Savannah Harbor Expansion Project Briefing to COL Hibner

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US Army Corps of Engineers
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Project Importance and Impacts

- The Port of Savannah is the fourth busiest container terminal in the nation, the second largest container port on the East Coast, the second busiest harbor for American export tonnage, the largest single container port in North America, and the fastest growing container port in the nation over the last 10+ years.

- The Corps has determined the SHEP would return $282M per year in net benefits to the Nation over the life of the project with a Benefit to Cost ratio of 7.3:1 @ FY17 discount rate. (2016)

- The sponsor has accelerated $221M in funding to begin and continue construction since signing the PPA on 8 Oct 2014. Provisions in the PPA allow the project to spend out of cost share balance and the majority of obligations (contract awards) to date were completed using Non-Federal funding which is currently scheduled to be exhausted in FY2017.

- SHEP is consistent with Administration policy and was included in the list of the Top 50 infrastructure investment projects in early 2017.

- For every month construction of SHEP is delayed, the Nation foregoes $23.5M in benefits. (2016)

SHEP 47’ NED Plan - Placemat

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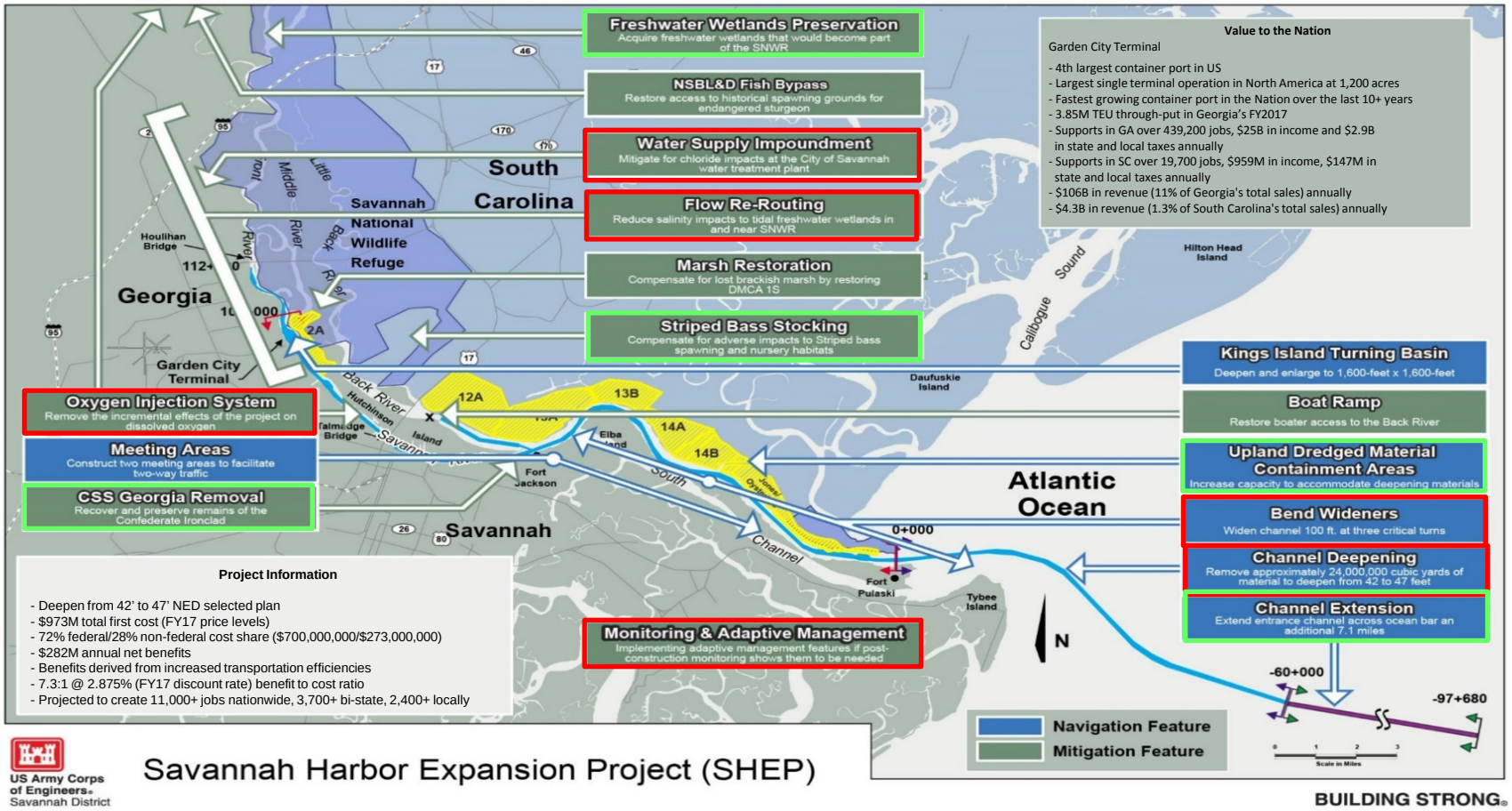

Denotes features awarded and under construction

Denotes features completed

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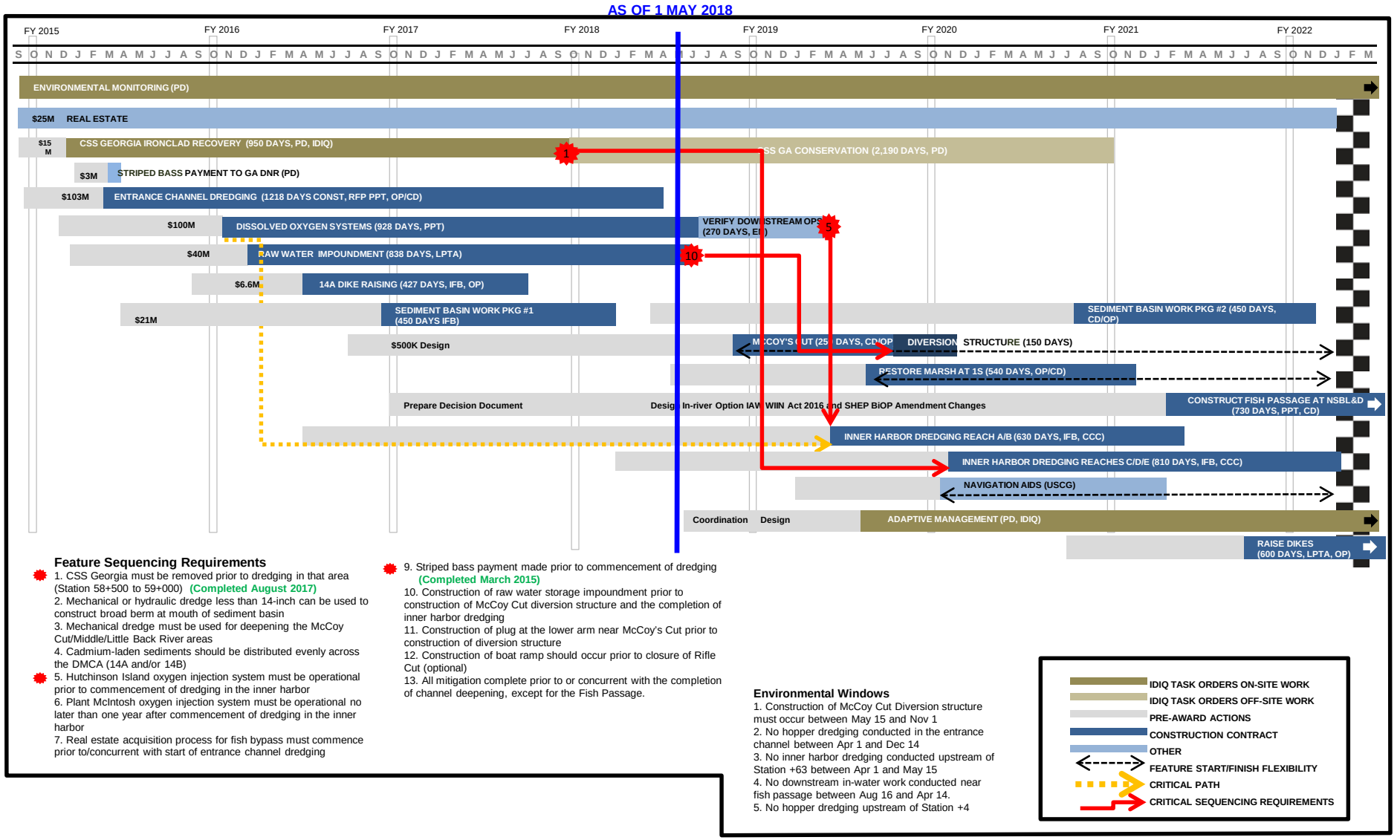

Feature Sequencing Requirements

1. CSS Georgia must be removed prior to dredging in that area (Station 58+500 to 59+000) **(Completed August 2017)**
2. Mechanical or hydraulic dredge less than 14-inch can be used to construct broad berm at mouth of sediment basin
3. Mechanical dredge must be used for deepening the McCoy Cut/Middle/Little Back River areas
4. Cadmium-laden sediments should be distributed evenly across the DMCA (14A and/or 14B)
5. Hutchinson Island oxygen injection system must be operational prior to commencement of dredging in the inner harbor
6. Plant McIntosh oxygen injection system must be operational no later than one year after commencement of dredging in the inner harbor
7. Real estate acquisition process for fish bypass must commence prior to/concurrent with start of entrance channel dredging
9. Striped bass payment made prior to commencement of dredging **(Completed March 2015)**
10. Construction of raw water storage impoundment prior to construction of McCoy Cut diversion structure and the completion of inner harbor dredging
11. Construction of plug at the lower arm near McCoy's Cut prior to construction of diversion structure
12. Construction of boat ramp should occur prior to closure of Rifle Cut (optional)
13. All mitigation complete prior to or concurrent with the completion of channel deepening, except for the Fish Passage.

Environmental Windows

1. Construction of McCoy Cut Diversion structure must occur between May 15 and Nov 1
2. No hopper dredging conducted in the entrance channel between Apr 1 and Dec 14
3. No inner harbor dredging conducted upstream of Station +63 between Apr 1 and May 15
4. No downstream in-water work conducted near fish passage between Aug 16 and Apr 14.
5. No hopper dredging upstream of Station +4

IDIQ TASK ORDERS ON-SITE WORK
IDIQ TASK ORDERS OFF-SITE WORK
PRE-AWARD ACTIONS
CONSTRUCTION CONTRACT
OTHER
FEATURE START/FINISH FLEXIBILITY
CRITICAL PATH
CRITICAL SEQUENCING REQUIREMENTS

Assumes Unconstrained Funding FY17 through FY22

SHEP Construction

US Army Corps of Engineers®
Savannah District

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SHEP Bottom Line

- **Deepen Channel 5 feet:** from -42 to -47 feet
- **Lengthen Channel 7 miles:** from 33 to 40 miles
- **Estimated New Work Material:** 24 MCY
- **Annual Net Benefits:** $282M
- **Authorized Cost:** $706M
  - (New First Cost of $973M pending Congressional authorization)
- **Benefit/Cost Ratio:** 7.3 to 1

Deepening & Salinity Impacts

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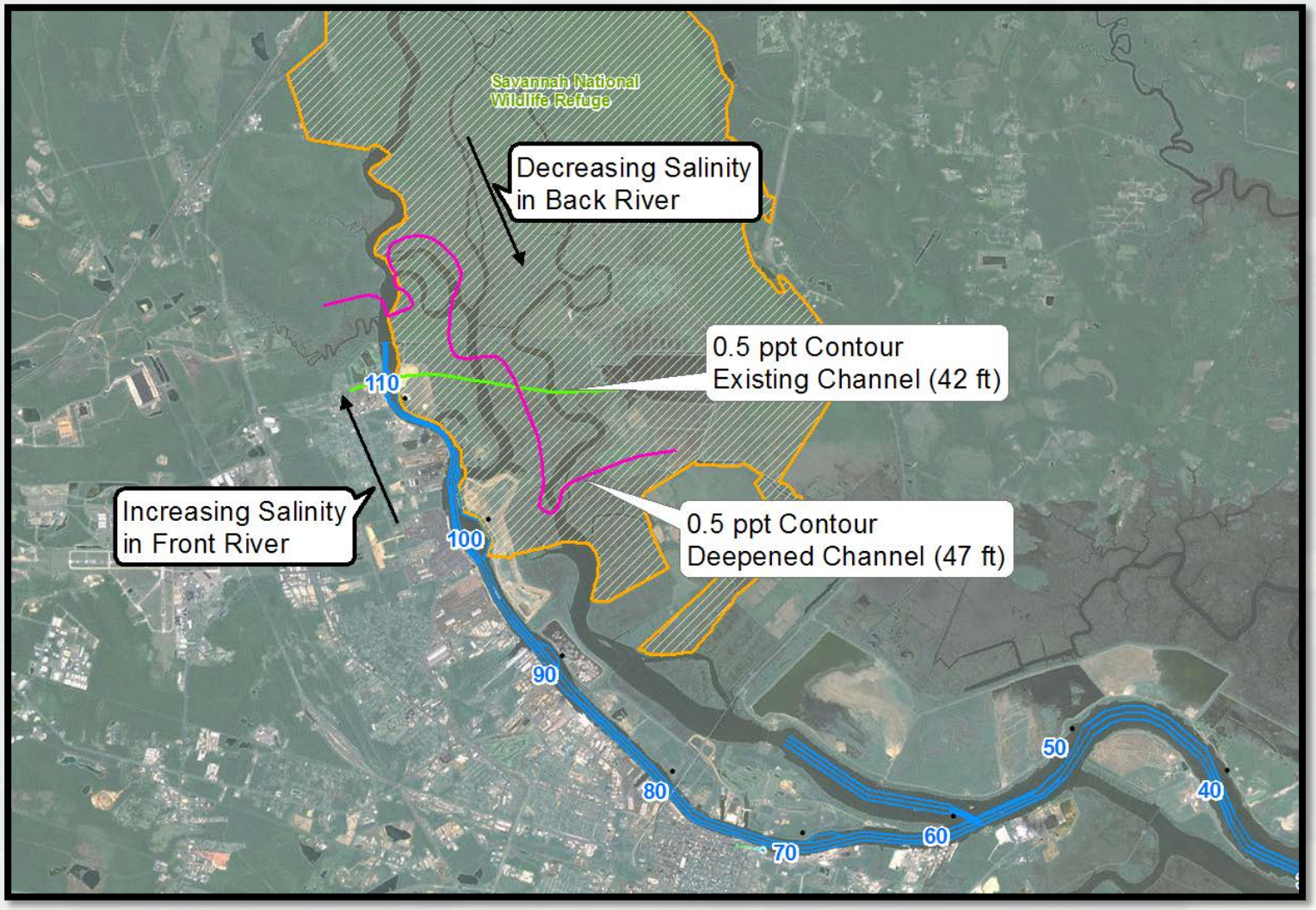

SHEP Progress

(as of 1 May 2018)

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Project Feature	Progress	Status
CSS Georgia Recovery	95%	Recovery Completed Aug 2017; Conservation on-going
Striped Bass Stocking Payment	100%	Completed March 2015
Freshwater Wetlands Acquisition	100%	Completed July 2017
Entrance Channel Dredging	100%	Dredging Concluded 1 Apr 2018
Dissolved Oxygen Injection System	86%	February 2016
Raw Water Impoundment	99%	March 2016
First Dike Raising	100%	Completed Jul 2017
Sediment Basin Tidegate Removal (Flow Re-Routing)	100%	Completed 30 Dec 2017
McCoy's Cut Area Work (Flow Re-Routing)	0%	Solicitation Advertised 4 Apr 2018
Marsh Restoration	0%	Design in FY18
Fish Passage	0%	Design Phase
Sediment Basin Rock Weir & Fill (Flow Re-Routing)	0%	Design in FY19
Inner Harbor Dredging	0%	Design Phase; Award 1st Contract in FY19

Environmental Navigation Cultural Resources

CSS *Georgia* Recovery

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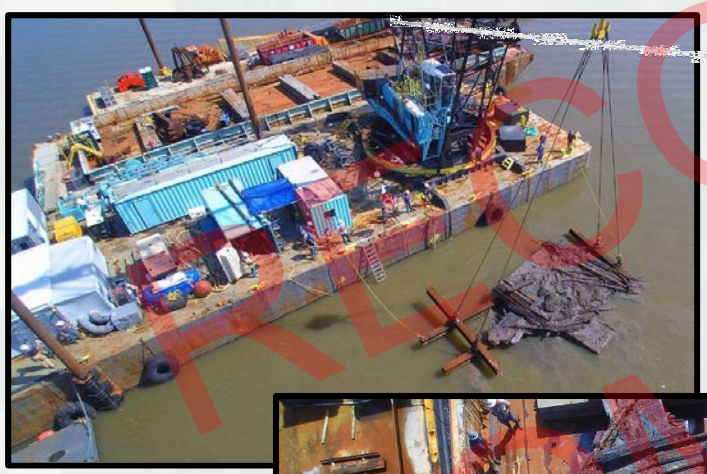

Recovery Effort Completed – Aug 2017

- 2 Casemate sections (East/West)
- 248 pieces of ordnance recovered
- 5 cannons recovered
- 2 Steam Cylinders (Engines)
- Nearly 30,000 artifacts collected
- Texas A&M executing conservation; multi-year effort expected to conclude in FY2020

Work completed by Army, Navy, Marines, Coast Guard, Corps of Engineers, Contractors, Conservation Research Laboratory at Texas A&M

Freshwater Wetlands Acquisition

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The SHEP requirement to purchase 2,245 acres of mitigation lands was completed on 21 Jul 2017 with the recordation of the deed to turnover of the final tract to the US Fish & Wildlife Service

DMCA 14A Dike Raising

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Completed Weir Structure (1 of 3)


Completed Counterweight & Back Dike

Requirement: Construct the first dike raising (5-feet) of the back dike at Dredged Material Containment Area 14A in order to prepare for the start of Inner Harbor Dredging

Contract awarded to Herve Cody Construction and construction was completed on 10 July 2017

Sediment Basin Tidegate & Embankment Removal

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COMPLETED

Requirement: Remove Tidegate Structure, Abutments and Embankments to return the Back River to its original width as part of flow re-routing plan to protect the freshwater wetlands of the Savannah National Wildlife Refuge (SNWR)

Contract awarded to DeMoya/Continental Joint Venture and completed on 30 Dec 2017

Entrance Channel Dredging

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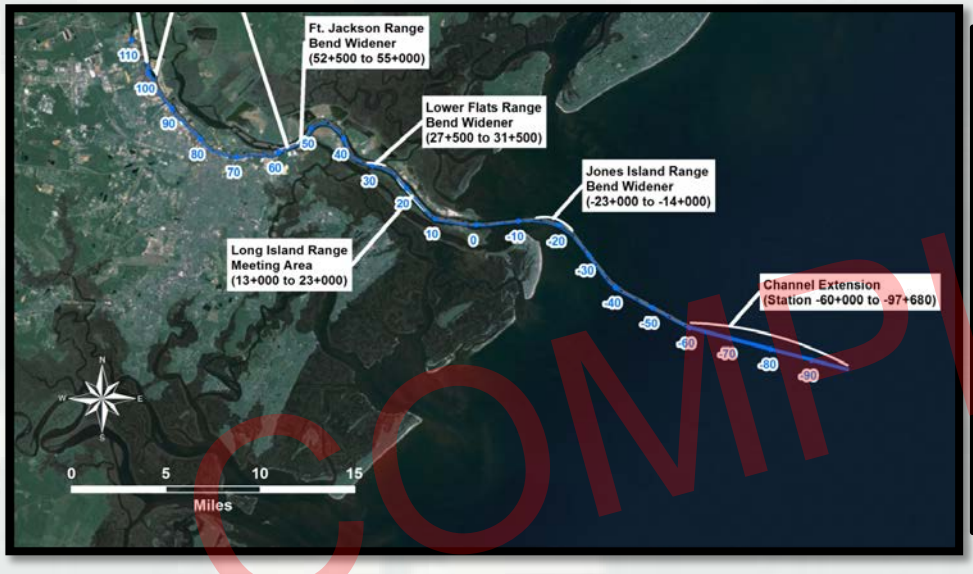

Requirement: Deepen the Entrance Channel from -44' MLLW to -49' MLLW and extend the channel 7.1 miles seaward; removing approximately 11 million cubic yards of new work material

4 Mar 2015: Contract awarded to Great Lakes Dredge & Dock
10 Sep 2015: Dredging began with the CSD Alaska

Dredging activities concluded on 1 Apr 2018; bed-leveling underway and final acceptance pending

Dissolved Oxygen Injection System

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Downriver Site on Hutchinson Island;
Upriver Site near Plant McIntosh, Effingham County


Downriver Plant – April 2018


Upriver Plant – April 2018

Requirement: Construct a Dissolved Oxygen Injection System to deliver 40,000lbs of O_2 into the river daily to mitigate for deepening impacts.

31 Jul 2015: Contract awarded to CDM Smith; NTP Issued 21 Oct 2015

Construction of both the Downriver and Upriver Plants are underway (86% complete) and based on recent evaluation of the contractor's performance and schedule, the current estimated completion is 31 July 2018.

Downriver Plant:	Upriver Plant:
4 Pumps; 4 Speece Cones	3 Pumps; 8 Speece Cones
12,000lbs Dissolved O_2 per day	28,000lbs Dissolved O_2 per day

Raw Water Storage Impoundment

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Aerial Photo – 30 Nov 2016

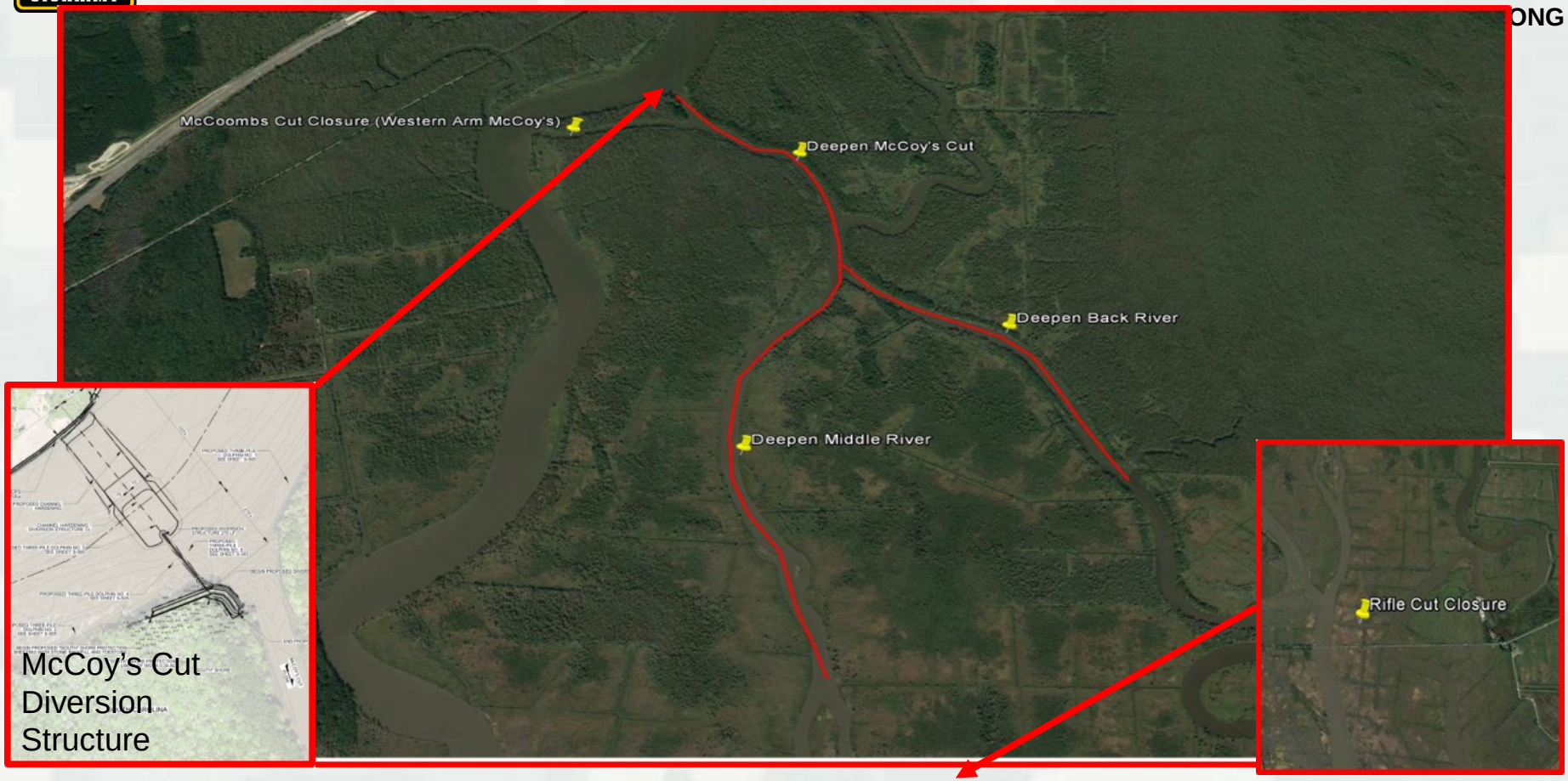

Aerial Photo (Full at 36') – 7 Mar 2018

Requirement: Construct a 97MG raw water storage impoundment for the City of Savannah

11 Dec 2015: Contract awarded to Thalle Construction

Construction is approximately 99% complete and currently schedule to be completed 30 May 2018.

McCoy's Cut Area Work



Requirement: Construction of a freshwater diversion structure, deepening of the Back and Middle Rivers, closure of Rifle and McCoombs Cuts as part of flow re-routing plan to protect the freshwater wetlands of the Savannah National Wildlife Refuge (SNWR)

Contract scheduled to be awarded in August 2018. Delayed one (1) year due to permitting issues with South Carolina.

1S Marsh Restoration

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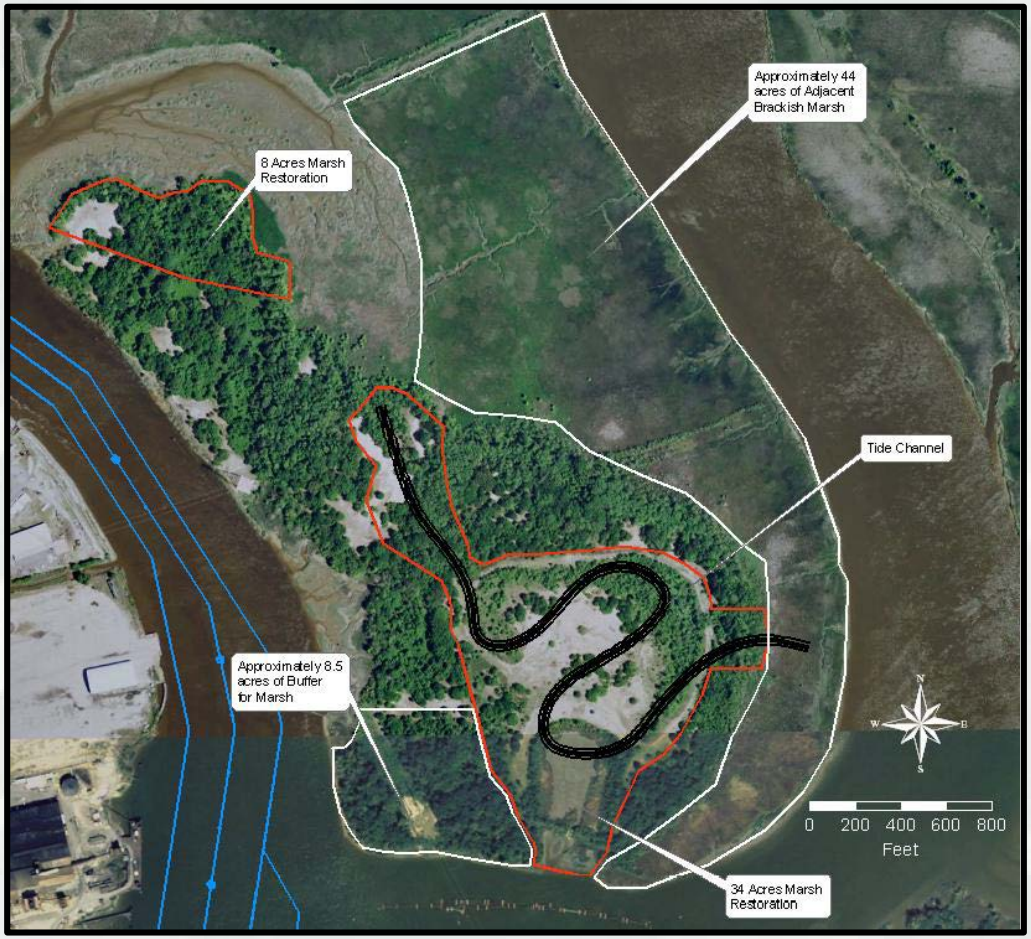

Requirement: Restoration of approximately 29 acres of tidal brackish marsh to mitigate for impacted brackish marsh due to the deepening.

Contract currently scheduled to be awarded in FY2019.

Fish Passage at New Savannah Bluff Lock & Dam

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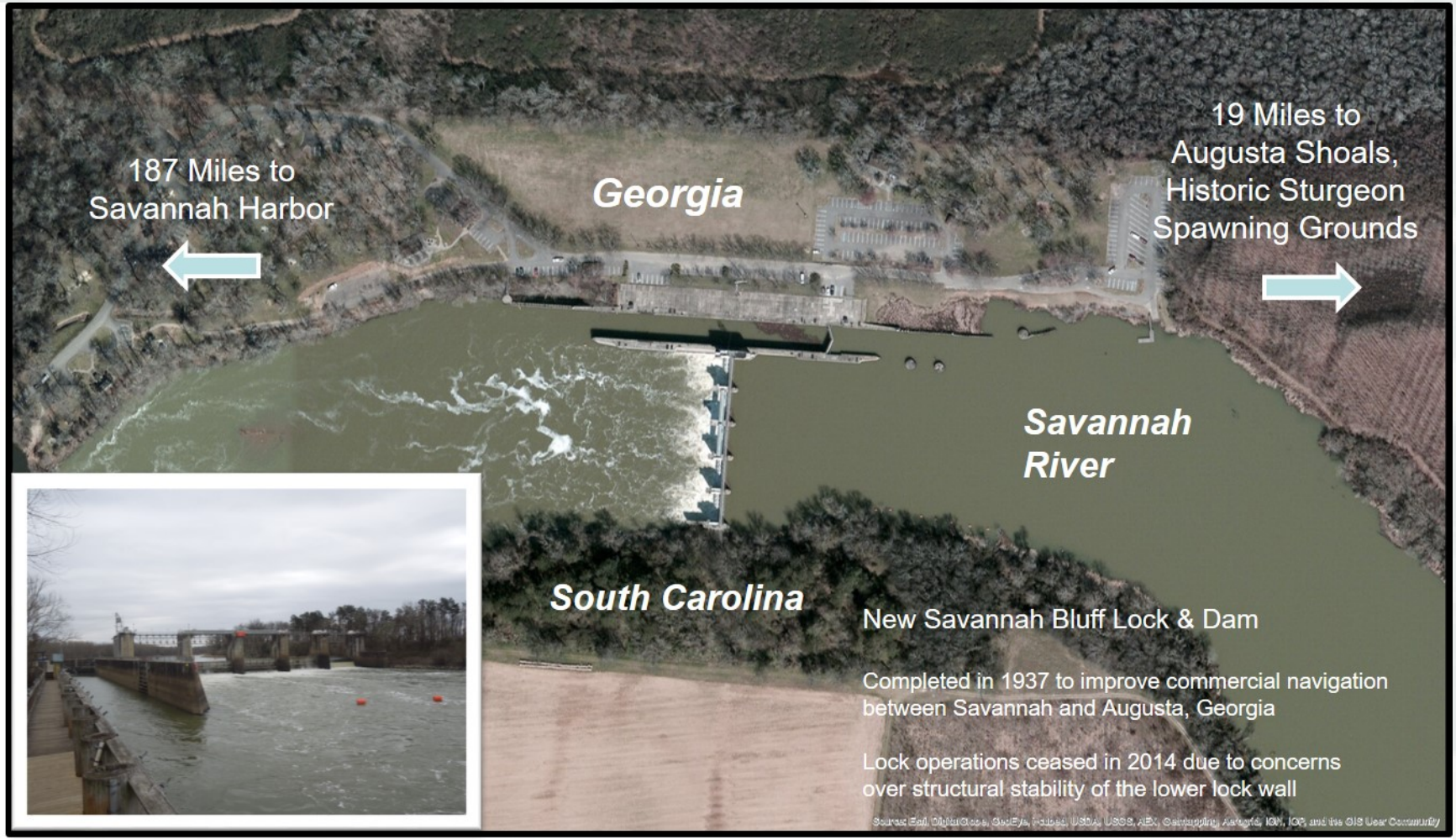

WIIN Act 2016
Section 1319 - NSBLD

De-authorizes NSBLD, conveys the park to Augusta-Richmond County, and allows the Secretary to modify SHEP as deemed necessary to allow safe passage to historic spawning grounds of Shortnose sturgeon, Atlantic sturgeon, and other migratory fish by conducting a post-authorization analysis of two alternatives:

- Alternative 1: Repairing the NSBLD lock wall and modify the structure such that the structure is able to maintain the pool for navigation, water supply, and recreational activities; **OR**

- Alternative 2: Constructing at an appropriate location across the Savannah River of a structure that is able to maintain the pool for water supply and recreational activities; and remove the New Savannah Bluff Lock and Dam on completion of construction

Non-Federal Cost Share – The Federal share of the cost of the project modification "shall be not greater than the share as provided by [Section 7002(1) of WRRDA 2014] for the most cost-effective fish passage structure."

Inner Harbor Dredging

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Requirement: Deepen the Inner Harbor from -42' MLLW to -47' MLLW; removing approximately 13 million cubic yards of new work material with upland disposal in DMCAs. Work includes the handling of naturally occurring cadmium in sediments requiring special handling.

Work is currently scheduled to begin in FY2019

Sediment Basin Rock Weir & Fill

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Requirement: Construction of a submerged rock weir and placement of fill in the Sediment Basin as part of flow re-routing plan to protect the freshwater wetlands of the Savannah National Wildlife Refuge (SNWR)

Design is 65% completed but further analysis will be completed in FY2018-2019 to determine the remaining design and construction requirements.

Dike Raisings After Dredging

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Requirement: Construction of final dike raisings for applicable DMCAs to restore capacity taken by the SHEP deepening activities.

Work is currently scheduled to begin in FY2021.

QUESTIONS?