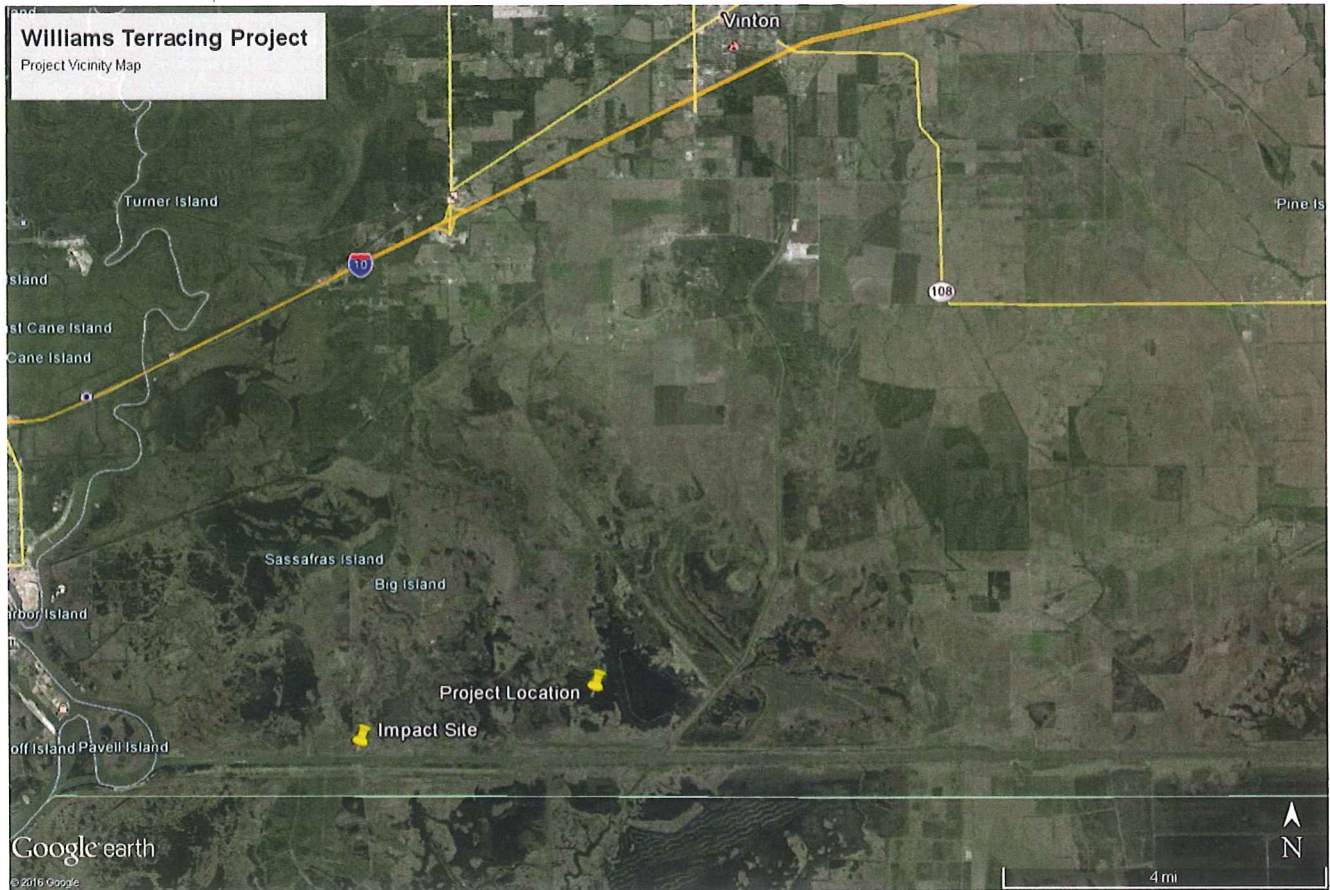


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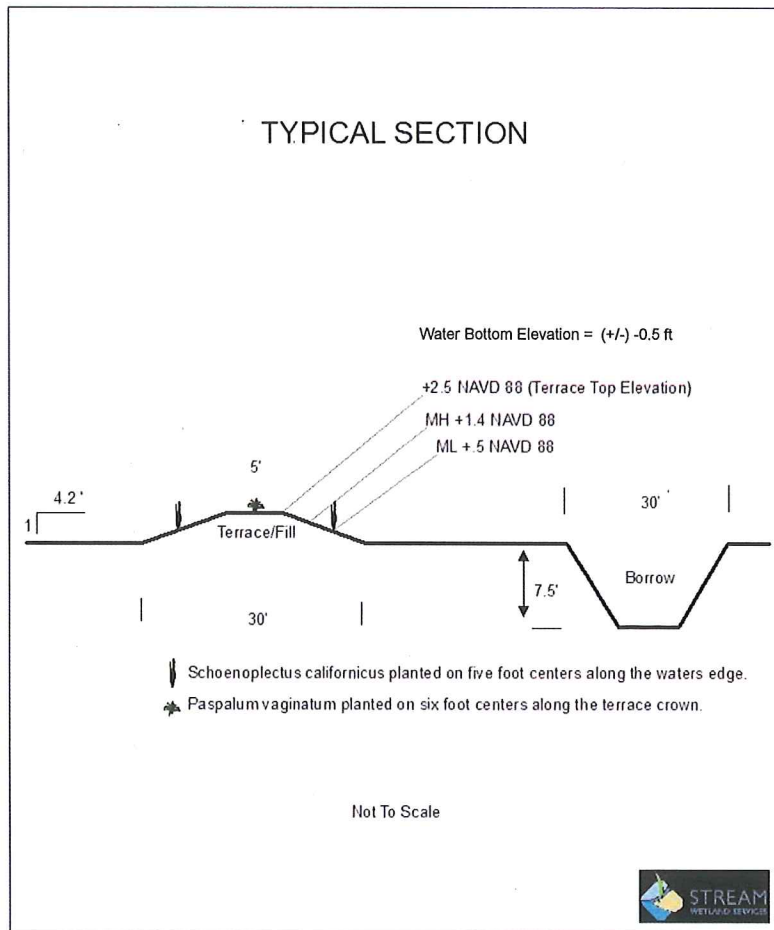
Mitigation Terracing Project
Williams 2.05 Acres
Calcasieu Parish

Legend

- Marsh Buggy Route (No Vegetated Wetlands Habitat to be Traversed)
- Williams N. Intracoastal Terraces (2.05 acres)



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Mitigation Terracing Project
Typical Section
Williams 2.05 Acres
Calcasieu Parish



MITIGATION PLAN
WILLIAMS PIPELINE
CALCASIEU PARISH, LA

TYPE OF PROJECT: Marsh restoration and preservation project. To construct and plant 4,116 linear feet of wave-dampening terraces that will capture resuspended sediments and protect fragile shorelines using California bulrush (Schoenoplectus californicus) and Joint grass (Paspalum vaginatum). These vegetative wind and sediment barriers will reduce turbidity and promote the growth of submerged aquatic vegetation.

PROJECT LOCATION: Eight (8) miles south of Vinton, Louisiana in Township 11 South, Range 12 West, Section 29.

PROJECT OBJECTIVES: To create a living fence which will 1) reduce wind generated wave action, 2) reduce turbidity, 3) produce detritus, 4) encourage submerged aquatic vegetation, 5) trap sediments, 6) increase the food production for water fowl, furbearers, alligators and fisheries. The proposed project is estimated to create approximately 2.05 acres of emergent marsh and restore emergent vegetation or provide conditions conducive to the germination and growth of aquatics on an additional 3 acres.

PROJECT FEATURES: Plant bare root plugs of in a single row on both sides of the constructed terraces at the land-water interface. Bare root plugs of California bulrush (Schoenoplectus californicus) will be planted in 5 foot spacing within the row. Joint grass (Paspalum vaginatum) will be planted on the center of the terraces on 6' centers. Eighty (80%) percent survivability will be attained.

ADDITIONAL INFORMATION: The proposed project is located in an area that has been severely damaged and eroded from past saltwater intrusion and hurricane storm surge. Salinity, substrate and current hydrological conditions are ideal for the proliferation of this emergent vegetation on these constructed terraces. Although the vegetative footprint is calculated to Mean Low Water (MLW), it is well documented that *Schoenoplectus californicus* proliferates in water depths that exceed 3 feet. This project has the potential to create over 2.8 acres of emergent marsh.

MONITORING: As per CMD guidelines.

TERRACE RESTORATION CALCULATION: 4,116' X 21.7' (MLW) = 89,309 square feet ÷ 43,560 (1 acre square ft.) = 2.05 acres.