

Marine Corps Support Facility Blount Island

Adaptation Package #3: Improving Potable Water Utility System Resilience

This package comprises two strategic projects that collectively strengthen the resilience of the potable water supply at MCSF Blount Island and the neighboring industry. It integrates a feasibility study for redundant supply along with recommendations for partnership building. These efforts can be advanced through coordinated action by local authorities and agencies, as well as utility service providers.



This study was prepared under contract with the Northeast Florida Regional Council with financial support from the Office of Local Defense Community Cooperation, Department of Defense.

The content herein reflects the views of the Northeast Florida Regional Council and does not necessarily reflect the views of the Office of Local Defense Community Cooperation or the Department of Defense.

How to Read this Document

Project Summary Packages provide details on recommendations, background, and context to facilitate and accelerate implementation. The summaries are presented by mission-critical priority assets in the study area. The recommendations may include physical projects, new partnerships, and modernized policies identified over the course of the project. Presented in three sections, **Background and Context, Recommendations, and Implementation Tools**, each summary package can be used to brief decision makers and to complete funding requests and/or grant applications.

The first section, **Background and Context**, situates the reader to the Military Installation Readiness Review (MIRR) project, the study area location, and the military installations. It includes the following subsections:

- **Mission of the Installation of the Package**, which reminds the reader of the installations' purpose and importance of readiness
- **Mission-Critical Priority Assets** for the installation as identified through stakeholder engagement and vulnerability assessment
- **Current Conditions** of the mission-critical asset of the package, which illustrate the issues in local context
- **MIRR Adaptation Strategy Framework**, which is aligned to the region's vision for a Resilient First Coast and is the foundation of this body of work

The second section, **Recommendations**, dives into the issues challenging the region and study area and presents recommendations in the form of investments through projects, policy modernization, and/or by forging new partnerships among diverse stakeholder groups. This section is informed by the vulnerability assessment findings, stakeholder insight on ongoing projects and priorities, and best practices research. Information on the following topics is included in this section:

- **Shocks and Stresses** affecting the mission-critical asset
- **Project Objective**, which captures the adaptation goal for the following recommendations to support mission readiness through community resilience
- **Stakeholders and Current Efforts** highlighting successful foundational work upon which to build
- **Recommended Strategic Projects, Policies, and Partnerships**, including the owners and partners, vulnerability being addressed, co-benefits, foundational existing projects (as applicable), and timeline to comment implementation
- The **Metrics and Cost-Benefit Analysis** section, which illustrates how the recommendations were evaluated to determine appropriateness, viability, and achievement of project goals; this tool is available as new projects are identified by implementation partners

The final section, **Implementation Tools**, is provided as a resource to move from planning to action:

- **Financial Strategy Toolkit with Funding Opportunities**, which presents a matrix of opportunities and tools to finance and fund recommendations. Some recent grant opportunities are highlighted; however, given the changing conditions of federal sources and requirements, these should be viewed as initial suggestions for further review and applicability at the appropriate time.
- **References** are presented for user convenience.

In 2024, the Northeast Florida Regional Council (NEFRC) obtained a MIRR grant from the Department of Defense's Office of Local Defense Community Cooperation to identify and analyze the assets, hazards, and corresponding vulnerabilities and risks that affect the military installations in Duval and Clay counties. This study includes Camp Blanding Joint Training Facility, Marine Corps Support Facility (MCSF) Blount Island, Naval Station Mayport, and Naval Air Station Jacksonville (Figure 1). The goal is to increase the resilience and readiness of these installations from the impacts of extreme weather events, infrastructure challenges, and other vulnerabilities, thereby promoting mission assurance. The adaptation projects are structured into comprehensive summary packages, with each focused on a specific mission-critical asset or system.

MCSF Blount Island

MCSF Blount Island occupies more than 1,100 acres on Blount Island along the St. Johns River in Jacksonville, Florida, near the Atlantic Ocean. The installation is adjacent to the Jacksonville Port Authority's Blount Island Marine Terminal. The federal installation and port terminal are separate facilities, but they share regional dependencies, including roadway access, utilities, dredging, shoreline protection, emergency response and maritime transportation. Coordination among the Marine Corps, JAXPORT and regional partners helps preserve continuity for defense and commercial port operations. The installation combines deepwater maritime access with road and rail connections, waterfront infrastructure, maintenance and staging areas, and a specialized slipway supporting Maritime Prepositioning Force ship operations. These capabilities support equipment maintenance and staging, strategic mobility and distribution, connecting Northeast Florida's maritime and transportation network to a Marine Corps mission with global reach.

Mission

MCSF Blount Island and Blount Island Command are distinct organizations with complementary responsibilities.

MCSF Blount Island is the host installation under Marine Corps Installations East. It provides and sustains the facilities, utilities, security, installation services, workforce support and maritime access required for mission continuity. The installation is home to Blount Island Command.

Blount Island Command is an operational logistics command subordinate to Marine Corps Logistics Command. It generates, sustains, modernizes and distributes ready-for-issue, service-managed equipment and supplies across the Marine Corps' global positioning network. The network integrates prepositioning programs, sustainment nodes and distribution pathways, including equipment and supplies positioned afloat and ashore and contracted capabilities, so Marine, joint and combined forces can rapidly receive, integrate and employ combat capability.

At MCSF Blount Island, teams manage equipment throughout its lifecycle. They plan production, maintain accountability and asset visibility, coordinate maintenance and modernization, support ship offload and backload operations, and prepare equipment for distribution. During scheduled ship maintenance cycles and other production periods, equipment may be inspected, repaired, modernized, reconfigured and regenerated according to Marine Corps requirements. Together, the installation and command are more than a ship-loading point.

They form an integrated sustainment and industrial hub that converts infrastructure, technical expertise and strategic access into positioned combat capability.

The work is carried out by an integrated workforce of Marines, Sailors, federal civilians and defense contractors. Marine Corps Support Facility Blount Island has a reported population of approximately 1,600 people across the host installation, Blount Island Command and tenant organizations. That population includes nearly 700 service members, about 200 federal civilian employees and about 700 on-site contractors. Because the total includes hundreds of reservists, it does not represent a typical daily on-site count. The number of people present varies with reserve activity, ship offload and backload operations and other mission surges. Together, this workforce sustains the installation and enables Blount Island Command to generate, modernize, maintain accountability for and distribute ready-for-issue equipment and supplies across the global positioning network.

Blount Island is not merely a port facility; it is a production, sustainment, positioning, and strategic-distribution node. Loss of regional supporting infrastructure can therefore translate into delayed regeneration or movement of ready-for-issue equipment and reduced responsiveness of the Marine Corps' global positioning network.

Installation Interconnections

Marine Corps Support Facility Blount Island's most immediate interconnections are regional. Mission continuity depends on reliable access to the Atlantic Ocean through the St. Johns River; maintained shipping channels and waterfront infrastructure; road and rail transportation; utilities and communications; emergency response; and a skilled military, civilian and contractor workforce. The installation routinely coordinates with the city of Jacksonville, JAXPORT, state and local emergency management and public safety agencies, maritime and defense industries, educational institutions and other regional partners.

Naval Air Station Jacksonville, Naval Station Mayport and Camp Blanding are part of Northeast Florida's broader military and resilience network. These installations and organizations support regional planning, training, emergency preparedness, workforce development and a shared understanding of infrastructure risks. They are regional partners, not elements of Blount Island's command structure.

Blount Island also depends on upstream logistics nodes beyond Northeast Florida. Marine Corps Logistics Command, headquartered at Marine Corps Logistics Base Albany, Georgia, includes depot-level maintenance capabilities that rebuild, repair, modify and restore Marine Corps ground equipment. The Charleston, South Carolina, defense complex provides access to a broader joint transportation and munitions network supported by extensive roadway, rail and deepwater-port infrastructure. New equipment and supplies also enter the sustainment enterprise through Marine Corps acquisition and fielding processes, including Marine Corps Systems Command. Blount Island's mission depends on the movement of equipment and supplies over highways and rail lines and through upstream production, maintenance, storage and distribution nodes as well as through its maritime approaches. A disruption to an inland transportation corridor or an upstream logistics node can affect Blount Island operations even when the installation, St. Johns River and Atlantic approaches remain accessible.

These functional dependencies should not be confused with command relationships. Marine Corps Support Facility Blount Island operates under Marine Corps Installations East, while

Blount Island Command operates under Marine Corps Logistics Command. Their missions also require coordination with Headquarters Marine Corps, Military Sealift Command, Marine Corps Systems Command, supported Marine components and operating forces, the joint distribution enterprise, industry partners and allied or partner-nation organizations as directed. Those organizations may serve as logistics providers, lifecycle partners, customers or mission partners without falling within the installation's command structure.

Globally, Blount Island's strategic value is best understood through the Marine Corps' global positioning network rather than through a fixed list of overseas sites. The network combines Maritime Prepositioning Force ships, approved ashore programs such as the Marine Corps Prepositioning Program-Norway, contracted capabilities, sustainment nodes and distribution pathways across multiple theaters. Blount Island Command supports, but does not command, the ships, Marine expeditionary forces or overseas operating forces that receive and employ the equipment.

Marine Corps Support Facility Blount Island is therefore a strategic sustainment and mobility node within a much larger logistics network. It links Northeast Florida's maritime access, infrastructure, workforce and industrial capacity with inland maintenance, munitions and distribution networks and with global maritime and ashore positioning. Its resilience depends not only on the facility and its access to the St. Johns River, but also on the roads, railways, utilities, ports, production capacity and partner organizations that allow equipment and supplies to reach, move through and depart the installation. Together, those connections enable the Marine Corps to accelerate force closure, extend operational reach, respond to crises and sustain combat capability worldwide.

Identification of Priority Assets for MCSF Blount Island

Priorities for the installation were based on the direct assets and local services required to support the missions (Figure 2). Priority assets include the shorelines around the installation that protect it from wave action, the electrical and communication systems that support the installation's logistics activities, the roadways and railways that connect the installation to the broader region (including Hecksher Drive, I-295, Dave Rawls Boulevard, and Blount Island Boulevard), and JAXPORT.

Primary Mission Critical asset types for Maritime Prepositioning Force, Logistics & Sustainment, and Sealift Integration

- Location-Specific Positioning
 - Rivers (St. John's River)
 - Shorelines
- Assets Providing Direct Support
 - Electric Production and Supply Facilities
 - Roads and Bridges
 - Railway systems
 - Communications systems
 - Ports (JAXPORT)
 - Fire Stations
 - Tugboats and harbor pilots
 - Fuel Depot
 - Offsite dry dock facilities - The local dry dock facilities are private contracting companies
 - Natural Gas system

Secondary Mission Critical asset types for Joint Logistics Hub, Exercise & Deployment Support, and Vessel Maintenance

- Assets Providing Direct Support
 - Water systems
 - Wastewater systems

Mission Supportive for the livelihood and health of installation personnel, indirect support to primary and secondary missions.

- Personnel Support
 - Affordable Housing
 - Childcare Facilities
- Assets Providing Indirect Support
 - Solid and Hazardous Waste Facilities

Figure 2. Primary and Secondary Mission Critical Assets for MCSF Blount Island



This package addresses the specific shocks and stresses of the mission-critical potable water assets for MCSF Blount Island.

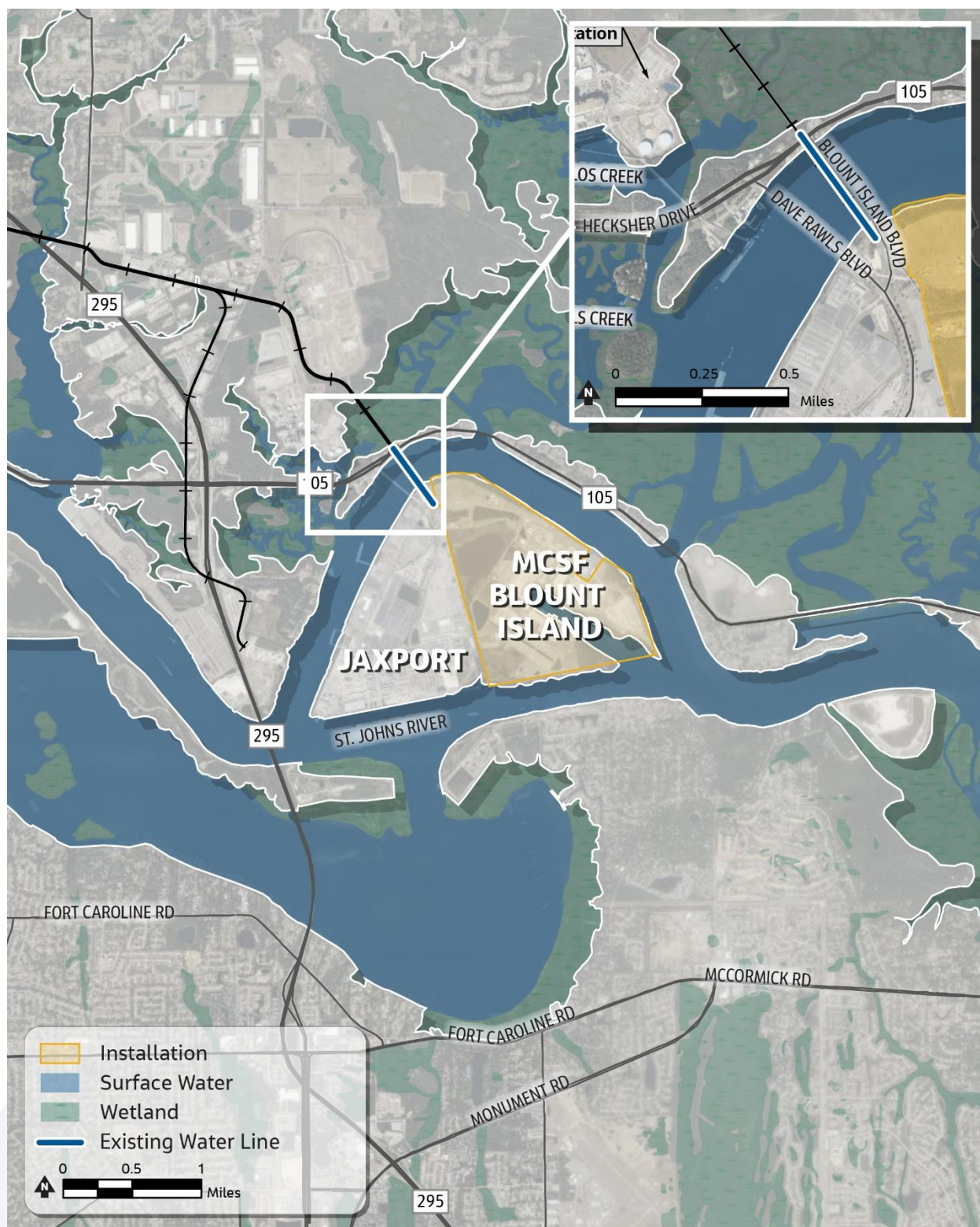
Current Conditions that affect the Potable Water System

Historically, the potable water system serving MCSF Blount Island developed as part of the broader JEA centralized water supply network, relying on a limited number of transmission mains and distribution lines to serve a geographically constrained, industrial waterfront site. The system was designed to meet consistent industrial and operational demand, with infrastructure largely built to conventional standards focused on reliability and pressure. JEA has undertaken multiple projects in recent history to invest in and maintain a water supply network that provides reliable flow, pressure, and quality to customers.

Today, the system benefits from these improvements in regional water treatment reliability, pressure management, and system controls, but MCSF Blount Island remains dependent on a relatively small number of connection points and distribution pathways to deliver potable water across the installation.

In a disaster scenario, the absence of redundant potable water supply could pose mission-critical risks, particularly if disruptions coincide with other infrastructure failures. While the current arrangement is sufficient for day-to-day service delivery, it does not provide a framework for proactively addressing these emerging risks.

Figure 3. Potable Water Line Location Map



MIRR Adaptation Strategy Framework

The NEFRC envisions a resilient, prosperous, and inclusive region where communities work collaboratively across jurisdictional boundaries to strengthen economic vitality, safeguard natural and built systems, and enhance quality of life for current and future generations (Figures 4 and 5). In 2022, the Council launched Resilient First Coast to collaboratively address climate-related challenges across its seven member counties—Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns. This regional effort received strong support to develop a plan focused on addressing climate impacts and related threats to the region. Guided by this vision, the Regional Resilience Action Plan (RRAP) was published in 2025, providing a unifying framework that translates shared regional goals into coordinated action (NEFRC 2025).

The RRAP establishes a durable foundation for implementing this vision—enabling member governments and partners to prioritize investments, leverage funding opportunities, and advance solutions that build long-term resilience to environmental, economic, and social challenges across Northeast Florida. As such, the MIRR adaptation projects are built upon this framework to ensure alignment and promote successful implementation of the recommended strategies.

Figure 4. Regional Resilience Action Plan Vision (NEFRC 2025)



RRAP Goals and Objectives

Figure 5. Regional Structure for Resilience as Framework for the MIRR

Create a Durable and Adaptive Built Environment

- Minimize magnitude and cost of damage to infrastructure
- Improve development practices and policies
- Decrease utility service disruptions and recovery time
- Improve transportation and mobility

Develop a Thriving Regional Economy

- Improve education and employment opportunities
- Increase housing stability
- Enhance tourism and historic preservation
- Increase smart growth and development

Ensure a Vibrant Quality of Life

- Improve public health and wellness
- Enhance supply of food, energy, and other critical resources
- Increase public participation and engagement
- Minimize disparity

Promote a Healthy Natural Environment

- Reduce heat stress
- Increase biodiversity and ecological services
- Maximize quality of soil, air, and water
- Minimize erosion, flooding, and storm impacts

Connecting this Built Environment Asset to the Regional Economy, Natural Environment, and a Vibrant Quality of Life

This framework provides the structure for how assets were organized and evaluated. This resilience project is centered on assets in the Built Environment pillar, so the acknowledgments below indicate how it is connected to the Regional Economy, Natural Environment, and Quality of Life.

Figure 6. Connection of This Asset to the Community





Recommendations



Documenting Shocks and Stresses with a Vulnerability Assessment

Shocks and stresses to the mission-critical assets supporting MCSF Blount Island include rainfall-induced flooding, coastal flooding from sea level rise (SLR) and storm surge, traffic congestion, lack of redundancy in transportation and utility system connection points, aging infrastructure of transportation assets, and erosion of shorelines of the island.

- 1. Installation electric and potable systems lack redundancy and are exposed to coastal flooding.**
2. Heckscher Drive is a single point of access to the installation and experiences transportation congestion, pedestrian safety challenges, and exposure to SLR. Transportation congestion (traffic) is a significant issue on Heckscher Drive and Dave Rawls Boulevard, causing delays getting on and off base. They are the primary access roads for the installation.
3. JFRD Fire Station 48 provides emergency response services to MCSF Blount Island and the surrounding area. Marine-based response is significantly delayed due to the location of the fire boat dock on Heckscher Drive.
4. Aging infrastructure is a concern for the access bridges of Dave Rawls Boulevard and the railroad.
5. Shoreline erosion is occurring along the installation's perimeter, particularly in the Navy Point area.
6. Communications infrastructure lacks redundancy, and has experienced outages due to construction activities in the area.
7. Freight transportation and logistics is supported primarily by rail, with opportunity for diversification in backup delivery logistics and options.

This project package addresses redundancy for improved potable water system resilience for the installation (Item 1). Figure 5 shows the location of mission critical potable water infrastructure.

Project Need: Improve Potable Water Supply Resilience Through Redundant Measures

Figure 7. Risk to Mission Map



Potable Water Asset Vulnerabilities Creating Risk to Mission

Blount Island is served by a single potable water main connection located along Dave Rawls Boulevard. This line, owned and operated by JEA, supplies water to the installation, JAXPORT, and the White Shell Bay (WSB) community across the St. Johns River. As a result, any disruption to this line would affect all connected users.

The system's primary vulnerability is its lack of redundancy, as it sits at the end of the distribution network with no backup supply. While not highly exposed to hazards, a portion of the line is attached to the Blount Island Boulevard bridge, which faces moderate storm surge risk. The water mains are underground and source from the Floridan Aquifer, but above-ground infrastructure (pump stations, electrical equipment, controls, or valves) could be impacted by future sea level rise and surge-related flooding. According to the vulnerability assessment, potable water is classified as a secondary mission-critical system with a moderate risk over time.

JEA indicates that the water line is in good condition with no major failure history. However, stakeholder discussions noted past outages caused by construction-related damage to water mains on the island.

Although not a primary mission-critical asset, reliable potable water is essential for daily operations and sanitation. Past disruptions require emergency measures, such as bottled water and tanker deliveries. Water main breaks can also reduce pressure, disrupt wastewater systems, and create cascading impacts on the installation, JAXPORT, and the WSB community. Ensuring a reliable water supply is therefore critical to sustaining operations and maintaining strong relationships with adjacent stakeholders (Table 1).

Table 1. Potable Water Assets Summary

Asset Name	Owner	Location	Mission Criticality	Relevant Shocks & Stresses	Level of Urgency
Potable Water System	JEA	Water line from mainland connecting to the north of Installation	Secondary	Lack of Redundancy	Near-term

Stakeholders and Current Efforts Identified

MCSF Blount Island coordinates with JEA and JAXPORT on the operation of the shared water line to maintain a reliable potable water supply for mission readiness, port operation, and the well-being of White Shell Bay (WSB) community.

- Currently, JEA's potable water supply capacity is sufficient, and no major supply constraints are in place. However, lack of redundancy remains a key challenge. Key opportunities and challenges include:
 - Extending connections from other parts of the system would require miles of new pipeline, making it cost-prohibitive given the few ratepayers.

- Hydraulic benefits would be limited due to distance, pressure constraints, and system configuration.
- Emergency Response Gaps: JEA is responsible for repairing watermain breaks rather than providing a temporary water supply, which requires the installation to secure its own agreements with service providers.
- JEA owns land at White Shell Bay where a demolished WTP and abandoned well had been. The site has a geographic proximity to Blount Island if a need for a secondary service location is identified.
- Although not currently a priority and subject to feasibility and water quality concerns, JEA is open to conducting further analysis if external funding becomes available.
- JEA has centralized monitoring and routine maintenance programs to maintain the water supply. MCSF Blount Island is part of the strong coordination process with JEA on construction.
- Strong coordination exists with JAXPORT on shared infrastructure and with the WSB HOA on construction and dredging activities.

At present, no major capital improvement projects are planned for the Blount Island water system beyond routine asset management. However, regional initiatives led by JEA and the St. Johns River Water Management District (SJRWMD) support long-term water supply resilience. JEA's Integrated Water Resources Plan advances reclaimed water expansion and demand-side management strategies to promote conservation, while its resilience program provides flood-adaptive design guidance for water infrastructure. SJRWMD complements these efforts through programs that enhance water supply reliability, quality, and efficiency across the Lower St. Johns River Basin, including funding for reclaimed water and conservation initiatives.

Table 2 gives details on projects and efforts that are currently ongoing or have been identified as a need within the region as it relates to potable water infrastructure supporting Blount Island.

Table 2. Current projects and efforts related to Blount Island's potable water system

Existing Project	Entity	Location	Purpose	Timeline
Updating the North Florida Regional Water Supply Plan	SJRWMD	St Johns River Water Management District	Water supply	Completed
Demand-Side Management strategy	JEA	JEA service area	Water conservation	Ongoing program

Review of Strategic Partnerships and Policies

MCSF Blount Island's potable water infrastructure is primarily supported through JEA, which owns and operates the main water supply and distribution lines serving the installation. The installation is responsible for secondary and branch lines within the fence line. While this arrangement effectively supports routine operations and maintenance, no formal agreement such as an Intergovernmental Support Agreement (IGSA) currently exists to address potable water system resilience or redundancy. As a result, coordination between MCSF Blount Island and JEA on vulnerability mitigation remains limited and largely informal.

This structure provides operational efficiency by leveraging JEA's established utility management capacity; however, it also constrains the installation's influence over infrastructure resilience decisions that directly affect mission assurance. In particular, the potable water system lacks redundancy, meaning that disruptions to primary supply whether from infrastructure failure, storm surge, or other hazard could significantly impact installation operations. Without a formal coordination mechanism, there is no defined process for jointly evaluating risks, planning alternative supply pathways, or prioritizing resilience investments.

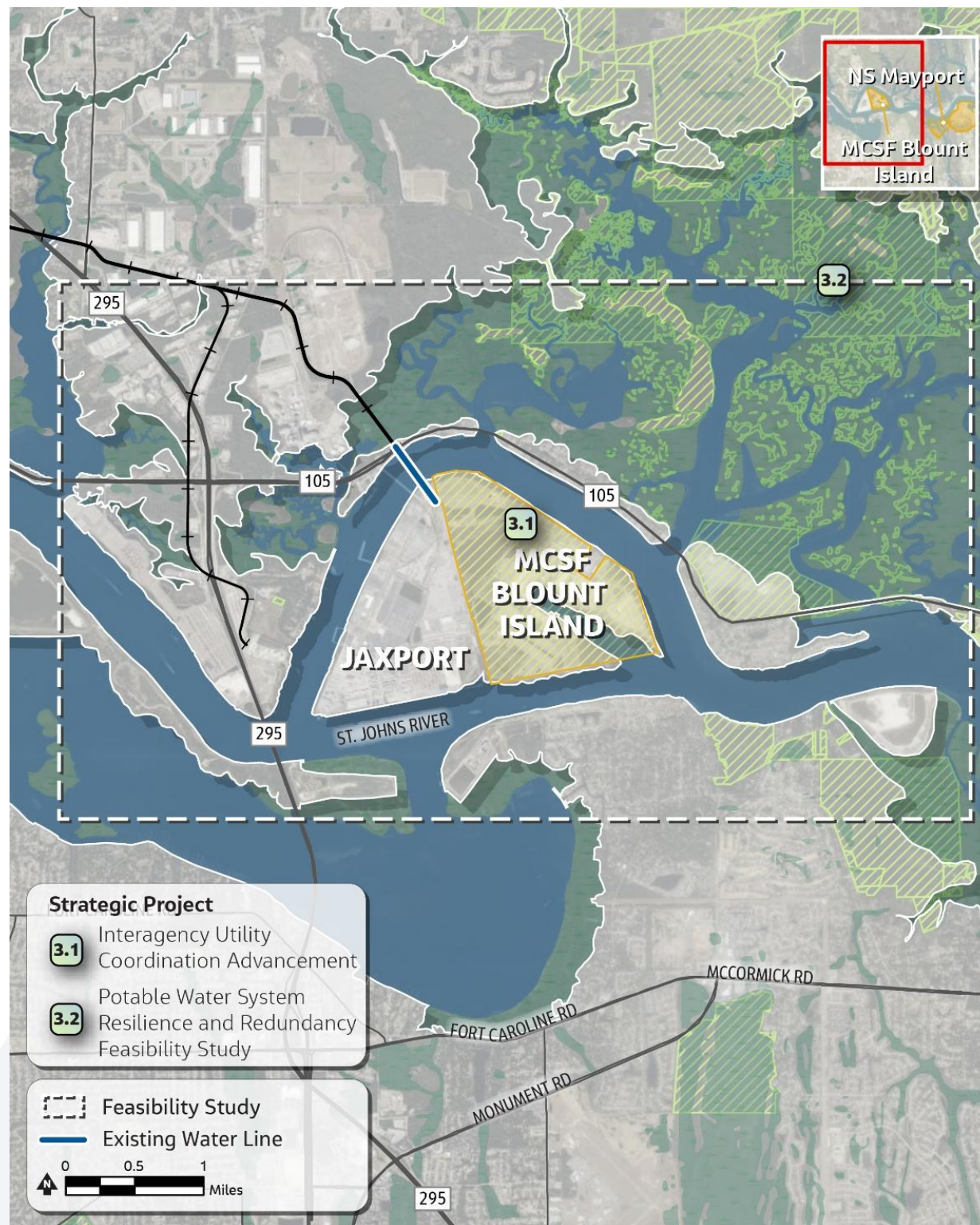
From an efficiency standpoint, formalizing coordination with JEA represents a logical and practical next step. Establishing an IGSA or similar agreement focused on resilience and redundancy could help define shared priorities, clarify roles and responsibilities, and support joint planning for backup supply options or system hardening. Because the installation already depends on JEA for primary service, leveraging this existing relationship offers a relatively low-effort pathway to improve long-term reliability and reduce vulnerability in the potable water system.

Table 3. Blount Island Potable Water Utility Policy Recommendations

Strategy	Issue(s)	Relevant Parties	Description	Current Policies	Policy Change
OW-1: Explore Opportunities for Enhanced Collaboration on Water Resources Management Among Military and Regional Stakeholders	Water Supply Water Infrastructure Regional Coordination	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Formalize, enhance, or develop new coordination pathways among military and regional stakeholders on water resource management, building on the NEFRC Regional Resilience Action Plan (p.44-45).	Regional water management operates through a patchwork of utility service areas and providers (JEA, CCUA, Green Cove Springs); SJRWMD coordinates via consumptive use permitting and regional supply planning; project-level planning often occurs on a utility- or jurisdiction-specific basis with limited cross-system coordination. The North Florida Regional Water Supply Plan (SJRWMD, 2023) and Clay County Water Supply Facilities Work Plan provide existing structures. Clay County Conservation Element Policy 1.3.7 requires decadal coordination among the County, CCUA, and SJRWMD.	Encourage multi-directional participation in regional One Water planning; empower a body to carry out the North Florida RWSP recommendations; develop formal MSAs/MOAs between installations and water authorities (with NEFRC potentially a party); and establish county/local policies requiring more frequent (e.g., every five years) coordination on sustainable water sources and uses.
OW-2: Improve Regional Coordination for Water Quality and Watershed Protection	Water Quality Conservation Regional Coordination	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Form regional watershed protection agreements and expand data-sharing to protect shared water resources from saltwater intrusion, contamination, over-extraction, and degradation.	FDEP-led BMAPs provide a water quality restoration framework for impaired waters. The RRAP (p.45) identifies aging septic systems as a significant regional threat to water quality; septic vulnerability assessments from St. Augustine and Jacksonville can serve as models.	Form regional watershed protection agreements including installations, counties, municipalities, and utilities; expand data-sharing protocols (e.g., via MSAs) for real-time monitoring; incorporate water quality protection into regional watershed management plans; expand low-impact BMPs on public and private property; and complete regional septic vulnerability assessments to advance septic-to-sewer conversions.
OW-3: Modernize Water Infrastructure to Support an Integrated One Water System	Water Infrastructure Aging Infrastructure	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Upgrade aging or undersized drinking water, wastewater, and stormwater infrastructure - on installations and across counties, municipalities, and utilities - to align with regional One Water priorities.	Water systems with outdated infrastructure face failure concerns compounded by extreme weather, rapid growth, and rising construction costs. NAS Jacksonville has documented wastewater capacity and drinking water interconnection/redundancy needs.	Explore upgrades such as a feasibility study for a proposed forced main connection from NASJAX to an off-base JEA plant; pursue formal (project partnering) or informal (letters of support) teaming to increase funding competitiveness; and implement smart water management technologies for efficiency, leak detection, and resource allocation.
OW-4: Align Watershed-Based Stormwater and Flood Control Strategies	Stormwater Coastal Hazards Flood Resilience	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Align stormwater management plans across installation, county, municipal, and utility levels with shared flood mitigation and resilience efforts.	Resilient Jacksonville commits the City to managing wastewater overflow risk and integrating green stormwater infrastructure into capital programming, with the Office of Resilience developing a green infrastructure prioritization process based on the compound flood model.	Align stormwater plans for consistent cross-jurisdictional flood control; implement multi-benefit stormwater infrastructure (green systems, permeable pavement, retention wetlands), bundling or partnering to enhance competitiveness; and strengthen regional floodplain management policies that incorporate military base vulnerabilities.
OW-5: Increase Water Efficiency and Resilience	Water Supply Water Demand Water Infrastructure	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Implement water efficiency retrofits, synchronize conservation plans, expand reuse/recycling, and assess redundant water infrastructure across military and civilian systems.	Rapid population growth, new development, and industrial activity are straining utilities and reducing groundwater reliability, with particular concern in areas susceptible to saltwater intrusion. A potable water interconnection is being established between NS Mayport and the City of Atlantic Beach.	Implement efficiency retrofits (leak detection, high-efficiency fixtures, optimized irrigation); synchronize conservation plans across stakeholders; expand reuse of treated effluent (e.g., NAS JAX to JEA via the 6B pipeline) for non-potable uses; and assess redundant infrastructure (e.g., the Mayport-Atlantic Beach interconnection as a model; a feasibility study to recommission JEA's White Shell Cove plant as backup for JAXPORT/MCSF Blount Island).
OW-6: Ensure Emergency Water Security Through Regional Coordination	Water Supply Emergency Preparedness	Installations Clay County City of Jacksonville NEFRC SJRWMD Utilities	Strengthen backup water storage and develop emergency water supply contingency agreements between installations and local utilities.	Installations and communities depend on reliable interconnections; NS Mayport's privately maintained on-base water and wastewater systems create a need for backup interconnections and coordinated planning.	Strengthen backup water storage on- and off-base; and develop emergency water supply contingency agreements listing prioritized uses (e.g., critical operations) to facilitate rapid response during fires, droughts, contamination events, or system failures.

Adaptable Built Infrastructure Projects

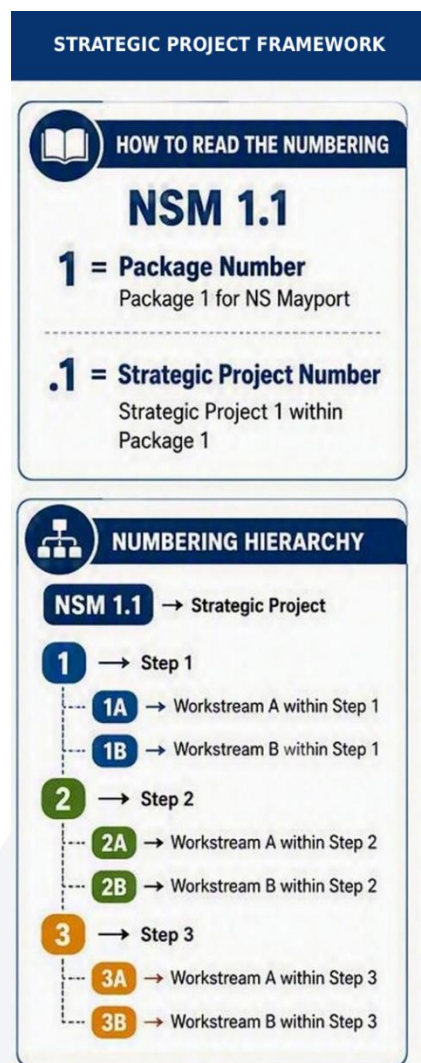
Figure 8. Adaptation Strategies



Strategies included in the adaptation plan have been organized by short, mid, and long-term timeframes for implementation. The strategy numbers in the maps (Figure 8) correspond to the details provided in their respective sections, which outline a comprehensive approach to strengthening energy resilience and support long-term mission continuity. These strategies focus on enhancing existing system performance, reducing vulnerabilities, and advancing modern, flexible infrastructure solutions that can adapt to future demands and environmental conditions. Approximate, order-of-magnitude cost estimates will be provided in 2026 dollars to the extent possible, with up to 50% contingency unless otherwise noted.

Potential Project Leads and Partners are mentioned by organization in the following narratives. The intent is to identify the correct stakeholders that have agency, authority, and interest in the work that is being proposed. Being listed as a lead or partner provides the opportunity to collaborate, advise, and be involved in the adaptation efforts, but does not mandate participation. Funding and financing of projects are not indicated as the responsibility of the project lead or partners, and the monetary tools for obtaining such are in the Implementation section of this package.

Figure 9. Strategic Project Framework



The strategic projects are organized by installation, package, project, step, and actions. The 2-3 letter code indicates the installation. The first number indicates which package this project is in. The second number indicates the project number in the package.

Within each project, the timeline of activities is indicated through the steps (Step 1, Short-term, etc.), and the order of activities is narrated in the sub-steps (1A, 1B, etc.). Through this organization, each strategic project illustrates its project number, timeline, and actions in the narrative.

Strategic Project BI 3.1. Interagency Utility Coordination Advancement

This project establishes a coordinated operational framework to enhance potable water service delivery, response times, and system resilience between JEA and MCSF Blount Island. The initiative is designed to address potential fragmentation inherent in the current multi-node relationship between JEA, MCSF Blount Island Public Works Department (PWD) and Mission Assurance Office (MAO) and supporting contractors. While existing utility contracts effectively deliver potable water service to the installation boundary, there may be opportunities to further enhance coordination, communication, and role clarity across organizational interfaces.

The MCSF Blount Island installation operates as a city-scale utility environment with complex and evolving potable water demands, requiring a high degree of reliability and responsiveness. Given the distributed nature of responsibilities across multiple organizations, there is an opportunity to further align processes related to escalation pathways, incident response coordination, and shared operational awareness between water system operators and on-base utility managers. Strengthening these areas can help support operational continuity, particularly during peak demand periods, infrastructure maintenance activities, or disruption events affecting supply pressure or conveyance systems.

This project offers targeted operational, governance, data-sharing, and infrastructure coordination strategies intended to improve alignment across stakeholders, enhance responsiveness, and support long-term resilience planning if they are not already in place. The recommendations are meant to build upon existing contractual frameworks and organizational roles, focusing on coordination enhancements and operational integration rather than structural changes.

Current Stakeholder Projects

Demand Side Management Strategy

Potential Project Leads and Partners

- MCSF Blount Island PWD and MAO
- JEA (municipal supplier)
- Base Operations and Supporting Utility Contractors

Estimated Cost

To be determined by owner

Step 1: Coordinated Operational Integration Planning (Short-term)

1A. Confirm Primary Integration Leads

- Confirm the primary integration leads are the account manager at JEA and MCSF Blount Island's Facility Support Branch personnel. They serve as the central coordination point for utility-related requests, incidents, and planning activities. If further confirmation or clarification is needed to create a consistent 'front door' for issue resolution, assign responsibilities and

secondary points of contact for items such as intake management, internal routing across engineering and operations teams, and tracking of service response performance metrics.

1B. Define or Update Scenario-Based Responsibility Matrix

- Integration leads can develop and formalize a shared responsibility matrix that outlines roles across common operational scenarios, including off-base supply disruptions, transmission main issues, on-base distribution events, and infrastructure planning activities. Integrate the matrix into standard operating procedures and coordination protocols.

1C. Implement Joint Utility Operations Communication Cadence

- Integration leads can establish recurring coordination meetings at tactical (biweekly), operational (monthly), and strategic (quarterly) levels. Use these forums to coordinate maintenance activities, review system performance, and align upcoming infrastructure needs and risks. Forum should be used also to develop tabletop exercises necessary to identify vulnerabilities and to develop paths that will help address the identified vulnerabilities. Incorporate discussion of water supply reliability, pressure management, and emergency response coordination into regular engagement cycles.

Step 2: Data Visibility, Response Optimization, and System Flexibility Tool Utilization (Mid-term)

2A. Incorporate Data-Driven and Predictive Decision-Making Tools

- Partners can explore the use of predictive analytics and AI-enabled tools to support forecasting of demand fluctuations, pressure variability, infrastructure stress points, and potential failure scenarios within the potable water system. Enable proactive operational adjustments, including maintenance prioritization and system optimization, based on data-driven insights.

2B. Establish Predefined Escalation Framework

- Partners can develop and document a tiered escalation protocol with defined triggers, timelines, and designated points of contact across operational, management, and leadership levels. Ensure alignment between JEA and MCSF Blount Island teams to enable efficient escalation during supply disruptions or high-impact events. Provide clarity and consistency in response procedures while maintaining flexibility for varying incident conditions.
- Continue any ongoing investments in sectionalizing valves, isolation capabilities, or similar infrastructure upstream of the installation to limit the impact of localized failures. Enable the ability to isolate affected segments of the distribution system without interrupting service to the entire installation where feasible.

Step 3: Long-Term Resilience and Partnership Planning (Long-term)

3A. Develop Joint Utility Resilience Plan

- Collaboratively identify opportunities to enhance resilience through redundant supply configurations, backup sources, and when backups would be triggered, where, and for what. Align planning efforts to support continuity of operations during disruptions, extreme weather

events, or infrastructure failures. Establish a shared roadmap for future infrastructure investments and system upgrades.

3B. Implement Embedded Liaison Coordination Model

- Facilitate periodic engagement between JEA engineering teams and MCSF Blount Island PWD personnel to support ongoing coordination and planning alignment. Encourage participation in planning discussions, infrastructure projects, and operational reviews to improve cross-organizational understanding.

Strategic Project BI 3.2: Potable Water System Resilience and Redundancy Feasibility Study

This project establishes a targeted feasibility and resilience planning study to assist in bringing the potable water supply serving MCSF Blount Island to the DoD's definition of resilient critical infrastructure for mission readiness.

DoDI 4715.28 – Military Installation Resilience (2024)

This instruction establishes policy and procedures for ensuring:

- Military installation resilience
- Energy resilience
- **Water resilience**
- Continuity of critical missions during disruptions

The instruction specifically identifies resilience planning for installation infrastructure supporting mission execution and directs the assessment of risks to mission from infrastructure vulnerabilities.

Implication for water/wastewater: If an installation depends entirely on a municipal water utility or a regional wastewater treatment provider, resilience planning must address the risk of losing those external services. The logical resilience objective is to maintain water production, storage, distribution, sewer conveyance, and wastewater treatment sufficient to support critical missions when external systems fail.

Therefore, this effort is centered on identifying and implementing a viable way to provide redundant potable service for operations, fire protection, and life safety to support mission readiness.

In coordination, MCSF Blount Island, JEA, City of Jacksonville, and regional partners and advisors, can study existing transmission and distribution infrastructure, identify critical dependencies, and develop a prioritized framework for enhancing reliability, redundancy, and potable water supply operational resilience. By applying a system-level and scenario-based approach, the project aligns with Military Installation Readiness Review (MIRR) priorities by addressing infrastructure vulnerabilities, supporting mission readiness, and advancing implementable, cost-effective resilience solutions.

Current Stakeholder Projects

N/A

Potential Project Leads and Partners

- MCSF Blount Island
- JEA
- City of Jacksonville: Resilience Office
- Florida Department of Environmental Protection (FDEP)
- St. Johns River Water Management District (SJRWMD)
- Northeast Florida Regional Council (NEFRC)

- U.S. Army Corps of Engineers (USACE)
- Jacksonville Port Authority (JAXPORT)

Estimated Cost

\$100,000

Step 1: MCSF Blount Island Potable Water System Feasibility and Vulnerability Assessment (Short-term)

This phase documents and formalizes a comprehensive understanding of the potable water system's current configuration, vulnerabilities, and future needs, forming the foundation for resilience-focused investment and design.

1A. Identify and Confirm Service Areas, System Configuration, Demand Projections, and Resilience Framework

- Marine Corps offices, in coordination with JEA as local supplier and JAXPORT as neighboring advisor, can evaluate the existing potable water supply configuration, including transmission mains, distribution networks, connection points, and service areas serving MCSF Blount Island. This assessment includes reviewing infrastructure inside the fenceline (MCSF) and outside the fenceline (JEA), identifying critical water demands on the island (JAXPORT and MCSF Blount Island) such as industrial operations, fire protection requirements, and future operational growth scenarios to ensure the system is capable of supporting both current and projected needs. This step also sets up a framework for defining and aligning adaptation projects for this critical infrastructure system with the DoD's published mandates for mission readiness and resilience.
- This can build on SJRWMD's work in conducting water demand models at the regional level. The most recent study was completed in 2023 with the next update cycle is anticipated to being in 2028.

1B. Evaluate Existing Infrastructure Inside and Outside the Fenceline and Probability of Disruption

- A detailed assessment of existing potable water infrastructure can identify capacity constraints, aging assets, and system vulnerabilities, with a focus on areas where the system relies on a single transmission pathway, dead end lines or limited connection points. This analysis will define the extent to which current conditions expose the installation to service disruption from flooding potential to above-ground components, infrastructure failure inside the fenceline, regulatory constraints, or maintenance activities.

1C. Evaluate Redundancy and Conveyance Alternatives

- The study will develop and assess alternatives to meet DoD resilience requirements through service provision redundancy (i.e., emergency backup).
 - Installation of a parallel or secondary transmission main
 - Development of looped distribution network configurations
 - Diversification of supply generation and/or sources across the installation and island

- These alternatives will be evaluated for constructability, cost, and ability to maintain service under both normal and disrupted conditions.

1D. Integrate Stakeholder Coordination and DoD Requirements

- The study will incorporate coordination with Marine Corps leadership and regional partners to ensure alignment with DoD mission readiness and resilience requirements, operational needs, and MIRR resilience criteria, ensuring that recommendations directly support installation readiness and long-term infrastructure performance.

Step 2: Resilience Strategy Development and Implementation Planning (Short-term)

Building on feasibility findings, this phase advances the project toward implementation readiness by defining preferred solutions and establishing a framework for resilient system design.

2A. Enhance System Reliability Through Redundant Conveyance

- The preferred system configuration will incorporate redundant conveyance pathways to ensure continuity of service. By enabling water to be rerouted in the event of damage, maintenance, or localized failure, the system can maintain reliable operation under both routine and extreme conditions.

2B. Incorporate Operational Flexibility and Emergency Bypass Capability

- The study will evaluate design features that improve operational flexibility, including:
 - Interconnections between system segments
 - Sectionalization of distribution networks
 - Emergency bypass infrastructure
- These features allow compromised segments to be isolated while maintaining uninterrupted service through alternate routing, reducing the probability of service interruptions.

2C. Integrate Strategic Storage to Support System Performance

- The project will assess opportunities for on-island or distributed potable water storage, providing short-term buffering capacity during a potential disruption. Storage solutions can support system pressure, firefighting capability, and operational continuity while redundant pathways are activated or repairs are completed.

2D. Develop Prioritized Capital Improvement and Phasing Plan

- A phased implementation plan will identify priority investments based on system vulnerability, operational importance, and cost-effectiveness. This plan will guide design and construction sequencing to minimize disruption while maximizing resilience benefits.

2E. Align Project with MIRR and External Funding Opportunities

- The project will establish a strategy to pursue funding through MIRR and other state and federal programs, including development of cost estimates, benefit analyses, and grant-ready documentation demonstrating mission support and resilience outcomes.

Key Outcomes

This project delivers a comprehensive feasibility study and implementation roadmap to provide resilience of the potable water system serving MCSF Blount Island through redundant options. By eliminating single points of failure and improving operational flexibility, the system will be better equipped to withstand system threats associated with flooding, sea level rise, and other disruptions.

The project directly supports mission readiness and operational continuity by ensuring dependable potable water service for industrial operations, emergency response, and life safety. It aligns with MIRR priorities by addressing infrastructure vulnerabilities, enhancing system redundancy, and advancing coordinated, resilience-focused investment.

As a planning-focused initiative grounded in proven utility feasibility approaches, this effort provides potential project leads and partners with documented findings, funding and financing tools, and an implementation roadmap, ensuring long-term potable water reliability under changing environmental conditions.

Alignment and Support of the Regional Resilience Action Plan

Figure 10. Alignment with the RRAP

SCALE	ACTION	DESCRIPTION
	1	Conserve and protect the region's water resources
	6	Support resilient utilities
	13	Facilitate partnerships to advance resilience work
	16	Identify adaptation options for critical infrastructure to enhance resilience
	32	Inventory critical and significant assets
	34	Identify grants and funding opportunities for resilience work

 Facilitate
  Guide
  Analyze

This project advances RRAP Actions 1, 6, 13, and 16, 32, and 34 by addressing a potable water system that currently depends on a single main along Dave Rawls Boulevard serving MCSF Blount Island, JAXPORT, and the White Shell Bay community, with no backup supply and a dead-end position at the terminus of the distribution network. Strategic Project BI 3.2 establishes a feasibility and vulnerability assessment evaluating parallel or secondary transmission mains, looped distribution configurations, diversified routing, sectionalization, emergency bypass capability, and distributed on-island storage. These measures implement Action 16 (Identify Adaptation Options for Critical Infrastructure to Enhance Resilience), and, specifically, Subaction 16.1 on protecting critical assets through hardening and redundancy where relocation is impractical, applying cost-benefit analysis to identify the most effective and sustainable protective measures. The assessment of flood exposure, groundwater conditions, wetland proximity, and right-of-way constraints on routing options ensures the resulting capital improvement and phasing plan is grounded in the same hazard framework the RRAP applies region wide.

The project's water resource dimension advances Action 1 (Conserve and Protect the Region's Water Resources). Coordination with the St. Johns River Water Management District and alignment with JEA's Integrated Water Resources Plan, reclaimed water line expansions, and demand-side management program directly support Subaction 1.4, under which the Collaborative works with water management district staff and local governments to develop

water supply planning that protects potable resources while meeting regional demands and encourages conservation as the most cost-effective approach to meeting future needs. This alignment is particularly significant given that Blount Island ranks among the highest water users within JEA's service area, and demand is projected to remain high. Sustaining reliable service while extending the life of existing infrastructure reduces the energy use and conveyance burden associated with long-distance treatment, supporting the RRAP objective to maximize the quality of soil, air, and water.

The project's coordination recommendations advance Actions 6 and 13. The primary integration leads, scenario-based responsibility matrix, tiered escalation framework, and joint operations communication cadence established under Strategic Project BI 3.1 implement Subaction 6.2 on facilitating collaboration between utility providers and local governments regarding service provision during disturbances; while investment in sectionalizing valves and isolation capability upstream of the installation supports Subaction 6.3 on capacity and system improvements.

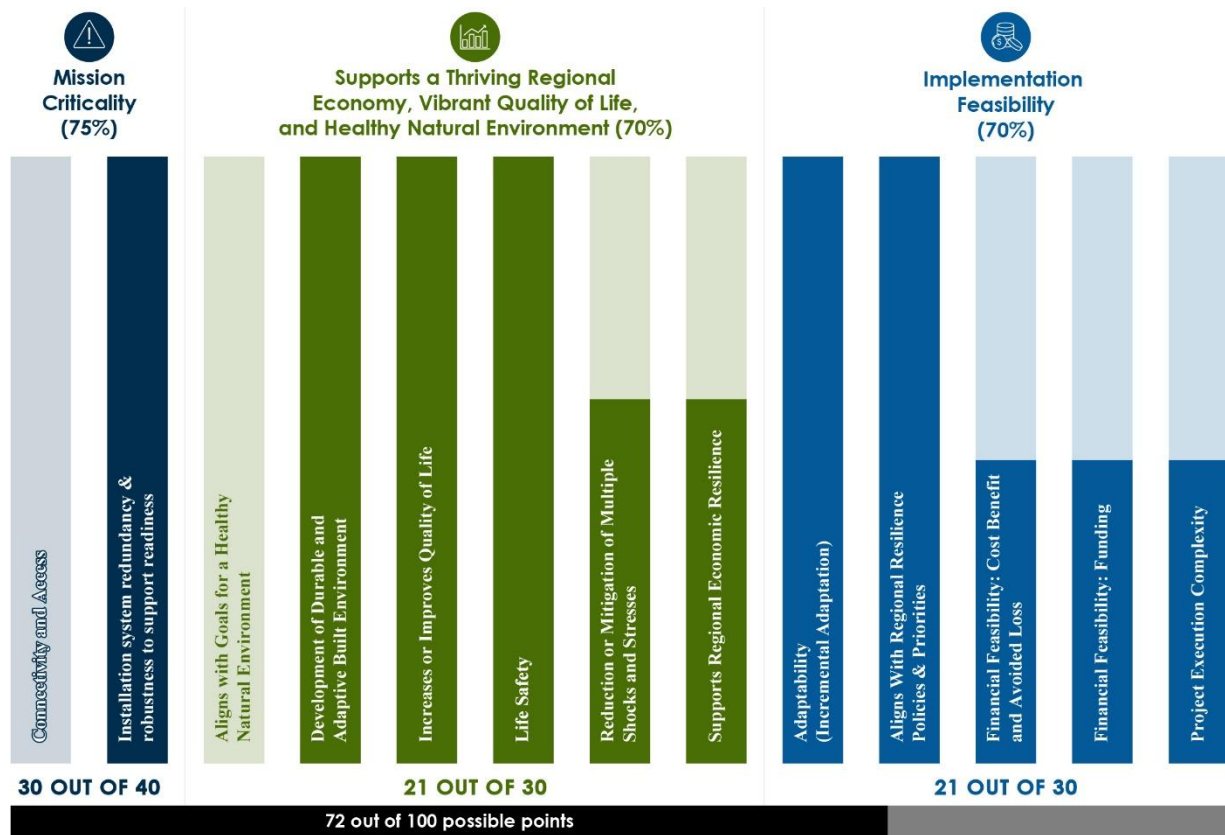
The recommendation to formalize coordination with JEA through an Intergovernmental Support Agreement addressing resilience and redundancy implements Subaction 13.1 on advancing public-private partnerships to leverage expertise and funding; and Subaction 13.3 on intergovernmental partnerships with state and federal agencies, including the military, to increase regional readiness.

Pre-staging protocols and emergency supply arrangements for main breaks support Subaction 23.4 on improving coordinated guidance and response capacity across the region. Documentation of the system's vulnerabilities contributes to the inventory of regionally significant assets maintained under Subaction 32.2, and the project's grant-ready cost estimates and benefit analyses position it for the funding opportunities the Collaborative tracks under Action 34.

Metrics Score

The MCSF Blount Island Potable Water project was evaluated against a robust series of metrics to determine the appropriateness, viability, and support for key goals (Figure 11). The metric categories are given a percentage weight to indicate the comparative importance for the MIRR, with Mission Criticality being the highest. High and mid-range scores across all metric categories indicate that implementing the strategies and policy recommendations within this project will promote mission assurance for the installation.

Figure 11. Metrics Scorecard Results



Cost Benefit Analysis

Benefit-cost analysis (BCA) determines the cost-effectiveness of adaptation projects. This effectiveness is calculated using the equation

$$\frac{B}{C} = \text{Value}$$

Where B is the benefit, or avoided costs, of the project and C is the cost to implement the project. A benefit-cost value greater than 1 indicates that a project is cost-effective (i.e., the benefits of the project outweigh the costs incurred in implementing it), whereas a BC value less than 1 indicates the project may not be cost effective (i.e., the costs exceed the benefits).

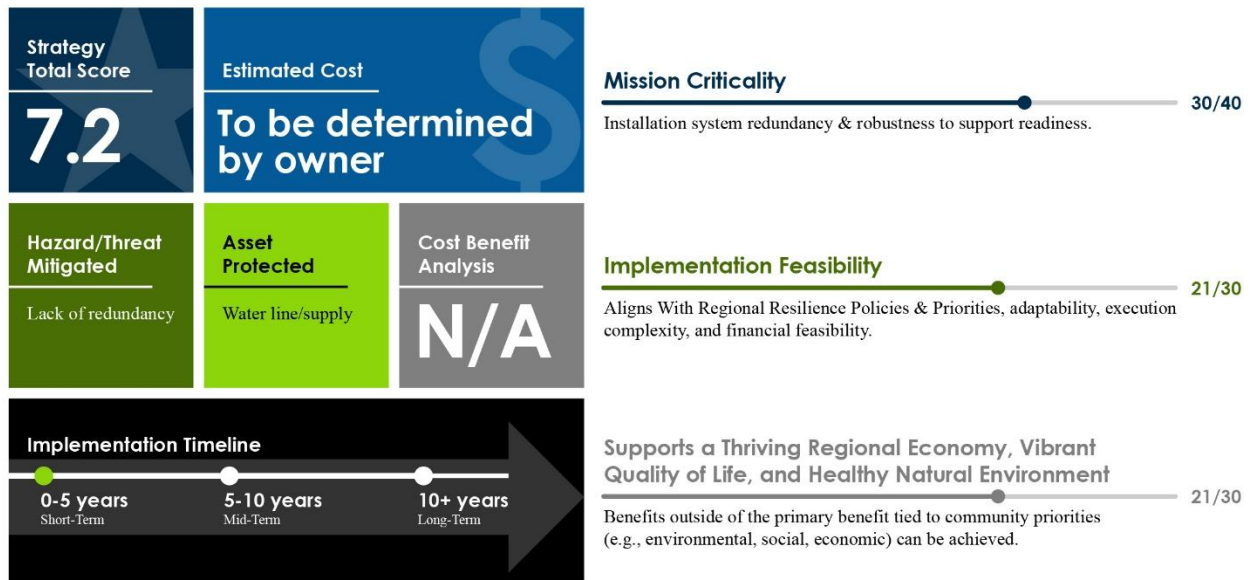
Adaptation project costs were costed to include project construction and design costs, where feasible. Project benefits were costed to include direct (construction or repair costs) and indirect (social, economic, and environmental) costs whenever feasible.

Data sources for benefit values include the Federal Emergency Management Agency, the National Institute of Standards and Technology, the National Interagency Fire Center, and others.

In many cases, associated financial savings data (such as improved installation operations, improved quality of life for installation personnel, or asset-specific O&M costs) was unknown; in these cases, the benefit is described. Hence, BCA values may not reflect the total possible benefit of the proposed adaptation project.

Total Project Package Snapshot

Figure 12. Total Project Package Snapshot





Implementation Tools



Financial Strategy Toolkit

More information on financial strategy building can be found in Technical Memo 10: Implementation Strategy and Investment Pathways.

Many of the tools required to fund, finance, and coordinate resilience implementation are already available under current Florida law or institutional precedent. The challenge, then, is aligning, adapting, and scaling existing tools to support coordinated regional resilience investment strategies. Thus, this section provides an initial inventory of funding, financing, and institutional tools that can be used to support the implementation of the MIRR project portfolio and the broader resilience system envisioned above.

Use the Defense Community Infrastructure Program (DCIP) for Dual-Benefit Utility Projects

The Defense Community Infrastructure Program (DCIP), administered by the DoD Office of Local Defense Community Cooperation, is a competitive grant program for community infrastructure that supports a nearby installation, and it can fund off-base water, wastewater, electric, and other utility projects. It is open to state and local governments and to member-owned utilities, which makes it a strong fit for dual-benefit projects such as the off-base Camp Blanding substation and community-serving upgrades tied to the installations. REPI can also support installation-resilience elements where energy and encroachment protection overlap. Near-term work is to identify which utility projects meet DCIP's installation-support criteria and prepare competitive applications around reliability and mission continuity.

Resilient Utilities Longer-term Implementation

Utility resilience priorities should be matched to the funding or capital process most likely to deliver them. For utility-owned assets, this means determining whether the project belongs in the utility's capital program or needs another funding path based on the risk addressed, the function served, and the project's likely scope, cost, timing, and operation.

Installation-side and federally linked assets require separate considerations. Fuel infrastructure, on-base utility systems, and other projects tied directly to continuity of operations inside the fenceline should be distinguished from community utility investments, even where the systems are connected. These projects may require federal action, utility coordination, service-agreement changes, local cost-share, or a defense-community funding strategy.

The strongest candidates will be projects that connect mission assurance with community continuity and can be translated into a clear path to delivery.

One Water Framework

Stormwater, potable supply, and reuse have traditionally been planned and funded as separate systems, but the MIRR portfolio shows how tightly they connect. The water projects on Blount Island, grouped as conveyance capacity and redundancy, center on water reuse, on-site storage, and added reuse capacity at the water treatment plant, and these are owned by JEA. Stormwater upgrades on and around Camp Blanding sit in the same hydrologic and funding conversation.

A One Water approach treats supply, stormwater, and reuse as one system, which reflects the region's hydrology and lets the region use SRF and state water programs more strategically than project-by-project applications allow.

Modernize Utility Revenue and Fee Structures to Support Resilience

Stable, resilience-aligned rate and fee structures are the foundation for both funding projects directly and qualifying for low-cost financing. JEA and the region's stormwater utilities should examine whether current rate models reflect the full cost of service and the investments needed for redundancy and hardening. Modernized structures that fund system hardening, reuse, and storage improve capital planning, reduce long-term borrowing costs, and strengthen a utility's position for SRF and other financing. SJRWMD and NEFRC can support alignment across jurisdictions, and statewide bodies such as the Florida League of Cities can provide technical capacity.

Develop a Coordinated, Funding-Focused Regional One Water Portfolio

Water and stormwater projects that cross jurisdictional or system boundaries are stronger as a bundled portfolio than as individual submissions, because bundling opens co-financing, joint applications, and phased delivery. Near-term actions include:

- Having a regional convener (RFC Partners or SJRWMD) for a One Water project inventory that maintains a pipeline of shovel-ready and conceptual projects reflecting cross-system needs.
- Bundling the Blount Island reuse, storage, and treatment-capacity work with related stormwater and redundancy improvements wherever they share a watershed or a funding pathway.
- Using the coordinated portfolio to inform joint State Revolving Fund (SRF) applications and more competitive proposals, particularly in watersheds tied to the installations' missions.

Increase Access to SRFs and Other Water Financing Tools

Florida's SRFs are the central mechanism for water and reuse infrastructure, but access is often constrained by the administrative capacity to assemble competitive applications. Many eligible projects can go unfunded or are submitted individually when bundling would improve competitiveness. Near-term steps include:

- Providing technical assistance to develop SRF-compliant scopes and coordinate joint submissions across the FL DEP Clean Water and Drinking Water SRFs.
- Screening larger conveyance and treatment-capacity projects for EPA's WIFIA and SWIFIA credit programs, which are structured for higher-cost water infrastructure.
- Pursuing FL DEP Alternative Water Supply grants for reuse, aquifer recharge, and conservation components of the portfolio.
- Pairing SRF loans with local revenue sources such as user fees or developer contributions to reduce repayment risk and improve financial sustainability.

Strengthen Institutional Capacity for Regional Water Governance

Integrated water planning depends on institutions that can coordinate investment, permitting, and operations across boundaries. Near-term actions include expanding the role of regional conveners such as NEFRC or SJRWMD in aligning investment, and building staff capacity within JEA and partner local governments to manage cross-jurisdictional infrastructure. Exploratory working groups can lay the groundwork for the more durable governance structures discussed in the longer-term strategies.

One Water priorities should be planned as an integrated system, but implementation will depend on more targeted funding and financing options tied to specific assets, revenue sources, eligibility requirements and governance jurisdiction. For example, projects with specific owners, funding sources, and capital need are positioned for capital investment planning, SRF financing, rate-supported investment, or other financing tools; whereas, projects with broader flood-reduction, watershed, or stormwater benefits are better tied to options like local stormwater programs or grant-based implementation.

This structure preserves the benefits of One Water planning while recognizing that funding and financing options often remain tied to specific asset types, owners, revenue sources, and eligibility requirements.

Funding Opportunities

Table 4. Water Infrastructure and Stormwater Funding Options

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
US Economic Development Administration	Public Works and Economic Adjustment Assistance Programs	The U.S. Economic Development Administration’s (EDA) Economic Adjustment Assistance (EAA) program invests \$500 million in American Rescue Plan funding to help plan, build, innovate, and put people into quality jobs in hundreds of communities across the nation. As part of the suite of EDA American Rescue Plan programs, the EAA program is funding 256 grantees that will implement projects in 48 states, Puerto Rico, and the District of Columbia	PWEAA/EAA remains active and accepting applications in FY2026. The ARP supplemental (~\$500M nationally, incl. ~\$19M FY23) has concluded; standard Public Works & Economic Adjustment Assistance appropriations continue. (eda.gov)	Must be in economically distressed areas & tied to permanent private sector jobs and investments. Note: in Jan 2026 EDA indicated changes to economic-distress eligibility criteria would take another year and involve stakeholder input. (eda.gov)	Water and wastewater projects	Rolling/continuous application basis.
USDA	Community Facilities Direct Loan & Grant Program	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area.	Interest rates are set by Rural Development Grant assistance is limited to rural communities with low median household incomes.	Rural areas including cities, villages, townships and towns including Federally Recognized Tribal Lands with no more than 20,000 residents according to the latest U.S. Census Data are eligible for this program. Eligible borrowers include public bodies, community-based non-profit corporations, and federally-recognized Tribes	- Utility services including water and wastewater facilities - Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment - Educational services such as museums, libraries or private schools - Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses	Open year round
USDA	Emergency Community Water Assistance Grants (ECWG)	This program provides grants to help eligible communities prepare, or recover from, an emergency that threatens the availability of safe, reliable drinking water.	Up to \$150,000 for water distribution line maintenance and up to \$1,000,000 to construct a source, intake or treatment facility.	Public utilities in communities with significant decline in quantity/quality due to emergency including drought.	Eligible emergencies include drought or flood, earthquake, tornado or hurricane, disease outbreak, chemical spill, leak or seepage, and other disasters. A federal disaster declaration is not required to access this funding.	Applications accepted year round
USDA	Water & Waste Disposal Loan & Grant Program	Provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.	Offers direct and guaranteed loans depending on the loan amount and community size. If funds are available, a grant may be combined with a loan if necessary to keep user costs reasonable.	Community must be rural with population of 10,000 or less.	Water, wastewater & storm water projects	Applications are accepted year round
USDA	Water & Waste Disposal Predevelopment Planning Grant	This program assists low-income communities with initial planning and development of applications for USDA Rural Development Water and Waste Disposal direct loan/grant and loan guarantee programs.	Maximum of \$60,000 or 75 percent of the predevelopment planning costs.	Community must be rural with a population of 10,000 or less, and have a median household income below the poverty line or less than 80% of the statewide non-metropolitan median household income.	This program helps eligible low income communities plan and develop applications for proposed USDA Rural Development water or waste disposal projects.	Applications are accepted year round

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
USDA	Special Evaluation Assistance for Rural Communities and Households (SEARCH) Grant	This program helps very small, financially distressed rural communities with predevelopment feasibility studies, design and technical assistance on proposed water and waste disposal projects		Community must be rural with a population of 2,500 or less, and have a median household income below the poverty line or less than 80% of the statewide non-metropolitan median household income.	▪ Feasibility studies to support applications for funding water or waste disposal projects ▪ Preliminary design and engineering analysis ▪ Technical assistance for the development of an application for financial assistance	Applications for this program are accepted year round through your local RD office.
EPA	Water Infrastructure Finance and Innovation Act (WIFIA)	A federal credit program administered by EPA for eligible water and wastewater infrastructure projects. As of early 2026 the program has closed 152 loans totaling \$23B, supporting \$51B in total project cost. (epa.gov/wifia)	FY2026 NOFO (Nov 2025): est. \$6.5 billion in WIFIA and \$550 million in SWIFIA financing available. ▪ Min. \$20M project size (large communities); \$5M (small). ▪ WIFIA can fund up to 49% of eligible cost (large) / 80% (small). (epa.gov/wifia)	▪ 35 years: Maximum final maturity date from substantial completion. ▪ 5 years: Maximum time that repayment may be deferred after substantial completion of the project. ▪ Interest rate will be equal to or greater than the U.S. Treasury rate of a similar maturity at the date of closing. ▪ Projects must be creditworthy and have a dedicated source of revenue. ▪ NEPA, Davis-Bacon, American Iron and Steel, and all other federal cross-cutter provisions apply.	Projects that are eligible for the DW & CWSRF; enhanced energy efficiency projects at dw and ww facilities; brackish or seawater desalination, aquifer recharge, alternative water supply, and water recycling projects; drought prevention, reduction, or mitigation projects; acquisition of property if it is integral to the project or will mitigate the environmental impact of a project; a combination of projects secured by a common security pledge or submitted under one application by an SRF program.	Letters of interest accepted on a rolling basis (LOIs on/after Dec 29, 2025 scored under the FY2026 NOFA). FY2026 application deadline: July 23, 2026. (federalregister.gov 2025-21446)
EPA	Drinking Water System Infrastructure Resilience and Sustainability Program	Grant to improve resilience to hazards at public water systems.	\$19M was available under the prior RFA; no cost-share required. [Status note (mid-2026): program is currently CLOSED for applications; next NOFO not yet announced — verify at epa.gov/dwcapacity.]	Eligible applicants for this competitive grant program are public water systems, water systems located on areas governed by Tribes, and a State, on behalf of an underserved community. Each applicant must serve a community that is underserved and small or disadvantaged.	Example projects include: ▪ Implementing a leak detection and repair program to reduce lost water; ▪ Interconnecting with other water systems and water reuse; ▪ Adding raw water storage and aquifer recharge; ▪ Developing a conservation program with public outreach; and ▪ Coordinating water usage with neighboring irrigation districts and communities.	FY23 selections announced Summer 2024. No open application cycle as of mid-2026; check EPA for the next Notice of Funding Opportunity. (epa.gov/dwcapacity)
FL DEP	Clean Water State Revolving Fund (CWSRF)	Provides low-interest loans for planning, designing and constructing water pollution control facilities.		Local governments, non-profits, public utilities, and Inter-municipal, interstate, and regional agencies.	Funds the acquisition, construction, improvement, expansion, extension, repair, rehabilitation or security measures of all or part of any facility or system, whether publicly or privately owned for the collection, treatment, or disposal of wastewater, including industrial waste such as the treatment of emerging contaminants and for the control of pollution associated with stormwater runoff	FL DEP adds projects to the project priority list quarterly. Applications are due three months prior to quarterly meeting at which the applicant is seeking to be added to the PPL. Once on the PPL, loan applications are accepted on a rolling basis.

Agency/Org	Program	Description	Available Funding	General Eligibility	Example Eligible Projects	Timeline
FL DEP	Drinking Water State Revolving Fund (DWSRF)	Provides low-interest loans to eligible entities for planning, designing and constructing public water facilities		Local governments, Water Supply Authorities, non-profit water systems, and privately owned community water systems.	Funds the acquisition, construction, improvement, expansion, extension, repair, rehabilitation or security measures of all or part of any facility or system, whether publicly or privately owned for the supply, treatment, storage, or distribution of drinking water including projects to remove and replace lead service lines and identify and treat emerging contaminants	FL DEP adds projects to the project priority list quarterly. Applications are due three months prior to quarterly meeting at which the applicant is seeking to be added to the PPL. Once on the PPL, loan applications are accepted on a rolling basis.
FL DEP	Water Quality Improvement Grant Program	Funding to Florida's governmental entities (cities, counties, municipalities, etc.) to address wastewater (including septic to sewer), stormwater and agricultural sources of nutrients in waterbodies.	\$389 million awarded in FY2025 (31 high-priority projects funded of 348 submissions requesting >\$2.2B). (flgov.com; floridadep.gov)	Financial assistance is available to Florida's governmental entities for projects that have an established total maximum daily load or are located within a basin management action plan area, a reasonable assurance plan area, an accepted alternative restoration plan area, or a rural area of opportunity.	▪ Retrofits to onsite sewage treatment and disposal systems ▪ Wastewater treatment facility construction, upgrades, or expansion- Connecting OSTDS to central sewer facilities ▪ Stormwater or agricultural sources of nutrients in water bodies ▪ Repairs, upgrades, expansion, or construction of domestic wastewater reuse and collection systems	<u>Proposals submitted via the Protecting Florida Together Water Quality Grants portal, which reopens after the 2026 Legislative Session. The 2026 RESTORE Funded Priority List call opened July 1, 2026.</u> (protectingfloridatogether.gov)
FL DEP	Alternative Water Supply Grants	Supports projects that develop sustainable water supplies to meet existing and future demands, including water reuse and conservation.	Varies annually; ~\$40–50M historically.	Local governments, utilities, and water management districts.	Aquifer storage and recovery, reclaimed water systems, water conservation programs.	Annual funding cycle aligned with DEP’s budget year; call for projects typically opens mid-year.
FL DEP	Springs Restoration Grant Program	Funds capital projects to protect Florida’s springs through water quality improvements and water quantity management.	~\$50M/year. FY2025-26: \$50M awarded for 23 springs restoration projects (reducing Total Nitrogen by >100,000 lbs/yr). (flgov.com)	Local governments, utilities, WMDs in springsheds.	Septic-to-sewer conversions, stormwater treatment retrofits, wastewater upgrades.	Annual call for projects in late spring/summer.
FL DEP	Nonpoint Source Management Grants (319 Grants)	EPA-funded grants supporting efforts to reduce nonpoint source pollution through planning, implementation, and education.	~\$5–10M/year; requires 40% match.	Local governments, nonprofits, educational institutions.	Bioretention, rain gardens, retrofits, green infrastructure.	Annual RFP, typically issued in January or February.
FL DEP	Small Community Wastewater Facility Grants	Provides grants to small communities for planning, design, and construction of wastewater infrastructure projects.	Up to 85% of eligible project costs.	Florida municipalities with populations <10,000.	Wastewater treatment plants, lift stations, collection systems.	Applications accepted on a rolling basis.
FloridaCommerce	Community Development Block Grants (CDBG) Program	Federal funding to eligible small cities and counties in Florida for housing and community development activities. The primary objectives are to develop viable communities by providing decent housing, a suitable living environment, and expanding economic opportunities, principally for low- and moderate-income persons.	FloridaCommerce awards ~\$18–\$38M annually from HUD as subgrants to eligible local governments. FloridaCommerce announced ~\$38M available under the FFY2025 Small Cities CDBG program (2026 announcement). (floridajobs.org/)	▪ Cities with fewer than 50,000 residents that have not accepted special entitlement status and have not opted to join an entitlement program. ▪ Counties with fewer than 200,000 residents. ▪ Cities with more than 50,000 residents that have opted out of the urban entitlement program.	Water and sewer improvements, street and sidewalk improvements, drainage improvements, park facilities, housing rehabilitation, commercial and downtown revitalization efforts, economic development initiatives.	Annual cycle. FFY2025 application cycle closed May 16, 2025; FloridaCommerce announced new Small Cities CDBG funding availability in April/May 2026.

References

- American Water Works Association. (2018). *Emergency planning for water and wastewater utilities* (Manual M19). https://tbaywpcp-sops.info/sites/tbaywpcp-sops.info/files/Emergency%20Planning%20for%20Water%20%26%20Wastewater%20Utilities%20%28AWWA%29_0.pdf
- American Water Works Association. (2021). *Risk and resilience management of water and wastewater systems* (ANSI/AWWA J100-21). <https://webstore.ansi.org/standards/awwa/awwaj1002021>
- American Water Works Association. (n.d.). *Risk and resilience resources for water utilities*. <https://awwa.org/resource/risk-resilience/>
- Cipolla, S. S., Altobelli, M., & Maglionico, M. (2018). *Decentralized water management: Rainwater harvesting, greywater reuse and green roofs within the GST4Water project*. Proceedings, 2(11), 673. <https://doi.org/10.3390/proceedings2110673>
- City of Jacksonville. 2023. "Resilient Jacksonville." City of Jacksonville.
- CSX, CSX Corporation . 2025. "2025 CDP Corporate Questionnaire 2025."
- FDEP, Florida Department of Environmental Protection. 2025. Wetlands. April. Accessed April 2026. <https://geodata.dep.state.fl.us/datasets/FDEP::wetlands/about>.
- FDOT, Florida Department of Transportation. 2022. "STRATEGIC INTERMODAL SYSTEM Policy Plan."
- JAXPORT. n.d. "2025-2030 STRATEGIC PLAN." JAXPORT. Accessed April 2026. <https://www.jaxport.com/wp-content/uploads/2025/07/Strategic-Plan-2025-2030-One-pager.pdf>.
- JEA. 2021. "Intergrated Water Resources Plan." Water Sustainability. April. Accessed May 2026. https://www.jea.com/environment/water_sustainability/.
- JEA. 2020. "System Resilience Plan."
- JEA. 2025. "Systemwide Electrical Resilience Plan."
- Nature Portfolio. (2024). *Using water and wastewater decentralization to enhance resilience*. <https://www.nature.com/articles/s44221-024-00303-9>
- NF-TPO, North Florida Transportation Planning Organization. 2024. "2050 North Florida TPO Long Range Transportation Plan Update Final Report ."
- NF-TPO, North Florida Transportation Planning Organization. 2024. "Regional Freight Plan Summary Report."
- NPS, National Park Service. n.d. Timucuan Preserve. Accessed 2026. <https://www.nps.gov/timu/planyourvisit/maps.htm>.

Rodrigues, A. M., Formiga, K. T. M., & Milograna, J. (2023a). *Integrated systems for rainwater harvesting and greywater reuse: A systematic review of urban water management strategies*. *Water Supply*, 23(10), 4112–4125. <https://doi.org/10.2166/ws.2023.240>

Rodrigues, A. M., Formiga, K. T. M., & Milograna, J. (2023b). *Integrated rainwater harvesting and greywater reuse systems for water security*. ResearchGate preprint. <https://www.researchgate.net/publication/374051930>

SASMI, The South Atlantic Salt Marsh Initiative. n.d. Southeast Coastal Marshland Project Database. Accessed April 2026. https://experience.arcgis.com/experience/f72d471dc88446a5a8ce273aedcf87c0/#data_s=id%3ADataSource_1-199e8edffe7-layer-11%3A68.

SJWMD, St. Johns River Water Management District. 2025. "2026-2030 Strategic Plan." Document library. December. Accessed May 2026. <https://aws.sjrwmd.com/SJRWMD/plans/SJRWMD-Strategic-Plan-2026-2030.pdf>.

SJRWMD, St. Johns River Water Management District. 2026. "St. Johns River Water Management District Consolidated Annual Report." Document library. March. Accessed May 2026. <https://aws.sjrwmd.com/SJRWMD/plans/SJRWMD-2026-Consolidated-Annual-Report.pdf>.

St. John, S. (2025). *Beyond AWIA compliance: Turning risk assessments into real resilience*. National Association of Clean Water Agencies. <https://www.nacwa.org/news-publications/news-detail/2025/03/27/beyond-awia-compliance--turning-risk-assessments-into-real-resilience>

Fernleaf and The Water Institute. 2023. *Resilient Jacksonville Vulnerability Assessment*. Prepared for the City of Jacksonville. Jacksonville, FL. October 2023. <https://water-institute.files.svdcn.com/production/Projects/Resilient-Jacksonville-Vulnerability-Assessment.pdf>.

JEA. 2024. "2024 Water Quality Report." Jacksonville Electric Authority. Accessed July 28, 2026. <https://www.jea.com/WQR2024/>.

JEA. n.d. "Water Supply." Jacksonville Electric Authority. Accessed July 28, 2026. https://www.jea.com/about/water_supply/.

National Centers for Coastal Ocean Science (NCCOS). 2025. "Coastal Defense: Collaborative Efforts to Safeguard Blount Island Against Rising Hazards." National Oceanic and Atmospheric Administration. April 22, 2025. <https://coastalscience.noaa.gov/news/coastal-defense-collaborative-efforts-to-safeguard-blount-island-against-rising-hazards/>.

National Hurricane Center. n.d. "National Storm Surge Risk Maps – Version 4." National Oceanic and Atmospheric Administration. Accessed July 28, 2026. <https://www.nhc.noaa.gov/nationalsurge/>.

The Water Institute. n.d. *City of Jacksonville Compound Flooding Analysis*. Baton Rouge, LA: The Water Institute. Accessed July 28, 2026. <https://water-institute.files.svdcn.com/production/Projects/Jacksonville-CompoundFloodingAnalysis.pdf>.

U.S. Geological Survey. n.d. "Floridan Aquifer System Groundwater Availability Study." Accessed July 28, 2026. <https://fl.water.usgs.gov/floridan/objectives.html>.

Burgess, Taylor J. 2025. “Saltwater Intrusion Threatens Florida’s Drinking Water Supply.” *The Invading Sea*, January 8, 2025. <https://www.theinvadingsea.com/2025/01/08/saltwater-intrusion-floridan-aquifer-sea-level-rise-drinking-water-jacksonville-wetlands-florida/>.

Department of Defense. 2025. *DoD Instruction 4715.28: Military Installation Resilience*. Change 1, August 4, 2025. Washington, DC: Office of the Under Secretary of Defense for Acquisition and Sustainment. <https://www.esd.whs.mil/DD/>.

