

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL EMERGENCY MANAGEMENT AGENCY,
THE FLORIDA DIVISION OF HISTORICAL RESOURCES,
THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT,
THE CITY OF ST. AUGUSTINE, AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
FOR
THE ST. AUGUSTINE SEAWALL FLOOD MITIGATION PROJECT
(FMA-PJ-04-FL-2010-002),
ST. AUGUSTINE, ST. JOHNS COUNTY, FLORIDA**

WHEREAS, the Federal Emergency Management Agency (FEMA), of the Department of Homeland Security, administers the Flood Mitigation Assistance Grant Program (FMA), pursuant to Section 1366 of the National Flood Insurance Act of 1968, as amended (42 U.S.C. § 4104c), and its implementing regulations at 44 C.F.R. part 79, providing funding to assist states, Tribal, and local governments in implementing measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program; and

WHEREAS, the Florida Division of Emergency Management (FDEM) administers FMA on behalf of FEMA in the State of Florida, and as such, FDEM is the “Grantee” and the City of St. Augustine (City) is the “Subgrantee” of FEMA assistance; and

WHEREAS, the City has experienced recurring flooding problems and deterioration of the Avenida Menendez Seawall, south of the Bridge of Lions, as a result of several tropical storms and hurricanes. To reduce the overall risks to populations and structures and to reduce future reliance on Federal disaster assistance, the City proposes to use FMA funds for the *St. Augustine Seawall Flood Mitigation Project* to provide the businesses and residents within the City of St. Augustine Historic Preservation Zones 1 and 2 with Category 1 storm surge protection, while protecting the existing coquina seawall and creating a promenade between the existing and proposed seawalls; and

WHEREAS, the *St. Augustine Seawall Flood Mitigation Project* consists of the construction of a new seawall 12 feet seaward of the existing Avenida Menendez Seawall, extending 1,200 feet along the Matanzas River from the vicinity of the Santa Maria Restaurant down to the Florida National Guard facilities. The new seawall will consist of two sections. The lower section will be concrete sheet pile, with a top elevation of 4.8 feet National Geodetic Vertical Datum (NGVD). The upper section will be cast-in-place concrete, with a top elevation of 7.7 feet NGVD. Clean sand backfill material is to be placed between the existing seawall and the proposed seawall, and an 11.25-foot-wide promenade is to be constructed on top of the backfill; and

WHEREAS, the use of Federal funds under the *St. Augustine Seawall Flood Mitigation Project* constitutes an “undertaking” pursuant to 36 C.F.R. § 800.16(y), implementing

Section 106 of the National Historic Preservation Act of 1966 (Section 106), as amended (16 U.S.C. § 470f); and

WHEREAS, in accordance with 36 C.F.R. § 800.4(a), and in consultation with the Florida Division of Historical Resources (State Historic Preservation Officer [SHPO]) and other consulting parties, FEMA has defined the Area of Potential Effects (APE), consistent with the scale and nature of the undertaking (Attachment 1); and

WHEREAS, FEMA has made a reasonable and good faith effort to carry out identification of historic properties within the APE, as stipulated in 36 C.F.R. § 800.4(b), and in consultation with the SHPO and other consulting parties has determined that 27 historic properties exist within the APE (Attachment 2). Two of these properties – the St. Augustine Town Plan Historic District (8SJ00010) and the Gonzalez-Alvarez House (8SJ00010G) – are currently listed in the National Register of Historic Places (NRHP) and are also designated as National Historic Landmarks (NHL). The Avenida Menendez Seawall (8SJ04971) was formally determined eligible for NRHP in 2003-2005. The remaining 24 properties are located in the St. Augustine Town Plan Historic District. FEMA has determined in consultation with SHPO that these properties are contributing resources to the Historic District and that eight of these properties also are individually eligible for NRHP listing; and

WHEREAS, the St. Augustine Town Plan Historic District was listed as an NHL on April 15, 1970, for the purpose of this undertaking, FEMA has determined that the NHL is within the APE; and

WHEREAS, a Phase I archaeological investigation was conducted in February 2011 that confirmed that remains of the South Boat Basin and the coquina toe feature of the Avenida Menendez Seawall were present within the APE, and FEMA determined that these resources were character-defining features of the NRHP-eligible Avenida Menendez Seawall (Attachment 3); and

WHEREAS, FEMA has determined in consultation with SHPO and other consulting parties, that the undertaking will directly adversely affect the Avenida Menendez Seawall, and that the St. Augustine Town Plan Historic District (Attachment 4) will be indirectly adversely affected; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1) and 36 C.F.R. § 800.10, FEMA has notified the Advisory Council on Historic Preservation (ACHP) of the adverse effects and invited them to participate in Section 106 consultation, and the ACHP has elected to participate in the resolution of adverse effects via a letter to FEMA dated December 28, 2010; and

WHEREAS, FEMA has invited FDEM as the Grantee and the City as the Subgrantee to become signatory parties to this Memorandum of Agreement (MOA); and

WHEREAS, the U.S. Army Corps of Engineers – Jacksonville District (USACE), 1000 Friends of Florida, City of St. Augustine Historical Architectural Review Board (HARB), Florida Department of Military Affairs, Florida Trust for Historic Preservation, Lighthouse Archaeological Maritime Program (LAMP), Miccosukee Tribe of Indians in Florida, National Park Service (NPS) National Historic Landmarks Program, NPS Castillo de San Marcos National Monument, Office of U.S. Congressman John Mica, Old City South Neighborhood Association, Old Town Association, Seminole Tribe of Florida, Seminole Nation of Oklahoma, St. Augustine Archaeological Association, St. Augustine Historical Society, and St. Johns County Planning Commission have participated in the consultation; and

WHEREAS, through Section 106 consultation, including in-person meetings and teleconferences held between October 5, 2010 and April 27, 2011, FEMA, FDEM, the City, SHPO, ACHP and other consulting parties considered ways to avoid, minimize, or mitigate the adverse effects of the proposed undertaking on historic properties in accordance with 36 C.F.R. § 800.6(b)(2) and 36 C.F.R. §800.10, and developed by consensus the below stipulations; and

WHEREAS, FEMA, FDEM, the City, and SHPO agree that the requirement for appropriate public notice and involvement stated in 36 C.F.R. § 800.14d(2) will be satisfied by a public notice issued by FEMA through the National Environmental Policy Act of 1969 (NEPA) process; and

NOW, THEREFORE, FEMA, FDEM, the City, SHPO, and ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account its effect upon historic properties as defined in 36 C.F.R. § 800.16(1). FEMA funding of the City’s application for Federal assistance under the FMA program is contingent upon adherence to the MOA stipulated provisions.

STIPULATIONS

To the extent of its legal authority and in coordination with the SHPO, FDEM, and the City, FEMA will require that the following measures are implemented:

I. ROLES AND RESPONSIBILITIES OF SIGNATORIES

A. FEMA

As the grantor of Federal funds for the proposed undertaking, FEMA has the ultimate responsibility for Section 106 compliance. With execution of this MOA, FEMA’s responsibilities to resolve adverse effects to historic properties are considered complete, and FEMA will proceed in accordance with this MOA. In the event that this MOA is terminated or the stipulations are not completed, FEMA will either (a) seek to resolve the adverse effects pursuant to 36 C.F.R. § 800.6(b); or (b) request, take into account, and respond to the comments of the

ACHP in accordance with 36 C.F.R. § 800.7. FEMA shall notify the signatories of the course of action it will pursue.

B. FDEM

As the Grantee of Federal funds for the proposed undertaking, FDEM is responsible for ensuring that the Sub-grantee acts in accordance with this MOA.

C. City

As the Sub-grantee of Federal funds for the proposed undertaking, the City is responsible for carrying out the MOA's stipulations. The City will ensure that all entities acting on their behalf in the completion of the proposed undertaking, including contractors and subcontractors, are aware of this MOA's provisions and act accordingly. This shall include full disclosure of this MOA's requirements to potential construction contractors during the bidding process, and the selection of a construction contractor who is willing and able to fully adhere to all stipulations.

D. SHPO

As FEMA's partner in the Section 106 consultation process, SHPO is responsible for acting in accordance with this MOA.

II. RESOLUTION OF ADVERSE EFFECTS

A. Minimization Measures in Final Design

The City shall ensure that the below measures are incorporated into the construction documents put out to bid, the bid proposals received, and the final design, and that the measures are carried out in the execution of the project.

- 1. Increased Landward Exposure of Avenida Menendez Seawall.** To compensate for the loss of visibility of the Avenida Menendez Seawall on the seaward side, the historic seawall will be excavated on the landward side to increase the visibility of the west elevation of the seawall. Approximately 1,200 linear feet of coping (the masonry covering course of the historic seawall) would be left exposed to facilitate viewing by the public. Depending upon the final grade on the landward side of the affected historic seawall, the exposure will range from 0 to 30 inches to the top of the seawall, as defined by the granite coping.
- 2. Maximum Height of New Seawall.** The new seawall, defined by the merlon cap, shall be at its highest point no more than 29 inches higher than the top of the Avenida Menendez Seawall, defined by the granite coping.

3. **Landscape and Hardscape Elements.** The final design shall minimize, to the extent possible, disruptions to the views from the St. Augustine Town Plan Historic District to the Matanzas River from landscape and hardscape elements as stipulated below.
 - a. Existing power lines and other electric utilities located within the project area on the east side of the Avenida Menendez shall be, to the extent practicable, relocated underground as part of the new construction.
 - b. Existing palm trees located within the project area on the east side of the Avenida Menendez that are removed during construction shall be, to the extent practicable, replaced with palms of the same species in approximately the same location.
 - c. Existing landscape and hardscape features on the west side of the Avenida Menendez will be maintained in their current configuration.

B. Consultation with a Historic Masonry Conservator

The City of St. Augustine shall retain a qualified individual with demonstrated expertise in the treatment of historic coquina construction to review the undertaking and to advise the City and their construction contractor on ways to avoid adverse effects to the Avenida Menendez Seawall.

1. The City will identify a qualified individual within 60 calendar days of the execution of this MOA, and will send the Historic Masonry Conservator's qualifications via email to FEMA, FDEM, and SHPO for review before retaining services. FEMA and SHPO will respond to the City via email within five business days of receipt of the individual's qualifications.
2. The Historic Masonry Conservator is to be consulted on the interface between the fill material and the existing seawall, the promenade deck and the existing seawall, and the manner in which these project components can be executed to not cause any additional deterioration of the seawall in the immediate or long term.
 - a. The City will consider the Historic Masonry Conservator's input on appropriate treatment of the Avenida Menendez Seawall and will, to the extent practicable, ensure that the recommendations are included in the final construction documents.
 - b. The expert will prepare a standard operating procedure (SOP), including preservation and treatment guidelines, for coquina protection to be included in the construction bid documents.

The City will submit a summary of revisions and specifications made to the design, and the SOP, to FEMA, FDEM, and SHPO via email for review. FEMA and SHPO will respond to the City via email within five business days of receipt of the summary and SOP, identifying any areas of concern with respect to the treatment of historic properties.

3. Consultation with the Historic Masonry Conservator will be done before training the city inspectors, project managers, and contractors as stipulated in Stipulation II.C.1, below. The Historic Masonry Conservator's guidance on the treatment of the historic coquina is to be included in this training as appropriate. At the City's discretion, the Historic Masonry Conservator may be asked to help develop and deliver the training to explain the coquina treatment SOP.

C. Construction Monitoring

The City shall provide a trained City Inspector to monitor construction activities for the full duration of the undertaking for the purpose of ensuring that there are no unforeseen adverse effects to the Avenida Menendez Seawall or other historic properties, as defined in Attachment 2 of this MOA.

1. After the selection of a contractor and before construction, all city inspectors, project managers, and contractors that will be monitoring, directing, or working on the construction project will be required to participate in a training session led by the City Archaeologist on the appropriate treatment of the Avenida Menendez Seawall and other known and potential historic properties and the kinds of construction activities that may adversely affect them. As noted in Stipulation II.B.3, above, the Historic Masonry Conservator may assist in delivering this training. The City will notify FEMA, FDEM, USACE, and SHPO at least two weeks before the training. At a minimum, the training will address:
 - a. effects to the coquina toe feature of the Avenida Menendez Seawall from compaction as a result of the dumping of fill;
 - b. effects to the Avenida Menendez Seawall at the interface between the fill and the seawall, and the promenade deck and the seawall;
 - c. avoidance of the archaeological resources associated with the South Boat Basin (as identified in Attachment 3);
 - d. the treatment of historic coquina as recommended by the Historic Masonry Conservator identified in Stipulation II.B.1), above; and

- e. the kinds of activities or discoveries that may require a stop work, including the discovery of human remains, and the steps to take for any stop work.

If the City Archaeologist deems it necessary, the city inspectors, project managers, and contractors may be asked to participate in additional training sessions or informational meetings to address new or changing project site conditions.

- 2. Before beginning construction, and continuing every week thereafter, the construction contractor will prepare a schedule of planned construction activities for the upcoming two-week period, calling out those activities that will occur within five feet of the Avenida Menendez Seawall (including the vertical section of wall, the coquina toe section, and the south boat basin).
 - a. This schedule will be sent via email to the City Inspector(s), City Archaeologist, FEMA, FDEM, USACE, and SHPO no later than two business days in advance of scheduled activities.
 - b. The construction contractor shall ensure that work within five feet of the Avenida Menendez Seawall occurs between 7:00 AM and 5:00 PM, Monday through Friday, and that a trained City Inspector or the City Archaeologist is always present during these activities.
 - c. Before starting construction, the City Archaeologist will inform the construction contractor of the construction activities that he would like to personally observe. The construction contractor will provide the City Archaeologist, FEMA, FDEM, USACE, and SHPO with a general construction schedule, noting when those activities of interest are likely to occur, and will notify the City Archaeologist via email two business days in advance of those activities.

D. Location of Soil Anchors

The City shall ensure that the construction contractor shifts each soil anchor's location as needed to avoid penetrating the Avenida Menendez Seawall toe feature's existing coquina materials, where doing so does not compromise the new seawall and promenade's structural integrity or functionality. Where the soil anchors cannot be shifted to avoid penetrating coquina materials, the affected coquina materials will carefully be removed and replaced in a location as close as possible to their original location.

- 1. This process shall be monitored daily by a trained City Inspector, and periodically by the City Archaeologist, who will work with the construction contractor to determine which soil anchors should be shifted and in what

direction, and will advise the construction contractor on where to relocate coquina materials.

2. The construction contractor shall document: the ultimate location of each soil anchor; the number and location of soil anchors that were shifted to avoid directly impacting the coquina materials; the number and location of soil anchors that could not be shifted to avoid directly impacting the coquina materials; and the number of coquina materials that were removed from their original location and where they were relocated. Upon completing construction, the City shall provide photographs, and as-built drawings, including plans and cross sections, to the City Archaeologist, FEMA, FDEM, USACE, and SHPO for recordation purposes.

E. Location of Stormwater Treatment Systems

The City shall ensure that where existing coquina materials will be penetrated by the support piles for the three stormwater treatment systems, the construction contractor will remove the affected materials and replace them in a location as close as possible to their original location.

1. This process shall be monitored daily by a trained City Inspector, and periodically by the City Archaeologist, who will advise the construction contractor on where to relocate coquina materials.
2. The construction contractor shall document the number of coquina materials that were removed from their original location and where they were relocated. Upon completing construction, the City shall provide these documents (including photographs) to the City Archaeologist, SHPO, FDEM, and FEMA for recordation purposes.

F. Vibration Monitoring

The City shall ensure that the level of vibration from construction activities is monitored by a third party that is a qualified specialty engineer for the full duration of pile driving operations, and that vibration from such activities does not exceed 0.5 in/sec. Vibration monitoring shall be conducted consistent with the Florida Department of Transportation *GreenBook* (FGB) Section 455-1.1 “Protection of Existing Structures” (Attachment 5). Where the stipulations in this Section exceed or are in addition to FGB standards, they shall supersede those standards.

1. Vibration levels will be measured from seven (7) points:
 - a. on the landward face of the Avenida Menendez Seawall, on National Guard Property at 82 St. Francis Barracks, at the south end of the APE (29.887964 -81.309122);

- b. on the landward face of the Avenida Menendez Seawall, between St. Francis Street and Bridge Street (29.889242 -81.309289);
 - c. on the landward face of the Avenida Menendez Seawall, between Bride Street and the Santa Maria Restaurant pier (29.890444 -81.309669);
 - d. at the southwest corner of the City Dock Building at 111 Avenida Menendez, at the north end of the APE (29.891447 -81.310464);
 - e. at the southeast corner of the dwelling (SJ00203) at 162 Avenida Menendez, on the west side of the Avenida Menendez, between St. Francis Street and Bridge Street (29.889025 -81.309453);
 - f. at the southeast corner of the Gonzalez-Alvarez House at 14 St. Francis Street, on the north side of St. Francis Street, between Marine Street and Charlotte Street (29.888031 -81.309939); and
 - g. at the northwest corner of the Sanchez House (SJ02501) at 7 Bridge Street, on the south side of Bridge Street, at the intersection with Marine Street (29.890097 -81.310133).
2. Vibration levels at these seven points shall be measured before starting construction to determine baseline readings and typical peak vibration levels from routine activities such as vehicular traffic.
 3. Vibration levels shall be reviewed daily during pile driving operations by the third-party qualified specialty engineer. During construction, if vibration levels exceed the indicated threshold, the specialty engineer shall notify the construction contractor upon making the observation. The construction contractor shall immediately cease driving operations and notify the City Inspector directly in person or via telephone conversation within one business hour of notification by the specialty engineer. The City Inspector shall notify FEMA, FDEM, and SHPO via email within four business hours of the observation. Work shall not resume until the methods of construction are revised to bring the resulting vibration levels below the indicated threshold, as determined by the construction contractor. Documentation of the solution shall be provided to the FEMA, FDEM, and SHPO via email, after which pile driving operations may resume.
 4. Vibration monitoring shall continue for two weeks after completing pile driving operations to document any resulting settling, shifting, or other structural movement.

G. Public Interpretation of Avenida Menendez Seawall

The City shall develop, create, and disseminate public interpretation materials relating to the Avenida Menendez Seawall.

1. The public interpretation materials will be determined by the City in consultation with FEMA, FDEM, and SHPO, and will relate to the history of the Avenida Menendez Seawall. Any on-site interpretation should be designed so as not to cause adverse effects to historic properties from installation, introduction of inappropriate visual elements, or any other effect that diminishes a historic property's qualities that make it eligible for NRHP listing.
2. The City will send a plan for public interpretation materials to FEMA, FDEM, and SHPO for review within 120 calendar days of this MOA's execution. FEMA, FDEM, and SHPO will provide input on the proposed plan within 30 calendar days of receipt. The City will send the revised plan to FEMA, FDEM, and SHPO for approval within 30 calendar days of receipt of their input. SHPO, FDEM, and FEMA will approve the final plan within 30 calendar days of receipt.
3. The City will send draft materials to FEMA, FDEM, and SHPO for review within 270 calendar days of this MOA's execution. FEMA, FDEM, and SHPO will provide input on the draft materials within 30 calendar days of receipt. The City will send the final materials to FEMA, FDEM, and SHPO for approval within 30 calendar days of receipt of their input. FEMA, FDEM, and SHPO will approve the final materials within 30 calendar days of receipt.
4. The City shall fulfill the requirements of the MOA Stipulation II.G and complete the production and dissemination of public interpretation materials within one year of this MOA's execution.

III. UNEXPECTED DISCOVERIES

A. General Procedures

1. The City will notify FEMA within one business day if it appears that the project will affect a previously unidentified property that may be a historic property, including human remains, or affect a known historic property in an unanticipated manner.
2. If any archaeological deposits are identified that may contain human remains, materials, or artifacts, the City will notify FEMA, FDEM, and SHPO and any consulting parties of the discovery. The City will ensure work immediately stops in the vicinity of such a discovery and will take all reasonable measures to avoid, minimize harm, and protect the discovery until FEMA concludes the

consultation. FEMA shall start the review with FDEM, SHPO, and Indian Tribes, as appropriate, and with any other required parties.

3. FEMA will notify the parties of any time constraints, and all parties will mutually agree upon timeframes for consultation on the discovery. Following consultation, FEMA will provide all consulting parties with written recommendations that take into account the effects of the undertaking. If the consulting parties do not object to FEMA's recommendations for the treatment of the discovery within the agreed upon timeframe, FEMA will require the City to modify the project scope of work to implement FEMA's recommendations. If there is a timely objection to FEMA's recommended action, FEMA will consult further with the objecting party.

B. Human Remains

If human remains are discovered during construction, all project construction activities on the project shall cease immediately. The City shall notify the local Police Department and the Coroner's Office via telephone within one business hour of the stop work, and FEMA, FDEM, USACE, and SHPO via email within one business day. Construction activities shall not resume until the disposition of the human remains has been resolved in accordance with all applicable local, state, and Federal laws.

1. If the human remains are determined by the Coroner's Office to be of recent, non-Native American origin, then the City shall ensure that the remains are removed and the discovery area is treated in accordance with all applicable local, state, and Federal laws. Construction may resume upon notification from the City.
2. If the human remains are of archaeological interest or Native American, FEMA shall take the lead in working with all parties to ensure compliance with the applicable local, state, and Federal laws. Construction may resume upon notification from FEMA to the City.
 - a. FEMA shall follow policy presented in the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects* (February 23, 2007).
 - b. FEMA will conduct an in-person meeting in St. Augustine with representatives of the appropriate Indian Tribes, ACHP, and other consulting parties as needed to determine the disposition of the remains. This meeting will include a site visit if requested by any Indian Tribe, SHPO, or ACHP.

V. ANTICIPATORY ACTIONS

FEMA shall not grant assistance to the City in the event that the City or those acting on its behalf engage in actions that significantly adversely affect historic properties with the intent to avoid the requirements of this MOA or Section 106. In event of such an occurrence, FEMA upon consultation with SHPO and ACHP may determine that circumstances justify granting such assistance despite these actions and shall complete consultation to resolve these adverse effects in accordance with the standard Section 106 review process as codified in 36 C.F.R. part 800.

VI. DISPUTE RESOLUTION

A. Consultation to Resolve Objection

Should any consulting party object in writing within this MOA's timeframes to the manner in which the stipulations are implemented, FEMA shall consult with the objecting party to resolve the objection. If the objection is resolved within 14 calendar days, FEMA will notify the signatories via email that this MOA's terms will proceed as originally executed.

B. Failure to Resolve Objection

If FEMA determines that the objection cannot be resolved through consultation with the objecting party within 14 calendar days, FEMA will request written comments from the ACHP pursuant to 36 C.F.R. § 800.6(b). FEMA will take into account any ACHP comments received within 14 calendar days after ACHP's receipt of the request. FEMA will provide the ACHP, and the other consulting parties, and the objecting party with a written resolution to the stated objection. FEMA may then notify the consulting parties via email that this MOA's terms will proceed as originally executed.

VII. AMENDMENTS, DURATION, AND TERMINATION

A. Amendments

If any of this MOA's signatories believe that this MOA's terms cannot be adhered to, or that any amendment to the terms of this MOA must be made, that signatory shall immediately consult with the other signatories for no more than 30 calendar days to develop an amendment or amendments to this MOA. The MOA shall be amended only upon the written agreement of all signatories.

B. Duration

Unless amended or terminated in accordance with Stipulations VII.A or C, this MOA will remain in effect through December 31, 2013, or until FEMA

determines, in consultation with the other signatories, that the MOA has been satisfactorily fulfilled. FEMA will notify the other signatories in writing when it determines that this MOA has been fulfilled or is terminated. The MOA may be extended by an amendment in accordance with MOA Stipulation VII.A.

C. Termination

1. If any of this MOA's signatories determines that the MOA terms as executed cannot be met, that signatory may signal its intent to terminate this MOA by providing a 30 calendar day notice to all other signatories via email. During the 30-day period, the terminating signatory shall actively consult with the other signatories to seek an amendment to the existing MOA in accordance with MOA Stipulation VII.A.
 - a. Should the signatories fail to agree upon an amendment, the terminating signatory will notify the other signatories in writing of termination via email and hardcopy letter.
 - b. Termination of this MOA under Stipulation VII.C.1 will require alternate resolution of adverse effects in accordance with 36 C.F.R. part 800.
2. This MOA may be terminated without further consultation by the execution of a subsequent agreement that explicitly terminates or supersedes this MOA.

VIII. EXECUTION OF THE MEMORANDUM OF AGREEMENT

Execution of this MOA by FEMA and implementation of its terms are evidence that FEMA has taken into account the effects of the undertaking on historic properties, and that FEMA has satisfied its responsibilities under NHPA Section 106 and its implementing regulations.

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(FMA-PJ-04-FL-2010-002),
ST. AUGUSTINE, ST. JOHNS COUNTY, FLORIDA**

SIGNATORY:

FEDERAL EMERGENCY MANAGEMENT AGENCY

By: _____

William R. Straw, Ph.D.
Regional Environmental Officer
Region IV

Date: _____

By: _____

Major P. May
Regional Administrator
Region IV

Date: _____

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SIGNATORY:

FLORIDA DIVISION OF HISTORICAL RESOURCES

By: _____

Date: _____

JuDee L. Dawkins
Interim Florida State Historic Preservation Officer

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SIGNATORY:

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____

John M. Fowler
Executive Director

Date: _____

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ST. AUGUSTINE, ST. JOHNS COUNTY, FLORIDA**

INVITED SIGNATORY:

THE CITY OF ST. AUGUSTINE, FLORIDA

By: _____

Joe Boles
Mayor-Commissioner

Date: _____

Attest: _____

Alison Ratkovic
City Clerk

Date: _____

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INVITED SIGNATORY:

FLORIDA DIVISION OF EMERGENCY MANAGEMENT

By: _____

Date: _____

Miles E. Anderson
Chief
Bureau of Mitigation

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ATTACHMENT 1: Area of Potential Effects (APE)



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THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT,
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ATTACHMENT 2: Historic Properties in the APE

Count	FMSF No.	NPS No.	Name	Address	Date	NRHP Evaluation	Identified Criteria	APE Map No.
1	8SJ00010	70000847	St. Augustine Town Plan Historic District	Matanzas River, Grove Avenue, South Street, and Washington Street (Approximate)	1566-1935	Listed/NHL	A (Event); C (Architecture/Engineering)	11
2	8SJ00010G	70000847; 70000845	Gonzalez-Alvarez House (Oldest House)	14 St. Francis Street	1702-1727	Listed/NHL (Individually); Listed (Contributing); Eligible (Individually)	C (Architecture/Engineering)	3
3	8SJ04971	70000847	Avenida Menendez Seawall	Avenida Menendez	1837-1846	Listed (Contributing); Eligible (Individually)	C (Architecture/Engineering)	10
4	8SJ00199	70000847	Westcott House	146 Avenida Menendez	1885-1893	Listed (Contributing); Eligible (Individually)	B (Person)	7
5	8SJ02505	70000847	Rovira-Hernandez House	172 Avenida Menendez	1800-1808	Listed (Contributing); Eligible (Individually)	A (Event); C (Architecture)	6
6	8SJ00207	70000847	Brooks Villa	174 Avenida Menendez	1891	Listed (Contributing); Eligible (Individually)	C (Architecture)	5
7	8SJ00208	70000847	Unnamed	178 Avenida Menendez	1910-1917	Listed (Contributing); Eligible (Individually)	C (Architecture)	4
8	8SJ02518	70000847	Tovar House	22 St. Francis Street	1791	Listed (Contributing); Eligible (Individually)	C (Architecture)	2

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Count	FMSF No.	NPS No.	Name	Address	Date	NRHP Evaluation	Identified Criteria	APE Map No.
9	N/A	70000847	Marin House	47 Marine Street (part of 142 Avenida Menendez)	1791-1799	Listed (Contributing); Eligible (Individually)	C (Architecture)	9
10	8SJ02501	70000847	Sanchez House	7 Bridge Street (aka 43 Marine Street)	1804-1821	Listed (Contributing); Eligible (Individually)	C (Architecture)	8
11	8SJ10A	70000847	St. Francis Barracks	82 Marine Street	1724-1737	Listed (Contributing); Eligible (Individually)	A (Event)	1
12	N/A	70000847	City Dock Building	111 Avenida Menendez	1924-1930	Listed, Contributing	N/A	N/A
13	8SJ00197	70000847	Santa Maria Restaurant	135 Avenida Menendez	1910-1917	Listed, Contributing	N/A	N/A
14	8SJ00198	70000847	Bayfront Marin House	142 Avenida Menendez	1885-1893	Listed, Contributing	N/A	N/A
15	8SJ00200	70000847	Unnamed	154 Avenida Menendez	1865-1885	Listed, Contributing	N/A	N/A
16	8SJ00201	70000847	Unnamed	156 Avenida Menendez	1924-1930	Listed, Contributing	N/A	N/A
17	8SJ00202	70000847	Unnamed	160 Avenida Menendez	1910-1917	Listed, Contributing	N/A	N/A
18	8SJ00203	70000847	Unnamed	162 Avenida Menendez	1894-1899	Listed, Contributing	N/A	N/A
19	8SJ00204	70000847	Unnamed	164 Avenida Menendez	1865-1885	Listed, Contributing	N/A	N/A
20	8SJ00205	70000847	Unnamed	166 Avenida Menendez	1865-1885	Listed, Contributing	N/A	N/A
21	8SJ00206	70000847	Unnamed	168 Avenida Menendez	1917-1924	Listed, Contributing	N/A	N/A
22	8SJ01863	70000847	Webb Memorial Museum	18 St. Francis Street	1923	Listed, Contributing	N/A	N/A
23	8SJ02514	70000847	Puello House	53 Marine Street	1812-1824	Listed, Contributing	N/A	N/A

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Count	FMSF No.	NPS No.	Name	Address	Date	NRHP Evaluation	Identified Criteria	APE Map No.
24	8SJ01271	70000847	Gibbs House	59 Marine Street (part of 156 Avenida Menendez)	1839	Listed, Contributing	N/A	N/A
25	8SJ01273	70000847	Unnamed	63 Marine Street	1865- 1885	Listed, Contributing	N/A	N/A
26	N/A	70000847	Pinkham House	67 Marine Street	1840- 1854	Listed, Contributing	N/A	N/A
27	8SJ02516	70000847	Rovira- Dewhurst House	71 Marine Street	1799	Listed, Contributing	N/A	N/A

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ATTACHMENT 3: Draft Management Summary (March 25, 2011)

(Bound Report Attached)

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ATTACHMENT 4: Assessment of Effects

APE Map No.	Name	NRHP Resource Type	NRHP Evaluation	Type of Effect	Character or Use	Applicable Criteria of Adverse Effects	Adverse?	Aspects of Integrity Diminished?
1	St. Francis Barracks (Florida National Guard Facility)/ 1724-1737	District	Listed, Contributing; Eligible, District	Direct, Indirect	Character	i-physical destruction; ii-alteration; iv-change in setting; v-visual elements	No	No
Explanation								
Direct effects are limited to a very small area, and are to features that are not character-defining (perimeter wall, curb, paving). Project will have high visibility (setting) from the southeast corner of the property, where the setting and feeling are already diminished by the surface parking lot and contemporary perimeter wall. Effects will not further diminish the integrity of setting.								
2	Sanchez House/ 1804-1821	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have high visibility from the property. It will alter the view towards the river (setting) and introduce a contemporary structure where there is currently a historic one (feeling). Visibility of the river will be minimally reduced/ obscured by the taller flood wall and associated fixtures. The direct view to the river is an important feature of the design of the property, and while it may be reduced/ altered somewhat, the effects will not be substantial enough to diminish integrity of setting and feeling.								
3	Oldest House/ Gonzalez-Alvarez House/ 1702-1727	Building	Listed, Contributing; Eligible, Individually; Designated NHL	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have moderate visibility from the property, and will alter the view towards the river (setting). Visibility of the river will be minimally reduced/ obscured by the taller flood wall and associated fixtures. The viewshed to the water is among several character-defining features of the setting and the effects will not be substantial enough to diminish the integrity of setting.								

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APE Map No.	Name	NRHP Resource Type	NRHP Evaluation	Type of Effect	Character or Use	Applicable Criteria of Adverse Effects	Adverse?	Aspects of Integrity Diminished?
4	1910-1917/ 178 Avenida Menendez	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have high visibility from the property. It will alter the view towards the river (setting) and introduce a contemporary structure where there is currently a historic one (feeling). Visibility of the river will be minimally reduced/ obscured by the taller flood wall and associated fixtures. The direct view to the river is an important feature of the design of the property, and while it may be reduced/ altered somewhat, the effects will not be substantial enough to diminish integrity of setting and feeling.								
5	Brooks Villa/ 1891	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have high visibility from the property. It will alter the view towards the river (setting) and introduce a contemporary structure where there is currently a historic one (feeling). Visibility of the river will be minimally reduced/ obscured by the taller flood wall and associated fixtures. The direct view to the river is an important feature of the design of the property, and while it may be reduced/ altered somewhat, the effects will not be substantial enough to diminish integrity of setting and feeling.								
6	Rovira-Hernandez House/ 1800-1808	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have high visibility from the property. It will alter the view towards the river (setting) and introduce a contemporary structure where there is currently a historic one (feeling). Visibility of the river will be minimally reduced/ obscured by the taller flood wall and associated fixtures. The direct view to the river is an important feature of the design of the property, and while it may be reduced/ altered somewhat, the effects will not be substantial enough to diminish integrity of setting and feeling.								

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APE Map No.	Name	NRHP Resource Type	NRHP Evaluation	Type of Effect	Character or Use	Applicable Criteria of Adverse Effects	Adverse?	Aspects of Integrity Diminished?
7	Westcott house/ 1885-1893	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Project will have high visibility from the property. It will alter the view towards the river (setting) and introduce a contemporary structure where there is currently a historic one (feeling). Visibility of the river will be minimally reduced/obscured by the taller flood wall and associated fixtures. The direct view to the river is an important feature of the design of the property, and while it may be reduced/alterd somewhat, the effects will not be substantial enough to diminish integrity of setting and feeling.								
8	Marin House/ 1791- 1799	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Visibility of the project from the property is low, and the vista to the Matanzas River (setting) has already been substantially obscured by the addition of a large, later building between the house and the river. Effects will not further diminish its integrity of setting.								
9	Tovar House/ 1791	Building	Listed, Contributing; Eligible, Individually	Indirect	Character	iv-change in setting	No	No
Explanation								
Visibility of the project from the property is low, and vista to the Matanzas River (setting) will be minimally reduced. Effects will not diminish its integrity of setting.								

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APE Map No.	Name	NRHP Resource Type	NRHP Evaluation	Type of Effect	Character or Use	Applicable Criteria of Adverse Effects	Adverse?	Aspects of Integrity Diminished?
10	Avenida Menendez Seawall/ 1830s	Structure	Eligible, Individually; Eligible, Contributing	Direct	Character, Use	i-physical destruction; ii-alteration; iv-change in setting; v-visual elements	Yes	Design, Setting, Feeling, Association, Materials
Explanation								
The seawall will be buried, and a new flood wall and promenade constructed. The seawall was designed to protect and define and east edge of the city. This will no longer be the case, diminishing the property's integrity of design and association. Some original materials will be damaged or removed, diminishing the seawall's integrity of materials. The setting and feeling of the resource will be significantly altered, substantially diminishing the property's integrity of setting and feeling.								
11	St. Augustine Town Plan Historic District/ 16th Century to Present	District	Listed, District; Designated NHL	Indirect	Character	i-physical destruction; ii-alteration; iv-change in setting; v-visual elements	Yes	Design, Setting, Feeling, Association, Materials
Explanation								
The seawall is a contributing property to and a character-defining feature of the historic district. Because of the importance of the seawall within the district, effects that diminish its integrity also diminish that of the district as a whole (design, materials). The construction of the new flood wall and promenade will introduce a contemporary, non-contributing feature between the Avenida Menendez and the river, interrupting the direct historic relationship between the two and diminishing the district's integrity of setting, feeling, and association. Pedestrian visibility and access from the district to the river will be reduced and/or restricted, diminishing the district's integrity of design, feeling, and association. Construction of the project may result in the damage or loss of archaeological resources that contribute to the significance of the district, further diminishing the district's integrity of materials.								

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ATTACHMENT 5: Florida Department of Transportation *GreenBook* (Section 455-1.1)

455 STRUCTURES FOUNDATIONS.
(REV 3-31-08) (FA 4-1-08) (7-08)

SECTION 455 (Pages 490 – 563) is deleted and the following substituted:

**SECTION 455
STRUCTURES FOUNDATIONS**

Index

A. General..... 455-1 through 455-2
B. Piling..... 455-3 through 455-12
C. Drilled Shafts..... 455-13 through 455-24
D. Spread Footings..... 455-25 through 455-37
E. Structures (Other Than Bridge) Foundations-
Auger Cast Piles..... 455-38 through 455-50

A. GENERAL

455-1 General Requirement.
The Contractor may examine available soil samples and/or rock cores obtained during the soil boring operations at the appropriate District Materials Office.

455-1.1 Protection of Existing Structures: When the plans require foundation construction operations in close proximity to existing structures, take all reasonable precautions to prevent damage to such structures. The requirements described herein apply to all types of structures (on or off the right-of-way) that may be adversely affected by foundation construction operations (including phase construction) due to vibrations, ground loss, ground heave, or dewatering. Protect utilities as described in the applicable provisions of Section 7.

Monitor structures for settlement in a manner approved by the Engineer, recording elevations to 0.001 foot. Monitor the following structures:

- (1) shown in the plans.
- (2) within a distance, in feet, of pile driving operations equal to 0.5 times the square root of the impact hammer energy, in foot-pounds. Take required measurements before the initiation of driving and then daily on days when driving occurs or as indicated in the plans and weekly for two weeks after driving has stopped.
- (3) within a distance of ten shaft diameters or the estimated depth of excavation, whichever is greater.
- (4) within a distance of three times the depth of excavation for the footing.

Obtain the Engineer's approval of the number and location of monitoring points.

Take elevation:

- (1) before beginning construction,
- (2) daily during the driving of any casings, piling, or sheeting,
- (3) weekly for two weeks after stopping driving,
- (4) during excavation,

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(5) during blasting,

(6) or as directed by the Engineer.

Notify the Engineer of any movements detected and immediately take any remedial measures required to prevent damage to the existing structures.

Employ a qualified Specialty Engineer to survey all structures, or portions thereof, within:

(1) a distance, in feet, of pile driving operations equal to 0.25 times the square root of the impact hammer energy, in foot-pounds

(2) a distance of ten shaft diameters or the estimated depth of excavation, whichever is greater

(3) three times the excavation depth for footings and caps

(4) or as shown in the plans

The Department will make the necessary arrangements to provide right-of-way entry for the Contractor's engineer to survey. Adequately document the condition of the structures and all existing cracks with descriptions and pictures. Prepare two reports documenting the condition of the structures: one report before beginning foundation construction operations and a second report after completing foundation construction operations. The Department will take ownership of both reports. Do not perform pre-driving and post-driving surveys of the condition of bridges owned by the Department except when shown in the Contract Documents.

When shown in the Contract Documents, employ a qualified Specialty Engineer to monitor and record vibration levels during the driving of casings, piling, sheeting, or blasting operations. Provide vibration monitoring equipment capable of detecting velocities of 0.1 in/s or less.

Upon detecting settlement or heave of 0.005 foot, vibration levels reaching 0.5 in/s, levels otherwise shown in the Contract Documents, or damage to the structure, immediately stop the source of vibrations, backfill any open drilled shaft excavations, and contact the Engineer for instructions.

When the plans require excavations for construction of footings or caps, the Contractor is responsible for evaluating the need for, design of, and providing any necessary features to protect adjacent structures. When sheeting and shoring are not detailed in the plans, employ a Specialty Engineer to design the sheeting and shoring, and to sign and seal the plans and specification requirements. Send these designs to the Engineer for his record before beginning construction.

When shown in the Contract Documents or when authorized by the Engineer, install the piling to the depth required to minimize the effects of vibrations or ground heave on adjacent structures by approved methods other than driving (preformed holes, predrilling, jetting, etc.). In the event the Department authorizes the use of preformed pile holes to meet this requirement, the Department will pay for this work as described in 455-5.9.3.

If not otherwise provided in the plans, the Contractor is responsible for evaluating the need for, design of, and providing all reasonable precautionary features to prevent damage, including, but not limited to, selecting construction methods and procedures that will prevent damaging caving of the shaft excavation and monitoring and controlling the vibrations from construction activities, including driving of casings, driving of sheeting, and blasting.

When shown in the plans or directed by the Engineer, install a piezometer near the right-of-way line and near any structure that may be affected by lowering the ground water

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when dewatering is required. Monitor the piezometer and record the ground water elevation level daily. Notify the Engineer of any ground water lowering near the structure of 12 inches or more.

455-1.2 Excavation: Complete all excavation of the foundations prior to installing piles or shafts unless otherwise authorized by the Engineer. After completing pile/shaft installation, remove all loose and displaced materials from around the piles/shafts, leaving a clean, solid surface. Compact the soil surface on which concrete is to be placed or which will support the forming system for the concrete to support the load of the plastic concrete without settling or causing the concrete to crack, or as shown in the Contract Documents. The Engineer will not require the Contractor to compact for excavations made below water for seals or when the footing or cap or forming system (including supports) does not rest on the ground surface.

455-1.2.1 Abutment (End Bent) Fill: Place and compact the fill before installing end-bent piling/shafts, except when:

- (1) driving specified test piling in end bents or,
- (2) the plans show uncased piles through proprietary retaining wall fills.

When installing piles/shafts or casing prior to placing fill, take necessary precautions to prevent displacement of piles/shafts during placing and compacting fill materials within 15 feet of the piles/shafts or casing. Reference and check the position of the piles/shafts or casing at three approximately equal intervals during construction of the embankment.

Place embankment material in 6 inch loose lifts in the 15 foot area around the piles/shafts or casing. Compact embankment material within the 15 foot area adjacent to the piles/shafts or casing to the required density with compaction equipment weighing less than 1,000 pounds. When installing piles/shafts prior to the completion of the surrounding fills, do not cap them until placing the fills as near to final grade as possible, leaving only the necessary working room for construction of the caps.

Provide permanent casings installed prior to placement of the fill, for all drilled shafts through mechanically stabilized fills (for example, behind proprietary retaining walls) for shafts installed after fill placement. Install temporary casings through the completed conventional fill when permanent casings are not required.

Provide permanent casings, if required, before the fill is placed extending a sufficient distance into the existing ground to provide stability to the casings during construction of the abutment fill.

455-1.3 Cofferdams: Construct cofferdams as detailed in the plans. When cofferdams are not detailed in the plans, employ a Specialty Engineer to design cofferdams, and to sign and seal the plans and specification requirements. Send the designs to the Engineer for his records before beginning construction.

Provide a qualified diver and a safety diver to inspect the conditions of the foundation enclosure or cofferdam when the Contract Documents require a seal for construction. Equip these divers with suitable voice communications, and have them inspect the foundation enclosure and cofferdam periphery including each sheeting indentation and around each piling or drilled shaft to ensure that no layers of mud or other undesirable materials were left above the bottom of seal elevation during the excavation process. Also have the divers check to make sure the surfaces of the piles or drilled shafts are sufficiently clean to allow bond of the concrete down to the minimum bottom of seal elevation. When required, ensure that there are no mounds of stone, shell, or other authorized backfill material left after placement and grading. Assist the Engineer as required to ensure that the seal is placed as specified and evaluate the adequacy of the foundation soils or rock. Correct any deficiencies found by the divers. Upon completion of