



# **CHATHAM COUNTY EMERGENCY OPERATIONS PLAN**

**INCIDENT ANNEX B**

# **BRIDGE DISRUPTION INCIDENT MANAGEMENT**

**APRIL 2010**



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**FOREWORD**

**May 2010**

The Chatham Emergency Management Agency (CEMA) is continuously striving to improve emergency preparedness throughout Chatham County. These efforts include this revision of the County's Emergency Operations Plan Bridge Disruption Annex. They also include incorporating the lessons learned from previous events, results of research traffic studies, transportation time requirements, and behavioral analyses of attitudes toward evacuation as well as the particular requirements of the Special Needs population.

Over the last few years there has been a marked increase in public awareness regarding bridge safety, access, and alternative transportation routes in the unlikely event of a bridge disruption. This has been matched by a renewed dedication on the part of government, public safety and disaster response officials to work collaboratively to protect lives in Chatham County.

Comments or questions concerning this Annex should be addressed to CEMA at (912) 201-4500.

Clayton S. Scott  
Director, CEMA



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## **ACRONYMS AND DEFINITIONS**

ARC	American Red Cross
ALS	Advanced Life Support
CAT	Chatham Area Transit
CEMA	Chatham Emergency Management Agency
CNS	Community Notification System
DFACS	Department of Family and Children's Services
DNR	Department of Natural Resources
DO	Duty Officer
DPW	Department of Public Works
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
ESF	Emergency Support Function
GDOT	Georgia Department of Transportation
GEMA	Georgia Emergency Management Agency
GSP	Georgia State Patrol
LLC	Limited Liability Company
MSU	Marine Safety Unit
PIO	Public Information Officer
SCMPD	Savannah Metropolitan Police Department
SSFD	Southside Fire Department
UHF	Ultra-High Frequency
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
VHF	Very High Frequency



**Emergency Operations Plan:** A document that describes how people and property will be protected in disaster and disaster threat situations, details who is responsible for carrying out specific actions, identifies the personnel, equipment, facilities, supplies, and other resources available for use in the disaster, and outlines how actions will be coordinated.

**Evacuation:** The organized, phased, and supervised withdrawal, dispersal, or removal of civilians from dangerous or potentially dangerous areas, and their reception and care in safe areas.

**National Incident Management System (NIMS):** A set of principles that provides a systematic, proactive approach guiding government agencies at levels, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property and harm to the environment.

**State of Emergency:** A governmental declaration that may suspend certain normal functions of government, alert citizens to alter their normal behaviors, or order government agencies to implement emergency preparedness plans.

**Short-Term Bridge Disruption:** Bridge disruption of less than 24 hours.

**Medium-Term Bridge Disruption:** Bridge disruption in excess of 24 hours

**Long-Term Bridge Disruption:** Bridge disruption in excess of 72 hours



## TABLE OF CONTENTS

Foreword .....	i
Acronyms and Definitions.....	iii
Table of Contents .....	v
I. Introduction.....	1
II. Purpose .....	1
III. Scope .....	2
IV. Authorities .....	2
V. Assumptions.....	2
VI. Implementation .....	3
VII. Concept of Operations.....	3
A. Routine Services.....	3
B. Emergency Services .....	4
VIII. Responsibilities.....	5
A. Barge Providers .....	5
B. Chatham Area Transit.....	5
C. Chatham County Bridge Tender .....	6
D. CEMA .....	6
E. Chatham County DFACS.....	7
F. Chatham Department of Public Health.....	7
G. Chatham Department of Public Works.....	7
H. Chatham County Purchasing Department .....	7
I. Commercial Vessels .....	7
J. Georgia DNR .....	8
K. Georgia DOT .....	8
L. Georgia State Patrol .....	8
M. Landings Association .....	8
N. Air Ambulance .....	9
O. Marina Services .....	9
P. Medstar Ambulance Company.....	9
Q. SSFD/EMS Ambulance Company .....	9
R. SCMPD.....	10
S. Skidaway Institute of Oceanography .....	10
T. Skidaway Island State Park Police .....	10
U. SSFD .....	10
V. Tybee Island Fire Department .....	10
W. Tybee Island Police Department.....	10
X. US Army Corps of Engineers.....	11
Y. US Coast Guard .....	11
IX. Communications.....	12
X. Public Information.....	12
XI. Annex Management and Maintenance .....	12



**APPENDICES**

Appendix 1	Bridge Disruption Landing Sites.....	BDLS-1
Appendix 2	Skidaway Island Ferryboat Shuttle Service.....	SIFSS-1
Appendix 3	Skidaway Island Shuttle Plan Map.....	SISPM-1
Appendix 4	Tybee Island Ferryboat Shuttle Service .....	TIFSS-1
Appendix 5	Skidaway Island Temporary Bridging .....	SITB-1



## BRIDGE DISRUPTION ANNEX

### I. INTRODUCTION:

- A. The Chatham County Emergency Operations Plan (EOP) describes how the County will manage and coordinate resources and personnel during periods of major emergency. The EOP defines emergency response in compliance with a State-mandated process and establishes local emergency response policies.
- B. Should Chatham County suffer a bridge failure, causeway disruption, or major delay involving routine bridge operations, the provisions of this Annex and the EOP shall apply to the overall recovery and restoration effort.
- C. Chatham County has more than 70 Federal Aid Route Bridges. Damage to any of these structures could cause considerable inconvenience to the communities involved. However, loss of any of the State maintained bridges listed below, as well as a number of smaller locally maintained bridges, could completely isolate the residents of a barrier island community; this Annex is intended for implementation following such an event.

US Highway 80 at Bull River  
US Highway 80 at Lazaretto Creek  
GA Highway 204 at Moon or Back River  
GA Highway 204 at Skidaway River

### II. PURPOSE

- A. This is a comprehensive plan of action through which Chatham County has prepared for the threat and destructive impact of a hurricane. The purpose of this Annex is to serve as a guide for local officials to ensure effective hurricane preparedness and response in conjunction with other emergency plans and procedures.
- B. This Annex sets forth actions to be taken to save lives and protect property, including notification of emergency response personnel, evacuation of the public, designation of shelter areas and actions to mitigate damage from a storm.



### **III. SCOPE**

- A. This Annex is intended for countywide application of hurricane emergency operations affecting Chatham County. The effects of both storm surge and inland wind have been considered for hurricanes entering the County from either the Atlantic Ocean or the Gulf of Mexico. Although flooding is a damaging effect from hurricanes, it is likely that the effects of flooding may occur in Chatham County from other than just hurricanes. Therefore, this Annex shall also be implemented to the degree necessary for tropical and lesser systems.
- B. This Annex is an Incident Annex to the Emergency Operations Plan (EOP), and is to be used in conjunction with the EOP under the direction of the Chatham Emergency Management Agency (CEMA), with the approval of the Chairman, Chatham County Board of Commissioners and Mayors as appropriate.

### **IV. AUTHORITIES**

- A. Within Chatham County, local governments are responsible for the maintenance and repair of bridges in their jurisdictions on local right-of-ways. The Chatham County Department of Public Works (DPW) is responsible for the operation and maintenance of drawbridges in Chatham County and for the maintenance and repair of bridges on county roads and right-of-ways. The Georgia Department of Transportation (GDOT) is responsible for the maintenance and repair of bridges on State and Federal right-of-ways.
- B. If maintenance or repair of a bridge exceeds the capabilities of the responsible jurisdiction, relief and/or assistance may be sought from the next higher level of government.
- C. In the event the operation of a Bridge is disrupted rendering it impassable to foot and vehicle traffic, the Chatham County DPW will initiate inspection of the bridge. If the repair estimate is beyond the capability of DPW, they will request GDOT assess necessary repairs. Alternate plans will be initiated based on the findings of the assessment.

### **V. ASSUMPTIONS:**

- A. In the event of a short term bridge disruption no supplemental transportation will be provided. Emergency transport will be by helicopter or police/US Coast Guard boat.



- B. In the event of a medium term bridge disruption, supplemental river crossing services will be initiated. Emergency transport will be by helicopter or police/US Coast Guard boat.
  
- C. In the event of a long term bridge disruption, supplemental river crossing services will be initiated until an adequate means of vehicle transport has been established by GDOT; these resources should be assembled and put into operation within four to five days. Emergency transport will be by helicopter or police/US Coast Guard boat.

## **VI. IMPLEMENTATION**

- A. This Annex will be implemented upon the recommendation of the Director of CEMA with the approval of the Chairman, Chatham County Board of Commissioners and concurrence of the Mayors of the Municipalities as appropriate. Any level of activation of the Emergency Operations Center (EOC) shall constitute implementation of this plan.
  
- B. Implementation of this Annex is intended only within the jurisdictional boundaries of Chatham County. The actions guided by this Annex provide support only, and do not directly control response activities outside the boundaries of the County. Additionally, this Annex support actions contained in the County's EOP.

## **VII. CONCEPT OF OPERATIONS:**

- A. Routine Services:
  - 1. In the event a critical bridge becomes inoperative, a number of agencies will be called upon to accomplish a wide variety of time-critical functions. The operations required to mitigate bridge disruption can be best identified in terms of the services provided by the organizations charged with the resolution of public safety, environmental concerns and restoration of economic activities. These responsibilities are summarized in Annex A.
  
  - 2. GDOT will identify, activate and implement a means of temporary waterway crossing for vehicular traffic. Until this means of supporting truck service is established, no provisions will be available for vehicles to enter or depart the affected island.
  
  - 3. Immediately upon the determination that bridge outage will be beyond short-term, CEMA will identify, activate and implement a means of temporary passenger ferry service from the nearest



island landing site to a suitable marina until bridge repairs can be completed or a more suitable alternative is implemented.

4. Chatham Area Transit (CAT) service will be established at mainland staging area(s) to be identified and implemented by CAT, with service to advertised destinations.
5. As soon as possible, CAT or other suitable multi-passenger transport vehicles with drivers will be moved to the isolated island with passenger service established to and from the island transport terminus.

B. Emergency Services:

1. Within their capabilities, Skidaway Island State Park Police will provide law enforcement authority on Skidaway Island until sufficient Savannah Chatham Metropolitan Police Department (SCMPD) personnel and equipment can be transported to the island. Non-sworn Landings Association Safety & Security personnel will assist as possible.
2. On Skidaway Island the two fire stations operated by the Southside Fire Department and Emergency Medical Service (SSFD/EMS) will provide Fire and Emergency Medical Service personnel and equipment. SSFD/EMS and Medstar Ambulance will provide and coordinate off-island ground and aero-medical evacuation as required.
3. On Tybee Island, the Tybee Island Police and Fire Departments will provide police and fire support. Medstar Ambulance will provide and coordinate off-island ground and aero-medical evacuation as required.
4. CEMA will coordinate with the Chatham County Department of Public Health for the provision of continuous essential health care throughout the period of bridge disruption. Emphasis will be placed on maintenance of home health care arrangements.
5. The US Coast Guard (USCG) Marine Safety Unit (MSU) will ensure water security is enforced. The Captain of the Port may establish a Security Zone to assist in water security and traffic management. Water security and traffic management enforcement may also be provided by USCG Station Tybee, SCMPD Marine Patrol and the Georgia Department of Natural Resources (DNR).



6. CEMA will coordinate with both public and private schools to hold students until a crossing plan is in effect. If overnight accommodations are required, CEMA will coordinate with the American Red Cross (ARC) and the Chatham County Department of Family and Children's Services (DFACS).
- C. Temporary Shelter: CEMA will coordinate with the Chatham County DFACS for the establishment of non-resident temporary shelters.

## VIII. RESPONSIBILITIES

### A. Barge Providers:

1. The following commercial barge operators have adequate barge equipment to span the Skidaway Narrows and accommodate multiple lane commercial traffic within 24-hours of a request. Equipment involves two rake-end barge floats, and three deck barges or similar equipment; all are locally available in sufficient quantity to allow for multiple back-up.

<b>VENDOR</b>	<b>CRANE BARGES</b>	<b>DECK BARGES</b>	<b>FLEX-A-FLOATS</b>
Savannah Marine	2	3	Multiple
Myrick Marine	2	3-4	Multiple
TIC	2	3-4	Multiple

### B. Chatham Area Transit (CAT):

1. In the event of medium or long term bridge disruption, CAT will identify and establish service at mainland staging area(s) with service to advertised destinations.
2. As soon as possible, CAT or other suitable multi-passenger transport vehicles will be moved to the isolated island with passenger service established to and from the island transport terminus.
3. CAT service will be supplemented or replaced with appropriate commercial service as soon as practical.
4. In the event of medium or long term disruption to the Skidaway Narrows Bridge, CAT will provide ferry service to shuttle passengers between Priest Landing and mainland destinations such as Thunderbolt Marina.



5. In the event of medium or long term disruption to the Lazaretto Creek Bridge, CAT will provide ferry service to shuttle passengers between the Tow Boat USA Lazaretto Creek Dock and destinations such as the Coast Guard Station Tybee or the Tybee Pilot Docks.
6. In the event of medium or long term disruption to the Diamond Crossing Bridge over Bull River, CAT will provide ferry service to shuttle passengers between the Lazaretto Marina and/or the Tow Boat USA Lazaretto Creek Dock to destinations such as the Coast Guard Station Tybee or the Tybee Pilot Docks.
7. If required, CAT may provide harbormaster services to coordinate the arrival, loading, and departure of vessels providing ferry services to and from the isolated island transport terminus and the mainland destinations.

C. Chatham County Bridge Tender

1. In the event of a failure of, or disruption to, a Chatham County drawbridge that is expected to be out of order for longer than 30 minutes, the Bridge Tender or public safety authority will immediately notify:
  - a. Supervisor, Chatham County DPW
  - b. USCG
  - c. GDOT
  - d. SCMPD and Marine Patrol
  - e. CEMA
  - f. Fire and Emergency Medical Authority with jurisdiction over the affected area.

D. Chatham Emergency Management Agency (CEMA):

1. Upon determination that a bridge is not passable, the CEMA Duty Officer (DO) will coordinate with SCMPD Dispatch to initiate a CNS alert to all residents affected by the outage.
2. Establish communications to advise island residents of planned and available emergency measures. Where possible, use local radio and television broadcast stations and facilities.



3. Immediately upon the determination that bridge outage will be beyond short-term, CEMA will identify, activate and implement a means of temporary passenger ferry service from the nearest island landing site to a suitable marina until bridge repairs can be completed or a more suitable alternative is implemented.
  4. Coordinate with the Chatham County Purchasing Department for portable light units to illuminate the Priest Landing staging area for passengers arriving and departing by ferry shuttle.
- E. Chatham County Department of Family and Children Services (DFACS): Coordinate with local resources for the establishment of temporary shelters for non-residents stranded on-island.
- F. Chatham County Department of Public Health: Establish provisions for continuous on-island essential health care throughout the period of bridge disruption.
- G. Chatham County Department of Public Works & Parks Services (DPW):
1. Initiate inspection and assessment in the event of damage to any County-owned bridges in Chatham County.
  2. Initiate immediate corrective action in the event of malfunction of the mechanical function of any County-operated bridge in Chatham County.
  3. Initiate emergency notification to responsible agencies of disruption to the operation of any publicly owned bridge in Chatham County.
  4. Transport portable light units for illumination of the Priest Landing passenger staging area, by commercial barge service or any other means available, to Skidaway Island.
- H. Chatham County Purchasing Department: Obtain portable light units to illuminate the Priest Landing staging area for passengers arriving and departing by ferry shuttle.
- I. Commercial Vessels:
1. Bull River Marina, LLC: Provide ferry service to augment CAT, to ferry passengers from the nearest island landing site to a suitable destination.



2. Dolphin Tours: Provide ferry service to augment CAT, to ferry passengers from the nearest island landing site to a suitable destination.
- J. Georgia Department of Natural Resources (DNR): Provide a Marine Patrol unit with small craft capable of providing law enforcement support and to assist with initial transport or shuttle of public safety personnel to and from the site of an emergency.
- K. Georgia Department of Transportation (GDOT):
1. Initiate inspection and assessment of any damaged State or Federal bridge in Chatham County.
  2. Initiate repairs as soon as possible for GDOT-system bridges. Coordinate with the County for non GDOT-system bridges.
  3. Immediately upon the determination that bridge outage will be long-term, GDOT will identify, activate and implement a means of temporary waterway crossing service for equipment, vehicles, service commodities, and personnel to and from the isolated area until bridge repairs can be completed.
- L. Georgia State Patrol (GSP):
1. Provide helicopter support of public safety personnel in the accomplishment of their missions. The helicopter has a lift capacity of three ambulatory victims; in extremely hot, humid conditions, aircraft lift capacity may be significantly reduced.
  2. Coordinate with SCMPD to enforce personnel and vehicle priority transport by bridging and/or ferry service.
- M. Landings Association:
1. Provide available multi-passenger vehicles for the transport of personnel to and from ferry staging areas that have been identified and established by CAT.
  2. Participate as a member of the public information team by assessing the needs of Landings residents and providing recommendations for public information messages that reflect these needs.



3. As necessary, coordinate for the on-island transport of portable light units to illuminate the Priest Landing passenger shuttle arrival and departure staging area.
- N. Air Ambulance Company: Provide commercial five-minute standby air ambulance service to Chatham County. Weather conditions permitting, the helicopter has a non-ambulatory capacity of two victims; in extremely hot, humid conditions, aircraft lift capacity may be significantly reduced.
- O. Marina Services:
1. Skidaway Institute of Oceanography: Provide embarkation and debarkation facilities in support of ferry service to shuttle passengers between Priest Landing and Thunderbolt Marina.
  2. Thunderbolt Marine, Inc: Provide embarkation and debarkation facilities in support of ferry service to shuttle passengers between Thunderbolt Marina and Priest Landing.
  3. Tow Boat USA Lazaretto Creek Dock: Provide embarkation and debarkation facilities in support of ferry service to shuttle passengers between Lazaretto Creek and USCG Station Tybee or the Tybee Pilot Docks.
  4. USCG Station Tybee: Provide embarkation and debarkation facilities in support of ferry service to shuttle passengers between Lazaretto Creek and USCG Station Tybee.
  5. Tybee Pilot Docks: Provide embarkation and debarkation facilities in support of ferry service to shuttle passengers between Lazaretto Creek and the Tybee Pilot Docks.
- P. Medstar Ambulance Company:
1. Maintain EMS personnel and equipment on Tybee Island.
  2. Provide back up and/or mutual aid personnel and equipment to support other county EMS providers.
- Q. SSFD/EMS Ambulance Company:
1. Maintain EMS personnel and equipment on Skidaway Island.
  2. Provide back up and/or mutual aid personnel and equipment to support other county EMS providers.



- R. Savannah Chatham Metropolitan Police Department (SCMPD):
  - 1. The County 9-1-1 Dispatch Center is expected to receive the initial reports of bridge disruption. Until relieved by the GDOT Public Information Officer (PIO), the SCMPD PIO will serve as the point of contact for release of information to the media.
  - 2. Provide a Marine Patrol unit of small craft capable of providing law enforcement support, windscreen damage assessment and initial transport or shuttle of public safety personnel.
  - 3. Within jurisdiction or as requested for mutual aid, provide traffic control, staging, and loading control, and crowd control in staging and boarding areas.
  - 4. As requested, disseminate emergency information via the CNS.
- S. Skidaway Institute of Oceanography:
  - 1. Provide the use of Priest Landing on Osca Road for use as a marine ferry shuttle terminus.
  - 2. Provide any available areas suitable for parking and shuttle staging.
- T. Skidaway Island State Park Police: Provide Park management and sworn law enforcement personnel throughout Skidaway Island State Park.
- U. Southside Fire Department and Emergency Medical Service (SSFD/EMS):
  - 1. Maintain Fire Department personnel and equipment on Skidaway Island.
  - 2. Maintain Advanced Life Saving (ALS) EMS personnel and equipment on Skidaway Island, but no ambulance for transport.
- V. Tybee Island Fire Department: Maintain Fire Department personnel and equipment on Tybee Island.
- W. Tybee Island Police Department:
  - 1. Maintain Police Department personnel and equipment on Tybee Island.



2. Provide traffic, loading, and crowd control in staging and boarding areas.
- X. US Army Corps of Engineers (USACE): Provide engineering and construction management to technically assess and possibly rehabilitate damaged public infrastructure as deemed necessary.
- Y. US Coast Guard (USCG):
1. Air Station Savannah: Provide air Search and Rescue and emergency air ambulance service for Coastal Georgia.
  2. Marine Safety Unit (MSU), Savannah:
    - a. Address waterway traffic management issues such as safety and security to include the need for the establishment of a Security Zone.
    - b. Coordinate with GDOT for the licensing and contract of commercial barge and ferry service to shuttle personnel, equipment, vehicles and service commodities to and from the isolated area until bridge repairs can be completed.
    - c. Authority for approval of obstruction to the Inter-coastal Waterway.
  3. Station, Tybee:
    - a. Issue Notice to Mariners advisory for bridge closures or major obstructions affecting navigable waterways.
      - i. Conduct marine safety operations to include search and rescue operations, windscreen damage assessments and transport or shuttle of public safety personnel to and from the site of an emergency.
      - ii. Coordinate the activities of USCG Auxiliary and Marine Rescue Squadron resources to conduct search and rescue operations and temporary shuttle of essential personnel and equipment to and from the isolated area.
    - b. Provide maritime law enforcement.



## **IX. COMMUNICATIONS**

- A. Landline commercial telephones are the primary means of communication. In the event of a telephone outage, the following means of communications will be utilized:
  - 1. Portable/cell phones.
  - 2. Landings Association UHF radio system through Savannah Communications.
  - 3. Landings Marina Channel 16 VHF radios.

## **X. PUBLIC INFORMATION:**

- A. CEMA will organize and be responsible for the dissemination of public information.
- B. The Landings Association will participate as a member of the public information team by assessing the needs of Landings residents and providing recommendations for public information messages that reflect these needs.
- C. CEMA will request the use of the SCMPD Community Notification System (CNS) for the dissemination of emergency information.

## **XI. ANNEX MANAGEMENT AND MAINTENANCE**

- A. Executive Agent: CEMA is the executive agent for Annex management and maintenance. The Annexes will be updated periodically as required to incorporate new directives and changes based on lessons learned from exercises and actual events. This section establishes procedures for interim changes and full updates of the Annexes.
- B. Types of Changes: Changes include additions of new or supplementary material and deletions. No proposed change should contradict or override authorities or other plans contained in statute, order, or regulation.
- C. Coordination and Approval: Any department or agency with assigned responsibilities within the EOC Annexes may propose a change to the plan. CEMA is responsible for coordinating proposed modifications to the Annexes with primary and support agencies and other stakeholders, as required. CEMA will coordinate review and approval for proposed modifications as required.



- D. Notice of Change: After coordination has been accomplished, including receipt of the necessary signed approval supporting the final change language, CEMA will issue an official Notice of Change. The notice will specify the date, number, subject, purpose, background, and action required, and provide the change language on one or more numbered and dated insert pages that will replace the modified pages in the EOP. Once published, the modifications will be considered part of the EOP for operational purposes pending a formal revision and re-issuance of the entire document. Interim changes can be further modified or updated using the above process.
  
- E. Distribution: CEMA will distribute the Notice of Change to participating agencies. Notice of Change to other organizations will be provided upon request. Re-issuance of the individual annexes or the entire EOC Plan will take place as required. Working toward continuous improvement, CEMA is responsible for an annual review and update of the EOC plan to include related annexes, and a complete revision every four years (or more frequently if the County Commission of GEMA deems necessary). The review and update will consider lessons learned and best practices identified during exercises and responses to actual events, and incorporate new information technologies. CEMA will distribute revised EOC Annex documents for the purpose of interagency review and concurrence.



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## **APPENDIX 1**

### **BRIDGE DISRUPTION LANDING SITES**

The following Skidaway Island helicopter landing sites have been surveyed by SSFD/EMS and are listed as potential helicopter landing locations. All sites have 100+ feet clearance, are 24-hour accessible and easily secured.

Diamond Causeway @ State Park entrance  
32.20.00N, 081.04.60W  
Asphalt or grass

Skidaway Institute of Oceanography field on Ocean Science Drive  
31.59N, 081.01.44W  
Grass

McWhorter Dr @ Landings North Gate  
31.57.09N, 081.02.13W  
Asphalt

Bertram Rd. North @ Priest Landing Dr.  
31.57.54N, 081.01.13W  
Asphalt or grass

Landings Association Sports Field, 600 Landings Way South  
31.55.83N, 081.03.21W  
Lighted, wind sock, grass, with compacted hard dirt



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## APPENDIX 2 SKIDAWAY ISLAND FERRYBOAT SHUTTLE SERVICE

Upon the determination of a medium or long-term bridge disruption, in coordination with Emergency Support Function 1 (Transportation), CEMA will coordinate with local ferryboat service providers for the establishment of a shuttle system from Skidaway Institute of Oceanography's Priest Landing to and from the Thunderbolt Marina to transport residents and personnel that can provide residency through photo identification and/or proof of employment on the island.

The average local passenger vessel can accommodate 50+ passengers; vessel speed is approximately eight knots with a one-way travel time of 45 minutes. Load/off-load time is projected at 15 minutes each therefore round trip travel and load to off-load time, not including periodic refueling at Thunderbolt Marina, is estimated as follows:

Load:	00:15
Travel:	00:45 (estimated)
Off-load:	00:15
Load:	00:15
Travel:	00:45 (estimated)
Off-load:	00:15
TOTAL R/T TIME:	02:30 Hours (estimated)

The following providers have vessels that can support these operations until additional vendors become available:

1. CAT Vessels (only two CAT vessels will be available at any one time)
2. Dolphin Tours
3. Bull River Marina

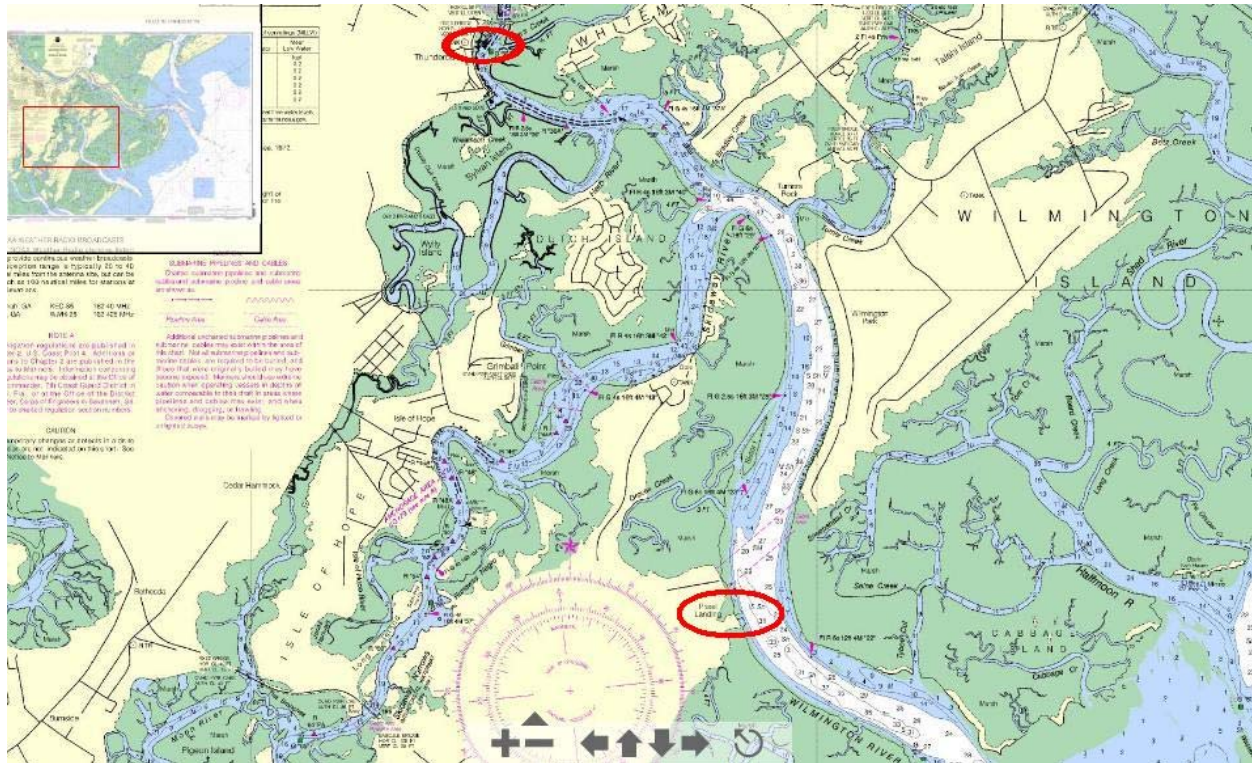
The only Skidaway Island facility suitable for passenger ferry operations where the vessel is not equipped with front and/or rear loading ramps is Priest Landing which is located adjacent to and approximately three eighths of a mile north of the Skidaway Institute of Oceanography campus. As long as the vessels draw eight feet or less, Priest Landing is capable of accommodating two simultaneous passenger ferry operations. The local commercial passenger vessels each have 30-minute off-load/load times and, conditions permitting, the round trip time to and from the destination marina is approximately two hours; only eight vessel operations per two-hour period can be accommodated. Using existing resources averaging 80 passengers per trip, these operations can transport approximately 3,000 passengers in a 24-hour period.

The GDOT 2004 Annual Average Traffic Survey indicates that 7,800 vehicles exit Skidaway Island each day with an average of two passengers per vehicle. In other words, 15,600 personnel leave Skidaway Island daily. Using round-the-clock passenger



ferry operations with existing resources, only 20 percent of the routine traffic can be accommodated each day.

### APPENDIX 3 SKIDAWAY ISLAND SHUTTLE PLAN MAP





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## **APPENDIX 4 TYBEE ISLAND FERRYBOAT SHUTTLE SERVICE**

Upon the determination of a medium or long-term bridge disruption, in coordination with Emergency Support Function 1 (Transportation), CEMA will coordinate with local ferryboat service providers to establish a shuttle system from Tybee Island embarkation points to and from the most practical debarkation point. Transport services will be provided only to residents and personnel that can provide residency through photo identification and/or proof of employment on the island.

The average local passenger vessel can accommodate 50+ passengers; vessel speed is approximately eight knots with a one-way travel time of estimated at 45 minutes. Load/off-load time is projected at 15 minutes each therefore round trip travel and load to off-load time, not including periodic refueling, is estimated as follows:

Load:	00:15
Travel:	00:45 (estimated)
Off-load:	00:15
Load:	00:15
Travel:	00:45 (estimated)
Off-load:	00:15
TOTAL R/T TIME:	02:30 Hours (estimated)

The following providers have vessels that can support these operations until additional vendors become available:

1. CAT Vessels (only two CAT vessels will be available at any one time)
2. Dolphin Tours
3. Bull River Marina

The only Tybee Island facilities suitable for passenger ferry operations where the vessel is not equipped with front and/or rear loading ramps are the Bull River Marina on Wilmington Island, and the Tybee Island/Lazaretto Creek Marinas or AJ's Dockside Marina on Tybee Island. The local commercial passenger vessels each have approximately 30-minute off-load/load times and, conditions permitting, the round trip time to and from destination marinas varies from approximately two plus hours; only eight vessel operations per two-hour period can be accommodated. Using existing resources averaging 80 passengers per trip, these operations can transport a maximum of TBD passengers in a 24-hour period.

The GDOT 2004 Annual Average Traffic Survey indicates that on average, 8,400 vehicles exit Tybee Island each day with an average of two passengers per vehicle. In other words, 16,800 personnel leave Tybee Island daily. Using round-the-clock passenger ferry operations with existing resources, only TBD percent of the routine traffic can be accommodated each day.



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## APPENDIX 5 SKIDAWAY ISLAND TEMPORARY BRIDGING

Skidaway Narrows temporary bridging will span from the concrete boat ramp on the NW side of the river to the opposite shoreline with consistency of tidal influenced marsh and an expedient rip-rap roadbed; a low tide distance of 335 feet.

Three local commercial barge operators have adequate barge equipment to span the Skidaway Narrows and accommodate multiple lane commercial traffic within 24-hours of a request. Equipment involves two rake-end barge floats, three deck barges or similar equipment, and a small tug or prime mover; all are locally available in sufficient quantity to allow for multiple back-up.

<b>Vendor</b>	<b>Cranes</b>	<b>Deck Barges</b>	<b>Flex-A-Floats</b>
Savannah Marine	2	3	Multiple
Myrick Marine	2	3-4	Multiple
TIC	2	3-4	Multiple

The GDOT has agreed to assist CEMA with the implementation of commercial vendors to bridge the Narrows as rapidly as possible.



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