St. Tammany Parish Submittals to 2017 Coastal Master Plan

Legend
• STP Elevation Program

Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
**Project Type**  
Shoreline Protection

**Project Summary**  
The West St. Tammany Shoreline Protection project is a 24,773 linear foot project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located west of Mandeville and south of Madisonville. The marsh loss in this area has been relatively minimal, partly due to wetland assimilation project on the east side of the project location. However, the shoreline in this area has begun to deteriorate rapidly and several breaches exist today. These breaches provide direct connection between the fresher interior marshes and higher salinity waters of Lake Pontchartrain. These shoreline breaches should be filled and the remaining shoreline protected before accelerated marsh loss rate begin.

The goal of this project is the restoration of 15,677 feet of shoreline and the protection of 9106 feet of currently functioning shoreline. Due to the shallow pleistocene and fairly stiff soils in the area, rock would be used to protect the shoreline.

**Project Attributes**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>24,773 feet</td>
</tr>
<tr>
<td>Parish</td>
<td>St. Tammany</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>Latitude</td>
<td>30.374163</td>
</tr>
<tr>
<td>Longitude</td>
<td>-90.144885</td>
</tr>
<tr>
<td>Dike Elevation</td>
<td>2.5' NAVD</td>
</tr>
<tr>
<td>Dike Top Width</td>
<td>4'</td>
</tr>
<tr>
<td>Rock</td>
<td>94,988 Tons</td>
</tr>
</tbody>
</table>

**Contact Information**

- David Brunet  
  St. Tammany Parish Coastal Zone Manager  
  985-898-2552
Legend

- West_St_Tammany_Shoreline_Protection

Source: Esri, DigitalGlobe, GeoEye, IBCAO, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$3,708,000</td>
<td>$3,708,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>94,988</td>
<td>Tons</td>
<td>$60.00</td>
<td>$5,699,309</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>0</td>
<td>CY</td>
<td>$4.50</td>
<td>$0</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>0</td>
<td>CY</td>
<td>$4.50</td>
<td>$0</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>0</td>
<td>CY</td>
<td>$4.00</td>
<td>$0</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$142,482.74</td>
<td>$142,483</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*
- Engineering: $721,102
- Geotechnical Investigation: $58,000
- Hydrologic Modeling: $100,000
- Data Collection (incl …): $115,392
- Cultural Resources: $10,000

*SubTotal:* $1,004,494

**TOTAL ESTIMATED PROJECT FIRST COST**

$12,941,734

**Project Data**

- Area = 0 Acres
- Perimeter = 0 LF
- % Water = 95%
- % Open Water = 30%
- % Marsh = 5%
- % Marsh Remnant = 70%
- % Restored = 0%
- Shoreline = 24773 LF
Guste Island Marsh Creation

**Project Type**
Marsh Creation

**Project Summary**

The Guste Island Marsh Creation project is a 685 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Guste Island. The low salinity brackish marsh became impounded over 20 years ago and marsh loss was severe. During that time this area become almost all open water. With an increase in tidal exchange due increased land loss and increased wind driven fetch, land located north of this site is deteriorating quickly.

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 using hydraulically dredged sediment from Lake Pontchartrain. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks would be constructed in order facilitate water exchange and fisheries access. Containment dikes would be gapped and/or degraded when practical.

**Project Attributes**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>685 Acres</td>
</tr>
<tr>
<td>Parish</td>
<td>St. Tammany</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Latitude 30.386698</td>
</tr>
<tr>
<td></td>
<td>Longitude -90.220022</td>
</tr>
<tr>
<td>Marsh Elevation</td>
<td>1.2' NAVD</td>
</tr>
<tr>
<td>Borrow Source</td>
<td>Lake Pontchartrain</td>
</tr>
<tr>
<td>Fill Volume</td>
<td>2,713,378 yd³</td>
</tr>
</tbody>
</table>

**Contact Information**

David Brunet  
St. Tammany Parish Coastal Zone Manager  
985-898-2552
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$3,708,000</td>
<td>$3,708,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>0</td>
<td>Tons</td>
<td>$60.00</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>3,453,044</td>
<td>CY</td>
<td>$4.50</td>
<td>$15,538,700</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>74,348</td>
<td>CY</td>
<td>$4.50</td>
<td>$334,565</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>111,156</td>
<td>CY</td>
<td>$4.00</td>
<td>$444,624</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$407,947.23</td>
<td>$407,947</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

$20,433,836

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

$25,542,295

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*

- Engineering: $1,474,139
- Geotechnical Investigation: $198,602
- Hydrologic Modeling: $100,000
- Data Collection (incl ....): $479,598
- Cultural Resources: $10,000

**SubTotal:** $2,262,339

**TOTAL ESTIMATED PROJECT FIRST COST**

$27,804,634

**Project Data**

- Area = 685 Acres
- Perimeter = 38850 LF
- % Water = 95%
- % Open Water = 30%
- % Marsh = 5%
- % Marsh Remnant = 70%
- % Restored = 0%
- Borrow Volume = 3,527,392 CY
- Borrow Depth = 10 Ft
- Borrow Area = 219 Acres
Bayou Cane Marsh Creation

Project Type
Marsh Creation

Project Summary
The Bayou Cane Marsh Creation project is a 4,117 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Cane with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due to small breaches in the shoreline and increased wind driven fetch, the rate of marsh loss is expected to continue.

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 using sediment that is hydraulically dredged from Lake Pontchartrain. Sediment would be placed throughout the site to a heigh of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access. Containment Dikes would be gapped and/or degraded when practical.

Project Attributes
Area 4,117 Acres
Parish St. Tammany
Location
Latitude 30.292398
Longitude -89.981120
Marsh Elevation 1.2’ NAVD
Borrow Source Lake Pontchartrain
Fill Volume 8,193,032 yd³

Contact Information
David Brunet
St. Tammany Parish Coastal Zone Manager
985-898-2552
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$3,708,000</td>
<td>$3,708,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>0</td>
<td>Tons</td>
<td>$60.00</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>4,369,169</td>
<td>CY</td>
<td>$4.50</td>
<td>$19,661,260</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>6,281,773</td>
<td>CY</td>
<td>$4.50</td>
<td>$28,267,977</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>168,465</td>
<td>CY</td>
<td>$4.00</td>
<td>$673,860</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$1,215,077.43</td>
<td>$1,215,077</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*
- Engineering: $3,655,119
- Geotechnical Investigation: $569,047
- Hydrologic Modeling: $100,000
- Data Collection (incl ...): $1,691,214
- Cultural Resources: $10,000

**SubTotal:** $6,025,380

**TOTAL ESTIMATED PROJECT FIRST COST** $72,933,099

**Project Data**

- Area = 4117 Acres
- Perimeter = 8967 LF
- % Water = 20%
- % Open Water = 5%
- % Marsh = 70%
- % Marsh Remnant = 95%
- % Restored = 10%

Borrow Volume 10,650,942 CY
Borrow Depth 10 Ft
Borrow Area 660 Acres
Bayou Lacombe Marsh Creation

Project Type
Marsh Creation

Project Summary
The Bayou Lacombe Marsh Creation project is a 3,114 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Lacombe with much of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due increased land loss and increased wind driven fetch, the rate of marsh loss is expected to continue.

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 using sediment that is hydraulically dredged from Lake Pontchartrain. Sediment would be placed throughout the site to a heigh of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access. Containment dikes would be gapped and/or degraded when practical.

Project Attributes
Area 3,114 Acres
Parish St. Tammany
Location
  Latitude 30.261683
  Longitude -89.938037
Marsh Elevation 1.2’ NAVD
Borrow Source Lake Pontchartrain
Fill Volume 6,441,922 yd³

Contact Information
David Brunet
St. Tammany Parish Coastal Zone Manager
985-898-2552
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$2,095,000</td>
<td>$2,095,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>0</td>
<td>Tons</td>
<td>$60.00</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>3,304,735</td>
<td>CY</td>
<td>$4.50</td>
<td>$14,871,306</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>5,069,763</td>
<td>CY</td>
<td>$4.50</td>
<td>$22,813,935</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>130,411</td>
<td>CY</td>
<td>$4.00</td>
<td>$521,646</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$955,172.15</td>
<td>$955,172</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE 1**

**Federal Costs**

*Engineering and Design:*

- Engineering: $2,858,607
- Geotechnical Investigation: $460,195
- Hydrologic Modeling: $100,000
- Data Collection (incl ....): $1,352,250
- Cultural Resources: $10,000

**SubTotal:** $4,781,052

**TOTAL ESTIMATED PROJECT FIRST COST**

$56,352,375

**Project Data**

- Area = 3114 Acres
- Perimeter = 69415 LF
- % Water = 20%
- % Open Water = 5%
- % Marsh = 75%
- % Marsh Remnant = 95%
- % Restored = 5%

- Borrow Volume = 8,374,498 CY
- Borrow Depth = 10 Ft
- Borrow Area = 519 Acres
Faciane Canal Marsh Creation

Project Type
Marsh Creation

Project Summary
The Faciane Canal Marsh Creation project is a 2,853 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Bonfouca with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due to small breaches in the shoreline and increased wind driven fetch, the rate of marsh loss is expected to continue.

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 using sediment that is hydraulically dredged from Lake Pontchartrain. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access. Containment dikes would be gapped and/or degraded when practical.

Project Attributes
Area 2853 Acres
Parish St. Tammany
Location
  Latitude 30.2424
  Longitude -89.825230
Marsh Elevation 1.2’ NAVD
Borrow Source Lake Pontchartrain
Fill Volume 9,199,670 yd³

Contact Information
David Brunet
St. Tammany Parish Coastal Zone Manager
985-898-2552
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$3,708,000</td>
<td>$3,708,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>0</td>
<td>Tons</td>
<td>$60.00</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>10,597,119</td>
<td>CY</td>
<td>$4.50</td>
<td>$47,687,033</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>1,362,487</td>
<td>CY</td>
<td>$4.00</td>
<td>$6,131,190</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>123,430</td>
<td>CY</td>
<td>$4.00</td>
<td>$493,721</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$1,357,798.62</td>
<td>$1,357,799</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

**$59,377,743**

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**

**$74,222,179**

**TOTAL ESTIMATED PROJECT COSTS**

**PHASE I**

**Federal Costs**

*Engineering and Design:*

- Engineering $4,031,490
- Geotechnical Investigation $425,493
- Hydrologic Modeling $100,000
- Data Collection (incl ....) $1,402,734
- Cultural Resources $10,000

*SubTotal: $5,969,717*

**TOTAL ESTIMATED PROJECT FIRST COST**

**$80,191,896**

**Project Data**

- **Area = 2853 Acres**
- **Perimeter = 54334 LF**
- **% Water = 70%**
- **% Open Water = 15%**
- **% Marsh = 22%**
- **% Marsh Remnant = 85%**
- **% Restored = 8%**

- Borrow Volume 11,959,605 CY
- Borrow Depth 10 Ft
- Borrow Area 741 Acres
Project Type
Marsh Creation

Project Summary
The Fritchie North Marsh Creation project is a 4,395 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Salt Bayou with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due increased land loss and increased wind driven fetch, the rate of marsh loss is expected to continue.

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 using sediment that is hydraulically dredged from Lake Pontchartrain. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access. Containment dikes would be gapped and/or degraded when practical.

Project Attributes
Area  4,395 Acres
Parish  St. Tammany
Location
    Latitude  30.213152
    Longitude  -89.708031
Marsh Elevation  1.2’ NAVD
Borrow Source  Lake Pontchartrain
Fill Volume  13,169,017 yd³

Contact Information
David Brunet
St. Tammany Parish Coastal Zone Manager
985-898-2552
Legend

Fritchie North Marsh Creation

Lake Pontchartrain
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobilization/Demobilization</td>
<td>1</td>
<td>LS</td>
<td>$3,708,000</td>
<td>$3,708,000</td>
</tr>
<tr>
<td>2</td>
<td>Shoreline Protection</td>
<td>0</td>
<td>Tons</td>
<td>$60.00</td>
<td>$0</td>
</tr>
<tr>
<td>3</td>
<td>Marsh Creation (incl dike backfill)</td>
<td>12,826,541</td>
<td>CY</td>
<td>$4.50</td>
<td>$57,719,434</td>
</tr>
<tr>
<td>4</td>
<td>Marsh Nourishment</td>
<td>4,293,181</td>
<td>CY</td>
<td>$4.50</td>
<td>$19,319,315</td>
</tr>
<tr>
<td>5</td>
<td>Containment Dikes</td>
<td>149,332</td>
<td>CY</td>
<td>$4.00</td>
<td>$597,329</td>
</tr>
<tr>
<td>6</td>
<td>Construction Surveys</td>
<td>1</td>
<td>LS</td>
<td>$1,940,901.94</td>
<td>$1,940,902</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**  
$83,284,979

**ESTIMATED CONSTRUCTION + 25% CONTINGENCY**  
$104,106,224

### TOTAL ESTIMATED PROJECT COSTS

**PHASE I**

**Federal Costs**

*Engineering and Design:*

- Engineering: $5,551,050
- Geotechnical Investigation: $580,011
- Hydrologic Modeling: $100,000
- Data Collection (incl ....): $2,123,934
- Cultural Resources: $10,000

SubTotal: $8,364,995

**TOTAL ESTIMATED PROJECT FIRST COST**  
$112,471,219

**Project Data**

- Area = 4395 Acres
- Perimeter = 65736 LF
- % Water = 55%
- % Open Water = 15%
- % Marsh = 45%
- % Marsh Remnant = 85%
- % Restored = 0%

- Borrow Volume = 17,119,722 CY
- Borrow Depth = 10 Ft
- Borrow Area = 1061 Acres
Project Type
Home Elevation

Project Summary
St. Tammany Parish borders Lake Pontchartrain along its entire southern border. The parish has 3,216 homes listed on FEMA's Repetitive and Severe Repetitive (RL/SRL) flooded structures list. Loss of floodplain storage, decreased conveyance capacity, sea level rise and subsidence are all factors leading to the repetitive flooding of some areas within the parish. In a recent study funded by CPRA, 903 homes were identified as being on the RL/SRL list and existing within the storm surge zone of St. Tammany parish. Except for a small part of Slidell, a levee system along the southern border of the Parish is not practical or feasible, the only way to protect these structures is through elevation.

The goal of this project is to elevate all of the structures in St. Tammany parish's surge zone that would not be protected by the Slidell Ring levee, approximately 780 structures.

Project Attributes
Parish  St. Tammany

RL/SRL Structures
- Total  3,216
- Surge Zone  903

Target Elevation  FEMA Base Flood Elevation

Contact Information
David Brunet  
St. Tammany Parish Coastal Zone Manager  
985-898-2552
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Work or Material</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Structures</td>
<td>903</td>
<td>LS</td>
<td>$200,000</td>
<td>$180,600,000</td>
</tr>
</tbody>
</table>

**ESTIMATED CONSTRUCTION COST**

$180,600,000