

# **Savannah Harbor Expansion Project - Tier II Public Scoping Meeting**

**Sponsored by the Georgia Ports Authority**

**Coastal Georgia Center  
July 25, 2000**

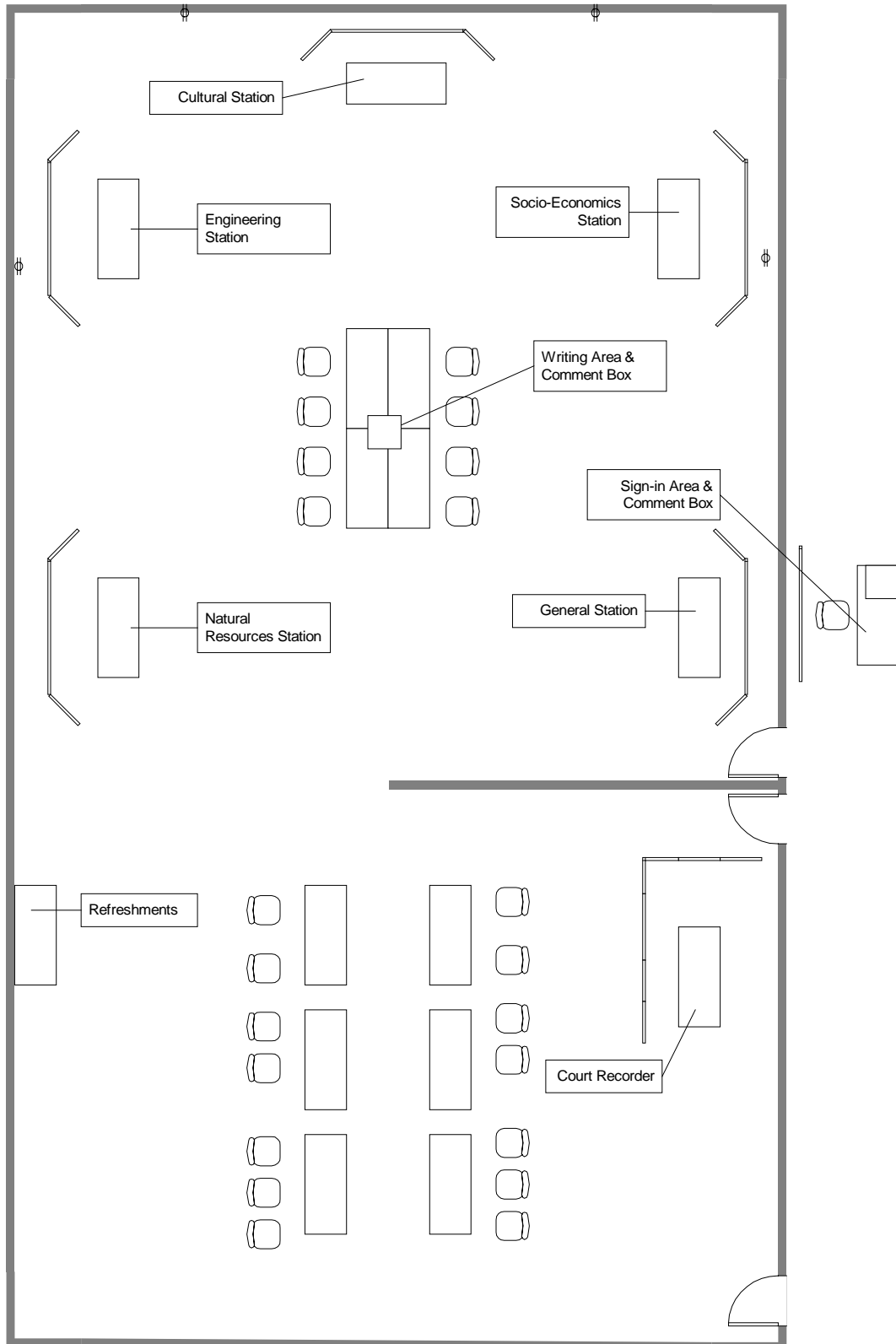
Savannah Harbor Expansion Project  
Public Scoping Meeting  
7/25/2000

Welcome to the public scoping meeting for the Savannah Harbor Expansion Project Tier II Environmental Impact Statement process. The Georgia Ports Authority is holding this meeting as part of the scoping process prescribed by the National Environmental Policy Act. It is our goal today to describe to you the currently identified range and breadth of the topics which will be considered in the development of the Tier II Environmental Impact Statement for this project. This effort is only one of many events which are being undertaken in order to develop a comprehensive understanding of the issues and concerns which should be evaluated.

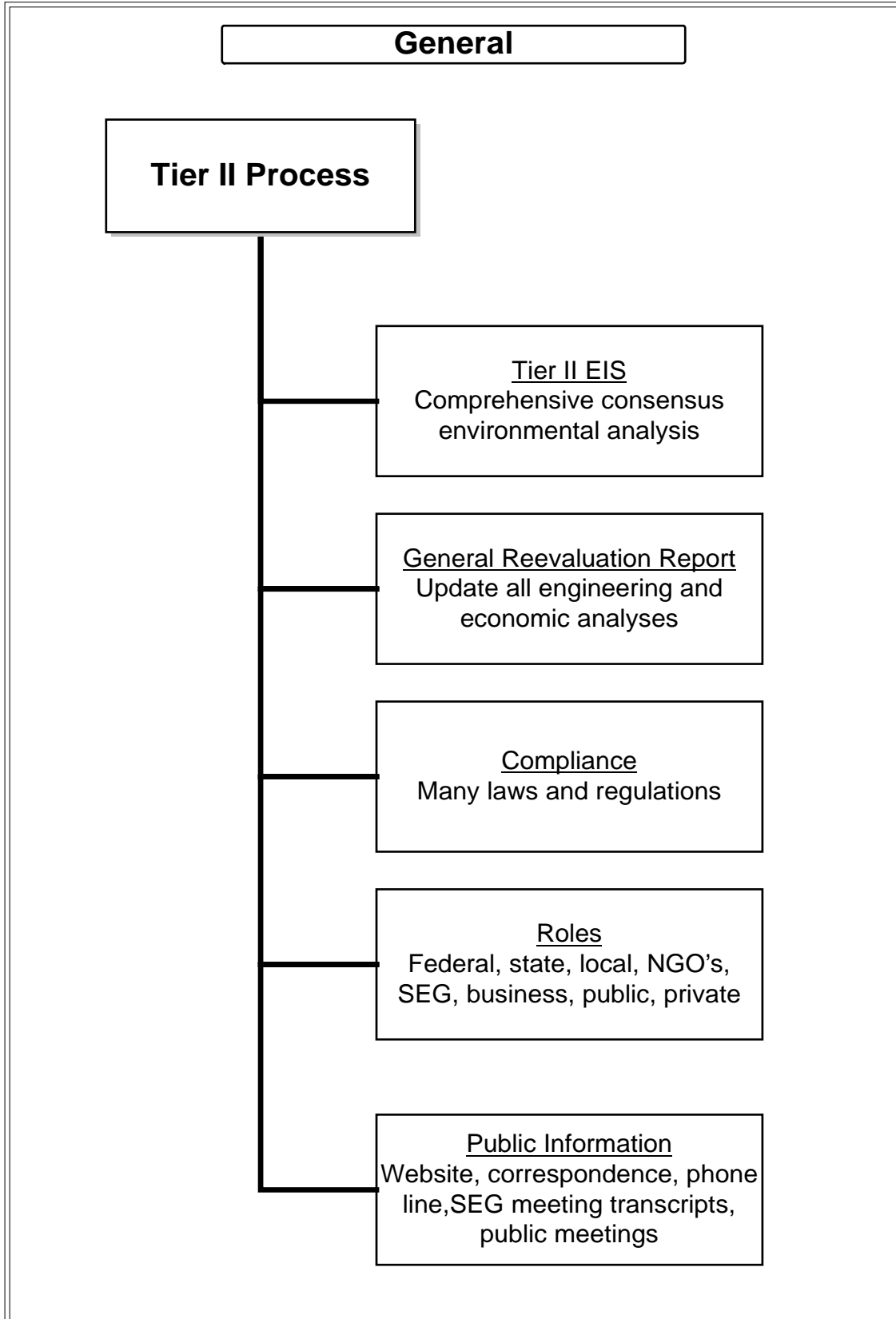
We appreciate the time and effort you have invested attending today's meeting. Please do not hesitate to ask questions of any of the people who are at the various stations. Their charge is to describe for you the issues and concerns which have been identified to date. We welcome and ask for your input. Please leave with us your concerns or issues which you believe we have not included. To make that easy for you, we have provided a simple form which you can complete and leave with us. If you prefer, you may dictate your concern to a court recorder. Additionally, you may take your form with you and send us your concerns, either by U.S. mail, by fax, or by email as provided on the issue submission card. We ask that you please give us your input by July 31, 2000. If during the course of the Tier II process you become aware of additional issues or concerns, please forward them at any time.

On the following pages you will find a diagram of the room layout, the topics to be addressed at each station and some amplifying information for each station. If you do not find what you desire, please ask any of project team personnel, distinguished by their tags with red borders, for assistance. Municipal, state, and federal agency personnel will be present tonight. They will have name tags with blue borders to ease recognition. Thank you.

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**General Information**

Tier I Studies

- Determined the potential for a feasible project
- Additional analysis needed

Goal of Tier II Scoping Process

- Ensure all issues are identified and analyzed

Public Input

- Public meetings
- SEG
- NEPA process

Agency Input

- SEG
- NEPA process
- Other laws and regulations

Scientific studies and modeling

- Fisheries
- Endangered species
- Tidal hydraulics
- Erosion
- Other

Engineering analyses

- Channel design
- Ship safety
- Dredging and disposal
- Other

Mitigation plan

- Avoidance
- Minimization
- Compensation

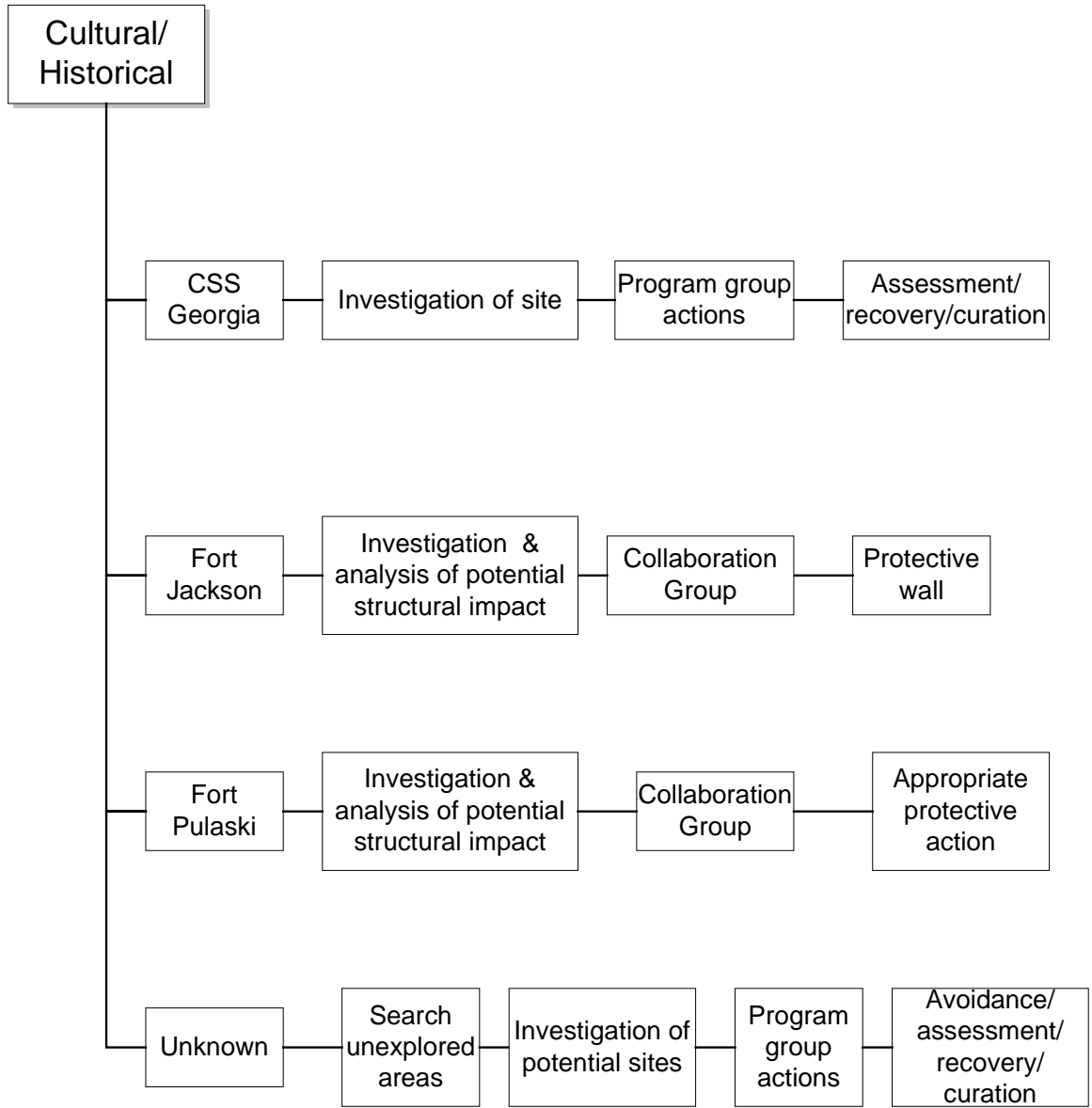
**General Information**

National Economic Development Benefits  
(Prescribed by law)

- 1996 Evaluation: 3:1 Benefit-to-cost ratio
- Hinterland extends to at least 20 states
  
- Tier II Update
  - Public review  
(Economic Working Group)
  - Peer Review
  
- Waterborne transportation savings passed on to consumers
  
- Fleet Considerations
  - Vessel sizes are increasing
  - World fleet is growing
  - Number of vessel transits is increasing
  - Ship technology is improving
  
- Trade considerations
  - Trade volume is increasing rapidly
  - Globalization of economies will mean increasing rates of trade growth
  - Asian trade has rebounded
  - European trade is growing moderately
  - Latin American Trade is expected to grow rapidly

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**Cultural & Historical Station**



**Cultural & Historic  
Information**

**CSS Georgia**

- Investigation of site
- Remote sensing survey
- Site inventory by divers
- Gridded search and identification of items present
- Program Group Actions
- Determination of what to be done with items discovered
- Recovery and assessment and recording of significant information
- Recovery and curation of artifacts and data
- Program group to be established to decide actions includes:
  - Georgia State Historic Preservation Officer
  - South Carolina State Historic Preservation Officer
  - USACE, Savannah District
  - Georgia Department of Natural Resources
  - General Services Administration
  - Advisory Council on Historic Preservation
  - U.S. Navy Historical Center
  - Coastal Heritage Society
  - Georgia Ports Authority
  - Other interested parties

**Old Ft. Jackson**

- Investigation & analysis of potential structural impact
  - Completed during Tier I work
  - Concluded a protective wall was needed
  - Wall construction made part of project requirements
- Collaboration between:
  - Coastal Heritage Society
  - GA State Historic Preservation Officer
  - Dept of Parks (GA DNR)
  - USACE, Savannah District
  - GPA

**Cultural & Historic  
Information**

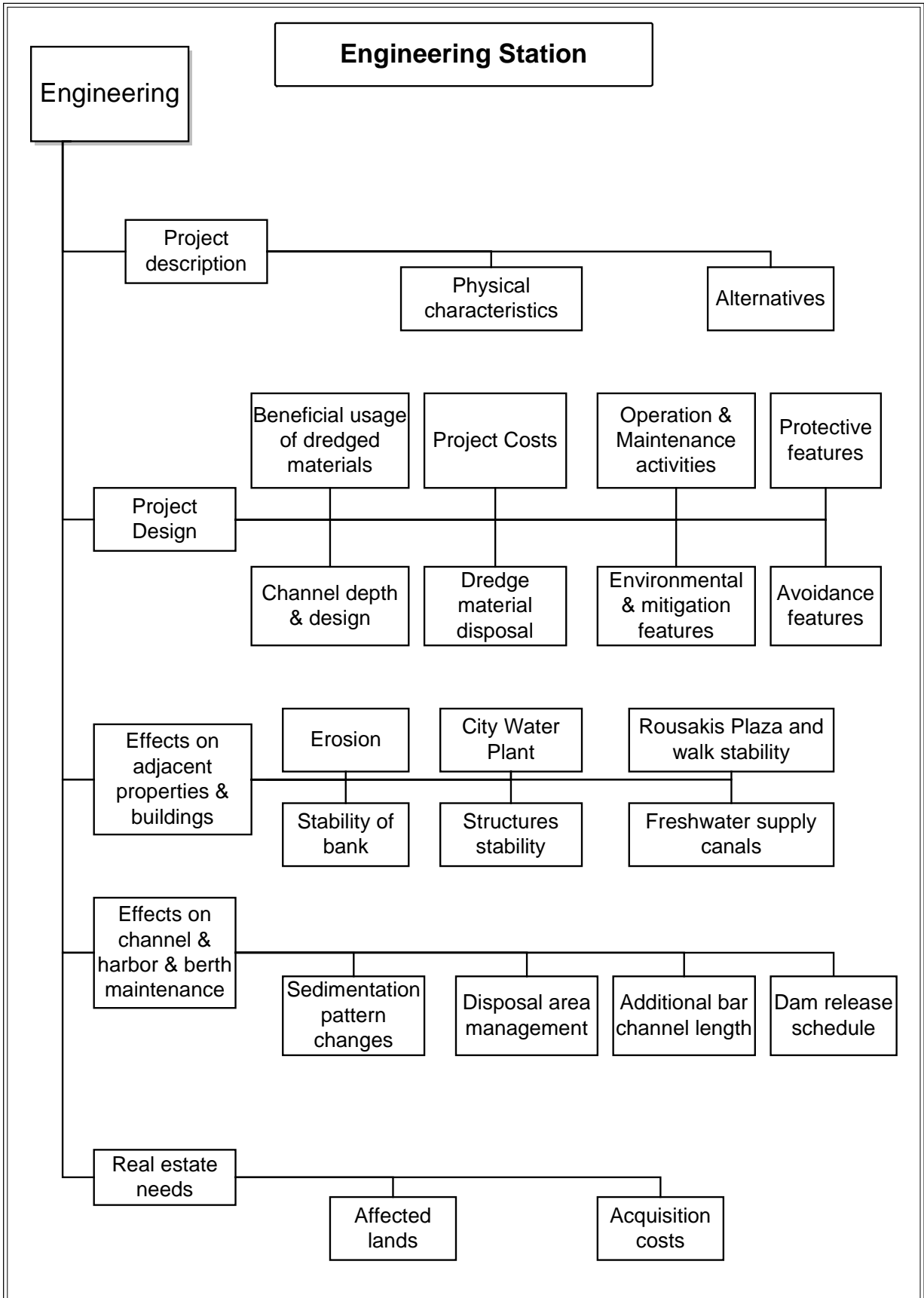
**Fort Pulaski**

- Investigation and analysis of potential for structural impact
  - Question raised during Tier I public and agency review
  - Resolution deferred until Tier II
  - Included and planned as part of the structural analysis under Engineering
- Collaboration group
  - Planned to be conducted similar to that for Old Ft. Jackson
- Actions, if appropriate, will be included in project construction

**Unknown sites**

- Search for potential sites will be made when final channel design is reached
- Each will be investigated remotely
- If warranted, diver investigation will follow
- Same sequence as applies to CSS Georgia thereafter
- Decision group will depend upon specific nature of sites discovered

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**Engineering Information**

**Project Description**

- Physical characteristics
  - Limited to current 42 foot navigation channel
    - See map - upriver of GCT to approx 5 nm off river entrance
  - Will include evaluation of need for advanced maintenance features.
  - Channel width retained by channel design
  - Project depth alternatives include:
    - 44 feet
    - 46 feet
    - 48 feet

**Design**

- Channel bends may be made wider based on ship simulation
- Beneficial use of dredged materials options:
  - Nearshore (littoral zone) & beach disposal
  - Future dike improvements
  - Other alternative uses
- Cultural resource protections or avoidance features
- Mitigation features
- Estimate total project cost

**Effects on Adjacent Properties & Buildings**

- City Water Plant
  - Effect on the chloride concentration at the water intake
- Structure stability
  - Geo-technical analysis areas will be available for owner review
- Bank stability and erosion
  - Channel sideslope stability & river bank stability where the channel sideslope intersects the riverbank
  - Evaluation of the likelihood of structural failure of the soil
- Hydraulic modeling to predict changes in current s
- Dredged material management
  - Material to be removed will be evaluated for chemical make-up
  - Potential effects of dredging and disposal operations

**Engineering Information**

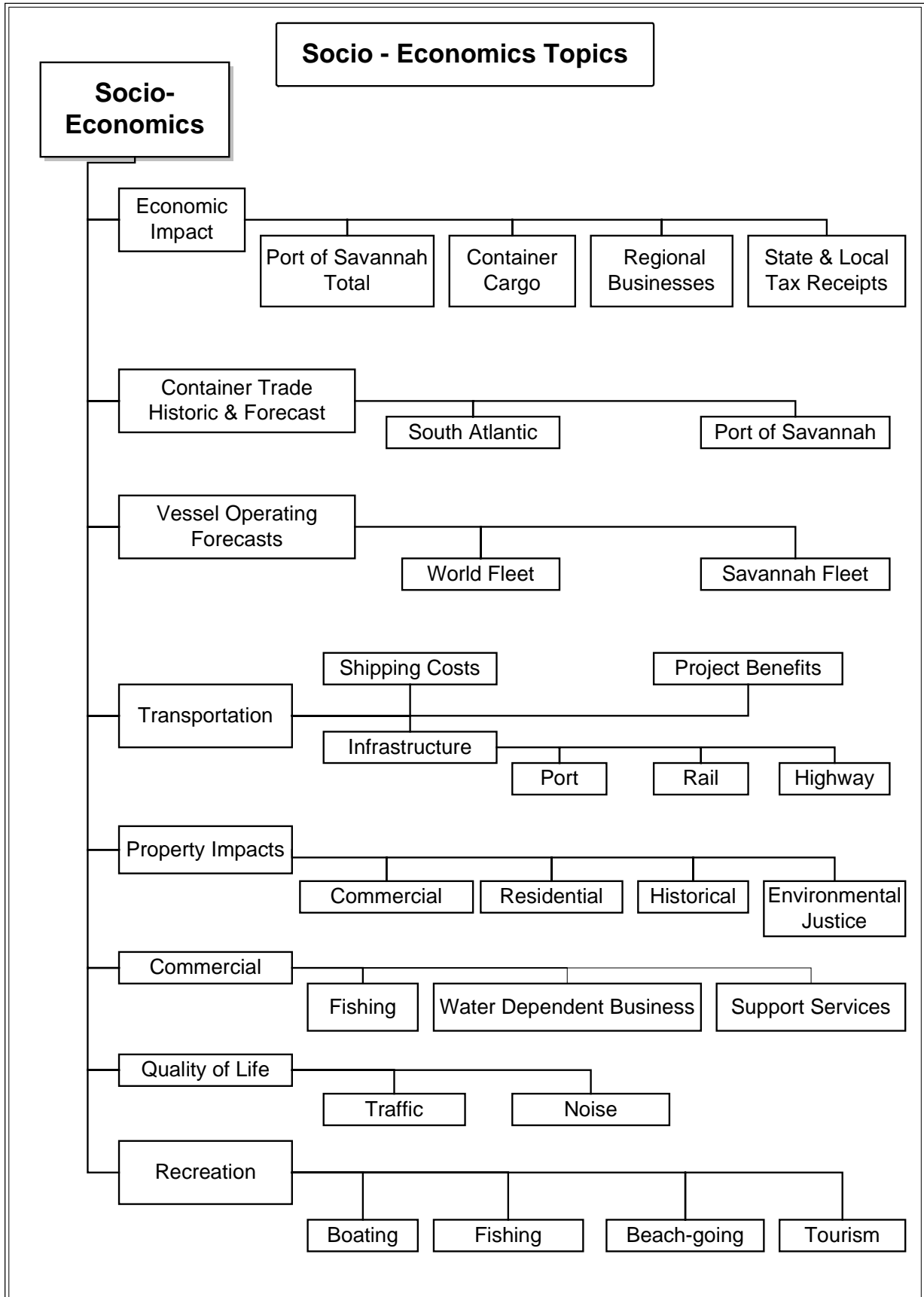
**Effects on Channel & Harbor & Berth Maintenance**

- Sedimentation pattern changes
  - Tier I predicted no change in total annual volume deposited
  - Location of deposition of material likely to change
  - Location affected by:
    - Fresh/saline water interface
    - Salinity concentration
    - Currents - velocities and directions
    - Modifications to river/channel flow
    - Structures that may be added or removed, if any
  - Sedimentation pattern changes will be evaluated by modeling
    - Model is dependent upon hydraulic& salinity models
- Disposal area capacity usage
  - Tier I analysis predicted that existing disposal areas were sufficient for construction of the project
- Channel will be extended proportionally for each project depth alternative
- Dam release schedule
  - Higher flows could reduce some environmental impacts in the harbor
  - Involved multiple water users along the entire Savannah River
  - Subject of separate USACE planning activity

**Real Estate Needs**

- Affected lands will be identified based on final channel design and environmental actions included in mitigation plan
- Acquisition costs will be estimated for NED plan selection and funding planning

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**Socio - Economics  
Information**

**Economic Impact**

- Georgia's public and private port sector activities directly or indirectly:
  - Support 80,100 jobs
  - Are responsible for \$1.8 billion in personal incomes
  - Produce billions of dollars in sales revenue to benefit the state's economy
  - Generate \$585 million in state and local tax receipts each year
- State and Regional businesses benefit from port infrastructure
  - manufacturing facilities, distribution facilities, deconsolidation facilities, suppliers, cargo handling, labor unions, construction, agriculture, technology, hospitality, etc.
- State and Local tax receipts benefit communities, schools, roads, prisons, etc.

**Container Trade (Historic and Forecast)**

- South Atlantic container volume has grown substantially in recent years
- South Atlantic container volume is projected to increase with all foreign trade partner regions
- The Port of Savannah is the ninth largest container port in the United States, handling 761,078 TEUs in fiscal year 1999.
- Volumes have grown for 13 consecutive years
- Container volumes at Savannah are projected to grow at an average rate of 4.8 percent annually over the next fifty years.

**Vessel Operating Forecasts**

- In recent years, ocean carriers have increased the volume of the world container fleet by adding increasingly larger vessels with deeper drafts.
- Over half of the container vessel fleet calling Savannah was operationally constrained in 1996 and larger vessels are continually calling on the port.

**Socio - Economics  
Information**

**Transportation**

- Shipping delay costs estimated at over \$13 million annually.
- Net annual benefits of a 48' deepening project are over \$35 million in transportation cost savings.
- Transportation Infrastructure - Port of Savannah serves a 20+ state hinterland
- Port - Garden City Terminal is the largest single terminal container facility on the Atlantic Coast with the longest contiguous dock
- Rail - Garden City Terminal is constructing an Intermodal Container Transfer Facility served by two major Class-1 railroads
- Highway - Port of Savannah has convenient access to major interstate highways

**Property Impacts**

- Commercial properties
- Residential properties
- Historical properties
- Impacts on residential properties require an analysis of environmental justice of property impacts

**Commercial**

- Commercial fisheries
- Water dependent businesses
- Support Services

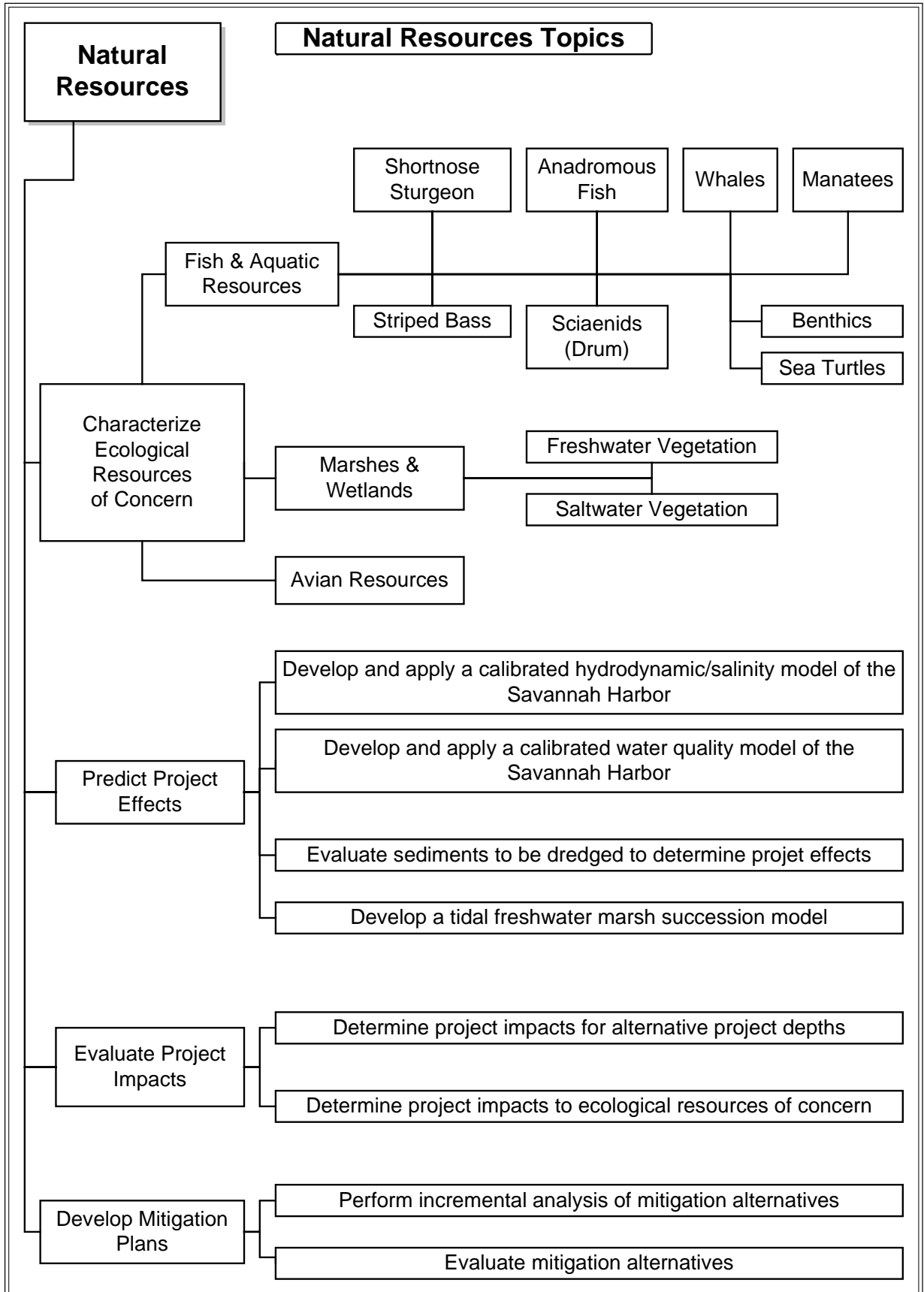
**Quality of Life**

- Automobile & truck traffic
- Noise levels

**Recreation**

- Fishing
- Beach-going
- Tourism

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**Natural Resources  
Information**

**Characterize Ecological Resources of Concern**

- Fish and Aquatic Resources
  - Shortnose Sturgeon
    - Endangered species found in the fresh and brackish portions of the harbor
    - Juvenile nurseries are found in deeper sections at low salinity levels
    - Adults found spawning upstream of the tidal effects in the Savannah River
  - Striped Bass
    - Spawn in tidal freshwater sections of the harbor during spring (<1ppt salinity)
    - Juvenile nursery found in the Back River
    - GA DNR maintains population through a stocking program (little natural recruitment)
  - Anadromous fish
    - Adults live in the ocean, but spawn in upstream freshwater sections of the Savannah River
    - Juvenile nurseries are found in the estuarine portions of the harbor
    - Out-migrations of juveniles and young adults pass through the harbor
  - Sciaenids (Drum)
    - Spawning aggregations occur during the summer and have been found in deeper channels similar to the Savannah Harbor
    - Make drumming noise during spawning
    - Spawn and live in high salinity sections of the harbor and ocean
  - Whales
    - Several endangered species have been found near the Entrance Channel
    - Typically found off-shore from the Savannah harbor during winter months
  - Sea Turtles
    - Five different threatened and endangered species which may be found in the ocean and near shore in the vicinity of the Entrance Channel
    - Loggerhead turtles have been found nesting on Tybee Island from May through August
    - Hatching may occur through October

**Natural Resources  
Information**

**Characterize Ecological Resources of Concern**

- Fish and Aquatic Resources
  - Manatees
    - Endangered species sometimes found in the Savannah Harbor during the summer
    - Manatees tend to inhabit sluggish rivers, sheltered marine bays, and shallow estuaries
    - GA population is migratory in nature and prefer warm water conditions
  - Benthics
    - Colonize in harbor and near shore sediments
    - Most living organisms in sediments exist in the top foot of the water/sediment interface
    - Found in the harbor, entrance channel and near shore
- Marshes and Wetlands
  - Freshwater vegetation
    - Tidal freshwater marsh found in the upper Savannah harbor
    - Average salinities in marshes are less than 0.5 ppt
    - Large impoundments managed by the Savannah National Wildlife Refuge
    - Many species important food for migratory waterfowl
  - Saltwater Vegetation
    - Found in higher salinity sections of the harbor
    - Found along the sides of the navigation channel
    - Important habitat for fish and other marine species

**Natural Resources  
Information**

**Predict Project Effects**

- Develop and apply a calibrated 3D hydrodynamic/salinity model
  - Must represent the dynamic tidal and salinity conditions in the harbor
  - Will be used to predict the effects of project depth alternatives
  - Will be used to identify and evaluate various mitigation opportunities

Develop and apply a calibrated 3D water quality model

- Will use hydrodynamic model
- Will be used to represent the dissolved oxygen conditions in the harbor
- Will be used to predict the effects of project depth alternatives
- Will be used to identify and evaluate various mitigation opportunities
- Evaluate sediments to be dredged to determine project effects
  - Sample and analyze representative samples of sediments
  - Predict the amount of resuspension in the water during dredging
  - Predict the changes to water quality during dredging and disposal operations
- Develop a tidal freshwater marsh succession model
  - Determine factors which control marsh vegetation changes
  - Understand historic changes which have occurred
  - Predict the effects of deepening alternatives

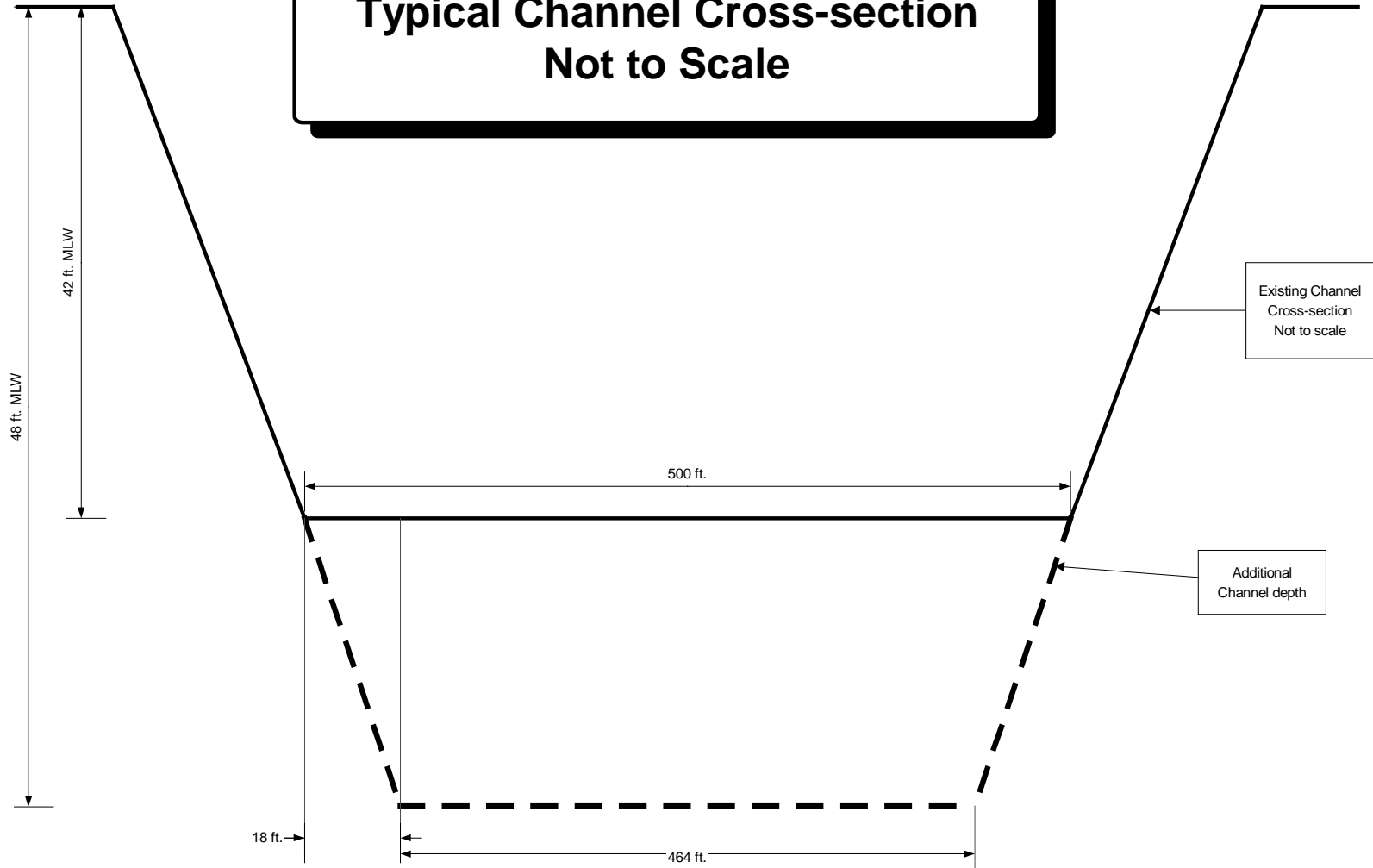
**Evaluate Project Impacts**

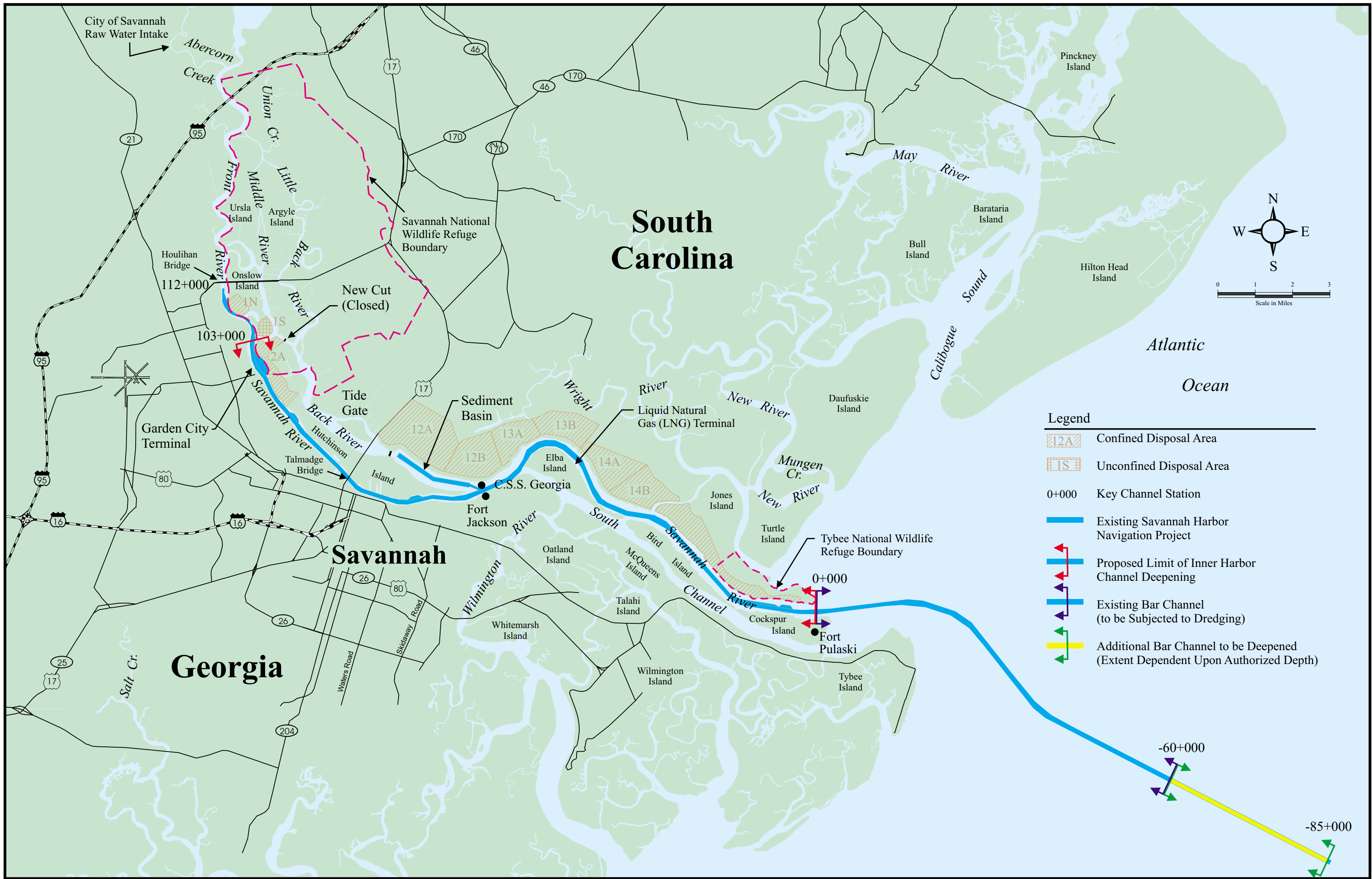
- Determine project impacts for project depth alternatives
- Determine project impacts to ecological resources of concern
- Direct, secondary, and cumulative impacts

**Develop Mitigation Plans**

- Perform incremental analysis of mitigation alternatives
- Evaluate mitigation alternatives
- Evaluate alternatives to avoid project impacts
- Evaluate alternatives to minimize project impacts
- Evaluate alternatives to compensate for project impacts

# Typical Channel Cross-section Not to Scale





# South Carolina

# Georgia

## Savannah

### Legend

- 12A Confined Disposal Area
- 1S Unconfined Disposal Area
- 0+000 Key Channel Station
- Existing Savannah Harbor Navigation Project
- Proposed Limit of Inner Harbor Channel Deepening
- Existing Bar Channel (to be Subjected to Dredging)
- Additional Bar Channel to be Deepened (Extent Dependent Upon Authorized Depth)

