248	4,000,000	1985	Unreinforced Masonry
Olla									
X	Olla VFD Station 1	Fire Department	3435 Main Street 165	Olla	n/a	n/a	n/a	n/a	Metal
X	Olla VFD Station 2	Fire Department	1957 Central Ave	Olla	n/a	n/a	n/a	n/a	Metal
X	Summerville-Rosefield VFD	Fire Department	419 HWY 503	Olla	n/a	n/a	n/a	n/a	Metal
X	Summerville-Rosefield VFD	Fire Department	2849 Hwy 503	Olla	n/a	n/a	n/a	n/a	Metal
X	Summerville-Rosefield VFD Station 3	Fire Department	401 Bryan Hodges Road	Olla	n/a	n/a	n/a	n/a	Metal
X	LaSalle High School	School	1460 Blake Street	Olla	31.897109937861 N	92.241798108074 W	n/a	n/a	n/a
X	Olla Standard Elementary School	School	4170 School Dr	Olla	31.911163679993 N	92.234779081638 W	n/a	n/a	n/a
X	Summerville Water District	Water District	271 Zeagler Cutoff	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Water/Sewage System	Water District & Sewer	1285 Plum Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Tank	Water Tank	1003 Town Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Well	Water Tank	284 Standoff Road	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Tank	Water Tank	286 Standoff Road	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Well	Water Tank	1285 Plum Street	Olla	n/a	n/a	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Town of Olla Tank	Water Tank	1289 Plum Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Upper Well McCartney Pasture	Water Tank	1113 Plum Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Olla Lower Well McCartney Pasture	Water Tank	1172 Plum Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Olive & London Water Well	Water Tank	1075 Olive Street	Olla	n/a	n/a	n/a	n/a	n/a
X	London & Blake Water Well	Water Tank	1506 London Street	Olla	n/a	n/a	n/a	n/a	n/a
X	Summerville-Rosefield Water System Tank	Water Tank	409 Hwy 503	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Tullos Tank & Well	Water Tank	3690 Central Ave	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Tullos Well	Water Tank	3944 Central Ave	Olla	n/a	n/a	n/a	n/a	n/a
X	Town of Tullos Well	Water Tank	4324 Central Ave	Olla	n/a	n/a	n/a	n/a	n/a
X	Olla Town Hall	Town Hall	1907 Louisiana Street	Olla	31.90330 4259011 N	92.24126 5327304 W	n/a	n/a	n/a
X	Olla SubStation	LPSO Substation	1921 Louisiana St	Olla	31.90316 8819351 N	92.24122 4886212 W	n/a	n/a	n/a
X	Hardnter Medical Center	Hospital	1422 Airport Road	Olla	31.89918 0111456 N	92.21486 2304174 W	n/a	n/a	n/a
X	Olla Airport	Airport	1422 Airport Road	Olla	31.89918 0111456 N	92.21486 2304174 W	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	LaSalle Parish Police Jury Maintenance Department - Olla	Maintenance Dept	1394 Woodyard Road	Olla	31.910845919889 N	92.220939855677 W	n/a	n/a	n/a
X	State of Louisiana Critical Transportation Shelter	CTNS Shelter	3850 Main Street 165	Olla	31.897435969398 N	92.234207824758 W	n/a	n/a	n/a
	Town of Olla Maintenance Shop	Maintenance	3134 Front St	Olla	31.902368844838 N	92.244874804577 W	n/a	n/a	n/a
	Town of Olla Police Department	Police Department	1921 Louisiana St	Olla	31.903168819351 N	92.241224886212 W	n/a	n/a	n/a
	State of Louisiana Critical Transportation Shelter	CTNS Shelter (State Ran)	3850 Main St 165	Olla	31.897435969398 N	92.234207824758 W	n/a	n/a	n/a
Y	Dixie Center	Community Center	2976 Front Street	Olla	n/a	n/a	n/a	n/a	Reinforced Masonry
Y	Holloway Building	Building leased by State of Louisiana for a Evacuation Shelter	3820 Main Street 165	Olla	n/a	n/a	n/a	n/a	Reinforced Masonry
Urania									
X	Urania VFD Fire House No. 1	Fire Department	1910 W Hardtner Dr	Urania	n/a	n/a	n/a	n/a	Metal
X	Urania VFD Fire House No. 2	Fire Department	1902 N Pine Road	Urania	n/a	n/a	n/a	n/a	Metal
X	LaSalle Junior High School	School	5960 Tannehill Dri	Urania	31.869310408296 N	92.294116483255 W	n/a	n/a	n/a
X	Town of Urania Water/Sewage System	Water District & Sewer	2021 E Hardtner Dr	Urania	n/a	n/a	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Town of Urania Tank	Water Tank	5840 Tannehill Drive	Urania	n/a	n/a	n/a	n/a	n/a
X	Town of Urania Well	Water Tank	536 Water Well Road	Urania	n/a	n/a	n/a	n/a	n/a
X	Town of Urania Tank	Water Tank	1986 N Pine Road	Urania	n/a	n/a	n/a	n/a	n/a
X	Urania Town Hall & Police Department	Town Hall & Police Department	2021 E Hardtner Dr	Urania	31.863982426810N	92.295644442561W	n/a	n/a	n/a
	Town of Urania Maintenance Shop (New)	Maintenance	2272 Center St Ext	Urania	31.862545335147N	92.296494968507W	n/a	n/a	n/a
	Town of Urania Maintenance Shop (Old)	Maintenance	2280 Center St Ext	Urania	31.862274629042N	92.296788402050W	n/a	n/a	n/a
X	Pine Road Wastewater Treatment Plant	Wastewater treatment facility	7731 State Hwy 125	Urania	n/a	n/a	n/a	n/a	n/a
X	Urania Water Well #2	Water Pumping Station	Water Well Road	Urania	n/a	n/a	n/a	n/a	n/a
Tullos									
X	Tullos VFD	Fire Department	10187 S Main Street	Tullos	31.817890351066N	92.330607281140W	n/a	n/a	Metal
X	Tow of Tullos Water/Sewage System	Water District & Sewer	3690 Central Ave	Tullos	n/a	n/a	n/a	n/a	n/a
X	Town of Tullos Tank	Water Tank	9648 S Main Street	Tullos	31.82279730717N	92.32886148148W	n/a	n/a	n/a
X	Tullos Town Hall & Police Department	Town Hall & Police Department	9887 S Main Street	Tullos	31.820631039598N	92.328187861839W	n/a	n/a	n/a

Critical Facility (If Yes, Mark X)	Name of Building	Purpose of Building	Address	City	Lat	Long	Ass'd Value	Date Built	Construction Type
X	Castor Creek Bridge	Bridge	22499 Hwy 84 W	Tullos	31.830528655758 N	92.340916319706 W	n/a	n/a	n/a
	Town of Tullos Maintenance Shop	Maintenance	9636 S Main St	Tullos	31.822639008885 N	92.3245845277642 W	n/a	n/a	n/a
Jena Band Choctaw Indians									
X	ADMINISTRATION BUILDING	serves as the Tribal Headquarters and to entertain tribal community functions	1052 Chanaha Hina Street	Trout	31.696022	-92.187264	29,950	2001	Concrete
X	HEALTH CLINIC	serves as the Tribe's health clinic and Social Services	1018 Chahta Yakni Street	Trout	31.696072	-92.187741	29,950	2005	Concrete
X	TRIBAL HISTORIC PRESERVATION	serves as the Tribe's Culture & Heritage Department	1030 Chahta Yakni Street	Trout	31.695821	-92.188106	29,950	2006	Metal
X	TWISTED FEATHER	retail store	3011 Hina Chahta Street	Jena	31.691681	-92.155612	580	2011	Concrete
X	BABY FEATHERS LEARNING CENTER	daycare facility	1849 Cowart Street	Jena	31.687025	-92.101326	500	1977	Metal
X	ROARK'S	leased out to public	11925 Hwy 84	Jena	31.69236	-92156957	16,300	unknown	Metal

Vulnerable Populations

Vulnerable Populations Worksheet

LaSalle Parish

Name	Street	City	Zip Code	Latitude	Longitude
All Hospitals (Private or Public)					
LaSalle General Hospital	187 Nine Street	Jena	71342	31.693663343727N	92.157684055216W
Hardtner Medical Center	1102N Pine Road	Urania	71480	31.860224798468N	92.275566354343W
Hardtner Medical Clinic	1049 North Pine Rd.	Urania	71465	n/a	n/a
JENA CHOCTAW HEALTH CLINIC	1018 Chahta Yakni Street	Trout	71371	31.696072	-92.187741
*** There are no Hospitals located in the Town of Olla**					
Nursing Homes (Private or Public)					
LaSalle Nursing Home	139 Ninth Street	Jena	71342	31.695507284387N	92.157174246762W
Jena Nursing and Rehab	5877 Aimwell Road	Jena	71342	31.686368379739N	92.117792757204W
*** There are no Hospitals located in the Town of Olla, Urania, Jena Band of Choctaw**					
Mobile Home Parks					
Carpenter Street Mobile Home Park	333 Carpenter Street	Jena	71342	31.678279093618N	92.122534744350W
Ganey Trailer Park	1130 N Third Street Ext	Jena	71342	31.687973581921N	92.130147751698W
Grand Oaks Mobile Home Park	9050 Grand Oaks Court	Jena	71342	31.682651006959N	92.154980288653W
Hollis Trialer Park	334 Carpenter Street	Jena	71342	31.678309763565N	92.122618784803W
Jena Band of Choctaws Mobile Home Park	1124 King Street	Jena	71342	31.687117277052N	92.153877794087W
Keene's Trailer Park	1970 Cowart Street	Jena	71342	31.687137492396N	92.111804383497W
M & M Mobile Home Park	123 Meyers Loop	Jena	71342	31.679795666082N	92.114152603943W
Patricia's Trailer Park	2201 N First Street	Jena	71342	31.693515624582N	92.131802959904W
Patricia's Trailer Park	1850 Tess Street	Jena	71342	31.693614911855N	92.130848781446W
Robertson Trailer Park	5078 Breithaupt Street	Jena	71342	31.680468467282N	92.117822725098W

Seals Trailer Park	264 Flowers Road	Trout	71371	31.710928613875N	92.212845897407W
Shady Acres Mobile Home Park	235 E Bradford Street	Jena	71342	31.676931996861N	92.125713324282W
Unnamed park owned by Janet Meyers	2300 Allen St.	Jena	LA	31.703756	-92.124807
18060 Hwy 165 S		Tullos	n/a	n/a	n/a
JENA BAND OF CHOCTAW MOBILE HOME PARK	KING STREET	JENA	71342	NA	NA
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 1	JENA	71342	31.687304	-92.154133
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 2	JENA	71342	31.687573	-92.154149
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 3	JENA	71342	31.687856	-92.154171
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 4	JENA	71342	31.688139	-92.154176
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 5	JENA	71342	31.688422	-92.154176
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 8	JENA	71342	31.688559	-92.153715
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 9	JENA	71342	31.688262	-92.153688
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 10	JENA	71342	31.687961	-92.153661
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 11	JENA	71342	31.68766	-92.153693
JENA BAND OF CHOCTAW MOBILE HOME PARK	1124 KING ST., LOT 12	JENA	71342	31.687363	-92.153699
JENA CHOCTAW LOW-INCOME HOUSING	3845 HWY 3104	JENA	71342	31.684873	-92.152565
JENA CHOCTAW LOW-INCOME HOUSING	1083 LURLINE ST	JENA	71342	31.685014	-92.15164
JENA CHOCTAW LOW-INCOME HOUSING	767 LAUREL BLVD.	JENA	71342	31.689759	-92.138814
JENA CHOCTAW LOW-INCOME HOUSING	1040 HOLLY ST.	JENA	71342	31.675035	-92.124689
JENA CHOCTAW LOW-INCOME HOUSING	551 ASH ST.	JENA	71342	31.689933	-92.112528
JENA CHOCTAW LOW-INCOME HOUSING	809 GUM ST.	OLLA	71465	31.898806	-92.241065
*** There are no mobile home parks located in the Town of Urania**					

National Flood Insurance Program (NFIP)

LaSalle Parish

ELEMENT F: STATE REQUIREMENT National Flood Insurance Program (NFIP)							
	LaSalle Parish	Jena	Olla	Urania	Tullos	Jena Band Choctaw Indians	
Insurance Summary							**Comments**
How many NFIP polices are in the community? What is the total premium and coverage?	72; $9,191,000	5; $920,000	3; $760,000	n/a	n/a	n/a	n/a
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	802; $5,612,306.00; 162	5; $104,315; 1	3; $0	n/a	n/a	n/a	n/a
How many structures are exposed to flood risk with in the community?	n/a	15	n/a	n/a	n/a	n/a	n/a
Describe any areas of flood risk with limited NFIP policy coverage.	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Staff Resources							
Is the Community FPA or NFIP Coordinator certified?	n/a	No	n/a	n/a	n/a	n/a	n/a
Is flood plain management an auxiliary function?	Yes	Yes	n/a	n/a	n/a	n/a	n/a
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	n/a	Flood zone reviewed before building permit issued.	n/a	n/a	n/a	n/a	n/a

What are the barriers to running an effective NFIP program in the community, if any?	n/a	Poor maps, no established Base Flood Elevations	n/a	n/a	n/a	n/a	n/a
Compliance History							
Is the community in good standing with the NFIP?	Yes	Yes	n/a	n/a	n/a	n/a	n/a
Are there any outstanding compliance issues (i.e., current violations)?	No	No	n/a	n/a	n/a	n/a	n/a
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Cav: 8-28-2009 CAC: 8-9-2004	2015	n/a	n/a	n/a	n/a	n/a
Is a CAV or CAC scheduled or needed? If so when?	No	n/a	n/a	n/a	n/a	n/a	n/a
Regulation							
When did the community enter the NFIP?	Emergency Phase 4-30-1973 Regular Phase 11-1-1985	1989	n/a	n/a	n/a	n/a	n/a
Are the FIRMs digital or paper?	Paper	Paper	n/a	n/a	n/a	n/a	n/a
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Meet	Meet	n/a	n/a	n/a	n/a	n/a
Community Rating System (CRS)							
Does the community participate in CRS?	No	No	No	No	No	n/a	n/a
What is the community's CRS Class Ranking?	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Does the plan include CRS planning requirements?	n/a	n/a	n/a	n/a	n/a	n/a	n/a