



Public Services & Facilities Committee

1:00 p.m., Tuesday, June 6, 2023

1207 Palm Boulevard

City Hall Council Chambers

Public Comment:

All citizens who wish to speak during the meeting must email their first and last name, address and topic to Nicole DeNeane, City Clerk, at nicoled@iop.net no later than **3:00 p.m. the day before the meeting**. Citizens may also provide written public comment here:

<https://www.iop.net/public-comment-form>

Agenda

1. **Call to order** and acknowledgment that the press and the public have been duly notified of the meeting in accordance with the Freedom of Information Act.
2. **Citizens' Comments** – All comments have a time limit of three (3) minutes.
3. **Approval of previous meeting's minutes** – May 2, 2023
4. **Old Business**
 - a. Update of IOP marina store and parking renovations
 - b. Update of IOP marina shared parking lot management
5. **New Business**
 - a. Consideration of proposal from Applied Technology Management for the engineering design and permitting of marina dredging project
 - b. Discussion of timeline of the Waterway Boulevard Elevation Project and options
6. **Miscellaneous Business**

Next meeting date: 1:00 p.m., July 11, 2023
7. **Executive Session** – If needed
8. **Adjournment**



**Public Services & Facilities Committee Meeting
1:00pm, Tuesday, May 2, 2023
1207 Palm Boulevard, Isle of Palms, SC and
broadcasted live on YouTube: <https://www.youtube.com/user/cityofisleofpalms>**

MINUTES

1. Call to Order

Present: Council members Miars, Streetman, and Popson (via phone)

Staff Present: Administrator Fragoso, Director Kerr, Director Pitts, Assistant Director Asero, Director Ferrell

2. Approval of Previous Meeting's Minutes – April 4, 2023

Council Member Miars made a motion to approve the minutes of the April 4, 2023 meeting. Council Member Streetman seconded the motion. The motion passed unanimously.

3. Citizen's Comments

Mr. Rich Bozsik, 15 44th Avenue, came before the Committee stating he was speaking for 9 of 11 property owners between 43rd and 45th avenues that are obligated to follow the restrictions of Wild Dunes and are not part of the Wild Dunes Community Association. These homeowners wish to be relieved of these restrictions and be rezoned from the Wild Dunes PPD into SR-1. They have received communication from Wild Dunes indicating they are not opposed to this request, but some legal issues will need to be dealt with prior to that happening.

He said, "Our concern and the reason why we are before you is assuming that Wild Dunes gives the okay to relinquish us of those responsibilities that leaves us in somewhat of a vacuum as to the restrictions on our property. I think that has happened in the past before on Isle of Palms where Wild Dunes' restrictions sort of went away and there were no restrictions in place for those properties. What we want to do as property owners is we want to make sure that there is no gap in restrictions on our properties."

4. Old Business -- none

5. New Business

MOTION: Council Member Streetman made a motion to reorder the agenda to allow for the discussion of rezoning first. Council Member Miars seconded the motion. The motion passed unanimously.

A. Discussion of request from property owners on 43rd, 44th, and 45th avenues for properties to be rezoned from the PDD into SR-1.

Director Kerr explained, “These 11 properties, from my perspective, have been kind of an anomaly for as long as I have been here, and as Mr. Bozsik has said, they have always been outside of Wild Dunes, outside of the gates, but within the PDD for purposes of being counted in the PDD. For purposes of architectural review, those projects we’ve always held permit requests until Wild Dunes ARC has reviewed them. It is very similar to the condition we had between 53rd and 57th. Those properties were also outside the gates, but they were beholden to their standards.”

He reviewed the steps that need to be taken in order for this request to be managed. A change to the zoning map requires posting, two readings to change the ordinance, a public hearing, and referral of the matter to the Planning Commission. In addition, because it removes properties from the Wild Dunes PDD, there will need to be amendments to the recently passed ordinances regarding the Wild Dunes PDD so that the number of properties included is adjusted accordingly.

Council Member Streetman stated that Mr. Bozsik is his neighbor, but his own property is not considered part of Wild Dunes. Mr. Bozsik indicated that the process to pull out of Wild Dunes should take 1-2 months, and while they do not want a gap on the restrictions, he said a 30-day wait for the City to finalize the ordinances is acceptable.

Council Member Popson asked if the properties would still be deed restricted to Wild Dunes and the benefit of pulling out of the PDD. Mr. Bozsik answered, “There is the issue with the restrictions from Wild Dunes. First of all, we the 11 properties, are not members of the Wild Dunes Homeowners Association. We do not pay any fees. We do not get any benefit as a Wild Dunes resident would. There is nothing, and if we want to get access to the gate of Wild Dunes, we do so as anybody in this area gets access to the gate. However, the restrictions of Wild Dunes are far more onerous than the restrictions of IOP, and the fact that we are adjacent to properties who have different restrictions than the 11 properties is head scratching to say the least. What we are simply trying to do is ensure that there is a homogenous feeling in the neighborhood and ensure that everyone is treated the same. That is all we are trying to accomplish.” They are looking for guidance from the City on how to move the matter forward.

Director Kerr said he would prefer that there be an overlap of the restrictions rather than a gap.

Council Member Streetman read a letter from the Wild Dunes Community Association about this matter, and it is attached to these minutes.

MOTION: Council Member Streetman made a motion to “move the request from the property owners on 43rd, 44th, and 45th avenues for properties to be rezoned from the PDD into SR-1” to full Council and to direct staff to begin drafting the necessary ordinances and maps to make the change. Council Member Miars seconded the motion. The motion passed unanimously.

B. Discussion of future underground utility projects with Dominion Energy

Director Kerr said they have met with Dominion Energy staff who suggested the undergrounding projects at 14th Avenue and the Marina should be the next ones to consider. Dominion said they could manage one project a year. The City currently has \$75,000 in FY24 for such projects. Dominion Energy will begin the design work on the projects. City staff will try to coordinate the undergrounding at 41st Avenue with the drainage work in that area so that new road does not have to be cut up later. Staff will keep the Committee and Council up to date as the project moves along.

C. Discussion of implementing “Adopt a Drain” program

Director Kerr said the City is working with the City of Charleston on this initiative. He said the goal is “that people locally would have eyes and the ability to do minor kind of clearing of drains.” There are approximately 120 drains to adopt as the program cannot include ditches, culverts, and drains belonging to SCDOT. The program will be rolled out at the Disaster Expo on May 16 at the Recreation Center.

6. Miscellaneous Business

The next meeting of the Public Services & Facilities Committee will be Tuesday, June 6, 2023 at 1pm.

7. Adjournment

Council Member Miars made a motion to adjourn and Council Member Popson seconded the motion. The meeting was adjourned at 1:37pm.

Respectfully submitted,
Nicole DeNeane
City Clerk



**Response to Request for Proposals
RFP-2023-03: Engineering Design
and Permitting for Marina Dredging**

**Isle of Palms,
South Carolina**

Due: Friday, May 26, 2023 by 2:00pm

May 26, 2023

Desiree Fragoso
City Administrator
City of Isle of Palms
1207 Palm Boulevard
Isle of Palms, SC 29451

Re: Response to Request for Proposals (RFP – 2023-03): Engineering Design and Permitting for Marina Dredging

Dear Ms. Fragoso:

Applied Technology & Management (ATM), a Geosyntec Company, has the [relevant qualifications, dredging-related experience, relationships with the appropriate permitting authorities, expertise building public consensus, and substantial history on the marina site](#) to continue serving as the City's trusted, collaborative engineering consultant for services related to the above-mentioned RFP. We are pleased to submit our proposal to provide professional engineering design and permitting services for marina dredging and are confident that we can successfully deliver reliable and efficient service on this project.

As you review our qualifications and capabilities, please consider the following success factors emphasized throughout our submittal:

- **Relevant Qualifications and Dredging-Related Experience.** Over the last three decades, ATM has been the engineer-of-record on hundreds of dredging projects throughout the southeastern U.S. and abroad, representing a total cumulative dredged volume more than 30 million cubic yards. Our projects include maintenance dredging, dredged material management, port and harbor expansions, marina development, shoreline stabilization, channel and berth deepening/widening, and inlet management.
- **Relationships with Permitting Authorities.** ATM is exceptionally experienced in navigating the regulatory permitting process for waterfront projects. We maintain ongoing, professional relationships with key regulatory staff in a variety of offices including the United States Army Corps of Engineers (USACE), the South Carolina Department of Health (SCDHEC/OCRM), and other agencies.
- **Expertise Building Public Consensus.** Throughout our history, ATM has succeeded in working collaboratively with various stakeholders to help drive project success. Our experience working with the City, the marina operator (Coastal Marinas), and the various marina entities on Morgan Creek will be invaluable on this project.
- **Local Experience and Resources.** This project will be serviced through our Mount Pleasant office, which is located 11 miles from the City's marina. Our project manager, Senior Principal Kirby Marshall, has a great deal of marina-related experience and has served the City of Isle of Palms continuously since 2015. He is highly experienced leading high profile public waterfront access


May 26, 2023

projects that require a great deal of stakeholder interaction, including the Isle of Palms marina redevelopment project. Mr. Marshall is supported by outstanding coastal engineering talent in our Mount Pleasant office, which includes several highly experienced, coastal engineers.

- **Expertise Maintaining Schedule and Budget.** Our extensive municipal experience has prepared us well for executing tasks within the contract period. ATM has many proven internal project controls that will assist with keeping projects on schedule and within budget.

ATM is committed to exceeding the City's expectations and is grateful for the opportunity to submit our proposal. Should you have any questions and/or concerns, please do not hesitate to contact me. Thank you in advance for your consideration of our qualifications.

Sincerely,



Kirby Marshall
Senior Principal
Mobile: 843.224.8536
kmarshall@appliedtm.com

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TAB 1.

Business' Relevant Experience and Qualifications



TAB 1. BUSINESS' RELEVANT EXPERIENCE AND QUALIFICATIONS

COMPANY PROFILE



Applied Technology and Management (ATM) has more than 30 years of experience in providing [marine and waterfront engineering and consulting services](#) to both public and private clients. [Our waterfront staff includes more than 20 licensed professional engineers, engineer interns and waterfront specialists.](#)

ATM professionals have planned, permitted, and/or designed more than 2,100 marina and waterfront facilities throughout the U.S. and abroad. Many of these projects included redevelopment, revitalization, dredging, and maintenance activities for existing marina facilities and more than 200 were for municipal clients. This direct, relevant experience is exceptionally valuable for the [City of Isle of Palms and your marina, a facility/site that we know well and have served since 2015.](#)

Our decades of working in and around the marine environment provides our staff with unparalleled insight and experience. Waterfront projects are more complex than traditional upland projects and our approach to every project focuses on the minimization of impacts to environmental resources, implementation of recognized and advanced industry standards in design and construction techniques, and specific attention to scheduling and cost controls.

OFFICE OF RECORD

Our Mount Pleasant office (941 Houston Northcutt Blvd., Suite 201, Mount Pleasant, SC 29464) will be the local office serving this project through ATM Senior Principal Kirby Marshall. He has a great deal of marina-related experience. He is highly experienced with leading high profile public waterfront access projects that require a great deal of stakeholder interaction. Further, Mr. Marshall is well-versed in marina dredging projects and has comprehensive knowledge of the subject marina site having worked on it continuously for the City since 2015. Mr. Marshall is well-supported by ATM's Mount Pleasant-based coastal engineering staff, which includes six master's-level coastal engineers and various support staff.

KEY SERVICES

DREDGING-RELATED EXPERIENCE

Over the last three decades, ATM has been the engineer-of-record on hundreds of dredging projects throughout the southeastern U.S. and abroad, representing a total cumulative dredged volume in excess of 30 million cubic yards. Our projects include maintenance dredging, dredged material management, port and harbor expansions, marina development, shoreline stabilization, channel and berth deepening/widening, and inlet management.

We have considerable experience and expertise in projects that involve the dredging of materials ranging from muck to rock and sand, to projects with very-fine-grained silty clays, as well as a range of available dredging, dewatering and disposal methods. Project sites range from small, environmentally sensitive locations to urban, heavy-use and congested facilities.

ATM possesses in-house expertise with sediment chemistry, contaminant analysis, dredge efficiency design, alternative placement schemes, use of flocculants, ultimate fate planning, and hydrographic surveying. We are highly experienced with hydraulic and mechanical excavation in small- and large-scale efforts. This includes new excavation efforts with recreational and commercial users as well as maintenance of inlets, navigation channels, port facilities, and recreational vessel harbors. From a disposal perspective, we have direct experience with a myriad of disposal approaches, including inland confined disposal facilities (CDFs), dredged management material areas (DMMAs), ocean dredged material disposal sites (ODMDS), temporary geotextile storage, nearshore placement, beneficial uses, dredge material wetland creation, and living shorelines.



Our staff is exceptionally qualified in evaluating projects for long-term management and sustainability within the complex regulatory framework of South Carolina and the southeastern U.S. Determining the best long-term solution for each project has given our staff varied project experience that includes: open-water disposal; water injection dredging; agitation dredging and bed leveling planning, permitting and design; engineered CDFs for upland disposal; evaluation of a range of techniques and alternatives to dredging; and development of beneficial use options for management of maintenance dredged material.

Our dredging-related experience includes:

- Feasibility and alternatives studies
- Evaluation of existing conditions, processes and causes of sedimentation
- Development and permitting of DMMAs and CDFs
- Disposal permitting, design and environmental studies
- State and federal permitting and coordination
- Dredging project design and specifications
- Dredging project management and monitoring
- Hydrographic, bathymetric, and upland surveys
- Environmental resource surveys, mitigation strategies and habitat creation plans
- Beneficial uses for dredged material including beach nourishment, sand bypassing, marsh and wetland creation, nearshore mounds, and bird islands
- Stakeholder involvement and coordination with the public
- Construction administration services

DREDGE OPTIMIZATION ANALYSIS

Specialized services provided by ATM include consulting, field investigation, engineering, and advanced modeling services on dredge optimization. Dredge optimization evaluates alternative design dredge plan footprints, depths, configurations, and structural solutions for existing and proposed projects, ranging in size from single berths to larger port plans. Ultimately, a dredge optimization analysis results in decreased operational costs and downtime by reducing the frequency and/or volume of required maintenance dredging efforts. The analysis includes specialized field investigations of hydrodynamic, sediment, and water quality parameters; advanced 3-D hydrodynamic and sediment transport modeling; analysis of alternative dredge design configurations; and recommendation of the most efficient dredge plan design for long-term operational performance.

Though not specifically required for the services indicated in this RFP, aspects of ATM's expertise in this area will translate to our project planning, permitting, and design work.

SEDIMENT MODELING

We are also known for our innovative work in a wide range of numerical modeling applications. Surface water modeling is a key element of our water and natural resources practice. Our practitioners have expertise in a wide range of surface quality modeling tools and applications, including expertise in hydrodynamic, sediment transport, contaminant fate and transport, and water quality modeling.

Several examples of ATM's innovative concepts and outcomes are briefly summarized in this section. Concepts were employed to reduce sedimentation and thus the need for dredging.

- **Belle Isle Yacht Club, Georgetown, SC:** Developed numerical model to identify several structural alternatives to reduce sedimentation and dredging within the marina basin.
- **Crab Bank Bird Habitat Creation, Mount Pleasant, SC:** Devised beneficial use of dredged material (800,000 cubic yards) to create a bird habitat island.
- **Charleston City Marina, Charleston, SC:** Relocated the marina into slightly deeper water to reduce dredging.
- **Drum Island Mitigation Marsh, Charleston, SC:** Returned an old 22-acre disposal area back to marsh to compensate for dredge/fill of the marsh in other areas.
- **TraPac Commercial Berth, Jacksonville, FL:** Realigned the berth and developed transitional dredge cut to reduce maintenance dredging by 30 percent.
- **CB 7 and CB 8 Sedimentation Studies, (Georgia Ports Authority):** Numerical modeling to study berth face orientation to minimize sedimentation rates.

Again, while not specifically called out as required services for this RFP, ATM's expertise in this area will greatly aid the dredge planning effort and associated/ongoing marina planning and redevelopment considerations.

PUBLIC CONSENSUS BUILDING

Understanding that any project is only successful if it meets the needs of the end users of the facility, we regularly incorporate suggestions from consensus-building charrettes and stakeholder meetings into our marina plans and dredging programs. We also garner feedback from local communities via public forums and project websites. These efforts allow us to create plans that meet the specific needs of the community that the facility is intended to serve. Ultimately, the goal of any marina/dredge planning exercise is to develop a market-sensitive, sustainable design that maximizes return on investment while enhancing access to the water for the surrounding community. Our experience in this realm and our professional relationships in the immediate project area will be exceptionally valuable to the City as neighboring marinas are engaged to discuss the potential for a joint dredging effort.



FUNDING

In today's economic climate, securing funding for projects has become increasingly difficult. It is more important than ever to consider all funding sources available, particularly grant funding. ATM maintains contacts throughout the industry and routinely works with our clients to identify potential sources of grant funding for our projects. ATM staff pursue funding opportunities from a variety of state, regional and local sources such as the Land and Water Conservation Fund (LWCF) as well as federal programs that include the U.S. Fish and Wildlife Service Clean Vessel Act (CVA) and Boating Infrastructure Grant (BIG P) programs.

We've had dramatic success in securing grant funding for waterfront projects. As a point of reference, [we have helped our clients obtain over 50 BIG P awards for more than \\$40 million in 10 states and territories.](#) These grants can help fund not only waterside infrastructure but selected upland infrastructure and amenities as well.

[Though not specifically required by this RFP solicitation, ATM will be able to inform the City on a variety of potential grant funding sources and offer advice and input related to existing grant funding administration.](#)

ENVIRONMENTAL PERMITTING

Through our work along the waterfront, ATM is exceptionally experienced in navigating the regulatory permitting process for waterfront projects. We maintain ongoing, professional relationships with key regulatory staff in a variety of offices including the United States Army Corps of Engineers (USACE), the South Carolina Department of Health and Environmental Control Ocean and Coastal Resource Management (SCDHEC OCRM), and other agencies. Our vast institutional knowledge and experience in dealing with the myriad hurdles that waterfront development projects face will pay key dividends to the City on this project.

Our planning and environmental permitting staff help clients efficiently manage regulatory risk and proceed with confidence when pursuing new projects. We proactively identify critical environmental issues, develop environmental permitting strategies, and conduct field surveys and investigations to support successful permit outcomes. Our permitting specialists work closely with design teams to build projects that will meet

compliance obligations. Our construction experts and environmental monitors assist during the construction phases to help ensure compliance with permits.

HISTORY OF PROVIDING ACCURATE COST ESTIMATES

ATM has extensive experience in project design, construction documents, and project bidding. We use institutional knowledge of projects and accepted industry standards as a basis for construction bid packages that typically include plan sets, technical specifications, and detailed bid forms.

Our volume of ongoing bidding and construction administration services for boat ramps, marinas, dredging, and docking infrastructure allows us to evaluate numerous recent construction bids/costs for similar projects in the eastern U.S. We have a proven track record of providing realistic bid estimates based on our continuing experience with realized bid values.

ATM also maintains positive, ongoing relationships with regional marine contractors/dredgers that keep us aware of current cost trends and contractor workload/availability.

CONSTRUCTION AND BID PHASE SERVICES

ATM's engineers and supporting technical professionals provide practical experience not only with planning, permitting, and designing waterfront projects but also with constructing the projects. In fact, over the past several years, [ATM has been involved in the construction phases of waterfront projects valued at nearly \\$500 million](#). This gives us great insight into the physical aspects of waterfront [structures and the current development cost climate](#).

We provide services including bid administration, field observations, project oversight, construction progress meetings, contract administration, and permit compliance and monitoring. With regard to dredging, we routinely work with dredging contractors and owners to monitor and confirm dredging progress through computer analysis of dredging progress surveys. This work helps ensure a high level of accuracy in dredging contractor payment applications. This also provides owners the peace of mind that they are indeed getting what they are paying for on dredging projects, where the results are not immediately visible.

TAB 2.

Relevant Experience and Qualifications of Key Personnel



TAB 2. RELEVANT EXPERIENCE AND QUALIFICATIONS OF KEY PERSONNEL



ATM has the in-house resources and capabilities to provide all required services of this project. Presented on the following pages are qualifications for select ATM team members, many of whom have worked together for decades. This dynamic team works together effortlessly to get the highest-impact work completed for our clients and will continue to do the same for the City of Isle Palms.

Our project manager, Senior Principal Kirby Marshall, has a great deal of marina-related experience and has served the City of Isle of Palms continuously since 2015. He is highly experienced with leading high profile public waterfront access projects that require a great deal of stakeholder interaction, including the Isle of Palms marina redevelopment project. Mr. Marshall is supported by outstanding coastal engineering talent in our Mount Pleasant office, which includes several highly experienced, coastal engineers.

The matrix below identifies each team member's anticipated/general role on the project and highlights their qualifications. For further details on the project team's expertise and experience, refer to the full-length resumes provided at the end of this section.

No.	Name	Discipline	Role	Total Years Experience	Highest Degree Earned	Credentials
1	Sam Phlegar	Waterfront Services	Principal-in-Charge	38	MS	PE
2	Kirby Marshall	Waterfront Services	Project Manager	26	MBA	--
3	Fran Way	Waterfront Services	Lead Coastal Engineer	25	MS	PE; CFM
4	Phil Slagle	Waterfront Services	Coastal Engineering and Permitting Support	17	MS	PE



SAM PHLEGAR, PE

PRINCIPAL-IN-CHARGE | 38 YEARS EXPERIENCE

Areas of Specialization

- Marina Development: Feasibility, Construction, Facility Programming
- Marina Design, Funding/Financing
- Coastal Engineering: Coastal Process Analysis, Beach Nourishment Design
- Shoreline Stabilization Methods
- Construction Administration
- Environmental Permitting
- International Resort Development

Education

- MS, Coastal and Oceanographic Engineering, University of Florida, 1989
- BS, Civil Engineering, Clemson University, 1983

Professional Registrations

- Prof. Engineer, SC, No. 14609, 1992

Professional Affiliations

- Ex-Board of Directors, Association of Coastal Engineers
- National Marine Manufacturing Association
- Urban Land Institute

Summary of Qualifications

Mr. Phlegar currently serves as president and principal engineer of ATM. He has significant experience in engineering design, feasibility studies, local, state, and federal regulatory permit approvals, and successful construction programs. In a previous role as director of the marina division, he structured ATM's due diligence program for marina facility acquisition and marina feasibility programs that created worldwide demand for ATM's marina expertise. Primary fields of concentration include waterfront development, marina planning and design, coastal engineering, coastal construction, and regulatory permitting.

Mr. Phlegar specializes in projects serving public and private interests across the U.S. as well as internationally and represents clients as an expert witness in administrative hearings where water quality, structural impacts, waterway capacity/safety and/or environmental concerns are an issue. He has led and/or participated in more than 400 waterfront development and restoration initiatives.

Relevant Project Experience

Charleston City Marina Redevelopment, Charleston, SC. Principal engineer leading the redevelopment of a 400+slip marina that is the centerpiece of Charleston's recreational waterfront. The multiphase program began in 2005 and continues today. Tasks included planning and design of 2,000 linear feet of transient and permanent floating docks, fuel facilities, and expansion of tour and charter boat facilities. Conducted environmental, feasibility, and economic studies for re-design and completed plans and specs, bid, and contract documents for the various phases of the project.

Municipal Marina Redevelopment, Fernandina Beach, FL. Project manager for evaluation and redesign of the City-owned marina in the downtown historic district. The facility had a severe sedimentation problem due to previous siting errors with much of the marina being unusable at low tide. Developed a series of options for consideration and a detailed financial model to aid in this process. Designs were finalized, state and federal permits approved, and bids obtained.

Vilano Boat Basin, Vilano, FL. Redesigned large boat basin facility to minimize sedimentation problems associated with access channel alignment and to reduce maintenance dredging requirements. Conducted alternative analysis encompassing two channel relocations, four shore perpendicular structure footprints and cross sections, dredge quantity computations, environmental impact assessment, retaining wall alternative analysis, cut/fill volumetric computations for new channel excavation, dredge pumping efficiency analysis and four-acre wetland in-filling. Supervised preparation of bid documents and construction drawings, and managed contractor qualification and selection processes. Project manager for construction phases: providing site engineering, inspection, and construction management activities for all phases of operation.

Indian River Marina, Delaware Seashore State Park, DE. Developed planning and economic studies to determine the highest and best use of existing upland and waterside components. As project manager, completed design for 330 wet slips and 200 dry slips. Specific project elements included replacing and/or repairing deteriorated infrastructure (306 wet slip floating dock system, 1,500 feet of vertical bulkhead, fuel supply, parking, upland support buildings, water supply and landscaping), and phased construction management to maintain use of the facility during redevelopment.

Harbour Town Marina Dredging, Hilton Head Island, SC. Project manager and engineer-of-record for maintenance dredging of Harbour Town. Utilized open ocean disposal site with travel distances of 14 nautical miles. Plans required excavation and transport of approximately 30,000 cubic yards. Provided consulting services related to a proposed marina expansion. Responsible for the development of a numerical model to simulate pollutant dispersion and quantify extent of travel within existing shellfish closure zone. Agent of record for all permitting activities.

SIDA Dredge, Hilton Head Island, SC. Performed a dredge spoil site evaluation for an association of four Hilton Head marinas. This project ran concurrently with an open water disposal study for the same group. The site evaluation included capacities, cycle options, earthwork, and innovative dewatering designs.

Gull Point Marina, Hilton Head Island, SC. Project manager for maintenance dredging project. Activities included permit modifications and update, field investigations, material removal quantification, contractor negotiations, plans and specification development, field inspections and final material removal calculations for payments.

South Beach Marina, Hilton Head Island, SC. Agent of record for all permitting activities. Project manager and engineer-of-record for maintenance dredging of 45,000 cubic yards of material. Responsible for preparation of plans and specifications, contract negotiations, and construction management. Permitted unique disposal operation: hydraulic placement into ocean going dump scow with disposal in open ocean disposal area. Designed seawall repair adjacent to basin.

Paradise Cove Marina, Myrtle Beach, SC. Responsible for design and permitting for a 66-wet slip and 300-boat dry stack marina located along the intracoastal waterway. Completed marina layout, bulkhead design (1,300 linear feet), dredging plans (hydraulic and mechanical) diked spoil containment area design, and wetland mitigation and stormwater plans.

Tolers Cove Marina, Mount Pleasant, SC. Project manager for maintenance dredging of 45,000 cubic yards of material from the Tolers Cove Marina. Agent of record for all permitting activities. Obtained all state and federal permits to allow mechanical and/or hydraulic dredging of the basin and approach channel. Designed a two-cell upland disposal area on ICWW adjacent island. Responsible for plans and specifications, field engineering, construction management and contract administration.



KIRBY MARSHALL

PROJECT MANAGER | 26 YEARS EXPERIENCE

Areas of Specialization

- Site Assessment
- Due Diligence Studies
- Marina/Waterfront Planning
- Megayacht Facility Planning
- Market Study Development
- Financial Analysis/Forecasting
- Regulatory Permitting
- Construction Management
- Owner's Representative Services
- Grant Funding

Education

- MBA, The Citadel, 2002
- BS, Industrial Technology, Construction Management, University of North Florida, 1997

Professional Affiliations

- South Carolina Marina Association/NMMA
- State Organizations for Boating Access
- Citadel MBA Association
- Citadel Business Network Editorial Board, Founding Member
- Citadel Alumni Association
- Beta Gamma Sigma Honor Society

Summary of Qualifications

Mr. Marshall has an exceptional range of experience in waterfront feasibility, planning and development projects. His duties include business development and project procurement, feasibility analyses, site assessment, planning, market studies, financial modeling, cost estimating, scheduling, regulatory permitting, design, bidding, construction management, owner's representative services, and overall project management.

He provides services on marina and waterfront development projects throughout North America, the Caribbean and the Middle East including several facility redevelopment projects. His expertise includes dredge planning, disposal analysis, and waterfront regulatory permitting for marina and dredging projects.

Prior to working in marina consulting and design, Mr. Marshall was employed in the construction products industry with general contracting firms in Florida and South Carolina.

Relevant Project Experience

Isle of Palms Marina Redevelopment, Isle of Palms, SC. Led comprehensive redevelopment planning effort for renovation of a municipal marina. Tasks included organizing and moderating stakeholder meetings; developing/monitoring/updating project website; leading detailed facility condition assessment, detailed marina market analysis, detailed parking and traffic assessment, and regulatory and engineering assessment; redevelopment master planning efforts; and developing economic projections for proposed improvements. Included multiple public presentations and detailed coordination with site tenants and city officials. Secured a Tier 1 Boating Infrastructure Grant (BIG). Subsequent work included project permitting through state and federal agencies as well as marina engineering design. Phase 1 of project construction was completed in 2022. Phase 2 works are ongoing and include planning, permitting, and design of a public access pier and kayak launch as well as marina water depth and sedimentation analysis.

Grand Marina, Mount Pleasant, SC. Led marina development feasibility study for conceptual marina development project along the Atlantic Intracoastal Waterway. Specific areas of study included detailed dredging and disposal feasibility, market feasibility and coordination with regulatory agencies regarding proposed dredging works.

Rockland Maine Marina, Trident Yacht Basin, Rockland, Maine. Project manager for waterfront planning and marina expansion study. Completed marina market assessment and reviewed and critiqued current permitted plans and marina arrangement. Work included site assessment and profiling of area marinas and facilities as well as cost estimates and financial feasibility. Follow on work included grant funding assistance, engineering design (including dredging), and bidding services.

Amite River Mariners Club Planning and Permitting, LA. Led project planning, environmental permitting through LADNR and USACE and oversaw engineering design for upland dredged marina basin and drystack.

Litchfield Plantation Marina Construction Management, SC. Performed construction management on the redevelopment of this 65+ slip private marina. Renovation included: new floating dock system, sewage pumpout system, dredging of existing marina basin, bulkhead installation, water/sewer service to docks and upland facilities, parking, and causeway construction. Follow up work has included regulatory permitting for entrance channel dredging.

Myrtle Beach Marina Feasibility, SC. Conducted site assessment and regulatory due diligence for potential marina development along the AIWW in northeast South Carolina (several sites). Work included dredging analysis of proposed marina basin areas off the Waterway.

Redfish Bay Marina Due Diligence and Planning, Ingleside, TX. Led comprehensive due diligence and planning effort for proposed marina. Work included market assessment, site engineering review, marina facility planning, excavation/dredging analysis, detailed financial analysis, and regulatory permitting support. Follow up work included development of detailed marina/dredging alternatives analysis to facilitate regulatory permitting efforts, market updates, and refinement of financial projections.

Rodney Bay Marina Redevelopment, St. Lucia. Led a multi-discipline team on this comprehensive marina redevelopment project. Redevelopment entailed 230 floating wet slips, 32 fixed megayacht slips, supporting utilities, significant marina basin dredging, shoreline stabilization, and upland improvements. Served as project manager and coordinated all design, bidding, and construction with worldwide project participants.

Yacht Haven Grande Marina Development, St. Thomas, USVI. Performed detailed project planning, site inspection and led construction administration on this world class megayacht facility. Work included detailed dredging planning and construction administration.

Christophe Harbour Construction Administration, St. Kitts. Provided construction administration and on-site inspection support on this 24-slip luxury megayacht marina in the Caribbean. Project included intensive marina basin and entrance channel dredging work.



FRAN WAY, PE, CFM

LEAD COASTAL ENGINEER | 25 YEARS EXPERIENCE

Areas of Specialization

- Coastal and Ocean Engineering
- Coastal Processes and Sediment Transport Modeling
- Wave Modeling
- Shoreline Erosion Modeling
- Hydrodynamic Modeling
- Water Quality Modeling
- FEMA Flood Zone Analysis and Remapping
- Permitting and Comprehensive Environmental Studies
- EIS and NEPA Support
- Endangered Species Formal Consultations
- Fisheries, Wetland, and Biological Studies
- Physical and Biological Oceanography
- Data Collection and Statistical Analysis
- Data Mining

Education

- MS, Ocean Engineering, Texas A&M University, 2000
- BS, Biology, Boston College, 1993

Professional Registrations

- Prof. Engineer, SC, No. 27831, 2009
- Prof. Engineer, NC, No. 044849, 2017
- Certified Floodplain Manager, No. US-21-11993, 2021

Professional Affiliations

- Member, FEMA Scientific Resolution Panel
- South Carolina Beach Advocates
- North Carolina Beach, Inlet, and Waterway Association

Summary of Qualifications

Mr. Way specializes in coastal, environmental and water resources engineering. He applies his background in coastal and water resources to flood hazard risk assessments, wave and current modeling, beach nourishment, dredging and navigation studies, alternatives analyses, and shoreline stabilization projects. Mr. Way provides hydrodynamic, water quality, flushing, watershed, sedimentation, acoustic, artificial neural network, shoreline, and wave modeling and completes field data collection, data mining, statistical, and time series analyses. He is proficient in various surface water hydrodynamic, hydrologic, hydraulic, and water quality models.

Mr. Way has provided services on more than 60 FEMA letters of map revision (LOMRs) and flood insurance rate map (FIRM) appeals. He provides expert witness testimony on coastal engineering and FEMA-related issues.

Relevant Project Experience

Central Reach Reimbursement Nourishment Project and FEMA mitigation, Holden Beach, NC. Project manager responsible for the FEMA-sponsored "Category G" engineered beach mitigation project that is related to damages from Hurricanes Florence (2018), Michael (2018), Dorian (2019) and Isaias (2020). The mitigation projects were bundled to save effort and costs. An offshore borrow area search was conducted to identify over 1.6 million cubic yards of material. A permit application was developed and submitted. Project was successfully bid, contracted, and constructed using two hopper dredges. The project placed 1.54 million cubic yards and was completed April 2022.

Pine Island Inlet Restoration and Beneficial Use of Dredged Material, Hilton Head Island, SC: Worked with the Hilton Head Plantation POA to design and permit a project to excavate the inlet mouth to restore it to deeper and wider conditions. The purpose of the project was to improve navigation as well as flushing and exchange with the Park Creek marsh system. The dredged/excavated material was then beneficially reused where beach compatible material was placed along a nearby Pine Island erosional shoreline.

Holden Beach Nourishments, Holden Beach, NC: Project manager responsible for the design, permitting and overseeing borrow area and beach nourishment construction activities in 2008, 2009, 2014, 2017 and 2019.

Ripley Light Yacht Club Dredging, Charleston, SC: Project manager overseeing the latest dredging effort for Ripley Cove which includes the yacht club and a slip-owner property owner's association. Evaluated disposal alternatives and options including mechanical and hydraulic excavation methods as well as disposal options (pipeline, truck haul, offshore disposal, etc.). Updated and submitted permit modification, coordinated with disposal area owners, and designed a cost-effective dredging approach to remove 50,000 cy of material.

Crab Bank Sedimentation Study, Mount Pleasant, SC: Worked with the Town of Mount Pleasant to ensure that the Crab Bank Island bird habitat restoration was designed and constructed as to not detrimentally impact the mouth of Shem Creek from a navigational and recreational perspective. Developed several numerical models: wave model, hydrodynamic model, and sedimentation model to evaluate several different placement locations and volumes. Met with the Town, USACE, SCDNR and other stakeholders frequently to optimize the habitat restoration effort.

Grand Marina Basin Construction Feasibility and Dredge Disposal Analysis, Mount Pleasant, SC: Developed an analysis related to a potential marina basin in an old dredge disposal area along the intracoastal waterway. Also developed a cost estimate for the project, recommendations to ensure adequate flushing, and long-term dredged material management costs and alternatives.

Marina Basin Excavation and Beneficial Uses Study, Daufuskie Island, SC: Worked with client and regulatory agencies to develop a resort marina basin. Dredged material disposal (including beneficial uses) and water quality modeling were two primary studies conducted.

Village Creek Landing Dredge and Disposal Analysis, St. Simons Island, GA: Project manager responsible for designing of a shallow-draft channel dredge project and researched disposal alternatives in the area. Also provided cost estimates and long-term management issues.

3025 Marshall Boulevard Coastal Engineering, Dune Restoration Bidding and Construction Phase Support, Sullivan's Island, SC: Assisted homeowner with construction of a dune restoration truck haul project. Coordinated with several truck and sand hauling companies and ensured the project met all regulatory permit conditions and restrictions.

DeBordieu Colony Beach Nourishment Bidding, Contracting and Construction Oversight, DeBordieu, SC: Responsible for the design and permitting of the 650,000 CY nourishment project. Developed comprehensive bid package utilizing hopper dredge and borrow area offshore. Negotiated and contracted with winning bidder. Provided project oversight and coordination. Conducted post-project related monitoring.

Daniel Island West Dredge Cell Improvements, South Carolina Ports Authority, Charleston, SC: Working with the S.C. Ports Authority (SCPA) to re-establish the use of the Daniel Island West Cell Dredged Material Containment Area (DMCA). Developed topo and hydro survey plans, performed existing conditions assessment, assisted on geotechnical studies, and basis of design tasks. Assisted with design tasks and Issued for Bid Documents.

Hugh K. Leatherman Container Berth Terminal Sedimentation Assessment, Data Collection and Modeling, Charleston, SC: Collected flow, current, and sediment data at the Hugh Leatherman Terminal in support of a sedimentation study to minimize maintenance dredging. Developed the sedimentation model and provided several minimization alternatives.



PHILIP SLAGLE, PE

COASTAL ENGINEERING AND PERMITTING SUPPORT | 17 YEARS EXPERIENCE

Areas of Specialization

- Marina and Port Engineering and Planning
- Design of Coastal Structures, Harbors, and Channels
- Met-Ocean Studies and Modeling for Coastal Structural Design
- Dredging and Reclamation Planning, Design, and Site Management
- Marina Market Studies and Feasibility Assessments
- Financial Planning and Pro Forma Model Projections
- Marina and Coastal Works Construction Management
- Bridge Scour for Tidal and Riverine Environments
- Physical Hydraulic Modeling

Education

- MS, Coastal Engineering, University of Florida, 2006
- BS, Civil Engineering, Clemson University, 2004

Professional Registrations

- Prof. Engineer, SC, No. 30414, 2012

Professional Affiliations

- Member, American Society of Civil Engineers
- Dubai Municipality Certified Engineer
- PADI Advanced Open Water Scuba Diver

Summary of Qualifications

Mr. Slagle has experience in civil and coastal/ marine engineering with an emphasis on waterfront development consulting. He provides services on a variety of projects and in multiple geographic regions with an emphasis on projects in the United States, Australia, and the MENA Region.

Mr. Slagle provides consulting services across all aspects of waterfront assets including feasibility, planning, permitting, design, and contract management. Waterfront areas of applied expertise include beaches and shorelines, navigable waterways and water bodies, marinas including superyacht facilities, and small port terminals for bulk cargo ships and container vessels. He is experienced in coastal and maritime applications including coastal processes analysis, design of coastal protection including rock breakwaters and revetments, sediment transport studies, ship simulation studies for channel and harbor design, marine structures design, dredging and reclamation design and management, and onsite management of contracts related to construction and site investigations.

Relevant Project Experience

Anson Marina at Palmetto Bluff, Phase 1, Bluffton, SC. Project manager for permitting, design, bidding, and construction phase services for a 50-slip marina facility (Phase 1) on the New River.

Ripley Light Yacht Club Dredge Permitting and Marina Services, Charleston, SC. Procured new bathymetric surveys and led regulatory efforts to support a dredging campaign at the marina. Performed a due diligence assessment of the floating docks and piles, investigated concepts with the Owner for refinement of the existing marina masterplan as well as future expansion, and managed a grant application process for future installation.

St. Johns Yacht Harbor Marina, Johns Island, SC. For an existing marina facility on the Stono River, provided planning, permitting, and coastal engineering assessment services for an extension of the marina. Provided detailed design support for boat lift piers and fixed walkways, technical specifications for bidding, bid assistance, and support during construction.

Carolina Yacht Club Master Planning, Charleston, SC. Studied the expansion opportunities of the facility's wet berths at the historic yacht club in Charleston Harbor. Responsible for developing marina layouts and phasing strategies, investigating feasibility for a new drystack facility, planning for a floating marina office and piled pier, developed engineering plans, and performed permitting services with federal and state agencies.

SeaBreeze Marina Redevelopment, Charleston, SC. Project manager on the redesign and permitting of a marina expansion. Performed due diligence assessments of the marina and coastline protection including historical structures, layout options for marina expansion planning, full permitting services, application and management of grant funding, bidding, and construction phase services.

Legendary Marina, Destin, FL. Prepared alternative marina layouts and concept designs for a marina facility on Mid Bay. Additional planning involved stage/launch pontoon renovation concepts for an existing dry stack facility. Efforts included investigating and consulting on environmental permitting procedures, wave computer modeling, production of Tier 1 wind/wave environmental study, and presentation to clients.

Confidential Project, Marina and Cruise Market and Feasibility Studies, Saudi Arabia. Marina consultant for a large-scale tourism development vision master plan. Assisted in cruise feasibility studies and supported market analysis. Performed analysis of remote sense data for coastal and marine environmental studies and dredging assessments. Provided coastal engineering analysis and performed cost estimation.

Dubai Harbour Police Berth Design, Dubai, UAE. Provided design of anchor piles for a new floating side-tie mooring for several police and emergency service vessels at Dubai Harbour Marina. Challenges to overcome included reusing existing floating docks from a previous nearby installation and siting anchor piles in deep dredge depths and close to large revetted slopes with scour protection.

Nareel Island Design, Abu Dhabi, UAE. Senior engineer and project manager for the marine works related to a residential island development. Tasks included master planning of the waterfront areas, marinas and boat lifts; investigation of existing site conditions; hydrodynamic and numerical modeling; concept and detailed design for dredging, reclamation, beaches, rock revetments and groins, and causeways; tender services; and construction supervision.

Quintana Roo Marinas, Mexico. Developed cost for construction of multiple marinas, concept design and cost projections for coastal structures and dredge work.

***Geraldton Port, Western Australia:** Provided supervision and direction for maintenance dredging (130,000m³) at an existing port including management of reclamation areas and handling of contaminated sediments.

***Port Geographe, Busselton, Western Australia:** Final design and contract management for procurement and installation of a bypassing system for sand and seagrass. The project required a permanent transfer system for a dredge to pump material 800 meters away from an active waterway and canal system, and maintenance dredging of accumulated materials in the canals.

***Southdown Magnetite Project, Albany, Western Australia:** Provided port planning and design development services for port expansion project. Primary responsibilities included port traffic optimization modeling, design of the shipping channel, and technical/contractual management of several tasks including marine geotechnical investigations, ADCP deployments, magnetometer surveys with UXO clearance, pilotage simulation studies, UKC studies, seawall design, dredge plume modelling, and flushing studies.

**Denotes experience prior to ATM.*

TAB 3.

Dredging Experience



TAB 3. DREDGING EXPERIENCE

Over the last three decades, ATM has been the engineer-of-record on hundreds of dredging projects throughout the southeastern U.S. and abroad, representing a total cumulative dredged volume more than 30 million cubic yards. Our projects include maintenance dredging, dredged material management, port and harbor expansions, marina development, shoreline stabilization, channel and berth deepening/widening, and inlet management.

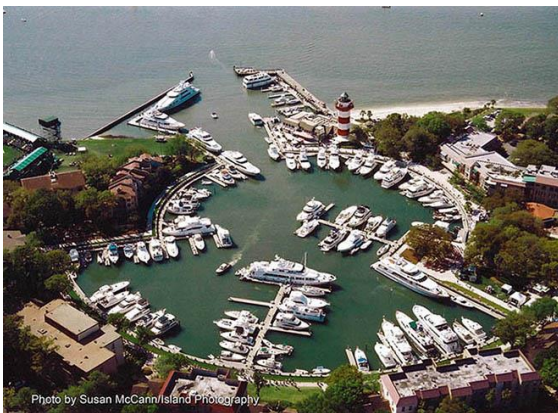
The following pages provide a brief summary of ATM's experience at the subject site as well as our dredging experience in recreational waterfront areas. In addition to the highlighted work, ATM has extensive experience with beach nourishment and commercial/port-related dredging projects.

MAINTENANCE DREDGING AND DISPOSAL

Multiple Marina Sites

SUMMARY

ATM has planned, permitted, designed and provided construction management services for millions of cubic yards of maintenance dredging and disposal projects throughout the Southeast U.S. and beyond. Our staff are highly experienced in open water disposal planning, engineered confined disposal facilities for upland disposal and development of beneficial uses for dredged material options. Representative maintenance dredging and disposal project sites/clients include:



SERVICES RENDERED

- Project Planning and Stakeholder Coordination
- Regulatory Permitting
- Water Quality, Hydrology, and Sedimentation Studies
- Dredge and Disposal Plan Design
- Design and Construction Oversight of Upland Spoil Containment Areas
- Bid Specifications and Contractor Selection
- Owner's Representative Services
- Onsite Construction Management

- Charleston City Marina, SC
- Patriots Point Marina, SC
- Gull Point Marina, SC
- Crickett Cove Marina, SC
- Harbor Town Yacht Basin, SC
- Mariners Point Marina, SC
- Georgetown Harborwalk Marina, SC
- South Island Dredging Association, SC
- South Point Marina, SC
- Toler's Cove Marina, SC
- Litchfield Marina, SC
- Grande Dunes Marina, SC
- Charleston Harbor Marina, SC
- South Beach Marina, SC
- Windmill Harbor, SC
- Grand Marina, SC
- Belle Isle Marina, SC
- Ambos Marina, GA
- Village Creek Landing, GA
- Elba Island, GA
- Agitation Dredging, Georgia Ports Authority
- Container Berth Expansion 7 and 8, Georgia Ports Authority
- Hutchinson Island Slip 1, GA
- Savannah City Lights Marina, GA
- Golden Isles Marina, GA
- Brunswick Terminal, GA
- Armada Bay Marina, FL
- Vilano Boat Basin, FL
- Lighthouse Point, FL
- St. Augustine Municipal Marina, FL
- Fernandina Harbor Marina, FL
- JAXPORT CertainTeed Gypsum Dredging Plan, FL
- Lake Osborne, FL
- Marsh Landing Marina, FL
- Marineland Marina, FL
- Maximo Marina, FL
- Beach Marine, FL
- Broward Street Boat Ramp, FL
- Manatee Pocket Dredging Feasibility, FL
- Sebastian Inland Harbor Marina, FL
- Lake Worth Lagoon Maintenance Dredging, FL
- Town of Lake Park Marina, FL
- Bay Point Marina, FL
- Indian River Marina, DE
- Rockland Marina, ME
- Parker's River Marina, MA
- Amite River Marina, LA
- Arlington Marina, NC
- Gum Thickett Marina, NC
- Crab Cay, Bahamas
- Yacht Haven Grande, USVI
- Rodney Bay Marina, St. Lucia
- Rose Island, Bahamas
- Elbow Cay, Bahamas
- Norman's Cay, Bahamas
- Trellis Bay, BVI
- Christophe Harbour, St. Kitts
- Puerto Los Cabos, MX

ISLE OF PALMS MARINA REDEVELOPMENT

City of Isle of Palms
Isle of Palms, South Carolina



SERVICES RENDERED

- Site Conditions Assessment
- Parking and Traffic Assessment
- Marina and Drystack Market Assessment
- Regulatory and Engineering Overview
- Master Plan Development
- Pro Forma Financial Analysis
- Construction Cost Estimating
- Design, Permitting and Bidding Services
- Construction Administration
- Stakeholder Workshops
- Project Website Hosting
- Public Presentations
- Grant Funding Assistance

PROJECT SUMMARY

ATM has been assisting the City of Isle of Palms with marina redevelopment activities since 2015.

ATM led a multi-disciplinary team of consultants to assist the City of Isle of Palms with redevelopment plans for the Isle of Palms Marina. Purchased by the City two decades prior, infrastructure at the facility was aging while the popularity of the site had increased to the point where parking and traffic in and around the area had become extremely problematic.



ATM worked with City staff, council members, key stakeholders, and residents to assess the existing conditions at the site and to create redevelopment scenarios to capitalize on the popularity of the site, improve traffic flow and parking, and provide improved public park and water access components at the site.

Each stakeholder had specific requirements for water access, parking, utilities, and general site utilization. Additionally, the City was committed to keeping the site free and open to residents. Further, maintaining substantial public access and parking for an onsite boat ramp and creating a new, separate launch for non-motorized vessels (e.g., kayaks) were critical elements of the master planning efforts.

ATM's team was able to successfully navigate many complex issues and priorities at this site to create an effective redevelopment master plan that maximized public access, greatly improved traffic flow and parking, promoted pedestrian visitation to the site, provided ample recreational opportunities, and maintained all current uses at the site.

The first phase of redevelopment was completed in 2022. This included new marina floating docks, marine utilities (shore power, potable water, fire suppression, marine fuel, marine pumpout), shoreline stabilization improvements, and new/expanded boat ramp staging docks. Additional ATM services included design, permitting, bidding, grant funding assistance, and construction administration.

ATM is currently working with the City to develop a new ADA-compliant kayak launch and public dock.

RIPLEY INLET DREDGING

Ripley Light Yacht Club, Slips at Ripley POA, Coastal Marinas
Charleston, South Carolina



SERVICES RENDERED

- Dredge Spoil Site Review and Disposal Analysis
- Bathymetric Surveying and Analysis
- Bid Package Development
- Bidding Support
- Regulatory Permitting
- Stakeholder Coordination

PROJECT SUMMARY

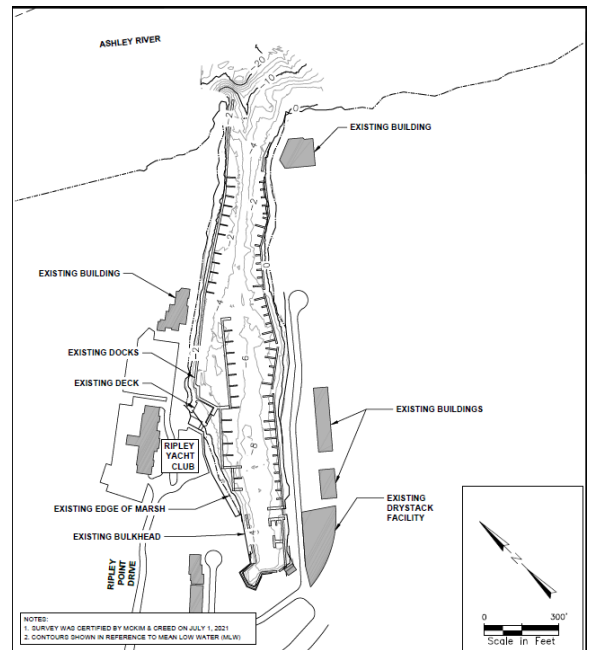
ATM has been engaged at the Ripley Light Yacht Club in Charleston for a number of years. We performed a variety of marina planning, permitting, and grant application services for the former and current owners.

Recently, ATM worked for the former and current owners (Coastal Marinas) as well as the adjacent dockminium entity, Slips at Ripley POA, on a marina dredging planning, design, and permitting exercise.

Services provided related to dredging the Ripley Inlet have included a review of existing permit documents, a dredge spoil site review and disposal analysis, pre-dredge surveying, dredging bid package development, bidding support, and regulatory permitting services.

Our work included close coordination with marina stakeholders, such as the South Carolina Department of Health and Environmental Control Ocean & Coastal Resource Management (SCDHEC-OCRM), the South Carolina Port Authority (SCPA), and the USACE.

Additional work features marina planning and grant funding, which includes the development of a successful Boating Infrastructure Grant (BIG) application intended to help fund marina expansion. The awarded grant funding totaled \$1,500,000.



GRANDE MARINA DREDGING

Private Developer
Mount Pleasant, South Carolina



SERVICES RENDERED

- Dredged Material Handling and Disposal Alternatives Analysis
- Regulatory Coordination
- Marina Market Analysis
- Marina Parking Study

PROJECT SUMMARY

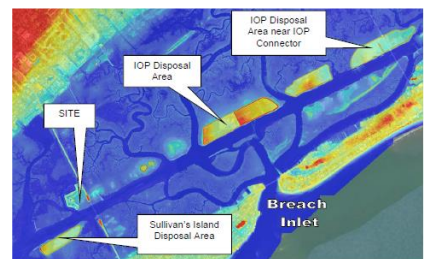
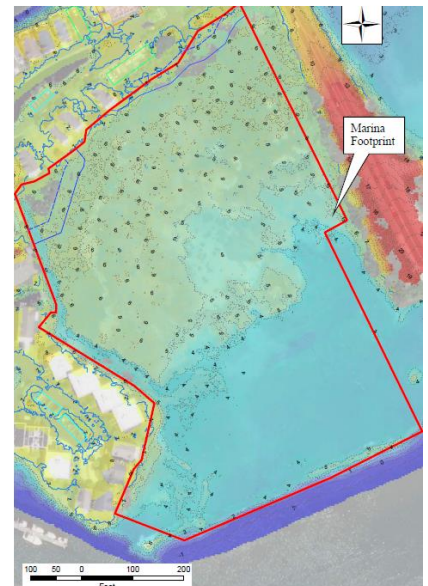
ATM was commissioned by a private developer to lend technical insight into a proposed marina development program on the Intracoastal Waterway in Mount Pleasant, South Carolina. The proposed marina plan included a significant amount of required dredging activity, including potential impacts to sensitive habitat.

ATM worked with the developer to peer review a previous dredging analysis, estimate dredge volumes based on existing survey data, identify potential disposal options for the dredged material, coordinate with the U.S. Army Corps of Engineers (USACE) regarding availability of nearby confined disposal facilities (CDF's), assess disposal area capacities, provide cost estimates for the dredging works, and make recommendations regarding the most appropriate alternative for the proposed excavation.

ATM also initiated the regulatory process for the project and engaged with the USACE as well as a number of other federal and state agencies, such as the U.S. Fish and Wildlife Service, South Carolina Department of Natural Resources (SCDNR), and SCDHEC-OCRM to review and discuss the project.

The developer engaged ATM to conduct a marina market analysis that was utilized to justify the size of the project and required excavation/water depths as well as a marina parking study to confirm that parking requirements could be adequately provided on site.

Ultimately, the developer elected not to pursue the development, but this recent assignment provided ATM keen insight into the current regulatory and dredged material disposal climate in an area proximate to the Isle of Palms Marina site.



MOUNT PLEASANT DREDGING RELATED SERVICES

Town of Mount Pleasant
Mount Pleasant, South Carolina



SERVICES RENDERED

- Stakeholder Engagement
- Site Assessment
- Bathymetric Survey Evaluations
- Sedimentation Monitoring and Analysis
- Dredge Volume and Footprint Study
- Dredge Disposal Numerical Modeling
- Construction Observations
- Beneficial Use of Dredge Material Evaluations
- Grant Application Technical Support

PROJECT SUMMARY

ATM has represented the Town of Mount Pleasant as their expert consultant for a variety of activities associated with the Shem Creek waterfront and associated dredging activities since 2018.

Crab Bank: The USACE developed plans to dispose of dredge spoil in open water to restore a large bird sanctuary (~30 acre island with 660,000 CY). The Town had heightened concerns over potential impacts to Shem Creek and nearby navigation channels. Therefore, ATM provided consulting services, which included the following:

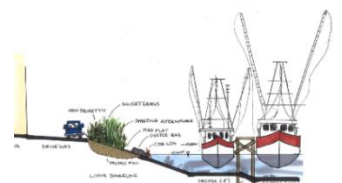
- Engagement and coordination with project stakeholders.
- Evaluation of surveys and other documentation to assess sedimentation.
- Numerical modeling of proposed Crab Bank design. Development of new design alternatives to minimize sedimentation and required maintenance dredging in the area.
- Construction observations of dredge disposal to ensure improved design and best management practices were implemented properly.



Sedimentation Monitoring and Dredge Evaluation: ATM conducted annual sedimentation monitoring for the Town along the Shem Creek waterfront. We also conducted regular bathymetric surveys and analyzed against historic surveys and vessel size, docking and navigation requirements to determine recommended dredge volumes and limits.



NOAA Coastal Resiliency Grant Support: ATM provided technical support to the Town for their submittal for a National Oceanic and Atmospheric Administration (NOAA) Transformational Habitat Restoration and Coastal Resiliency Grant. ATM's support included an evaluation of dredging requirements, shoreline, and habitat improvement opportunities for dredge disposal, and development of conceptual project plans, timelines, and costs.



TAB 4.

Technical Proposal and Fee Summary



TAB 4. TECHNICAL PROPOSAL AND FEE SUMMARY

TECHNICAL PROPOSAL

TASK 1 – LOCAL ENGAGEMENT AND COORDINATION

Prior to planning dredging works for the Isle of Palms (IOP) Marina, ATM recommends contacting and meeting with the neighboring facilities on Morgan Creek (specifically, Dewees Marina and Morgan Creek Harbor Association / Wild Dunes). It is noted that ATM has worked/is currently working for several of the marina entities on Morgan Creek. These relationships can likely facilitate such a meeting.

The meeting topics will focus on the need for a new dredging permit, review the approximate timeframe and considerations for permitting, discuss any upcoming dredging needs for Morgan Creek, and invite others to participate in a permit application. ATM will also discuss survey requirements and identify any additional data requirements for a permit application. There will likely be cost and regulatory efficiencies if the works can be combined across multiple sites instead of standalone efforts.

ATM assumes one meeting with pre-coordination efforts.

Deliverable: Memorandum summary of the meeting with feedback received and recommendations.

Note: Tasks 2-7 have been scoped and costed assuming that the City's marina site will be the only one included in the dredging planning, permitting, and construction effort. Should one or more stakeholders in the area choose to join the City's dredging effort, ATM will re-visit the scope/fees proposed herein and work with the City and/or joining stakeholders to develop and execute an appropriate contract/change order for additional services to accommodate additional dredging locations.

TASK 2 – DREDGE DISPOSAL ALTERNATIVES EVALUATION

Regulatory agency representatives require a detailed understanding of the proposed dredging volumes, dredged material, and disposal methodologies for a permit application to be considered. As such, some level of analysis is required to determine how much material will be removed, where the material may realistically be disposed of, and the regulatory implications associated therewith. To this end, ATM will perform an overview evaluation of dredged material handling alternatives from logistics and regulatory standpoints. Specifically, ATM will:

- Review previous dredging information.
- Estimate dredging volumes associated with different cut elevations, allowing us to understand the potential minimum and maximum dredge volumes and how those volumes affect various potential disposal alternatives. Advanced maintenance (based on potential sedimentation rates) and allowable overdepth dredging will also be assessed. We will utilize the most recent survey data provided by the City for this exercise.
- Identify potential disposal options for the material. This analysis will consider methodologies such as hydraulic suction dredging and disposal, mechanical excavation and hauling, on-site dewatering (using geotubes or similar technology), etc. to identify the most effective method.

- Provide Order-of-Magnitude cost estimate for identified dredging and disposal alternatives through review of recent Atlantic Intracoastal Waterway dredging events, informal consultation with local/regional dredgers, etc.
- Make recommendation regarding the most appropriate alternative for the project and how amenable regulatory agencies would be expected to be to this alternative.
- Assess capacity at nearby disposal facilities based on information obtained from USACE and/or use of available LiDAR data. In the event that USACE facilities are not available, ATM will request information from known private disposal sites in the local area.

○ **Note:** Physical disposal site assessment is not included herein.

At this point, ATM will arrange and attend a pre-application meeting with USACE that will include:

- Sharing a draft of a preliminary dredging plan drawing.
- Coordinating the availability/active status of nearby confined disposal facilities (CDFs).
- Reviewing sediment testing requirements.
- Receiving feedback on the proposed plan and identifying any new regulatory procedures that may affect the project approach or application.

Deliverable: Summary memorandum with volumes, identified alternatives, and recommendations regarding the most viable alternative for material handling and disposal.

TASK 3 – PRELIMINARY DESIGN AND SEDIMENT TESTING COORDINATION

Utilizing the information developed in the previous task, ATM will confirm the City's preferred dredging and disposal alternative and advance the concept to a preliminary design level. This will include refinements to the drawing set in response to USACE feedback and updates to quantities as necessary.

We will also develop a sediment testing program and coordinate with a local testing firm to procure and analyze up to two (2) sediment samples from within the proposed dredging footprint. The amount of testing and analysis is typically not insignificant and must address a large number of parameters to satisfy agency requirements. Please note that ATM will work with USACE to reduce/minimize sediment sampling and analysis requirements because this area has no history of sediment contamination and the dredged material represents maintenance dredging, not "new work."

Based on previous dredging projects at the site and current marina operations, it is anticipated that the dredged material will be suitable for typical disposal alternatives. Should sediment testing demonstrate unacceptable concentrations or other key findings, or if otherwise mandated by USACE, additional disposal analysis or testing may be necessary and will be coordinated with the City (such additional testing is not included herein).

ATM will review the sediment test results and coordinate with the City on any potential impacts to the proposed dredging and disposal strategy.

Deliverable: Lab test results and analysis for sediment samples.

TASK 4 – REGULATORY PERMIT APPLICATION DEVELOPMENT

For purposes of this proposal and based upon our current understanding of current dredging plans, ATM assumes that a formal critical area permit process will be required to facilitate regulatory permit authorization for the proposed work. The existing dredging permits for the site have expired. With this in mind, we offer the following.

ATM will compile and submit a new Critical Area Permit application to OCRM and USACE for the proposed dredging project. This shall include but not be limited to the following specific elements:

- Drawings prepared to state and federal processing guidelines, signed/sealed by a South Carolina professional engineer. Drawings will include, at a minimum:
 - Existing conditions
 - Proposed improvements (plan view)
 - Dimensioned layout
 - Typical sections and details
 - Disposal information
- Application form with supporting information and documentation
- Project description and justification for amendment
- Coastal Zone Management form and Agent Authorization
- Coordination of public notice

To the extent practical, we will utilize the information previously compiled for the marina redevelopment permit application which ATM developed (adjacent property owner list, proof of ownership, etc.) to populate the requirements of this application for dredging.

Deliverable: A single, comprehensive permit application package for submittal to USACE and OCRM.

TASK 5 – REGULATORY PERMIT APPLICATION COORDINATION

Despite initial efforts (including the pre-application coordination), it is impossible to ultimately predict the outcome of any permit application request. Due to these inherent uncertainties, services required beyond the application preparation and submittal cannot be completely identified. Specifically, the agencies will require a public notice to allow the public as well as other state and federal resource agencies to review and comment on the application. When the public comment periods have expired, the agencies will forward copies of the comments received and ATM will coordinate with the City to develop responses to these comments as required. There is no way to anticipate the number or scope of the comments that will have to be addressed.

Since it is not possible to provide a fixed fee for this phase of the permitting process, ATM proposes to provide services associated with the regulatory permit coordination under an allowance (not to exceed) basis (see Summary of Professional Fees). ATM will keep the City apprised of efforts on this task and should additional effort be required above and beyond the stipulated allowance amount, ATM will notify the City in writing and proceed only upon written approval.

Deliverable: There is no specific deliverable associated with this task.

TASK 6 – BID PACKAGE DEVELOPMENT

ATM will develop a bid package that will be utilized to solicit competitive quotes from prospective dredging contractors. This package and related effort will include:

- Utilizing the existing survey information and related site data, ATM will develop a basic set of bid plans for the dredging project. These plans will include depiction of existing site conditions/depths, existing site structures, proposed dredge depths, and related site information.
 - ATM will coordinate with the City and Marina operator to review and identify appropriate/general dredging procedures and offsets from marina vessels. This does not include a detailed structural evaluation of marine structures such as shoreline stabilization or pile design/depths. We will, however, review the pile design submittals from the recent marina expansion project as part of this effort.
 - **Note:** Remediation design for disposal site(s) not included herein.
- Develop a set of basic specifications for dredging and disposal.
- Develop a technical appendix for the bid package with information such as: regulatory documents, available sediment data, basic disposal area information (to the extent readily available, etc.)
- Work with the City to develop and include front-end documents including instructions to bidders (that establishes project criteria such as schedule, site access, contractor requirements, etc.), form of contract, form of bonds, form of payment application and related procedures/requirements will also be developed and provided.
- Develop and provide a bid form.

Deliverable: Dredging bid package including the above-described items.

TASK 7 – BIDDING, EVALUATION, AND NEGOTIATION

ATM will support the City of Isle of Palms during the bidding process to help procure formal, competitive bids for the proposed work. ATM will administer the bidding process on behalf of the City and will serve as the primary technical contact and liaison between the City and prospective bidders. Specific responsibilities under this task will include:

- Coordinate with the City to advertise the project.
 - Assume the City to formally advertise the work on their website.
- Contact regional dredging contractors to gauge interest in the project and to direct the appropriate parties to the bid advertisement.
- Coordinate and lead a pre-bid meeting with the City, the marina operator, and prospective bidders.
 - Assume this meeting will be held on site and will be two (2) hours in duration.
- Review and respond to technical queries (RFI's) during the bidding process. Formal addenda will be developed and issued as needed.
 - Assume a maximum of eight (8) hours of professional time for these efforts.
- Conduct a technical review of received bids.
 - Tabulate bids in MS Excel software for ease of comparison.

- Review bids to ensure thoroughness and adherence to bid requirements.
- Review contractor's technical bid submittals for conformance with design and regulatory authorizations.
- **Note:** ATM's technical review is not intended to include an exhaustive review of multiple alternates or complex contractual matters. We also assume that the City's attorney will participate in the bid review.
- Provide formal recommendation for award to the City regarding contractor selection.
- Provide technical support to the City during contract negotiations with the selected contractor.
 - Assume two (2) hours of professional time (maximum).

Deliverables: Pre-bid agenda and minutes; Response to technical RFI's/addenda (as needed), bid tabulation, recommendation for award.

TASK 8 – CONSTRUCTION ADMINISTRATION

ATM estimates that the active dredging for this project will likely take approximately 2 weeks (City Marina site only). Additional time for mobilization and demobilization will also be required. During the construction phase of the project, ATM will provide technical support to the City. This work will include the following:

- Participate in a pre-construction meeting with the City, marina operator, and the selected dredging company to review project goals, technical data, project approach, and regulatory requirements.
- Review contractor's pre-dredge survey and determine adequacy for use in volume calculations.
- Facilitate regulatory commencement notification.
- Provide limited coordination and responses to the selected dredging company regarding technical RFIs. Assume maximum of eight professional hours.
- Conduct two site visits during active dredging to observe general progress and meet with project stakeholders (City staff, marina operator).
 - **Note:** Physical testing of dredged material during construction and water quality monitoring of dredge/disposal area are not included herein.
- Review dredging company payment application requests (assume three maximum) and progress surveys (assume two maximum).
- Facilitate project close out.
 - Regulatory notification.
 - Provide City the final contractor-developed as-built survey.

Deliverable: Pre-Construction meeting minutes. Written RFI responses as required (within above-stated limits), site visit summary memoranda, certification of up to three payment applications.

FEE SUMMARY

The total fees for the project are summarized below:

Task #	Professional Fee Summary	Cost
Task 1	Local Engagement and Coordination	\$3,500
Task 2	Dredge Disposal Alternatives Analysis	\$13,500
Task 3	Preliminary Design and Sediment Testing Coordination	\$27,500
Task 4	Regulatory Permit Application Development	\$9,500
Task 5	Regulatory Permit Application Coordination	\$5,000
Task 6	Bid Package Development	\$18,000
Task 7	Bidding Support	\$12,500
Task 8	Construction Administration	\$15,000
Total		\$104,500

- Fees for Tasks 1-4 and 6-8 are lump sum and include anticipated expenses and reimbursables.
- Task 5 is an allowance that will be invoiced on a time and materials basis as/if needed.
- It is assumed that any permit application fees will be paid by the City.



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