



January 8, 2020

reference: 11207220

City Clerk
City of Key West
1300 White Street
Key West, Florida 33040

Re: RFQ No. 20-002: Environmental Engineering Services

GHD is pleased to have the opportunity to submit our qualifications to provide environmental and coastal engineering services to the City of Key West (City). This proposal is based on the City's RFQ No. 20-002 dated December 6, 2019. We further acknowledge Addenda 1 & 2, issued by the City. The GHD Team is best suited to deliver these services to the City for several reasons:

- ✓ **Local Expertise.** Our offices in South Florida have more than 120 professional staff located within easy reach of Key West and a long history of delivering successful Environmental and Coastal Engineering projects. We are embedded in the community and have **two Team member offices in the lower Florida Keys** to provide the local resources and equipment needed to provide timely and efficient field investigations. In addition, our **dedicated project manager, Jesse Davis, PE, ENV SP, is a true Conch**; Mr. Davis was born at Fishermen's Hospital in Marathon.
- ✓ **Specialized and demonstrated experience.** GHD understands the unique challenges facing the City and our staff have successfully navigated both the City and other south Florida clients through similar projects. **For instance, our Environmental Team has completed over 2,500 Phase I & IIs, 200+ Tank Related Projects, 100+ Site Rehabilitations, and 25+ Conditional Closures throughout Florida.** These projects include:
 - **Contaminated Site & Remediation Services.** Due diligence, site assessment, and site rehabilitation activities for the removal of underground storage tanks and over 900 tons of petroleum-impacted soil at a site with a **tidally influenced groundwater table** in Miami Beach.
 - **Coastal Engineering Services.** Designing, permitting, and providing bid phase services for the Rest Beach seawall after demonstrating the vulnerability of Atlantic Boulevard, an emergency access road, to scour during high frequency storm events.
 - **Port Design & Cruise Ship Operations.** Dynamic berthing and mooring analysis, passing vessel study, and propeller-induced scour analysis in support of a new cruise terminal and seawall at the Port of Miami. The study also included the determination of the minimum seawall and finished floor elevations based upon code requirements and the probability of inundation by storm surge and sea level rise.
 - **Sunny Day Flooding.** GHD developed an asset management plan to improve customer service levels, better manage risk, and reduce asset lifecycle costs that are projected to result in **annual savings of \$2.8M** for the City of Fort Lauderdale.
- ✓ **Our Team is committed and available.** GHD is an employee owned firm that promotes a shared work philosophy through global profit centers. With 120+ engineering and environmental professionals located in Florida and 30+ dedicated maritime and coastal professionals in North America, our company and staff resources are large enough to provide uninterrupted, quality services throughout the life of this contract. We also use our in-house communication tool, iConnect, to leverage the broad technical expertise of our 10,000 plus staff and we are committed to putting all of these resources to use for the City.

GHD is committed to helping the City of Key West maintain its unique sense of place and economic vitality while preserving its history, diversity, and natural beauty. We are solution-oriented and we will use our considerable talents and resources as the foundation for assisting the City in meeting its environmental and coastal engineering needs.

We appreciate the opportunity to submit our qualifications for the City's consideration. GHD looks forward to being favorably selected to provide our exemplary services to the City.

Sincerely,

GHD

Brian Moore, PE
Vice President | Senior Environmental Engineer



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Section 1 | Complete Company Profile & Professional Qualifications

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, advisory, digital and construction services to private and public sector clients.

Established in 1928 and privately owned by our people, GHD operates across five continents – North and South America, Asia, Australia, Europe, and the Pacific region. We employ more than 10,000 people in 200+ offices to deliver projects with high standards of safety, quality and ethics across the entire asset value chain. Driven by a client-service led culture, we connect the knowledge, skill, and experience of our people with innovative practices, technical capabilities, and robust systems to create lasting community benefits.

Committed to sustainable development, GHD improves the physical, natural and social environments of the many communities in which we live and operate. We are guided by our workplace health, safety, quality and environmental management systems, which are certified to the relevant international standards (ISO and OHSAS). **GHD is one of the few engineering/consulting firms** that have attained an ISO 9001:2015 Certification in Consulting, Engineering, Project Management, Design Services, and Materials Testing. **As a result, GHD was ranked by ENR in 2019 as one of the top 25 Design Firms and top 20 Environmental Firms in North America.**

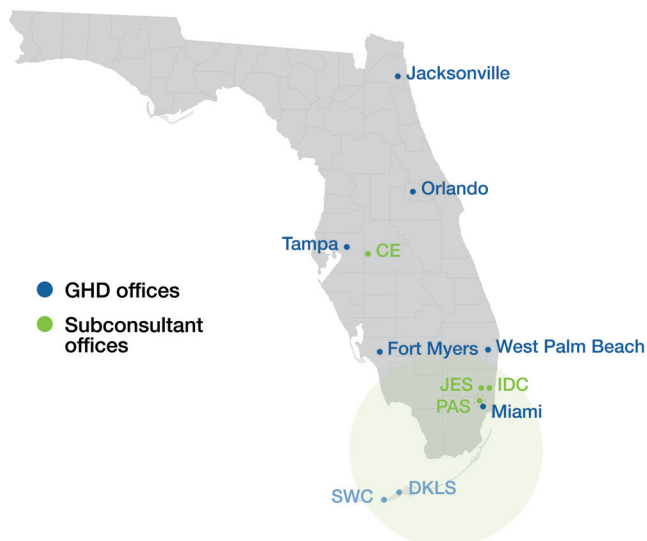


Specialized Experience and Technical Competence

The GHD Team is uniquely qualified to provide the required Environmental Engineering and Coastal Engineering services for the City of Key West (City) because of our extensive experience throughout Florida. By selecting the GHD Team, the City will gain access to the expertise of our key personnel and will benefit from our demonstrated experiences and regulatory rapport within the South Florida market. Summaries of our specialized experience and technical competence related to Environmental Engineering and Coastal Engineering are included below.

Environmental Engineering

Every interaction in society impacts the environment in some way. At GHD, we offer a broad range of environmental services to help our clients develop and enhance project performance while managing any potential risks and impacts. We have earned a reputation for excellence by offering integrated, practical and innovative solutions to all levels of government authorities as well as public and private organizations.



Our local, Florida offices contain more than 120 professional staff members that have provided full-scale environmental engineering, remedial design, site investigation and rehabilitation, hazardous and non-hazardous materials management, environmental site assessments and audits, asbestos surveys, soil, groundwater, surface water sampling and analysis, underground storage tank closure, bid and proposal document preparation, permitting, and preparation of contract specifications to local clients for the past 30 years. Details regarding our qualifications for the requested services are included below.

Contaminated Site Investigation and Remediation Services: We have managed hundreds of projects impacted by petroleum, chlorinated solvents, heavy metals, and pesticides/herbicides with a mindset for client advocacy through strong regulatory knowledge, site conceptual modeling, operational efficiency, realistic exit strategies to closure, and cost effective solutions.

For any site assessment project, a thorough understanding of the overall project objectives, schedule, and closure mechanism are required to ensure the collection of appropriate data. **For example**, many assessment projects involve a simple determination of the presence or absence of subsurface impacts. In other instances, the required data may be needed to answer a specific question, versus meeting a regulatory requirement. In these instances, a detailed scope of work may be necessary to determine potential sources of chemicals to the subsurface, and/or determine the potential for migration of subsurface impacts. Regardless of the question/concern, GHD has the expertise to complete a routine water quality sampling program, develop a complex contaminant fate and transport model, or conduct full-scale environmental assessments.

GHD has adapted many of the elements of site assessment to streamline the process and provide reliable, cost-effective data. For most assessments, the Triad approach using systematic planning, dynamic work strategies, and real-time

measurements is employed. As part of the assessment process, we routinely use innovative techniques for characterization and analysis, which optimizes remedy selection and reduces remediation costs. **An example** of our innovative assessment qualifications is the development of Modified Active Gas Sampling (MAGS™). **GHD's environmental engineer, Brian Moore, PE, was instrumental with developing MAGS™** as a way of locating shallow source areas without the limitations associated with discrete soil sampling.

Industrial Hygiene Services: GHD provides a variety of industrial hygiene services for our public and private sector clients. The projects will vary in scope and complexity based on the defined scope of work. We routinely provide transactional services such as Asbestos Containing Material (ACM) surveys and preparation of removal and clearance protocols. GHD can also provide health and safety audits and monitoring services. **We support all aspects of microbial air sampling and associated industrial hygiene services.** Although most indoor air quality problems are associated with heating ventilation and air conditioning (HVAC) operations, air sampling with direct-reading instruments is necessary to identify the nature and extent of the problem.

For local municipalities and school boards, GHD routinely conducts limited indoor air quality evaluations in response to odor complaints and also routinely conducts asbestos testing and air quality monitoring during construction. GHD recently assisted the City of Fort Lauderdale with a fast response air monitoring program. We mobilized a technician with monitoring equipment within 24 hours of the City of Fort Lauderdale's request in order to gather air quality data throughout Fort Lauderdale at over 30 specific testing locations. The air monitoring was requested as a result of an inadvertent sewer discharge and the results were provided to the City of Fort Lauderdale the same day.

Underground Storage Tank Site Services: GHD has conducted hundreds of storage tank closure assessments throughout Florida. GHD staff members are fully versed in the Department of Environmental Protection's (FDEP) requirements for the performance of Tank Closure Assessments as detailed in Chapter 62-761 and 62-780, FAC; Storage Tank System Closure Assessment requirements, and guidelines for Assessment and Source Removal of Petroleum Contaminated Soil.

For example, GHD's Hess Station project in St. Petersburg, Florida, GHD removed and disposed of three 10,000-gallon petroleum underground storage tanks (USTs) including five fuel dispensers and all associated piping. Additionally, GHD conducted a source removal of impacted soils from the UST system. A total of 120 tons of asphalt and concrete and 2,400 tons of impacted soil was excavated and transported off site for proper disposal.

GHD also completed several tank closure assessments for the School Board of Brevard County. These sites included the Stone Middle School and the Ronald McNair Magnet School. The tasks required working after school hours and on weekends so as not to disrupt school activities. The Tank Closure Assessment Reports, which included recommendations for No Further Action (NFA), were subsequently approved by the Brevard County Natural Resources Management Office - thus providing approved closure for both sites.

Use of GHD's in-house construction services department provides significant savings to clients by limiting the number of mobilizations/travel costs, and limiting the number of subcontractors required, thus eliminating subcontractor mark-up fees. **GHD continues to perform Tank Closure Assessments on a complete turnkey basis and we provide proven and significant cost reductions to our clients, and will provide similar savings to the City under this contract.**

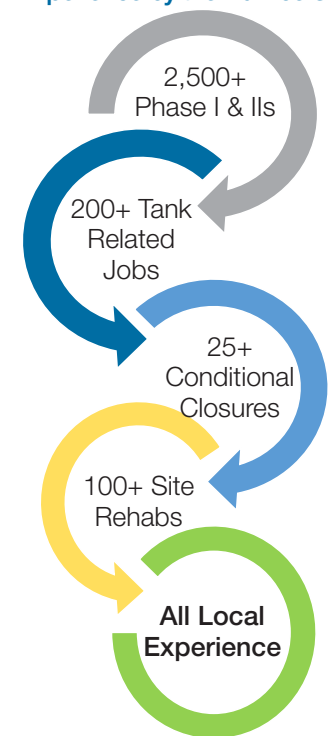
Real Estate Development Support Services: As a member of the American Society for Testing and Materials (ASTM), GHD actively participated in forming the national guidelines, which became the E1527 and then the current 1527-13 Phase I ESA standards. These standards establish ESA practices that satisfy the due diligence responsibilities of participants involved in commercial real estate transactions for Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) protection. In addition to our experience in guideline development and instruction, GHD has extensive experience in providing these types of services and will follow the same standard protocols that it teaches to other practitioners across the country.

GHD has performed thousands of Phase I ESAs for a variety of public and private sector clients. For Hillsborough County, GHD provides Phase I and II ESA services as part of the County's Environmental Lands Acquisition and Protection Program (ELAPP) on a continual basis. Many of the ELAPP projects require expedited turnaround when subsurface testing is recommended.

Coastal Engineering

Maritime developments often pose unique challenges. They must be sensitively designed, attractive, functional, cost-effective, and environmentally sustainable. The design must take into account coastal processes, including the effects of severe storms and elevated water levels, sea level rise, winds, tides, and currents.

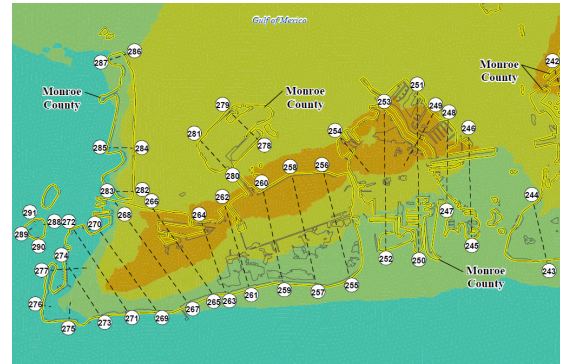
Florida Environmental Experience by the Numbers



GHD has over 30 dedicated maritime and coastal professionals in North America, equipping us with a diverse team to develop the most effective adaptations and solutions to these challenges. Our distinguished team includes recognized leaders in marine structures, climate change, coastal and maritime design and modelling, waterfront development, port planning and logistics, coastal and ecosystem restoration, coastal zone resource planning, shoreline protection engineering and construction, biological monitoring, and reef restoration.

Located in key coastal communities, including our local South Florida offices in Miami and West Palm Beach, our maritime and coastal team operates without geographic borders to develop and protect critical infrastructure throughout North America. **For this contract, our dedicated Project Manager is located only a few hours' drive north of Key West (in Homestead) to provide the City with a high level of service and efficiency throughout this continuing services contract.**

Coastal Engineering Services: A thorough understanding of the environmental conditions and coastal processes along the City's shorelines are critical to a successful project. During most projects, GHD coastal engineers will document the site-specific tidal datums, water levels (including flood elevations and sea level rise estimates), winds, waves, scour and the resulting impact forces likely to occur for a range of design storm events. For some projects, this may include the use of publically available data and GHD's in-house calculation files; for others it will include the use of complex numerical models. **Our coastal engineers tailor our approach based on the project requirements to provide our clients with the most value.** *For example,* GHD used a blended approach on a recent project for MSC Cruises in PortMiami to develop a cost- and schedule-effective product. GHD's key staff combined FEMA storm surge data with a MIKE 21 spectral wave model to determine the wave heights and overtopping volumes at the new cruise terminal. This information was used to develop a minimum recommended finished floor elevation for the new terminal building and top of wall elevation for the seawall. GHD anticipates being able to utilize this same blended approach for the City with the newly released FEMA Preliminary Flood Insurance Study (FIS) for Monroe County (released on December 27, 2019). The FIS includes wave heights and storm surge elevations for transects located throughout the City (see figure to the right) with 100-yr flood elevations of up to +8.5 ft, NAVD-88.



Should a project require complex numerical modeling, GHD's key staff has over 60 years of demonstrated expertise in the numerical simulation of complex coastal processes and interactions, including the simulation of hydrodynamics, storm surge and coastal flooding; waves and wave transformation including wave breaking; erosion, transport, and deposition of sediments; shoreline change; dune erosion; scour; and water quality. The GHD Team has experience with industry-leading modeling platforms including MIKE by DHI, Delft3D, SMS (STWAVE, CMS Flow/Waves, PTM, ADCIRC), EFDC, and Telemac. These platforms are useful for hindcasting and forecasting coastal hydrodynamics (currents and waves), sediment transport, and morphology at local and regional scales.



Scientific Diving: GHD staff assigned to the City have over 90 years combined biological monitoring experience in nearshore hardbottom, offshore reefs, artificial reef, reef restoration, and seagrass environments in South Florida, the Gulf of Mexico and the Caribbean. GHD personnel implemented the permit-required monitoring program for reef and seagrass habitats on the PortMiami Phase III project between 2013 and 2015, and impact assessment work in 2016. The monitoring effort associated with the PortMiami Project represents one of the most comprehensive data collection, processing and reporting programs ever implemented in the State of Florida. **Over 10,000 scientific dives were safely performed by the project team in order to comply with the rigorous requirements of the State and Federally mandated monitoring program.**

In addition, GHD Team member SWC staff are conveniently located in Key West to provide timely and efficient field investigations, and have performed scientific diving services for the City during the replacement of Tarpon Pier, the South Roosevelt Boulevard seawall, and the Smathers Beach.

Topographic and Bathymetric Surveys: GHD Team member Florida Keys Land Surveying, Inc., headquartered only 20 miles north of Key West in Sugarloaf Key, will work closely with GHD coastal engineers and City staff to provide quality survey services that meet or exceed the minimum technical standards established by the Florida Board of Professional Surveyors and Mappers. In addition, **GHD has the capability of blending traditional topographic and vessel-based hydrographic surveying methods with our Unmanned Aerial Systems (UAS).** These are equipped with a Light Detection and Ranging (LiDAR) sensor capable of acquiring up to 50 data points per square meter to efficiently and accurately map the study area.

Underwater Inspection Services: The first step too many coastal engineering projects involves quantifying the present-day fitness of the structure and/or asset of interest. Depending upon the assigned project, the GHD Team may conduct above and below water inspections using the ASCE Manual of Practice 130 ("Waterfront Facilities Inspection and Assessment")

rating system to systematically document inspection findings and record the relevant attributes of any defects such that the remaining design life of the asset may be estimated. The damage observations at each region will provide critical inputs into a Basic Structural Analysis (BSA) and help to determine recommended repairs or replacement suitable for future facility use. **For example**, key **GHD staff and IDC divers successfully utilized this approach** to monitor, forecast, and design repairs to over one mile of turbidity curtains in Biscayne Bay's Aquatic Preserve, where construction activities would be shut down if turbidity measurements outside of the curtains exceeded background by only a single NTU.

Marine Structural Engineering: Following underwater inspections, GHD will perform a Basic Structural Analysis (BSA) of the asset based on current conditions and the anticipated future loading and environmental conditions (i.e. dredge depths, scour due to the design storm event, sea level rise scenarios, etc.). Record information or geotechnical data gathered during the site investigation phase of the project will be used in the structural analysis of the asset. Loads to be considered may include earth pressure, hydrostatic (ground water) and lateral surcharge pressures, waves, vessel wake, mooring and berthing loads, water levels, and anticipated scour depth. The BSA will estimate the existing structural capacity of the structure/asset using anticipated and code basis loads and the deterioration noted during the inspections. The evaluation will identify deficiencies with respect to vertical (gravity) and lateral (seismic) load resisting systems using the appropriate design standards (such as ASCE 7 and UFC). Demand and capacity values will be determined for each section of the asset.

State and Federal Permitting: GHD has a thorough understanding of regulatory approvals required by the FDEP and the USACE Jacksonville District. We also have worked closely with the resource/commenting agencies that serve the state and federal permitting process (i.e., U.S. Fish and Wildlife Service, Environmental Protection Agency, National Marine Fisheries Service, and the Florida Fish and Wildlife Conservation Commission (FWC)). Led by Michael Barnett, PE, D.CE, the former Chief of FDEP's Beaches & Coastal Systems (2003 – 2011), GHD staff have established and maintained a thorough understanding of the state and federal regulatory submittal requirements and processes, as well as the probable processing and issuance timelines. We frequently communicate with the planning and regulatory divisions of USACE Jacksonville, as well as FDEP staff in the Beaches, Inlets and Ports Program, the Coastal Construction Control Line Permitting Program, and the Division of Water Resource Management office, to sustain an open dialogue and familiarity with staff, procedures, policies and workload issues that may influence the processing of the City's projects. **We recognize frequent, open and honest communication with the agencies is vital toward obtaining timely and appropriately-conditioned authorizations to implement the City's coastal engineering projects.**

Construction Cost Estimates and Bid Phase Services: An important part of Bid Phase services is prospective contractor coordination. Our experience has demonstrated that contractors who are familiar with the project and comfortable with the design requirements are not only more likely to bid on the project, but they are more likely to tailor their bid in a manner that minimizes costs to the Owner. Reduction of contractor risk through well-developed plans and specifications and clear delineation of intent are integral to the Bid Phase services we provide to our clients.

For example, we have provided similar estimates for the construction of 690 feet of steel sheet pile seawall with concrete cap (inclusive of return segments) and other site modifications for the City of Key West at Rest Beach. Our staff who worked on this project, while employed by another firm, prepared detailed plans and specifications, contacted suppliers of steel sheet pile, and utilized RS Means and Microcomputer Aided Cost Estimating System – as well as experience gained from bids received on other projects – to provide a base bid plus alternate estimate of \$1.105M. **The Contractor who was awarded the project issued a bid of \$961,545 – approximately 13% lower than the Engineer's estimate.**

Construction Phase Services: The GHD Team will provide construction phase oversight and management services to give the City the necessary assurances that the selected Contractor is adhering to the contract documents and issued permits for any assigned project. Quality assurances that GHD has adopted as part of our standard construction management services includes: administering the contract, conducting weekly construction progress meetings with the City and the selected Contractor, conducting site visits to document compliance with the plans, permits, and specifications, reviewing Contractor submittals and pay requests, and conducting Substantial and Final Completion Inspections of the work. Final certifications will be provided by GHD to the City and the regulatory agencies as required by the issued permits for the project.

In addition, GHD staff have extensive experience conducting vibration monitoring, nondestructive testing methods (liquid penetrant testing, magnetic particle testing, radiographic testing, ultrasonic testing) and maintain certifications as structural masonry special inspectors, spray-applied fireproofing special inspectors, structural steel and bolting special inspectors, structural welding inspectors (AWS-CWI), ACI Concrete Field Testing Technicians.

Master Planning & Asset Management Services for Coastal Cities that Experience Sunny Day Flooding:

GHD was recently (mid-November 2019) selected by the City of Fort Lauderdale to provide asset management services and guidance on the third phase of the City's program designed to implement a Comprehensive Asset Management Plan. This selection is based on prior work that GHD performed as part of a larger consultant team, for which GHD received accolades from the City.

“GHD prepared a sustainability evaluation report to design and implement a Watershed Asset Management Plan (WAMP) for the City of Fort Lauderdale. I've been working for the City over 20 years, and GHD has been one of the best team of professionals I have worked with. Their attention to detail, schedules, and to the client has been excellent.”
- Elkin Diaz, Senior Project Manager, City of Fort Lauderdale
Public Works Department

Section 2 | Organizational Structure, Team Members & Key Personnel

GHD's seamless organizational structure enables us to offer the expertise of personnel to support all of the required Environmental Engineering and Coastal Engineering services required under this contract. We provide remediation; site investigation and rehabilitation; hazardous and non-hazardous materials management; environmental site assessments and audits; asbestos surveys, testing; underground and above ground petroleum storage tanks, and environmental forensics. Our coastal engineers and marine scientists have extensive experience in the design, permitting and construction phase services (as well as the performance of pre-, during and post-construction environmental resource monitoring) associated with docks, marinas, Ports, bridges, shore protection and erosion control structures, beach restoration and nourishment projects, and living shoreline solutions. The GHD Team, including selected Subconsultants and specialized personnel is shown below.



Steven Davie, PE, D.CE*
Principal-in-Charge



Jesse Davis, PE ENV SP*
Project Manager



**Arturo Burbano, PhD, PE,
PMP, BCEE***
QA/QC Manager

Contaminated Site Investigation & Remediation Services

Brian Moore, PE*
Senior Environmental Engineer

Environmental Design Support Staff

Jeremy Hess, PE
Jenna Martin, PE
Gabrielle Enos, PG

Industrial Hygiene Services

Benjamin Chandler, CIH, CSP
Thomas Cozzie

Underground Storage Tanks

William Hutchings, PhD, PG
Greg Mudd, PG

Real Estate Development

Jennifer Rogers, PE
Ken Caldwell, PG

Permitting

William Hutchings, PhD, PG
Jennifer Rogers, PE

Coastal Engineering

Michael Barnett, PE, D.CE*
Senior Coastal Engineer

Coastal Support Staff

Hugo Rodriguez, PhD, PE
Tom Gillespie, CPEng

Bridges & Marine Structural

Amir Kangari, PE, SE
Craig Lewis, PE, SE

Resiliency & Adaptation

Danielle Boudreau, CFM

Permitting

Craig Kruempel*
Michael Barnett, PE, D.CE
Audrey Siu (SWC)

Marine Resources & Habitat Assessments

Martha Robbart*
Craig Kruempel
Abigail Clark, PhD (SWC)

Support Services

Jesse Davis, PE, ENV SP*
Senior Coastal Engineer

Owner Project Representation Services

Jesse Davis, PE ENV SP*

Construction Administration

Joe Ortega, MSCM, BSCE
James Wood, PLS

Surveying Services

Eric Isaacs, PSM (FKLS)

Master Planning & Asset Management Services

Bob Munro, PMP, CMRP

Subconsultants

American Vibracore Services, Inc. (AVS)
Vibracores | Geotechnical

Clark Environmental (CE) | WBE
Waste Removal

Florida Keys Land Surveying (FKLS)
Topo/Bathy Surveyor

Industrial Divers Corporation (IDC)
Commercial Diving

JAEE Environmental Services, Inc. (JES)
Drilling

Pace Analytical Services, LLC (PAS)
Laboratory

Sandra Walters Consultants (SWC) | S/C/DBE | WOSB
Environmental Support

* = Key Personnel

Team Members

Although GHD staff are capable of providing all of the required consulting and engineering services, specialty subconsultants have been selected to support the GHD Team. Two of the assembled delivery Team members have **offices located in the lower Florida Keys** and possess unique qualifications related to all environmental and coastal aspects required to execute work assignments issued under this contract. **Team members are identified below along with their specific qualifications, which will support the GHD Team under this contract.**

GHD's Proposed Team Areas of Expertise									
Task Category	Task	GHD	AVS	CE	FKLS	IDC	JES	PAS	SWC
Environmental Engineering	Contamination Site Investigation & Remediation Services	•							•
	Industrial Hygiene Services	•							
	Underground Storage Tanks	•							
	Real Estate Development	•							
	Permitting	•							•
	Construction Services	•							
	Emergency Response	•	•	•	•	•	•	•	•
Coastal Engineering	Bridges & Marine Structural Design	•							
	Resiliency & Adaptation	•							
	Permitting	•							•
	Marine Resources & Habitat Assessments	•							•
	Construction Services	•							•
Support Services	Owner Project Representation Services	•							
	Construction Administration	•							
	Surveying Services				•				
	Master Planning & Asset Management Services	•							
	Vibracores & Geotechnical	•	•						
	Waste Removal			•					
	Underwater/Scientific Diving	•				•			•
	Drilling (Environmental)	•					•		
	Laboratory Services							•	
Environmental Support	•	•	•	•	•	•	•	•	

Subconsultants: GHD's teaming partners have been carefully selected to support GHD in providing the local resources and equipment needed to provide timely and efficient field investigations. Many of our staff and Team members have worked together for decades. We bring a cohesive Team to all of the environmental, coastal, marine, and design task order assignments that may be issued under this contract.



Florida Keys Land Surveying, LLC (FKLS) is a state of Florida registered professional land surveying firm located on Sugarloaf Key. FKLS is a registered Minority owned Business and is operated under the responsible charge of Professional Surveyor and Mapper Eric Adlai Isaacs. FKLS is an established surveying firm that serves only Key West and Monroe County. FKLS has been providing land and hydrographic surveying solutions at the federal, state, county, city, and private level in the Florida Keys, since 2010. FKLS is licensed, insured and is a sustaining firm member of the Florida Surveying and Mapping Society. FKLS is extremely well versed in all aspects of land and hydrographic surveying in Monroe County.



Sandra Walters Consultants, Inc. (SWC) is a team of problem solvers and innovators headquartered in Key West, FL. The firm has provided services in the planning and environmental science disciplines for more than 21 years. Work has included all areas of ecological and environmental consulting and land use and public facilities planning and permitting - including habitat assessments, wetland permitting and mitigation design, environmental impact statements, compliance monitoring, development agreements, and submerged land leases. SWC staff

is fully trained in utilization of State and federal wetland assessment methodologies. SWC has extensive experience working with agencies to develop project designs that minimize impacts and meet permitting requirements, and to bring clients into compliance with regulatory standards. The firm has conducted data collection and analysis and written environmental and planning sections of NEPA documents for FDOT, the FAA, the U.S. Army Corps of Engineers, and the South Florida Water Management District, and also provides construction environmental compliance monitoring services.



American Vibracore Services, Inc. (AVS) is a marine division of Amdrill Inc. and a leader in the offshore/onshore geotechnical drilling, vibracoring and marine support services industry. AVS-Amdrill has established a reputation of excellent safety, superior service, trustworthy business practices, and strict attention to detail. AVS, with their office in Delray Beach, Florida, has project experience from Massachusetts to Florida, and throughout the Gulf of Mexico and Caribbean. With over 41 years of experience, AVS-Amdrill Inc. has been providing geotechnical and environmental drilling services since 1978, specializing in vibracoring services.



Clark Environmental, Inc. (Clark) transports, treats, and disposes of non-hazardous and hazardous contaminated soil, sludge, and liquid wastes, in both drum and bulk quantities. Clark owns and operates a FDEP and CERCLA approved facility. Clark provides industrial cleaning, disposal and transportation services for all your environmental needs. Our project teams are specialists in the environmental field and can offer cost effective solutions for all types of hazardous and non-hazardous industrial material and waste problems. Clark is a registered Woman-Owned Small Business Enterprise and Certified Minority Business Enterprise.



JAEE Environmental Services, Inc. (JES) is a full services environmental services company that specializes in Direct Push Technology (DPT) and Environmental Sampling. We were incorporated in 1991 and have been in business since and have 15 employees with offices in Davie, Stuart and Jacksonville, Florida. We are certified Water Well Contractors. JES capabilities include installing monitoring wells, collection of soil and groundwater samples, injecting bio-remediation products into the formation for remediation purposes and additional capabilities such as abandoning wells.



Industrial Divers Corporation (IDC) is a woman owned Small Business (as defined by the SBA) located in Fort Lauderdale, Florida. IDC was established in 1984, as a Subchapter S, Florida Corporation. IDC is a commercial diving business which provides worldwide diving services in inland, coastal, and offshore waters. IDC is staffed with 21 full-time employees, 17 of which are certified commercial divers. IDC maintains an extensive inventory of state-of-the-art diving equipment. This gives us the ability to perform a wide variety of underwater work on short notice. Three IDC divers are USCG licensed captains for the operation of our seven workboats of various sizes.



Pace Analytical (Pace) is the largest American-owned laboratory networking providing environmental analytical services, is a community of scientists who are passionate about delivering science better. Pace utilizes more than 40 years of expertise in running labs to provide the best scientific solutions. Pace working together with our customers on innovating products, meeting deadlines, continuously improving and ultimately delivering science better. Pace delivers the highest standard of testing and scientific services in the market. Pace offers the most advanced solutions in the industry, backed by truly transparent data, a highly trained team, and the service and support that comes from four decades of experience.

Key Personnel

Because GHD is a technical service organization, our employees are our most valuable asset. GHD's diversified staff is committed to providing high-quality services through a team approach, hands-on experience, and technical expertise. Over the years, we have developed a reputation for delivering technically sound solutions on-time and within the established budget. Corporate responsibility and accountability, technical excellence, and a commitment to consistent, superior services have proven to be a major factor in GHD's outstanding, worldwide reputation. These qualities and our continued commitment to excellence and client service will enable the corporation to manage a future of continued growth and the provision of expert services to our clients. It is our common goal to meet and exceed the expectations of our clients in a responsive, safe, and cost-effective manner. We have built a solid reputation over the years based on hard work and discipline. Our commitment to client satisfaction and responsiveness is



a cornerstone of our organizational and project management philosophy, which embraces a flat, non-hierarchical structure in which the Principals and senior management actively direct our project work and interaction with clients.

As with similar contracts, the critical link between the City and GHD will be the Project Manager who will serve as a single point of contact and an available resource for the City at all times throughout the term of the contract. Key personnel are identified below along with a summary of their experience in each identified discipline. ***GHD is licensed in the state of Florida for Professional Engineering, Professional Geotechnical, General Contracting and Asbestos services.*** We will also obtain and maintain a City of Key West Business Tax Receipt for the duration of the contract.

A Highly Qualified, Experienced and Local Project Manager: Our proposed Project Manager is **Mr. Jesse Davis, PE ENV SP**. Mr. Davis has 15 years of experience in coastal engineering design and has prepared over 20 technical plan sets, including the 2016 ASCE COPRI Large Project Excellence Award winning project in Fort Pierce, FL. He is located in Homestead, FL and will be the primary point of contact for the City, wherein he will serve as an extension of City staff. During the term of the contract, he will remain available and will be fully responsible for maintaining a clear and concise line of communication between the GHD Team and the City. This communication will facilitate the successful execution of required services by qualified personnel. Mr. Davis will also be responsible for working closely with the City to develop and implement scopes of work while maintaining compliance, quality, and efficiency.

Key Staff Member Bios



Jesse Davis, PE ENV SP, Project Manager, has 15 years of experience in coastal engineering and has provided design, permitting, environmental field assessments, and construction phase services for projects located throughout the United States, the Caribbean, and South America. Career highlights include playing a key role (from conception to construction) for the permitting, design, and construction of a nature-based island storm protection system in Fort Pierce, Florida that was the recipient of the 2016 ASCE-COPRI Project Excellence Award for large projects; the construction of an 11.6 acre artificial reef off the Port of Miami; and the design/construction engineering services for a 1,500 foot shoreline stabilization project on Whidbey Island in Puget Sound, WA that was recognized in NAVFAC's Environmental Restoration News as a success story. Additional project experience includes living shorelines, marinas, boat ramps, dredging, shoreline stabilization, seawalls, propeller wash modeling, vessel berthing & mooring calculations, disaster response, design of fall protection for water control structures, inspection of breakwaters and water control structures, water quality sampling, hazwaste & drycleaner site sampling and contaminated soils removal oversight.



Steven Davie, PE, D.CE, Principal-In-Charge, has over 24 years of experience and leads GHD's Maritime and Coastal Group. He manages a team of over 50 professionals working in coastal and water resources, including engineers, modelers, geomorphologists, natural scientists, arborists, and technicians/technologists. Mr. Davie and his group provide a full complement of coastal services to governmental and private sector clients across North America. This diversity of practice ensures our team remains current on the practices and products emerging within our industry. Mr. Davie has experience working on port and coastal related projects including feasibility studies, EIS development, data collection, hydrodynamic modeling, coastal engineering, and engineering design. He has managed and served as a technical leader on large projects such as the Savannah Harbor Expansion Project, Port NOLA Strategic Master Plan, Port of Miami Cargo Gates, Post 45 Charleston Harbor Deepening, Panama Canal Third Set of Locks, and the Calcasieu Ship Channel.



Arturo Burbano, PhD, PE, PMP, QA/QC Manager, has over 27 years of experience in the water and environmental industry. Dr. Burbano is a Vice President with GHD in Miami, FL. He serves as GHD's Florida Water Market Leader and North America Service Line Leader for Water Treatment and Desalination. He holds BS and MS degrees in Chemical Engineering from Escuela Politécnica Nacional in Ecuador, a Ph.D in Environmental Engineering from the University of Cincinnati, and a MBA from the University of California Los Angeles (UCLA). His main areas of expertise are Water Treatment, Water Reuse and Integrated Water Management. Dr. Burbano has ample experience in all phases of project execution and serves regularly as part of Technical Advisory Committees and QA/QC Review Boards.

Education | Licenses | Certifications

Education

- MS, Ocean Engineering, Florida Institute of Technology;
- BS, Ocean Engineering, Florida Institute of Technology

Licenses

- Licensed Professional Engineer: FL & MS
- Envision Sustainability Professional (ENV SP)

Education

- MECE, emphasis on Coastal Engineering, University of Florida
- BS, Civil Engineering, University of Florida

Licenses

- Licensed Professional Engineer: GA
- Diplomate from the Academy of Coastal, Ocean, Port and Navigation Engineers

Education

- MBA, UCLA
- PhD, Environmental Engineering, University of Cincinnati
- MS Industrial Engineering, Escuela Politécnica Nacional
- BS/MS Chemical Engineering, Escuela Politécnica Nacional

Licenses

- Licensed Professional Engineer: FL, CA, & NV
- Registered Project Management Professional (PMP)

Key Staff Member Bios



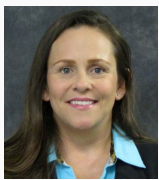
Brian Moore, PE, Senior Environmental Engineer, has more than 23 years of experience in environmental consulting. He has experience in performing Phase I and II Environmental Site Assessments, contamination assessments, remedial systems design and construction, sinkhole evaluations, and risk assessment. His experience includes the design and implementation of soil vapor extraction, pump and treat, in-situ chemical oxidation, enhanced bioremediation, and source removal. Mr. Moore has assisted with remedial performance evaluations, remedial action plan modifications, and environmental permitting. He has also participated in the evaluation and implementation of alternative cleanup target levels utilized in the negotiation of Conditional site closures. Recent projects include the design and permitting associated with redevelopment of former waste disposal areas in Florida. As a team member of GHD's Innovative Technologies Group, Mr. Moore aided in the design and implementation of the Modified Active Gas Sampling (MAGS) protocol used to assess the presence of volatile organic compounds in vadose zone soils. The MAGS method is especially useful in locating source area at facilities such as drycleaners where multiple releases may have occurred over many years.



Michael Barnett, PE D,CE, Senior Coastal Engineer, has over 35 years of experience in coastal engineering. He has led the feasibility, planning, engineering design, permitting and construction/contract document preparation for beach restoration and nourishment projects, seawalls and living shoreline projects along the Atlantic Ocean and Gulf of Mexico. He has led offshore sand source investigations for restoration and nourishment projects in Florida, and managed the construction of a mitigative artificial reef as an element of the Miami Harbor Deepening Project. Mr. Barnett served as the former Chief of the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems for nearly eight years.



Craig Kruempel, Senior Marine Scientist, has more than 32 years of experience providing clients with coastal zone resource planning, documentation, permitting, and monitoring services. His extensive experience includes the development and implementation of comprehensive characterization, monitoring, and restoration program documents with an emphasis on natural hardbottom and artificial marine habitats. Mr. Kruempel has over 30 years of compliance and coordination experience implementing the National Environmental Policy Act (NEPA) regulations for federal agency actions, with a comprehensive understanding of State and Federal coastal resource permitting requirements. Additional areas of specialization include physical and biological assessments and project effect determinations and he has served as team leader and principal scientist since 1988 for numerous field investigations and site assessments. He has served as project manager on numerous linear projects, including offshore energy project proposals. He has extensive experience overseeing shore protection project construction, including beach nourishment, and dune restoration activities throughout Florida.



Martha Robbart, Senior Marine Scientist, has over 18 years of experience providing clients with natural resource assessment, biological monitoring, analysis, and documentation of underwater marine and estuarine environments. Ms. Robbart has managed and participated in numerous projects throughout the southeastern United States, Gulf of Mexico and Caribbean from wetlands to coral reefs. She has managed underwater environmental compliance programs associated with large-scale infrastructure projects. As project manager she oversaw the safe completion of over 10,000 scientific dives associated with the largest underwater environmental monitoring program associated with a navigational improvement project, in North America at PortMiami. Ms. Robbart has experience in NEPA coordination and document preparation for federal projects.

Education | Licenses | Certifications

Education

- MSEE, University of South Florida
- MBA, Business Administration, University of South Florida
- BA, Environmental Science, University of North Carolina at Wilmington,
- AS, Science, County College of Morris

Licenses

- Licensed Professional Engineer: FL

Education

- ME, Coastal & Oceanographic Engineering, University of Florida
- BS, Ocean Engineering, Florida Institute of Technology

Licenses

- Licensed Professional Engineer: FL, AL, LA, MS & TX
- Diplomate from the Academy of Coastal, Ocean, Port and Navigation Engineers

Education

- MS, Coastal Zone Management, Florida Institute of Technology,
- BS, Biology, St. Johns University

Education

- MA, Biological Sciences, Smith College
- AB, Biological Sciences, Smith College

Section 3 | Capacity of Assigned Staff

GHD is an employee owned firm that promotes a shared work philosophy through global profit centers, which benefits our clients. GHD provides a small firm feel, however, is large enough to provide uninterrupted, quality services throughout the life of this contract. Our team's extensive resources will have a positive impact upon project schedule,

completion, and the avoidance of delays, even during peak demand periods. **Our client's benefit from access to our highly qualified, motivated, and committed personnel dedicated to providing the necessary services to support this contract.** A majority of the personnel proposed in the organization chart are shareholders or long-time employees of GHD. It is our intent that these individuals remain a part of this contract through its completion. As tasks arise, GHD will coordinate with the City to identify the most appropriate resources required to meet project schedules and objectives.

GHD is committed to providing the required resources to complete this contract to the satisfaction of the City. As a Principal within GHD, Steven Davie, PE, D.CE has the authority to assign the required staff to the City's projects as needed. Our proposed key staff availability is provided on the following chart.

Key Personnel Qualifications & Current Availability				
Key Personnel	Roll	Qualifications & Licenses	Yrs of Exp.	Availability
Steven Davie, PE, D.CE	Principal-In-Charge	Professional Engineer	24	25%
Jesse Davis, PE, ENV SP	Project Manager	Professional Engineer	15	75%
Arturo Burbano, PhD, PE, BCEE	QA/QC Manager	Professional Engineer	25	25%
Brian Moore, PE	Lead Sr. Environmental Engineer	Professional Engineer	23	40%
Michael Barnett, PE, D.CE	Lead Coastal Engineer	Professional Engineer	35	40%
Craig Kruempel	Lead Permitting	Marine Scientist	35	35%
Martha Robbart	Lead Marine Resources & Habitat Assessment	Marine Scientist	18	40%

Section 4 | Past Relevant Work Experience

GHD understands the unique challenges facing the City and recognizes the importance of thoroughly understanding the City's preferences and needs for project delivery and efficient communication. With all team members having offices in South Florida, our team is geographically positioned to be responsive to any and all Environmental Engineering or Coastal Engineering projects that may arise over the next 3 to 5 years. With two offices located in the Florida Keys, our team has the ability to be on the job site quickly for project meetings or other coordination efforts as needed. **We have provided a total of 10 project examples demonstrating GHD's qualifications and our staff's breadth of experiences well as detailed project summaries within this section.**

Relevant Project Experience Table															
Project Name Locations	Environmental							Coastal							
	Contaminated Site Investigation & Remediation Services	Industrial Hygiene	Underground Tanks	Real Estate Develop	Permitting	Construction Support	Emergency Response	Bridges & Marine Structural	Resiliency & Adaptation	Permitting	Marine Resources & Habitat Assessment	Construction Support	Design & Planning	Scientific & Commercial Diving	Sea Level Rise
1) Stylecraft Valet Cleaners Miami-Dade, FL	•				•										
2) Larry's Chevron #47607 Miami Beach, FL	•		•	•	•	•									
3) Jobber Bulk Petroleum Storage Facility Key Largo, FL	•		•		•	•									
4) Aventura Charter High School Methane Vapor Barrier System Miami-Dade, FL	•	•													
5) Environmental Services Contract City of Ft. Lauderdale, FL				•	•	•	•		•				•		•
6) Miami Harbor Phase III Deepening Project* Miami, FL									•		•	•	•	•	
7) USS Arizona Memorial Dock Repairs Pearl Harbor, HI								•				•	•		•
8) MSC Cruises Terminal Expansion at PortMiami Miami, FL								•	•				•		•
9) Rest Beach Shoreline Armoring* City of Key West, FL								•	•		•	•			
10) Cherry Point Shoreline Stabilization, Marine Corps Air Station Miami, FL								•	•	•			•		•

*Project completed by staff while with another firm.



1) Stylecraft Valet Cleaners | Miami, FL | 2018 – 2019

The former Stylecraft Valet Cleaners facility was deemed eligible for State-funded cleanup through the Florida Drycleaning Solvent Cleanup Program (DSCP) in the late 1990's. The facility was located at 14508 Lincoln Boulevard, Richmond Heights, Miami-Dade County, Florida. The site is approximately 0.5-acres in size and currently improved with an asphalt parking area in the western portion of the Site. The former

drycleaning facility was located in the southeastern portion of the Site and was razed in mid-2018. The former drycleaning facility was vacant prior to demolition. The subject property was developed prior to 1968 and drycleaning operations began in 1966 and ended in 1992. The operations were discontinued after the facility received significant damage from Hurricane Andrew. Prior to eligibility through the DSCP, site inspections were performed and a limited investigation was conducted that identified potential tetrachloroethene impacts in groundwater.



In early 2018, the Florida Department of Environmental Protection (FDEP) identified the site as a candidate for the Advanced Site Assessment (ASA) initiative. Following discussions with Miami-Dade, ASA activities were conducted in May 2018. Following the initial ASA, additional assessments were conducted in October 2018. The assessment included soil boring advancement, soil field and laboratory analysis, modified active gas sampling (MGAS™), direct push groundwater profiling, and monitor well installation and sampling. The results of the assessment activities identified negligible impacts to soil and/or groundwater at the site. Following submittal of a Site Assessment Report (SAR) in December 2018, a Site Rehabilitation Completion Order (SRCO) was issued on January 24, 2019. The monitor wells were subsequently abandoned in March 2019.

- Environmental Engineering
- Contaminated Site Investigation
- Drilling
- Testing
- Groundwater Sampling
- Remediation
- Site Monitoring
- Permitting

Client:

FDEP | Billy Hessman,
Contract Manager | billy.hessman@dep.state.fl.us |
850.245.8972 |

Fee:

\$29,213

Key Personnel:

Brian Moore, PE;
Jose Morales, JD, PE;
Thomas Emenhiser



2) Larry's Chevron #47607 | Miami Beach, FL | 2015 – 2016

The Larry's Chevron #47607 was a fuel dispenser, convenience store, and car wash facility that operated through mid-2015. GHD was contracted to complete due diligence, site assessment, and site restoration activities. Initially, GHD completed a Phase I Environmental Site Assessment (ESA), as well as a Phase II ESA. The due diligence activities were completed in anticipation of site redevelopment.

Following completion of due diligence, GHD conducted removal of the underground storage tanks (USTs), associated underground piping, and dispensers. During tank closure, approximately 914.76 tons of petroleum-impacted soil was removed for off-site disposal. The soil removal process was iterative in that soil confirmation testing was conducted coincidental in order to ensure all contaminated soil was removed.

Following source removal activities, additional assessment was conducted in order to meet the requirements for a completed Site Assessment. The assessment work was complicated by the presence of adjacent petroleum dispensing facilities to the north and south of the site with subsurface impacts. Additional complications involved the tidally influenced groundwater (site located on Miami Beach). GHD negotiated assessment approval following well installation (both on- and off-site) and sampling existing off-site wells.

Following Site Assessment approval, GHD recommended Natural Attenuation Monitoring in order to establish plume stability in anticipation of pursuing a Site Closure with Conditions. The Natural Attenuation Monitoring was complicated by ongoing construction activities both on- and off-site that resulted in damaged or destroyed monitor wells. Following several years of monitoring, groundwater concentrations decreased to levels at or below GCTLs for all perimeter monitoring wells.

- Environmental Engineering
- Underground Tanks
- Contaminated Site Investigation
- Drilling
- Testing
- Real Estate Development
- Remediation
- Site Monitoring
- Permitting
- Construction Support

Client:

Saber Real Estate Advisors,
LLC | Michael Klinger, Project
Manager | klinger@saberfund.
com | 786.406.1762

Fee:

\$227,000

Key Personnel:

Brian Moore, PE;
Jose Morales, JD, PE;
Jennifer Rogers, PE;
Ken Caldwell, PG;
Jenna Martin, PE



3) Jobber Bulk Petroleum Storage Facility | Key Largo, FL | 2016 – 2017

GHD was tasked by the Florida Department of Environmental Protection (FDEP) with completing Low Scored Assessment activities at the Jobber Inc. site located in Key Largo, Florida. The facility is a bulk petroleum storage facility. Three 20,000-gallon unleaded gasoline aboveground storage tanks (ASTs), three 20,000-gallon vehicular diesel ASTs, one (1) 8,000-gallon new lube oil, and three (3) new lube oil

ASTs are currently located on the property, and one 2,000-gallon new lube oil AST has been removed from the property. A diesel release was reported on December 19, 1998, following a manual test of monitoring wells.

Between October 2016 and March 2017, GHD advanced a series of soil borings and installed several groundwater monitor wells in order to determine the magnitude and extent of subsurface impacts. The results of the soil assessment did not identify the presence of petroleum compounds at concentrations exceeding their respective State of Florida Soil Cleanup Target Levels (SCTLs) per Chapter 62-777, Florida Administrative Code (FAC). The groundwater assessment did identify detectable levels of several petroleum constituents at concentrations above their respective Groundwater Cleanup Target Levels (GCTLs) per Chapter 62-777, FAC. Based on the results and contamination exceedances observed during the assessment activities, the facility was placed back into priority score order to await future funding. GHD recommended the site proceed to active remediation once funding becomes available based on the site's priority cleanup score.

- Environmental Engineering
- Contaminated Site Investigation
- Drilling
- Testing
- Site Monitoring
- Permitting

Client:

FDEP | Paul Johnson, Site Manager | pjohnson@ene.com | (850) 877-1133 ext. 3707

Fee: \$32,455

Key Personnel:

Jenna Martin, PE;
Jeremy Hess, PE



4) Aventura Charter High School Methane Vapor Barrier System | Miami-Dade, FL | 2016 – 2017

Aventura Charter High School is located at 3151 Northeast 213th Street, Aventura, Florida. The east parcel of the Site was purchased by the City of Aventura from Gulfstream Park Racing Association Inc. in 2017 with approved plans to construct a four-story educational building and paved parking area for Aventura Charter High School; the west parcels have been used as a City Park since 2008 and the

Gymnasium was constructed on the site of the existing basketball court.

On behalf of the City, GHD prepared design specifications for a venting system (Vapor-Vent™ Poly) and vapor barrier (Geo-Seal®) in order to mitigate suspected methane impacts beneath the Aventura Charter High School and Gymnasium building footprints. Elevated subsurface methane levels were attributed to an approximately one foot thick peat layer, which was observed between depths of 10 to 19 feet below land surface.



Following submittal of design documents to Miami-Dade and receipt of approval, the vapor intrusion barrier and venting system was installed under the supervision of a qualified GHD inspector.

Following installation and prior to occupancy, ambient indoor air monitoring was completed throughout the entire building. In addition to the requested baseline and quarterly sampling, GHD conducted weekly monitoring for the first month and monthly monitoring during the first quarter. In addition, a site-specific Operations, Maintenance, and Monitoring Manual (OMMM) was prepared that described the

Methane Gas Mitigation System and activities required for system monitoring, maintenance, reporting and health and safety procedures. The OMMM also addresses routine activities required for methane gas monitoring at the site, including sampling protocol and frequency.

- Environmental Engineering
- Industrial Hygiene
- Testing
- Permitting
- Site Monitoring
- Construction Support

Client:

City of Aventura Department of Public Works/Transportation | Antonio F. Tomei, Capital Projects Manager | tomeit@cityofaventura.com | 305.466.8923

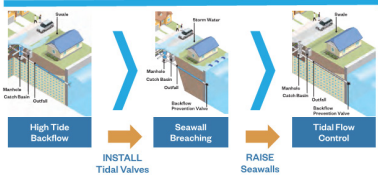
Fee: \$56,000

Key Personnel:

Brian Moore, PE;
Jose Morales, JD, PE;
Jennifer Rogers, PE;
Ken Caldwell, PG;
Jenna Martin, PE

Detailed Project Descriptions

"Holding out the Tide" requires public and private property modifications.



5) City of Ft. Lauderdale Environmental Services Contract | Ft. Lauderdale, FL | 2018

Under an existing environmental services contract, GHD has assisted the City of Ft. Lauderdale with various as-needed projects. The projects included Phase I and II Environmental Site Assessments (ESAs), development of soil management plans,

construction support services, indoor air quality assessments, emergency response monitoring, and water resource planning.

In 2018, GHD developed a planning level estimate of annual costs to develop and then implement a Watershed Asset Management Plan (WAMP) for the City of Fort Lauderdale's Department of Public Works, Sustainability Division. GHD evaluated existing service levels, work order histories, operational expenditures by budget category, and asset information to determine the strategic and operational improvements the Sustainability Division will need to make over the next 5 years to improve customer service levels, better manage risk, and reduce growth in operational and asset lifecycle costs.

Upon evaluation of the Division's data and current work practices, GHD developed a preliminary roadmap to develop and implement the WAMP. Specific strategic recommended activities included defining the Department's WAMP objectives, linking existing and new service level goals to align with those objectives, and identifying appropriate performance measure to report on those service levels. Specific tactical recommendations included developing an asset register and hierarchy, developing asset class management strategies, and documenting maintenance workflows via the IPSECA (Identify, Plan, Schedule, Execute, Close-out, and Analyze) approach. Additional recommendations including conducting a criticality analysis, adopting condition-based maintenance protocols, and conducting a thorough operational risk assessment.

Following a three-phased approach of Discovery, Implementation, and Management, GHD forecasted annual savings up to \$2.8M by 2028. As of October 2018, GHD has been selected as the strategic advisor to lead the WAMP implementation.



6) Miami Harbor Phase III Deepening Project | Miami, FL | 2013 – 2016

GHD personnel supported implementation of the \$220 million widening and deepening project at PortMiami. This was the first project in the southeastern United States to prepare through deepening for the arrival of post Panamax cargo ships

upon completion of the Panama Canal expansion. As a subcontractor to Great Lakes Dredge & Dock Company, GHD staff, while working for another firm, were responsible for \$28.4 million in environmental services and mitigation construction activities associated with the dredging contract. For the first time, the U.S. Army Corps of Engineers (USACE) awarded a contract that holds the dredging contractor directly accountable for the environmental management, comprehensive monitoring, and quality control of the project. Protection of sensitive hardbottom, coral, and seagrass habitat in and around the dredging area contributed to project complexity. The construction elements of the project for which GHD staff were responsible included the following:

- Construction of 5.98 acres of low-relief (<3 feet) and 5.62 acres of high relief (>3 feet) of artificial reef using approximately 55,000 tons of quarried limestone boulders processed to meet very stringent USACE specifications.
- Placement of quarried select fill material with specific characteristics over 17 acres of area within a historic dredge hole located immediately north of the Julia Tuttle Causeway to allow for the restoration of important seagrass habitat within the Biscayne Bay Aquatic Preserve.
- Coral species harvested from the entrance channel flare extension transplanted to natural and mitigative artificial reefs constructed by GHD.
- Seagrasses harvested from adjacent donor sites transplanted to the Julia Tuttle Seagrass Mitigation Site in compliance with the project permits, resulting in successful seagrass community establishment at the site.

Relevance to Scope

- Real Estate Development
- Permitting
- Construction Support
- Emergency Response
- Asset management plan for sea level rise
- Alternatives Assessment
- Cost Estimates
- Industrial Hygiene
- Contaminated Site Investigation

Client:

City of Ft Lauderdale | Elkin Diaz | EDiaz@fortlauderdale.gov | 954-828-6539

Fee:

\$519,079

Key Personnel:

Bob Munro;
Jose Morales, JD, PE;
Brian Moore, PE;
Ken Caldwell, PG;
Thomas Cozzie

- Environmental Management
- Mitigation Construction Design & Planning
 - » 11.6 acres of artificial reef
 - » 17 acres of select fill placement for seagrass mitigation
- Coral Reef & Seagrass Monitoring
- Scientific & Commercial Diving
- Construction Phase Services

Client:

Great Lakes Dredge & Dock | Chris Pomfret, Projects Manager | cpomfret@gldd.com | 239.250.0974

Fee:

\$28.4M

Key Personnel:

Craig Kruempel;
Michael Barnett, PE;
Jesse Davis, PE;
Martha Robbart

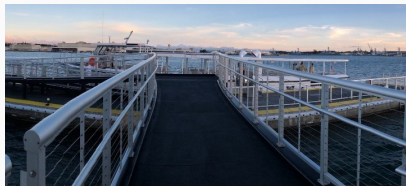


7) USS Arizona Memorial Dock Repairs | Pearl Harbor, HI | 2018 – 2019

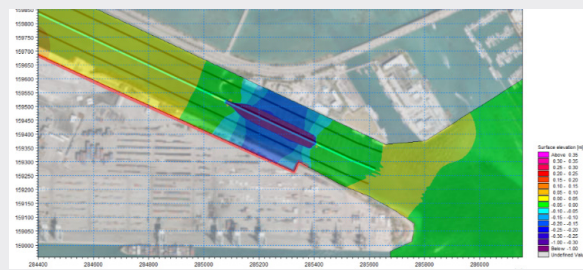
The National Park Service oversees the Memorial at ground zero of the surprise Japanese attack on Dec. 7, 1941, that drew America into World War II. A total of 1,177 lives were lost on the Arizona, which still ranks as the Navy's single

greatest loss of life. The sunken battleship memorial, one of the most visited attractions in the state, sees 4,000 to 5,000 people a day. In 2018 nearly 1.8 million people visited the Pearl Harbor site.

The position of the floating dock relative to the memorial is critical to allowing visitors safe access from a docked boat at the Memorial. The Memorial is fixed in place while the floating dock and gangway shift with the tides, waves and wake from passing boats. Access to the memorial was suspended in May 2018 when park staff noticed minor damage to its attached floating concrete dock where boat passengers disembarked. Inspection of the dock revealed a failure of its anchoring system, which allowed large lateral movement at the spot where passengers disembark from Navy boats.



GHD designed a new mooring and anchoring system and provided on-site construction oversight services which allowed the Navy to reopen this important memorial on September 1st, 2019; just in time for the Labor Day Holiday. Construction of the repair cost approximately \$2.1M.



8) MSC Cruises Terminal Expansion at PortMiami | Miami, FL | 2019

MSC Cruises is proposing a new terminal expansion located along the eastern end of Dodge/Lummus Island. Construction is expected to occur in 2022. GHD was retained to provide a dynamic berthing & mooring analysis and coastal engineering study that

included the development of:

- Site environmental conditions
- Underkeel clearance and scour potential during vessel arrival/departure
- Passing vessel wake analysis
- Dynamic mooring and berthing analysis; and a
- Top of wall & terminal building finished floor elevation assessment.

Despite only commencing this effort three months ago, GHD reviewed and compiled the readily available water level, wind, current, and wave measurement data available within the vicinity of PortMiami, developed hydrodynamic and wave models, and provided design recommendations and guidance for the development of Port infrastructure. The Metocean data was used to develop a MIKE 21 BW wave model to transform extreme offshore wave heights (i.e., Hurricane Andrew, 27.8 feet wave) to the project site for determination of the minimum finished floor elevation of the cruise terminal. In addition, GHD developed a hydrodynamic model to determine the effects that passing vessels would have on the moored cruise ships.

GHD adhered to the tight schedule requirements for the initial assignment and provided a high quality deliverable that has been rated a 10 out of 10 by the Client. Although the initial scope of services has been completed, GHD anticipates providing additional design services as the project moves towards construction.

- Marine Structural Design
- Geotechnical Engineering
- Cost Estimates
- Construction Phase Services

Client:

Kennedy/Jenks Consultants, Inc. (End Client: National Park Service) | Kyle Okino / Project Manager | KyleOkino@KennedyJenks.com | 808.348.7214

Fee:

\$100,000

Key Personnel:

Craig Lewis, PE, SE;
Andres Alberdi, PE

- Cruise Ship Berthing & Mooring Analyses
- Propeller-Induced Scour at the Base of the Seawall
- Berth Pocket Dredge Elevation
- Sea Level Rise & Storm Surge Analysis
- Minimum Top of Wall Elevation
- Minimum Finished Floor Elevation of Terminal Building

Client:

Arquitectonica | Charles Hugh Crain, Vice President | ccrain@arquitectonica.com | 305.372.1812 ext. 1024

Fee:

\$141,900

Key Personnel: Steven Davie, PE; Jesse Davis, PE; Hugo Rodriguez, PhD, PE; Tom Gillespie, CPEng; Michael Barnett, PE; Arturo Burbano, PE; Jose Morales, PE; Danielle Boudreau; Joe Ortega



9) Rest Beach Shoreline Armoring | Key West, FL | 2016 – 2018

The City of Key West (City) maintains approximately 660 feet of shoreline along the Atlantic Ocean for use as a public park. Rest Beach, as it is known publicly, is bounded by the White Street Pier to the west and private condominiums to its east. Prior to 2018, the shoreline was experiencing erosional stresses that were principally the result of storm activity since at least the late 1980's. The beach erosion was exacerbated by a lack of active sediment transport along the shoreline to 'feed' the beach and resulted in the loss of public viewing platforms and sidewalks along the shoreline. One of Key West's main evacuation routes, Atlantic Boulevard, is located just north of the Park and within 75 feet of the eroded shoreline. GHD personnel, while working for another firm, provided services to the City as the Project Manager/Engineer of Record and Coastal Engineer. Services included managing the collection of field data such as soil borings and topo/bathy survey data, storm erosion modeling to assess the vulnerability of Atlantic Blvd to scouring during high frequency storm events, design and cost evaluations for two shoreline armoring alternatives, permitting, preparation of construction drawings & specifications, and construction phase services. **The City received a total of 8 responsive bids that were tightly grouped and below the engineer's estimate of probable construction costs. The City Project Manager commented that the bid results were indicative of a 'great set of plans and specifications'.**

- Permitting
- Coastal Modeling
- Design & Alternatives Assessment
- Cost Estimates
- Construction Plans & Specifications

Client:

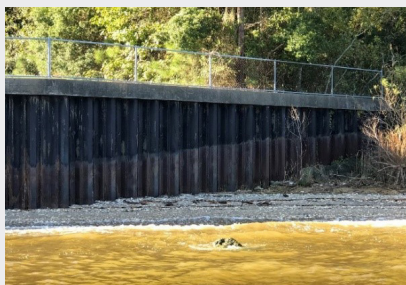
City of Key West | Steven McAlearney | smcalearney@cityofkeywest-fl.gov | 305.809.3747

Fee:

\$325,000

Key Personnel:

Michael Barnett, PE;
Jesse Davis, PE



10) Cherry Point Shoreline Stabilization Study | Marine Corps Air Station Cherry Point, NC | 2018

The Marine Corps Air Station (MCAS) Cherry Point is located on the south shore of the Neuse River in Havelock, North Carolina; approximately 30 miles west of the Outer Banks and the Atlantic Ocean. The air station encompasses over 8,000 acres and contains over 4 miles of eroding riverfront that is a mixture of hardened and natural, unprotected shorelines. GHD was retained by LG2 Environmental Solutions to:

- Perform a visual inspection of the approximately 17,500 linear feet of eroding shoreline and condition of the 5,500 linear feet of existing steel sheetpile bulkheads; and
- Provide recommendations for stabilizing the shoreline using living shoreline techniques to reduce the amount of eroded sediment entering the Neuse River.

GHD determined that the natural, unprotected shorelines located along the MCAS Cherry Point shoreline were severely eroded with maximum shoreline recession rates of up to ~5 ft/yr. The segments of shoreline that have been armored to date with steel sheet pile bulkheads range from fair to serious condition, with many exhibiting advanced signs of deterioration and some requiring full replacement. GHD provided a conceptual design and budgetary construction cost estimate to stabilize the natural segments of shoreline utilizing living shoreline techniques.

The living shoreline design developed included offshore rock sills with native vegetation and planted revetments that provide extreme storm protection from hurricanes and high frequency, annual storm events (northeasters) now and increase the shoreline's resiliency to future sea level rise.

- Bulkhead & Armored Shoreline Inspections
- Technical Analyses
 - » Wind, current, waves, storm surge, sea level rise, erosion
- Engineering Design & Alternatives Analysis
 - » Bulkheads, riprap, living shorelines
 - » Design for resilience and adaptability
- Cost Estimates

Client:

LG2 Environmental Solutions, Inc | Robert Warren, Projects Manager | robertlesliewarren@gmail.com | 603.616.7493

Fee:

\$46,480

Key Personnel: Michael Barnett, PE; Jesse Davis, PE; Steven Davis, PE; Tom Gillespie, CPEng; Craig Lewis, PE, SE

Section 5 | Proposed Management Approach, Technical Approach, Quality Assurance/Quality Control Approach, and Safety & Health

All Environmental Engineering and Coastal Engineering Consultant Services will be coordinated by GHD's Project Manager, Jesse Davis, PE ENV SP, who will serve as the single point of contact between the GHD Team and the City. This may include consultation with other Principals within GHD and/or our subconsultants. Following development of the scope of work for a particular assignment and issuance of a Task Order, local resources are assigned to implement Task Orders in accordance with our overall Corporate Quality Assurance (QA) and Quality Control (QC) Plan, as well as the Health & Safety guidelines as detailed below.

Proposed Management Approach

GHD's approach to managing continuing services contracts is geared toward each segment of a project being organized, directed, and controlled to ensure the efficient completion of each task, within scope and budget as well as schedule. **Our guiding principles for successful management of any contract are organizational simplicity to ensure accountability, and effective communication.** GHD recognizes that meeting project schedules/budgets for small, medium, or large projects requires four essential elements:

- A clear and concise understanding of the Task Order elements;
- An in-depth understanding of our staff capabilities and identification of the personnel required to efficiently complete each task;
- Consistent communication of the schedule and budget requirements to ensure all team members are administratively connected to the project; and
- Diligence and transparency in the tracking of the progress of each task.

GHD has successfully managed similar contracts through clear and consistent communications by our Project Manager, Mr. Davis. For this Environmental Engineering and Coastal Engineering Services contract, the Project Manager is ultimately responsible for the overall technical and administrative management of the contract. For continuing service contracts, multiple projects may be ongoing simultaneously utilizing different resources within the firm. As such, the Project Manager is essentially the link between the various projects and the City's representatives. Regardless of the task or project, the City can feel comfortable that Mr. Davis will be available to answer questions regarding progress or status of any active task.

Under similar GHD contracts, the GHD Project Manager will serve many primary roles, which are noted in the **Table to the right**. Thus, the Project Manager is the focal point and key to the management efficiency and organizational productivity.

GHD currently holds similar continuing service contracts with the City of Fort Lauderdale, City of Tampa, City of Fort Myers, Miami-Dade County, Tampa Bay Water, City of Clearwater, Brevard County, City of St. Petersburg, Hillsborough County, and Lee County. Under each of these contracts, the key to successful project completion is centralized project management. In each instance, the Project Manager acts as the direct line of communication for the client. All project tasks are communicated directly to the Project Manager.

The Project Manager develops a project team based on the understanding of the needs of the project, which could include internal professional or support staff, and/or subcontractors. Once the Team is identified, the schedule and budget information is provided and the work scope is implemented. All along, the Project Manager evaluates progress and prioritizes tasks as necessary to meet the project schedule. If additional resources are necessary, the Project Manager has authority to call upon additional staff and/or subcontractors.

GHD understands that specific project scope and complexity will vary between assignments under this contract. **The appropriate level of QA/QC for small, medium, or large projects will be consistent with GHD's quality system and will be determined and implemented by Mr. Davis.** In order to effectively manage the City's Environmental Engineering and Coastal Engineering Services Contract, we intend to put into action four activities to manage schedule and budget requirements successfully. These elements will be applied to all of the medium and large projects, but may also be applicable to certain small projects. These are:

1) Initial Site Visit: An initial site visit establishes rapport with the City representative and an appreciation for the circumstances of the site. During the visit, a request is made to obtain site figures, utility location maps (where appropriate) and features are identified that may pose a hazard or hindrance to the project team, the public, or the City. In order to deliver the appropriate work product, we also inquire about the objective of the requested services and how the services fit into the overall project, including the schedule. The initial site visit provides the basis for the detailed scope of work.

2) Detailed Scope of Work: The scope of work is the project's "road map." The successful progress of any task can be attributed to the clarity by which the work task has been understood by both the City and GHD's key personnel. We emphasize the preparation of a correct and detailed, but easily understood, scope of work to launch each task.

3) Monthly Project Summaries: GHD recognizes that a few City Task Orders are likely to be completed within one or two months. Short-term tasks rarely result in budget and schedule conflicts. However, GHD will prepare monthly summary reports for all active projects to keep the City's Project Manager current.

Client Interface

- Communication
- Negotiate Work Plans
- Cost Estimates
- Schedule Tracking
- Technical Discussions
- Milestones
- Invoicing
- Issue Resolution

Team Director

- Communication
- Assign Tasks
- Allocate Resources
- Establish Technical Requirements
- Monitor Progress (Milestones & Budget)
- Corrective Actions
- Issue Resolution

Corporate Liaison

- Communication
- Subcontractor Management
- Contracting
- Public Relations
- Review Work Product
- Invoicing
- Issue Resolution

4) Communications: GHD’s technicians and professional engineers are accustomed to maintaining continuous communication with the Project Manager during completion of projects. We can be on a project site within hours of notification. GHD can provide night and weekend availability to the City. E-mail and/or text messages concerning project conditions, site access agreements, and regulatory issues have proven a successful communication tool while completing assigned tasks.

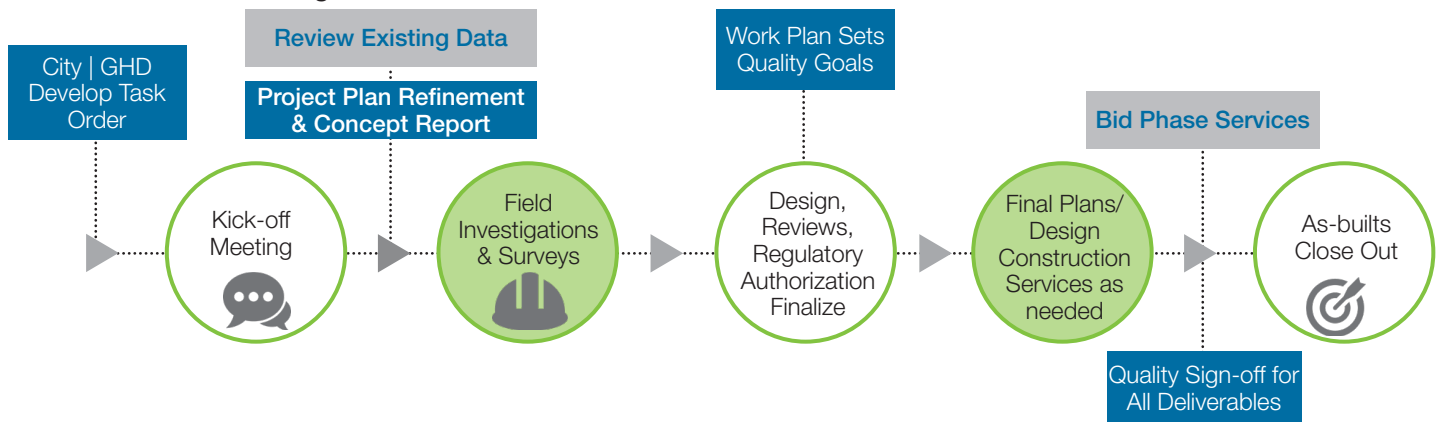
By using our standardized approach to managing this contract, projects will remain on schedule and within budget. GHD is familiar with the City’s process for reviewing proposals, issuing Task Orders, and invoicing. GHD understands that following the initial discussion with the City’s Project Manager and completion of the site visit (if required), a detailed scope of work will be developed by GHD that reflects the understanding of the overall objectives and detailed tasks that need to be completed. Once the scope of work and cost estimate are submitted, work cannot proceed until a Task Order is approved by the City Commission and issued through the City’s Finance/Budget Department. Invoicing will be prepared that reflects the specific items completed and the percent of task completion. GHD will provide detailed information on all of our invoices.

Proposed Technical Approach

The GHD Team was built and thrives as a result of our demonstrated experience in successfully delivering a broad range of Environmental Engineering and Coastal Engineering projects throughout South Florida. The goal is to create and maintain a professional partnership with our clients and subconsultants, with equal emphasis on both project delivery and overall client needs. We are committed to the many relationships that result from the successful completion of projects as they are the avenue through which we help our clients achieve their short and long term project goals. Our design philosophy includes simplicity, functionality, and flexibility as summarized below:

- **Simplicity:** The basis for design highlights and emphasizes the essential, core purpose.
- **Functionality:** Maintaining focus on the overall objectives ensures quality while conforming to cost constraints.
- **Flexibility:** Deliberately providing future decision opportunities to respond to future events.

The GHD Team will utilize a phased approach that ensures a timely, efficient and cost-effective formulation of the basis of design. This focus will continue through to construction administration and the preparation, certification and transmittal of record drawings associated with the constructed project. Our Team will deliver a complete, comprehensive suite of services that will result in the construction of a successful project. **Our approach to the design of any type size project for this contract is shown in the figure below.**



Proposed Quality Assurance/Quality Controls for Small, Medium, and Large Projects

GHD firmly believes that corporate QA/QC is essential to delivering the consistent quality service expected by our clients. GHD’s quality commitment to our clients is reflected in our Quality System Policy statement, which reads:

“We will continually improve the quality of our services through the implementation of a Quality Management System and on-going training of our employees. Our objective on all projects is to meet and exceed the expectations of our Clients by providing quality services in a responsive, safe, and cost-effective manner.”

Because GHD is registered under the ISO 9001:2015 Quality System Program we share success at meeting and exceeding clients’ needs as evidenced by the high percentage of repeat business that GHD has experienced and the results of client feedback questionnaires. The following is a summary of results of client feedback received to-date under our ISO 9001:2015 Program.

In addition to our ISO 9001:2015 Program, GHD has developed and implemented extensive in-house training programs to ensure quality and consistency across the organization. These programs

GHD’s success at exceeding our clients’ needs is evidenced by the high percentage of repeat business that GHD has experienced and the results of more than 7,000 client responses received since February 1999 under our ISO 9001:2015



include project management training, standard operating procedures for all field-related activities, health and safety training, and contract specification preparation, along with frequent seminars and presentations regarding laws, regulations, and new technologies.

GHD has established a strong network of technically qualified, safe, and competitively priced subcontractors across North America. Our subcontracting procedures are also part of GHD's ISO 9001:2015 Program, which provides a process for verifying that all subconsulting meet the necessary technical, safety, insurance, integrity, and other related requirements to satisfy the specific needs of the client and project. GHD maintains a resourceful internal database of pre-approved subconsultants in many areas, which have already established minimum contract language, health and safety performance, and technical merit stipulations. Through our national work volume for numerous different clients, we are often able to secure very competitive rates that are passed on to our clients.

Subconsultants procured by GHD to conduct field services for our projects are expected to follow all applicable laws and regulations with respect to safety. Additionally, GHD and/or our clients may require additional safety items and functions as part of our projects. GHD has initiated a safety and health subcontractor evaluation process as part of our ISO 9001:2015 Program. The subconsultant safety evaluations are conducted by the Health, Safety, and Environment (HSE) Team for each new subconsultant and on an annual basis for each existing subconsultant.

For any given assignment under this Environmental Engineering and Coastal Engineering contract, GHD will implement our corporate procedures for QA/QC. Therefore, the procedures for quality control will match the corporate guidelines for a particular activity. *For example*, Mr. Davis working with our proposed QA/QC Manager, Mr. Arturo Burbano, PhD, PE will ensure appropriate peer review levels for design plans. Similarly, Mr. Davis will ensure that only pre-approved and qualified subcontractors perform support services under this contract.

Health & Safety

It is GHD's belief that our employees are the company's most valuable resource and that they deserve the right to practice their profession in a safe working environment. GHD's senior management ranks safety as their highest priority. We seek to create a culture in which HSE principles are on the forefront of everyone's mind and part of everyday business. We are committed to leading industry practice by minimizing injury, ill health, and our impact on the environment as well as preventing pollution. As evidence of this commitment, GHD dedicates a corporate Principal to oversee and monitor GHD's overall health, safety, and environment program. A significant portion of our client base are private sector organizations, and have strict HSE requirements that we have used to establish this Safety Culture as a core company attribute, and aligns directly with their Safety Culture.



Safety Means Awareness
Responsibility Teamwork

GHD encompasses both risk management and behavior-based safety as a proactive approach to HSE. Our behavior-based safety program is called Safety Means Awareness Responsibility

Teamwork (SMART). The SMART program was developed to provide the foundation for continuous improvement in our safety performance and serve as a vehicle by which we sustain the importance of health and safety management in our daily activities. Our goal with respect to safety performance is for each employee to consider safety a service that we provide to

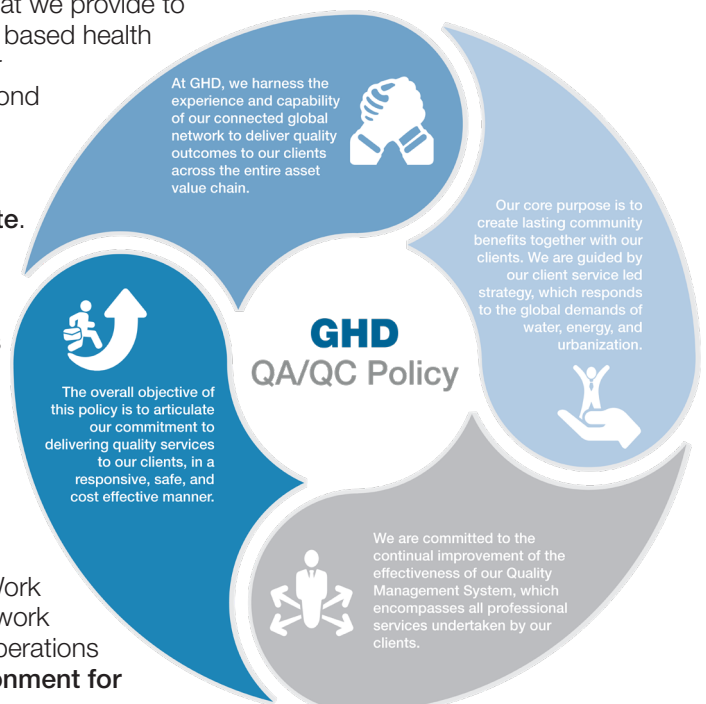
our clients. GHD has implemented a behavior based health and safety training program to ensure that our

employees perform in such a manner that health and safety is second

nature. **All GHD employees are required to complete a training matrix form on which their supervisors can identify all of the specific job function training, Quality Systems training, and health and safety training that they will be required to complete.**

This training matrix is reviewed and updated annually as part of each employee's performance review. Once the supervisor has identified all required training, the supervisor then arranges for the employee to receive the training. This training may include courses that can be delivered live by our own internal staff through online courses or by a qualified external trainer.

Employees are not permitted to work in the field until such time as they have satisfactorily completed all required regulatory and company-specific training. New hires at GHD are also required to initially conduct their field assignments under the watchful eye of a more senior employee. Each employee is empowered with Stop Work Authority to address any unsafe conditions or unsafe acts at their work sites. GHD has an HSE Team that supports both field and office operations with direct 24-hour coverage. **Our goal is an incident-free environment for all stakeholders.**



RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

**SWORN STATEMENT UNDER SECTION 287.133(3)(a)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

**THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICE
AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted with Bid, Bid or Contract No. 20-20 Environmental Enigneering for

2. This sworn statement is submitted by GHD Services Inc.
(Name of entity submitting sworn statement)

whose business address is 8000 Governors Square Blvd, Suite 410, Miami Lakes, FL 33016
_____ and (if applicable) its Federal
Employer Identification Number (FEIN) is 16-1229774 (If the entity has no FEIN,
include the Social Security Number of the individual signing this sworn statement.)

3. My name is Brian Moore, PE and my relationship to
(Please print name of individual signing)

the entity named above is Vice President

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means
 1. A predecessor or successor of a person convicted of a public entity crime: or
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter

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into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of Environmental Services.)

Brian Moore
(Signature) 1/2/20
(Date)

STATE OF Florida

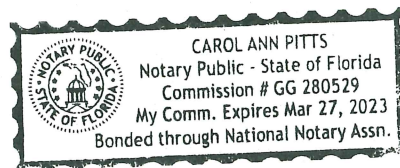
COUNTY OF Hillsborough

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Brian Moore, PE who, after first being sworn by me, affixed his/her signature in the
(Name of individual signing)

space provided above on this 2nd day of January, 2020.

My commission expires: 3-27-2023
NOTARY PUBLIC Carol Pitts

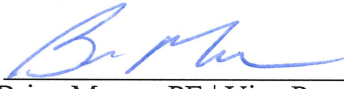


RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT


STATE OF FLORIDA)
 : SS
COUNTY OF Hillsborough)

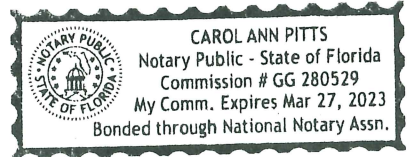
I, the undersigned hereby duly sworn, depose and say that the firm of GHD Services Inc. provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses per City of Key West Ordinance Sec. 2-799.

By: 
Brian Moore, PE | Vice President

Sworn and subscribed before me this

2nd Day of January, 2020.


NOTARY PUBLIC, State of Florida at Large



My Commission Expires: 3-27-2023

RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

City Ordinance Sec. 2-799

Requirements for City Contractors to Provide Equal Benefits for Domestic Partners

- (a) Definitions. For purposes of this section only, the following definitions shall apply:
- (1) **Benefits** means the following plan, program or policy provided or offered by a contractor to its employees as part of the employer's total compensation package: sick leave, bereavement leave, family medical leave, and health benefits.
 - (2) **Bid** shall mean a competitive bid procedure established by the city through the issuance of an invitation to bid, request for proposals, request for qualifications, or request for letters of interest.
 - (3) **Cash equivalent** means the amount of money paid to an employee with a domestic partner in lieu of providing benefits to the employee's domestic partner. The cash equivalent is equal to the employer's direct expense of providing benefits to an employee for his or her spouse.

The cash equivalents of the following benefits apply:

- a. For bereavement leave, cash payment for the number of days that would be allowed as paid time off for the death of a spouse. Cash payment would be in the form of the wages of the domestic partner employee for the number of days allowed.
 - b. For health benefits, the cost to the contractor of the contractor's share of the single monthly premiums that are being paid for the domestic partner employee, to be paid on a regular basis while the domestic partner employee maintains such insurance in force for himself or herself.
 - c. For family medical leave, cash payment for the number of days that would be allowed as time off for an employee to care for a spouse who has a serious health condition. Cash payment would be in the form of the wages of the domestic partner employee for the number of days allowed.
- (4) **Contract** means any written agreement, purchase order, standing order or similar instrument entered into pursuant to the award of a bid whereby the city is committed to expend or does expend funds in return for work, labor, professional services, consulting services, supplies, equipment, materials, construction, construction related services or any combination of the foregoing.
 - (5) **Contractor** means any person or persons, sole proprietorship, partnership, joint venture, corporation, or other form of doing business, that is awarded a bid and enters into a covered contract with the city, and which maintains five (5) or more full-time employees.
 - (6) **Covered contract** means a contract between the city and a contractor awarded subsequent to the date when this section becomes effective valued at over twenty thousand dollars (\$20,000).
 - (7) **Domestic partner** shall mean any two adults of the same or different sex, who have registered as domestic partners with a governmental body pursuant to state or local law authorizing such registration, or with an internal registry maintained by the

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employer of at least one of the domestic partners. A contractor may institute an internal registry to allow for the provision of equal benefits to employees with domestic partner who do not register their partnerships pursuant to a governmental body authorizing such registration, or who are located in a jurisdiction where no such governmental domestic partnership registry exists. A contractor that institutes such registry shall not impose criteria for registration that are more stringent than those required for domestic partnership registration by the City of Key West pursuant to Chapter 38, Article V of the Key West Code of Ordinances.

- (8) ***Equal benefits*** mean the equality of benefits between employees with spouses and employees with domestic partners, and/or between spouses of employees and domestic partners of employees.

(b) Equal benefits requirements.

- (1) Except where otherwise exempt or prohibited by law, a Contractor awarded a covered contract pursuant to a bid process shall provide benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses.
- (2) All bid requests for covered contracts which are issued on or after the effective date of this section shall include the requirement to provide equal benefits in the procurement specifications in accordance with this section.
- (3) The city shall not enter into any covered contract unless the contractor certifies that such contractor does not discriminate in the provision of benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees.
- (4) Such certification shall be in writing and shall be signed by an authorized officer of the contractor and delivered, along with a description of the contractor's employee benefits plan, to the city's procurement director prior to entering into such covered contract.
- (5) The city manager or his/her designee shall reject a contractor's certification of compliance if he/she determines that such contractor discriminates in the provision of benefits or if the city manager or designee determines that the certification was created, or is being used for the purpose of evading the requirements of this section.
- (6) The contractor shall provide the city manager or his/her designee, access to its records for the purpose of audits and/or investigations to ascertain compliance with the provisions of this section, and upon request shall provide evidence that the contractor is in compliance with the provisions of this section upon each new bid, contract renewal, or when the city manager has received a complaint or has reason to believe the contractor may not be in compliance with the provisions of this section. This shall include but not be limited to providing the city manager or his/her designee with certified copies of all of the contractor's records pertaining to its benefits policies and its employment policies and practices.
- (7) The contractor may not set up or use its contracting entity for the purpose of evading the requirements imposed by this section.

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- (c) Mandatory contract provisions pertaining to equal benefits. Unless otherwise exempt, every covered contract shall contain language that obligates the contractor to comply with the applicable provisions of this section. The language shall include provisions for the following:
- (1) During the performance of the covered contract, the contractor certifies and represents that it will comply with this section.
 - (2) The failure of the contractor to comply with this section will be deemed to be a material breach of the covered contract.
 - (3) If the contractor fails to comply with this section, the city may terminate the covered contract and all monies due or to become due under the covered contract may be retained by the city. The city may also pursue any and all other remedies at law or in equity for any breach.
 - (4) If the city manager or his designee determines that a contractor has set up or used its contracting entity for the purpose of evading the requirements of this section, the city may terminate the covered contract.
- (d) Enforcement. If the contractor fails to comply with the provisions of this section:
- (1) The failure to comply may be deemed to be a material breach of the covered contract; or
 - (2) The city may terminate the covered contract; or
 - (3) Monies due or to become due under the covered contract may be retained by the city until compliance is achieved; or
 - (4) The city may also pursue any and all other remedies at law or in equity for any breach;
 - (5) Failure to comply with this section may also subject contractor to the procedures set forth in Division 5 of this article, entitled "Debarment of contractors from city work."
- (e) Exceptions and waivers.

The provisions of this section shall not apply where:

- (1) The contractor does not provide benefits to employees' spouses.
- (2) The contractor is a religious organization, association, society or any non-profit charitable or educational institution or organization operated, supervised or controlled by or in conjunction with a religious organization, association or society.
- (3) The contractor is a governmental entity.
- (4) The sale or lease of city property.
- (5) The provision of this section would violate grant requirement, the laws, rules or regulations of federal or state law (for example, The acquisition services procured pursuant to Chapter 287.055, Florida Statutes known as the "Consultants' Competitive Negotiation Act").

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- (6) Provided that the contractor does not discriminate in the provision of benefits, a contractor may also comply with this section by providing an employee with the cash equivalent of such benefits, if the city manager or his/her designee determines that either:
 - a. The contractor has made a reasonable yet unsuccessful effort to provide equal benefits. The contractor shall provide the city manager or his/her designee with sufficient proof of such inability to provide such benefit or benefits which shall include the measures taken to provide such benefits or benefits and the cash equivalent proposed, along with its certificate of compliance, as is required under this section.
- (7) The city commission waives compliance of this section in the best interest of the city, including but not limited to the following circumstances:
 - a. The covered contract is necessary to respond to an emergency.
 - b. Where only one bid response is received.
 - c. Where more than one bid response is received, but the bids demonstrate that none of the bidders can comply with the requirements of this section.
- (f) City's authority to cancel contract. Nothing in this section shall be construed to limit the city's authority to cancel or terminate a contract, deny or withdraw approval to perform a subcontract or provide supplies, issue a non-responsibility finding, issue a non-responsiveness finding, deny a person or entity prequalification, or otherwise deny a person or entity city business.
- (g) Timing of application. This section shall be applicable only to covered contracts awarded pursuant to bids which are after the date when this section becomes effective.

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CONE OF SILENCE AFFIDAVIT


STATE OF Florida)
 : SS
COUNTY OF Hillsborough)

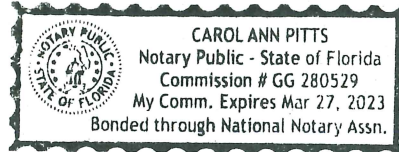
I the undersigned hereby duly sworn depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of GHD Services Inc. have read and understand the limitations and procedures regarding communications concerning City of Key West issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence (attached).

By: 
Brian Moore, PE | Vice President

Sworn and subscribed before me this

2nd Day of January, 2020.


NOTARY PUBLIC, State of Florida at Large



My Commission Expires: 3-27-2023

RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

Sec. 2-773. Cone of Silence

- (a) Definitions. For purposes of this section, reference to one gender shall include the other, use of the plural shall include the singular, and use of the singular shall include the plural. The following definitions apply unless the context in which the word or phrase is used requires a different definition:
- 1) *Competitive Solicitation* means a formal process by the City of Key West relating to the acquisition of goods or services, which process is intended to provide an equal and open opportunity to qualified persons and entities to be selected to provide the goods or services. Competitive Solicitation shall include request for proposals ("RFP"), request for qualifications ("RFQ"), request for letters of interest ("RFLI"), invitation to bid ("ITB") or any other advertised solicitation.
 - 2) *Cone of Silence* means a period of time during which there is a prohibition on communication regarding a particular Competitive Solicitation.
 - 3) *Evaluation or Selection Committee* means a group of persons appointed or designated by the City to evaluate, rank, select, or make a recommendation regarding a Vendor or the Vendor's response to the Competitive Solicitation. A member of such a committee shall be deemed a city official for the purposes of subsection (c) below.
 - 4) *Vendor* means a person or entity that has entered into or that desires to enter into a contract with the City of Key West or that seeks an award from the City to provide goods, perform a service, render an opinion or advice, or make a recommendation related to a Competitive Solicitation for compensation or other consideration.
 - 5) *Vendor's Representative* means an owner, individual, employee, partner, officer, or member of the board of directors of a Vendor, or a consultant, lobbyist, or actual or potential subcontractor or sub consultant who acts at the behest of a Vendor in communicating regarding a Competitive Solicitation.
- (b) Prohibited Communications: A Cone of Silence shall be in effect during the course of a Competitive Solicitation and prohibit:
- 1) Any communication regarding a particular Competitive Solicitation between a potential Vendor or Vendor's Representative and the City's administrative staff including, but not limited to, the city manager and his or her staff;

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- 2) Any communication regarding a particular Competitive Solicitation between a potential Vendor or Vendor's Representative and the Mayor, City Commissioners, or their respective staff;
 - 3) Any communication regarding a particular Competitive Solicitation between a potential Vendor or Vendor's Representative and any member of a City evaluation and/or selection committee therefore; and
 - 4) Any communication regarding a particular Competitive Solicitation between the Mayor, City Commissioners, or their respective staff, and a member of a City evaluation and/or selection committee therefore.
- (c) Permitted Communications: Notwithstanding the foregoing, nothing contained herein shall prohibit:
- 1) Communication between members of the public who are not Vendors or a Vendor's representative and any city employee, official or member of the City Commission;
 - 2) Communications in writing at any time with any city employee, official or member of the City Commission, unless specifically prohibited by the applicable Competitive Solicitation.
 - (A) However, any written communication must be filed with the City Clerk. Any City employee, official or member of the City Commission receiving or making any written communication must immediately file it with the City Clerk.
 - (B) The City Clerk shall include all written communication as part of the agenda item when publishing information related to a particular Competitive Solicitation.
 - 3) Oral communications at duly noticed pre-bid conferences;
 - 4) Oral presentations before publically noticed evaluation and/or selection committees;
 - 5) Contract discussions during any duly noticed public meeting;
 - 6) Public presentations made to the City Commission or advisory body thereof during any duly noticed public meeting;

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- 7) Contract negotiations with city staff following the award of a Competitive Solicitation by the City Commission; or
- 8) Purchases exempt from the competitive process pursuant to section 2-797 of these Code of Ordinances.

(d) Procedure

- 1) The Cone of Silence shall be imposed upon each Competitive Solicitation at the time of Public Notice of such solicitation as provided by section 2-826 of this Code. Public notice of the Cone of Silence shall be included in the notice of the Competitive Solicitation. The city manager shall issue a written notice of the release of each Competitive Solicitation to the affected departments, with a copy thereof to each Commission member, and shall include in any public solicitation for goods and services a statement disclosing the requirements of this ordinance.
- 2) The Cone of Silence shall terminate at the time the City Commission or other authorized body makes final award or gives final approval of a contract, rejects all bids or responses to the Competitive Solicitation, or takes other action which ends the Competitive Solicitation.
- 3) Any City employee, official or member of the City Commission that is approached concerning a Competitive Solicitation while the Cone of Silence is in effect shall notify such individual of the prohibitions contained in this section. While the Cone of Silence is in effect, any City employee, official or member of the City Commission who is the recipient of any oral communication by a potential Vendor or Vendor's Representative in violation of this section shall create a written record of the event. The record shall indicate the date of such communication, the persons with whom such communication occurred, and a general summation of the communication.

(e) Violations/penalties and procedures.

- 1) A sworn complaint alleging a violation of this ordinance may be filed with the City Attorney's office. In each such instance, an initial investigation shall be performed to determine the existence of a violation. If a violation is found to exist, the penalties and process shall be as provided in section 1-15 of this Code.

RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

- 2) In addition to the penalties described herein and otherwise provided by law, a violation of this ordinance shall render the Competitive Solicitation void at the discretion of the City Commission.
- 3) Any person who violates a provision of this section shall be prohibited from serving on a City of Key West advisory board, evaluation and/or selection committee.
- 4) In addition to any other penalty provided by law, violation of any provision of this ordinance by a City of Key West employee shall subject said employee to disciplinary action up to and including dismissal.

If a Vendor is determined to have violated the provisions of this section on two more occasions it shall constitute evidence under City Code section 2-834 that the Vendor is not properly qualified to carry out the obligations or to complete the work contemplated by any new Competitive Solicitation. The City's Purchasing Agent shall also commence any available debarment from city work proceeding that may be available upon a finding of two or more violations by a Vendor of this section.

NON-COLLUSION AFFIDAVIT

STATE OF FLORIDA)

:

SS COUNTY OF MONROE)
Hillsborough

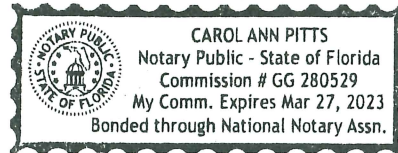
I, the undersigned hereby declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

By: BM
Brian Moore, PE | Vice President

Sworn and subscribed before me this

2nd day of January, 2020.

Carol Pitts
NOTARY PUBLIC, State of Florida at Large



My Commission Expires: 3-27-2023

CITY OF KEY WEST INDEMNIFICATION FORM

PROPOSER agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, City's Consultant, agents, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the PROPOSER, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The PROPOSER agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes.

These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, PROPOSER shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

The indemnification provided above shall obligate PROPOSER to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West's option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by PROPOSER, or persons employed or utilized by PROPOSER.

The PROPOSER's obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the PROPOSER's limit of or lack of sufficient insurance protection.

COMPANY SEAL

PROPOSER: GHD Services Inc.



Address 8000 Governors Square Blvd, Suite 410
Miami Lakes, Florida 33016

Signature *Brian Moore*

Brian Moore, PE
Print Name

1/2/2020
Date

Title Vice President

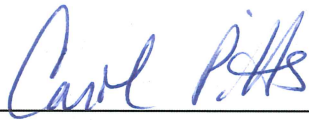
RFQ ENVIRONMENTAL ENGINEERING SERVICES 2020

NOTARY FOR THE PROPOSER

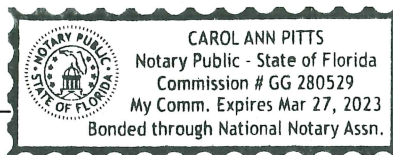
STATE OF Florida

COUNTY OF Hillsborough

The foregoing instrument was acknowledged before me this 2nd day of January 2020 . By Brian Moore, PE of GHD Services Inc. (Name of officer or agent, title of officer or agent) Name of corporation acknowledging)
or has produced - as identification.



Signature of Notary



Brian Moore, PE

Vice President

Title or Rank

Return Completed form with Print, Type or Stamp Name of Notary

Supporting documents to: City of Key West Purchasing



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3883

ADDENDUM NO. 1

RFQ #20-002 ENVIRONMENTAL ENGINEERING SERVICES

This addendum is issued as supplemental information to the bid package for clarification of certain matters of both a general and a technical nature. The referenced Request for Qualifications (RFQ) package is hereby amended in accordance with the following items:

Responses to Requests for Information

1. Is there any chance for a deadline extension for RFQ 20-002 Environmental Engineering Services, considering the holidays?
 - a. *The City prefers to maintain the current response date at this time.*
2. Is there any way we can get a copy of the prior winning submittal(s)?
 - a. *Yes, prior proposals attached to this addendum hereto.*
3. Is this RFQ to replace an existing contract? If so, who are the incumbents?
 - a. *Current contract holders; Tetra Tech; Atkins North America, Inc.*
4. How much was spent during the previous contract term?
 - a. *\$2,238,731 Total sum of all of the previous contracts.*
5. Will resumes for key personnel apply toward the 20 page limit, or will you consider them in a manner similar to forms and affidavits and exclude them from the 20 page limit?
 - a. *Names, job classifications, and qualifications of engineering personnel who will be assigned to perform services of this contract are included in the 20 page maximum.*
6. May we use a copy of the City's logo within in our response?
 - a. *Yes.*
7. Will Key West accept proposals that address only coastal engineering (Scope Item B., page 8) or must the proposals include both environmental and coastal engineering (Scope Items A and B)?
 - a. *Proposers will be allowed to submit qualification and proof of experience that documents qualifications for Coastal Engineering without Environmental Engineering.*

All Proposers shall acknowledge receipt and acceptance of this Addendum by submitting the addendum with their proposal. Proposals submitted without acknowledgement or without this Addendum may be considered non-responsive.

A handwritten signature in blue ink, appearing to be "B. M.", is written over a horizontal line.

Signature

GHD Services Inc.

Name of Business



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3883

ADDENDUM NO. 2

RFQ #20-002 ENVIRONMENTAL ENGINEERING SERVICES

This addendum is issued as supplemental information to the bid package for clarification of certain matters of both a general and a technical nature. The referenced Request for Qualifications (RFQ) package is hereby amended in accordance with the following items:

Responses to Requests for Information

1. Does the City prefer the one printed copy of the response to be bound or unbound?
 - a. *There is no preference, responses may be bound or unbound.*
2. With the looming holidays, does the City anticipate an extension to the deadline of January 8, 2020?
 - a. *City prefers to maintain the current response date of January 08, 2020.*
3. The RFQ, page 9, "Submissions Details," seventh bullet, references a few of the forms required for inclusion in the response, ending the sentence with "... for members of any team." Please clarify whether this phrase means that the following forms must be included for both the prime bidder AND proposed subconsultants in the response.
 - a. *Signed forms will not be required from proposed subconsultants at this time.*
4. There was an addendum posted for RFQ 20-002 Environmental Engineering Services, and question #2's answer states that prior proposals are attached to the addendum. However, I am not seeing those attached.
 - a. *Attachment was not included by mistake and is now attached to this Addendum.*

All Proposers shall acknowledge receipt and acceptance of this Addendum by submitting the addendum with their proposal. Proposals submitted without acknowledgement or without this Addendum may be considered non-responsive.

A handwritten signature in blue ink, appearing to be "B. M.", is written over a horizontal line.

Signature

GHD Services Inc.

Name of Business