



ST. TAMMANY PARISH

PATRICIA P. BRISTER
PARISH PRESIDENT

July 24, 2019

PUBLIC NOTICE

Resolution C-4348 adopted the *St. Tammany Parish Hazard Mitigation Plan Update - 2015* on May 7, 2015. It was subsequently approved by the State of Louisiana (May 22, 2015) and FEMA (May 12, 2015). The Floodplain Administrator/Development-Engineering staff are the designees to administer Plan Update and prepare a written progress report annually. This memo is the progress report prepared by the St. Tammany Parish Regulatory Manager/CRS Coordinator through July 24, 2019.

For credit under the Community Rating System, this memo will be presented to the governing bodies of St. Tammany Parish, distributed to the media and made available to the public. Copies of the report are available for review at STP Department of Planning & Development, 21454 Koop Drive, Building B, Mandeville, LA 70471 and on the St. Tammany Parish website: www.stpgov.org/floods.

1. Background

The original *St. Tammany Parish Hazard Mitigation Plan* was drafted in 2004, adopted by the Parish Council in 2005, and revised in 2010. The *St. Tammany Parish Hazard Mitigation Plan Update* Steering Committee, in collaboration with the participating jurisdictions, community stakeholders, and the public, drafted the current St. Tammany Parish Hazard Mitigation Plan Update – 2015 during a series of meetings held throughout 2014. It includes a detailed problem statement, which identified flooding from the numerous riverine sources and storm surge inundation from tropical storms and hurricanes, as the worst of the problems. Storm sewer and yard drainage problems also occur throughout the Parish.

The *Plan* reviews a variety of measures to mitigate potential flooding problems and protect people and property during storm events. Mitigation measures include upgrading the storm drainage system, maintaining rights-of-way, floodproofing, flood insurance, building regulations and public information. Additionally, St. Tammany Parish and incorporated municipalities have adopted and actively enforce zoning, landscaping, greenspace, fill, drainage and building ordinances that address items that could contribute to flooding. The *Plan* recommends 87 action items and 82 recommendations (169 total items) to reduce or prevent flood damage.

2. Review of the Plan's Action Items

The 87 action items and 82 recommendations (169 in total) found in Section 4-5, Table 1 of the *St Tammany Parish Hazard Mitigation Update – 2015* were reviewed by all the members of the Mitigation Steering Committee. Of the 169 action items, 86 are new, 67 were ongoing at the time of Plan publication and 16 were carried over from the previous Plan update (2009). As of July 24, 2019, 41 action items and recommendations were completed, significant progress has been made to 124; and four were removed.

Communities have completed or are implementing 100% of the *Plan's* recommendations. A Summary of the 2018-2019 community progress is presented below in Table 1. The detailed list of action items and recommendations for St. Tammany Parish and incorporated communities is attached to this report.

Table 1. Summary of Action Items & Recommendations from the St. Tammany Parish NHM Plan Update - 2015

St. Tammany Parish Natural Hazards Mitigation Plan - 2015 Update											
Annual Action Items Progress											
2018-2019 Annual Report											
Community	Number Action Items	Number Program Recommendations	Total Items	New Items (2015 list)	Items Carried Over [1]	Ongoing or Completed at Time of Plan Publication	Total Items	Number Action Items or Recommendations Completed	Number Projects or Recommendations Ongoing or in-Progress	Number Items Removed	Total Annual Items
St. Tammany Parish	27	6	33	26	3	4	33	10	22	1	33
Abita Springs	6	4	10	6	2	2	10	1	9		10
Covington	8	9	17	8	4	5	17	1	16		17
City of Folsom	6	4	10	6	2	2	10	2	8		10
City of Madisonville	6	3	9	6	2	1	9	2	7		9
City of Mandeville	9	24	33	9	1	23	33	15	18		33
City of Pearl River	6	4	10	6	1	3	10	2	8		10
City of Slidell	13	24	37	13		24	37	6	28	3	37
Village of Sun	6	4	10	6	1	3	10	2	8		10
Totals	87	82	169	86	16	67	169	41	124	4	169

[1] Items carried over from 2009 Plan were noted in the 2015 Plan

3. Recommendations of the Mitigation Steering Committee

The Mitigation Steering Committee recommends that the Parish and incorporated municipalities continue to:

- **Adopt and enforce the most current building codes and floodplain regulations**

St. Tammany Parish and incorporated municipalities continue to enforce the most current building code (2012 IRC). Additionally, communities will strengthen procedures for enforcing building code and floodplain regulations.

- **Develop a Unified Development Code incorporating the Strategies outlined in the Plan**

St. Tammany Parish continues to enforce the Development/Planning comprehensive plan and is in the process of revising its Code of Ordinances for improved implementation, clarity and enforcement.

- **Adopt and enforce a comprehensive Flood Damage Prevention Ordinance**

St. Tammany Parish communities are currently enforcing comprehensive Flood Damage Prevention Plans. The Parish is in the process of appealing the 2008 Preliminary Digital Flood Insurance Rate Maps (DFIRM), with the exception of Mandeville. Mandeville adopted its Community Maps on May 16, 2012.

- **Continue development of the St. Tammany Parish Hurricane Preparedness Plan**

The director for the Office of Emergency Preparedness is continuously engaged in updating the Hurricane Preparedness Plan that was last updated June 2014. The *St. Tammany Parish Multi-Hazard Emergency Operations Plan* will be reviewed to determine when improvements can be made and how to maximize credit under the Community Rating System (CRS).

- **Continue improvement of Community Rating System (CRS) Classes in St. Tammany Parish and Incorporated Municipalities**

Several communities in the Parish have formed a CRS Users Group to facilitate communication among communities and the public, increase awareness of risks and obtain mitigation funding. Significant improvement in CRS Ratings was achieved during the five-year Plan. The City of Covington joined CRS effective Oct. 1, 2017; Mandeville achieved a CRS Class 6 and Slidell achieved a CRS Class 7 in 2018, while unincorporated St. Tammany Parish has maintained a CRS Class 7 since 2009.

- **Formalize a Comprehensive Drainage Maintenance Plan**

St. Tammany Parish Department of Public Works currently schedules and maintains over 500 miles of drainage infrastructure, 1,212 drainage ditches and 64 detention ponds. The *Drainage System Maintenance SOP Manual* has been updated to reflect the barn areas, responsibilities, frequencies and methods of maintenance. Similar processes are followed by incorporated municipalities in the Parish. Parish communities also continued working together to reduce stormwater and drainage problems that cross corporate boundaries.

- **Commission drainage studies of all St. Tammany Parish watersheds to determine necessities and priorities for further drainage improvements and investigate all funding possibilities.**

St. Tammany Parish and incorporated municipalities continue to aggressively apply for funding to study, prioritize and construct drainage solutions. Additionally, St. Tammany Parish communities continue active participation in various FEMA grant programs, in particular the HMGP, which has funded multiple regional drainage projects and home elevations.

- **Harden Critical Facilities and Construct Safe Rooms**

St. Tammany Parish and incorporated municipalities will continue to harden critical facilities and facilities that house sensitive populations. Communities will add generators to sewer lift stations and critical facilities, implement Wind Retrofit programs and construct safe rooms to protect critical personnel during hazard events. St. Tammany Parish has plans to construct a regional EOC that will embed First Responders, liaisons from the incorporated municipalities and NOAA-NWS. Plans are 90% complete and additional funding is being sought for construction.

- **Implement an Active Public Education and Outreach Program**

St. Tammany Parish communities have created hazard pages on their respective websites to increase public awareness of hazards, hazardous areas and storm preparation. Communities also distribute public awareness information regarding flood hazards, SFHA's and potential mitigation measures using the local newspapers' public service advertising; meetings with schools and neighborhood organizations; distribution of materials at retailers, libraries, City Halls and Administration buildings; and through social media.

- **Implement an Urban Forestry Program**

St. Tammany Parish and incorporated municipalities will implement an urban forestry program modeled on the criteria of the Tree City USA. Tree canopy assists in mitigating flooding through evapotranspiration, improves water quality, lowers temperatures, and provides habitat and quality of life for residents. Many of the communities have become certified as "Tree Cities". Additionally, St. Tammany Parish's parishwide Adopt-A-Pond program is partnering with the St. Tammany Parish School Board, LSU AgCenter Youth Wetlands Center, LA SeaGrant, and US Fish and Wildlife Agency to engage students in tree planting, water quality testing and ecological assessments. In 2019, 40,000 trees were planted by St. Tammany Parish – 2,300 of these were planted by student volunteers.

Attachment (mitigation action items and recommendations)

St. Tammany Parish Natural Hazards Mitigation Plan - 2015 Update
Annual Action Items Progress
2018-2019 Annual Report

Mitigation Actions

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for St Tammany Unincorporated							
STP1: Eddins Canal	Improve storm water conveyance in Eddins Canal, improving subsurface conveyance within the subdivision to Eddins Canal and adding an outfall at Heather Drive to the W15 Channel.	FEMA/HMPG	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Flooding, Tropical Cyclone	1,2,4,6,7	This project is entitled "Northwood Village, Whisperwood & Eddins Canal". We are waiting on FEMA/GOHSEP to approve Phase 2 so we can acquire the easement (which is critical to the project), finalize design, then put out for bids.
STP2: Cloverland Drainage	Improve drainage of Tag-a-long Creek in the Cloverland Acres Subdivision area. Will require acquisition and clearing of land to develop an overflow canal.	FEMA/HMPG	Phase 1: Complete; Phase 2: 2020	St Tammany Parish/ Department of Public Works-Engineering	Tropical Cyclone, Flooding	1,4,6	This project is dead due to increased water levels found in study.
STP3: Bayou Chinchuba Detention Pond Retrofit	Retrofitting the existing Bayou Chinchuba pond to increase water quality function.	FEMA/HMPG	COMPLETED	St Tammany Parish/ Department of Public Works-Engineering	Tropical Cyclone, Flooding	1,2	COMPLETED
STP4: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.	FEMA/HMPG	Ongoing	St Tammany Parish/ Facilities Management	Tornado, wind	1,2,3	Plans are >90% complete, but NOAA will also be embedded at the EOC and need 12,000 ft2. Plans are on-hold until NOAA's team is finalized. Need additional funding for plan revisions/review and construction.
STP5: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently (2/28/2019) there are 3,213 properties listed on FEMA's SRL/RL list for the entire Parish. Properties to be mitigated will be prioritized based on the SRL / RL. There are 2,150 in unincorporated STP. 454 of these have been mitigated, 456 are in the grant process and 1651 remain to be mitigated..	FEMA HMPG	Ongoing	St Tammany Parish/ Grants Department	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
STP6-STP17: South Slidell Levee System Projects	STP6: Segment 1L, STP7: Segment 05, STP8: Segment 06, STP9: Segment 07, STP10: Segment 08, STP11: Segment 09, STP12: Segment 10, STP13: Segment 11, STP14: Segment 12, STP15: Segment 13, STP16: Segment 14, STP17: Segment 15. The benefit is to provide 100 year flood protection for a large portion of the Parish and Slidell area, greatly reducing property flood loss as well as injuries and deaths.	Federal, State, Local, Capital Outlay	2020	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,2,3,4,5,6,7	A/E contract with Neel Schaffer was issued 6/28/2018. Current contract end date for "Task 2 - Flood Control Assets and Gap Analysis" is 9/1/2019.
STP18: Schneider Canal – SELA	The proposed project includes construction of a T wall between two existing levees (segment 2A and Oak Harbor levees) with a sluice gate for each of the existing six pumps to discharge through.. This will provide greater flood protection to the pump station and its protected area.	FEMA, USACE, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Tropical Cyclone, Flooding, Levee Failure	1,4,6,7	The Schneider Canal Fronting Protection plans and specs were completed and approved by CPRA (funding agency) in 2015. I don't know anything about the pumping capacity improvements; that was not part of the fronting protection project.
STP19 East St Tammany Storm Protection	Project will mitigate the damage caused by the construction of the south Slidell Schneider Canal Levee; it will extend storm surge protection to the communities south of the Schneider Canal levee including the community of Eden Isle with over 7,000 residents.	FEMA HMPG, Other Federal Funds	2025	St Tammany Parish	Tropical Cyclone, Flooding	1,4,7	See "South Slidell Levee System Projects" above
STP20 FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,5	FEMA's review comments to our December 2016 request came in February 2019. STP sent response letter 6/11/19 requesting delay of 18 mos, at which time we plan to have hired a consultant to obtain information required by LAMP. Also, the letter again asked for partial map adoptions.
STP21: W-14 Canal - SELA	Design and construction of the Initial Robert Boulevard Detention Pond, West Diversion Detention Pond and Channel Improvements.	FEMA, USACE, State, Local	2020	St Tammany Parish/ Department of Public Works-Engineering	Tropical Cyclone, Flooding	1,4,6	SELA W-14 project is dead. However, there is an HMPG project called "Fritchie Marsh Hydrolic Restoration (W-14)" that is being used to widen the W-14 from Fremaux to Daney St. The Fritchie Marsh project did not meet BCA, but the canal widening does.
STP22: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish	Tropical Cyclone, wind, hail, tornado	1,2,3,	Installed window screens at EOC & Tyler; generators at all shelters. Need additional funding for generators at new EOC/Safe Room.
STP23: Acquisition	Give special attention to repetitively flooded areas or areas susceptible to other hazards by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Tropical Cyclone, Wildfire, Termites	1,3,4,5,6	Ongoing
STP24: Storm Water Detention Ponds	Ponds will remove a portion of the storm water runoff from the channels, thus reducing peak flows. Locations: Abita River, Big Branch, Bayou Bonfouca, Bayou Lacombe_LA 434, Belair North, Belair South, East Fork Little Bogue Falaya, Little Bogue Falaya, La Tice, Robert Road, Upper Tchefuncte, Venchy Branch, W-14_ West Diversion East	FEMA, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding	1,2,7	Tenet pond should be completed by 7/31/19. Excavation is 99% complete, they are working on final grading and will soon begin concrete work. Ben Thomas pond is bundled with the Eddins Canal project, so we are waiting on FEMA to approve Ph2. Then Ben Thomas will be ready to bid. The Venchy Branch - Bogue Falaya project is still up in the air). Raiford Oaks project, which will increase conveyance at the outfall by upgrading the receiving stream; thereby, reducing flooding downstream of the Raiford Oaks subdivision's detention pond. Plans are in design for that one now and should be finished by 12/31/2020, so I would put completion in 2021.
STP25: Wastewater Subdivision Project	285 unsewered neighborhoods throughout the Parish (by drainage basin). Requires Installation of a gravity sewer collection system and pump station in each neighborhood	FEMA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Flooding	1,2	Ongoing
STP26: Oak Harbor Elevation	Raise Oak Harbor Blvd where it goes over the levee near HWY 11. Currently the road height is lower than the adjacent levee and doesn't meet current USACE design standards for a road crossing a levee.	Local	COMPLETED	St Tammany Parish	Flooding, Tropical Cyclone	1,2,3,4	COMPLETED

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
STP27: HWY 11 Road Raising	HWY 11 will be raised from the current elevation of 9' to an elevation of 18' at the crest.	DOTD, Local	COMPLETED	St Tammany Parish	Flooding, Tropical Cyclone	1,2,3,4	COMPLETED
STP28: Lower W15 Area Drainage	Provide localized improvements by improving channel conveyance and widening of the existing W-15 main canal and placing storage within the Basin to lower the tail water condition placed on the Lower W15 subdivisions	FEMA/HMPG	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Flooding	1,2,3,4,6,7	Tenet pond should be completed by 7/31/19. Excavation is 99% complete, they are working on final grading and will soon begin concrete work.
STP29: HMPG Lift Stations Upgrades and Elevations	Elevation of 10 electrical control panel boxes located in flood prone areas to prevent disruption of operation due to inundation.	FEMA/HMPG	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Flooding, Tropical Cyclone	6	Ongoing
STP30: Coastal MP St Tammany Shore	The West St. Tammany Shoreline Protection project is a 24,773 linear foot project. The goal of this project is the restoration of 15,677 feet of shoreline and the protection of 9106 feet shoreline.	FEMA, CPRA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	Ongoing. Modeling conducted by CPRA. Project recommended in LA's 2017 Coastal Master Plan (CPRA) to proceed to E&D. Project picked up by CWPPRA for E&D (starting soon).
STP31: Coastal MP Guste Isle	Guste Island Marsh Creation project is a 685 acre marsh creation project. The goal of this project is the restoration of 651 acres of marsh as well as the nourishment of 34 acres of stressed marsh land.	FEMA, CPRA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	Ongoing. Modeling conducted by CPRA. Project recommended in LA's 2017 Coastal Master Plan (CPRA) to proceed to E&D. Project picked up by CWPPRA for E&D (starting soon).
STP32: Coastal MP Bayou Cane	The Bayou Cane Marsh Creation project is a 4,117 acre marsh creation project. The goal of this project is the restoration of 850 acres of low salinity marsh as well as the nourishment of 3,293 acres of stressed marsh land.	FEMA, CPRA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	Ongoing. Modeling conducted by CPRA. Project recommended in LA's 2017 Coastal Master Plan (CPRA) to proceed to E&D. Project picked up by CWPPRA for E&D (starting soon).
STP33: Coastal MP Faciane Canal	The Faciane Canal Marsh Creation project is a 2,853 acre marsh creation project. The goal of this project is the restoration of 1,997 acres of low salinity marsh as well as the nourishment of 630 acres of stressed marsh land.	FEMA, CPRA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	Ongoing. Modeling conducted by CPRA. Project recommended in LA's 2017 Coastal Master Plan (CPRA) to proceed to E&D when funding is available.
STP34: Coastal MP Bayou Lacombe	The Bayou Lacombe Marsh Creation project is a 3,114 acre marsh creation project. The goal of this project is the restoration of 623 acres of low salinity marsh as well as the nourishment of 2,336 acres of stressed marsh land.	FEMA, CPRA, EPA, State, Local	Ongoing	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	Ongoing. Modeling conducted by CPRA. Project recommended in LA's 2017 Coastal Master Plan (CPRA) to proceed to E&D when funding is available.
STP35: Coastal MP Fritchie	The Fritchie North Marsh Creation project is a 4,395 acre marsh creation. The goal of this project is the restoration of 2,417 acres of marsh as well as the nourishment of 1,997 acres of stressed marsh land.	FEMA, CPRA, EPA, State, Local	2020	St Tammany Parish/ Department of Public Works-Engineering	Coastal Erosion	1,4,5	This project is not going forward.
STP36: Riverwood Drainage Study	Construction of a parallel drainage line with additional catch basins along Laurelwood Drive, Magnolia Lane and Crapemyrtle Road in Riverwood Subdivision.	Statewide Flood Control	2020	St Tammany Parish/ Department of Public Works-Engineering	Flooding	1,2,3,4	Phase 1 done, Phase 2 bid package being reviewed by DOTD
STP37: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	COMPLETED	St Tammany Parish	Coastal Erosion, Dam Failure, Levee Failure, Flooding, wind, lightning, hail, Tornado, Tropical Cyclone, Wildfire, Termites, Fog	1,7	COMPLETED. Parish Council adopted the Program for Public Information (PPI) in 2016 and PPI Annual Report 2017.
STP38: Reconstruct Fire Station #16	Raise the living quarters, offices, operations room, and equipment rooms above St. Tammany Parish's DFE while leaving the fire trucks and vehicles at grade level but indoors to protect them from high wind and windblown debris	FEMA, HMPG	2019	St Tammany Parish	Tropical Cyclone, wind, Flooding	1,2,3,4,6	Ongoing
Based on BCEGS findings, the Permits Department will strengthen procedures for enforcing building code and floodplain regulations	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory, St Tammany OHSEP, Cultural and Governmental Affairs	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	COMPLETED
Replace standard building code with new State Uniform Construction Code	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	COMPLETED
Community Rating System—The Parish did not apply for a class improvement, but is expected to move from class 9 to an 8 based on the results of 2008 cycle verification visit	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory	Tropical Cyclone, Flooding,	N/A	COMPLETED. St. Tammany Parish achieved a CRS class 7 in 2009 and has maintained it to present. Next Cycle Visit is October 29, 2019.
Evaluate properties to determine if they need to be retrofitted or modified to protect them from hazards	N/A	Local	COMPLETED	St Tammany OHSEP	Tropical Cyclone, Flooding, wind, lightning, hail, Tornado	N/A	COMPLETED
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory	Tropical Cyclone, wind, Tornado	N/A	COMPLETED
St. Tammany Parish Multi-Hazard Emergency Operations Plan will be reviewed to determine when improvements can be made and how to maximize credit under the Community Rating System	N/A	Staff Time	COMPLETED	St Tammany OHSEP	Tropical Cyclone, Flooding, wind, lightning, hail	N/A	COMPLETED
Goals of the HMP 2015 Update are found in the Final document, Section 1 (Introduction), page 15:							
Goal 1: Protect the lives and health of the Parish's residents from the dangers of natural hazards							
Goal 2: Ensure that public services and critical facilities operate during and after a disaster							
Goal 3: Ensure that adequate evacuation routes, streets, utilities and public and emergency communications are maintained and available during and after a disaster							
Goal 4: Protect homes and businesses from damage							
Goal 5: Use new infrastructure and development planning to reduce the impact of natural hazards							
Goal 6: Give special attention to repetitively flooded areas							
Goal 7: Maintain and improve CRS ratings throughout the parish							

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for Town of Abita Springs							
AS1: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.	FEMA/HMPG	Ongoing	St Tammany Parish/ Abita Springs	Tornado, wind	1,2,3	Plans are >90% complete, but NOAA will also be embedded at the EOC and need 12,000 ft2. Plans are on-hold until NOAA's team is finalized. Need additional funding for plan revisions/review and construction.
AS2: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently there are 3,213 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL / RL. Town of Abita Springs has 4 structures on the EL/SRL list. One of these has been mitigated, the remaining 3 remain to be mitigated.	FEMA HMPG	Ongoing	St Tammany Parish/ Grant Department/ Abita Springs	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
AS3: FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,5	Ongoing
AS4: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish/ Abita Springs	Tropical Cyclone, wind, hail, Tornado	1,2,3,	Ongoing. Need permanent generators for lift stations.
AS5: Acquisition	Give special attention to repetitively flooded areas or areas susceptible to other hazards by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish/ Abita Springs	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Tropical Cyclone, Wildfire, Termites	1,3,4,5,6	Ongoing
AS6: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/ Abita Springs	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Fog, wind, hail, lightning, Tornado, Tropical Cyclone, Wildfire	1,7	Ongoing. Municipality uses Facebook and website among their Outreach tools.
Based on BCEGS findings, the Permits Department will strengthen procedures for enforcing building code and floodplain regulations	N/A	Staff Time	In progress	Department of Permits and Regulatory, St Tammany OHSEP, Cultural and Governmental Affairs/ Abita Springs	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Replace standard building code with new State Uniform Construction Code	N/A	Staff Time	In progress	Department of Permits and Regulatory/ Abita Springs	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Flood Plain Management	N/A	Staff Time	Ongoing	Department of Permits and Regulatory/ Abita Springs	Tropical Cyclone, Flooding	N/A	Ongoing. Town of Abita Springs has a CFM on staff.
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED and ongoing	Department of Permits and Regulatory/ Abita Springs	Tropical Cyclone, wind, Tornado	N/A	COMPLETED in 2018 and ongoing
Mitigation Actions for Pearl River							
PR1: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.	FEMA/ HMPG	Ongoing	St Tammany Parish/ Pearl River	Tornado, wind	1,2,3	Plans are >90% complete, but NOAA will also be embedded at the EOC and need 12,000 ft2. Plans are on-hold until NOAA's team is finalized. Need additional funding for plan revisions/review and construction.
PR2: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently there are 3,213 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL / RL. Town of Pearl River has 4 structures on the RL/SRL list. One of these has been mitigated, the remaining 3 remain to be mitigated.	FEMA HMPG	Ongoing	St Tammany Parish/ Grant Department/ Pearl River	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
PR3: FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,5	Ongoing
PR4: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish/ Pearl River	Tropical Cyclone, wind, hail	1,2,3,	Ongoing
PR5: Acquisition	Give special attention to repetitively flooded areas or areas susceptible to other hazards by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish/ Pearl River	Coastal Erosion, Dam Failure Levee Failure, Flooding, Tropical Cyclone, Wildfire	1,3,4,5,6	Ongoing
PR6: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/ Pearl River	Coastal Erosion, Dam Failure Levee Failure, Flooding, Fog, wind, lightning, hail, Tornado, Tropical Cyclone, Wildfire, Termites	1,7	Ongoing
Replace standard building code with new State Uniform Construction Code	N/A	Staff Time	In progress	Department of Permits and Regulatory/ Pearl River	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Evaluate properties to determine if they need to be retrofitted or modified to protect them from hazards	N/A	Local	COMPLETED	St Tammany OHSEP/ Pearl River	Tropical Cyclone, Flooding, wind, hail, Tornado	N/A	COMPLETED
Flood Plain Management	N/A	Staff Time	Ongoing	Department of Permits and Regulatory/ Pearl River	Tropical Cyclone, Flooding	N/A	Ongoing
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory Pearl River	Tropical Cyclone, Tornado	N/A	COMPLETED

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for Village of Folsom							
F1: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.	FEMA, HMPG	Ongoing	St Tammany Parish/Folsom	Tornado, wind	1,2,3	Plans are >90% complete, but NOAA will also be embedded at the EOC and need 12,000 ft2. Plans are on-hold until NOAA's team is finalized. Need additional funding for plan revisions/review and construction.
F2: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently (2/28/2019) there are 3,213 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL/RL. Village of Folsom has 2 structures on the RL/SRL list, both of which remain unmitigated.	FEMA, HMPG	Ongoing	St Tammany Parish/Grant Department/Folsom	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
F3: FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,5	Ongoing
F4: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish/Folsom	Tropical Cyclone, wind, hail	1,2,3	Ongoing
F5: Acquisitions	Give special attention to repetitively flooded areas by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish/Folsom	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Tropical Cyclone, Wildfire	1,3,4,5,6	Ongoing
F6: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/Folsom	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Fog, wind, hail, lightning, Tornado, Tropical Cyclone, Wildfire, Termites	1,7	Ongoing
Based on BCEGS findings, the Permits Department will strengthen procedures for enforcing building code and floodplain regulations	N/A	Staff Time	In progress	Department of Permits and Regulatory, St Tammany OHSEP, Cultural and Governmental Affairs/Folsom	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Replace standard building code with new State Uniform Construction Code	N/A	Staff Time	In progress	Department of Permits and Regulatory/Folsom	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Flood Plain Management	N/A	Staff Time	Ongoing	Department of Permits and Regulatory/Folsom	Tropical Cyclone, Flooding	N/A	Ongoing
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory Folsom	Tropical Cyclone, wind, Tornado	N/A	COMPLETED
Mitigation Actions for Village of Sun							
SU1: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.-Sun Town Hall	FEMA, HMPG	Ongoing	St Tammany Parish/Sun	Tornado, wind	1,2,3	Ongoing-Looking for Grant to repair Roof
SU2: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently (2/28/2019) there are 3,213 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL/RL list.. Village of Sun has 6 structures on the RL/SRL list. One of these has been mitigated, 5 remain to be mitigated.	FEMA, HMPG	Ongoing	St Tammany Parish/Grant Department/Sun	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
SU3: FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish/Sun	Tropical Cyclone, Flooding, levee failure	1,5	Ongoing
SU4: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish/Sun	Tropical Cyclone, wind, hail, Flooding	1,2,3	Ongoing
SU5: Acquisition	Give special attention to repetitively flooded areas by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish/Sun	Coastal Erosion, Dam Failure Levee Failure, Flooding, Tropical Cyclone, Wildfire	1,3,4,5,6	Ongoing
SU6: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/Sun	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Fog, wind, hail, lightning, Tornado, Tropical Cyclone, Wildfire, Termites	1,7	Ongoing
Based on BCEGS findings, the Permits Department will strengthen procedures for enforcing building code and floodplain regulations	Permits Dept. will strengthen procedures and enforce building codes and floodplain regulations. Mr. Ken Wheat is in charge of all permitting conducts all inspections and they must be up to code.	Staff Time	COMPLETED	Department of Permits and Regulatory, St Tammany OHSEP, Cultural and Governmental Affairs/Sun	Tropical Cyclone, Flooding, Tornado, wind, Dam Failure, Levee Failure, Termites	N/A	COMPLETED
Flood Plain Management	N/A	Staff Time	Ongoing	Department of Permits and Regulatory/Sun	Tropical Cyclone, Flooding	N/A	Ongoing
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory Sun	Tropical Cyclone, wind, Tornado	N/A	COMPLETED
Replace standard building code with new State Uniform Construction Code	N/AAS OER PERMIT OFFICE THEY USE LSU	Staff Time	In progress	Department of Permits and Regulatory/Sun	Tropical Cyclone, wind, hail, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for City of Covington							
C1: Mile Branch Drainage Improvements	The proposed project involves stabilization of existing channel banks due to damage from erosion of existing banks. The purpose of the project is to reduce potential structure damage due to erosion along the channel.	Local, FEMA HMPG	24 months from start	City of Covington/St Tammany Parish	Flooding, Tropical Cyclone	1,4	Ongoing
C2: Simpson Creek Drainage Improvements	The proposed project involves increase flow capacities in major drainage channel to mitigate flood risk to area. Simpson Creek drains a large developed portion of the City of Covington. Improvements would be made to reduce flood risk to structures located along the drainage way.	Local, FEMA HMPG	18 months from start	City of Covington	Flooding, Tropical Cyclone	1,2,3,4,7	Ongoing
C3: Poole Creek Drainage Improvements	The proposed project involves increase flow capacities in major drainage channel. Poole Creek drains a large developed portion of the City of Covington. Improvements would be made to reduce flood risk to structures located along the drainage way.	Local, FEMA HMPG	18 months from start	City of Covington	Flooding, Tropical Cyclone	1,2,3,4,7	Ongoing
C4: Safe room Construction at Critical City Facilities	The proposed project would include the installation of safe room's at all critical City of Covington facilities. Safe room availability will allow first responders to be on the scene of hazard situations therefore preventing losses from occurring during the hazardous event and after the hazard has passed.	Local, FEMA HMPG	Ongoing	City of Covington	Tropical Cyclone, wind, tornado, wildfire	1,2,3	Ongoing
C5: Covington Police Station Hardening	The proposed project includes hardening the building with impact-resistant window coverings and doors and installing roof straps. The Covington Police Department at 609 N. Columbia Street serves as a staging area for the Covington Police. The purpose of the building hardening is to ensure its continued use as a staging area by strengthening the building components to withstand the forces of high winds and minimize damage and avoid building failure by envelope.	Local, FEMA HMPG	12 months from start	City of Covington	Flooding, Tropical Cyclone, wind, hail, Tornado	1,2,3	Ongoing
C6: Covington Public Works Facilities Hardening	The proposed project includes hardening of several buildings located on the Public Works campus with impact-resistant window coverings and doors and installing roof straps. The Public Works Buildings at 1700 W. 27th Avenue serve as a staging area for the Covington Public Works operations and treatment of wastewater for the entire city. The purpose of the building hardening is to ensure its continued use as a staging area by strengthening the building components to withstand the forces of high winds and minimize damage	Local, FEMA HMPG	12 months from start	City of Covington	Flooding, Tropical Cyclone, hail, wind, Tornado	1,2,3,4	Construction of New Public Works Facility has Begun
C7: Covington Fire Station Hardening	The proposed project includes hardening the building with impact-resistant window coverings and doors and installing roof straps. The Covington Fire Department at 525 N. Jefferson Street and serves as a staging area for the City's fire response. The purpose of the building hardening is to ensure its continued use as a staging area by strengthening the building components to withstand the forces of high winds and minimize damage and avoid building failure by envelope.	Local, FEMA HMPG	12 months from start	City of Covington	Flooding, Tropical Cyclone, wind, hail, Tornado	1,2,3	Ongoing
C8: Generators at Critical Sewer Lift Station Facilities	The proposed project includes installing permanent generators at 5 major lift stations within the City of Covington: 1st Avenue, 9th Avenue, 8th Avenue, US 190, and 19th Avenue. During power outages, lift stations must remain in function to prevent losses to structures due to failed sewer function.	Local, Federal	COMPLETED	City of Covington	Flooding, Tropical Cyclone, wind, lightning, Tornado	1,2,3	COMPLETED
Improve drainage capacity to reduce flooding hazards	N/A	City, Grants	Ongoing	City Engineer/Public Works Director	Flooding, Tropical Cyclone	N/A	Ongoing
Add automatic turn on switches to back up power supply/ generators at water system wells at River Forest Subdivision, Theard Street, and Industry Lane within the city.	N/A	City, Grants	Ongoing	Fire Chief, Public Works Director	Flooding, Tropical Cyclone, wind, lightning, Tornado	N/A	Ongoing
Harden critical facilities and facilities housing sensitive populations including the construction of safe rooms to protect critical personnel during hazard events	N/A	City, Grants	Ongoing	Public Works Director, Police, Fire, Director of Admin.	Flooding, Tropical Cyclone, wind, hail, Tornado	N/A	Ongoing
Investigate and implement a localized interior drainage projects in repetitive loss areas to reduce damages from flooding.	N/A	Community Development Block Grant (CDBG) FMA, HMPG, SBA Funds, Capital Outlay, USARCA,	In progress	Parish and City Floodplain Managers, Public Works Director	Flooding, Tropical Cyclone	N/A	Ongoing
Pursue elevation/Acquisition /flood proofing/Pilot Reconstruction projects and structural solutions to flooding by pursuing funding opportunities for the repetitive loss structures.	City of Covington has 47 structures on the RL/SRL list for 2018. of these, 4 have been mitigated, 1 is in the grant process and 42 are unmitigated.	City, Grants, HMPG	In progress	Building Permit Director, City Emergency Manager, St Tammany Parish	Flooding, Tropical Cyclone,	N/A	Ongoing
Develop additional subdivision guidelines that would help reduce flooding, such as requiring freeboard above the Base Flood Elevation (BFE) in flood prone areas	N/A	City Budget	Ongoing	Planning Director, Planning Consultant	Flooding, Tropical Cyclone	N/A	Ongoing. 1' of Freeboard was Added by Ordinance
Create a new hazard page on the city's website to increase public awareness of hazards, hazardous areas and storm preparation. Distribute public awareness information regarding flood hazards, SFHA's and potential mitigation measures using the local newspapers.	N/A	City Budget, Business and industry	Ongoing	Mayor, Chief of Police, Director of Admin	Tropical Cyclone, Flooding, Tornado, wind, lightning, hail	N/A	Ongoing
Add generators to all sewer lift stations and critical facilities	N/A	City Budget and Grants	Ongoing	Public Works Director	Flooding, Tropical Cyclone, wind, lightning, Tornado	N/A	Ongoing
Participate in the CRS. Improve record keeping of localized flooding events and public works work orders	N/A	City Budget	Ongoing	Parish and city floodplain managers	Flooding, Tropical Cyclone	N/A	Ongoing. City Joined CRS Effective Oct. 1, 2017

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for Town of Madisonville							
MAD1: Safe Room Project	The project will include design and construction for Multi-use Facility and Safe Room.	FEMA/ HMPG	Ongoing	St Tammany Parish/ Madisonville	Tornado ,wind	1,2,3	Plans are >90% complete, but NOAA will also be embedded at the EOC and need 12,000 ft2. Plans are on-hold until NOAA's team is finalized. Need additional funding for plan revisions/review and construction.
MAD2: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently there are 3,213 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL / RL.. Town of Madisonville has 71 properties on the RL/SRL list; 16 have been mitigated, 2 are in the grant process and 53 have not been mitigated.	FEMA HMPG	Ongoing	St Tammany Parish/ Grant Department/Madisonville	Tropical Cyclone, Flooding	1,4,6,7	Ongoing
MAD3: FEMA/LAMP DFIRM	The STP LAMP program will collaborate with FEMA to characterize the levee reaches in the parish, gather all available data, determine additional data needs that are critical for certification, and procure data.	Federal, State, Local	Ongoing	St Tammany Parish	Tropical Cyclone, Flooding, levee failure	1,5	Ongoing
MAD4: Hardening of Critical Facilities	Identify and hardening of Critical Facilities	FEMA, HMPG	Ongoing	St Tammany Parish/Madisonville	Tropical Cyclone, wind, hail, Flooding	1,2,3,	Ongoing. Mitigation Master Plan was recently completed & approved by Planing& Zoning; will go before Council for adoption. The Plan specifies hardening needs of critical facilities.
MAD5: Acquisition	Give special attention to repetitively flooded areas by Identification and acquisition of land and/or properties to mitigate against future damages, lives and property lost.	FEMA, HMPG	Ongoing	St Tammany Parish/Madisonville	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Tropical Cyclone, Wildfire	1,3,4,5,6	Ongoing
MAD6:Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/Madisonville	Coastal Erosion, Dam Failure, Levee Failure, Flooding, Fog, wind, hail, lightning, Tropical Cyclone, Wildfire, Termites	1,7	Ongoing. Website was recently updated to reflect programs & information
Based on BCEGS findings, the Permits Department will strengthen procedures for enforcing building code and floodplain regulations	N/A	Staff Time	In progress	Department of Permits and Regulatory, St Tammany OHSEP, Cultural and Governmental Affairs/Madisonville	Tropical Cyclone, wind, Flooding, Tornado, Dam Failure, Levee Failure, Termites	N/A	In progress
Parish will implement an urban forestry program modeled on the criteria of the Tree City USA program	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory Madisonville	Tropical Cyclone, wind, Tornado	N/A	COMPLETED. Program is detailed in the Mitigation Master Plan that was recently completed. The Municipality is already planting trees.
Replace standard building code with new State Uniform Construction Code	N/A	Staff Time	COMPLETED	Department of Permits and Regulatory/Madisonville	Tropical Cyclone, wind, hail, Flooding, Tornado	N/A	COMPLETED..

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for City of Mandeville							
MAN1: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Currently there are 59 properties listed on FEMA's SRL/RL list Properties will be prioritized based on the SRL / RL. The City elevates properties as funding is made available while developing strategies for coastal and flood control protection and mitigation.	FEMA HMPG	Ongoing	City of Mandeville	Flooding, Tropical Cyclone	1,4,6,7	Ongoing
MAN2: Sewerage Treatment Plant Flood Mitigation	The proposed project would include the construction of either an earthen berm or I-wall surrounding a portion of the sewerage treatment plant to prevent the inundation of flood waters from storm surge. The project will also include the elevation of Ultraviolet lights used in the final stage of sewerage treatment.	FEMA HMPG	1-5 Years	City of Mandeville	Flooding, Tropical Cyclone	1,2,3,7	Ongoing
MAN3: Monroe Street Drainage	The proposed project would change the elevation of a section of roadway that is inundated by flood waters on a regular basis. Additionally, it would improve the drainage along portions of Kleber Street where there is a history of flooding including of structures.	FEMA HMPG	COMPLETE	City of Mandeville	Flooding, Tropical Cyclone	1,2,3,7	COMPLETE
MAN4: Wind Retrofit of Mandeville Police Department Headquarters	Mandeville Police Department Headquarters will be retrofitted to provide protection from high winds. The Scope of Work includes but is not limited to hardening windows, doors, and mechanical equipment. This retrofit will exceed the International Building Code wind load requirements for this location.	Local, State, Federal	1-5 years	City of Mandeville	Tropical Cyclone, wind, hail, Tornado	1,2,3	Ongoing
MAN5: Madison Street Drainage	The proposed project would close in the existing open ditches with new 36" RCP culverts, with associated catch basins and drop inlets. Madison Street from Marigny Avenue to Little Bayou Castain is approximately 1,200 linear feet. The project will help drainage in an area with a history of flooding, and where homes have received flood damage in the past.	Local, State, Federal	COMPLETE	City of Mandeville	Tropical Cyclone, Flooding	1,4,7	COMPLETE
MAN6 Wind Retrofit of Mandeville Community Center	Mandeville Community Center will be retrofitted to provide protection from high winds. Includes but is not limited to hardening windows, doors, and mechanical equipment. This retrofit will exceed the International Building Code wind load requirements for this location.	Local, State, Federal	ongoing	City of Mandeville	Tropical Cyclone, wind, hail, tornado	1,2,3	Ongoing
MAN7: Wind Retrofit of Mandeville Public Works Department Facility	Mandeville Public Works Department Facility will be retrofitted to provide protection from high winds. The Scope of Work includes but is not limited to hardening windows, doors, and mechanical equipment. This retrofit will exceed the International Building Code wind load requirements for this location.	FEMA HMPG	1-5 years	City of Mandeville	Tropical Cyclone, wind, hail, tornado	1,2,3	Ongoing
MAN8: Wind Retrofit of Mandeville City Hall	Mandeville City Hall will be retrofitted to provide protection from high winds. The Scope of Work includes but is not limited to hardening windows, doors, and mechanical equipment. This retrofit will exceed the International Building Code wind load requirements for this location.	FEMA HMPG	1-5 Years	City of Mandeville	Tropical Cyclone, wind, hail, tornado	1,2,3	Ongoing
MAN9: Cypress Swamp/Green Fund Coastal Restoration and Armoring	The proposed project would construct a berm of a yet to be determined type in Lake Pontchartrain in front of an endangered cypress swamp along the shoreline of the City of Mandeville. The berm would armor the identified section of shoreline against continued coastal erosion as well as reduce the velocity of storm runoff thereby allowing suspended sediments to rebuild land.	FEMA HMPG	1-5 Years	City of Mandeville	Tropical Cyclone, Coastal Hazards, Flooding	1,5	Ongoing
No. 1: Upgrade the flow capacity of storm water along Lake Shore Drive in Golden Glen Subdivision and along Bayou Chinchuba, Bayou Castine, and Little Bayou Castine by expanding and sloping the canals and replacing any inferior culverts along the major drainage laterals	N/A	City budget and Grants	Ongoing - Scheduled for completion in 2020	Street Supervisor/Public Works Director	Flooding, Tropical Cyclone	N/A	Ongoing
No. 2: Add Back up power supply/generators at critical locations such as Mandeville Fire Station, and sewer lift stations.	N/A	City Budget, Grant, Fire budget	COMPLETE	Public Works and Wastewater Supervisor	Flooding, Tropical Cyclone, wind, lightning, tornado	N/A	COMPLETE
No.3: 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.	N/A	City Budget,	COMPLETE	City Engineer and or Department of Public Works	Flooding, Tropical Cyclone	N/A	COMPLETE
No.4: Madison (Marigny to Little Bayou Castain); Overlay (1,200' x 18') Drainage (36" RCPA)	N/A	City Budget, potential for FEMA grant	Ongoing	City Engineer and or Department of Public Works	Flooding, storm surge	N/A	Ongoing
No.5: Coffee (Villere to Jefferson); Overlay (2,300' x18') Drainage (24" RCPA to 54" RCPA)	N/A	City Budget, potential for FEMA grant	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.6: Trace drainage (Marigny to Lamarque and Capusel to Little Bayou Castine)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.7: Trace Drainage (Lafitte to Coffee)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.8: Wilkinson (Extend 60" RCPA) (North of Monroe)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No. 9: Carondelet (Junction Box at School)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.10: Esquinance (Oak to City limits)Reconstruct Roadway (550' x 20') Drainage (18" RCPA)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.11:Carroll (Hwy 190 to Monroe) Overlay (2200'x18') Drainage (18"RCPA to 24"RCPA)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.12:Wilkinson (ravine aux Coquilles to Jefferson) (capital outlay request submitted) Overlay (1300'x18') Drainage (24"RCPA)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
No.13: Lamarque (LA Hwy 190 to lakeshore) Overlay (4400'x2-') Drainage (18"RCPA @ roadways and drives) Water (La Hwy 190 to Livingston)	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.14:Sandra Lee (W. Causeway to Lovers) Concrete (800'x20')	N/A	City Budget	COMPLETE	City Engineer and or Department of Public Works	Flooding, Storm Surge	N/A	COMPLETE
No.15: Wind retrofit of Mandeville City Hall	N/A	FEMA grants with city matching funds	Ongoing - Scheduled for completion in 2020	Public Works Department	Tropical Cyclone, wind, tornadoes	N/A	Ongoing
No.16: Wind retrofit of Mandeville Department of Public Works building	N/A	FEMA grants with city matching funds	Ongoing - Scheduled for completion in 2020	Public Works Department	Tropical Cyclone, wind, tornadoes	N/A	Ongoing
No.17: Wind retrofit of Mandeville Police Headquarters	N/A	FEMA grants with city matching funds	Ongoing - Scheduled for completion in 2020	Public Works Department	Tropical Cyclone, wind, tornadoes	N/A	Ongoing
No.18: Wind retrofit of Mandeville Community Center	N/A	FEMA grants with city matching funds	Ongoing - Scheduled for completion in 2020	Public Works Department	Tropical Cyclone, wind, tornadoes	N/A	Ongoing
No.24: City has used a program called "Drain Team" to increase public awareness and involvement in keeping ditches and drainage inlets free of obstruction. Notably, the city has also prepared and initiated a sandbag distribution plan, which has been successfully deployed twice during the last few years. This is an ongoing effort that the city intends to continue	N/A	City Budget	COMPLETE	City floodplain Manager and "Drain Team"	Tropical Cyclone, flooding, storm surge	N/A	COMPLETE
No.25: The city continues to provide hazard education to the public through public service advertising, meetings with schools and neighborhood organizations, and distribution of materials at retailers, the library, and city hall	N/A	City Budget and grants	Ongoing - Scheduled for completion in 2020	Mayor's Office and Public Works Director	Flooding, Tropical Cyclone, wind, hail, lightning	N/A	Ongoing
No. 26: The city continues active participation in various FEMA grant programs, in particular the HMGP, which has funded multiple elevation projects in Mandeville.	N/A	City Budget and grants	Ongoing - schedule now estimated for completion by 2020--Change verbiage to 59 properties and cost to \$8,850,000	City Building Permit Director and City Floodplain manager	Flooding, Tropical Cyclone	N/A	Ongoing
No.28: Improve seawall along lakeshore drive by increasing its size to better protect structures from Tropical Cyclone and tropical storm induced tidal flooding. (Public opposition to this proposal probably means that it will not be initiated)	N/A	City Budget and Grants	Ongoing - schedule now estimated for completion by 2020 - Corps of Engineers is currently doing an economic feasibility study	Public Works Department	Flooding, Tropical Cyclone, Storm Surge	N/A	Ongoing
No.29: On October 1, 2018 the city improved from a CRS class 7 to a class 6. This improvement qualifies residents for an additional 5% discount on flood insurance premiums. The city will continue its activities to improve the CRS rating.	N/A	City Budget	Ongoing	City Floodplain Manager	Flooding, Tropical Cyclone, wind, lightning, Storm Surge	N/A	Ongoing
No.30: Continue enforcement of floodplain regulations, subdivision regulations, engineering standards, and building code to ensure that all future development is implemented in such a way that risk from natural hazards is minimized	N/A	City Budget	Ongoing	Floodplain manager/building inspector	Flooding, Tropical Cyclone, wind, Storm Surge	N/A	Ongoing

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
Mitigation Actions for City of Slidell							
SL1: W-14 Pumping Station Construction	Construct a pumping station at the mouth/terminus of the W-14 Drainage Canal. A pump at the mouth of the W-14 would allow water to continue to be pumped out of the city even when the Lake is full and will impede back flooding.	Federal, State, Local	3/2016-3/2019	City of Slidell	Tropical Cyclone, Flooding	1,2,3,4	Studying feasibility and funding
SL2: City Waste Treatment Elevation	Continuing waste water treatment during and after a storm event is critical to residents' health and safety and to protect the environment. The City's Waste Water Treatment Plant's Motor Control Center is below Base Flood Elevation (BFE). Elevating the Motor Control Center would enable the City to continue to treat waste water during and after a storm event.	Federal, State, Local	Remove	City of Slidell	Tropical Cyclone, Flooding	1,2,3,4	Remove. Slidell began applying for grant but work was too much for internal staff and discussion on hiring consultant never progressed.
SL3: Levee Protection Project	Construct a Levee or Flood Wall paralleling the Norfolk-Southern railroad tracks from its intersection with the Schneider Canal Levee to Gause Blvd.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding, Levee Failure	1,2,3,4,5,6,7	Ongoing. COMPLETED segment crossing US Hwy 11. Awaiting results of Levee Board Gap analysis study.
SL4: Bayou Patassat Improvements	Bayou Patassat Drainage Canal needs to be reshaped. The channel needs to be reshaped and smoothed so the water is effectively and efficiently conveyed to the pumps upgraded from the last hazard mitigation plan and discharged into Bayou Bonfouca. Additionally, the subsurface section of the channel should be removed and upgraded to match the increased in capacity for the reshaped sections.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4	Ongoing; improvement throughout Bayou Patassat Drainage is under construction
SL5: Elevation of Severe Repetitive Loss and Repetitive Loss Structures	Homes outside levee protection need to be elevated above the City of Slidell's Design Flood Elevation (DFE). The majority of the City's residences were built pre-FIRM. Approximately 973 repetitive loss homes have not yet been elevated.	Federal	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,4,6,7	Ongoing; awaiting decision on FMA application
SL6: Pontchartrain Drive Drainage Improvements	Pontchartrain Drive is an older commercial corridor. Drainage along the corridor was constructed and modified in a piecemeal fashion spanning decades. These factors have combined to create a drainage system that struggles to handle heavy rain events because the system's slope is not uniform, the channel is not straight, and the water has a long way to travel until it is safely discharged into Lake Pontchartrain. During events the system becomes overwhelmed and adjacent properties are flooded.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing, still under study
SL7: Audubon Ditch Drainage Improvements	Improving the shape and slope of the Audubon ditch and removing debris and other obstructions would allow storm water to move quicker and more efficiently from the neighborhoods and out of the city, thereby reducing the threat of flooding during storm events	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing
SL8: Breckenridge Ditch Improvements	The Breckenridge ditch discharges first into a detention pond then into the W-15. Improving the Breckenridge ditch design and removing debris and other obstructions would allow storm water to move quicker and more efficiently from the neighborhoods and out of the city, thereby reducing the threat of flooding during storm events.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing
SL9: Carollo Drive Drainage Improvements	Improving the Carollo Drainage, especially the detention pond, would allow for the capture and controlled release of storm and flood water during storm events, thereby reducing the threat of flooding.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing
SL10: Rue Miramon Drainage Improvements	Improving the Rue Miramon drainage system is key to removing storm water from the Bon Village subdivision and reducing flooding on Gause Blvd.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing
SL11: Lindeberg Dr Drainage Improvements	This project would redesign and improve the affected sections of these drainage canals, especially where they converge.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing. Need LADOTD as partner to progress
SL12: W-14 / W-15 Detention Pond	Failure of this node has led to overtopping of the canal and ditch and flooding of nearby homes and businesses. Creation of a detention pond and controlled release of storm/floodwaters at this point in City's drainage system would provide for temporary relief during a storm or flood event.	Federal, State, Local	3/2016-3/2020	City of Slidell	Tropical Cyclone, Flooding	1,2,4,6,7	Ongoing
SL13: Mitigation Public Outreach Program	Enhance the public outreach programs for the parish and all jurisdictions by increasing awareness of risks and safety as well as providing information on high risk areas. Educating citizens on proper mitigation efforts will create resiliency within the parish	FEMA, HMPG	Ongoing	St Tammany Parish/Slidell	Coastal Erosion, Dam Failure, Levee Failure, Flooding, wind, hail, lightning, Tornado, Tropical Cyclone, Wildfire, Termites, Fog	1,7	Ongoing
No.2: City Barn and Floodgate and Automated Bar Screen Replacement	N/A	Local, State, FEMA	COMPLETED	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	COMPLETED
No.3: Schneider Canal Storm water Pump Station Bar Screen Improvements	N/A	Local, state, FEMA	COMPLETED	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	COMPLETED
No.4: W-15 Lateral Canal Re-Construction	N/A	Local, COE	COMPLETED Phase 1 Study	Slidell Department of Engineering	Tropical Cyclone, Flooding, Levee Failure	N/A	COMPLETED
No.5: Eastwood Storm Drain Line Improvements	N/A	Local, FEMA	3/2016-3/2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	COMPLETED
No.6: Markham/Peachtree Box Culvert Improvements	N/A	Local, FEMA	3/2016-3/2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	COMPLETED
No.7: Dellwood Storm water Pump Station Improvements	N/A	Local, FEMA	3/2016-3/2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	Ongoing
No.8: Hermadel Subdivision Storm Sewer System	N/A	Local, FEMA	3/2016-3/2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	Ongoing
No. 1: Safe Rooms Construction	N/A	Local	Nov. 2006- March 2020	Slidell Department of Engineering	Tornado, wind	N/A	In progress
No.2: Gause Boulevard and Robert Road Intersection Drainage Improvements	N/A	Local, LADOTD	Nov 2009- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	In progress
No.3: North Boulevard Roadway Elevation	N/A	Local	Oct 2009- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	In progress
No.4: Beechwood Street/Walnut Street Drainage Improvements	N/A	Local, FEMA	Nov 2012- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	In progress
No.5: W-15 Canal Improvements	N/A	Local, STP	Nov 2010- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	In progress

Action	Action Description	Funding Source	Target Completion Date	Responsible Party, Agency, or Department	Hazard	Goal	Status
No.7: Wind Retrofits-Evaluation and-Installation	N/A	Local, State, FEMA	March 2010- March 2020	Slidell Department of Engineering	Tropical Cyclone, wind, tornado	N/A	Delete.
No.8: Evaluation and Implementation of Levee System	N/A	Local, FEMA	2010- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding, Levee-Failure	N/A	Remove duplicate entry
No.9: Development of a Comprehensive Storm water Master Plan	N/A	Local	2011- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	In progress
No.10: Review and Update of Storm water Ordinances and Design Manual	N/A	Local, FEMA	2011- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding	N/A	Continuous
No. 11: Purchase and Installation of Emergency Generators at Key Facilities	N/A	Local, State, FEMA	March 2010- March 2020	Slidell Department of Engineering	Tropical Cyclone, Flooding, wind, lightning, tornado	N/A	In progress
No.12: Passing Building Codes to Reduce Residential and Commercial Water Usage	N/A	Local, FEMA	March 2010- March 2020	Slidell Department of Engineering	Drought	N/A	COMPLETED
No.13: Development of a Public Education Outreach on Water Conservation Measures	N/A	Local, FEMA	Ongoing March 2010-March 2020	Slidell Emergency Management	Drought	N/A	Continuous
No. 14: Development of a Public Education Outreach on Lightning Dangers	N/A	Local	Ongoing March 2010-March 2020	Slidell Emergency Management	Tropical Cyclone, lightning	N/A	Continuous
No.15: Identification of Critical Infrastructure Vulnerable to Lightning and Installation of Lightning Rods	N/A	Local, FEMA	March 2010- March 2020	Slidell Department of Engineering	Tropical Cyclone, lightning	N/A	In progress
1.1.9: De Snag and clean Bayou Vincent. The portion from Hwy 190/Gause BLVD West northward to I-12 still needs to be cleaned	N/A	N/A	Ongoing March 2010-March 2020	City Engineer	Tropical Cyclone, Flooding	N/A	In progress
3.1.1: Elevate the low spot near Palm Lake on Bonfouca Drive	N/A	N/A	Ongoing March 2010-March 2020	City of Slidell	Tropical Cyclone, Flooding	N/A	In progress
3.1.2: Upgrade the culvert on Bonfouca Drive near Palm Lake	N/A	N/A	Ongoing March 2010-March 2020	City of Slidell	Tropical Cyclone, Flooding	N/A	In progress