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elombard@radeylaw.com

August 15, 2022

By Email (gmarcos@fortlauderdale.gov) and original by FEDEX Priority Overnight

Mr. Glenn Marcos
Chief Procurement Officer
City of Fort Lauderdale
Procurement and Contracts
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

**Re: Notice of Protest – Request for Qualifications RFQ# 12665-1026
Program Management and Mapping Services**

Dear Mr. Marcos:

We represent WGI, Inc., which is one of the largest and most experienced engineering firms in the Southeast and which has successfully provided high-quality services to the City of Fort Lauderdale in the past. Seeking to again provide services to the City, WGI submitted a response to the City's Request for Qualifications RFQ#12665-1026, Water Consent Order Program Management and Mapping Services (the RFQ). On August 10, 2022, the City posted on the City's Procurement webpage a Notice of Recommended Award approved by you, recommending award of the contract arising out of the RFQ to Craven, Thompson & Associates, Inc. (Craven). A copy of the Notice of Recommended Award is attached as Exhibit A.

Pursuant to RFQ Section 2.10 and City ordinance 2-182 (Protest Policy), this letter constitutes WGI's Notice of Protest of the City's intended contract award to Craven.¹ In accordance with the Protest Policy, this notice is being timely submitted within five business days of the date the City posted the Notice of Recommended Award on the City Procurement webpage. As required by the Protest Policy, a cashier's check payable to the City in the amount of \$5,000 is enclosed. Accordingly, WGI has perfected its protest rights under the City's Protest Policy.

This Notice of Protest challenges the recommended award to Craven. As explained below, Craven is not entitled to the contract award because Craven was non-responsive to the RFQ. Craven's proposal explicitly refuses to comply with the scope required by the RFQ and the RFQ requirement that the solicited work be completed by July 2023. Craven expressly stated it could not complete the work as specified in the RFQ and, instead, proposed to perform a different, undefined scope by a date *after* July 2023. The City should have declared Craven non-responsive and should not have invited Craven to make an oral presentation, much less award the contract to Craven. The City's intended contract award to Craven is contrary to the RFQ specifications, City purchasing ordinances, and Florida law. Accordingly, the contract should be awarded to WGI as the only proposer that submitted a proposal in compliance with the RFQ.

I. THE CITY'S DECISION AT ISSUE

The decision at issue in this Notice of Protest is the City's decision to award the contract being procured through the RFQ as reflected in Exhibit A.

II. THE PROTESTOR

The protestor is WGI, Inc., with its principal address at 2035 Vista Parkway, West Palm Beach, Florida 33411. For purposes of this Notice of Protest, however, all

¹ WGI is submitting this Notice of Protest based solely on documents and information regarding the City's procurement available to WGI at this time. WGI has requested certain public records which have not yet been provided by the City. WGI expressly reserves the right to supplement or amend this protest based on facts or additional protest grounds discovered in the future that are not currently known by WGI.

communications should be directed to Eduardo S. Lombard and Angela D. Miles at elombard@radeylaw.com and amiles@radeylaw.com, as WGI's legal counsel in this matter.

WGI is an aggrieved and substantially affected bidder because WGI is adversely affected by the City's decision to award the contract to Craven, which fails to comply with the RFQ and Florida law. As the second ranked bidder, and the highest ranked bidder that submitted a proposal that complies with the RFQ, if WGI's protest is granted (as it should be), WGI should receive the contract award.

WGI is a national design and professional services firm headquartered in West Palm Beach, Florida. WGI, and its predecessor firm, has spent five decades performing countless professional engineering and professional surveying projects for federal agencies, cities, counties, municipalities, special improvement districts, expressway authorities, and the Florida Department of Transportation (FDOT). In 2021, WGI provided services in 37 states in the U.S. WGI's expertise, experience, and quality of work has led to WGI being prequalified to submit proposals on FDOT projects involving a wide range of professional consulting work in areas such as Project Development and Environmental Studies, Systems Planning, Subarea/Corridor Planning, Land Planning/Engineering, Major Bridge Design, Major Highway Design, Professional Land Surveying, Mapping, Landscape Architecture, and Architecture to name a few. WGI also regularly pursues projects at the local government level, including with counties and municipalities throughout Florida, including South Florida, on its own and as part of teams that bring multiple disciplines and resources to bear on often large and complex projects.

Recognizing WGI as a high caliber engineering firm, the City has previously contracted WGI to provide professional consulting services, such as surveying and mapping under the Survey and Mapping Consulting Services, Continuing Contract.

III. FACTUAL BACKGROUND

A. The FDEP Consent Order

In July 2019, the City's water system suffered a main break that led to the issuance of a City-wide boil water notice. After investigating the incident, the Florida Department of

Environmental Protection (FDEP) concluded that the City was unable to quickly isolate the damage and redirect flow, primarily because the City has inaccurate maps of valve locations of its water system. FDEP also concluded that the City had failed to properly exercise/maintain isolation valves in compliance with the manufacturer's requirements and failed to follow the preventative maintenance program. This was one of four boil water events in 2019.

The City accepted FDEP conclusions and stipulated to a Consent Order that fines the City and requires it to take several actions and steps to improve its water system, including development of a new preventative maintenance plan, implementation of that plan, and submittal of annual maintenance reports to FDEP. The Consent Order was included in the RFQ. The RFQ is attached as Exhibit B. Additionally, and most relevant to this protest, the Consent Order required the City to submit a plan for developing a complete and accurate map of the existing water supply network, including existing source and distribution mains, control valves, and directional flow routes. The system mapping must, pursuant to the Consent Order and RFQ, be completed by July 2023.

B. The Request for Qualifications

In April 2022, the City issued the RFQ soliciting proposals from qualified firms who could provide professional services so the City could timely comply with the Consent Order. The winning contractor is required to provide the services necessary to perform the full mapping and exercising of the water system, including program management; reporting to FDEP; data collection, survey, and geo-referenced mapping of the water infrastructure; and assistance with the water line valves exercise program. *See* Ex. B, Scope of Services, p. 16-20.

The City's water system is not small. It is comprised of approximately 783 miles of source and distribution water mains, 19,000 valves, 6,200 fire hydrants, 250 air release valves, and 62,600 water meters and service lines. *Id.* at p. 16. Additionally, it includes two treatment plants and two remote storage and repump facilities.

The RFQ included Section 3, "Scope of Services" that detailed the scope of work required to be performed, along with specific tasks to be accomplished by the selected

contractor. *Id.* The City repeated a critical requirement of the RFQ throughout the scope of services section: timely completion of the work by July 2023. For example, RFQ Section 3.3.1 provided that the contractor “*will ensure the conditions set forth by the FDEP Consent Agreement are met in a timely fashion in order to prevent additional penalties and corrective action measures in order to meet all Consent Agreement mandates and deadlines, and to stay in compliance with FDEP regulations.*” *Id.* at p. 18 (emphasis added). Section 3.3.3 provided that “[t]he mapping *must be certified complete* and accessible in accordance with the Consent Order *by July 23, 2023.*” *Id.* at p. 18-19 (emphasis added).

The RFQ also contained instructions on how to submit a proposal. Those instructions underscored the need to timely complete the project and to select a contractor whose experience demonstrated it could perform the scope of work in accordance with the FDEP-imposed deadline. *Id.* at p. 23. Specifically, Section 4.2.3 explained that the contractor was required to “demonstrate experience on projects for agencies of similar size and scope, including information on *your firm’s ability to meet time and budget requirements.*” *Id.* Contractors were even required to provide a “scheduling methodology (timeline) for effectively managing and executing the work in the optimum time.” *Id.* at p. 24. Indeed, the submittal instructions, like the scope of services section, were clear: “The City expects this project to be completed expeditiously” *Id.* To this end, the RFQ required each contractor to include a “proposed (realistic) schedule” that demonstrates the timeline for completion of the contract by July 2023. *Id.*

To further underscore just how important it was to the City that the work be completed expeditiously and timely, the City issued RFQ Addendum 2 which added Section 3.5 to the RFQ and provided an “incentive-disincentive” term to the project. A copy of Addendum 2 is attached as Exhibit C. The City was plain:

The City *desires to expedite* the professional services on this Contract *to reduce the time to complete* the program management, reporting to FDEP, data collection, survey, and georeferenced mapping of the water infrastructure, and assistance with the water line valves exercise program to comply and meet the civil enforcement actions mandates by FDEP Consent Agreement.

Ex. C at p. 2. The incentive-disincentive clause provided a \$3000 per day incentive for each day the actual completion of the project precedes the deadline. *Id.* Conversely, the clause

provided a penalty of \$3000 per day for each day the actual completion exceeds the project deadline to offset FDEP penalties for not complying with the Consent Order. *Id.* at p. 4.

Completion of the project by July 2023 was not optional nor aspirational. Nor was the scope of work just a guide. It was specific and concrete. Despite this clear and unequivocal deadline, Craven did not challenge the specifications of the RFQ.²

C. The Evaluation Process

Upon receipt of proposals, the City's Evaluation Committee was to evaluate responsive proposals by scoring each proposal using the weighted criteria in section 5.2.3. *See* Ex. B at p.26-27. Specifically, each Evaluation Committee member was to individually assign a rank to each proposal in each of the three weighted criterion. *Id.* The City would then average the ranking for each criterion for all evaluation committee members. *Id.* The average ranking by criterion would then be multiplied by the weight identified in section 5.2.3. *Id.* The weighted rank for the three criteria would be summed to comprise a proposal's average ranking. *Id.*

The top three firms were to be invited to provide oral presentations and answer questions of the Evaluation Committee. *Id.* After those presentations, each Evaluation Committee member would re-rank the proposals in the manner described above. *Id.* The firm with the lowest average ranking would then be invited to negotiations, where they would be required to provide a price for the project and negotiate final contract terms. *Id.*

The RFQ indicates that the City would attempt to negotiate an agreement with the highest ranked firm. *Id.* at 26. If an agreement with the highest ranked firm could not be reached, the City would negotiate with the next highest ranked firm until an agreement is reached. *Id.*

² Indeed, if Craven believed the July 2023 completion date and scope of services were impossible to perform, Craven was required to file a challenge to specifications of the RFQ. By failing to protest the specifications, Craven accepted the RFQ's scope of services and mandatory July 2023 deadline. Craven cannot, through its proposal, now assert that the deadline and associated scope of services are impossible to perform.

D. The Evaluation of Proposals

The City received only two proposals: one from WGI and one from Craven. The Evaluation Committee held a meeting to rank the proposals. During this meeting, the evaluators all agreed that the Craven proposal did not meet the requirement for a project completion deadline. See Audio File of Evaluation Committee Initial Evaluation Meeting³, minute mark 28:38 through 30:50. In fact, the evaluators admitted that Craven's proposal included a negotiation to change the scope and to change the project deadline, which one evaluator called an "empty promise" because it was unlikely and Craven did not have a compliant alternative should FDEP declined to change the scope and deadline. *Id.* This conclusion was based on the repeated statements in Craven's proposal that Craven could not meet the mandatory July 2023 deadline and that it wished to change the scope of the work to be performed. Craven's proposal is attached as Exhibit D.

For example, in its introductory proposal section, Craven states:

We understand the importance of the services required under this RFQ in meeting the City's obligations in the Water Consent Order from FDEP. Due to the limited timeframe to complete and certify the mapping of the water distribution system, we do not believe that meeting the July 24, 2023 deadline stipulated in the Consent Order is achievable under normal conditions, so we have provided two different approaches to the data collection process for the City to consider.

Our preferred approach for consideration would be to revisit the water distribution mapping plan with the City and FDEP. We believe that the actual intent of the scope in the Consent Order differs significantly from the scope identified in the WGI water distribution system mapping plan. With a modified plan, which will meet the Consent Order intent, we can significantly reduce the overall time that it will take to complete and certify the system data collection and mapping.

Ex. D, Letter of Interest.

Later in the proposal, Craven offered two alternate approaches, neither of which complies with the RFQ project deadline and both of which require changes to the scope of work mandated by the RFQ:

³ The audio file is in the possession of the Procurement Office and readily accessible to you. WGI has provided minute marks so you can easily locate the relevant portion.

The “**First Approach Method**” is suggested because it would be the more traditional survey approach and cost-effective for the City and the Craven Thompson Team to renegotiate the data collection timeframe with FDEP and spread the costs to the City over a period of two years instead of one year while still meeting the intent of the Consent Order. This method would more closely adhere to the current requirements stipulated in the Mapping Plan and the Consent Order. However, this option would require the Craven Thompson Team to renegotiate the data collection and mapping timeframe with FDEP.

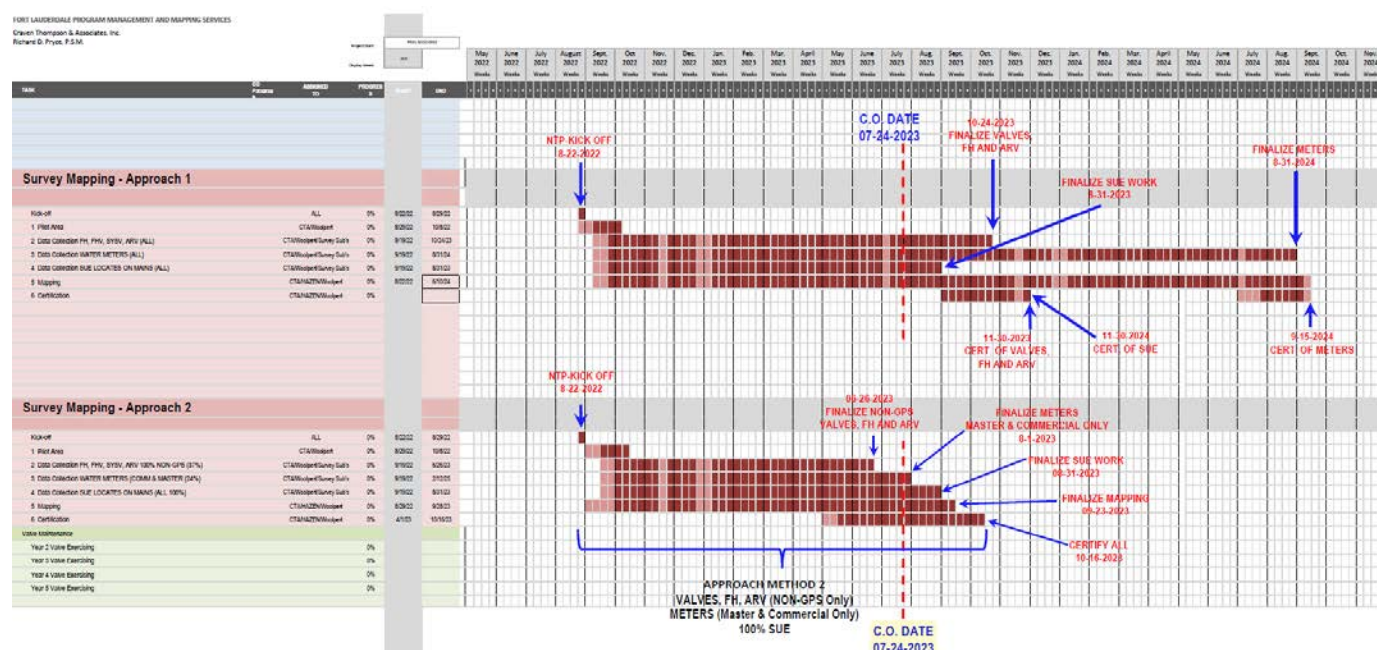
We understand that the current accepted mapping plan allows for thirty-six (36) months to complete (from the date of the effective Consent Order, July 24, 2020) the data collection and system certification efforts. As of today, no additional mapping of the water system has occurred since the Consent Order effective date. Therefore, only thirteen (13) months remain and we believe that thirteen (13) months to complete the tasks as currently detailed in the Mapping Plan is not a realistic schedule. The attached Method 1 Approach schedule delineates the actual timeframes we believe necessary to complete the data collection and system certification efforts including renegotiation with FDEP of plan requirements that we feel confident can be accomplished.

The “**Second Approach Method**” is a very aggressive schedule that will come closer to the current Consent Order data collection and certification of the potable water system map deadline of July 24, 2023. The methods employed under this effort, although significantly more costly, will allow us to accomplish the data collection and certification by October 2023. We will focus specifically on the Consent Order requirements using the Mapping Plan as a reference only and recommend ways to reduce actual field time and apply innovative advanced technologies and utilize highly trained technicians and field personnel to speed up the process. Both Approaches will require the City to accelerate the negotiation process and issue the Notice to Proceed so that we may begin the project no later than August 22, 2022. Due to the extremely large amount of data that will be delivered, the method of managing the City’s review and acceptance will need to be discussed in detail prior to commencing the project. The schedule we prepared for the Method 2 Approach details the timeframe that meets the intent of the Consent Order for certification of the mapping of City’s water system.

Ex. D at p. 4 of section 4.2.5 of proposal.

And Craven offered two alternate schedules, neither of which is compliant with the RFQ:

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Ex. D at p. 16 of section 4.2.5 of proposal.

Craven's first schedule has a completion date of September 2024. The second, although faster, has a completion date of October 2023. Neither meets the July 2023 deadline required by the RFQ.

WGI, on the other hand, proposed a fully compliant schedule with a completion date of July 2023, and proposed to complete the scope of work as specified in the RFQ. WGI's proposal is attached as Exhibit E.

Despite Craven's abject failure to meet the critical RFQ requirements, the Evaluation Committee ranked Craven first and WGI second.

After the Evaluation Committee ranked the proposals, the City then scheduled oral presentations to the Evaluation Committee by both firms. During those presentations, Craven confirmed the content of its proposal: Craven cannot complete the required mapping of the water system within the deadline established in the RFQ and to the precise scope. Instead, Craven reaffirmed its proposal to negotiate a reduction in requirements of the Consent Order and stated that it would need to work with FDEP to negotiate a new

deadline. This was contrary to, and in direct violation of, the RFQ requirement that the successful firm be able to (i) achieve completion by July 2023 and (ii) perform the scope of services outlined in the RFQ and Consent Order. The project deadline was material, was not altered or changed by addendum, and could not be waived by the City. The scope of services was also obviously material and was not altered or changed by addendum.

After oral presentations, the Evaluation Committee met once again to issue a final rank. Again, and despite Craven's material deviations from the RFQ requirements, the Evaluation Committee ranked Craven first and WGI second. The Final Ranking is attached as Exhibit F. The City then entered negotiations with Craven. On August 10, the City posted the Notice of Intended Award to Craven. Notably, the Notice states that an award to Craven meets the "specifications as per the department's request and as advertised" in the RFQ requirements. This is untrue.

IV. GROUNDS FOR PROTEST

A. Legal Standards

The Florida Supreme Court recognized long ago that the object and purpose of competitive bidding is

to protect the public against collusive contracts; to secure fair competition upon equal terms to all bidders; to remove not only collusion but temptation for collusion and opportunity for gain at public expense; to close all avenues to favoritism and fraud in its various forms; to secure the best values at the lowest possible expense; and to afford an equal advantage to all desiring to do business with [public authorities], by providing an opportunity for an exact comparison of bids.

Wester v. Belote, 138 So. 721, 723-24 (Fla. 1931). A governmental body in conducting a procurement must ensure proposals are "assured fair consideration," and "may not arbitrarily or capriciously discriminate between bidders, or make the award on the basis of personal preference." *Emerald Corr. Mgmt. v. Bay Cty. Bd. of Cty. Comm'rs*, 955 So. 2d 647, 652 (Fla. 1st DCA 2007); see also, e.g., *City of Sweetwater v. Solo Constr. Corp.*, 823 So.

2d 798, 802 (Fla. 3d DCA 2002) (“While a public authority has wide discretion in award of contracts for public works on competitive bids, such discretion must be exercised based upon clearly defined criteria, and may not be exercised arbitrarily or capriciously.”). The City’s own procurement ordinance reflects the same principles. See City of Fort Lauderdale Code of Ordinances, ch. 2, art. V div. 2, § 2.-172.

Governmental action is arbitrary if it is “not supported by facts or logic” and is capricious if it is “taken without thought or reason or irrationally.” *Agrico Chem. Co. v. Dep’t of Env’tl. Regul.*, 365 So. 2d 759, 763 (Fla. 1st DCA 1978). An agency’s failure to comply with its own solicitation requirements is arbitrary and capricious as it calls into question the integrity of the competitive procurement. See *Emerald Corr. Mgmt.*, 955 So. 2d at 652-54; *City of Sweetwater*, 823 So. 2d at 802 (concluding that city’s actions not following the award process advertised in the bid documents were arbitrary and capricious); see also *Acad. Express, LLC v. Broward Cty.*, 53 So. 3d 1188, 1190 (Fla. 4th DCA 2011) (“In the procurement context, whether an action was arbitrary or capricious depends upon whether the awarding committee complied with its own proposal criteria.”) (citing *Emerald Corr. Mgmt.*, 955 So. 2d at 653)).

An act is contrary to competition if it frustrates the objectives of competitive bidding. *Wester*, 138 So. at 723–24. An act that is contrary to competition either (1) creates the appearance of and opportunity for favoritism; (2) erodes public confidence that contracts are awarded equitably and economically; (3) causes the procurement process to be genuinely unfair or unreasonably exclusive; or (4) is unethical, dishonest, illegal, or fraudulent. E.g., *Syslogic Tech. Servs., Inc. v. S. Fla. Water Mgmt. Dist.*, Case No. 01-4385BID, 2002 WL 76312 (Fla. DOAH Jan. 18, 2002).

Here, the City’s decision to award the contract to Craven violated the City’s own purchasing ordinances and Florida law and is arbitrary, capricious, and contrary to competition. WGI submitted a proposal in full compliance with the requirements of the RFQ, while Craven was allowed to materially deviate from the requirements and propose a different scope of work with a completion date after the RFQ-imposed deadline. This type of conduct by a government entity is per se a violation of Florida law.

B. Craven was non-responsive because it affirmatively stated that it could not complete the scope of work on time and proposed to complete an undefined scope of service to be negotiated with FDEP in the future.

The government is required to reject a proposal where the bidder refuses to accept the material terms of a procurement solicitation. *See, e.g., Unisys Corp. v. Dep't of Health & Rehab. Servs.*, No. 88-2525BID, ¶¶ 79, 103, 105-06, 120, 122 (Fla. DOAH July 26, 1998) (Recommended Order) (concluding that agency should have rejected proposal as non-responsive where bidder qualified and refused to unconditionally accept terms of contract required by invitation to bid); *Marpan Supply Co., Inc. v. Dep't of Mgmt. Servs.*, No. 96-27777BID, ¶¶ 18, 83-84 (Fla. DOAH Sept. 26, 1996; DMS Nov. 22, 1996) (concluding that agency should have rejected proposal as non-responsive where bidder deleted certain terms in the General Conditions from its bid). A proposal is nonresponsive if it contains material irregularities or material deviations from the solicitation's requirements. *See, e.g., Robinson Elec. Co. v. Dade Cnty.*, 417 So. 2d 1032, 1034 (Fla. 3d DCA 1982). Florida courts apply two criteria to determine whether a deviation is material: (1) whether the effect of waiving the deviation would be to deprive the agency of assurance that the contract will be performed and guaranteed according to its specified requirements and (2) whether the deviation is of such a nature that its waiver would adversely affect competitive bidding by placing a bidder in a position of advantage over other bidders or by otherwise undermining the necessary common standard of competition. *Id.*; *see also Harry Pepper & Assocs. v. City of Cape Coral*, 352 So. 2d 1190, 1193 (Fla. 2d DCA 1977).

Proposals containing material or substantial deviations from the procurement requirements are non-responsive. *Harry Pepper & Assocs., Inc.*, 352 So. 2d at 1192-93. Material or substantial deviations cannot be waived by the government. *City of Opa-Locka v. Trustees of the Plumbing Indus. Promotion Fund*, 193 So. 2d 29, 32 (Fla. 3d DCA 1966). In the *Opa-Locka* case, the City of Opa-Locka purported to waive a material bid requirement that each bidder possess a certificate of competency from the county. *Id.* In rejecting the argument that the requirement could be waived, the court reasoned that "[i]f the city may in its discretion waive this section [certificate of competency] it would be conducive to favoritism by allowing some bidders to qualify after their bids are accepted while refusing to consider bids of others on the ground that they did not prequalify." *Id.*

In *Harry Pepper*, the appellate court followed the rationale of *Opa-Locka* and reversed a trial court determination that a government entity could accept a nonconforming bid. *Harry Pepper*, 352 So. 2d at 1193. Indeed, the *Harry Pepper* court explained that waiver of material requirements is not an option available to the government. *Id.* at 1193 (“Faced with Gulf’s substantially nonconforming bid, the City had but two proper alternatives: to award the contract to the next lowest bidder who met the specifications, or to reject all bids and re-advertise for new ones.”). The *Harry Pepper* court also explained that the government cannot waive material deviations as a non-responsive bidder would gain a significant advantage (the “second look” advantage) if his bid is not rejected:

No one suggests that Gulf [nonresponsive bidder] could have been required to perform the contract with conforming pumps, as its bid specifically stated that it would use Aurora, the nonconforming pumps. Therefore, Gulf had everything to gain and nothing to lose. After everyone else's bids were opened, Gulf was in a position to decide whether it wanted the job bad enough to incur the additional expense of supplying conforming pumps.

Id. The principle of law reflected in both *Opa-Locka* and *Harry Pepper* makes sense as any other result would render the procurement criteria meaningless and would not allow for exact comparison of bids. *City of Miami Beach v. Klinger*, 179 So. 2d 864, 866 (Fla. 3d DCA 1965).

Here, despite unequivocal terms throughout the RFQ specifying that the winning firm must have the ability to complete the work no later than July 2023, Craven explicitly told the City it could not meet this material term. And it went so far as to tell the City that it was proposing *not to* performed the specific scope in the RFQ but, rather, would negotiate a *different* scope of services with FDEP. At that point, the City was required to deem Craven non-responsive or non-responsible and cease any further consideration of Craven’s proposal. Unlike WGI, which always stated that it has the resources available to complete the project on time, Craven was given the distinct advantage of being able to avoid compiling the necessary resources and team members to complete the project by the mandatory deadline. WGI, on the other hand, teamed with one of the country’s

largest engineering firms, Jacobs, to ensure that, together with WGI's statewide resources, the project would be performed timely and correctly. Had WGI known that – despite the clear terms of the RFQ – it could propose any schedule and any scope, WGI would have responded accordingly and submitted a different proposal. But the City did not so advise WGI and instead afforded a distinct advantage to Craven, by allowing Craven to materially deviate from the RFQ.

Alternatively, and at best for Craven, it submitted a conditional proposal which, under Florida law, is non-responsive. *See, e.g., Jukebox Express Drive-In Rests. of Am., Inc. v. Sch. Dist. of Palm Beach Cnty., Fla.*, No. 96-5062BID, ¶¶ 15–16, 24–31 (Fla. DOAH Jan. 31, 1997; SDPB Mar. 5, 1997). For example, in the *Jukebox* case, a bidder seeking to be placed on a public agency's "approved vendor" list included a cover letter with its bid stating that its agreement to fulfill its obligations under any contract resulting from the bid was contingent on the public agency's agreement to additional conditions that were contrary to the solicitation. *See id.* ¶ 15. The agency approved the bidder for the approved-vendor list and that decision was challenged in a bid-protest proceeding. *See generally id.* Based on the conditional nature of the bid, the administrative law judge (ALJ) concluded the bidder to be both nonresponsive and nonresponsible. *See id.* ¶ 24. The ALJ concluded the award (that is, adding the bidder to the approved-vendor list) was clearly erroneous as the bid failed to comply with the solicitation specifications. *Id.* ¶ 31. The ALJ further concluded the award was contrary to competition as other bidders were required to comply with the solicitation specifications. *Id.* The ALJ additionally determined the award was arbitrary as the award based on a conditional bid was not supported by the facts or by logic. *Id.*

The result should be no different here. Craven is at a distinct advantage as it has refused to accept a critical term of the City's RFQ – the project deadline.

C. Even if Craven was responsive, the scoring of was entirely irrational because Craven expressly represented it could not meet the FDEP deadline.

Alternatively, the Evaluation Committee's ranking is arbitrary and capricious. It defies all logic for an evaluator to assign the highest rank to a firm that admits it cannot perform in compliance with the terms of the solicitation. Yet that is exactly what occurred

here. The Evaluation Committee assigned a number one rank to Craven in the “Firm Qualifications and Experience” criterion. Under the submittal requirements for that criterion, firms were required to provide sufficient information and documentation demonstrating that the firm could in fact achieve the substantial completion deadline of July 2023. Yet Craven admitted to the City that, regardless of what may have been included in its proposal, Craven would need additional time from FDEP to complete the project. Conversely, WGI expressly represented that it had more than sufficient dedicated resources to timely complete the project on or before July 2023. Accordingly, the rank of number one for Craven by the evaluators in the “Firm Qualifications and Experience” criterion was arbitrary, capricious, and contrary to competition. WGI should have received the highest ranking by all evaluators for that criterion. Had that been done, WGI would have had the lowest overall ranking and thus should have received the contract award.

V. REQUESTED RELIEF

For the reasons stated above, the City’s intended contract award to Craven fails to comply with the RFQ, the City’s purchasing ordinance, and Florida law. Thus, the City’s Notice of Intent to Award to Craven cannot stand.

Accordingly, WGI requests an opportunity to informally resolve this dispute with the Chief Procurement Officer pursuant to the Protest Policy, and asks that you grant this protest and recommend corrective action consisting of the City 1) withdrawing the Notice of Intent to Award to Craven, and 3) awarding the contract to WGI. Alternatively, WGI requests corrective action consisting of a rejection of all proposals. WGI also requests return of its cashier’s check in full.

WGI reserves all of rights, none which are waived.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Eduardo S. Lombard', written in a cursive style.

Eduardo S. Lombard



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Radey Law Firm

cc: Erick Martinez, Senior Procurement Specialist
City of Fort Lauderdale (*by email:* emartinez@fortlauderdale.org)

RFP/RFQ AWARD RECOMMENDATION / INTENT TO AWARD

PROCUREMENT SPECIALIST:

Erick Martinez

DATE:

08/10/22

RFP / RFQ#:

12665-1026

ITEM / SERVICE:

Program Management and Mapping Services (CCNA)

Attached is a tabulation for subject items/services requisitioned by the department.

RECOMMENDATION:

A. Which vendor has been recommended?

Craven, Thompson & Associates, Inc.

B. Does this meet specifications as per the department's request and as advertised?

YES



NO

☐

If NO, is the variance considered:

MINOR

☐

or

MAJOR

☐

Explain:

C. Is the recommendation the highest ranking firm?

YES



NO

☐

Glenn
Marcos

SIGNATURE:

Chief Procurement Officer or designee

Digitally signed by
Glenn Marcos
Date: 2022.08.10
12:00:07 -04'00'

Date:

8/10/22

THIS FORM MUST BE COMPLETED FOR ALL AWARD RECOMMENDATIONS OF \$25,000 AND ABOVE.

Over \$25,000

YES



NO

☐

04/09/2018

R 3

Approved by Chief Procurement Officer

Uncontrolled in hard copy unless otherwise marked

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Q:\PURCHASING\FINAL FORMS\FINAL FORMS - ISO COMPLIANT\Approved Forms\RFP Documents\RFP-Intent to Award Form

CAM #22-1089

Exhibit 2

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EXHIBIT A

Solicitation 12665-1026

Water Consent Order Program Management and Mapping Services

Bid Designation: Public



City of Fort Lauderdale

Bid 12665-1026

Water Consent Order Program Management and Mapping Services

Bid Number **12665-1026**
 Bid Title **Water Consent Order Program Management and Mapping Services**

Bid Start Date **Apr 22, 2022 3:58:27 PM EDT**
 Bid End Date **Jun 27, 2022 2:00:00 PM EDT**
 Question & Answer End Date **May 13, 2022 5:00:00 PM EDT**

Bid Contact **Erick Martinez**
Senior Procurement Specialist
Finance
954-828-4019
emartinez@fortlauderdale.gov

Contract Duration **One Time Purchase**
 Contract Renewal **Not Applicable**
 Prices Good for **120 days**

Bid Comments **The City of Fort Lauderdale (City) is seeking the services of a qualified consulting firm(s) to provide Professional Services related to the civil enforcement actions mandated by a Florida Department of Environmental Protection (FDEP) Consent Agreement. The services provided under this contract shall include program management; reporting to FDEP; data collection, survey, and georeferenced mapping of the water infrastructure; and assistance with the water line valves exercise program.**

The following is a list of services that may be required on an as-needed basis, as requested by the City, which will be authorized by individual Task Orders. This list shall not be construed as an exclusive list of activities that successful firm(s) may be engaged in. The City shall have the right, in its sole and absolute discretion, to require additional services that are consistent with the scope of services and those activities typically performed by design consultants and for which the firm(s) are experienced, qualified, and able to perform.

Added on May 23, 2022:
The purpose of Addendum 1 is to extend the Proposal Due Date to Monday, June 27, 2022 at 2:00PM Local Time.

Added on Jun 16, 2022:
The purpose of Addendum 2 is to add Section 3.5 "Incentive – Disincentive" to Section III, "Scope of Services".

Addendum # 1

| | | |
|-------------------|---|---|
| New Documents | RFQ No. 12665-1026 - Water Consent Order Program Management Addendum 1.pdf | |
| Previous End Date | May 23, 2022 2:00:00 PM EDT | New End Date Jun 27, 2022 2:00:00 PM EDT |

Item Response Form

Item **12665-1026-01-01 - Water Consent Order Program Management and Mapping Services**
 Quantity **1 each**

Prices are not requested for this item.

Delivery Location **City of Fort Lauderdale**

See Specifications

See Specifications

Fort Lauderdale FL 33301

Qty 1

Description

Water Consent Order Program Management and Mapping Services per the Scope of Services of this solicitation.

Request for Qualifications

RFQ # 12665-1026

Water Consent Order Program Management and Mapping Services

Pursuant to Section 287.055
Consultants' Competitive Negotiation Act (CCNA)

City of Fort Lauderdale



Sylejman Ujkani
Program Manager

Erick Martinez
Senior Procurement Specialist
Telephone: (954) 828-4019 E-mail: emartinez@fortlauderdale.gov

SECTION I – INTRODUCTION AND INFORMATION

1.1 Purpose

The City of Fort Lauderdale (City) is seeking the services of a qualified consulting firm(s) to provide Professional Services related to the civil enforcement actions mandated by a Florida Department of Environmental Protection (FDEP) Consent Agreement. The services provided under this contract shall include program management; reporting to FDEP; data collection, survey, and georeferenced mapping of the water infrastructure; and assistance with the water line valves exercise program.

The following is a list of services that may be required on an as-needed basis, as requested by the City, which will be authorized by individual Task Orders. This list shall not be construed as an exclusive list of activities that successful firm(s) may be engaged in. The City shall have the right, in its sole and absolute discretion, to require additional services that are consistent with the scope of services and those activities typically performed by design consultants and for which the firm(s) are experienced, qualified, and able to perform.

1.2 BidSync

The City uses BidSync (www.bidsync.com) to administer the competitive solicitation process, including but not limited to soliciting bids, issuing addenda, posting results and issuing notification of an intended decision. There is no charge to register and download the RFQ from BidSync. Proposers are strongly encouraged to read the various vendor Guides and Tutorials available in BidSync well in advance of their intention of submitting a response to ensure familiarity with the use of BidSync. The City shall not be responsible for an offeror's inability to submit a response by the end date and time for any reason, including issues arising from the use of BidSync. There is no charge to bidders/construction managers to register and participate in the solicitation process, nor will any fees be charged to the awarded proposer.

It is the sole responsibility of the proposer to ensure that its bid is submitted electronically through BidSync at bidsync.com no later than the time and date specified in this solicitation. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA bidsync.com.**

1.3 Electronic Bid Openings

This solicitation will be opened electronically via bidsync.com at the date and time indicated in the solicitation. All openings will be held on the bidsync.com platform. Once the Procurement Specialist opens the solicitation, the bid tabulations (where applicable) may be viewed immediately on a computer, laptop, cell phone, or any other device with WiFi access. The opening may also be viewed in real time through a "Zoom meeting" by using the following information:

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 954-686-7296](tel:+19546867296), [696755482#](tel:+19546867296) United States, Fort Lauderdale

Phone Conference ID: 696 755 482#

[Find a local number](#) | [Reset PIN](#)

1.4 Pre-Proposal Meeting

There will not be a pre-proposal meeting for this RFQ.

1.5 Point of Contact

City of Fort Lauderdale, Procurement Services Division
Attn: Erick Martinez, Senior Procurement Specialist
100 N. Andrews Avenue, 6th Floor
Fort Lauderdale, FL 33301
Telephone: (954) 828-4019
E-mail: erickmartinez@fortlauderdale.gov

For all inquiries concerning this RFQ, questions, and requests for additional information, please utilize the Q&A platform provided by BidSync at bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the RFQ. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. (See addendum section of BidSync Site). **Consultants please note:** Proposals shall be submitted as stated in PART IV – Submittal Requirements. No part of your proposal can be submitted via FAX. Submission of a proposal will be considered evidence that the proposer has familiarized itself with the nature and extent of the work, and the equipment, materials, and labor required. The entire proposal must be submitted in accordance with all requirements contained in this solicitation. The questions and answers submitted in BidSync shall become part of any contract that is created from this RFQ.

1.6 Debarred or Suspended Bidders or Proposers

The proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and sub-consultants are presently debarred or suspended by any Federal department or agency.

1.7 Prohibition Against Contracting with Scrutinized Companies

Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the “Cuba Amendment,” the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2021), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City’s option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2021), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2021), as may be amended or revised.

By submitting a proposal or response, the company, principals, or owners certify that it is not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

END OF SECTION

SECTION II – GENERAL TERMS AND CONDITIONS

2.1 Addenda, Changes, and Interpretations

It is the sole responsibility of each firm to notify the point of contact utilizing the Q&A forum provided by Bidsync and request modification or clarification of any ambiguity, conflict, discrepancy, omission or other error discovered in this competitive solicitation. Requests for clarification, modification, interpretation, or changes must be received prior to the Q&A deadline. Requests received after this date may not be addressed. Questions and requests for information that would not materially affect the scope of services to be performed or the solicitation process will be answered within the Q&A forum provided by Bidsync and shall be for clarification purposes only. Material changes, if any, to the scope of services or the solicitation process will only be transmitted by official written addendum issued by the City and uploaded to Bidsync as a separate addendum to the RFQ. Under no circumstances shall an oral explanation given by any City official, officer, staff, or agent be binding upon the City and should be disregarded. All addenda are a part of the competitive solicitation documents and each firm will be bound by such addenda. It is the responsibility of each to read and comprehend all addenda issued.

2.2 Changes and Alterations

Consultant may change or withdraw a proposal at any time prior to the proposal submission deadline; however, no oral modifications will be allowed. Modifications shall not be allowed following the proposal deadline.

2.3 Consultants' Costs

The City shall not be liable for any costs incurred by consultants in responding to this RFQ, including costs incurred in connection with evaluation and award proceedings.

2.4 Mistakes

The consultant shall examine this RFQ carefully. The submission of a proposal shall be prima facie evidence that the consultant has full knowledge of the scope, nature, and quality of the work to be performed; the detailed requirements of the specifications; and the conditions under which the work is to be performed. Ignorance of the requirements will not relieve the consultant from liability and obligations under the Agreement.

2.5 Acceptance of Responses/Minor Irregularities

2.5.1 The City reserves the right to accept or reject any or all responses, part of responses, and to waive minor irregularities or variances to specifications contained in responses which do not make the response conditional in nature, and minor irregularities in the solicitation process. A minor irregularity shall be a variation from the solicitation that does not affect the price of the contract or does not give a respondent an advantage or benefit not enjoyed by other respondents, does not adversely impact the interests of other firms or does not affect the fundamental fairness of the solicitation process. The City also reserves the right to reissue a Request for Qualifications.

2.5.2 The City reserves the right to disqualify Consultant during any phase of the competitive solicitation process and terminate for cause any resulting contract upon evidence of collusion with intent to defraud or other illegal practices on the part of the Consultant.

2.6 Responsiveness

In order to be considered responsive to the solicitation, the firm's response shall fully conform in all material respects to the solicitation and all of its requirements, including all form and substance.

2.7 Responsibility

In order to be considered as a responsible firm, firm shall be fully capable to meet all of the requirements of the solicitation and subsequent contract, must possess the full capability, including financial and technical, to perform as contractually required, and must be able to fully document the ability to provide good faith performance.

2.8 Minimum Qualifications

Firms shall be in the business of professional engineering consulting services for **TEN (10)** years and must possess sufficient financial support, equipment and organization to ensure that it can satisfactorily perform the services if awarded a contract. Firms must demonstrate that they, or the principals assigned to the project, have successfully provided services with similar magnitude to those specified in the scope of services to at least one city similar in size and complexity to the City of Fort Lauderdale or can demonstrate they have the experience with large scale private sector clients and the managerial and financial ability to successfully perform the work.

Firms shall satisfy each of the following requirements cited below. Failure to do so may result in the proposal being deemed non-responsive.

2.8.1 Proposer or principals shall have relevant experience in Program Management and Mapping services. Program Manager must be Registered Professional Engineer in the State of Florida with experience in management of similar programs and/or services, preferably for municipal water systems, consent order programs, and mapping services. Project manager assigned to the work must have relevant experience, appropriate certifications, and have served as project manager on similar projects. The Project Manager for Mapping must be a Registered Surveyor and Mapper with experience in survey and mapping of municipal utility systems, preferably water systems and citywide/large-scale surveying and have served as project manager on similar projects.

2.8.2 Before awarding a contract, the City reserves the right to require that a firm submit such evidence of its qualifications as the City may deem necessary. Further, the City may consider any evidence of the financial, technical, and other qualifications and abilities of a firm or principals, including previous experiences of same with the City and performance evaluation for services, in making the award in the best interest of the City.

2.8.3 Firm or principals shall have no record of judgments, pending lawsuits against the City or criminal activities involving moral turpitude and not have any conflicts of interest that have not been waived by the City Commission.

2.8.4 Neither Firm nor any principal, officer, or stockholder shall be in arrears or in default of any debt or contract involving the City, (as a party to a contract, or otherwise); nor have failed to perform faithfully on any previous contract with the City.

2.8.5 Consultant(s) must be appropriately licensed and registered in the State of Florida in the required field of service required.

2.9 Lobbyist Ordinance

ALL CONSULTANTS PLEASE NOTE: Any consultant submitting a response to this solicitation

General Conditions

must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-11-42 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No. C-11-42 and Resolution No. 07-101 may be obtained from the City Clerk's Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida 33301. The ordinance may also be viewed on the City's website at <https://www.fortlauderdale.gov/home/showdocument?id=6036>.

2.10 Protest Procedure

2.10.1 Any proposer who is not recommended for award of a contract and who alleges a failure by the City to follow the City's Procurement Ordinance or any applicable law, may follow the protest procedure as found in the City's Procurement Ordinance within five (5) days after a notice of intent to award is posted on the City's web site at the following link: <https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services/notices-of-intent-to-award>

2.10.2 The complete Protest Ordinance may be found on the City's web site at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPRAWINAW

2.11 Public Entity Crimes

In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2021), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2021), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

2.12 Sub-Consultants

2.12.1 A Sub-Consultant is an individual or firm contracted by the Consultant or Consultant's firm to assist in the performance of services required under this RFQ. A Sub-Consultant shall be paid through Consultant or Consultant's firm and not paid directly by the City. Sub-Consultants are permitted by the City in the performance of the services pursuant to the Agreement. Consultant must clearly reflect in its proposal, the major Sub-Consultant(s) to be utilized in the performance of required services. The City retains the right to accept or reject any Sub-Consultant proposed in the response of Successful Consultant(s) or prior to contract execution. Any and all liabilities regarding the use of a Sub-Consultant shall be borne solely by the successful consultant and insurance for each Sub-Consultant must be maintained in good standing and approved by the City throughout the duration of the Contract. Neither Successful Consultant nor any of its Sub-Consultants are considered to be employees or agents of the City. Failure to list all Sub-Consultants and provide the required information may disqualify any proposed Sub-Consultant from performing work under this RFQ.

2.12.2 Consultants shall include in their responses, the requested Sub-Consultant information and include all relevant information required of the Consultant. In addition, within five (5) working days after the identification of the award to the successful Consultant(s), the Consultant

shall provide a list confirming the Sub-Consultant(s) that the successful Consultant intends to utilize in the Contract, if applicable. The list shall include, at a minimum, the name, and location of the place of business for each Sub-Consultant, the services Sub-Consultant will provide relative to any contract that may result from this RFQ, Sub-consultants' hourly rates or fees, any applicable licenses, insurance, references, ownership, and other information required of Consultant.

2.13 Local Business Preference – Not applicable.

2.14 Disadvantaged Business Enterprise Preference – Not applicable.

2.15 Insurance Requirements

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- 1,000,000 each occurrence and \$2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- \$1,000,000 each occurrence and \$2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Professional Liability

Coverage must be afforded for Wrongful Acts in an amount not less than \$1,000,000 each claim and \$2,000,000 aggregate.

Contractor must keep the professional liability insurance in force until the third anniversary of expiration or early termination of this Agreement or the third anniversary of acceptance of work by the City, whichever is longer, which obligation shall survive expiration or early termination of this Agreement.

Watercraft Liability

Coverage must be afforded in an amount not less than \$1,000,000 per occurrence and must cover the utilization of watercraft, including Bodily Injury and Property Damage arising out of ownership, maintenance, or use of any watercraft, including owned, non-owned, and hired.

Coverage may be provided in the form of an endorsement to the Commercial General Liability policy, or in the form of a separate policy covering Watercraft Liability or Protection and Indemnity for Bodily Injury and Property Damage.

Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than \$1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

- a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
- b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
- c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.

General Conditions

- d. In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
- e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
- f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
- g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
- h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

General Conditions

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORTLAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the proposal to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

2.16 Insurance - Subconsultants

Consultant shall require all of its sub-consultants to provide the aforementioned coverage as well as any other coverage that the consultant may consider necessary, and any deficiency in the coverage or policy limits of said sub-consultants will be the sole responsibility of the consultant.

2.17 Award of Contract

A Contract (the "Agreement") will be awarded in accordance with Florida Statutes, by the City Commission. The City reserves the right to execute or not execute, as applicable, a contract with the Consultant(s) that is determined to be in the City's best interests. The draft agreement is provided herein as an attachment to this RFQ. The City reserves the right to award a contract to more than one Consultant as is in the City's best interest.

2.18 Modification of Services

2.18.1 While this contract is for services provided to the department referenced in this Request for Proposals, the City may require similar work for other City departments. Successful Proposer agrees to take on such work unless such work would not be considered reasonable or become an undue burden to the Successful Proposer.

2.18.2 The City reserves the right to delete any portion of the work at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished and approved by the City on any portion of a contract resulting from this RFQ, the Successful Proposer shall be paid for the work completed on the basis of the estimated percentage of completion of such portion to the total project cost.

2.18.3 The City may require additional items or services of a similar nature, but not specifically listed in the contract. The Successful Proposer agrees to provide such items or services, and shall provide the City prices on such additional items or services. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the Successful Proposer thirty (30) days written notice.

2.18.4 If the Successful Proposer and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Successful Proposer will submit a revised budget to the City for approval prior to proceeding with the work.

2.19 No Exclusive Contract

Proposer agrees and understands that the contract shall not be construed as an exclusive arrangement and further agrees that the City may, at any time, secure similar or identical services from another vendor at the City's sole option.

2.20 Unauthorized Work

The Successful Consultant(s) shall not begin work until a Contract has been awarded by the City Commission and a notice to proceed has been issued. Consultant(s) agree and understand that the issuance of a Purchase Order and/or Task Order shall be issued and provided to the Consultant(s) following Commission award.

2.21 Payment Method

The City shall make payment to the Consultant by check.

2.23 Prohibition Against Contingent Fees

The architect (or registered surveyor and mapper or professional engineer, as applicable) warrants that he or she has not and will not employ or retain any company or person, other than a bona fide employee working solely for the architect (or registered surveyor and mapper, or professional engineer, as applicable) to solicit or secure an agreement pursuant to this competitive solicitation and that he or she has not and will not pay or agree to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the architect (or registered surveyor and mapper or professional engineer, as applicable) any fee, commission, percentage, gift, or other consideration contingent upon or resulting from an award or making of an agreement pursuant to this competitive solicitation.

2.24 Indemnity/Hold Harmless Agreement

The Consultant agrees to protect, defend, indemnify, and hold harmless the City and its officers, employees and agents from and against any and all losses, penalties, damages, settlements, claims, costs, charges for other expenses, or liabilities of every and any kind including attorney's fees, in connection with or arising directly or indirectly out of the work agreed to or performed by Consultant under the terms of any agreement that may arise due to the bidding process. Without limiting the foregoing, any and all such claims, suits, or other actions relating to personal injury, death, damage to property, defects in materials or workmanship, actual or alleged violations of any applicable statute, ordinance, administrative order, rule or regulation, or decree of any court shall be included in the indemnity hereunder.

2.25 Substitution of Personnel

It is the intention of the City that the Proposer's personnel proposed for the contract will be available for the contract term. In the event the Proposer wishes to substitute personnel, he shall propose personnel of equal or higher qualifications and all replacement personnel are subject to City approval. In the event substitute personnel are not satisfactory to the City and the matter cannot be resolved to the satisfaction of the City, the City reserves the right to cancel the Contract for cause. See Section 5.09 General Conditions.

2.26 Ownership of Work

The City shall have full ownership and the right to copyright, otherwise limit, reproduce, modify, sell, or use all of the work or product produced under this Contract without payment of any royalties or fees to the Consultant above the agreed hourly rates and related costs.

2.27 Canadian Companies

In the event Consultant is a corporation organized under the laws of any province of Canada or is a Canadian federal corporation, the City may enforce in the United States of America or in Canada or in both countries, a judgment entered against the Consultant. The Consultant waives any and all defenses to the City's enforcement in Canada, of a judgment entered by a court in the United States of America. All monetary amounts set forth in this Contract are in United States dollars.

2.28 Instructions

Careful attention must be given to all requested items contained in this RFQ. Proposers are invited to submit responses in accordance with the requirements of this RFQ. Please read the entire solicitation before submitting a proposal. Firms must provide a response to each requirement of the RFQ. Responses should be prepared in a concise manner with an emphasis on completeness and clarity. Firm's notes and comments may be rendered on an attachment, provided the same format of this RFQ text is followed. All responses shall be submitted electronically through Bidsync as stated in Section 4.1.

2.29 Discrepancies, Errors and Omissions

Any discrepancies, errors, or ambiguities in the RFQ or addenda should be reported in writing to the City's Procurement Services Division. Should it be necessary, a written addendum will be incorporated to the RFQ. The City will NOT be responsible for any oral instructions, clarifications, or other communications.

2.30 Liquidated damages for Failure to Perform

If the city fails to meet the mandates and deadlines set forth by the Consent Agreement due to the Contractor's failure to perform, the Contractor shall be responsible for paying all fines and fees imposed by FDEP.

Consent Decree Liquidated Damages:

The Consent Decree provides that the Regulatory Agencies may impose stipulated penalties against City of Fort Lauderdale for failure to meet certain deadlines. In the event the Regulatory Agencies impose such penalties against City of Fort Lauderdale, and such penalties are a result of the Consultant lack of performance, failure to meet Compliance Dates or a SSO that occurs during project, the consultant shall be liable to the City of Fort Lauderdale for such amounts as additional Liquidated Damages ("Consent Decree Liquidated Damages") ("COLD"). Please note these COLD are in addition to the Contract Liquidated Damages as specified previously and may be assessed separately and/or in combination.

2.31 Ownership of Work

The City shall have full ownership and the right to copyright, otherwise limit, reproduce, modify, sell, or use all of the work or product produced under this contract without payment of any royalties or fees to the Consultant above the agreed hourly rates and related costs.

END OF SECTION

General Conditions

SECTION III - SCOPE OF SERVICES

3.1 Purpose/Background

The City of Fort Lauderdale (City) is seeking the services of a qualified consulting firm(s) to provide Professional Services related to the civil enforcement actions mandated by a Florida Department of Environmental Protection (FDEP) Consent Agreement. The services provided under this contract shall include program management; reporting to FDEP; data collection, survey, and georeferenced mapping of the water infrastructure; and assistance with the water line valves exercise program. The following is a list of services that may be required on an as-needed basis, as requested by the City, which will be authorized by individual Task Orders. This list shall not be construed as an exclusive list of activities that successful firm(s) may be engaged in. The City shall have the right, in its sole and absolute discretion, to require additional services that are consistent with the scope of services and those activities typically performed by design consultants and for which the firm(s) are experienced, qualified, and able to perform.

Background

On July 17th, 2019, a source water main break of the public water system occurred that led to the issuance of a Citywide boil water notice. Review of the incident report by the FDEP concluded that the City was unable to quickly isolate the damage and redirect flow. This prompted the City to voluntarily enter into Consent Order (CO) Number 19-1637 with FDEP on July 24, 2020. In response to this Consent Agreement, the City is seeking a qualified Consultant that will serve as the Program Manager. The role of the Program Manager will be to ensure that the City meets the requirements and deadlines set forth by the FDEP Consent Agreement, to actively engage in the mapping of the water infrastructure, and assists with valve exercise reporting in order to comply with the Agreement's mandates and to enable the City to quickly isolate breaks and redirect flow.

The City of Fort Lauderdale provides water service to Fort Lauderdale and seven neighboring cities, including parts or all of Dania Beach, Davie, Lauderdale-by-the-Sea, Wilton Manors, Lazy Lake, Oakland Park and Tamarac. The City's water infrastructure consists of approximately 783 miles of source and distribution water mains, 19000 valves, 6,200 fire hydrants, 250 air release valves, and 62,600 water meters and service lines. The City maintains and operates a potable water system consisting of the following three main components: two (2) water treatment plants (WTPs): Fiveash WTP and the Peele-Dixie WTP; two (2) remote storage and repump facilities: Poinciana Park Water Tank & Pump Station and the Northwest 2nd Avenue Water Tank & Pump Station; and approximately 750 miles of water distribution pipeline. The City withdraws groundwater from the surficial Biscayne Aquifer from two active wellfields, the Dixie Wellfield (serving Peele-Dixie WTP) and the Prospect Wellfield (serving Fiveash WTP). The WTPs treat the raw groundwater to meet all water quality regulations and pump the finished water through the City's distribution system to its customers either directly or via the remote storage and repump facilities.

3.2 Scope of Services

The City of Fort Lauderdale (City) is seeking statements of qualifications from qualified engineering firms in response to this Request for Qualifications (RFQ) for the purpose of managing the overall delivery of the following tasks:

1. Data collection, surveying, and mapping of water infrastructure, including all source and distribution mains, control valves, hydrants, air release valves, water meters, inactive mains, and directional flow routes.

Scope of Services

2. Assist with the water valves exercising program through planning the field work, providing and updating field schedules, and preparation of field activity reports. Provide supplemental resources to exercise the valves only if needed.
3. Review and validation of maintenance records and preparation of annual report showing that the water line valves were exercised as required.
4. Physical condition assessments of all water valves and provide recommendations as needed.
5. Reporting to FDEP to ensure that all Consent Agreement mandates are met in a timely fashion.
6. **Table 1** below provides an updated list of the future activities stipulated within (or as may be necessary) to comply with the FDEP Consent Agreement. Additional projects may be required and added to this list in the future.

TABLE 1:

| Item No. | Project / Item |
|----------|---|
| 1 | Exercise 20% of the Water Distribution System Valves per PMP in Year 2. |
| 2 | Prepare an Annual Report showing the number of water line valves exercised in Year 2. |
| 3 | Exercise 20% of the Water Distribution System Valves per PMP in Year 3. |
| 4 | Exercise 20% of the Water Distribution System Valves per PMP in Year 4. |
| 5 | Exercise last 20% of the Water Distribution System Valves per PMP in Year 5. |
| 6 | Prepare a revised plan (or amendment to the plan) if requested by the City to develop a complete map of the existing water supply network. (The current Mapping Plan accepted by FDEP is available upon request.) |
| 7 | Complete all mapping and certify to the Department in writing. |

The selected Consultant shall ensure that the program components are technically, economically, and functionally consistent and are implemented in a manner that meets the requirements and deadlines of the Consent Order; specific milestones determined by the City; and any applicable regulatory requirements, such as the Clean Water Act, Florida Department of Environmental Protection (FDEP) regulations, and Environmental Protection Agency (EPA) rules.

The Proposer will develop a complete map of the existing water supply network in order to satisfy the agreement with FDEP while also meeting the City's water mapping needs. The maps shall include all existing source and distribution mains, hydrants, control valves, and directional flow routes. In addition, inactive mains and related appurtenances with shut-off valves should be illustrated and highlighted to define their unique operational status.

Note: A copy of the referenced Consent Order agreement is included in this solicitation. Also, the current Mapping Plan (prepared by WGI, dated September 22, 2020) accepted by FDEP is included in this solicitation.

SEE EXHIBIT A - WGI Water Distribution Mapping Plan

SEE EXHIBIT B - Consent Order

3.3 Tasks

The scope of services for this project is expected to include, but is not limited to, the following tasks:

3.3.1 Program Reporting to FDEP

- a. Prepare and maintain, together with City staff, a Program Management Plan which establishes communication protocols and data collection, and process standards that will ensure the conditions set forth by the FDEP Consent Agreement are met in a timely fashion in order to prevent additional penalties and corrective action measures.
- b. Consultant shall develop documents, memorandums and progress reports as required for submission to FDEP in order to meet all Consent Agreement mandates and deadlines, and to stay in compliance with FDEP regulations.
- c. Submit copies of the deliverables for review by the City, Florida Department of Transportation (FDOT) and Broward County as required.
- d. Ensure compliance with all regulatory agencies having an interest or jurisdiction over this project and which may require permits.
- e. Ensure compliance with all applicable Maintenance of Traffic (MOT) permits.

3.3.2 Data Collection and Valve Exercising:

- a. Monitor the City's valve maintenance program and provide reports as required by the CO.
- b. Plan the field work in accordance to the City's Water System Valve Maintenance Plan, including but not limited to providing and updating field schedules.
- c. Provide field support and issue field activities reports, as needed.
- d. Perform assessment of the City's existing water valves currently in the City's Geographic Information System database and collect/validate locations for georeferencing accuracy as needed.
- e. Perform a Citywide operability testing of all water valves if requested.
- f. Provide supplemental resources to exercise valves if needed.
- g. Perform a Citywide records review of the existing water valves and maintenance based on available GIS data and historical documentation.
- h. Collect data required to deliver a complete georeferenced GIS database of all the water valves belonging to the City if needed.
- i. Review of maintenance records and preparation of annual reports showing that the water line valves were exercised in accordance to the City's Water System Valve Maintenance Plan and Consent Order requirements.

3.3.3 Data Collection and Mapping:

- a. Review the Water Distribution Mapping Plan and timeline currently approved by FDEP. If requested by City, make recommendations for City consideration, and revise the mapping plan for resubmittal to FDEP.

General Conditions

- b. Develop complete maps in accordance with the approved (original or resubmitted) mapping plan to comply with the requirements of the consent order.
- c. Validate the City's existing water distribution system infrastructure currently in the City's Geographic System (GIS) database and validate its locational accuracy.
- d. Perform survey and collect data required to deliver a complete, spatially accurate and connected GIS water utility network of the entire water system, including all source and distribution mains, control valves, hydrants, air release valves, water meters, and inactive mains.
- e. Perform verification of infrastructure component attributes, such as pipe size and material.
- f. Provide resources to verify the open/close status of valves in the field if needed. Provide and update field schedule and issue field activity reports. Deliver the open/close status information collected in City's desired format for incorporation into the City's GIS database.
- g. Provide confirmation of horizontal and vertical locations. Utilize subsurface utility engineering methods and technologies as appropriate. Designate source and water distribution mains providing quality as specified in final mapping plan.
- h. Deliver to the City a completed GIS database compatible with the City's existing GIS and asset management software systems. Ensure that deliverable(s) are formatted in a way that can be seamlessly loaded and operated with little to no processing or downtime for the City. This may require entering new location and attribute information, as well as editing existing GIS data, based on data collected from survey fieldwork, inspections, and by referencing historic documentation. Required database schema will be provided as an Esri File Geodatabase (FGDB), and delivery may require populating one FGDB for each survey zone.
- i. The mapping must be certified complete and accessible in accordance with the Consent Order by July 23, 2023.

3.4 Additional Scope Details:

Additional work may include the employment of technologies and methods necessary to implement the mapping plan and provide confirmation of horizontal and vertical locations, such as utility designates and locates, lidar, and test holes. Proposers are encouraged to be innovative and provide new ideas including the use of latest technologies. The Consultant shall coordinate with all regulatory agencies that have jurisdictional authority and ensure that the designs meet and exceed their standards and criteria.

The Consultant may propose to the City for approval and retain multiple, qualified sub-consultants for mapping, design and related program services. Other services and disciplines may be added by the City as needed during the course of the program work. The Consultant must be able to provide services in the following disciplines:

- 1. Utility Designating and Locating
- 2. Subsurface Utility Engineering
- 3. Surveying and Mapping
 - a. Aerial Photogrammetry
 - b. Land Surveying

General Conditions

4. Geographic Information Services (GIS)
5. Water Asset Management
6. Community Relations
7. Field Staff (Various)
8. Geotechnical Engineering and Testing
9. Civil Engineering (General)
10. Environmental Engineering
11. Project Management
12. Project Staff Extension
13. Computerized Visualization Tools
14. Value, Risk, and Benefit to Cost Business Case Analysis
15. City shall have the right, in its sole and absolute discretion, to require additional services that are required per the FDEP Consent Agreement and/or consistent with the scope of services and those activities typically performed by utility design consultants and for which the firm(s) are experienced, qualified, and able to perform.

END OF SECTION

General Conditions

SECTION IV – SUBMITTAL REQUIREMENTS

4.1 Instructions

4.1.1 The City uses BidSync (bidsync.com) to administer the competitive solicitation process, including but not limited to soliciting proposals, issuing addenda, responding to questions/requests for information. There is no charge to register and download the RFQ from BidSync. Proposers are strongly encouraged to read the various vendor Guides and Tutorials available in BidSync well in advance of their intention of submitting a proposal to ensure familiarity with the use of BidSync. The City shall not be responsible for a proposer's inability to submit a proposal by the end date and time for any reason, including issues arising from the use of BidSync.

All proposals must be submitted electronically.

4.1.2 Careful attention must be given to all requested items contained in this RFQ. Proposers are invited to submit proposals in accordance with the requirements of this RFQ. Please read entire solicitation before submitting a proposal. Proposers must provide a response to each requirement of the RFQ. Proposals should be prepared in a concise manner with an emphasis on completeness and clarity. Notes, exceptions, and comments may be rendered on an attachment, provided the same format of this RFQ text is followed.

4.1.3 All information submitted by proposer shall be typewritten or provided as otherwise instructed to in the RFQ. Proposers shall use and submit any applicable or required forms provided by the City and attach such to its response. Failure to use the forms may cause the proposal to be rejected and deemed non-responsive.

4.1.4 Proposals shall be submitted by an authorized representative of the firm. Proposals must be submitted in the business entity's name by the President, Partner, Officer or Representative authorized to contractually bind the business entity. Proposals shall include an attachment evidencing that the individual submitting the proposal, does in fact have the required authority stated herein.

4.1.5 In the event of Contract award, all documentation produced as part of the Contract shall become the exclusive property of the City. The Proposer's response to the RFQ is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this RFQ and the Contract to be executed for this RFQ, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the RFQ purporting to require confidentiality of any portion of the Proposer's response to the RFQ, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the RFQ constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the Proposer agrees to defend, indemnify, and hold

harmless the City and the City's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals purporting to be subject to copyright protection in full or in part will be rejected. The proposer authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

Consultant shall:

1. Keep and maintain public records required by the City in order to perform the service.
 2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2021), as may be amended or revised, or as otherwise provided by law.
 3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this Agreement if the Consultant does not transfer the records to the City.
 4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Consultant or keep and maintain public records required by the City to perform the service. If the Consultant transfers all public records to the City upon completion of this Agreement, the Consultant shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Consultant keeps and maintains public records upon completion of this Agreement, the Consultant shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.
- 4.1.6** By submitting a response Proposer is confirming that the firm has not been placed on the convicted vendors list as described in Section §287.133 (2) (a) Florida Statutes; that the only person(s), company or parties interested in the proposal as principals are named therein; that

Submittal Requirements

the proposal is made without collusion with any other person(s), company or parties submitting a proposal; that it is in all respects fair and in good faith, without collusion or fraud; and that the signer of the proposal has full authority to bind the firm.

4.2 Contents of the Proposal

The City deems certain documentation and information important in the determination of responsiveness and for the purpose of evaluating responses. Responses should seek to avoid information in excess of that requested, must be concise, and must specifically address the issues of this RFQ. The City prefers that responses be no more than 100 pages. in one complete pdf document. The proposals should be organized, divided and indexed into the sections indicated herein. These are not inclusive of all the information that may be necessary to properly evaluate the proposal and meet the requirements of the scope of work and/or specifications. Additional documents and information should be provided as deemed appropriate by the respondent in proposal to specific requirements stated herein or through the RFQ.

Note: Do not include pricing - Compensation will be requested and considered only during the competitive negotiations process.

4.2.1 Table of Contents

The table of contents should outline in sequential order the major areas of the submittal, including enclosures. All pages should be consecutively numbered and correspond to the Table of Contents.

4.2.2 Executive Summary

Each proposer must submit an executive summary that identifies the business entity, its background, main office(s), and office location that will service this contract. Identify the officers, principals, supervisory staff and key individuals who will be directly involved with the work and their office locations. The executive summary should also summarize the key elements of the proposal.

4.2.3 Firm Qualifications and Experience

Respondents must provide documentation that demonstrates their ability to satisfy all of the minimum qualification requirements. A Standard Form 330 may be used to provide this information. Indicate the firm's number of years of experience in providing the professional services as it relates to the work contemplated. Provide details of past projects for agencies of similar size and scope, including information on your firm's ability to meet time and budget requirements. Indicate the firm's initiatives towards its own sustainable business practices that demonstrate a commitment to conservation. Indicate business structure, i.e. Corp., Partnership, LLC. Firm should be registered as a legal entity in the State of Florida; Minority or Woman owned Business (if applicable); company address, phone number, fax number, e-mail address, web site, contact person(s), etc. Relative size of the firm, including management, technical and support staff; licenses and any other pertinent information shall be submitted.

Provide a comprehensive summary of the experience and qualifications of the individual(s) who will be selected to serve as the project manager(s) for the City.

4.2.4 Qualifications of the Project Team

List the members of the project team (**may be on a Standard Form 330 if you choose**). Provide a list of the personnel to be used on each project and their qualifications. Providing

this information on an organizational chart is recommended. A brief resume including education, experience, licenses and any other pertinent information shall be included for each team member, including subconsultants to be assigned to each project. Explain how each project team member will contribute to the project, in what capacity, and the level of involvement they will have. Each resume should not exceed two (2) pages in length. Provide any other documentation that demonstrates their ability to satisfy all of the minimum qualification requirements. Submittals that do not contain such documentation may be deemed non-responsive

4.2.5 Approach to Scope of Work

- Provide in concise narrative form, your understanding of the City's needs, goals and objectives as they relate to the project, and your overall approach to accomplishing the project.
- Give an overview on your proposed vision, ideas and methodology. Describe your proposed approach to the project. As part of the project approach, the firm shall propose a scheduling methodology (timeline) for effectively managing and executing the work in the optimum time.
- Also provide information on your firm's current workload and how this project will fit into your workload. Describe the firm's current and anticipated workload. Include a summary of current projects and anticipated completion timeframes. Describe how City tasks will be prioritized within your organization, and the availability of the project team to commit towards this project.
- Describe available facilities, technological capabilities and other available resources you offer for the project.
- Provide a proposed (realistic) schedule from Notice to proceed until the construction drawings are issued. The City expects this project to be completed expeditiously and the City reserves the right to make adjustments to this schedule as necessary.

4.2.6 References

Provide at least three references, preferably government agencies, for projects with similar scope as listed in this RFQ. Information should include:

- Client Name, address, contact person telephone and e-mail address (E-mail will be primary means of contact).
- Description of work.
- Year the project was completed.
- Total cost of the construction, estimated and actual.

Note: Do not simply include City of Fort Lauderdale work or staff as references to demonstrate your capabilities. The Committee is interested in work experience and references other than the City as well.

4.2.7 Sub-consultants

Consultant must clearly identify any sub-consultants that may be utilized during the term of this contract.

4.2.8 Required Forms

a. Sample Insurance Certificate

Demonstrate your firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the Insurance Companies' names for both Professional Liability and General Liability, and the dollar amounts of the coverage.

b. Non-Collusion Statement

This form is to be completed, if applicable, and inserted in this section.

c. Non-Discrimination Certification Form

d. E-Verify Affirmation Statement

e. Bid/Proposal Certification

Complete and attach the Certification

4.3 By submitting a proposal, each firm is confirming that the firm has not been placed on the convicted vendors list as described in Section §287.133 (2) (a) Florida Statutes.

4.4 Before awarding a contract, the City reserves the right to require that a firm submit such evidence of its qualifications as the City may deem necessary. Further, the City may consider any evidence of the financial, technical, and other qualifications and abilities of a firm or principals, including previous experiences of same with the City and performance evaluation for services, in making the award in the best interest of the City.

END OF SECTION

Submittal Requirements

SECTION V - EVALUATION AND AWARD

5.1 Evaluation Procedure

- 5.1.1** Evaluation of the submittals will be conducted by an Evaluation Committee, consisting of a minimum of three members of City Staff, or other persons selected by the City Manager or designee. All committee members must be present at scheduled evaluation meetings. Submittals shall be evaluated based upon the information and references contained in the proposals as submitted. Evaluation procedures shall be regulated by F.S. § 287.055, referred to as Consultant's Competitive Negotiations Act (CCNA). Any firm(s) involved in a joint venture in its proposal will be evaluated individually, as each firm of the joint venture would have to stand on its own merits.
- 5.1.2** The Committee shall short list no less than three (3) submittals, assuming that three or more submittals have been received, that it deems best satisfy the weighted criteria set forth herein and attempt to select the best qualified firm(s) for the particular discipline. The Committee shall then hold discussions, conduct interviews, and/or require oral presentations with all short-listed firms. The Committee shall then re-rank the short-listed firms based upon the information provided in interviews and/or presentations, the materials presented, the firm's responses to the RFQ, and deliberations of the Evaluation Committee at publicly advertised evaluation meetings. The City may request, and the firm shall provide, additional information deemed necessary by the Evaluation Committee to conduct evaluations.
- 5.1.3** If the City manager or his/her designee is unable to negotiate a satisfactory contract with the first ranked firm, negotiations with that firm shall be formally terminated. Upon termination of said negotiations, negotiations shall then be undertaken with the second ranked firm, with this process being repeated until an agreement is reached which is then recommended and formally approved by the City Commission or until the short-list is exhausted in which case a new Request for Qualifications may be undertaken.

5.2 Evaluation Criteria

- 5.2.1** Per Florida Statute 287.055, in determining whether a firm is qualified, the agency shall consider such factors as the ability of professional personnel; whether a firm is a certified minority business enterprise; past performance; willingness to meet time and budget requirements; location; recent, current, and projected workloads of the firms; and the volume of work previously awarded to each firm by the agency, with the object of effecting an equitable distribution of contracts among qualified firms, provided such distribution does not violate the principle of selection of the most highly qualified firms. The agency may request, accept, and consider proposals for the compensation to be paid under the contract only during competitive negotiations.
- 5.2.2** The City uses a mathematical formula to determine the scoring for each individual responsive and responsible firm based on the weighted criteria stated herein. Each evaluation committee member will rank each firm by criteria, giving their first ranked firm as number 1, the second ranked firm a number 2, and so on. The City shall average the ranking for each criterion, for all evaluation committee members, and then multiply that average ranking by the weighted criteria identified herein. The lowest average final ranking score will determine the recommendation by the evaluation committee to the City Manager.

5.2.3 Weighted Criteria

| Criteria | Percentage |
|--|-------------|
| Firm Qualifications and Experience | 30% |
| Project Team Experience and Qualifications | 30% |
| Methodology and Approach to Scope of Work | 40% |
| TOTAL: | 100% |

5.3 Contract Award

- 5.3.1** The City reserves the right to award a contract to that Consultant who will best serve the interest of the City. The City reserves the right, based upon its deliberations and in its opinion, to accept or reject any or all submittals. The City also reserves the right to waive minor irregularities or variations of the submittal requirements and RFQ process.
- 5.3.2** Upon award of a Contract by the City Commission, the City Manager is authorized to execute the Contract on behalf of the City.
- 5.3.3** The City Manager shall appoint a contract administrator or project manager for each contract to assure compliance with the contract and applicable law. The contract administrator or project manager shall review all pay requests or deny same as required prior to approval by the City Manager.

END OF SECTION

Evaluation and Award

AGREEMENT

between

City of Fort Lauderdale

and

COMPANY NAME

for

Water Consent Order Program Management and Mapping Services

RFQ No. 12665-1026

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AGREEMENT

THIS IS AN AGREEMENT made and entered into this ____ day of _____, 202__, by and between:

CITY OF FORT LAUDERDALE, a Florida municipality, (hereinafter referred to as "CITY")

and

(COMPANY NAME), a _____ (company/corporation) authorized to conduct business in the State of Florida, (hereinafter referred to as "CONSULTANT")

WHEREAS, the City Commission of the City of Fort Lauderdale, Florida at its meeting of (COMMISSION DATE) authorized by motion the execution of this Agreement between CONSULTANT and CITY authorizing the performance of Water Consent Order Program Management and Mapping Services, RFQ No. 12665-1026, incorporated herein, (the "Agreement"); and

WHEREAS, the CONSULTANT is willing and able to render professional services for such project for the compensation and on the terms hereinafter set forth;

NOW, THEREFORE, in consideration of the mutual covenants, agreements, terms, and conditions contained herein, the Parties hereto, do agree as follows:

ARTICLE 1 DEFINITIONS AND IDENTIFICATIONS

For the purposes of this Agreement and the various covenants, conditions, terms and provisions which follow, the DEFINITIONS and IDENTIFICATIONS set forth below are assumed to be true and correct and are therefore agreed upon by the Parties.

- 1.1 AGREEMENT: Means this document between the CITY and CONSULTANT dated (COMMISSION DATE), 202__, and any duly authorized and executed Amendments to Agreement.
- 1.2 BASIC SERVICES: Services performed by CONSULTANT for authorized scope of work for the Project phase described in this Agreement and listed in Exhibit "A," Scope of Services.
- 1.3 CONSULTANT'S PERIODIC ESTIMATE FOR PAYMENT: A statement by CONSULTANT based on observations at the site and on review of documentation submitted by the Contractor that by its issuance recommends that

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CITY pay identified amounts to the Contractor for services performed by the Contractor on the Project.

- 1.4 CHANGE ORDER: A written order approved by the CITY authorizing a revision of this Agreement between the CITY and CONSULTANT that is directly related to the original scope of work or an adjustment in the original contract price or the contract time directly related to the original scope of work, issued on or after the effective date of this Agreement.

The CONSULTANT may review and make recommendations to the CITY on any proposed Change Orders, for approval or other appropriate action by the CITY.

- 1.5 CITY: The City of Fort Lauderdale, a Florida municipality.
- 1.6 CITY MANAGER: The City Manager of the City of Fort Lauderdale, Florida.
- 1.7 COMMISSION: The City Commission of the City of Fort Lauderdale, Florida, which is the governing body of the CITY government.
- 1.8 CONSTRUCTION COST: The total construction cost to CITY of all elements of the Project designed or specified by CONSULTANT.
- 1.9 CONSTRUCTION COST LIMIT: A maximum construction cost limit established by the CITY defining the maximum budget amount to which the final construction documents should be designed so as not to exceed.
- 1.10 CONSTRUCTION DOCUMENTS: Those working drawings and specifications and other writings setting forth in detail and prescribing the work to be done, the materials, workmanship and other requirements for construction of the entire Project, including any bidding information.
- 1.11 CONSULTANT: (CONSULTANT'S NAME), the CONSULTANT selected to perform professional services pursuant to this Agreement.
- 1.12 CONTRACT ADMINISTRATOR: The Public Works Director of the City of Fort Lauderdale, or his designee. In the administration of this Agreement, as contrasted with matters of policy, all parties may rely upon instructions or determinations made by the Contract Administrator.
- 1.13 CONTRACTOR: One or more individuals, firms, corporations, or other entities identified as such by a written agreement with CITY ("Contract for Construction") to perform the construction services required to complete the Project.
- 1.14 DEPARTMENT DIRECTOR: The director of the (Department) Department for the City of Fort Lauderdale.

- 1.15 ERROR: A mistake in design, plans and/or specifications that incorporates into those documents an element that is incorrect and is deficient from the standard of care that a professional engineer in similar circumstances, working on a similar project and location would have exercised. Also includes mistakes in design, plans, specifications and/or shop drawings review that lead to materials and/or equipment being ordered and/or delivered where additional costs are incurred.
- 1.16 FINAL STATEMENT OF PROBABLE CONSTRUCTION COSTS: A final cost estimate prepared by CONSULTANT during the Final Design Phase of the Project, based upon the final detailed Construction Documents of the Project.
- 1.17 NOTICE TO PROCEED: A written Notice to Proceed with the Project issued by the Contract Administrator.
- 1.18 OMISSION: A scope of work missed by CONSULTANT that is necessary for the Project, including a quantity miscalculation, which was later discovered and added by Change Order and which is deficient from the standard of care that a professional engineer in similar circumstances, working on a similar project and location would have exercised. Also includes design that was wrong, but was corrected after award to the Contractor, but before the construction process was materially affected.
- 1.19 ORIGINAL CONTRACT PRICE: The original bid and/or contract price as awarded to a Contractor based upon CONSULTANT'S final detailed Construction Documents of the Project.
- 1.20 PLANS AND SPECIFICATIONS: The documents setting forth the final design plans and specifications of the Project, including architectural, civil, structural, mechanical, electrical, communications and security systems, materials, lighting equipment, site and landscape design, and other essentials as may be appropriate, all as approved by CITY as provided in this Agreement.
- 1.21 PRELIMINARY PLANS: The documents prepared by CONSULTANT consisting of preliminary design drawings, renderings and other documents to fix and describe the size and character of the entire Project, and the relationship of Project components to one another and existing features.
- 1.22 PROJECT: An agreed scope of work for accomplishing a specific plan or development. This may include, but is not limited to, planning, architectural, engineering, and construction support services. The services to be provided by CONSULTANT shall be as defined in this Agreement and further detailed in Task Orders for individual projects or combinations of projects. The Project planning, design and construction may occur in separate phases and Task Orders at the CITY's discretion.

- 1.23 RESIDENT PROJECT REPRESENTATIVE: Individuals or entities selected, employed, compensated by and directed to perform services on behalf of CITY, in monitoring the Construction Phase of the Project to completion.
- 1.24 STATEMENT OF PROBABLE PROJECT COSTS: A document to be prepared by CONSULTANT that shall reflect a detailed statement of the total probable costs.
- 1.25 SUBSTANTIAL COMPLETION: The CITY will consider the work substantially complete when the Contractor submits 100% complete deliverables (i.e. Drawings, Specifications, Reports, Renderings) as described in this Agreement to the satisfaction of the City.
- 1.26 TASK ORDER: A document setting forth a negotiated detailed scope of services to be performed by CONSULTANT at fixed contract prices in accordance with this Agreement between the CITY and CONSULTANT.
- 1.27 TIME OF COMPLETION: Time in which the entire work shall be completed for each Task Order.

ARTICLE 2

PREAMBLE

In order to establish the background, context and frame of reference for this Agreement and to generally express the objectives and intentions of the respective parties hereto, the following statements, representations and explanations shall be accepted as predicates for the undertakings and commitments included within the provisions of this Agreement which follow and may be relied upon by the parties as essential elements of the mutual considerations upon which this Agreement is based.

- 2.1 Pursuant to Section 287.055, Florida Statutes, CITY has formed a Committee to evaluate CONSULTANT's statement of qualifications and performance data to ensure that CONSULTANT has met the requirements of the Consultants' Competitive Negotiation Act, as set forth in Section 287.055, Florida Statutes, and has selected CONSULTANT to perform services hereunder.

ARTICLE 3

SCOPE OF SERVICES

- 3.1 The CONSULTANT shall perform the following professional services: Water Consent Order Program Management and Mapping Services as more specifically described in Exhibit "A," Scope of Services, attached hereto and incorporated herein, and shall include, but not be limited to, services as applicable and authorized by individual Task Orders for the individual projects in accordance with Article 5 herein. CONSULTANT shall provide all services set forth in Exhibit "A" including all necessary, incidental and related activities and services required by

the Scope of Services and contemplated in CONSULTANT's level of effort. CONSULTANT will perform the Services in accordance with standard industry practices, with the care, knowledge and skill expected of similar engineering firms. No other warranties, express or implied are made or intended.

- 3.2 CITY and CONSULTANT acknowledge that the Scope of Services does not delineate every detail and minor work tasks required to be performed by CONSULTANT to complete the Project. If, during the course of the performance of the services included in this Agreement, CONSULTANT determines that work should be performed to complete the Project which is in CONSULTANT's opinion, outside the level of effort originally anticipated, whether or not the Scope of Services identifies the work items, CONSULTANT shall notify Contract Administrator and obtain written approval by the CITY in a timely manner before proceeding with the work. Notice to Contract Administrator does not constitute authorization or approval by CITY to perform the work. The CITY shall not pay for any work that is not approved by the Contract Administrator in writing. If CONSULTANT proceeds with said work without notifying the Contract Administrator, said work shall be deemed to be within the original level of effort, whether specifically addressed in the Scope of Services. Notice to Contract Administrator does not constitute authorization or approval by CITY to perform the work. Performance of work by CONSULTANT outside the originally anticipated level of effort without prior written CITY approval is at CONSULTANT's sole risk.

ARTICLE 4

GENERAL PROVISIONS

- 4.1 Negotiations pertaining to the rates for professional design, engineering, architectural and project management services to be performed by CONSULTANT have been undertaken between CONSULTANT and CITY representatives pursuant to Section 287.055, Florida Statutes, and this Agreement incorporates the results of such negotiation.
- 4.2 CONSULTANT shall include CITY's specific Task Order number as part of the heading on all correspondence, invoices and drawings. All correspondence shall be directed specifically to the Contract Administrator.

ARTICLE 5

PRIORITY OF PROVISIONS

- 5.1 The Contract Documents are intended to include all items necessary for the proper execution and completion of the work by CONSULTANT. Any labor, services, materials, supplies, equipment or documentation that may reasonably be inferred from the Contract Documents or trade usage from prevailing custom as being required to produce the indicated result will be provided whether or not specifically

called for, at no additional cost to CITY. The Contract Documents are complementary, and wherever possible the provisions of the Contract Documents shall be construed in such manner as to avoid conflicts between provisions of the various Contract Documents. In the event of any inconsistency in the Contract Documents, where such inconsistency is not clarified by change order, addendum or amendment, the Contract Documents shall be construed according to the following priorities:

First priority: Approved Change Orders, Addenda or Amendments to all related documents.

Second priority: Specifications (quality) and Drawings (location and quantity) of CONSULTANT.

Third priority: This AGREEMENT.

Fourth priority: City of Fort Lauderdale Request for Qualifications (RFQ #12665-1026).

Fifth priority: CONSULTANT's response to City of Fort Lauderdale Request for Qualifications (RFQ #12665-1026).

- 5.2 Anything shown on the drawings and not mentioned in the specifications and now shown on the drawings, shall have the same effect as if shown or mentioned respectively in both. In the event of a conflict among the Contract Documents, the latest, most stringent, and more technical requirement(s), including, but not limited to, issues of quantities or cost of the Work shall control.

Reference to standard specifications, manuals, rules, regulations, ordinances, laws or codes of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, rule, regulation, ordinance, law or code in effect at the time of permit submittal.

ARTICLE 6 TASK ORDERS

- 6.1 The Project will be divided into "Tasks."
- 6.2 Task Orders shall be jointly prepared by the CITY and CONSULTANT defining the detailed scope of services to be provided for the particular Project. Each Task Order shall be separately numbered and approved in accordance with this Agreement and all applicable CITY code requirements.

ARTICLE 7
TERM OF AGREEMENT; TIME FOR PERFORMANCE

- 7.1 CONSULTANT shall perform the basic services described in Exhibit "A" within the time periods specified in the project schedule indicated in Exhibit C. The Project Schedule shall be automatically incorporated into this Agreement. Said time periods shall commence from the date of the Notice to Proceed for such services.
- 7.2 Prior to beginning the performance of any services under this Agreement, CONSULTANT must receive a Notice to Proceed. CONSULTANT must receive written approval from the Contract Administrator prior to beginning the performance of services in any subsequent phases of the Agreement. Prior to granting approval for CONSULTANT to proceed to a subsequent phase, the Contract Administrator may, at his or her sole option, require CONSULTANT to submit itemized deliverables for the Contract Administrator's review.
- 7.3 In the event CONSULTANT is unable to complete the above services because of delays resulting from untimely review by CITY or other governmental authorities having jurisdiction over the Project, and such delays are not the fault of CONSULTANT, or because of delays which were caused by factors outside the control of CONSULTANT, CITY shall grant a reasonable extension of time for completion of the services and shall provide reasonable compensation, if appropriate. It shall be the responsibility of the CONSULTANT to notify CITY promptly in writing whenever a delay in approval by a governmental agency is anticipated or experienced, and to inform CITY of all facts and details related to the delay.
- 7.4 In the event Contractor fails to substantially complete the Project on or before the substantial completion date specified in the project schedule with CITY or if Contractor is granted an extension of time beyond said substantial completion date, and CONSULTANT's services are extended beyond the substantial completion date, through no fault of CONSULTANT, CONSULTANT shall be compensated in accordance with Article 7 for all services rendered by CONSULTANT beyond the substantial completion date.
- 7.5 The time for the performance of services described in the Task Orders Scope of Services and supplemental Task Orders shall be negotiated by the CITY and CONSULTANT as the services are requested and authorized by the CITY.
- 7.6 The term of this Agreement shall be limited to the time duration required to complete the basic services of the aforementioned project and any additional project related Task Orders for additional services.

ARTICLE 8
COMPENSATION AND METHOD OF PAYMENT

8.1 AMOUNT AND METHOD OF COMPENSATION

8.1.1 Not-To-Exceed Amount Compensation

CITY agrees to pay CONSULTANT as compensation for performance of basic services as related to Exhibit "A" required under the terms of this Agreement up to a Not-to-Exceed Amount of **(AGREEMENT TOTAL IN WORDS) (\$AGREEMENT TOTAL IN NUMBERS)**. It is agreed that the method of compensation is that of "Not-to-Exceed Amount" which means that CONSULTANT shall perform all services set forth in Exhibit "A" for total compensation in the amount of or less than that stated above. Compensation to be in accordance with the Cost Schedule and hourly billing rate schedule shown in Exhibit "B."

Except as required and provided for by the Florida Local Government Prompt Payment Act, City shall not be liable for interest for any reason, whether as prejudgment interest or for any other purpose, and in furtherance thereof Consultant waives, rejects, disclaims and surrenders any and all entitlement it has or may have to receive interest in connection with a dispute or claim based on or related to this Agreement.

A Not-to-Exceed proposal shall be accompanied by the CONSULTANT's estimate. The estimate shall detail the direct labor costs by categories of employees, work hours, and hourly rate; overhead; direct non-salary expenses and profit, or as required by individual Task Order.

8.2 METHOD OF BILLING

8.2.1 Not-To-Exceed Amount Compensation

CONSULTANT shall submit billings, which are identified by the specific project number in a timely manner for all salary costs attributable to the Project. These billings shall identify the nature of the work performed for each phase, subtask, deliverable and item identified in the Exhibit "A" Scope of Services or Task Order, the total hours of work performed and the employee category of the individuals performing same. The statement shall show a summary of salary costs with accrual of the total and credits for portions paid previously. Sub-consultant fees must be documented by copies of invoices or receipts, which describe the nature of the expenses and contain a project number or other identifier, which clearly indicates the expense, as identifiable to the Project. Except for meals and travel expenses, it shall be deemed unacceptable for CONSULTANT to modify the invoice or receipt by adding a project number or other identifier. Internal

expenses must be documented by appropriate CONSULTANT's cost accounting forms with a summary of charges by category. When requested, CONSULTANT shall provide backup for past and current invoices that records hours and salary costs by employee category and sub-consultant fees on a task basis, so that total hours and costs by task may be determined.

8.3 REIMBURSABLES

8.3.1 Direct non-salary expenses, entitled Reimbursables, directly attributable to the Project will be charged at actual cost. Reimbursable expenses are in addition to the compensation for basic services and include actual expenditures made by the CONSULTANT and the CONSULTANT'S employees directly attributable to the Project and will be charged at actual cost, without reference to the professional service fees above. CITY shall not withhold retainage from payments for Reimbursable Expenses. CONSULTANT shall be compensated for Reimbursables associated with a particular Task Order only up to the amount allocated for such Task Order. Any reimbursable or portion thereof which, when added to the Reimbursables related to a particular Task Order previously billed, exceeds the amount allocated for such Task Order shall be the responsibility of the CONSULTANT unless otherwise agreed to in writing by the Contract Administrator. Travel and subsistence expenses for the CONSULTANT, his staff and subconsultants and communication expenses, long distance telephone, courier and express mail between CONSULTANT's and subconsultants' various offices are not reimbursable under this Agreement. Reimbursables shall include only the following listed expenses unless authorized in writing by the Contract Administrator:

- A. Cost of reproduction, postage and handling of drawings and specifications which are required to deliver services set forth in this Agreement, excluding reproductions for the office use of the CONSULTANT. Reimbursable printing and photocopying expenses shall include only those prints or photocopies of original documents which are (i) exchanged among CONSULTANT, CITY and other third parties retained or employed by any of them or (ii) submitted to CITY for review, approval or further distribution. Documents, which are reproduced for CONSULTANT's internal drafts, reviews, or other purposes, are not eligible for reimbursement.

- B. Identifiable testing costs and special inspections approved by Contract Administrator.
 - C. All permit fees paid to regulatory agencies for approvals directly attributable to the Project. These permit fees do not include those permits required for the construction Contractor.
 - D. Overnight Delivery/Courier Charges (when CITY requires/requests this service).
- 8.3.2 Reimbursable sub-consultant expenses are limited to the items described above when the subconsultant agreement provides for reimbursable expenses. A detailed statement of expenses must accompany any request for reimbursement. Local travel to and from the Project site or within the Tri-County Area will not be reimbursed.
- 8.3.3 It is acknowledged and agreed to by CONSULTANT that the dollar limitation set forth in each Task Order is a limitation upon, and describes the maximum extent of CITY's obligation to reimburse CONSULTANT for direct, non-salary expenses, but does not constitute a limitation, of any sort, upon CONSULTANT's obligation to incur such expenses in the performance of services hereunder. If CITY or Contract Administrator requests CONSULTANT to incur expenses not contemplated in the amount for Reimbursables, CONSULTANT shall notify Contract Administrator in writing before incurring such expenses. Any such expenses shall be reviewed and approved by CITY prior to incurring such expenses.

8.4 METHOD OF PAYMENT

- 8.4.1 CITY shall pay CONSULTANT in accordance with the Florida Prompt Payment Act. To be deemed proper, all invoices must comply with the requirements set forth in this Agreement and must be submitted on the form and pursuant to instructions prescribed by Contract Administrator.
- 8.4.2 CITY will review CONSULTANT's invoices and, if inaccuracies or errors are discovered in said invoice, CITY will inform CONSULTANT within ten (10) working days by fax and/or by email of such inaccuracies or errors and request that revised copies of all such documents be re-submitted by CONSULTANT to CITY.
- 8.4.3 Payments are scheduled to be made by CITY to CONSULTANT by check.
- 8.4.4 Payment will be made to CONSULTANT at:

(CONSULTANT'S ADDRESS)

ARTICLE 9
AMENDMENTS AND CHANGES IN SCOPE OF SERVICES

- 9.1 No modification, amendment or alteration in the terms or conditions contained herein shall be effective unless contained in a written Amendment prepared with the same formality as this Agreement and executed by the CITY and CONSULTANT.
- 9.2 CITY or CONSULTANT may request changes that would increase, decrease, or otherwise modify the Scope of Services to be provided under a Task Order. Such changes must be contained in a written amendment, executed by the Parties hereto, with the same formality and of equal dignity herewith, prior to any deviation from the terms of the Task Order including the initiation of any additional services. CITY shall compensate CONSULTANT for such additional services as provided in Article 7.
- 9.3 In the event a dispute between the Contract Administrator and CONSULTANT arises over whether requested services constitute additional services, and such dispute cannot be resolved by the Contract Administrator and CONSULTANT, such dispute shall be promptly presented to the City Manager for resolution. The City Manager's decision shall be final and binding on the Parties for amounts in the aggregate under \$100,000. In the event of a dispute in an amount over \$100,000, the Parties agree to use their best efforts to settle such dispute. To this effect, they shall consult and negotiate with each other, in good faith and, recognizing their mutual interests, attempt to reach a just and equitable solution satisfactory to both Parties. If they do not reach such solution within a period of sixty (60) days, then upon notice to the other, either Party may commence litigation to resolve the dispute in Broward County, Florida. Any resolution shall be set forth in a written document in accordance with Section 8.2 above. During the pendency of any dispute, CONSULTANT shall promptly perform the disputed services.

ARTICLE 10
CONSULTANT'S RESPONSIBILITIES

- 10.1 The CONSULTANT, following the CITY's approval of the Construction Documents and of the Final Statement of Probable Construction Costs, shall, when so directed and authorized by the CITY, assist the CITY in estimating construction costs, reviewing proposals, and assist in awarding contracts for construction. If requested, CONSULTANT shall review and analyze the proposals received by the CITY and shall make a recommendation for any award based on the City of Fort Lauderdale Procurement Ordinance.

- 10.2 Estimates, opinions of probable construction or implementation costs, financial evaluations, feasibility studies or economic analyses prepared by CONSULTANT will represent its best judgment based on its experience and available information. The CITY recognizes that CONSULTANT has no control over costs of labor, materials, equipment or services furnished by others or over market conditions or CONSULTANT's methods of determining prices, and that any evaluation of a facility to be constructed or work to be performed is speculative. Accordingly, CONSULTANT does not guarantee that proposals, bids or actual costs will not vary from opinions, evaluations or studies submitted by CONSULTANT.
- 10.3 In the event that the lowest "best value" bid, as such term is used in the City of Fort Lauderdale Procurement Code, excluding any alternate bid items ("base bid"), exceeds the Estimated Construction Cost for a project by more than ten percent (10%), CONSULTANT shall explain, in writing, the reasons why the bids or proposals exceeded the ten percent (10%) factor following the analysis of all base bids. In such a circumstance, the CITY may at its sole discretion, exercise any one or more of the following options:
- CONSULTANT shall be required to amend at the sole cost and expense of CONSULTANT, the Construction Drawings, Technical Specifications and Supplemental Conditions to enable the project to conform to a maximum of ten (10%) above the Estimated Construction Costs of the project, such amendments to be subject to the written final acceptance and approval of same by the CITY;
 - CONSULTANT shall be required to provide at the cost and expense of CONSULTANT re-bidding services and related items (including costs associated with regulatory review and approval of revised documents) as many times as requested by the CITY until the base bid of at least one "best value" bid falls within the factor of ten (10%) of the Estimated Construction Cost of the project;
 - The CITY may approve an increase in the Estimated Construction Cost of the Project;
 - The CITY may reject all bids or proposals and may authorize re-bidding;
 - The CITY may if permitted, approve a renegotiation of the Project within a reasonable time;
 - The CITY may abandon the project and terminate CONSULTANT's work authorization and Services for the Project; or
 - The CITY may select as many deductive alternatives as may be necessary to bring the award within ten percent (10%) of the Estimated Construction Costs of the Project.

It is expressly understood and agreed that the redesigning services required to keep the Project within 10% of the Estimated Construction Cost shall not be

considered additional services and CONSULTANT agrees that it shall not seek compensation from the CITY for such Services.

- 10.4 The CONSULTANT may be requested to provide the CITY with a list of recommended, prospective proposers.
- 10.5 The CONSULTANT may be asked to attend all pre-bid/proposal conferences.
- 10.6 The CONSULTANT shall recommend any addenda, through the Contract Administrator, as appropriate to clarify, correct, or change proposal/bid documents.
- 10.7 If pre-qualification of proposers is required as set forth in the request for proposal, CONSULTANT shall assist the CITY, if requested, in developing qualification criteria, review qualifications and recommend acceptance or rejection of the proposers. If requested, CONSULTANT shall evaluate proposals and proposers, and make recommendations regarding any award by the CITY.
- 10.8 The CITY shall make decisions on claims regarding interpretation of the Construction Documents, and on other matters relating to the execution and progress of the work after receiving a recommendation from CONSULTANT. CONSULTANT may also assist in approving progress payments to the Contractor based on each Project Schedule of Values and the percentage of work completed.
- 10.9 The CITY shall maintain a record of all Change Orders which shall be categorized according to the various types, causes, etc. that it may be determined are useful or necessary for its purpose. Among those shall be Change Orders identified as architectural/engineering Errors or Omissions.
 - 10.9.1 Unless otherwise agreed by both Parties in writing, it is specifically agreed that any change to the work identified as an Error on the part of CONSULTANT shall be considered for purposes of this Agreement to be an additional cost to the CITY which would not be incurred without the Error.
 - 10.9.2 Unless otherwise agreed by both Parties in writing, it is further specifically agreed for purposes of this Agreement that fifteen percent (15%) of the cost of Change Orders for any item categorized as an Omission shall be considered an additional cost to the CITY which would not be incurred without the Omission. So long as the total of those two numbers (Change Order costs of Errors plus fifteen percent (15%) of Omissions) remains less than two percent (2%) of the total Construction Cost of the Project, the CITY shall not look to CONSULTANT for reimbursement for Errors and Omissions.

- 10.9.3 Should the sum of the two as defined above (cost of Errors plus fifteen percent (15%) of the cost of Omissions) exceed two percent (2%) of the Construction Cost, the CITY shall recover the full and total additional cost to the CITY as a result of CONSULTANT's Errors and Omissions from CONSULTANT, that being defined as the cost of Errors plus fifteen percent (15%) of the cost of Omissions above two percent (2%) of the Construction Cost.
- 10.9.4 To obtain such recovery, the CITY shall deduct from CONSULTANT's fee a sufficient amount to recover all such additional cost to the CITY.
- 10.9.5 In executing this Agreement, CONSULTANT acknowledges acceptance of these calculations and to the CITY's right to recover same as stated above. The recovery of additional costs to the CITY under this paragraph shall not limit or preclude recovery for other separate and/or additional damages which the CITY may otherwise incur.
- 10.9.6 The Contract Administrator's decision as to whether a Change Order is caused by an Error or caused by an Omission, taking into consideration industry standards, shall be final and binding on both Parties for amounts in the aggregate under \$100,000 per project, subject to Section 8.3. In the event of a dispute in an amount over \$100,000, the Parties agree to use their best efforts to settle such dispute. To this effect, they shall consult and negotiate with each other, in good faith and, recognizing their mutual interests, attempt to reach a just and equitable solution satisfactory to both Parties. If they do not reach such solution within a period of sixty (60) days, then upon notice to the other, either Party may commence litigation to resolve the dispute in Broward County, Florida.

ARTICLE 11
CITY'S RESPONSIBILITIES

- 11.1 CITY shall assist CONSULTANT by placing at CONSULTANT's disposal, all information CITY has available pertinent to the Project including previous reports and any other data relative to design or construction of the Project.
- 11.2 CITY shall arrange for access to, and make all provisions for, CONSULTANT to enter upon public and private property as required for CONSULTANT to perform its services.
- 11.3 CITY shall review the itemized deliverables/documents identified per Task Order.
- 11.4 CITY shall give prompt written notice to CONSULTANT whenever CITY observes or otherwise becomes aware of any development that affects the scope or timing

of CONSULTANT's services or any defect in the work of the Contractor.

ARTICLE 12 MISCELLANEOUS

12.1 OWNERSHIP OF DOCUMENTS

All documents including, but not limited to, drawings, renderings, models, and specifications prepared or furnished by CONSULTANT, its dependent professional associates and consultants, pursuant to this Agreement shall be owned by the CITY.

Drawings, specifications, designs, models, photographs, reports, surveys and other data prepared in connection with this Agreement are and shall remain the property of the CITY whether the Project for which they are made is executed or not, and are subject to reuse by the CITY in accordance with Section 287.055(10) of the Florida Statutes. They are not intended or represented to be suitable for reuse by the CITY or others on extensions of this Project or on any other project without appropriate verification or adaptation. Any reuse, except for the specific purpose intended hereunder, will be at the CITY's sole risk and without liability or legal exposure to CONSULTANT or its subcontractors. This does not, however, relieve CONSULTANT of liability or legal exposure for errors, omissions, or negligent acts made on the part of CONSULTANT in connection with the proper use of documents prepared under this Agreement. Any such verification or adaptation may entitle CONSULTANT to further compensation at rates to be agreed upon by the CITY and CONSULTANT. This shall not limit the CITY's reuse of preliminary or developmental plans or ideas incorporated therein, should the Project be suspended or terminated prior to completion.

12.2 TERMINATION

12.2.1 Termination for Cause. It is expressly understood and agreed that the CITY may terminate this Agreement at any time for cause in the event that the CONSULTANT (1) violates any provisions of this Agreement or performs same in bad faith or (2) unreasonably delays the performance of the services or does not perform the services in a timely and satisfactory manner upon written notice to the CONSULTANT. Notice of termination shall be provided in accordance with Section 11.27. In the case of termination by the CITY for cause, the CONSULTANT shall be first granted a 10-working day cure period after receipt of written notice from the CITY. In the event that the Agreement is terminated, the CONSULTANT shall be entitled to be compensated for the services rendered and accepted by the CITY from the date of execution of the Agreement up to the time of termination. Such compensation shall be based on the fee as set forth above, wherever possible. For those portions of services rendered to which

the applicable fee cannot be applied, payment shall be based upon the appropriate rates for the actual time spent on the Project. In the event that the CONSULTANT abandons this Agreement or through violation of any of the terms and conditions of this Agreement, causes it to be terminated, CONSULTANT shall indemnify the CITY against any and all loss pertaining to this termination.

All finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by CONSULTANT shall become the property of CITY and shall be delivered by CONSULTANT to the CITY within five (5) days of CITY's request. Upon payment of such sum by CITY to CONSULTANT, CITY shall have no further duties or obligations pursuant to or arising from this Agreement.

12.2.2 This Agreement may also be terminated by CITY upon such notice as CITY deems appropriate in the event CITY or Contract Administrator determines that termination is necessary to protect the public health, safety, or welfare.

12.2.3 Notice of termination shall be provided in accordance with Section 11.27, NOTICES, except that Contract Administrator may provide a prior verbal stop work order if the Contract Administrator deems a stop work order of this Agreement in whole or in part is necessary to protect the public's health, safety, or welfare. A verbal stop work order shall be promptly confirmed in writing as set forth in Section 11.27, NOTICES.

12.2.4 Termination for Convenience. In the event this Agreement is terminated for convenience, CONSULTANT shall be paid for any services performed and accepted by the CITY to the date the Agreement is terminated. Compensation shall be withheld until all documents specified in Section 11.3 of this Agreement are provided to the CITY. Upon being notified of CITY's election to terminate, CONSULTANT shall refrain from performing further services or incurring additional expenses under the terms of this Agreement. Under no circumstances shall CITY make payment for services which have not been performed.

12.2.5 Termination by CONSULTANT. CONSULTANT shall have the right to terminate this Agreement upon substantial breach by the CITY of its obligation under this Agreement as to unreasonable delay in payment or non-payment of undisputed amounts. CONSULTANT shall have no right to terminate this Agreement for convenience of the CONSULTANT.

12.3 AUDIT RIGHT AND RETENTION OF RECORDS

CITY shall have the right to audit the books, records, and accounts of CONSULTANT that are related to this Project. CONSULTANT shall keep such books, records, and accounts as may be necessary in order to record complete

and correct entries related to the Project.

CONSULTANT shall preserve and make available, at reasonable times and upon prior written notice for examination and audit by CITY all financial records, supporting documents, statistical records, and any other documents pertinent to this Agreement for the required retention period of the Florida Public Records Act (Chapter 119, Florida Statutes), if applicable, or, if the Florida Public Records Act is not applicable, for a minimum of three (3) years after termination of this Agreement. If any audit has been initiated and audit findings have not been resolved at the end of the retention period or three (3) years, whichever is longer, the books, records, and accounts shall be retained until resolution of the audit findings. If the Florida Public Records Act is determined by CITY to be applicable to CONSULTANT's records, CONSULTANT shall comply with all requirements thereof; however, no confidentiality or non-disclosure requirement of either federal or state law shall be violated by CONSULTANT. Any incomplete or incorrect entry in such books, records, and accounts shall be a basis for CITY's disallowance and recovery of any payment upon such entry.

12.4 NON-DISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY, AND AMERICANS WITH DISABILITIES ACT

CONSULTANT shall not unlawfully discriminate against any person in its operations and activities in its use or expenditure of the funds or any portion of the funds provided by this Agreement and shall affirmatively comply with all applicable provisions of the Americans with Disabilities Act (ADA) in the course of providing any services funded in whole or in part by CITY, including Titles I and II of the ADA (regarding nondiscrimination or the basis of disability), and all applicable regulations, guidelines, and standards.

CONSULTANT's decisions regarding the delivery of services under this Agreement shall be made without regard to or consideration of race, age, religion, color, gender, sexual orientation, national origin, marital status, physical or mental disability, political affiliation, or any other factor which cannot be lawfully or appropriately used as a basis for service delivery.

CONSULTANT shall comply with Title I of the Americans with Disabilities Act regarding nondiscrimination on the basis of disability in employment and further shall not discriminate against any employee or applicant for employment because of race, age, religion, color, gender, sexual orientation, national origin, marital status, political affiliation, or physical or mental disability. In addition, CONSULTANT shall take affirmative steps to ensure nondiscrimination in employment against disabled persons. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay, other forms of compensation, terms and conditions of employment, training (including

apprenticeship), and accessibility.

CONSULTANT shall take affirmative action to ensure that applicants are employed, and employees are treated without regard to race, age, religion, color, gender, sexual orientation, national origin, marital status, political affiliation, or physical or mental disability during employment. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay, other forms of compensation, terms and conditions of employment, training (including apprenticeship), and accessibility.

12.5 MINORITY PARTICIPATION

Historically, the CITY has been able to achieve participation levels of approximately twelve percent (12%) by MBE/WBE firms in CITY projects, and in the purchase of goods and services. The CONSULTANT shall make a good faith effort to help the CITY maintain and encourage MBE/WBE participation levels consistent with such historical levels and market conditions. The CONSULTANT will be required to document all such efforts and supply the CITY with this documentation at the end of the Project, or in cases where projects are longer than one year, each CITY fiscal year.

12.6 PUBLIC ENTITY CRIMES ACT

In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2021), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2021), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

12.7 SUB-CONSULTANTS

12.7.1 CONSULTANT may subcontract certain items of work to sub-consultant. The parties expressly agree that the CONSULTANT shall submit pertinent information regarding the proposed sub-consultant, including sub-consultant's scope of work and fees, for review and approval by the CITY prior to sub-consultants proceeding with any work.

12.7.2 CONSULTANT shall utilize the sub-consultants identified in the proposal that were a material part of the selection of CONSULTANT to provide the services for this Project. CONSULTANT shall obtain written approval of the Contract Administrator prior to changing or modifying the list of sub-consultants submitted by CONSULTANT.

The list of sub-consultants submitted is as follows:

(NAME ALL SUB-CONSULTANTS HERE)

12.8 ASSIGNMENT AND PERFORMANCE

Neither this Agreement nor any interest herein shall be assigned, transferred, or encumbered without the written consent of the other Party, and CONSULTANT shall not sub-contract any portion of the work required by this Agreement except as authorized pursuant to Section 11.7.

CONSULTANT represents that all persons delivering the services required by this Agreement have the knowledge and skills, either by training, experience, education, or a combination thereof, to adequately and competently perform the duties, obligations, and services set forth in the Scope of Services and to provide and perform such services to CITY's satisfaction for the agreed compensation.

CONSULTANT shall perform its duties, obligations, and services under this Agreement in a skillful and respectable manner. The quality of CONSULTANT's performance and all interim and final product(s) provided to or on behalf of CITY shall meet or exceed all professional standards of the State of Florida.

12.9 INDEMNIFICATION OF CITY

12.9.1 CONSULTANT shall indemnify and hold harmless CITY, its officers and employees, from liabilities, damages, losses, and costs, including but not limited to reasonable attorneys' fees, to the extent caused by the negligence, recklessness or intentional misconduct of CONSULTANT and persons employed or utilized by CONSULTANT in the performance of this Agreement. These indemnifications shall survive the term of this Agreement. In the event that any action or proceeding is brought against CITY by reason of any such claim or demand, CONSULTANT shall, upon written notice from CITY, resist and defend such action or proceeding by counsel approved by the CITY.

12.9.2 To the extent considered necessary by Contract Administrator and CITY, any sums due the CONSULTANT under this Agreement may be retained by CITY until all of the CITY's claims for indemnification pursuant to this

Agreement have been settled or otherwise resolved, and any amount withheld shall not be subject to payment of interest by CITY.

12.10 LIMITATION OF CITY'S LIABILITY

The CITY desires to enter into this Agreement only if in so doing the CITY can place a limit on the CITY's liability for any cause of action arising out of this Agreement, so that the CITY's liability for any breach never exceeds the sum of \$1,000.00. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the CONSULTANT expresses its willingness to enter into this Agreement with the knowledge that the CONSULTANT's recovery from the CITY to any action or claim arising from the Agreement is limited to a maximum amount of \$1,000.00 less the amount of all funds actually paid by the CITY to the CONSULTANT pursuant to this Agreement. Accordingly, and notwithstanding any other term or condition of this Agreement that may suggest otherwise, the CONSULTANT agrees that the CITY shall not be liable to the CONSULTANT for damages in an amount in excess of \$1,000.00, which amount shall be reduced by the amount actually paid by the CITY to the CONSULTANT pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any manner intended either to be a waiver of the limitation placed upon the CITY's liability as set forth in Section 768.28, Florida Statutes, or to extend the CITY's liability beyond the limits established in said Section 768.28; and no claim or award against the CITY shall include attorney's fees, investigative costs, extended damages, expert fees, suit costs or pre-judgment interest. Notwithstanding the foregoing, the parties agree and understand that the provisions of this Article 11.10 do not apply to monies owed, if any, for services rendered to CONSULTANT by the CITY under the provisions of this Agreement.

12.11 INSURANCE

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by

the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- 1,000,000 each occurrence and \$2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- \$1,000,000 each occurrence and \$2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Professional Liability

Coverage must be afforded for Wrongful Acts in an amount not less than \$1,000,000 each claim and \$2,000,000 aggregate.

Contractor must keep the professional liability insurance in force until the third anniversary of expiration or early termination of this Agreement or the third anniversary of acceptance of work by the City, whichever is longer, which obligation shall survive expiration or early termination of this Agreement.

Watercraft Liability

Coverage must be afforded in an amount not less than \$1,000,000 per occurrence and must cover the utilization of watercraft, including Bodily Injury and Property Damage arising out of ownership, maintenance, or use of any watercraft, including owned, non-owned, and hired.

Coverage may be provided in the form of an endorsement to the Commercial General Liability policy, or in the form of a separate policy covering Watercraft Liability or Protection and Indemnity for Bodily Injury and Property Damage.

Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than \$1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Insurance Certificate Requirements

- a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
- b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
- c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
- d. In the event the Agreement term or any surviving obligation of the Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
- e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.

- f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
- g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
- h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORTLAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

12.12 REPRESENTATIVE OF CITY AND CONSULTANT

12.12.1 The Parties recognize that questions in the day-to-day conduct of the Project will arise. The Contract Administrator, upon CONSULTANT's request, shall advise CONSULTANT in writing of one (1) or more CITY employees to whom all communications pertaining to the day-to-day conduct of the Project shall be addressed.

12.12.2 CONSULTANT shall inform the Contract Administrator in writing of CONSULTANT's representative to whom matters involving the conduct of the Project shall be addressed.

12.13 ALL PRIOR AGREEMENTS SUPERSEDED

This document incorporates and includes all prior negotiations, correspondence, conversations, agreements or understandings applicable to the matters contained herein; and the Parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements whether oral or written.

It is further agreed that no modification, amendment or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

12.14 CONSULTANT'S STAFF

CONSULTANT will provide the key staff identified in its proposal for the Project as long as said key staff are in CONSULTANT's employment.

CONSULTANT will obtain prior written approval of Contract Administrator to change key staff. CONSULTANT shall provide Contract Administrator with such information as necessary to determine the suitability of any proposed new key staff. Contract Administrator will be reasonable in evaluating key staff qualifications.

If Contract Administrator desires to request removal of any of CONSULTANT's staff, Contract Administrator shall first meet with CONSULTANT and provide reasonable justification for said removal.

12.15 INDEPENDENT CONTRACTOR

CONSULTANT is an independent contractor under this Agreement. Services provided by CONSULTANT shall be subject to the supervision of CONSULTANT. In providing the services, CONSULTANT or its agents shall not be acting and shall not be deemed as acting as officers, employees, or agents of the CITY. Personnel policies, tax responsibilities, social security and health insurance, employee benefits, purchasing policies and other similar administrative procedures applicable to services rendered under this Agreement shall be those of CONSULTANT. The Parties expressly acknowledge that it is not their intent to create any rights or obligations in any third person or entity under this Agreement.

12.16 THIRD PARTY BENEFICIARIES

Neither CONSULTANT nor CITY intends to directly or substantially benefit a third party by this Agreement. Therefore, the Parties agree that there are no third-party beneficiaries to this Agreement and that no third party shall be entitled to assert a claim against either of them based upon this Agreement.

12.17 CONFLICTS

Neither CONSULTANT nor its employees shall have or hold any continuing or frequently recurring employment or contractual relationship that is substantially antagonistic or incompatible with CONSULTANT's loyal and conscientious exercise of judgment related to its performance under this Agreement.

CONSULTANT agrees that none of its officers or employees shall, during the term of this Agreement, serve as expert witness against CITY in any legal or administrative proceeding in which he or she is not a party, unless compelled by court process, nor shall such persons give sworn testimony or issue a report or writing, as an expression of his or her expert opinion, which is adverse or prejudicial to the interests of CITY or in connection with any such pending or threatened legal or administrative proceeding. The limitations of this Section shall not preclude such persons from representing themselves in any action or in any administrative or legal proceeding.

In the event CONSULTANT is permitted to utilize sub-consultants to perform any services required by this Agreement, CONSULTANT agrees to prohibit such sub-consultants, by written contract, from having any conflicts as within the meaning of this Section.

12.18 CONTINGENCY FEE

CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for CONSULTANT, to solicit or secure this Agreement and that it has not paid or agreed to pay any

person, company, corporation, individual or firm, other than a bona fide employee working solely for CONSULTANT, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For a breach or violation of this provision, the CITY shall have the right to terminate this Agreement without liability at its discretion, or to deduct from the Agreement price or otherwise recover the full amount of such fee, commission, percentage, gift or consideration.

12.19 WAIVER OF BREACH AND MATERIALITY

Failure by CITY to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement.

CITY and CONSULTANT agree that each requirement, duty, and obligation set forth herein is substantial and important to the formation of this Agreement and, therefore, is a material term hereof.

12.20 COMPLIANCE WITH LAWS

CONSULTANT shall comply with all applicable federal, state, and local laws, codes, ordinances, rules, and regulations in performing its duties, responsibilities, and obligations related to this Agreement.

12.21 SEVERANCE

In the event this Agreement or a portion of this Agreement is found by a court of competent jurisdiction to be invalid, the remaining provisions shall continue to be effective unless CITY or CONSULTANT elects to terminate this Agreement. The election to terminate this Agreement based upon this provision shall be made within seven (7) days after the findings by the court become final.

12.22 JOINT PREPARATION

Preparation of this Agreement has been a joint effort of CITY and CONSULTANT and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the Parties than any other.

12.23 PRIORITY OF PROVISIONS

If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this Agreement by reference and a term, statement, requirement, or provision of this Agreement, the term, statement,

requirement, or provision contained in Articles 1-11 of this Agreement shall prevail and be given effect.

12.24 APPLICABLE LAW AND VENUE AND WAIVER OF JURY TRIAL

The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

In the event Consultant is a corporation organized under the laws of any province of Canada or is a Canadian federal corporation, the City may enforce in the United States of America or in Canada or in both countries a judgment entered against CONSULTANT. CONSULTANT waives any and all defenses to the City's enforcement in Canada of a judgment entered by a court in the United States of America.

12.25 EXHIBITS

Each Exhibit referred to in this Agreement forms an essential part of this Agreement. The Exhibits, if not physically attached, should be treated as part of this Agreement, and are incorporated herein by reference.

12.26 ONE ORIGINAL AGREEMENT

This Agreement shall be executed in one (1) signed Agreement, treated as an original.

12.27 NOTICES

Whenever either Party desires to give notice unto the other, it must be given by written notice, sent by certified United States mail, with return receipt requested, addressed to the Party for whom it is intended, at the place last specified, and the place for giving of notice in compliance with the provisions of this paragraph. For the present, the Parties designate the following as the respective places for giving of notice, to-wit:

CITY: (Department director)
City of Fort Lauderdale
address
Fort Lauderdale, FL [REDACTED]
Telephone: (954) 828-[REDACTED]

With a copy to: City Manager
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, FL 33301
Telephone: (954) 828-5364

City Attorney
City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, FL 33301
Telephone: (954) 828-5037

CONSULTANT: NAME
COMPANY NAME
ADDRESS
STATE AND ZIP
[REDACTED]
Telephone [REDACTED]
Email: [REDACTED]

12.28 ATTORNEY FEES

If CITY or CONSULTANT incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

12.29 PERMITS, LICENSES AND TAXES

CONSULTANT shall, at its own expense, obtain all necessary permits and licenses, pay all applicable fees, and pay all applicable sales, consumer, use and other taxes required to comply with local ordinances, state and federal law.

CONSULTANT is responsible for reviewing the pertinent state statutes regarding state taxes and for complying with all requirements therein. Any change in tax laws after the execution of this Agreement will be subject to further negotiation and CONSULTANT shall be responsible for complying with all state tax requirements.

12.30 ENVIRONMENTAL, HEALTH AND SAFETY

CONSULTANT shall maintain a safe working environment during performance of the work. CONSULTANT shall comply, and shall secure compliance by its employees, agents, and sub-consultants, with all applicable environmental, health, safety and security laws and regulations, and performance conditions in this Agreement. Compliance with such requirements shall represent the minimum standard required of CONSULTANT. CONSULTANT shall be responsible for examining all requirements and determine whether additional or more stringent environmental, health, safety and security provisions are required for the work. CONSULTANT agrees to utilize protective devices as required by applicable laws, regulations, and any industry or CONSULTANT's health and safety plans and regulations, and to pay the costs and expenses thereof, and warrants that all such persons shall be fit and qualified to carry out the Work.

12.31 STANDARD OF CARE

CONSULTANT represents that he/she/it is qualified to perform the work, that CONSULTANT and his/her/its sub-consultants possess current, valid state and/or local licenses to perform the Work, and that their services shall be performed in a manner consistent with that level of care and skill ordinarily exercised by other qualified consultants under similar circumstances.

12.32 TRUTH-IN-NEGOTIATION CERTIFICATE

Signature of this Agreement by CONSULTANT shall act as the execution of a Truth-in-Negotiation Certificate stating that wage rates and other factual unit costs supporting the compensation of this Agreement are accurate, complete, and current at the time of contracting. The original contract price and any additions thereto shall be adjusted to exclude any significant sums, by which the CITY determines that contract price was increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs. All such contract adjustments must be made within one (1) year following the end of the contract.

12.33 EVALUATION

The CITY maintains the right to periodically review the performance of the CONSULTANT. This review will take into account the timely execution of Task Orders, the quality of the work performed, the cost to the CITY and the good faith efforts made by the CONSULTANT to maintain MBE/WBE participation in CITY

projects. Any deficiencies in performance will be described in writing and an opportunity afforded, where practicable, for the CONSULTANT to address and/or remedy such deficiencies.

12.34 STATUTORY COMPLIANCE

CONSULTANT shall prepare all documents and other materials for the Project in accordance with all applicable rules, laws, ordinances and governmental regulations of the State of Florida, Broward County, the City of Fort Lauderdale, Florida, and all governmental agencies having jurisdiction over the services to be provided by CONSULTANT under this Agreement or over any aspect or phase of the Project.

12.35 SCRUTINIZED COMPANIES

Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the “Cuba Amendment,” the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2021), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City’s option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2021), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2021), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2021), as may be amended or revised.

12.36 PUBLIC RECORDS

IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT’S DUTY TO PROVIDE PUBLIC RECORDS

**RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF
PUBLIC RECORDS AT
PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY
CLERK'S OFFICE, 100 NORTH ANDREWS AVENUE, FORT
LAUDERDALE, FLORIDA, 33301.**

Consultant shall:

1. Keep and maintain public records required by the City in order to perform the service.
2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2021), as may be amended or revised, or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this Agreement if CONSULTANT does not transfer the records to the City.
4. Upon completion of the Agreement, transfer, at no cost to the City, all public records in possession of CONSULTANT or keep and maintain public records required by the City to perform the service. If CONSULTANT transfers all public records to the City upon completion of this Agreement, CONSULTANT shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If CONSULTANT keeps and maintains public records upon completion of this Agreement, CONSULTANT shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

12.37 INTELLECTUAL PROPERTY

CONSULTANT shall protect and defend at CONSULTANT's expense, counsel being subject to the City's approval, and indemnify and hold harmless the City from and against any and all losses, penalties, fines, damages, settlements, judgments, claims, costs, charges, royalties, expenses, or liabilities, including any award of

attorney fees and any award of costs, in connection with or arising directly or indirectly out of any infringement or allegation of infringement of any patent, copyright, or other intellectual property right in connection with the CONSULTANT's or the CITY's use of any copyrighted, patented or un-patented invention, process, article, material, or device that is manufactured, provided, or used pursuant to this Agreement. If the CONSULTANT uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

12.38 RIGHTS IN DOCUMENTS AND WORK

Any and all reports, photographs, surveys, and other data and documents provided or created in connection with this Agreement are and shall remain the property of CITY; and CONSULTANT disclaims any copyright in such materials. In the event of and upon termination of this Agreement, any reports, photographs, surveys, and other data and documents prepared by CONSULTANT, whether finished or unfinished, shall become the property of City and shall be delivered by CONSULTANT to the CITY's Contract Administrator within seven (7) days of termination of this Agreement by either Party. Any compensation due to CONSULTANT shall be withheld until CONSULTANT delivers all documents to the CITY as provided herein.

12.39 REPRESENTATION OF AUTHORITY

Each individual executing this Agreement on behalf of a Party hereto hereby represents and warrants that he or she is, on the date he or she signs this Agreement, duly authorized by all necessary and appropriate action to execute this Agreement on behalf of such Party and does so with full legal authority.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals
the day and year first written above.

CITY

CITY OF FORT LAUDERDALE, a Florida
municipal corporation

By: _____
CHRISTOPHER J. LAGERBLOOM
City Manager

Date: _____

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form:
Alain E. Boileau, City Attorney

By: _____
RHONDA MONTTOYA HASAN
Assistant City Attorney

WITNESSES:

COMPANY NAME), a _____
 company/corporation authorized to conduct
 business in the State of Florida,

Print Name

Print Name

(CORPORATE SEAL)

STATE OF _____:

COUNTY OF _____:

The foregoing instrument was acknowledged before me by means of ☐ physical presence
 or ☐ online notarization, this _____ day of _____, 202__, by (NAME OF
 AUTHORIZED OFFICER) as _____ (TITLE OF AUTHORIZED OFFICER) for
 _____ (NAME OF COMPANY), a Florida _____ (TYPE OF COMPANY)
 authorized to conduct business in the State of Florida.

 (Signature of Notary Public - State of Florida)

 (Print, Type, or Stamp Commissioned
 Name of Notary Public)

Personally Known _____ OR Produced Identification _____
 Type of Identification Produced: _____

EXHIBIT A

DRAFT CONTRACT

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EXHIBIT "B"

DRAFT CONTRACT

EXHIBIT "C"

DRAFT CONTRACT

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CITY OF FORT LAUDERDALE

PUBLIC WATER SYSTEM CONSENT ORDER PROGRAM

WATER DISTRIBUTION MAPPING PLAN

OGC No. 19-1637
City Contract No. 12233-196

September 22, 2020

Prepared By:



7/29/2022 12:16 PM

p. 66

City of Fort Lauderdale
Water Distribution Mapping Plan

September 17, 2020

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City of Fort Lauderdale
Water Distribution Mapping Plan

September 17, 2020

1.0 Introduction and Background

As of September 3, 2020, the City of Fort Lauderdale's (City) Water Distribution System (WDTs) consists of approximately 18 miles of active raw water mains, 762 miles of active potable water distribution mains, 106 source water valves, 12,972 distribution system valves, 6,220 fire hydrant isolation valves, and 201 water air release valves.

The City maintains and operates a potable water system consisting of the following three main components: two (2) water treatment plants (WTPs): Fiveash WTP and the Peele-Dixie WTP; two (2) remote storage and repump facilities: Poinciana Park Water Tank & Pump Station and the Northwest 2nd Avenue Water Tank & Pump Station; and approximately 750 miles of water distribution pipeline. The City withdraws groundwater from the surficial Biscayne Aquifer from two active wellfields, the Dixie Wellfield (serving Peele-Dixie WTP) and the Prospect Wellfield (serving Fiveash WTP). The WTPs treat the raw groundwater to meet all water quality regulations and pump the finished water through the City's distribution system to its customers either directly or via the remote storage and repump facilities.

The City voluntarily entered into Constent Order (CO) Number 19-1637 with the Florida Department of Environmental Protection (FDEP) on July 24, 2020. The CO identifies corrective actions, with completion deadlines, to improve the water main distribution system within the City. The City has requested that WGI Inc. (WGI), create a water distribution mapping plan for developing a map of the existing water supply network in order to comply with sub-paragraph 5(d) of the CO. This mapping plan shall outline the development of a complete map of the existing water supply network for the City (Appendix 6.1) including all existing source and distribution mains, control valves, hydrants, air release valves (ARVs), water meters, inactive mains, and directional flow routes (being performed under a separate Task Order by others in coordination with the City).

The plan must be submitted by the City to FDEP for review and comment, within 60 days of the effective date of the CO, by September 22nd, 2020. The map showing the City's water supply network is included in Appendix 6.3

2.0 Public Water System Existing Data Review

WGI has acquired and reviewed information regarding the City's water distribution system to develop the Mapping Plan. The City has existing datasets for all existing source and distribution mains, control valves, hydrants, ARVs, water meters, inactive mains, and directional flow route features with attributes of related information, such as pipe size and material. The data is managed in the City's geographic information system (GIS) and was acquired through field data collection and as-built plans. Not all of the existing data available has been field verified for spatial accuracy and is being used in the water distribution mapping plan solely for reference information and relative locations to guide the field verifications and survey-grade adjustments of the appurtenances. The inventory method is identified via an "Inventory Flag" field in each feature class. The attributes of existing layers will be reviewed for accuracy and completeness and information will be updated accordingly.

3.0 Water Distribution Mapping Plan Methodology

The plan to map the City's water distribution system will be comprised of two main steps as outlined below. Utilizing the City's Water Distribution Atlas Map, consisting of 63 grids, 10 data collection zones (Appendix 6.2) were created to facilitate the best allocation of resources for field collection and

City of Fort Lauderdale
Water Distribution Mapping Plan

September 17, 2020

coordination with City staff, maintenance of schedule with delivery milestones and public outreach done by the City on an as needed basis. During the course of the mapping, newly installed assets resulting in new developments, annexations, or other means of acquisition will be spatially located through field verification using Subsurface Utility Engineering (SUE) performed by WGI. Resulting as-builts or onsite construction inspections/permitting will be incorporated into the Water Distribution Map and geodatabase by the City.

3.1 Water Distribution Mapping Plan Data Collection and Processing

Mapping of the water distribution and source mains will be done in accordance with Florida Statutes 472 and Chapter 5J-17 as well as ASCE 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." (Figure 1) This includes direct induction of toneable subsurface utility facilities from surface accessible features. Toneable subsurface utilities will be designated using passive frequencies (60Hz, 60 Hz x 5, 60Hz x 9+4 KHz), low (4KHz – 15KHz) and high (15 KHz – 38KHz) radio frequencies and generally prescribed geophysical prospecting techniques. Non-toneable utilities will be designated using multichannel Ground Penetrating Radar (GPR). Detected facilities will be marked with American Public Works Association (APWA) compliant colors, flags on soft ground and washable chalk on hard surfaces.

ASCE 38-02 Quality Level B (QLB) designates of the source and water distribution mains, marked with American Public Works Association (APWA) compliant colors; flags and water-based paint on soft ground and washable chalk/water-based paint on hard surfaces, along with roadway level features located in dense urban areas or other areas obstructed from GNSS satellite systems will be spatially located using mobile LiDAR, maintaining survey-grade accuracy. Leveraging the City's existing GIS datasets and geodatabase schema design, WGI will utilize Esri's Collector for ArcGIS (Collector). Collector is a configurable mobile field data acquisition application that will be accessible on a tablet and will allow the data to sync to a cloud server, ArcGIS Online (AGOL) and Portal for Enterprise for real-time access.

Attributes of the pipes will be collected during the ASCE 38-02 Quality Level A (QLA) Investigation (test hole) phase using the GIS Collector application. Survey-grade GPS receivers will be connected to the tablet to ensure accurate spatial locations. The schema will provide the requirements for the attributes collected to reduce human error during acquisition with dropdown choices, data types, and character lengths. Following feature extraction from point cloud LiDAR data, the attribute information will be synced with the survey location through a spatial join. Conventional surveying methods will be utilized in areas where GPS or LiDAR collection is not feasible.

Verification of pipe attributes, such as size and material and confirmation of both horizontal and vertical locations will be done via vacuum excavation (test holes) in accordance with the ASCE 38-02 Standards for collecting and mapping Quality Level A data. Survey and collection of the test holes will be performed using same data collection methods as mentioned above for Quality Level B data. This test hole data will be included in the utility basemap provided to the City. WGI recommends that test holes also be performed at water main bore crossings of waterways, where accessible to accurately depict the horizontal alignment of the bores. Existing bore information provided by the City will be utilized to supplement this field collection effort.

City of Fort Lauderdale
Water Distribution Mapping Plan

September 17, 2020

Per the CO, mapping of the service lines will be accomplished through mapping of the meters/meter boxes. The spatial location of these meters, including raw water and distribution system mains, valves, hydrants, ARVs, water meters, inactive mains, and directional flow routes and related appurtenances with shut-off valves, will be collected using a survey grade Trimble GPS receiver. The receiver will be attached to a mobile device using Collector application via Bluetooth. The integration of the receiver and GIS application will allow for efficient processing with reduction in human error.

All spatial data collection will be supervised by a Florida Professional Land Surveyor in accordance with Florida Statutes 472 and Chapter 5J-17 and ASCE 38-02 with a corresponding Surveyor's Report. The GIS data collection and processing will be managed by a certified Geographic Information System Professional (GISP).

3.2 Water Distribution Mapping Plan Data Deliverable

The City's public water system features (existing source and distribution mains, control valves, hydrants, ARVs, water meters, inactive mains, and directional flow routes) will be mapped and datasets will be delivered in a geodatabase preserving the facility IDs for seamless integration into the City's existing GIS, meeting the requirements for Cityworks®, the asset management system the City anticipates implementing in May 2021 (see Appendix 6.5-6.8). The geodatabase will be accompanied by Federal Geographic Data Committee (FGDC) compliant metadata.

4.0 Water Distribution Mapping Plan Schedule and Milestones

As per the CO sub-paragraph 5(d), executed July 24, 2020, the City has 36 months to complete all mapping. WGI has assigned dedicated resources to conduct the field data collection and GIS/CAD technicians to process the data and create the final GIS geodatabase deliverable. A GIS geodatabase and corresponding AutoCAD utility basemap with supporting datasets will be delivered to the City as a preliminary geodatabase and/or an interactive operations dashboard throughout the duration of the project. Delivery milestones will be set for every six months for the duration of the project to assess timeliness of data collection, processing, and provide additional QC opportunities (see Figure 2).

WGI purposes to submit to the City a preliminary geodatabase, end of June 2021, with Zones 1 and 2 completed. This milestone will coincide with the First Annual Report submitted to the FDEP per the CO subparagraph 5(a). Subsequent geodatabase deliverables are anticipated on a bi-annual basis to the City and will be governed by zone completion schedule with a possibility of zone-specific submittals.

The overall schedule to complete the water distribution mapping of all public water system features to be delivered to the City will be approximately 32 months. Commencing November 2020 through June 2023 (see Appendix 6.4), with the assumption that all subsequent task orders will be issued by the City in a timely manner. Data will be submitted to the City for a written certification of compliance with the CO sub-paragraph 5(d).

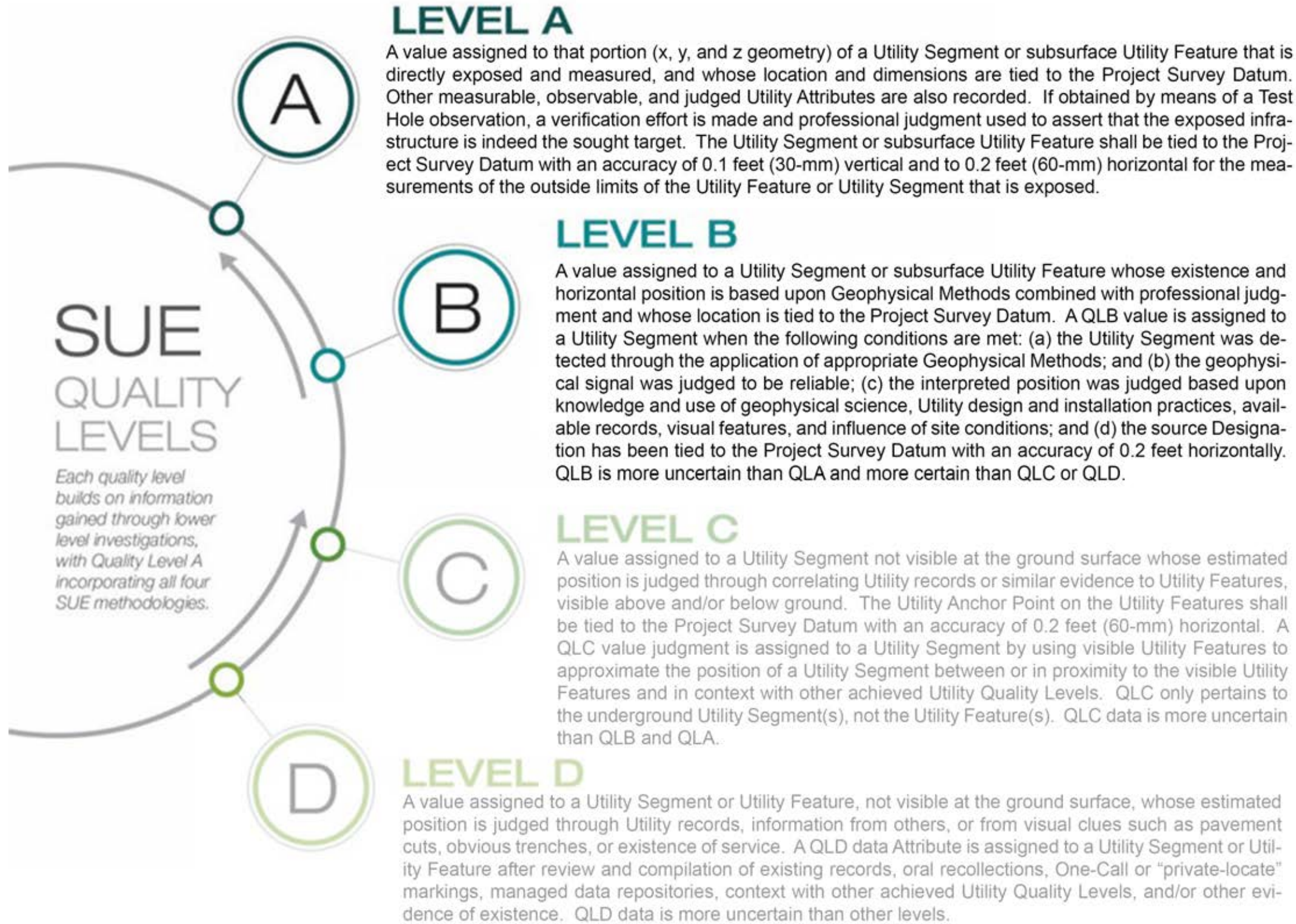


Figure 1. ASCE 38-02 Quality Levels

City of Fort Lauderdale
Water Distribution Mapping Plan

September 17, 2020

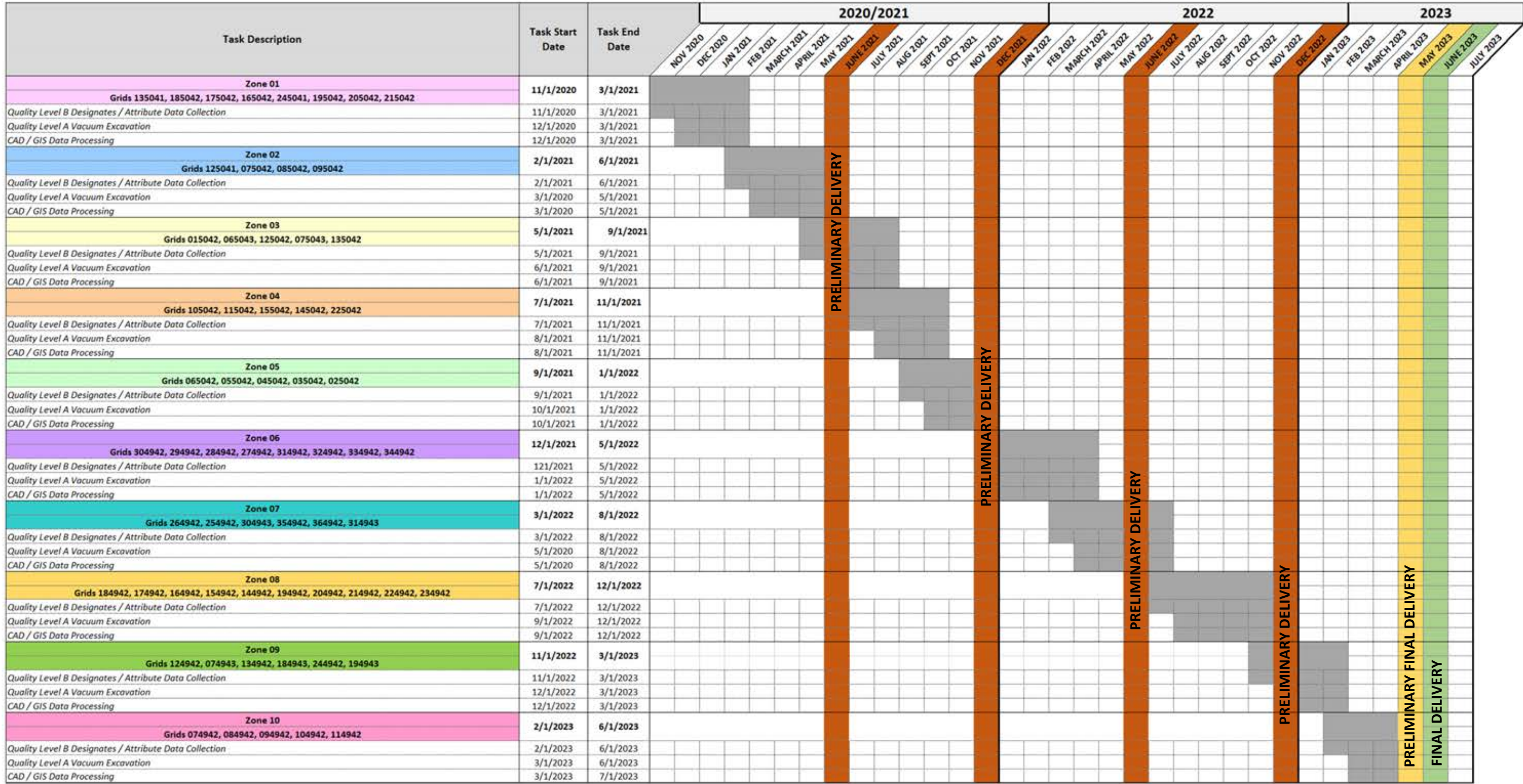
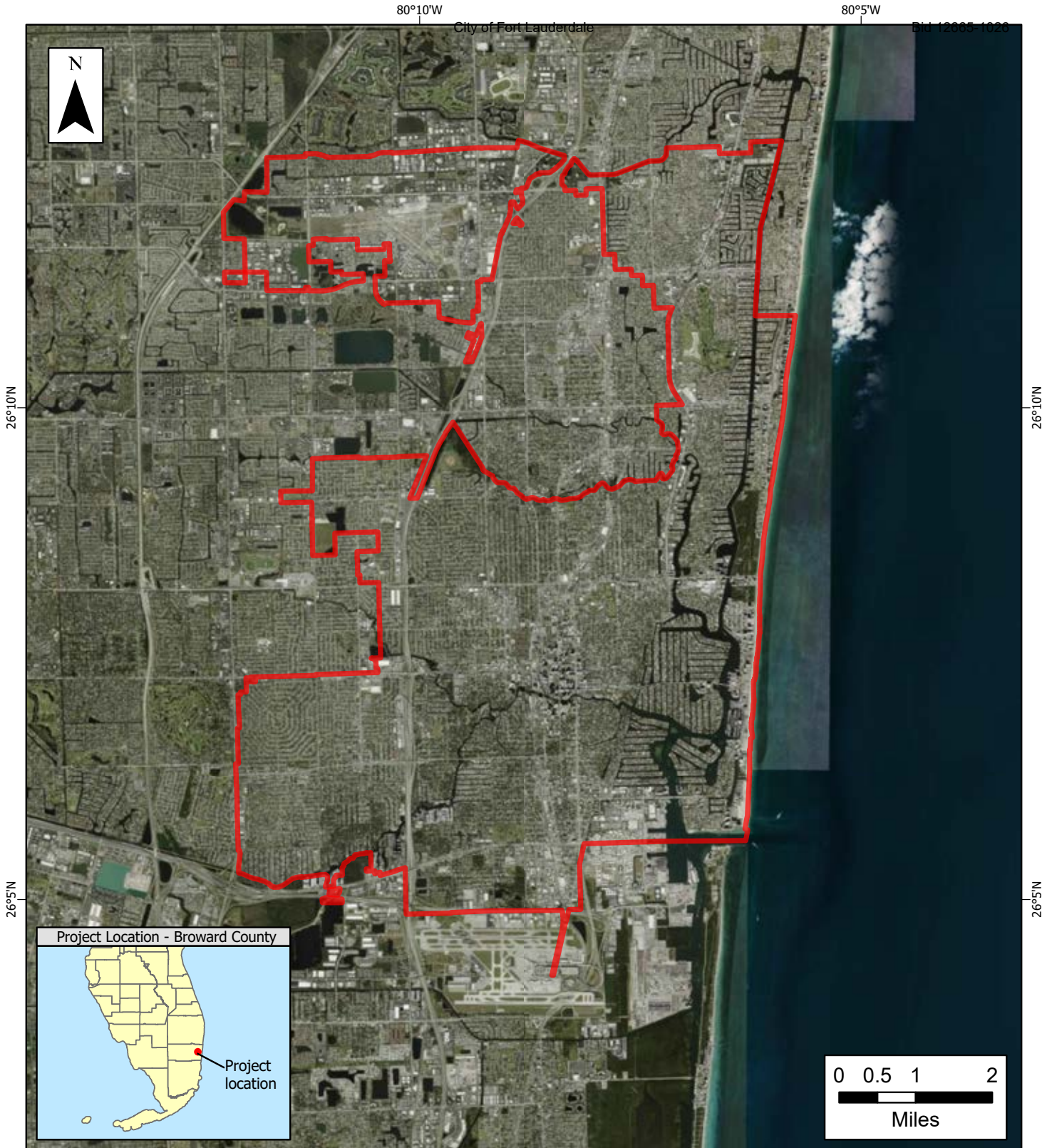




Figure 2. Water Distribution Mapping Plan Schedule

5.0 Maintenance of Water Distribution Map

Throughout the 3-year duration of the water distribution mapping plan project, during routine maintenance activities by City staff, new developments, annexations, or other means of acquisition and as new construction is completed, the City will incorporate as-built drawings of the new components into the Water Distribution Map and geodatabase. Conversion and geodatabase input of as-built plans from previous City projects, dating back four years, will be performed by the City. The mode of mapping will be documented in the geodatabase.

6.0 Appendix



| | | |
|---|---|---|
|   | <h2 style="text-align: center;">Project Location Map</h2> <h3 style="text-align: center;">City of Fort Lauderdale Distribution Mapping Plan</h3> <p style="text-align: center;">Broward County, Florida</p> | <div style="border: 1px solid red; width: 20px; height: 10px; display: inline-block; margin-right: 5px;"></div> City Boundary <div style="font-size: 0.8em; margin-top: 10px;"> Map prepared by WGL, September 10th, 2020, Coordinate System used: NAD 1983 Florida State Plane East FIPS 0901 Feet. Data source: City boundary provided by the City of Fort Lauderdale, World Imagery Basemap provided by ESRI Online Services. </div> |
| <p style="text-align: center; font-size: 1.2em;">Appendix 6.1</p> <p style="font-size: 0.8em;">7/29/2022 12:16 PM</p> | | <p style="text-align: right; font-size: 0.8em;">p. 75</p> |

80°10'W

80°5'W

City of Fort Lauderdale

Bid 12005-1026

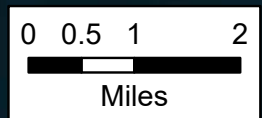
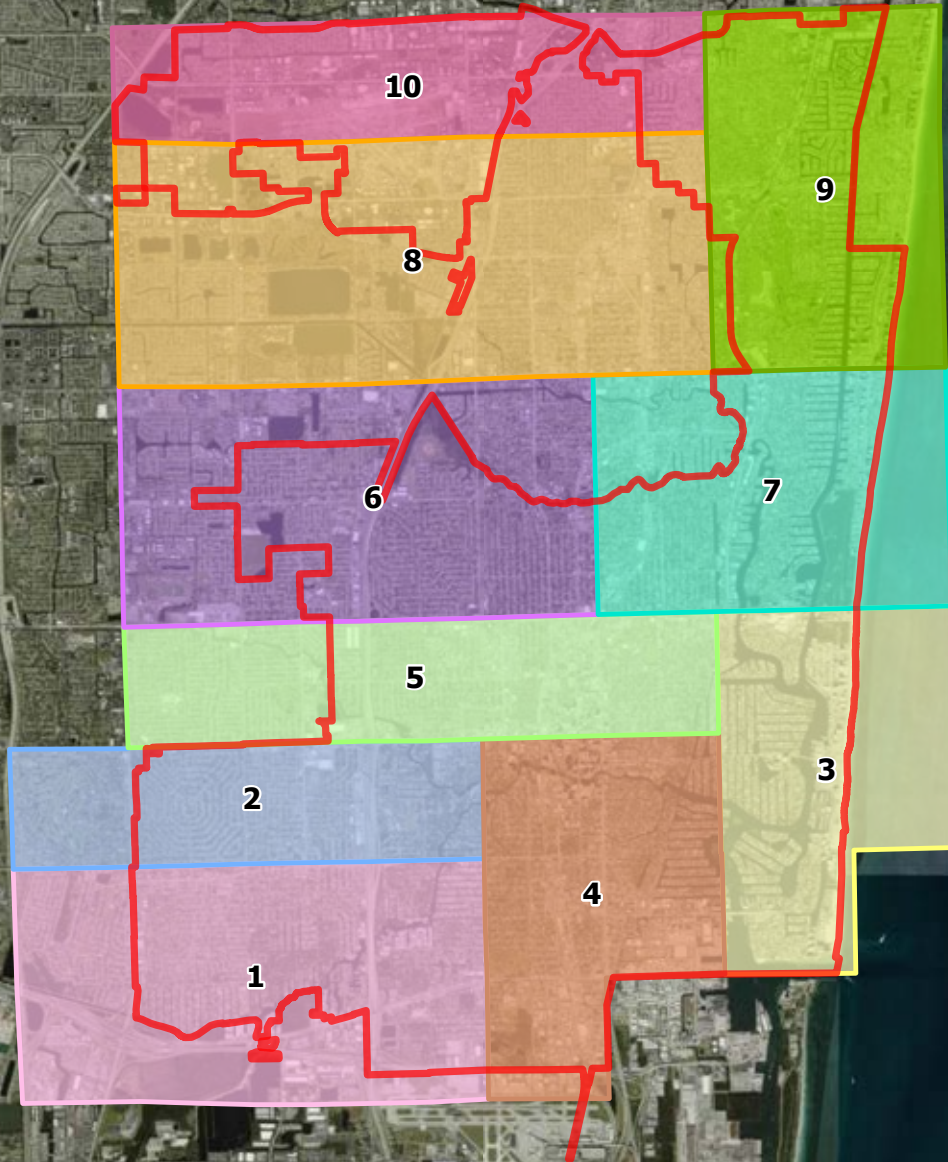


26°10'N

26°10'N

26°5'N

26°5'N



Appendix 6.2

7/29/2022 12:16 PM

Zone Key Map City of Fort Lauderdale Distribution Mapping Plan Broward County, Florida

| Zones | | | |
|---------------|----|---|--|
| 1 | 4 | 7 | |
| 2 | 5 | 8 | |
| 3 | 6 | 9 | |
| | 10 | | |
| City Boundary | | | |

Map prepared by WGL, September 10th, 2020, Coordinate System used: NAD 1983 Florida State Plane East FIPS 0901 Feet. Data source: City boundary provided by the City of Fort Lauderdale, Zones created from Grids provided by the City of Fort Lauderdale, World Imagery Basemap provided by ESRI Online Services.

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EXHIBIT B

CAM #22-1089
Exhibit 2
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80°10'W

80°5'W

City of Fort Lauderdale

Bid 12005-1026

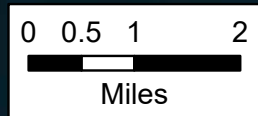


26°10'N

26°10'N

26°5'N

26°5'N



Appendix 6.3

7/29/2022 12:16 PM

Public Water Distribution System Map City of Fort Lauderdale Distribution Mapping Plan Broward County, Florida

- Pressurized water mains
- City Boundary
- Grids

Map prepared by WGL, September 10th, 2020. Coordinate System used: NAD 1983 Florida State Plane East FIPS 0901. Feet. Data source: Pressurized water mains, City boundary and Grids provided by the City of Fort Lauderdale, World Imagery Basemap provided by ESRI Online Services.

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EXHIBIT B

CAM #22-1089
Exhibit 2
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80°10'W

80°5'W

City of Fort Lauderdale

Bid 12005-1026

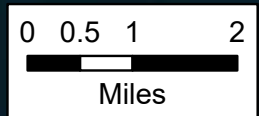
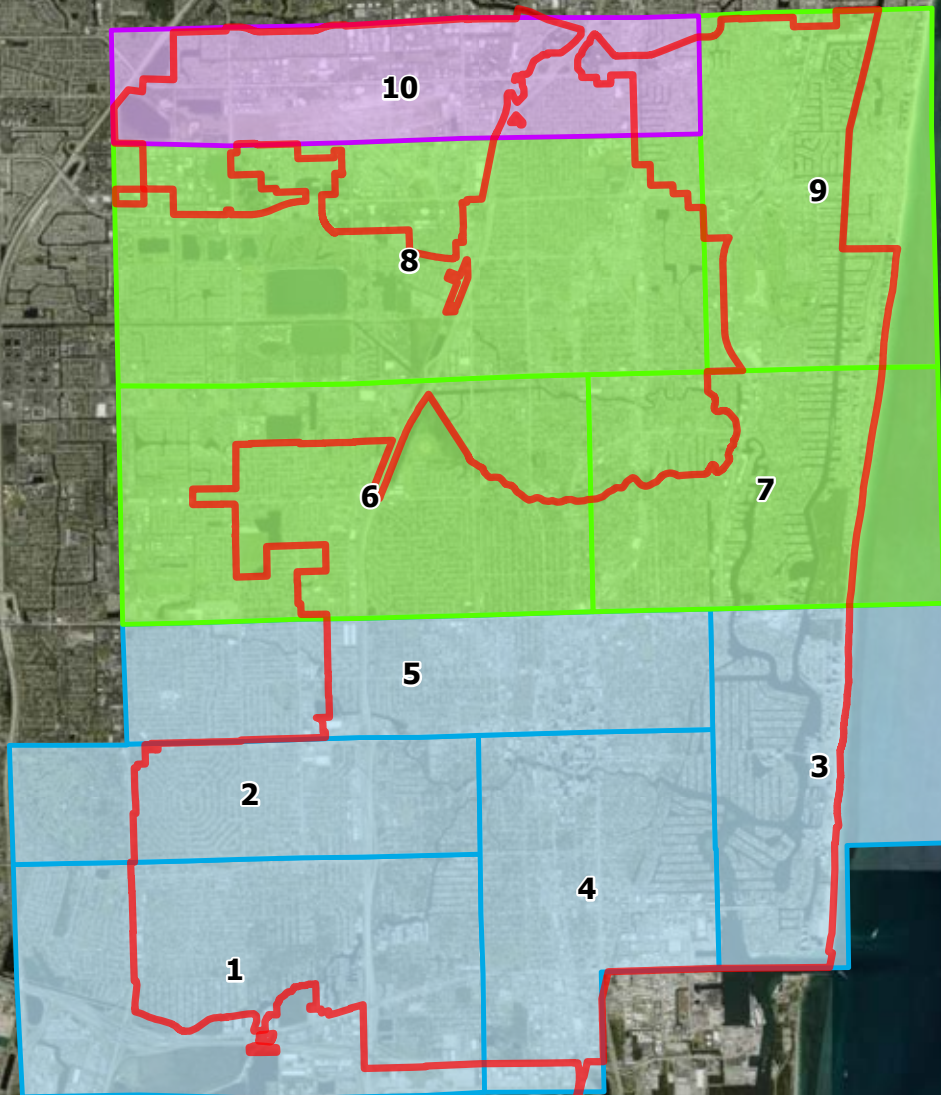


26°10'N

26°10'N

26°5'N

26°5'N



Water Distribution Mapping Plan Schedule City of Fort Lauderdale Distribution Mapping Plan Broward County, Florida

- 2020/2021
- 2022/2023
- 2023
- City Boundary

Map prepared by WGL, September 10th, 2020, Coordinate System used: NAD 1983 Florida State Plane East FIPS 0901 Feet. Data source: City Boundary provided by the City of Fort Lauderdale, Schedule prepared by WGL from Grids provided by the City of Fort Lauderdale, World Imagery Basemap provided by ESRI Online Services.

Appendix 6.4

7/29/2022 12:16 PM

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EXHIBIT B

CAM #22-1089
Exhibit 2
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Raw Water and Distribution Main Dataset

| | |
|------------------|--|
| FeatureClassName | wPressurizedMain |
| DatasetType | FeatureClass |
| Description | Water distribution mains. |
| FeatureDataset | Water |
| Tags | WaterDistribution, Water Distribution, Mains |
| ShapeType | Polyline |
| FeatureType | Simple |
| AliasName | w Mains |
| HasM | false |
| HasZ | false |
| SubtypeFieldName | null |
| DefaultSubtype | null |
| DSID | 5070 |

| Fields | | | | | | | | | | | |
|---------------|--------------|--------|---|----------------------|----------------|--------------|------------|-----------|-------|----------|-------------|
| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
| FACILITYNUM | Integer | 4 | Locally assigned numeric unique identifier populated by database admin created database trigger | Facility Number | null | null | true | 10 | 0 | null | null |
| FACILITYID | String | 20 | Locally assigned alpha-numeric unique identifier populated by database admin created database trigger | Facility Identifier | null | null | true | 0 | 0 | null | null |
| LEGACYID | String | 20 | Former asset identifier. To be moved to a related table. | Legacy ID (Unit ID) | null | null | true | 0 | 0 | null | null |
| DIAMETER | Double | 8 | The diameter of the asset | Diameter | piPipeDiameter | null | true | 38 | 8 | null | null |
| MATERIAL | String | 20 | The construction material of the asset | Material | piPipeMaterial | null | true | 0 | 0 | null | null |
| WATERTYPE | String | 20 | Identifies the type of water in the pipe | Water Type | wWaterType | null | true | 0 | 0 | null | null |
| ACTIVESTATUS | String | 10 | Identifies whether the asset is in use, not in use or removed from the ground | Active Status | piActiveStatus | Active | true | 0 | 0 | null | null |
| ACTIVEFLAG | SmallInteger | 2 | Identifies whether the feature is in use/active | Active Flag | BooleanDomain | 1 | true | 5 | 0 | null | null |
| INVCLASS | String | 20 | The method used to establish the geographic location of the asset | Inventory Class | InventoryClass | null | true | 0 | 0 | null | null |
| COLLECTEDDATE | Date | 8 | Date the feature was located by a surveyor | GPS Collected Date | null | null | true | 0 | 0 | null | null |
| OWNEDBY | SmallInteger | 2 | Indicates which organization owns the asset | Owned By | AssetOwner | 1 | true | 5 | 0 | null | null |
| MAINTBY | SmallInteger | 2 | Indicates which organization maintains the asset | Managed By | AssetManager | 1 | true | 5 | 0 | null | null |
| INSTALLDATE | Date | 8 | The date the asset was installed | Install Date | null | null | true | 0 | 0 | null | null |
| LOCATION | String | 200 | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. | Location Description | null | null | true | 0 | 0 | null | null |
| ADDRESS | String | 50 | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. | Closest Address | null | null | true | 0 | 0 | null | null |
| PURCHASEDATE | Date | 8 | The purchase date of the asset. Used for future asset management analysis. | Purchase Date | null | null | true | 0 | 0 | null | null |
| WARRANTYDATE | Date | 8 | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | Warranty Date | null | null | true | 0 | 0 | null | null |

Raw Water and Distribution Main Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|-----------------|--------------|--------|---|--------------------------|---------------|--------------|------------|-----------|-------|----------|-------------|
| ASSETCOST | Double | 8 | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | Asset Cost | null | null | true | 38 | 8 | null | null |
| CONDITION | SmallInteger | 2 | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | Condition Rating | null | null | true | 5 | 0 | null | null |
| CONDITIONDATE | Date | 8 | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | Condition Date | null | null | true | 0 | 0 | null | null |
| SERVICELIFE | SmallInteger | 2 | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | Service Life | null | null | true | 5 | 0 | null | null |
| RUL | SmallInteger | 2 | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | Remaining Useful Life | null | null | true | 5 | 0 | null | null |
| COF | SmallInteger | 2 | The consequence of failure. Used in the BRE model as the impact due to asset failure. | Consequence of Failure | null | null | true | 5 | 0 | null | null |
| POF | SmallInteger | 2 | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure | null | null | true | 5 | 0 | null | null |
| BRE | SmallInteger | 2 | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure | null | null | true | 5 | 0 | null | null |
| LASTINSPECTDATE | Date | 8 | The date the asset was most recently inspected | Last Inspection Date | null | null | true | 0 | 0 | null | null |
| LASTMAINTDATE | Date | 8 | The date of the most recent maintenance activity | Last Maintenance Date | null | null | true | 0 | 0 | null | null |
| PROJECTNUM | String | 10 | The City's Project Number, DE Number, or Improvement Number under which the asset was installed | City Project Number | null | null | true | 0 | 0 | null | null |
| FILENUM | String | 10 | The City's File Number used to store the as-built documents for the asset | City File Number | null | null | true | 0 | 0 | null | null |
| WORKORDERNUM | String | 60 | The work order number for performing work on the asset (Cityworks, Qalert, etc) | City Work Order Number | null | null | true | 0 | 0 | null | null |
| SURVEYRPTNUM | String | 10 | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number | Surveyor's Report Number | null | null | true | 0 | 0 | null | null |
| DEPTH | Double | 8 | Depth to the top of pipe | Depth | null | null | true | 38 | 8 | null | null |
| CASING | String | 10 | Identifies whether the asset is enclosed in casing | Casing | YesNo | null | true | 0 | 0 | null | null |
| TRANSMISS | String | 10 | Identifies whether the main is part of the transmission system, which is compromised of pipes with a diameter of 16 inches and above. | Transmission System | YesNo | null | true | 0 | 0 | null | null |
| DEADEND | String | 5 | Identifies whether the pipe is a dead end | Dead End | YesNo | null | true | 0 | 0 | null | null |
| ENABLED | SmallInteger | 2 | Indicates if the asset is enabled within a geometric network | Enabled Flag | BooleanDomain | null | true | 5 | 0 | null | null |

Raw Water and Distribution Main Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|------------------|----------|--------|---|------------------|------------|--------------|------------|-----------|-------|----------|-------------|
| FIELDNOTES | String | 255 | Comments or notes from field staff, including surveyors, that are relevant to the asset | Field Notes | null | null | true | 0 | 0 | null | null |
| NOTES | String | 255 | GIS entry notes or comments relevant to the asset | GIS Notes | null | null | true | 0 | 0 | null | null |
| created_user | String | 255 | created_user | Created User | null | null | true | 0 | 0 | null | null |
| created_date | Date | 8 | created_date | Created Date | null | null | true | 0 | 0 | null | null |
| last_edited_user | String | 255 | last_edited_user | Last Edited User | null | null | true | 0 | 0 | null | null |
| last_edited_date | Date | 8 | last_edited_date | Last Edited Date | null | null | true | 0 | 0 | null | null |
| GlobalID | GlobalID | 38 | GlobalID | GlobalID | null | null | false | 0 | 0 | true | null |

System Valve Dataset

| | |
|------------------|---|
| FeatureClassName | wSystemValve |
| DatasetType | FeatureClass |
| Description | Water network valves used to isolate mains for maintenance and repair |
| FeatureDataset | Water |
| Tags | WaterDistribution, Water Distribution, System Valve |
| ShapeType | Point |
| FeatureType | Simple |
| AliasName | w System Valves |
| HasM | false |
| HasZ | false |
| SubtypeFieldName | null |
| DefaultSubtype | null |
| DSID | 5065 |

| Fields | | | | | | | | | | | |
|---------------|--------------|--------|---|----------------------|-------------------|--------------|------------|-----------|-------|----------|-------------|
| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
| FACILITYNUM | Integer | 4 | Locally assigned numeric unique identifier populated by database admin created database trigger | Facility Number | null | null | true | 10 | 0 | null | null |
| FACILITYID | String | 20 | Locally assigned alpha-numeric unique identifier populated by database admin created database trigger | Facility Identifier | null | null | true | 0 | 0 | null | null |
| LEGACYID | String | 20 | Former asset identifier. To be moved to a related table. | Legacy ID (Unit ID) | null | null | true | 0 | 0 | null | null |
| DIAMETER | Double | 8 | The diameter of the asset | Diameter | piPipeDiameter | null | true | 38 | 8 | null | null |
| VALVETYPE | String | 50 | Type of control valve | Valve Type | piSystemValveType | null | true | 0 | 0 | null | null |
| WATERTYPE | String | 20 | Identifies the type of water in the pipe | Water Type | wWaterType | null | true | 0 | 0 | null | null |
| BYPASSVALVE | SmallInteger | 2 | Identifies whether the asset is a bypass valve | Bypass Valve? | BooleanDomain | null | true | 5 | 0 | null | null |
| ACTIVESTATUS | String | 10 | Identifies whether the asset is in use, not in use or removed from the ground | Active Status | piActiveStatus | Active | true | 0 | 0 | null | null |
| ACTIVEFLAG | SmallInteger | 2 | Identifies whether the feature is in use/active | Active Flag | BooleanDomain | 1 | true | 5 | 0 | null | null |
| INVCLASS | String | 20 | The method used to establish the geographic location of the asset | Inventory Class | InventoryClass | null | true | 0 | 0 | null | null |
| COLLECTEDDATE | Date | 8 | Date the feature was located by a surveyor | GPS Collected Date | null | null | true | 0 | 0 | null | null |
| OWNEDBY | SmallInteger | 2 | Indicates which organization owns the asset | Owned By | AssetOwner | 1 | true | 5 | 0 | null | null |
| MAINTBY | SmallInteger | 2 | Indicates which organization maintains the asset | Managed By | AssetManager | 1 | true | 5 | 0 | null | null |
| INSTALLDATE | Date | 8 | The date the asset was installed | Install Date | null | null | true | 0 | 0 | null | null |
| LOCATION | String | 200 | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. | Location Description | null | null | true | 0 | 0 | null | null |
| ADDRESS | String | 50 | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. | Closest Address | null | null | true | 0 | 0 | null | null |
| PURCHASEDATE | Date | 8 | The purchase date of the asset. Used for future asset management analysis. | Purchase Date | null | null | true | 0 | 0 | null | null |
| WARRANTYDATE | Date | 8 | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | Warranty Date | null | null | true | 0 | 0 | null | null |

System Valve Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|-----------------|--------------|--------|---|--------------------------|---------------|--------------|------------|-----------|-------|----------|-------------|
| ASSETCOST | Double | 8 | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | Asset Cost | null | null | true | 38 | 8 | null | null |
| CONDITION | SmallInteger | 2 | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | Condition Rating | null | null | true | 5 | 0 | null | null |
| CONDITIONDATE | Date | 8 | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | Condition Date | null | null | true | 0 | 0 | null | null |
| SERVICELIFE | SmallInteger | 2 | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | Service Life | null | null | true | 5 | 0 | null | null |
| RUL | SmallInteger | 2 | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | Remaining Useful Life | null | null | true | 5 | 0 | null | null |
| COF | SmallInteger | 2 | The consequence of failure. Used in the BRE model as the impact due to asset failure. | Consequence of Failure | null | null | true | 5 | 0 | null | null |
| POF | SmallInteger | 2 | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure | null | null | true | 5 | 0 | null | null |
| BRE | SmallInteger | 2 | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure | null | null | true | 5 | 0 | null | null |
| LASTINSPECTDATE | Date | 8 | The date the asset was most recently inspected | Last Inspection Date | null | null | true | 0 | 0 | null | null |
| LASTMAINTDATE | Date | 8 | The date of the most recent maintenance activity | Last Maintenance Date | null | null | true | 0 | 0 | null | null |
| MANUFACTURER | String | 50 | The manufacturer or brand of the asset | Manufacturer | wManufacturer | null | true | 0 | 0 | null | null |
| SERIALNUM | String | 30 | The manufacturer assigned serial number of the asset. Warranties may be tied to the asset's serial number. | Serial Number | null | null | true | 0 | 0 | null | null |
| PROJECTNUM | String | 10 | The City's Project Number, DE Number, or Improvement Number under which the asset was installed | City Project Number | null | null | true | 0 | 0 | null | null |
| FILENUM | String | 10 | The City's File Number used to store the as-built documents for the asset | City File Number | null | null | true | 0 | 0 | null | null |
| WORKORDERNUM | String | 60 | The work order number for performing work on the asset (Cityworks, Qalert, etc) | City Work Order Number | null | null | true | 0 | 0 | null | null |
| SURVEYRPTNUM | String | 10 | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number | Surveyor's Report Number | null | null | true | 0 | 0 | null | null |
| XCOORD | Double | 8 | X-Coordinate of the asset (FL State Plane-East) | X Coordinate | null | null | true | 38 | 8 | null | null |
| YCOORD | Double | 8 | Y-Coordinate of the asset (FL State Plane-East) | Y Coordinate | null | null | true | 38 | 8 | null | null |
| ZCOORD | Double | 8 | Z-Coordinate of the asset | Z Coordinate | null | null | true | 38 | 8 | null | null |
| HDRFLAG | String | 5 | Identifies whether the asset is a hydrant valve | Hydrant Valve? | YesNo | null | true | 0 | 0 | null | null |

System Valve Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|------------------|--------------|--------|---|----------------------|----------------------|--------------|------------|-----------|-------|----------|-------------|
| DEPTH | Double | 8 | The depth, in feet, to the top of the nut of the asset | Depth to Nut | null | null | true | 38 | 8 | null | null |
| NORMALLYOPEN | SmallInteger | 2 | Identifies whether the asset is normally open | Normally Open? | BooleanDomain | 1 | true | 5 | 0 | null | null |
| TURNDIRECTION | String | 20 | The turn direction to close the asset, as in clockwise or counter clockwise | Turn Close Direction | piValveTurnDirection | null | true | 0 | 0 | null | null |
| TURNSTOCLOSE | Integer | 4 | The number of turns required to close the asset | Turns to Close | null | null | true | 10 | 0 | null | null |
| OPERABLE | SmallInteger | 2 | Identifies whether the valve or hydrant can be operated | Operable | BooleanDomain | 1 | true | 5 | 0 | null | null |
| CURROPEN | SmallInteger | 2 | Identifies whether the asset is currently open | Currently Open? | BooleanDomain | null | true | 5 | 0 | null | null |
| ROTATION | Double | 8 | Map symbol rotation value | Rotation | null | null | true | 38 | 8 | null | null |
| ENABLED | SmallInteger | 2 | Indicates if the asset is enabled within a geometric network | Enabled Flag | BooleanDomain | null | true | 5 | 0 | null | null |
| FIELDNOTES | String | 255 | Comments or notes from field staff, including surveyors, that are relevant to the asset | Field Notes | null | null | true | 0 | 0 | null | null |
| NOTES | String | 255 | GIS entry notes or comments relevant to the asset | GIS Notes | null | null | true | 0 | 0 | null | null |
| created_user | String | 255 | created_user | Created User | null | null | true | 0 | 0 | null | null |
| created_date | Date | 8 | created_date | Created Date | null | null | true | 0 | 0 | null | null |
| last_edited_user | String | 255 | last_edited_user | Last Edited User | null | null | true | 0 | 0 | null | null |
| last_edited_date | Date | 8 | last_edited_date | Last Edited Date | null | null | true | 0 | 0 | null | null |
| GlobalID | GlobalID | 38 | GlobalID | GlobalID | null | null | false | 0 | 0 | true | true |

Control Valve Dataset

| | |
|------------------|---|
| FeatureClassName | swControlValve |
| DatasetType | FeatureClass |
| Description | Stormwater network valves that have a flow control mechanism. |
| FeatureDataset | Stormwater |
| Tags | Stormwater |
| ShapeType | Point |
| FeatureType | Simple |
| AliasName | sw Control Valves |
| HasM | false |
| HasZ | false |
| SubtypeFieldName | null |
| DefaultSubtype | null |
| DSID | 84 |

| Fields | | | | | | | | | | | |
|---------------|--------------|--------|---|----------------------|--------------------|--------------|------------|-----------|-------|----------|-------------|
| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
| FACILITYNUM | Integer | 4 | Locally assigned numeric unique identifier populated by database admin created database trigger | Facility Number | null | null | true | 10 | 0 | null | null |
| FACILITYID | String | 20 | Locally assigned alpha-numeric unique identifier populated by database admin created database trigger | Facility Identifier | null | null | true | 0 | 0 | null | null |
| LEGACYID | String | 20 | Former asset identifier. To be moved to a related table. | Legacy ID (Unit ID) | null | null | true | 0 | 0 | null | null |
| VALVETYPE | String | 30 | Type of control valve | Valve Type | piControlValveType | null | true | 0 | 0 | null | null |
| DIAMETER | Double | 8 | The diameter of the asset | Diameter | piPipeDiameter | null | true | 38 | 8 | null | null |
| ACTIVESTATUS | String | 10 | Identifies whether the asset is in use, not in use or removed from the ground | Active Status | piActiveStatus | Active | true | 0 | 0 | null | null |
| INVCLASS | String | 20 | The method used to establish the geographic location of the asset | Inventory Class | InventoryClass | null | true | 0 | 0 | null | null |
| COLLECTEDDATE | Date | 8 | Date the feature was located by a surveyor | GPS Collected Date | null | null | true | 0 | 0 | null | null |
| OWNEDBY | SmallInteger | 2 | Indicates which organization owns the asset | Owned By | AssetOwner | 1 | true | 5 | 0 | null | null |
| MAINTBY | SmallInteger | 2 | Indicates which organization maintains the asset | Managed By | AssetManager | 1 | true | 5 | 0 | null | null |
| INSTALLDATE | Date | 8 | The date the asset was installed | Install Date | null | null | true | 0 | 0 | null | null |
| LOCATION | String | 200 | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. | Location Description | null | null | true | 0 | 0 | null | null |
| ADDRESS | String | 50 | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. | Closest Address | null | null | true | 0 | 0 | null | null |
| PURCHASEDATE | Date | 8 | The purchase date of the asset. Used for future asset management analysis. | Purchase Date | null | null | true | 0 | 0 | null | null |
| WARRANTYDATE | Date | 8 | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | Warranty Date | null | null | true | 0 | 0 | null | null |
| ASSETCOST | Double | 8 | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | Asset Cost | null | null | true | 38 | 8 | null | null |

Control Valve Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|---------------|--------------|--------|---|-------------------------|-----------------|--------------|------------|-----------|-------|----------|-------------|
| CONDITION | SmallInteger | 2 | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | Condition Rating | piConditionPACP | null | true | 5 | 0 | null | null |
| CONDITIONDATE | Date | 8 | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | Condition Date | null | null | true | 0 | 0 | null | null |
| SERVICELIFE | SmallInteger | 2 | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | Service Life | null | null | true | 5 | 0 | null | null |
| RUL | SmallInteger | 2 | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | Remaining Useful Life | null | null | true | 5 | 0 | null | null |
| COF | SmallInteger | 2 | The consequence of failure. Used in the BRE model as the impact due to asset failure. | Consequence of Failure | null | null | true | 5 | 0 | null | null |
| POF | SmallInteger | 2 | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure | null | null | true | 5 | 0 | null | null |
| BRE | SmallInteger | 2 | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure | null | null | true | 5 | 0 | null | null |
| LASTMAINTDATE | Date | 8 | The date of the most recent maintenance activity | Last Maintenance Date | null | null | true | 0 | 0 | null | null |
| MANUFACTURER | String | 50 | The manufacturer or brand of the asset | Manufacturer | swManufacturer | null | true | 0 | 0 | null | null |
| SERIALNUM | String | 30 | The manufacturer assigned serial number of the asset. Warranties are tied to serial numbers for Tidal Valves. | Serial Number | null | null | true | 0 | 0 | null | null |
| PROJECTNUM | String | 10 | The City's Project Number, DE Number, or Improvement Number under which the asset was installed | City Project Number | null | null | true | 0 | 0 | null | null |
| FILENUM | String | 10 | The City's File Number used to store the as-built documents for the asset | City File Number | null | null | true | 0 | 0 | null | null |
| WORKORDERNUM | String | 60 | The work order number for performing work on the asset (Cityworks, Qalert, etc) | City Work Order Number | null | null | true | 0 | 0 | null | null |
| SURVEYRPTNUM | String | 10 | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number | Survey Report Number | null | null | true | 0 | 0 | null | null |
| TOPELEV | Double | 8 | The Top Invert Elevation | Top Elevation | null | null | true | 38 | 8 | null | null |
| BOTTOMELEV | Double | 8 | The Bottom Invert Elevation | Bottom Elevation | null | null | true | 38 | 8 | null | null |
| ORIENTATION | String | 20 | The cardinal direction of flow | Directional Orientation | Direction | null | true | 0 | 0 | null | null |
| XCOORD | Double | 8 | X-Coordinate of the asset (FL State Plane-East) | X Coordinate | null | null | true | 38 | 8 | null | null |
| YCOORD | Double | 8 | Y-Coordinate of the asset (FL State Plane-East) | Y Coordinate | null | null | true | 38 | 8 | null | null |
| ZCOORD | Double | 8 | Z-Coordinate of the asset | Z Coordinate | null | null | true | 38 | 8 | null | null |
| ANCILLARYROLE | SmallInteger | 2 | Identifies whether the asset participates in a geometric network as either a source or a sink | Ancillary Role | null | null | true | 5 | 0 | null | null |
| ROTATION | Double | 8 | Map symbol rotation value | Rotation | null | null | true | 38 | 8 | null | null |

Control Valve Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|------------------|--------------|--------|---|------------------|---------------|--------------|------------|-----------|-------|----------|-------------|
| ENABLED | SmallInteger | 2 | Indicates if the asset is enabled within a geometric network | Enabled Flag | BooleanDomain | null | true | 5 | 0 | null | null |
| FIELDNOTES | String | 255 | Comments or notes from field staff, including surveyors, that are relevant to the asset | Field Notes | null | null | true | 0 | 0 | null | null |
| NOTES | String | 255 | GIS entry notes or comments relevant to the asset | GIS Notes | null | null | true | 0 | 0 | null | null |
| created_user | String | 255 | created_user | Created User | null | null | true | 0 | 0 | null | null |
| created_date | Date | 8 | created_date | Created Date | null | null | true | 0 | 0 | null | null |
| last_edited_user | String | 255 | last_edited_user | Last Edited User | null | null | true | 0 | 0 | null | null |
| last_edited_date | Date | 8 | last_edited_date | Last Edited Date | null | null | true | 0 | 0 | null | null |
| GlobalID | GlobalID | 38 | GlobalID | GlobalID | null | null | false | 0 | 0 | null | null |

Hydrant Dataset

| | |
|------------------|--|
| FeatureClassName | wHydrant |
| DatasetType | FeatureClass |
| Description | Water network hydrants. |
| FeatureDataset | Water |
| Tags | WaterDistribution, Water Distribution, Fire Hydrants |
| ShapeType | Point |
| FeatureType | Simple |
| AliasName | w Hydrants |
| HasM | false |
| HasZ | false |
| SubtypeFieldName | null |
| DefaultSubtype | null |
| DSID | 5071 |

| Fields | | | | | | | | | | | |
|---------------|--------------|--------|---|----------------------|----------------|--------------|------------|-----------|-------|----------|-------------|
| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
| FACILITYNUM | Integer | 4 | Locally assigned numeric unique identifier populated by database admin created database trigger | Facility Number | null | null | true | 10 | 0 | null | null |
| FACILITYID | String | 20 | Locally assigned alpha-numeric unique identifier populated by database admin created database trigger | Facility Identifier | null | null | true | 0 | 0 | null | null |
| LEGACYID | String | 20 | Former asset identifier. To be moved to a related table. | Legacy ID (Unit ID) | null | null | true | 0 | 0 | null | null |
| STAMPEDID | String | 20 | The ID the Fire Hydrant is currently stamped with | Stamped ID | null | null | true | 0 | 0 | null | null |
| BLUECAP | String | 10 | Indicates if the hydrant has a blue cap | Blue Cap? | YesNo | null | true | 0 | 0 | null | null |
| WATERTYPE | String | 20 | The type of water | Water Type | wWaterType | null | true | 0 | 0 | null | null |
| ACTIVESTATUS | String | 10 | Identifies whether the asset is in use, not in use or removed from the ground | Active Status | piActiveStatus | Active | true | 0 | 0 | null | null |
| ACTIVEFLAG | SmallInteger | 2 | Identifies whether the feature is in use/active | Active Flag | BooleanDomain | 1 | true | 5 | 0 | null | null |
| INVCLASS | String | 20 | The method used to establish the geographic location of the asset | Inventory Class | InventoryClass | null | true | 0 | 0 | null | null |
| COLLECTEDDATE | Date | 8 | Date the feature was located by a surveyor | GPS Collected Date | null | null | true | 0 | 0 | null | null |
| OWNEDBY | SmallInteger | 2 | Indicates which organization owns the asset | Owned By | AssetOwner | 1 | true | 5 | 0 | null | null |
| MAINTBY | SmallInteger | 2 | Indicates which organization maintains the asset | Managed By | AssetManager | 1 | true | 5 | 0 | null | null |
| INSTALLDATE | Date | 8 | The date the asset was installed | Install Date | null | null | true | 0 | 0 | null | null |
| LOCATION | String | 200 | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. | Location Description | null | null | true | 0 | 0 | null | null |
| ADDRESS | String | 50 | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. | Closest Address | null | null | true | 0 | 0 | null | null |
| PURCHASEDATE | Date | 8 | The purchase date of the asset. Used for future asset management analysis. | Purchase Date | null | null | true | 0 | 0 | null | null |
| WARRANTYDATE | Date | 8 | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | Warranty Date | null | null | true | 0 | 0 | null | null |

Hydrant Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|-----------------|--------------|--------|---|--------------------------|---------------|--------------|------------|-----------|-------|----------|-------------|
| ASSETCOST | Double | 8 | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | Asset Cost | null | null | true | 38 | 8 | null | null |
| CONDITION | SmallInteger | 2 | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | Condition Rating | null | null | true | 5 | 0 | null | null |
| CONDITIONDATE | Date | 8 | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | Condition Date | null | null | true | 0 | 0 | null | null |
| SERVICELIFE | SmallInteger | 2 | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | Service Life | null | null | true | 5 | 0 | null | null |
| RUL | SmallInteger | 2 | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | Remaining Useful Life | null | null | true | 5 | 0 | null | null |
| COF | SmallInteger | 2 | The consequence of failure. Used in the BRE model as the impact due to asset failure. | Consequence of Failure | null | null | true | 5 | 0 | null | null |
| POF | SmallInteger | 2 | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure | null | null | true | 5 | 0 | null | null |
| BRE | SmallInteger | 2 | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure | null | null | true | 5 | 0 | null | null |
| LASTINSPECTDATE | Date | 8 | The date the asset was most recently inspected | Last Inspection Date | null | null | true | 0 | 0 | null | null |
| LASTSERVICE | Date | 8 | The date of the most recent maintenance activity | Last Service Date | null | null | true | 0 | 0 | null | null |
| MANUFACTURER | String | 50 | The manufacturer or brand of the asset | Manufacturer | wManufacturer | null | true | 0 | 0 | null | null |
| SERIALNUM | String | 30 | The manufacturer assigned serial number of the asset. Warranties may be tied to the asset's serial number. | Serial Number | null | null | true | 0 | 0 | null | null |
| PROJECTNUM | String | 10 | The City's Project Number, DE Number, or Improvement Number under which the asset was installed | City Project Number | null | null | true | 0 | 0 | null | null |
| FILENUM | String | 10 | The City's File Number used to store the as-built documents for the asset | City File Number | null | null | true | 0 | 0 | null | null |
| WORKORDERNUM | String | 60 | The work order number for performing work on the asset (Cityworks, Qalert, etc) | City Work Order Number | null | null | true | 0 | 0 | null | null |
| SURVEYRPTNUM | String | 10 | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number | Surveyor's Report Number | null | null | true | 0 | 0 | null | null |
| XCOORD | Double | 8 | X-Coordinate of the asset (FL State Plane-East) | X Coordinate | null | null | true | 38 | 8 | null | null |
| YCOORD | Double | 8 | Y-Coordinate of the asset (FL State Plane-East) | Y Coordinate | null | null | true | 38 | 8 | null | null |
| ZCOORD | Double | 8 | Z-Coordinate of the asset | Z Coordinate | null | null | true | 38 | 8 | null | null |
| AUTOFLUSHDEVICE | String | 10 | Identifies whether the hydrant has an Automated Flushing Device attached | Auto Flushing Device | YesNo | null | true | 0 | 0 | null | null |

Hydrant Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required | DomainFixed |
|------------------|--------------|--------|---|----------------------|----------------------|--------------|------------|-----------|-------|----------|-------------|
| OPERABLE | SmallInteger | 2 | Indicates if the asset can be operated | Operable | BooleanDomain | null | true | 5 | 0 | null | null |
| TURNSTOCLOSE | Integer | 4 | Identifies the number of turns to close/shut off | Tuns to Close | null | null | true | 10 | 0 | null | null |
| TURNDIRECTION | String | 20 | The turn direction to close the asset, as in clockwise and counter clockwise | Turn Close Direction | piValveTurnDirection | null | true | 0 | 0 | null | null |
| FLOW | Double | 8 | Flow rate in gallons/minute | Flow Rate (GPM) | null | null | true | 38 | 8 | null | null |
| ROTATION | Double | 8 | Map symbol rotation value | Rotation | null | null | true | 38 | 8 | null | null |
| ENABLED | SmallInteger | 2 | Indicates if the asset is enabled within a geometric network | Enabled Flag | BooleanDomain | null | true | 5 | 0 | null | null |
| FIELDNOTES | String | 255 | Comments or notes from field staff, including surveyors, that are relevant to the asset | Field Notes | null | null | true | 0 | 0 | null | null |
| NOTES | String | 255 | GIS entry notes or comments relevant to the asset | GIS Notes | null | null | true | 0 | 0 | null | null |
| created_user | String | 255 | created_user | Created User | null | null | true | 0 | 0 | null | null |
| created_date | Date | 8 | created_date | Created Date | null | null | true | 0 | 0 | null | null |
| last_edited_user | String | 255 | last_edited_user | Last Edited User | null | null | true | 0 | 0 | null | null |
| last_edited_date | Date | 8 | last_edited_date | Last Edited Date | null | null | true | 0 | 0 | null | null |
| GlobalID | GlobalID | 38 | GlobalID | GlobalID | null | null | false | 0 | 0 | true | null |

Meter Dataset

| | |
|------------------|--|
| TableName | wMeter |
| DatasetType | Table |
| Description | Water Meter assets that connect to Service Locations (based on information fro |
| Tags | WaterDistribution, Water Distribution, Water Meters |
| AliasName | w Meters |
| SubtypeFieldName | null |
| DefaultSubtype | null |
| DSID | 5123 |

| Fields | | | | | | | | | | |
|--------------|--------------|--------|--|----------------------|--------------|--------------|------------|-----------|-------|----------|
| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required |
| FACILITYNUM | Integer | 4 | Locally assigned numeric unique identifier populated by database admin created database trigger | Facility Number | null | null | true | 10 | 0 | null |
| FACILITYID | String | 20 | Locally assigned alpha-numeric unique identifier populated by database admin created database trigger | Facility Identifier | null | null | true | 0 | 0 | null |
| METERNUM | String | 10 | Unique number generated by Utility Billing database for each meter asset (meter_no in Utility Billing database) | Meter Link Key | null | null | true | 0 | 0 | null |
| DIAMETER | String | 10 | Identified the size of meter (meter_sz in Utility Billing database) | Diameter | null | null | true | 0 | 0 | null |
| METERTYPE | String | 10 | Identifies specific meter types diameter, and number of digits on odometer (meter_tp in Utility Billing database) | Meter Type | null | null | true | 0 | 0 | null |
| ACTIVESTATUS | String | 10 | Identifies whether the asset is in use, not in use or removed from the ground | Active Status | null | null | true | 0 | 0 | null |
| ADDDATE | Date | 8 | Identifies the date the meter was intially added into Utility Billing software (add_dtm in Utility Billing database) | Add Date | null | null | true | 0 | 0 | null |
| SETDATE | Date | 8 | Identifies the date at which the meter was installed at service location (set_date in Utility Billing database) | Set Date | null | null | true | 0 | 0 | null |
| PULLDATE | Date | 8 | Identified the date at which the meter was pulled from service location (pull_date in Utility Billing database) | Pull Date | null | null | true | 0 | 0 | null |
| OUTDATE | Date | 8 | Identifies the date at which the meter was retired from the system (outserv_date in Utility Billing database) | Out of Service Date | null | null | true | 0 | 0 | null |
| OWNEDBY | SmallInteger | 2 | Indicates which organization owns the asset | Owned By | AssetOwner | 1 | true | 5 | 0 | null |
| MAINTBY | SmallInteger | 2 | Indicates which organization maintains the asset | Maintained By | AssetManager | null | true | 5 | 0 | null |
| LOCATION | String | 200 | Identifies the meter box location (area_served in Utility Billing database). Value is copied to Cityworks work order Location Details field when attached to a work order. | Location Description | null | null | true | 0 | 0 | null |
| ADDRESS | String | 50 | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order (address in Utility Billing database) | Address | null | null | true | 0 | 0 | null |
| PURCHASEDATE | Date | 8 | The purchase date of the asset. Used for future asset management analysis. | Purchase Date | null | null | true | 0 | 0 | null |

Meter Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required |
|------------------|--------------|--------|---|------------------------|------------|--------------|------------|-----------|-------|----------|
| WARRANTYDATE | Date | 8 | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | Warranty Date | null | null | true | 0 | 0 | null |
| ASSETCOST | Double | 8 | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | Asset Cost | null | null | true | 38 | 8 | null |
| CONDITION | SmallInteger | 2 | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | Condition Rating | null | null | true | 5 | 0 | null |
| CONDITIONDATE | Date | 8 | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | Condition Date | null | null | true | 0 | 0 | null |
| SERVICELIFE | SmallInteger | 2 | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | Service Life | null | null | true | 5 | 0 | null |
| RUL | SmallInteger | 2 | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | Remaining Useful Life | null | null | true | 5 | 0 | null |
| COF | SmallInteger | 2 | The consequence of failure. Used in the BRE model as the impact due to asset failure. | Consequence of Failure | null | null | true | 5 | 0 | null |
| POF | SmallInteger | 2 | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure | null | null | true | 5 | 0 | null |
| BRE | SmallInteger | 2 | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure | null | null | true | 5 | 0 | null |
| LASTINSPECTDATE | Date | 8 | The date the asset was most recently inspected | Last Inspection Date | null | null | true | 0 | 0 | null |
| LASTMAINTDATE | Date | 8 | The date of the most recent maintenance activity | Last Maintenance Date | null | null | true | 0 | 0 | null |
| MANUFACTURER | String | 50 | The manufacturer or brand of the asset (company_cd in Utility Billing database) | Manufacturer | null | null | true | 0 | 0 | null |
| SERIALNUM | String | 10 | The manufacturer assigned serial number of the asset. Warranties may be tied to the asset's serial number (serial_no in Utility Billing database) | Meter Number | null | null | true | 0 | 0 | null |
| WORKORDERNUM | String | 60 | The work order number for performing work on the asset (Cityworks, Qalert, etc) | City Work Order Number | null | null | true | 0 | 0 | null |
| FIELDNOTES | String | 255 | Comments or notes from field staff, including surveyors, that are relevant to the asset | Field Notes | null | null | true | 0 | 0 | null |
| NOTES | String | 255 | GIS entry notes or comments relevant to the asset | GIS Notes | null | null | true | 0 | 0 | null |
| SYNCDATE | Date | 8 | The date of the most recent sync from the Utility Billing database | Sync Date | null | null | true | 0 | 0 | null |
| created_user | String | 255 | created_user | created_user | null | null | true | 0 | 0 | null |
| created_date | Date | 8 | created_date | created_date | null | null | true | 0 | 0 | null |
| last_edited_user | String | 255 | last_edited_user | last_edited_user | null | null | true | 0 | 0 | null |

Meter Dataset

| FieldName | Type | Length | Description | AliasName | DomainName | DefaultValue | IsNullable | Precision | Scale | Required |
|------------------|----------|--------|------------------|------------------|------------|--------------|------------|-----------|-------|----------|
| last_edited_date | Date | 8 | last_edited_date | last_edited_date | null | null | true | 0 | 0 | null |
| GlobalID | GlobalID | 38 | GlobalID | GlobalID | null | null | false | 0 | 0 | true |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|------------------|----------------------------|----------------------------|---|---|
| ACCESS | Access | Access | How to access Valve | How to access Valve |
| ACCESSCHAMDIAM | Well Chamber Diameter | Well Chamber Diameter | The diameter of the receiving chamber for circular access points | The diameter of the receiving chamber for circular access points |
| ACCESSDIAM | Access Diameter | Access Diameter | Access diameter for the inlet | Access diameter for the inlet |
| ACCESSIBLE | Accessible | Accessible | Is Valve Accessible? | Is Valve Accessible? |
| ACCESSMAT | Access Material | Access Material | The material used to construct the access cover | The material used to construct the access cover |
| ACCESSRECDIAM | Receiving Chamber Diameter | Receiving Chamber Diameter | The diameter of the receiving chamber for circular access points | The diameter of the receiving chamber for circular access points |
| ACCESSRECLENGTH | Receiving Access Length | Receiving Access Length | The length of the receiving chamber access point | The length of the receiving chamber access point |
| ACCESSRECSHAPE | Receiving Access Shape | Receiving Access Shape | The shape of the receiving chamber access point | The shape of the receiving chamber access point |
| ACCESSRECWIDTH | Receiving Access Width | Receiving Access Width | The width of the receiving chamber access point | The width of the receiving chamber access point |
| ACCESSTYPE | Access Type | Access Type | Method for accessing the opening | Method for accessing the opening |
| ACCESSWELLLENGTH | Well Access Length | Well Access Length | The length of the receiving chamber access point | The length of the receiving chamber access point |
| ACCESSWELLSHAPE | Well Access Shape | Well Access Shape | The shape of the receiving chamber access point | The shape of the receiving chamber access point |
| ACCESSWELLWIDTH | Well Access Width | Well Access Width | The width of the receiving chamber access point | The width of the receiving chamber access point |
| ACCOUNTID | Account ID | Account ID | Utility billing account identifier | Utility billing account identifier |
| ACCOUNTNUM | Account Number | Account Number | Utility billing unique account number | Utility billing unique account number |
| ACTIVEFLAG | Active Flag | Active Flag | Identifies whether the feature is in use/active | Identifies whether the feature is in use/active |
| ACTIVESTATUS | Active Status | Active Status | Identifies whether the asset is in use, not in use or removed from the ground | Identifies whether the asset is in use, not in use or removed from the ground |
| ADDDATE | Add Date | Add Date | Identifies the date the meter was initially added into Utility Billing software (add_dtm in Utility Billing database) | Identifies the date the meter was initially added into Utility Billing software (add_dtm in Utility Billing database) |
| Address | Address | Address | Address | Address |
| ADDRESS | Closest Address | Closest Address | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. | The address or closest address to the asset. Value is copied to Cityworks work order Address field when attached to a work order. |
| ADJUSTMENT | Adjustment Needed | Adjustment Needed | Valve Box Adjustment Needed? | Valve Box Adjustment Needed? |
| AGENCY | Agency Provider | Agency Provider | The name of the agency that provides the service | The name of the agency that provides the service |
| AGENCYURL | Agency Website | Agency Website | The website for the agency that provides the service | The website for the agency that provides the service |
| ANCILLARYROLE | Ancillary Role | Ancillary Role | Identifies whether the asset participates in a geometric network as either a source or a sink | Identifies whether the asset participates in a geometric network as either a source or a sink |
| ANGLE | Angle | Angle | The angle of the fitting when a bend is used (default of '0' when no bend is used) | The angle of the fitting when a bend is used (default of '0' when no bend is used) |
| AREACREW | Area Crew | Area Crew | Water customer service representative (water locator) | Water customer service representative (water locator) |
| AREASQFT | Area SQ Feet | Area SQ Feet | The area in square feet | The area in square feet |
| ASBUILTLOC | As-built Location | As-built Location | The URL or filepath to the electronic as-built documents | The URL or filepath to the electronic as-built documents |
| ASSETCOST | Asset Cost | Asset Cost | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. | The replacement cost of the asset. If populated, this will be used for asset management analysis and repair/replace decisions. |
| AUTOFLUSHDEVICE | Auto Flushing Device | Auto Flushing Device | Identifies whether the hydrant has an Automated Flushing Device attached | Identifies whether the hydrant has an Automated Flushing Device attached |
| AVGDISCH | Average Discharge | Average Discharge | Average Discharge | Average Discharge |
| BAFFLE | Baffle? | Baffle? | Identifies whether a baffle is associated with the pipe | Identifies whether a baffle is associated with the pipe |
| BEDMATERIAL | Bed Material | Bed Material | The material on the bed of the retention area | The material on the bed of the retention area |
| BLUECAP | Blue Cap? | Blue Cap? | Indicates if the hydrant has a blue cap | Indicates if the hydrant has a blue cap |
| BNKMATERIAL | Bank Material | Bank Material | The material on the bank of the retention area | The material on the bank of the retention area |
| BOOKNAME | Book Name | Book Name | The Book name for the Sewer Area. Not all areas have book names. | The Book name for the Sewer Area. Not all areas have book names. |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|-------------------|---------------------------|---------------------------|---|---|
| BOOKNUM | Book Number | Book Number | BOOKNUM | BOOKNUM |
| BOTTOMAREA | Bottom Area | Bottom Area | The bottom area | The bottom area |
| BOTTOMBANKELEV | Bottom of Bank Elevation | Bottom of Bank Elevation | The bottom of bank elevation | The bottom of bank elevation |
| BOTTOMDEPTH | Bottom Depth | Bottom Depth | The bottom elevation of the well | The bottom elevation of the well |
| BOTTOMELEV | Bottom Elevation | Bottom Elevation | The Bottom Invert Elevation | The Bottom Invert Elevation |
| BOXCONDITION | Valve Box Condition | Valve Box Condition | Valve Box Condition | Valve Box Condition |
| BOXCONDITIONOTHER | Other Valve Box Condition | Other Valve Box Condition | Other Valve Box Condition | Other Valve Box Condition |
| BRE | Business Risk Exposure | Business Risk Exposure | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. | Business Risk Exposure is a the product of probablity of failure (POF) and consequence of failure (COF). Values range from 1 (low risk) to 100 (high risk) and is used to prioritize investments. |
| BTMCLIP | Bottom Clip | Bottom Clip | The bottom elevation of the notch | The bottom elevation of the notch |
| BTMWIDTH | Bottom Width | Bottom Width | The bottom with of the notch | The bottom with of the notch |
| BYPASSVALVE | Bypass Valve? | Bypass Valve? | Identifies whether the asset is a bypass valve | Identifies whether the asset is a bypass valve |
| CASING | Casing | Casing | Identifies whether the asset is enclosed in casing | Identifies whether the asset is enclosed in casing |
| CLOSEDIR | Direction to Close | Direction to Close | Direction to close valve | Direction to close valve |
| COF | Consequence of Failure | Consequence of Failure | The consequence of failure. Used in the BRE model as the impact due to asset failure. | The consequence of failure. Used in the BRE model as the impact due to asset failure. |
| COLLASPE | Collapse | Collapse | The severity of structural collapse observed within the asset | The severity of structural collapse observed within the asset |
| COLLECTEDDATE | GPS Collected Date | GPS Collected Date | Date the feature was located by a surveyor | Date the feature was located by a surveyor |
| COMMENTS | Comments | Comments | COMMENTS | COMMENTS |
| COMMENTS2 | Comments 2 | Comments 2 | COMMENTS2 | COMMENTS2 |
| CONDITION | Condition Rating | Condition Rating | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. | The condition rating of the asset. Used by Cityworks Analytics for condition analysis output. May be calculated within a Cityworks Inspection and updated from there to GIS. |
| CONDITIONDATE | Condition Date | Condition Date | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. | The date of the last condition assessment. Can be updated from Cityworks Inspection to the GIS. |
| CONDITIONHAZEN | Condition | Condition | The condition rating of the asset as inspected by Hazen and Sawyer consulting | The condition rating of the asset as inspected by Hazen and Sawyer consulting |
| CONTACT | Agency Contact | Agency Contact | The contact name at the agency that provides the service | The contact name at the agency that provides the service |
| COORDSYS | Coordinate System | Coordinate System | Identifies the horizontal coordinate system under which assets were digitally captured and representated | Identifies the horizontal coordinate system under which assets were digitally captured and representated |
| created_date | created_date | created_date | created_date | created_date |
| created_user | created_user | created_user | created_user | created_user |
| CreateDate | CreateDate | CreateDate | CreateDate | CreateDate |
| Creator | Creator | Creator | Creator | Creator |
| CRITICAL | Critical Customer | Critical Customer | Flag to indicate if this is a critical customer | Flag to indicate if this is a critical customer |
| CURROPEN | Currently Open? | Currently Open? | Identifies whether the asset is currently open | Identifies whether the asset is currently open |
| CUTDEPTH | Pavement Cut Depth | Pavement Cut Depth | Pavement cut depth | Pavement cut depth |
| CVSHAPE | Cover Shape | Cover Shape | The shape of the manhole cover | The shape of the manhole cover |
| CVTYPE | Cover Type | Cover Type | The type of stormwater manhole cover | The type of stormwater manhole cover |
| CYCLE | Cycle | Cycle | A logical group of routes used mainly for billing purposes (cycle_cd in Utility Billing database) | A logical group of routes used mainly for billing purposes (cycle_cd in Utility Billing database) |
| DateInstalled | DateInstalled | DateInstalled | DateInstalled | DateInstalled |
| DATUM | Datum | Datum | Identifies the datum used to establish the asset's vertical elevation | Identifies the datum used to establish the asset's vertical elevation |
| DEADEND | Dead End | Dead End | Identifies whether the pipe is a dead end | Identifies whether the pipe is a dead end |
| DEBRIS | Debris | Debris | The severity of blockage observed within the asset | The severity of blockage observed within the asset |
| DEFICIENCIES | Deficiencies | Deficiencies | Valve deficiencies | Valve deficiencies |
| DENUM | City Detail Number | City Detail Number | The City's Detail Number | The City's Detail Number |
| DEPTH | Depth to Nut | Depth to Nut | The depth, in feet, to the top of the nut of the asset | The depth, in feet, to the top of the nut of the asset |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|-----------------|-----------------------------|-----------------------------|---|---|
| DESHEAD | Design Head | Design Head | Design Head | Design Head |
| DESIGNGPM | Design GPM | Design GPM | Design Gallons per minute | Design Gallons per minute |
| DEVICELOC | Device Location Description | Device Location Description | Device Location from Cayenta | Device Location from Cayenta |
| DEVICEMAKE | Device Make | Device Make | The make/manufacturer of backflow device reported | The make/manufacturer of backflow device reported |
| DEVICEMODELNUM | Device Model Number | Device Model Number | The model number of backflow device reported | The model number of backflow device reported |
| DEVICESERIALNUM | Device Serial Number | Device Serial Number | The serial number on the device | The serial number on the device |
| DEVICESIZE | Device Size | Device Size | The size of the backflow device reported | The size of the backflow device reported |
| DEVICETYPE | Device Type | Device Type | The type of backflow device reported | The type of backflow device reported |
| DIAMETER | Diameter | Diameter | The diameter of the asset | The diameter of the asset |
| DISCHDIAM | Discharge Diameter | Discharge Diameter | Diameter of pump discharge | Diameter of pump discharge |
| DISCHID | Discharge Identifier | Discharge Identifier | Discharge Identifier | Discharge Identifier |
| DISCHRGTY | Discharge Type | Discharge Type | The type of stormwater discharge | The type of stormwater discharge |
| DOCDATE | Project Date | Project Date | The date of surveyor signature for the document | The date of surveyor signature for the document |
| DOCLOC | As-built Location | As-built Location | The URL or filepath to the electronic Surveyor's Report documents | The URL or filepath to the electronic Surveyor's Report documents |
| DOCNOTES | Project Notes | Project Notes | Relevant notes recorded for the work, the assets, or its Surveyor's Report | Relevant notes recorded for the work, the assets, or its Surveyor's Report |
| DOWNELEV | Downstream Elevation | Downstream Elevation | The downstream invert elevation of the pipe | The downstream invert elevation of the pipe |
| DYNHEAD | Total Dynamic Head | Total Dynamic Head | Dynanmic Head | Dynanmic Head |
| EASEMENTID | Easement ID | Easement ID | The unique ID to represent the specific easement record. This field will be the prefix 'EAS-' then the Easement Number. For example, 'EAS-12345' | The unique ID to represent the specific easement record. This field will be the prefix 'EAS-' then the Easement Number. For example, 'EAS-12345' |
| EASEMENTNUM | Easement Number | Easement Number | A unique numerical ID to represent the specific easement record. This field will be the Easement ID without the prefix 'EAS-'. For example, if the Easement ID is 'EAS-98765', the Easement Number would be '98765' | A unique numerical ID to represent the specific easement record. This field will be the Easement ID without the prefix 'EAS-'. For example, if the Easement ID is 'EAS-98765', the Easement Number would be '98765' |
| EASEMENTTYPE | Easement Type | Easement Type | This field is a normalized list of easement types as defined within the legal document. The purpose of this field is to assist with grouping and searching for various easement types. | This field is a normalized list of easement types as defined within the legal document. The purpose of this field is to assist with grouping and searching for various easement types. |
| ELEVATION | Elevation | Elevation | Elevation value for contour line | Elevation value for contour line |
| EMAIL | Agency Email | Agency Email | The service provider agency email | The service provider agency email |
| ENABLED | Enabled Flag | Enabled Flag | Indicates if the asset is enabled within a geometric network | Indicates if the asset is enabled within a geometric network |
| EXERCISED | Exercised | Exercised | Was valve exercised? | Was valve exercised? |
| FACILITYID | Facility Identifier | Facility Identifier | Locally asssigned alpha-numeric unique identifier populated by database admin created database trigger | Locally asssigned alpha-numeric unique identifier populated by database admin created database trigger |
| FACILITYNUM | Facility Number | Facility Number | Locally asssigned numeric unique identifier populated by database admin created database trigger | Locally asssigned numeric unique identifier populated by database admin created database trigger |
| FDOTTYPE | FDOT Type | FDOT Type | The Florida Department of Transporation manhole structure type | The Florida Department of Transporation manhole structure type |
| FEATUREID | FEATURE_ID | FEATURE_ID | Feature ID from Unkown Point | Feature ID from Unkown Point |
| FIELDNOTES | Field Notes | Field Notes | Comments or notes from field staff, including surveyors, that are relevant to the asset | Comments or notes from field staff, including surveyors, that are relevant to the asset |
| FILENUM | City File Number | City File Number | The City's File Number | The City's File Number |
| FITTINGTYPE | Fitting Type | Fitting Type | The type of fitting | The type of fitting |
| FLOW | Flow Rate (GPM) | Flow Rate (GPM) | Flow rate in gallons/minute | Flow rate in gallons/minute |
| FLOWDIR | Flow Direction | Flow Direction | Defines the direction of flow using geometric flow direction values | Defines the direction of flow using geometric flow direction values |
| FLOWRATE | Flowrate | Flowrate | The flow rating at the SCADA site | The flow rating at the SCADA site |
| FLOWRATEINT | Flowrate | Flowrate | The flow rating at the SCADA site, expressed as an integer | The flow rating at the SCADA site, expressed as an integer |
| FOLIO | Folio Number | Folio Number | Folio from BCPA | Folio from BCPA |
| FROMMH | From Manhole | From Manhole | The unique idendentifier of the From Manhole (upstream manhole) | The unique idendentifier of the From Manhole (upstream manhole) |
| GISGlobalID | Valve GlobalID | Valve GlobalID | Corresponding Valve Global ID | Corresponding Valve Global ID |
| GlobalID | GlobalID | GlobalID | GlobalID | GlobalID |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|---------------------|--------------------------|--------------------------|---|---|
| GRATE | Grate? | Grate? | Identifies whether the outfall has a grate | Identifies whether the outfall has a grate |
| HAZCONDITION | Manhole Condition | Manhole Condition | The condition of the asset | The condition of the asset |
| HDRFLAG | Hydrant Valve? | Hydrant Valve? | Identifies whether the asset is a hydrant valve | Identifies whether the asset is a hydrant valve |
| HIGHELEV | High Pipe Elevation | High Pipe Elevation | High pipe elevation inside manhole | High pipe elevation inside manhole |
| HORIZACC | Horizontal Accuracy | Horizontal Accuracy | The horizontal accuracy in feet | The horizontal accuracy in feet |
| ID | Irrigation Link Key | Irrigation Link Key | Unique ID to reference Tokay/Cayenta records | Unique ID to reference Tokay/Cayenta records |
| IMAGE1 | Image 1 | Image 1 | The location of the 1st image showing the asset | The location of the 1st image showing the asset |
| IMAGE2 | Image 2 | Image 2 | The location of the 2nd image showing the asset | The location of the 2nd image showing the asset |
| IMAGE3 | Image 3 | Image 3 | The location of the 3rd image showing the asset | The location of the 3rd image showing the asset |
| Import | Importer | Importer | User who Imported Data | User who Imported Data |
| ImportDate | ImportDate | ImportDate | ImportDate | ImportDate |
| IMPROVENUM | City Improvement Number | City Improvement Number | The City's Improvement Number | The City's Improvement Number |
| INLETDEPTH | Inlet Height | Inlet Height | The depth of the inlet | The depth of the inlet |
| INLETDIAM | Inlet Diameter | Inlet Diameter | Diameter of pump inlet | Diameter of pump inlet |
| INLETLENGTH | Inlet Length | Inlet Length | The length of the inlet | The length of the inlet |
| INLETTYPE | Inlet Type | Inlet Type | The type of stormwater inlet | The type of stormwater inlet |
| INLETWIDTH | Inlet Width | Inlet Width | The width of the inlet | The width of the inlet |
| INMANHOLE | In Manhole? | In Manhole? | Identifies whether the asset is in a manhole | Identifies whether the asset is in a manhole |
| INSPECTIONCOMPLETED | Inspection Completed? | Inspection Completed? | Whether or not an Inspection was completed by the City | Whether or not an Inspection was completed by the City |
| INSPECTIONREQUEST | Inspection Requested? | Inspection Requested? | Whether or not an Inspection was requested by owner | Whether or not an Inspection was requested by owner |
| INSTALLDATE | Install Date | Install Date | The date the asset was installed | The date the asset was installed |
| INSTALLEDBY | Installed By | Installed By | Indicates which organization installed the assets | Indicates which organization installed the assets |
| INSTRUMENTNUM | Instrument Number | Instrument Number | INSTRUMENTNUM | INSTRUMENTNUM |
| INTDETAIL | City Intersection Detail | City Intersection Detail | The City's Intersection Detail | The City's Intersection Detail |
| INVCLASS | Inventory Class | Inventory Class | The method used to establish the geographic location of the asset | The method used to establish the geographic location of the asset |
| INVERT1DIAM | Invert1 Pipe Diameter | Invert1 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT1DWNPIPE | Invert 1 Down Pipe | Invert 1 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT1ELEV | Invert1 Elevation | Invert1 Elevation | The invert elevation | The invert elevation |
| INVERT1MAT | Invert1 Pipe Material | Invert1 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT1SHAPE | Invert1 Pipe Shape | Invert1 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT1UPPIPE | Invert 1 Up Pipe | Invert 1 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT1WIDTH | Invert1 Pipe Width | Invert1 Pipe Width | The width of the invert pipe | The width of the invert pipe |
| INVERT2DIAM | Invert2 Pipe Diameter | Invert2 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT2DWNPIPE | Invert 2 Down Pipe | Invert 2 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT2ELEV | Invert2 Elevation | Invert2 Elevation | The invert elevation | The invert elevation |
| INVERT2MAT | Invert2 Pipe Material | Invert2 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT2SHAPE | Invert2 Pipe Shape | Invert2 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT2UPPIPE | Invert 2 Up Pipe | Invert 2 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT2WIDTH | Invert2 Pipe Width | Invert2 Pipe Width | The width of the invert pipe | The width of the invert pipe |
| INVERT3DIAM | Invert 3 Pipe Diameter | Invert 3 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT3DWNPIPE | Invert 3 Down Pipe | Invert 3 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT3ELEV | Invert 3 Elevation | Invert 3 Elevation | The invert elevation | The invert elevation |
| INVERT3MAT | Invert 3 Pipe Material | Invert 3 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT3SHAPE | Invert 3 Pipe Shape | Invert 3 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT3UPPIPE | Invert 3 Up Pipe | Invert 3 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT3WIDTH | Invert 3 Pipe Width | Invert 3 Pipe Width | The width of the invert pipe | The width of the invert pipe |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|---------------------|------------------------|------------------------|---|---|
| INVERT4DIAM | Invert 4 Pipe Diameter | Invert 4 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT4DWNPIPE | Invert 4 Down Pipe | Invert 4 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT4ELEV | Invert 4 Elevation | Invert 4 Elevation | The invert elevation | The invert elevation |
| INVERT4MAT | Invert 4 Pipe Material | Invert 4 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT4SHAPE | Invert 4 Pipe Shape | Invert 4 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT4UPPIPE | Invert 4 Up Pipe | Invert 4 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT4WIDTH | Invert 4 Pipe Width | Invert 4 Pipe Width | The width of the invert pipe | The width of the invert pipe |
| INVERT5DIAM | Invert 5 Pipe Diameter | Invert 5 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT5DWNPIPE | Invert 5 Down Pipe | Invert 5 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT5ELEV | Invert 5 Elevation | Invert 5 Elevation | The invert elevation | The invert elevation |
| INVERT5MAT | Invert 5 Pipe Material | Invert 5 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT5SHAPE | Invert 5 Pipe Shape | Invert 5 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT5UPPIPE | Invert 5 Up Pipe | Invert 5 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT5WIDTH | Invert 5 Pipe Width | Invert 5 Pipe Width | The width of the invert pipe | The width of the invert pipe |
| INVERT6DIAM | Invert 6 Pipe Diameter | Invert 6 Pipe Diameter | The diameter of the invert pipe | The diameter of the invert pipe |
| INVERT6DWNPIPE | Invert 6 Down Pipe | Invert 6 Down Pipe | The unique identifier of the downstream pipe | The unique identifier of the downstream pipe |
| INVERT6ELEV | Invert 6 Elevation | Invert 6 Elevation | The invert elevation | The invert elevation |
| INVERT6MAT | Invert 6 Pipe Material | Invert 6 Pipe Material | The construction material of the invert pipe | The construction material of the invert pipe |
| INVERT6SHAPE | Invert 6 Pipe Shape | Invert 6 Pipe Shape | The shape of the invert pipe | The shape of the invert pipe |
| INVERT6UPPIPE | Invert 6 Up Pipe | Invert 6 Up Pipe | The unique identifier of the upstream pipe | The unique identifier of the upstream pipe |
| INVERT6WIDTH | Invert 6 Pipe Width | Invert 6 Pipe Width | The width of the invert pipe | The width of the invert pipe |
| INVERTELEV | Invert Elevation | Invert Elevation | The invert elevation | The invert elevation |
| last_edited_date | last_edited_date | last_edited_date | last_edited_date | last_edited_date |
| last_edited_user | last_edited_user | last_edited_user | last_edited_user | last_edited_user |
| LASTINSPECTDATE | Last Inspection Date | Last Inspection Date | The date the asset was most recently inspected | The date the asset was most recently inspected |
| LASTMAINTDATE | Last Maintenance Date | Last Maintenance Date | The date of the most recent maintenance activity | The date of the most recent maintenance activity |
| LASTSERVICE | Last Service Date | Last Service Date | The date of the most recent maintenance activity | The date of the most recent maintenance activity |
| LEGACYID | Legacy ID (Unit ID) | Legacy ID (Unit ID) | Former asset identifier. To be moved to a related table. | Former asset identifier. To be moved to a related table. |
| LENGTH | Length | Length | Length of the clamping device | Length of the clamping device |
| LINED | Lined | Lined | Indicates if the manhole is lined | Indicates if the manhole is lined |
| LINEDYEAR | Year Lined | Year Lined | The year the pipe was last lined | The year the pipe was last lined |
| LINERTYPE | Liner Type | Liner Type | The method used to line the pipe | The method used to line the pipe |
| LOCATION | Location Description | Location Description | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. | Text description of the geographic location (e.g. 10' west of sidewalk along Broward Blvd). Value is copied to Cityworks work order Location Details field when attached to a work order. |
| LocationDescription | LocationDescription | LocationDescription | LocationDescription | LocationDescription |
| LOCATIONNUM | Location Number | Location Number | Utility billing location identifier | Utility billing location identifier |
| LOCDESC | Location Description | Location Description | Location Description | Location Description |
| LONGORSHORT | Long or Short | Long or Short | Whether the main is on the same side of street of meter (short side), if not then it is on the long side | Whether the main is on the same side of street of meter (short side), if not then it is on the long side |
| MAINSHAPE | Main Shape | Main Shape | The shape of the main | The shape of the main |
| MAINTBY | Managed By | Managed By | Indicates which organization maintains the asset | Indicates which organization maintains the asset |
| MANUFACTURER | Manufacturer | Manufacturer | The manufacturer or brand of the asset | The manufacturer or brand of the asset |
| MANUFACTYPE | Manufacturer Type | Manufacturer Type | The manufacturer model type of the manhole structure | The manufacturer model type of the manhole structure |
| MASTERMETER | Master Meter? | Master Meter? | MASTERMETER | MASTERMETER |
| MATERIAL | Pipe Material | Pipe Material | Identifies the construction material of the pipe connection | Identifies the construction material of the pipe connection |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|---------------|----------------------------|----------------------------|---|---|
| MAXOPDISC | Max Operating Discharge | Max Operating Discharge | Maximum Operating Discharge flow | Maximum Operating Discharge flow |
| MAXOPHEAD | Max Operating Head | Max Operating Head | Maximum Operating Head | Maximum Operating Head |
| METERLOC | Meter Location Description | Meter Location Description | Meter Location from Cayenta | Meter Location from Cayenta |
| METERNUM | Meter Link Key | Meter Link Key | Unique number generated by Utility Billing database for each meter asset (meter_no in Utility Billing database) | Unique number generated by Utility Billing database for each meter asset (meter_no in Utility Billing database) |
| METERSEQUENCE | Meter Sequence | Meter Sequence | An innumerator for meters at a given service (meter_seq in Utility Billing database) | An innumerator for meters at a given service (meter_seq in Utility Billing database) |
| METERTYPE | Meter Type | Meter Type | Identifies specific meter types diameter, and number of digits on odometer (meter_tp in Utility Billing database) | Identifies specific meter types diameter, and number of digits on odometer (meter_tp in Utility Billing database) |
| METSERVICE | Metered Service? | Metered Service? | Identifies whether the service connection is metered | Identifies whether the service connection is metered |
| MHTYPE | Manhole Type | Manhole Type | The type of manhole | The type of manhole |
| MODCOMMENTS | Modification Comments | Modification Comments | Used to record information pertaining to changes of the easement. For example, if the easement changes in width due to the vacation of a portion of the original easement this information may be noted here. | Used to record information pertaining to changes of the easement. For example, if the easement changes in width due to the vacation of a portion of the original easement this information may be noted here. |
| NAME | Name | Name | The name of the facility or location | The name of the facility or location |
| NEEDSCLEANING | Needs Cleaning | Needs Cleaning | Does inlet need cleaning? | Does inlet need cleaning? |
| NEEDSREPAIR | Needs Repair | Needs Repair | Does inlet need repair? | Does inlet need repair? |
| NORMALLYOPEN | Normally Open? | Normally Open? | Identifies whether the asset is normally open | Identifies whether the asset is normally open |
| Notes | Notes | Notes | Notes | Notes |
| NOTES | GIS Notes | GIS Notes | GIS entry notes or comments relevant to the asset | GIS entry notes or comments relevant to the asset |
| NUMNOTCH | Number of Notches | Number of Notches | The number of notches on the weir | The number of notches on the weir |
| NUMOFBAFFLE | Number of Baffles | Number of Baffles | Identifies the number of baffles | Identifies the number of baffles |
| NUMOFCHAM | Number of Chambers | Number of Chambers | The number of chambers | The number of chambers |
| NUMOFWEIR | Number of Weirs | Number of Weirs | The number of weirs | The number of weirs |
| OPDATE | Operational Date | Operational Date | Date when the facility was put into service | Date when the facility was put into service |
| OPENPOSITION | Opening Position | Opening Position | The opening position | The opening position |
| Operable | Operable | Operable | Operable | Operable |
| OPERABLE | Operable | Operable | Identifies whether the valve or hydrant can be operated | Identifies whether the valve or hydrant can be operated |
| ORIENTATION | Directional Orientation | Directional Orientation | The cardinal direction of flow | The cardinal direction of flow |
| ORIFICE | Orifice? | Orifice? | Indicates whether the weir has an orifice | Indicates whether the weir has an orifice |
| OUTDATE | Out of Service Date | Out of Service Date | Identifies the date at which the meter was retired from the system (outserv_date in Utility Billing database) | Identifies the date at which the meter was retired from the system (outserv_date in Utility Billing database) |
| OUTFALLLOC | Outfall Location | Outfall Location | Location of the outfall relative to its connected drainage asset | Location of the outfall relative to its connected drainage asset |
| OUTFLWELEV | Outflow Elevation | Outflow Elevation | Outflow elevation | Outflow elevation |
| OWNEDBY | Owned By | Owned By | Indicates which organization owns the asset | Indicates which organization owns the asset |
| OWNER | Owner | Owner | Owner from Cayenta | Owner from Cayenta |
| PAGENUM | Page Number | Page Number | PAGENUM | PAGENUM |
| PARCELID | Parcel ID | Parcel ID | Identifies Parcel ID of service location (parcel_id in Utility Billing datavase) | Identifies Parcel ID of service location (parcel_id in Utility Billing datavase) |
| PEAKDISCH | Peak Discharge | Peak Discharge | Peak Discharge | Peak Discharge |
| PERFDEPTH | Perforated Depth | Perforated Depth | The perforated pipe depth of the well | The perforated pipe depth of the well |
| PERMIT | Permitted | Permitted | A flag used to indicate whether the discharge point is permitted | A flag used to indicate whether the discharge point is permitted |
| PERMITID | Permit Identifier | Permit Identifier | Unique permit identifier | Unique permit identifier |
| PHONE | Agency Phone | Agency Phone | The service provider agency contact phone number | The service provider agency contact phone number |
| PIPETYPE | Pipe Type | Pipe Type | The type of pipe | The type of pipe |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|-----------------|--------------------------------------|--------------------------------------|---|---|
| POF | Probability of Failure | Probability of Failure | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. | Probability of Failure. Used in the BRE model to estimate the likelihood the predicted asset (or service) failure will occur and is adjusted for backup and redundancy of the asset. |
| PONDTYPE | Pond Type | Pond Type | The type of stormwater pond | The type of stormwater pond |
| POSITION | Position | Position | What is the Valve's position? | What is the Valve's position? |
| POSITIONLEFT | What poistion was the valve left in? | What poistion was the valve left in? | What poistion was the valve left in? | What poistion was the valve left in? |
| PRESSURE | Pressure | Pressure | The pressure reading at the SCADA site | The pressure reading at the SCADA site |
| PRESSUREINT | Pressure | Pressure | The pressure reading at the SCADA site, expressed as an integer | The pressure reading at the SCADA site, expressed as an integer |
| PROJDATE | Project Date | Project Date | The date the project was considered completed by the City | The date the project was considered completed by the City |
| PROJECTNAME | Project Name | Project Name | The name of the project | The name of the project |
| PROJECTNUM | City Project Number | City Project Number | The City's Project Number under which the asset was installed | The City's Project Number under which the asset was installed |
| PROJMANAGER | Project Manager | Project Manager | The Project Manager | The Project Manager |
| PROJNOTES | Project Notes | Project Notes | Relevant notes recorded for the project, its assets or its document records | Relevant notes recorded for the project, its assets or its document records |
| PULLDATE | Pull Date | Pull Date | Identified the date at which the meter was pulled from service location (pull_date in Utility Billing database) | Identified the date at which the meter was pulled from service location (pull_date in Utility Billing database) |
| PUMPTYPE | Pump Type | Pump Type | The type of water pump | The type of water pump |
| PURCHASEDATE | Purchase Date | Purchase Date | The purchase date of the asset. Used for future asset management analysis. | The purchase date of the asset. Used for future asset management analysis. |
| QAlertNum | QAlertNum | QAlertNum | QAlertNum | QAlertNum |
| QALERTNUM | Enter QAlert Number | Enter QAlert Number | QAlert number | QAlert number |
| QNUMBER | Q Number | Q Number | Q Alert Number if applicable | Q Alert Number if applicable |
| QTR | QTR | QTR | Quarter Section | Quarter Section |
| RATEDFLOW | Rated Flow | Rated Flow | The rated flow typically defined by manufacturer | The rated flow typically defined by manufacturer |
| RATEDPRESS | Rated Pressure | Rated Pressure | The rated pressure typically defined by manufacturer | The rated pressure typically defined by manufacturer |
| RECCHAMWIDTH | Receiving Chamber Width | Receiving Chamber Width | The width of the receiving chamber of the well | The width of the receiving chamber of the well |
| RECORDEDNAME | Recorded Name | Recorded Name | The actual recorded easement name as it is written within the legal document (i.e. Utility Easement, Drainage Easement, Drainage Utility Easement, Stormwater Easement, etc) | The actual recorded easement name as it is written within the legal document (i.e. Utility Easement, Drainage Easement, Drainage Utility Easement, Stormwater Easement, etc) |
| REFERRED | Referred for repair or replacement? | Referred for repair or replacement? | Referred for repair or replacement | Referred for repair or replacement |
| REQUESTOR | Requestor | Requestor | The City staff member who made the initial request for the work | The City staff member who made the initial request for the work |
| RIMELEV | Rim Elevation | Rim Elevation | The elevation of the inlet rim | The elevation of the inlet rim |
| RISE | Rise | Rise | The top of the weir elevation | The top of the weir elevation |
| ROTATION | Rotation | Rotation | Map symbol rotation value | Map symbol rotation value |
| ROUTE | Route | Route | A route used for meter reading purposes (route_no in Utility Billing database) | A route used for meter reading purposes (route_no in Utility Billing database) |
| RPM | RPM | RPM | The rate of rotation of the impellor in Revolutions per Minute | The rate of rotation of the impellor in Revolutions per Minute |
| RUL | Remaining Useful Life | Remaining Useful Life | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. | The Remaining Useful Life of an asset calculated by subtracting the number of years since installation, from the sevice life. It will be heavily relied upon for asset management analysis. |
| SERIALNUM | Serial Number | Serial Number | The manufacturer assigned serial number of the asset. Warranties may be tied to the asset's serial number. | The manufacturer assigned serial number of the asset. Warranties may be tied to the asset's serial number. |
| SERVICELIFE | Service Life | Service Life | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. | The expected number of years an asset is physically capable of continuing to operate. Used to anticipate retirement of assets and project funding needs. |
| SERVICESEQUENCE | Service Sequence | Service Sequence | An innumerator of services at a given location (service_seq in Utility Billing database) | An innumerator of services at a given location (service_seq in Utility Billing database) |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|------------------|--------------------------|--------------------------|---|---|
| SERVICETYPE | Service Type | Service Type | Identifies the type of service the location supplied (service_type_fdsc in Utility Billing database) | Identifies the type of service the location supplied (service_type_fdsc in Utility Billing database) |
| SERVICTYPE | Service Type | Service Type | The type of service connection | The type of service connection |
| SETDATE | Set Date | Set Date | Identifies the date at which the meter was installed at service location (set_date in Utility Billing database) | Identifies the date at which the meter was installed at service location (set_date in Utility Billing database) |
| SEWERCREW | Sewer Crew | Sewer Crew | Sewer customer service representative (sewer locator) | Sewer customer service representative (sewer locator) |
| SHUTHEAD | Shutoff Head | Shutoff Head | Shut off Head | Shut off Head |
| SIDESLOPE | Slope | Slope | The slope on the side of the retention area | The slope on the side of the retention area |
| SKIMMER | Skimmer? | Skimmer? | Indicates whether the weir has a skimmer | Indicates whether the weir has a skimmer |
| SLOPE | Slope | Slope | The slope of the pipe. | The slope of the pipe. |
| SOLIDDEPTH | Solid Pipe Depth | Solid Pipe Depth | The solid pipe depth of the well | The solid pipe depth of the well |
| STAMPEDID | Stamped ID | Stamped ID | The ID the Fire Hydrant is currently stamped with | The ID the Fire Hydrant is currently stamped with |
| STATUS | Status | Status | Status of backflow inventory | Status of backflow inventory |
| STRUCTDEPTH | Structure Depth | Structure Depth | The depth of the well structure | The depth of the well structure |
| STRUCTID | Structure ID | Structure ID | The unique identifier of the associated structure as a string. Structure could be a Pollution Control Structure, a manhole, an inlet or a drainage well chamber. | The unique identifier of the associated structure as a string. Structure could be a Pollution Control Structure, a manhole, an inlet or a drainage well chamber. |
| STRUCTLENGTH | Structure Length | Structure Length | The length of the well structure | The length of the well structure |
| STRUCTTYPE | Structure Type | Structure Type | The teyp of water structure | The teyp of water structure |
| STRUCTWIDTH | Structure Width | Structure Width | The width of the well structure | The width of the well structure |
| SubmittedBy | SubmittedBy | SubmittedBy | SubmittedBy | SubmittedBy |
| SUMFLOW | Flow Summary | Flow Summary | The sum of flow | The sum of flow |
| SUMPHEIGHT | Sump Height | Sump Height | Identifies the height of the sump in inches | Identifies the height of the sump in inches |
| SURVEYCOMP | Survey Company | Survey Company | The agency in which the surveyor was employed | The agency in which the surveyor was employed |
| SURVEYOR | Surveyor | Surveyor | Identifies the surveyor who signed off on the as-builts | Identifies the surveyor who signed off on the as-builts |
| SURVEYRETURN | Survey Returned? | Survey Returned? | Whether or not the Survey was returned by owner | Whether or not the Survey was returned by owner |
| SURVEYRPTNUM | Surveyor's Report Number | Surveyor's Report Number | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number | The City's Surveyor's Report Number under which the location of an asset or group of assets are captured, may be the same as the Service Request or Work Order Number |
| SYNCDATE | Sync Date | Sync Date | The date of the most recent sync from the Utility Billing database | The date of the most recent sync from the Utility Billing database |
| TESTTURNS | Number of exercise turns | Number of exercise turns | Number of test turns (exercise) | Number of test turns (exercise) |
| TESTTURNSCOMMENT | Test Turns Comments | Test Turns Comments | Test Turns Comments | Test Turns Comments |
| TOMH | To Manhole | To Manhole | The unique idendentifier of the To Manhole (downstream manhole) | The unique idendentifier of the To Manhole (downstream manhole) |
| TOPAREA | Top Area | Top Area | The top area | The top area |
| TOPBANKELV | Top of Bank Elevation | Top of Bank Elevation | The Top of bank elevation | The Top of bank elevation |
| TOPCASEELEV | Top Casing Elevation | Top Casing Elevation | The top of casing elevation | The top of casing elevation |
| TOPCLIP | Top Clip | Top Clip | The top elevation of the notch | The top elevation of the notch |
| TOPELEV | Top Elevation | Top Elevation | The Top Invert Elevation | The Top Invert Elevation |
| TOPWIDTH | Top Width | Top Width | The top width of the notch | The top width of the notch |
| TORQUE | Torque | Torque | Torque | Torque |
| TRANSMISS | Transmission System | Transmission System | Identifies whether the main is part of the transmission system, which is compromised of pipes with a diameter of 16 inches and above. | Identifies whether the main is part of the transmission system, which is compromised of pipes with a diameter of 16 inches and above. |
| TURNDIRECTION | Turn Close Direction | Turn Close Direction | The turn direction to close the asset, as in clockwise or counter clockwise | The turn direction to close the asset, as in clockwise or counter clockwise |
| URNS | Number of turns (max) | Number of turns (max) | Number of turns to open valve (max) | Number of turns to open valve (max) |
| TURNSTOCLOSE | Turns to Close | Turns to Close | The number of turns required to close the asset | The number of turns required to close the asset |
| TYPE | Clamp Type | Clamp Type | The type of repair clamp | The type of repair clamp |

Field Descriptions

| Field Name | Current Alias | New Alias | Current Description | New Description |
|-------------------|-----------------------------|-----------------------------|---|---|
| UPELEV | Upstream Elevation | Upstream Elevation | The upstream invert elevation of the pipe | The upstream invert elevation of the pipe |
| URL | URL | URL | A URL to the specific SCADA instrument | A URL to the specific SCADA instrument |
| VACCERTDATE | Vacation Certification Date | Vacation Certification Date | If the easement has been vacated, this field is used to record the date the Engineering Certificate was signed. | If the easement has been vacated, this field is used to record the date the Engineering Certificate was signed. |
| VACRESOLUTIONDATE | Vacation Resolution Date | Vacation Resolution Date | This field is used to record the date the resolution for vacation was recorded. | This field is used to record the date the resolution for vacation was recorded. |
| VALVETYPE | Valve Type | Valve Type | Type of control valve | Type of control valve |
| VERTACC | Vertical Accuracy | Vertical Accuracy | The vertical accuracy in feet | The vertical accuracy in feet |
| VERTDATUM | Vertical Datum | Vertical Datum | Identifies the datum used to establish the asset's vertical elevation | Identifies the datum used to establish the asset's vertical elevation |
| VISIBLE | Visible | Visible | Is inlet visible? | Is inlet visible? |
| VLVOP | Is valve operable? | Is valve operable? | Is valve operable? | Is valve operable? |
| VOLUME | Volume | Volume | The volume of detention area | The volume of detention area |
| WALLMAT | Wall Material | Wall Material | The material used to construct the manhole wall | The material used to construct the manhole wall |
| WARRANTYDATE | Warranty Date | Warranty Date | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. | The date the warranty expires on the asset. If populated and asset is still under warranty, asset record will show up pink on the Cityworks work order. |
| WATERELEV | Water Elevation | Water Elevation | The water elevation | The water elevation |
| WATERTYPE | Water Type | Water Type | Identifies the type of water in the pipe | Identifies the type of water in the pipe |
| WEIGHT | Weight | Weight | The weight of the pump in pounds | The weight of the pump in pounds |
| WEIRPRESENT | Weir Present? | Weir Present? | Identifies whether there is a weir present | Identifies whether there is a weir present |
| WEIRSHAPE | Shape | Shape | The shape of the weir | The shape of the weir |
| WEIRTYPE | Weir Type | Weir Type | The type of weir | The type of weir |
| WELLCHAMDIAM | Well Chamber Diameter | Well Chamber Diameter | The diameter of the well chamber | The diameter of the well chamber |
| WELLCHAMWIDTH | Well Chamber Width | Well Chamber Width | The width of the well chamber | The width of the well chamber |
| WIDTH | Width | Width | The width of the easement in feet as defined within the recorded easement document. | The width of the easement in feet as defined within the recorded easement document. |
| WINGWALL | Wing Walls? | Wing Walls? | Indicates whether the weir has wing walls | Indicates whether the weir has wing walls |
| WMATERIAL | Material | Material | The material used to construct the weir | The material used to construct the weir |
| WOASBUILTLOC | Work Order As-built | Work Order As-built | The URL or filepath to the electronic as-built document from a work order | The URL or filepath to the electronic as-built document from a work order |
| WORKORDERNUM | City Work Order Number | City Work Order Number | The work order number for performing work on the asset (Cityworks, Qalert, etc) | The work order number for performing work on the asset (Cityworks, Qalert, etc) |
| XCOORD | X Coordinate | X Coordinate | X-Coordinate of the asset (FL State Plane-East) | X-Coordinate of the asset (FL State Plane-East) |
| YCOORD | Y Coordinate | Y Coordinate | Y-Coordinate of the asset (FL State Plane-East) | Y-Coordinate of the asset (FL State Plane-East) |
| ZCOORD | Z Coordinate | Z Coordinate | Z-Coordinate of the asset | Z-Coordinate of the asset |

Domain Descriptions

| Domain Name | Current Description | New Description |
|----------------------------|--|--|
| AssetManager | Indicates the manager of the asset | Indicates the manager of the asset |
| AssetOwner | Indicates the owner of the asset | Indicates the owner of the asset |
| BackflowDeviceType | Backflow Device Type | Backflow Device Type |
| BackflowInspectionStatus | BackflowInspectionStatus | BackflowInspectionStatus |
| BooleanDomain | A 0/1 boolean domain | A 0/1 boolean domain |
| BooleanSymbolValue | Valid values are Yes and No | Valid values are Yes and No |
| Datum | Verical Datum for Elevation Data (COFL Domain) | Verical Datum for Elevation Data (COFL Domain) |
| Direction | A general description of cardinal direction | A general description of cardinal direction |
| EasementStatus | Indicates if an easement is dedicated or vacated | Indicates if an easement is dedicated or vacated |
| EasementType | The type of easement recorded | The type of easement recorded |
| HorizontalAlignment | Valid horizontal symbol alignment values | Valid horizontal symbol alignment values |
| InventoryClass | Source of the location of the asset (COFL Domain) | Source of the location of the asset (COFL Domain) |
| LastEditor | Last Editor of the Feature Class | Last Editor of the Feature Class |
| piAccessDiameter | Valid range of infrastructure access diameters | Valid range of infrastructure access diameters |
| piAccessType | List of infrastructure access types | List of infrastructure access types |
| piActiveStatus | Identifies whether the asset is in use, not in use or removed from the ground | Identifies whether the asset is in use, not in use or removed from the ground |
| piConditionIIMM | International Infrastruture Management Manual (IIMM) Condition Grading | International Infrastruture Management Manual (IIMM) Condition Grading |
| piConditionPACP | NASSCO Pipeline Assessment Certification Program (PACP) condition rating | NASSCO Pipeline Assessment Certification Program (PACP) condition rating |
| piControlValveType | List of infrastructure Control Valve Types | List of infrastructure Control Valve Types |
| piDischargePointType | List of infrastructure Discharge Point Types | List of infrastructure Discharge Point Types |
| piFittingType | List of pipe fitting types | List of pipe fitting types |
| piInletTypes | List of inlet types | List of inlet types |
| piLiningMethod | The pipe lining method based on LACP and PACP standards | The pipe lining method based on LACP and PACP standards |
| piManholeCoverShape | List of infrastructure Manhole Cover Types | List of infrastructure Manhole Cover Types |
| piManholeCoverType | List of infrastructure Manhole Cover Types | List of infrastructure Manhole Cover Types |
| piManholeType | List of infrastructure Manhole Types | List of infrastructure Manhole Types |
| piPipeDiameter | A list of pipe diameters | A list of pipe diameters |
| piPipeMaterial | The list of pipe materials types based on the NASSCO standards | The list of pipe materials types based on the NASSCO standards |
| piPipeShape | Sanitary and stormwater pipe shapes | Sanitary and stormwater pipe shapes |
| piSystemValveType | List of system valve types | List of system valve types |
| piValveTurnDirection | Direction of turn for valves in a utility system | Direction of turn for valves in a utility system |
| piValveTurnDirection | Direction of turn for valves in a utility system | Direction of turn for valves in a utility system |
| piValveUse | Listing of different uses for valves in a utility system | Listing of different uses for valves in a utility system |
| ServiceProviderAgency | The names of agencies that provide services (COFL) | The names of agencies that provide services (COFL) |
| SeverityIndicator | Indicates the serverity of blockage and/or structural collapse observed within the asset | Indicates the serverity of blockage and/or structural collapse observed within the asset |
| swManufacturer | List of manufacturers of stormwater assets | List of manufacturers of stormwater assets |
| swNetworkStructureType | Stormwater network structure types | Stormwater network structure types |
| swOpenPosition | The opening position of a stormwater control baffle | The opening position of a stormwater control baffle |
| swOutfallLocation | Indicates the location of an outfall asset (COFL Domain) | Indicates the location of an outfall asset (COFL Domain) |
| swPipeType | Indicates the type of stormwater pipe (COFL Domain) | Indicates the type of stormwater pipe (COFL Domain) |
| swPollControlDeviceType | Lists the type of pollution control device | Lists the type of pollution control device |
| swPollControlStructureType | Lists the type of pollution control structure | Lists the type of pollution control structure |
| swPondType | Indicates the type of stormwater pond (COFL Domain) | Indicates the type of stormwater pond (COFL Domain) |
| swWeirShape | The shape of the stormwater weir | The shape of the stormwater weir |
| swWeirType | The type of weir | The type of weir |
| swWellAccessShape | The shape of a stormwater access point | The shape of a stormwater access point |
| wLongShort | Indicates whether the main is on the same side of street of meter (short side), if not then it is on the long side | Indicates whether the main is on the same side of street of meter (short side), if not then it is on the long side |

Domain Descriptions

| Domain Name | Current Description | New Description |
|-------------------|--|--|
| wManufacturer | List of manufacturers of water distribution system assets | List of manufacturers of water distribution system assets |
| wPumpType | The type of water pump in the water distribution system | The type of water pump in the water distribution system |
| wServicePointType | The types of service points in a water distribution system | The types of service points in a water distribution system |
| wStructureType | The type of structures associated with a water distribution system | The type of structures associated with a water distribution system |
| wWaterType | The type of water flowing through pipes in a water distribution system | The type of water flowing through pipes in a water distribution system |
| YesNo | A yes/no indicator | A yes/no indicator |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|--------------|----------------|--------------|----------------|
| 0 | Not Rated | 0 | Not Rated |
| 0.75 | 3/4" | 0.75 | 3/4" |
| 1 | 1" | 1 | 1" |
| -1 | Other | -1 | Other |
| 1.25 | 1 1/4" | 1.25 | 1 1/4" |
| 1.5 | 1 1/2" | 1.5 | 1 1/2" |
| 10 | 10" | 10 | 10" |
| 102 | 102" | 102 | 102" |
| 11 | 11" | 11 | 11" |
| 12 | 12" | 12 | 12" |
| 13 | 13" | 13 | 13" |
| 14 | 14" | 14 | 14" |
| 15 | 15" | 15 | 15" |
| 16 | 16" | 16 | 16" |
| 18 | 18" | 18 | 18" |
| 19 | 19" | 19 | 19" |
| 2 | 2" | 2 | 2" |
| 2.5 | 2 1/2" | 2.5 | 2 1/2" |
| 20 | 20" | 20 | 20" |
| 21 | 21" | 21 | 21" |
| 22 | 22" | 22 | 22" |
| 23 | 23" | 23 | 23" |
| 24 | 24" | 24 | 24" |
| 27 | 27" | 27 | 27" |
| 27" Diameter | 27" Diameter | 27" Diameter | 27" Diameter |
| 29 | NGVD 29 | 29 | NGVD 29 |
| 3 | 3" | 3 | 3" |
| 30 | 30" | 30 | 30" |
| 33 | 33" | 33 | 33" |
| 36 | 36" | 36 | 36" |
| 4 | 4" | 4 | 4" |
| 40 | 40" | 40 | 40" |
| 41 | 41" | 41 | 41" |
| 42 | 42" | 42 | 42" |
| 42" Diameter | 42" Diameter | 42" Diameter | 42" Diameter |
| 45 | 45" | 45 | 45" |
| 48 | 48" | 48 | 48" |
| 5 | Other | 5 | Other |
| 52 | 52" | 52 | 52" |
| 54 | 54" | 54 | 54" |
| 6 | 6" | 6 | 6" |
| 60 | 60" | 60 | 60" |
| 66 | 66" | 66 | 66" |
| 72 | 72" | 72 | 72" |
| 75 | 75" | 75 | 75" |
| 8 | 8" | 8 | 8" |
| 84 | 84" | 84 | 84" |
| 88 | NAVD 88 | 88 | NAVD 88 |
| -88 | Not Applicable | -88 | Not Applicable |
| 96 | 96" | 96 | 96" |
| -99 | Unknown | -99 | Unknown |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|-----------------------------------|--|-----------------------------------|--|
| A | Arched | A | Arched |
| Abandoned | Abandoned | Abandoned | Abandoned |
| Abandoned-Live | Abandoned-Live | Abandoned-Live | Abandoned-Live |
| ABS | ABS Plastic | ABS | ABS Plastic |
| ACCTCLOSED | N/A Account Closed | ACCTCLOSED | N/A Account Closed |
| ACP | Asbestos Cement | ACP | Asbestos Cement |
| Active | Active | Active | Active |
| ADA Compliant | ADA Compliant | ADA Compliant | ADA Compliant |
| Adjustable Weir | Adjustable Weir | Adjustable Weir | Adjustable Weir |
| Air Control | Air Control | Air Control | Air Control |
| Air Gap | Air Gap | Air Gap | Air Gap |
| AIR GAP* | AIR GAP* | AIR GAP* | AIR GAP* |
| Air Release | Air Release | Air Release | Air Release |
| Altitude | Altitude | Altitude | Altitude |
| ALU | Aluminum pipe | ALU | Aluminum pipe |
| Aluminum Baffle | Aluminum Baffle | Aluminum Baffle | Aluminum Baffle |
| American Darling | American Darling | American Darling | American Darling |
| American Flow | American Flow | American Flow | American Flow |
| ASP | Asphalt | ASP | Asphalt |
| Atmospheric Vacuum | Atmospheric Vacuum | Atmospheric Vacuum | Atmospheric Vacuum |
| AVB | AVB | AVB | AVB |
| Axial Flow | Axial Flow | Axial Flow | Axial Flow |
| Backflow Control | Backflow Control | Backflow Control | Backflow Control |
| Backflow Preventor | Backflow Preventor | Backflow Preventor | Backflow Preventor |
| Ball | Ball | Ball | Ball |
| Bend | Bend | Bend | Bend |
| Blowoff | Blowoff | Blowoff | Blowoff |
| BMP | Brick Masonry | BMP | Brick Masonry |
| Bottom of Headwall | Bottom of Headwall | Bottom of Headwall | Bottom of Headwall |
| Bottom Opening | Bottom Opening | Bottom Opening | Bottom Opening |
| Bottom Pipe | Bottom Pipe | Bottom Pipe | Bottom Pipe |
| Bottom Seawall | Bottom of Seawall | Bottom Seawall | Bottom of Seawall |
| BR | Brick | BR | Brick |
| Broad-Crested | Broad-Crested | Broad-Crested | Broad-Crested |
| Broward County | Broward County | Broward County | Broward County |
| Broward County GIS | Broward County GIS | Broward County GIS | Broward County GIS |
| Broward County Property Appraiser | Broward County Property Appraiser's Office | Broward County Property Appraiser | Broward County Property Appraiser's Office |
| Broward County Public Schools | Broward County Public Schools | Broward County Public Schools | Broward County Public Schools |
| Broward Sheriff's Office | Broward Sheriff's Office | Broward Sheriff's Office | Broward Sheriff's Office |
| Butterfly - Sidemount | Butterfly - Sidemount | Butterfly - Sidemount | Butterfly - Sidemount |
| Butterfly - Unknown Orientation | Butterfly - Unknown Orientation | Butterfly - Unknown Orientation | Butterfly - Unknown Orientation |
| Butterfly - Vertical | Butterfly - Vertical | Butterfly - Vertical | Butterfly - Vertical |
| Bypass | Ball | Bypass | Ball |
| C | Complete | C | Complete |
| CAL | Corrugated Aluminum | CAL | Corrugated Aluminum |
| Cap | Cap | Cap | Cap |
| Catchbasin | Catchbasin | Catchbasin | Catchbasin |
| CCPP | Centrifugally Cast Concrete Pipe Liner | CCPP | Centrifugally Cast Concrete Pipe Liner |
| Centrifugal Other | Centrifugal Other | Centrifugal Other | Centrifugal Other |
| Centrifugal Split Case | Centrifugal Split Case | Centrifugal Split Case | Centrifugal Split Case |
| Check | Check | Check | Check |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|-------------------------|------------------------------|-------------------------|------------------------------|
| CheckMate | CheckMate | CheckMate | CheckMate |
| CIP | Cured in Place | CIP | Cured in Place |
| CIPP | Cured In Place | CIPP | Cured In Place |
| Circle | Circle | Circle | Circle |
| Circular | Circular | Circular | Circular |
| City of Fort Lauderdale | City of Fort Lauderdale | City of Fort Lauderdale | City of Fort Lauderdale |
| City of Tamarac | City of Tamarac | City of Tamarac | City of Tamarac |
| CITY-HALL\AshokV | CITY-HALL\AshokV | CITY-HALL\AshokV | CITY-HALL\AshokV |
| CITY-HALL\DavidRu | CITY-HALL\DavidRu | CITY-HALL\DavidRu | CITY-HALL\DavidRu |
| CITY-HALL\HaitingH | CITY-HALL\HaitingH | CITY-HALL\HaitingH | CITY-HALL\HaitingH |
| CITY-HALL\IanW | CITY-HALL\IanW | CITY-HALL\IanW | CITY-HALL\IanW |
| CITY-HALL\KearyC | CITY-HALL\Keary | CITY-HALL\KearyC | CITY-HALL\Keary |
| CITY-HALL\LuciaH | CITY-HALL\LuciaH | CITY-HALL\LuciaH | CITY-HALL\LuciaH |
| CITY-HALL\RollinM | CITY-HALL\RollinM | CITY-HALL\RollinM | CITY-HALL\RollinM |
| CLA | CLA | CLA | CLA |
| Clockwise | Clockwise | Clockwise | Clockwise |
| Closed Lid Manhole | Closed Lid Manhole | Closed Lid Manhole | Closed Lid Manhole |
| Clow | Clow | Clow | Clow |
| CMP | Corrugated Metal | CMP | Corrugated Metal |
| Combination | Combination | Combination | Combination |
| Commercial | Commercial | Commercial | Commercial |
| CompleteCR | Complete Customer Reported | CompleteCR | Complete Customer Reported |
| CompleteFV | Complete Field Verified | CompleteFV | Complete Field Verified |
| Compound | Compound | Compound | Compound |
| CON | Conflict | CON | Conflict |
| CONC | Concrete (Non-Reinforced) | CONC | Concrete (Non-Reinforced) |
| Cone | Cone | Cone | Cone |
| Counter-Clockwise | Counter-Clockwise | Counter-Clockwise | Counter-Clockwise |
| Coupling | Coupling | Coupling | Coupling |
| Cover | Cover | Cover | Cover |
| CPEL | Corrugated Polyethylene | CPEL | Corrugated Polyethylene |
| Cross | Cross | Cross | Cross |
| CSB | Concrete Segments (Bolted) | CSB | Concrete Segments (Bolted) |
| CSTL | Corrugated Steel | CSTL | Corrugated Steel |
| CSU | Concrete Segments (Unbolted) | CSU | Concrete Segments (Unbolted) |
| CT | Clay Tile | CT | Clay Tile |
| CUP | Copper | CUP | Copper |
| Curb | Curb | Curb | Curb |
| Curb Cover | Curb Cover | Curb Cover | Curb Cover |
| DC | DC | DC | DC |
| DCDA | DCDA | DCDA | DCDA |
| Dedicated | Dedicated | Dedicated | Dedicated |
| Detention | Detention | Detention | Detention |
| DGPS | DGPS (1-meter) | DGPS | DGPS (1-meter) |
| DIP | Ductile Iron | DIP | Ductile Iron |
| Discharge Structure | Discharge Structure | Discharge Structure | Discharge Structure |
| DIV | Diversion | DIV | Diversion |
| Diversion Chamber | Diversion Chamber | Diversion Chamber | Diversion Chamber |
| Diversion Point | Diversion Point | Diversion Point | Diversion Point |
| Domestic | Domestic | Domestic | Domestic |
| Door | Door | Door | Door |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Double Check | Double Check | Double Check | Double Check |
| Drainage | Drainage Easement | Drainage | Drainage Easement |
| DRP | Drop | DRP | Drop |
| DryWell | DryWell | DryWell | DryWell |
| E | Egg-Shaped | E | Egg-Shaped |
| EAR | Earthen | EAR | Earthen |
| EARGEO | Earth & Geotextile | EARGEO | Earth & Geotextile |
| East | East | East | East |
| East/West | East/West | East/West | East/West |
| Enclosed Storage Facility | Enclosed Storage Facility | Enclosed Storage Facility | Enclosed Storage Facility |
| Endpoint | Pipe End | Endpoint | Pipe End |
| Expansion Joint | Expansion Joint | Expansion Joint | Expansion Joint |
| FF | Fold and Form or Deform/Reform | FF | Fold and Form or Deform/Reform |
| Fiber Glass Snout | Fiber Glass Snout | Fiber Glass Snout | Fiber Glass Snout |
| Fire | Fire | Fire | Fire |
| Fort Lauderdale GIS\Automated Process | Fort Lauderdale GIS Automated Process | Fort Lauderdale GIS\Automated Process | Fort Lauderdale GIS Automated Process |
| Fort Lauderdale\Engineering | Fort Lauderdale Engineering Bureau | Fort Lauderdale\Engineering | Fort Lauderdale Engineering Bureau |
| Fort Lauderdale\Police | Fort Lauderdale Police Department | Fort Lauderdale\Police | Fort Lauderdale Police Department |
| FRP | Fiberglass Reinforced | FRP | Fiberglass Reinforced |
| Gate - Sidemount | Gate - Sidemount | Gate - Sidemount | Gate - Sidemount |
| Gate - Unknown Orientation | Gate - Unknown Orientation | Gate - Unknown Orientation | Gate - Unknown Orientation |
| Gate - Vertical | Gate - Vertical | Gate - Vertical | Gate - Vertical |
| GEO | Geotextile | GEO | Geotextile |
| GIP | Galvanized Pipe | GIP | Galvanized Pipe |
| GIS | GIS Entry | GIS | GIS Entry |
| GPS | GPS (< 1-foot) | GPS | GPS (< 1-foot) |
| GPS-Converted | GPS Asbuilt Converted (< 1-foot) | GPS-Converted | GPS Asbuilt Converted (< 1-foot) |
| Grate | Grate | Grate | Grate |
| Grated-City | Grated-City | Grated-City | Grated-City |
| Grated-FDOT | Grated-FDOT | Grated-FDOT | Grated-FDOT |
| GRC | Glass Reinforced Cement | GRC | Glass Reinforced Cement |
| H | Horseshoe | H | Horseshoe |
| Hand | Hand | Hand | Hand |
| HDPE | High Density Polyethylene | HDPE | High Density Polyethylene |
| Horizontal | Horizontal | Horizontal | Horizontal |
| Hydrant | Hydrant | Hydrant | Hydrant |
| Inactive | Inactive | Inactive | Inactive |
| Inactive-Plugged | Inactive-Plugged | Inactive-Plugged | Inactive-Plugged |
| Industrial | Industrial | Industrial | Industrial |
| Injection Well | Injection Well | Injection Well | Injection Well |
| Intake | Intake | Intake | Intake |
| Invert | Invert | Invert | Invert |
| Iowa | Iowa | Iowa | Iowa |
| Irregular | Irregular | Irregular | Irregular |
| Irrigation | Irrigation | Irrigation | Irrigation |
| Jet | Jet | Jet | Jet |
| Junction Chamber | Junction Chamber | Junction Chamber | Junction Chamber |
| Kennedy | Kennedy | Kennedy | Kennedy |
| Labyrinth | Labyrinth | Labyrinth | Labyrinth |
| Large - Water Tight | Large - Water Tight | Large - Water Tight | Large - Water Tight |
| LayFlat | LayFlat | LayFlat | LayFlat |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| LEAD | Lead | LEAD | Lead |
| Lid | Lid | Lid | Lid |
| Lift Station | Lift Station | Lift Station | Lift Station |
| Long | Long | Long | Long |
| M and H | M and H | M and H | M and H |
| Meter Station | Meter Station | Meter Station | Meter Station |
| Middle of Headwall | Middle of Headwall | Middle of Headwall | Middle of Headwall |
| Middle of Seawall | Middle of Seawall | Middle of Seawall | Middle of Seawall |
| Minimum Energy Loss | Minimum Energy Loss | Minimum Energy Loss | Minimum Energy Loss |
| Monitoring Well | Monitoring Well | Monitoring Well | Monitoring Well |
| Mueller | Mueller | Mueller | Mueller |
| N | No | N | No |
| Natural Bank | Natural Bank | Natural Bank | Natural Bank |
| No Service | No Service | No Service | No Service |
| Non-District | Non-District | Non-District | Non-District |
| NONE | None | NONE | None |
| Non-Utility | Non-Utility Easement | Non-Utility | Non-Utility Easement |
| North | North | North | North |
| North/South | North/South | North/South | North/South |
| Northeast | Northeast | Northeast | Northeast |
| Northeast/Northwest | Northeast/Northwest | Northeast/Northwest | Northeast/Northwest |
| Northeast/Southwest | Northeast/Southwest | Northeast/Southwest | Northeast/Southwest |
| Northwest | Northwest | Northwest | Northwest |
| Northwest/Southeast | Northwest/Southeast | Northwest/Southeast | Northwest/Southeast |
| Not Found | Not Found | Not Found | Not Found |
| Nutrient Separating Baffle Box | Nutrient Separating Baffle Box | Nutrient Separating Baffle Box | Nutrient Separating Baffle Box |
| O | Oval (Elliptical) | O | Oval (Elliptical) |
| OB | Oblong | OB | Oblong |
| Offset | Offset | Offset | Offset |
| Open | Open | Open | Open |
| Open Lid Manhole | Open Lid Manhole | Open Lid Manhole | Open Lid Manhole |
| OTH | Other | OTH | Other |
| Other | Other | Other | Other |
| Outfall | Outfall | Outfall | Outfall |
| Over Under | Over Under | Over Under | Over Under |
| Overflow | Overflow | Overflow | Overflow |
| P | Partial | P | Partial |
| PBL | Polybutylene | PBL | Polybutylene |
| PCCP | Pre-Stressed Concrete Cylinder | PCCP | Pre-Stressed Concrete Cylinder |
| PE | Polyethylene | PE | Polyethylene |
| PERF | Perforated | PERF | Perforated |
| Plug | Plug | Plug | Plug |
| Potable Water | Potable Water | Potable Water | Potable Water |
| PP | Polypropylene | PP | Polypropylene |
| Pressure Reducer | Pressure Reducer | Pressure Reducer | Pressure Reducer |
| Pressure Vacuum | Pressure Vacuum | Pressure Vacuum | Pressure Vacuum |
| Process Water | Process Water | Process Water | Process Water |
| Production Well | Production Well | Production Well | Production Well |
| PSC | Plastic/Steel Composite | PSC | Plastic/Steel Composite |
| PUBLIC_SERVJonSt | PUBLIC_SERVJonSt | PUBLIC_SERVJonSt | PUBLIC_SERVJonSt |
| Pump Station | Pump Station | Pump Station | Pump Station |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|---------------------|--------------------------------------|---------------------|--------------------------------------|
| PVB | PVB | PVB | PVB |
| PVC | Polyvinyl Chloride | PVC | Polyvinyl Chloride |
| R | Rectangular | R | Rectangular |
| Raw Water | Raw Water | Raw Water | Raw Water |
| RCP | Reinforced Concrete | RCP | Reinforced Concrete |
| RCPC | Reinforced concrete pipe w/ cylinder | RCPC | Reinforced concrete pipe w/ cylinder |
| Rear Yard | Rear Yard | Rear Yard | Rear Yard |
| Reciprocating | Reciprocating | Reciprocating | Reciprocating |
| Reclaimed Water | Reclaimed Water | Reclaimed Water | Reclaimed Water |
| Rectagular | Rectagular | Rectagular | Rectagular |
| Rectangle | Rectangle | Rectangle | Rectangle |
| Rectangular | Rectangular | Rectangular | Rectangular |
| Reducer | Reducer | Reducer | Reducer |
| Reducing Cross | Reducing Cross | Reducing Cross | Reducing Cross |
| Reducing Tee | Reducing Tee | Reducing Tee | Reducing Tee |
| RedValve | RedValve | RedValve | RedValve |
| Removed | Removed | Removed | Removed |
| Retention | Retention | Retention | Retention |
| Roof | Roof | Roof | Roof |
| Rotary | Rotary | Rotary | Rotary |
| Round | Round | Round | Round |
| Roundway | Roundway | Roundway | Roundway |
| RPDA | RPDA | RPDA | RPDA |
| RPM | Reinforced Plastic (Truss) | RPM | Reinforced Plastic (Truss) |
| RPZ | Reduced Pressure Zone | RPZ | Reduced Pressure Zone |
| S | Square | S | Square |
| Salt Water | Salt Water | Salt Water | Salt Water |
| SB | Segmented Block | SB | Segmented Block |
| SED | Sedimentation | SED | Sedimentation |
| Sewer | Sewer Easement | Sewer | Sewer Easement |
| Sharp-Crested | Sharp-Crested | Sharp-Crested | Sharp-Crested |
| Short | Short | Short | Short |
| Shutoff/Isolation | Shutoff/Isolation | Shutoff/Isolation | Shutoff/Isolation |
| Simple Check | Simple Check | Simple Check | Simple Check |
| Sleeve | Sleeve | Sleeve | Sleeve |
| SN | Segmented Panel | SN | Segmented Panel |
| Snubber | Snubber | Snubber | Snubber |
| SOLID | Solid | SOLID | Solid |
| Solid-City | Solid-City | Solid-City | Solid-City |
| Solid-FDOT | Solid-FDOT | Solid-FDOT | Solid-FDOT |
| South | South | South | South |
| Southeast | Southeast | Southeast | Southeast |
| Southeast/Southwest | Southeast/Southwest | Southeast/Southwest | Southeast/Southwest |
| Southwest | Southwest | Southwest | Southwest |
| SP | Segmented Pipe | SP | Segmented Pipe |
| SPL | Split | SPL | Split |
| Split Manhole | Split Manhole | Split Manhole | Split Manhole |
| Square | Square | Square | Square |
| Standard | Standard | Standard | Standard |
| Standard Outlet | Standard Outlet | Standard Outlet | Standard Outlet |
| Standard W/ Ears | Standard W/ Ears | Standard W/ Ears | Standard W/ Ears |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Standard W/ Lock | Standard W/ Lock | Standard W/ Lock | Standard W/ Lock |
| STD | Standard | STD | Standard |
| STL | Stainless Steel | STL | Stainless Steel |
| Storage Basin | Storage Basin | Storage Basin | Storage Basin |
| Storage Tank | Storage Tank | Storage Tank | Storage Tank |
| Suntree | Suntree | Suntree | Suntree |
| Surge Relief | Surge Relief | Surge Relief | Surge Relief |
| SW | Spiral Wound | SW | Spiral Wound |
| T | Trapezoidal | T | Trapezoidal |
| Tap | Tap | Tap | Tap |
| Tapping | Tapping | Tapping | Tapping |
| Tapping Tee | Tapping Tee | Tapping Tee | Tapping Tee |
| Tee | Tee | Tee | Tee |
| Tidal | Tidal | Tidal | Tidal |
| Tide Chamber | Tide Chamber | Tide Chamber | Tide Chamber |
| TideFlex | TideFlex | TideFlex | TideFlex |
| Top of Headwall | Top of Headwall | Top of Headwall | Top of Headwall |
| Top of Pipe | Top of Pipe | Top of Pipe | Top of Pipe |
| Top of Seawall | Top of Seawall | Top of Seawall | Top of Seawall |
| Top Opening | Top Opening | Top Opening | Top Opening |
| Transition | Transition | Transition | Transition |
| Trapezoid | Trapezoid | Trapezoid | Trapezoid |
| Treated Water | Treated Water | Treated Water | Treated Water |
| Treatment Plant | Treatment Plant | Treatment Plant | Treatment Plant |
| TRI | Triangular | TRI | Triangular |
| TRM | Terminal | TRM | Terminal |
| TTE | Transite | TTE | Transite |
| Turbine | Turbine | Turbine | Turbine |
| U | Unknown/Inaccessible | U | Unknown/Inaccessible |
| UN | Unknown | UN | Unknown |
| UNK | Unknown | UNK | Unknown |
| Unknown | Unknown | Unknown | Unknown |
| Upflow Filtration System | Upflow Filtration System | Upflow Filtration System | Upflow Filtration System |
| US Pipe | US Pipe | US Pipe | US Pipe |
| Utility | Utility Easement | Utility | Utility Easement |
| Vacated | Vacated | Vacated | Vacated |
| Vacuum | Vacuum | Vacuum | Vacuum |
| Vacuum Breaker | Vacuum Breaker | Vacuum Breaker | Vacuum Breaker |
| Vacuum Release | Vacuum Release | Vacuum Release | Vacuum Release |
| Valley | Valley | Valley | Valley |
| Valley Cover | Valley Cover | Valley Cover | Valley Cover |
| Vault | Vault | Vault | Vault |
| VCP | Vitrified Clay | VCP | Vitrified Clay |
| Vertical | Vertical | Vertical | Vertical |
| Virtual Junction | Virtual Junction | Virtual Junction | Virtual Junction |
| V-Notch | V-Notch | V-Notch | V-Notch |
| V-Notched | V-Notched | V-Notched | V-Notched |
| WaStop | WaStop | WaStop | WaStop |
| Water | Water Easement | Water | Water Easement |
| Water Tight | Water Tight | Water Tight | Water Tight |
| WD | Wood | WD | Wood |

Domains / Coded Values

| Current Code | Current Name | New Code | New Name |
|----------------------|----------------------|----------------------|----------------------|
| WEI | Weir | WEI | Weir |
| Well - Pressurized | Well - Pressurized | Well - Pressurized | Well - Pressurized |
| Well - Unpressurized | Well - Unpressurized | Well - Unpressurized | Well - Unpressurized |
| West | West | West | West |
| Wetlands Biofilter | Wetlands Biofilter | Wetlands Biofilter | Wetlands Biofilter |
| Wye | Wye | Wye | Wye |
| XX | Not Known | XX | Not Known |
| XXX | Unknown | XXX | Unknown |
| Y | Yes | Y | Yes |
| Z | Other | Z | Other |
| ZZ | Other | ZZ | Other |
| ZZZ | Other | ZZZ | Other |



230 W. Commercial Blvd, Suite 300
Fort Lauderdale, FL 33309
Offices Nationwide | 866.909.2220



7/29/2022 12:16 PM

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EXHIBIT B

CAM #22-1089
Exhibit 2
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FLORIDA DEPARTMENT OF Environmental Protection

Southeast District Office
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

July 24, 2020

Chris Lagerbloom, City Manager
City of Fort Lauderdale
100 N. Andrews Ave.
Fort Lauderdale, FL 33301
clagerbloom@fortlauderdale.gov

Re: City of Fort Lauderdale Public Water System
PW Facility ID #4060486
OGC Case #19-1637

Dear Mr. Lagerbloom:

Enclosed is the executed Consent Order to resolve the above referenced case. This copy is for your records. Please be mindful of all required deadlines within the Order to ensure compliance.

Should you have any questions or comments, please contact Zach Shulman at 561-681-6623 or via e-mail at Zachary.Shulman@floridadep.gov.

Your cooperation in this matter will be appreciated.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jason Andreotta", is written over a horizontal line.

Jason Andreotta
Director, Southeast District
Florida Department of Environmental Protection

Enclosure

ec: Lea Crandall, OGC
Raj Verma, Public Works Director
Alain Boileau, City Attorney
Rick Johnson, Utilities Manager
Fred Aschauer, Attorney

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faschauer@llw-law.com

www.FloridaDEP.gov

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

| | | |
|-----------------------------|---|----------------------|
| STATE OF FLORIDA DEPARTMENT |) | IN THE OFFICE OF THE |
| OF ENVIRONMENTAL PROTECTION |) | SOUTHEAST DISTRICT |
| |) | |
| v. |) | OGC FILE NO. 19-1637 |
| |) | |
| CITY OF FORT LAUDERDALE |) | |
| _____ |) | |

CONSENT ORDER

This Consent Order ("Order") is entered into between the State of Florida Department of Environmental Protection ("Department") and the City of Fort Lauderdale ("Respondent") to reach settlement of certain matters at issue between the Department and Respondent.

The Department finds and Respondent neither admits nor denies the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to protect Florida's water resources and to administer and enforce the provisions of the Florida Safe Drinking Water Act, Sections 403.850, et seq., Florida Statutes ("F.S."), and the rules promulgated and authorized in Title 62, Florida Administrative Code ("F.A.C."). The Department has jurisdiction over the matters addressed in this Order.
2. Respondent is a municipal corporation in the State of Florida and a person within the meaning of Section 403.031(5), F.S.
3. Respondent is the owner and is responsible for the operation of the City of Fort Lauderdale's Community Water System, PWS No. 4060486, located at 4321 NW 9th Avenue, in Broward County, Florida ("System").
4. The Department finds that the following violations occurred:
 - a) Respondent failed to properly exercise/maintain isolation valves in accordance with equipment's manufacturing guideline or the System's preventative maintenance program, in violation of sub-section 62-555.350(2), F.A.C. Specifically, on July 17th, 2019, a source water main break of the public water system occurred that led to the issuance of a city-wide boil water notice. Review of the incident report concluded that Respondent was unable to quickly isolate

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OGC No. 19-1637

the damage and redirect flow. Inaccurate maps of valve locations contributed to the extended time it took to correct in addition to isolation valves not being properly exercised/maintained.

b) Respondent failed to submit notifications to the Department following events that required the issuance of a boil water notice, in violation of subsection 62- 555.350(10), F.A.C. Specifically, an office file review of other abnormal events concluded that from the time that the Department acquired regulatory jurisdiction of Broward County public water systems in 2018; there were a total of 3 events that required the issuance of a boil water notice where the Department received no notification. The events are as follows:

| Date of Event | Location of Event | Population Impacted |
|-------------------|--|--------------------------------------|
| February 13, 2019 | NW 7 th Ave & NW 14 th Way | 343 Service Connections |
| April 23, 2019 | NE 6 th Ct (1942 NE 6 th Ct) | Greater than 200 Service Connections |
| December 27, 2019 | Isle of Venice | Population Greater than 350 |

Having reached a resolution of the matter Respondent and the Department mutually agree and it is

ORDERED:

5. Respondent shall comply with the following corrective actions within the stated time periods:

a) Within 60 days of the effective date of this Order, the Respondent shall submit a preventative maintenance plan to the Department for review that, at a minimum, exercises 100% of the source water line valves within the first year and 20% of the source water line valves annually thereafter, with the purpose of exercising all such source water line valves in a 5-year period. If the Department has any comments on the proposed plan, it will provide such comments within 15 days of receipt.

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b) Beginning no later than January 1, 2021, Respondent shall implement the preventative maintenance plan referenced in sub-paragraph 5(a) above.

c) Upon implementation of the preventative maintenance plan referenced in sub-paragraph 5(a) above, Respondent shall submit annual reports for 2 years to the Department showing the number of source water line valves exercised. Upon implementation of the maintenance plan, reports shall be submitted to the Department no later than 13 months for the first year, and no later than 25 months for the second year. The reports shall demonstrate that 100% of source water line valves were exercised within the first year of the preventative maintenance plan and at least 20% of source water line valves were exercised in the second year of the preventative maintenance plan. Consistent with its permit for the System, Respondent shall also maintain annual records on the number of exercised valves and have such records available for Department review upon request.

d) Within 60 days of the effective date of this Order, Respondent shall submit a plan for developing a complete map of the existing water supply network within the city's geographic boundaries, including all existing source and distribution mains, control valves, and directional flow routes, to the Department for review and comment. Mapping of the services lines may be accomplished through mapping of the meters/meter boxes. If the Department has any comments on the proposed plan, it will provide such comments within 30 days of receipt. Directional flows, including flows to any facility not belonging to the Respondent, will be shown on the maps. Inactive mains and related appurtenances with shut-off valves should be illustrated and highlighted to define their unique operational status. Maps will be maintained in such a manner that they can be accessed quickly and easily by maintenance and repair crews at all times and from multiple locations, to facilitate a prompt and efficient response to emergencies. As new construction is completed, the Respondent will incorporate as-built drawings of the new components into the maps.

e) Within 36 months of the effective date of this Order, the Respondent shall complete all mapping and certify to the Department in writing that mapping is complete in accordance with the terms of sub-paragraph 5(d) above.

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6. Notwithstanding any other time periods described above, Respondent shall complete all corrective actions required by paragraph 5 on or before August 1, 2023 and be in full compliance with chapter 62-555, F.A.C., other than those excused delays agreed to by Parties, as described in Paragraph 12.

7. Within 30 days of the effective date of this Order, Respondent shall pay the Department \$ 19,099.65 in settlement of the regulatory matters addressed in this Order. This amount includes \$ 5,000.00 for civil penalties, \$ 13,599.65 for a delayed economic benefit and \$ 500.00 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Order. The civil penalties are apportioned as follows: \$ 1,000.00 for each of the three water main breaks that were not reported to the Department, \$ 1,000.00 for a failure to maintain or update system maps and the preventative maintenance program; and \$ 1,000.00 for failure to adequately respond to an emergency.

8. Respondent shall make all payments required by this Order by cashier's check, money order or on-line payment. Cashier's check or money order shall be made payable to the "Department of Environmental Protection" and shall include both the OGC number assigned to this Order and the notation "Water Quality Assurance Trust Fund." Online payments by e-check can be made by going to the DEP Business Portal at: <http://www.fldepportal.com/go/pay/>. It will take a number of days after this order becomes final, effective and filed with the Clerk of the Department before ability to make online payment is available.

9. In lieu of making the cash payment of \$ 19,099.65 in civil penalties as set forth in paragraph 7 above, Respondent has elected to off-set this amount by implementing an in-kind penalty project, which has been approved by the Department. The proposed in-kind project attached hereto and incorporated herein as "Exhibit B" has been approved by the Department and involves the construction of 1,100 feet of exfiltration trench for flood mitigation within Hector Park at an estimated cost of \$ 600,000.00, which is at least one and a half times the civil penalty established in paragraph 7 of this Order. Notwithstanding the election to implement an in-kind project, payment of the remaining \$500.00 in costs must be paid within 30 days of

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the effective date of the Consent Order. Respondent shall comply with all the requirements and time frames in Exhibit A entitled In-Kind Projects.

10. Except as otherwise provided, all submittals and payments required by this Order shall be sent to the Department of Environmental Protection, Southeast District, 3301 Gun Club Road, MSC 7210-1, West Palm Beach, FL 33406 or via e-mail at SED.Drinkingwater@FloridaDEP.gov, attention Zach Shulman.

11. Respondent shall allow all authorized representatives of the Department access to the System at reasonable times for the purpose of determining compliance with the terms of this Order and the rules and statutes administered by the Department.

12. If any event, including administrative or judicial challenges by third parties unrelated to Respondent, occurs which causes delay or the reasonable likelihood of delay in complying with the requirements of this Order, Respondent shall have the burden of proving the delay was or will be caused by circumstances beyond the reasonable control of Respondent and could not have been or cannot be overcome by Respondent's due diligence. Neither economic circumstances nor the failure of a contractor, subcontractor, materialman, or other agent (collectively referred to as "contractor") to whom responsibility for performance is delegated to meet contractually imposed deadlines shall be considered circumstances beyond the control of Respondent (unless the cause of the contractor's late performance was also beyond the contractor's control). Upon occurrence of an event causing delay, or upon becoming aware of a potential for delay, Respondent shall notify the Department by the next working day and shall, within seven calendar days notify the Department in writing of (a) the anticipated length and cause of the delay, (b) the measures taken or to be taken to prevent or minimize the delay, and (c) the timetable by which Respondent intends to implement these measures. If the parties can agree that the delay or anticipated delay has been or will be caused by circumstances beyond the reasonable control of Respondent, the time for performance hereunder shall be extended. The agreement to extend compliance must identify the provision or provisions extended, the new compliance date or dates, and the additional measures Respondent must take to avoid or minimize the delay, if any. Failure of Respondent to comply with the notice requirements of this paragraph

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in a timely manner constitutes a waiver of Respondent's right to request an extension of time for compliance for those circumstances.

13. The Department, for and in consideration of the complete and timely performance by Respondent of all the obligations agreed to in this Order, hereby conditionally waives its right to seek judicial imposition of damages or civil penalties for the violations described above up to the date of the filing of this Order. This waiver is conditioned upon Respondent's complete compliance with all of the terms of this Order.

14. This Order is a settlement of the Department's civil and administrative authority arising under Florida law to resolve the matters addressed herein. This Order is not a settlement of any criminal liabilities which may arise under Florida law, nor is it a settlement of any violation which may be prosecuted criminally or civilly under federal law. Entry of this Order does not relieve Respondent of the need to comply with applicable federal, state, or local laws, rules, or ordinances.

15. The Department hereby expressly reserves the right to initiate appropriate legal action to address any violations of statutes or rules administered by the Department that are not specifically resolved by this Order.

16. Respondent is fully aware that a violation of the terms of this Order may subject Respondent to judicial imposition of damages, civil penalties up to \$10,000.00 per day per violation, and criminal penalties.

17. Respondent acknowledges and waives its right to an administrative hearing pursuant to sections 120.569 and 120.57, F.S., on the terms of this Order. Respondent also acknowledges and waives its right to appeal the terms of this Order pursuant to section 120.68, F.S.

18. Electronic signatures or other versions of the parties' signatures, such as .pdf or facsimile, shall be valid and have the same force and effect as originals. No modifications of the terms of this Order will be effective until reduced to writing, executed by both Respondent and the Department, and filed with the clerk of the Department.

19. The terms and conditions set forth in this Order may be enforced in a court of competent jurisdiction pursuant to sections 120.69 and 403.121, F.S. Failure to comply with the

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terms of this Order constitutes a violation of section 403.161(1)(b), F.S.

20. This Consent Order is a final order of the Department pursuant to section 120.52(7), F.S., and it is final and effective on the date filed with the Clerk of the Department unless a Petition for Administrative Hearing is filed in accordance with Chapter 120, F.S. Upon the timely filing of a petition, this Consent Order will not be effective until further order of the Department.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF CONSENT ORDER

Persons who are not parties to this Consent Order, but whose substantial interests are affected by it, have a right to petition for an administrative hearing under sections 120.569 and 120.57, Florida Statutes. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition concerning this Consent Order means that the Department's final action may be different from the position it has taken in the Consent Order.

The petition for administrative hearing must contain all of the following information:

- a) The OGC Number assigned to this Consent Order;
- b) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding;
- c) An explanation of how the petitioner's substantial interests will be affected by the Consent Order;
- d) A statement of when and how the petitioner received notice of the Consent Order;
- e) Either a statement of all material facts disputed by the petitioner or a statement that the petitioner does not dispute any material facts;
- f) A statement of the specific facts the petitioner contends warrant reversal or modification of the Consent Order;
- g) A statement of the rules or statutes the petitioner contends require reversal or modification of the Consent Order; and
- h) A statement of the relief sought by the petitioner, stating precisely the action

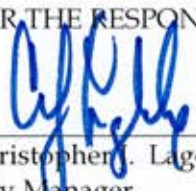
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petitioner wishes the Department to take with respect to the Consent Order.

The petition must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS# 35, Tallahassee, Florida 32399-3000 or received via electronic correspondence at Agency_Clerk@floridadep.gov, within 21 days of receipt of this notice. A copy of the petition must also be mailed at the time of filing to the District Office at 3301 Gun Club Road, MSC 7210-1, West Palm Beach, FL 33406. Failure to file a petition within the 21-day period constitutes a person's waiver of the right to request an administrative hearing and to participate as a party to this proceeding under sections 120.569 and 120.57, Florida Statutes. Before the deadline for filing a petition, a person whose substantial interests are affected by this Consent Order may choose to pursue mediation as an alternative remedy under section 120.573, Florida Statutes. Choosing mediation will not adversely affect such person's right to request an administrative hearing if mediation does not result in a settlement. Additional information about mediation is provided in section 120.573, Florida Statutes and Rule 62-110.106(12), Florida Administrative Code.

21. Rules referenced in this Order are available at
<http://www.dep.state.fl.us/legal/Rules/rulelist.htm>

FOR THE RESPONDENT:



Christopher J. Lagerbloom
City Manager

0721 2020
Date

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DONE AND ORDERED this 24th day of July, 2020, in Orange County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Jason Andreotta
Director
Southeast District

Filed, on this date, pursuant to section 120.52, F.S., with the designated Department Clerk,
receipt of which is hereby acknowledged.


Clerk

July 24, 2020
Date

Copies furnished to:

Lea Crandall, Agency Clerk
Mail Station 35

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Exhibit A

In-Kind Projects

I. Proposal

a. Within 180 days of the effective day of this Order or in accordance with the approved schedule submitted, Respondent shall complete the entire in-kind project.

b. During the implementation of the in-kind project, Respondent shall place appropriate sign(s) at the project site indicating that Respondent's involvement with the project is the result of a Department enforcement action. Respondent may remove the sign(s) after the project has been completed. However, after the project has been completed Respondent shall not post any sign(s) at the site indicating that the reason for the project was anything other than a Department enforcement action.

c. In the event Respondent fails to timely submit any requested information to the Department, fails to complete implementation of the in-kind project or otherwise fails to comply with any provision of this paragraph, the in-kind penalty project option shall be forfeited, and the entire amount of civil penalties shall be due from the Respondent to the Department within 30 days of Department notice. If the in-kind penalty project is terminated and Respondent timely remits the \$19,099.65 penalty, no additional penalties shall be assessed under paragraph 9 for failure to complete the requirement of this paragraph.

d. Within 15 days of completing the in-kind project, Respondent shall notify the Department, by electronic mail, of the project completion and request a verification letter from the Department. Respondent shall submit supporting information verifying that the project was completed in accordance with the approved proposal and documentation showing the actual costs incurred to complete the project. These costs shall not include those incurred in developing the proposal or obtaining approval from the Department for the project.

e. If upon review of the notification of completion, the Department determines that the project cannot be accepted due to a substantially incomplete notification of completion or due to substantial deviations from the approved in-kind project; Respondent shall be notified,

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in writing, of the reason(s) which prevent the acceptance of the project. Respondent shall correct and redress all the matters at issue and submit, by certified mail, a new notification of completion within 15 days of receipt of the Department's notice. If upon review of the new submittal, the Department determines that the in-kind project is still incomplete or not in accordance with the approved proposal, the in-kind penalty project option shall be forfeited, and the entire amount of civil penalty shall be due from the Respondent to the Department within 30 days of Department notice. If the in-kind penalty project is terminated and Respondent timely remits the \$19,099.65, no additional penalties shall be assessed under paragraph 9 for failure to complete the requirements of this paragraph.

Exhibit B

In-kind Project, Proposed Consent Order, OGC Case # 19-1637

City of Fort Lauderdale

The City is proposing the following stormwater water quality improvements as an in-kind project required in the proposed consent order, OGC Case #19-1637.

The prospective project lies in the area bounded by Ponce de Leon Drive on the north, SE 11th Street on the south and east and SE 9th Avenue on the west. Within this area lies a small neighborhood park, called Hector Park. The topography of this area is like a bowl with high water table conditions. The neighborhood is old and is built upon predominantly fine sandy soils. With very little green area for retention, pollutants resulting from storm events are discharged directly into the Tarpon River. In December 2019, the City had two sewer force main breaks in the Rio-Vista neighborhood (in the vicinity of Hector Park) which spewed several million gallons of raw sewage into the Tarpon River.

Over the next six months, the City will complete installation of new wastewater pipes. Initially, it intended to restore the Hector Park to its original condition, clean the catchbasins and repave the streets. However, the City would be willing to include flood mitigation by creating approximately 1,100 feet of exfiltration trench at an estimated cost of \$600,000. This will not only minimize water logging in this low-lying area, it would also improve the water quality by trapping pollutants and sediments in the exfiltration system first before discharging into the Tarpon River. Additionally, this will improve our compliance with the NPDES permit.

If approved, staff will begin finalizing the construction plans and complete this work within 12 months of the project approval.

May 27, 2020
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**CITY OF FORT LAUDERDALE
GENERAL CONDITIONS**

These instructions and conditions are standard for all contracts for commodities or services issued through the City of Fort Lauderdale Procurement Services Division. The City may delete, supersede, or modify any of these standard instructions for a particular contract by indicating such change in the Invitation to Bid (ITB) Special Conditions, Technical Specifications, Instructions, Proposal Pages, Addenda, and Legal Advertisement. In this general conditions document, Invitation to Bid (ITB), Request for Qualifications (RFQ), and Request for Proposal (RFP) are interchangeable.

PART 1 BIDDER PROPOSAL PAGE(S) CONDITIONS:

- 1.01 BIDDER ADDRESS:** The City maintains automated vendor address lists that have been generated for each specific Commodity Class item through our bid issuing service, BidSync. Notices of Invitations to Bid (ITB'S) are sent by e-mail to the selection of bidders who have fully registered with BidSync or faxed (if applicable) to every vendor on those lists, who may then view the bid documents online. Bidders who have been informed of a bid's availability in any other manner are responsible for registering with BidSync in order to view the bid documents. There is no fee for doing so. If you wish bid notifications be provided to another e-mail address or fax, please contact BidSync. If you wish purchase orders sent to a different address, please so indicate in your bid response. If you wish payments sent to a different address, please so indicate on your invoice.
- 1.02 DELIVERY:** Time will be of the essence for any orders placed as a result of this ITB. The City reserves the right to cancel any orders, or part thereof, without obligation if delivery is not made in accordance with the schedule specified by the Bidder and accepted by the City.
- 1.03 PACKING SLIPS:** It will be the responsibility of the awarded Contractor, to attach all packing slips to the OUTSIDE of each shipment. Packing slips must provide a detailed description of what is to be received and reference the City of Fort Lauderdale purchase order number that is associated with the shipment. Failure to provide a detailed packing slip attached to the outside of shipment may result in refusal of shipment at Contractor's expense.
- 1.04 PAYMENT TERMS AND CASH DISCOUNTS:** Payment terms, unless otherwise stated in this ITB, will be considered to be net 45 days after the date of satisfactory delivery at the place of acceptance and receipt of correct invoice at the office specified, whichever occurs last. Bidder may offer cash discounts for prompt payment but they will not be considered in determination of award. If a Bidder offers a discount, it is understood that the discount time will be computed from the date of satisfactory delivery, at the place of acceptance, and receipt of correct invoice, at the office specified, whichever occurs last.
- 1.05 TOTAL BID DISCOUNT:** If Bidder offers a discount for award of all items listed in the bid, such discount shall be deducted from the total of the firm net unit prices bid and shall be considered in tabulation and award of bid.
- 1.06 BIDS FIRM FOR ACCEPTANCE:** Bidder warrants, by virtue of bidding, that the bid and the prices quoted in the bid will be firm for acceptance by the City for a period of one hundred twenty (120) days from the date of bid opening unless otherwise stated in the ITB.
- 1.07 VARIANCES:** For purposes of bid evaluation, Bidder's must indicate any variances, no matter how slight, from ITB General Conditions, Special Conditions, Specifications or Addenda in the space provided in the ITB. No variations or exceptions by a Bidder will be considered or deemed a part of the bid submitted unless such variances or exceptions are listed in the bid and referenced in the space provided on the bidder proposal pages. If variances are not stated, or referenced as required, it will be assumed that the product or service fully complies with the City's terms, conditions, and specifications.
- By receiving a bid, City does not necessarily accept any variances contained in the bid. All variances submitted are subject to review and approval by the City. If any bid contains material variances that, in the City's sole opinion, make that bid conditional in nature, the City reserves the right to reject the bid or part of the bid that is declared by the City as conditional.
- 1.08 NO BIDS:** If you do not intend to bid please indicate the reason, such as insufficient time to respond, do not offer product or service, unable to meet specifications, schedule would not permit, or any other reason, in the space provided in this ITB. Failure to bid or return no bid comments prior to the bid due and opening date and time, indicated in this ITB, may result in your firm being deleted from our Bidder's registration list for the Commodity Class Item requested in this ITB.
- 1.09 MINORITY AND WOMEN BUSINESS ENTERPRISE PARTICIPATION AND BUSINESS DEFINITIONS:** The City of Fort Lauderdale wants to increase the participation of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Small Business Enterprises (SBE) in its procurement activities. If your firm qualifies in accordance with the below definitions please indicate in the space provided in this ITB.

Minority Business Enterprise (MBE) "A Minority Business" is a business enterprise that is owned or controlled by one or more socially or economically disadvantaged persons. Such disadvantage may arise from cultural, racial, chronic economic circumstances or background or other similar cause. Such persons include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

The term "Minority Business Enterprise" means a business at least 51 percent of which is owned by minority group members or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by minority group members. For the purpose of the preceding sentence, minority group members are citizens of the United States who include, but are not limited to: Blacks, Hispanics, Asian Americans, and Native Americans.

Women Business Enterprise (WBE) a "Women Owned or Controlled Business" is a business enterprise at least 51 percent of which is owned by females or, in the case of a publicly owned business, at least 51 percent of the stock of which is owned by females.

Small Business Enterprise (SBE) "Small Business" means a corporation, partnership, sole proprietorship, or other legal entity formed for the purpose of making a profit, which is independently owned and operated, has either fewer than 100 employees or less than \$1,000,000 in annual gross receipts.

BLACK, which includes persons having origins in any of the Black racial groups of Africa.

WHITE, which includes persons whose origins are Anglo-Saxon and Europeans and persons of Indo-European decent including Pakistani and East Indian.
 HISPANIC, which includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or other Spanish culture or origin, regardless of race.
 NATIVE AMERICAN, which includes persons whose origins are American Indians, Eskimos, Aleuts, or Native Hawaiians.
 ASIAN AMERICAN, which includes persons having origin in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

1.10 MINORITY-WOMEN BUSINESS ENTERPRISE PARTICIPATION

It is the desire of the City of Fort Lauderdale to increase the participation of minority (MBE) and women-owned (WBE) businesses in its contracting and procurement programs. While the City does not have any preference or set aside programs in place, it is committed to a policy of equitable participation for these firms. Proposers are requested to include in their proposals a narrative describing their past accomplishments and intended actions in this area. If proposers are considering minority or women owned enterprise participation in their proposal, those firms, and their specific duties have to be identified in the proposal. If a proposer is considered for award, he or she will be asked to meet with City staff so that the intended MBE/WBE participation can be formalized and included in the subsequent contract.

1.11 SCRUTINIZED COMPANIES

As to any contract for goods or services of \$1 million or more and as to the renewal of any contract for goods or services of \$1 million or more, subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2019), as may be amended or revised. As to any contract for goods or services of any amount and as to the renewal of any contract for goods or services of any amount, the Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2019), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), or is engaged in a boycott of Israel, or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2019), as may be amended or revised.

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1.12 DEBARRED OR SUSPENDED BIDDERS OR PROPOSERS

The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

Part II DEFINITIONS/ORDER OF PRECEDENCE:

2.01 BIDDING DEFINITIONS The City will use the following definitions in its general conditions, special conditions, technical specifications, instructions to bidders, addenda and any other document used in the bidding process:

INVITATION TO BID (ITB) The solicitation document used for soliciting competitive sealed bids for goods or services.

INVITATION TO NEGOTIATE (ITN) All solicitation documents, regardless of medium, whether attached to or incorporated by reference in solicitations for responses from firms that invite proposals from interested and qualified firms so the city may enter into negotiations with the firm(s) determined most capable of providing the required goods or services.

REQUEST FOR PROPOSALS (RFP) A solicitation method used for soliciting competitive sealed proposals to determine the best value among proposals for goods or services for which price may not be the prevailing factor in award of the contract, or the scope of work, specifications or contract terms and conditions may be difficult to define. Such solicitation will consider the qualifications of the proposers along with evaluation of each proposal using identified and generally weighted evaluation criteria. RFPs may include price criteria whenever feasible, at the discretion of the city.

REQUEST FOR QUALIFICATIONS (RFQ) A solicitation method used for requesting statements of qualifications in order to determine the most qualified proposer for professional services.

BID – a price and terms quote received in response to an ITB.

PROPOSAL – a proposal received in response to an RFP.

BIDDER – Person or firm submitting a Bid.

PROPOSER – Person or firm submitting a Proposal.

RESPONSIVE BIDDER – A firm who has submitted a bid, offer, quote, or response which conforms in all material respects to the competitive solicitation document and all of its requirements.

RESPONSIBLE BIDDER – A firm who is fully capable of meeting all requirements of the solicitation and subsequent contract. The respondent must possess the full capability, including financial and technical, ability, business judgment, experience, qualifications, facilities, equipment, integrity, capability, and reliability, in all respects to perform fully the contract requirements and assure good faith performance as determined by the city.

FIRST RANKED PROPOSER – That Proposer, responding to a City RFP, whose Proposal is deemed by the City, the most advantageous to the City after applying the evaluation criteria contained in the RFP.

SELLER – Successful Bidder or Proposer who is awarded a Purchase Order or Contract to provide goods or services to the City.

CONTRACTOR – Any firm having a contract with the city. Also referred to as a "Vendor".

CONTRACT – All types of agreements, including purchase orders, for procurement of supplies, services, and construction, regardless of what these agreements may be called.

CONSULTANT – A firm providing professional services for the city.

- 2.02 SPECIAL CONDITIONS:** Any and all Special Conditions contained in this ITB that may be in variance or conflict with these General Conditions shall have precedence over these General Conditions. If no changes or deletions to General Conditions are made in the Special Conditions, then the General Conditions shall prevail in their entirety,

PART III BIDDING AND AWARD PROCEDURES:

- 3.01 SUBMISSION AND RECEIPT OF BIDS:** To receive consideration, bids must be received prior to the bid opening date and time. Unless otherwise specified, Bidders should use the proposal forms provided by the City. These forms may be duplicated, but failure to use the forms may cause the bid to be rejected. Any erasures or corrections on the bid must be made in ink and initialed by Bidder in ink. All information submitted by the Bidder shall be printed, typewritten or filled in with pen and ink. Bids shall be signed in ink. Separate bids must be submitted for each ITB issued by the City in separate sealed envelopes properly marked. When a particular ITB or RFP requires multiple copies of bids or proposals they may be included in a single envelope or package properly sealed and identified. Only send bids via facsimile transmission (FAX) if the ITB specifically states that bids sent via FAX will be considered. If such a statement is not included in the ITB, bids sent via FAX will be rejected. Bids will be publicly opened in the Procurement Office, or other designated area, in the presence of Bidders, the public, and City staff. Bidders and the public are invited and encouraged to attend bid openings. Bids will be tabulated and made available for review by Bidder's and the public in accordance with applicable regulations.
- 3.02 MODEL NUMBER CORRECTIONS:** If the model number for the make specified in this ITB is incorrect, or no longer available and replaced with an updated model with new specifications, the Bidder shall enter the correct model number on the bidder proposal page. In the case of an updated model with new specifications, Bidder shall provide adequate information to allow the City to determine if the model bid meets the City's requirements.
- 3.03 PRICES QUOTED:** Deduct trade discounts, and quote firm net prices. Give both unit price and extended total. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.
- 3.04 TAXES:** The City of Fort Lauderdale is exempt from Federal Excise and Florida Sales taxes on direct purchase of tangible property. Exemption **number for EIN is 59-6000319, and State Sales tax exemption number is 85-8013875578C-1.**
- 3.05 WARRANTIES OF USAGE:** Any quantities listed in this ITB as estimated or projected are provided for tabulation and information purposes only. No warranty or guarantee of quantities is given or implied. It is understood that the Contractor will furnish the City's needs as they arise.
- 3.06 APPROVED EQUAL:** When the technical specifications call for a brand name, manufacturer, make, model, or vendor catalog number with acceptance of APPROVED EQUAL, it shall be for the purpose of establishing a level of quality and features desired and acceptable to the City. In such cases, the City will be receptive to any unit that would be considered by qualified City personnel as an approved equal. In that the specified make and model represent a level of quality and features desired by the City, the Bidder must state clearly in the bid any variance from those specifications. It is the Bidder's responsibility to provide adequate information, in the bid, to enable the City to ensure that the bid meets the required criteria. If adequate information is not submitted with the bid, it may be rejected. The City will be the sole judge in determining if the item bid qualifies as an approved equal.
- 3.07 MINIMUM AND MANDATORY TECHNICAL SPECIFICATIONS:** The technical specifications may include items that are considered minimum, mandatory, or required. If any Bidder is unable to meet or exceed these items, and feels that the technical specifications are overly restrictive, the bidder must notify the Procurement Services Division immediately. Such notification must be received by the Procurement Services Division prior to the deadline contained in the ITB, for questions of a material nature, or prior to five (5) days before bid due and open date, whichever occurs first. If no such notification is received prior to that deadline, the City will consider the technical specifications to be acceptable to all bidders.
- 3.08 MISTAKES:** Bidders are cautioned to examine all terms, conditions, specifications, drawings, exhibits, addenda, delivery instructions and special conditions pertaining to the ITB. Failure of the Bidder to examine all pertinent documents shall not entitle the bidder to any relief from the conditions imposed in the contract.
- 3.09 SAMPLES AND DEMONSTRATIONS:** Samples or inspection of product may be requested to determine suitability. Unless otherwise specified in Special Conditions, samples shall be requested after the date of bid opening, and if requested should be received by the City within seven (7) working days of request. Samples, when requested, must be furnished free of expense to the City and if not used in testing or destroyed, will upon request of the Bidder, be returned within thirty (30) days of bid award at Bidder's expense. When required, the City may request full demonstrations of units prior to award. When such demonstrations are requested, the Bidder shall respond promptly and arrange a demonstration at a convenient location. Failure to provide samples or demonstrations as specified by the City may result in rejection of a bid.
- 3.10 LIFE CYCLE COSTING:** If so specified in the ITB, the City may elect to evaluate equipment proposed on the basis of total cost of ownership. In using Life Cycle Costing, factors such as the following may be considered: estimated useful life, maintenance costs, cost of supplies, labor intensity, energy usage, environmental impact, and residual value. The City reserves the right to use those or other applicable criteria, in its sole opinion that will most accurately estimate total cost of use and ownership.
- 3.11 BIDDING ITEMS WITH RECYCLED CONTENT:** In addressing environmental concerns, the City of Fort Lauderdale encourages Bidders to submit bids or alternate bids containing items with recycled content. When submitting bids containing items with recycled content, Bidder shall provide documentation adequate for the City to verify the recycled content. The City prefers packaging consisting of materials that are degradable or able to be recycled. When specifically stated in the ITB, the City may give preference to bids containing items manufactured with recycled material or packaging that is able to be recycled.

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- 3.12 USE OF OTHER GOVERNMENTAL CONTRACTS:** The City reserves the right to reject any part or all of any bids received and utilize other available governmental contracts, if such action is in its best interest.
- 3.13 QUALIFICATIONS/INSPECTION:** Bids will only be considered from firms normally engaged in providing the types of commodities/services specified herein. The City reserves the right to inspect the Bidder's facilities, equipment, personnel, and organization at any time, or to take any other action necessary to determine Bidder's ability to perform. The Procurement Director reserves the right to reject bids where evidence or evaluation is determined to indicate inability to perform.
- 3.14 BID SURETY:** If Special Conditions require a bid security, it shall be submitted in the amount stated. A bid security can be in the form of a bid bond or cashier's check. Bid security will be returned to the unsuccessful bidders as soon as practicable after opening of bids. Bid security will be returned to the successful bidder after acceptance of the performance bond, if required; acceptance of insurance coverage, if required; and full execution of contract documents, if required; or conditions as stated in Special Conditions.
- 3.15 PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT:** The Proposer's response to the RFP is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this RFP and the Contract to be executed for this RFP, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the RFP purporting to require confidentiality of any portion of the Proposer's response to the RFP, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the RFP constitutes a Trade Secret. The city's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals bearing copyright symbols or otherwise purporting to be subject to copyright protection in full or in part may be rejected. The proposer authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE RFP AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE RFP OR ANY PART THEREOF AS COPYRIGHTED.

- 3.16 PROHIBITION OF INTEREST:** No contract will be awarded to a bidding firm who has City elected officials, officers or employees affiliated with it, unless the bidding firm has fully complied with current Florida State Statutes and City Ordinances relating to this issue. Bidders must disclose any such affiliation. Failure to disclose any such affiliation will result in disqualification of the Bidder and removal of the Bidder from the City's bidder lists and prohibition from engaging in any business with the City.
- 3.17 RESERVATIONS FOR AWARD AND REJECTION OF BIDS:** The City reserves the right to accept or reject any or all bids, part of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

If the ITB provides for a contract trial period, the City reserves the right, in the event the selected bidder does not perform satisfactorily, to award a trial period to the next ranked bidder or to award a contract to the next ranked bidder, if that bidder has successfully provided services to the City in the past. This procedure to continue until a bidder is selected or the contract is re-bid, at the sole option of the City.

- 3.18 LEGAL REQUIREMENTS:** Applicable provisions of all federal, state, county laws, and local ordinances, rules and regulations, shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the City by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and lack of knowledge by any bidder shall not constitute a cognizable defense against the legal effect thereof.
- 3.19 BID PROTEST PROCEDURE:** Any proposer or bidder who is not recommended for award of a contract and who alleges a failure by the city to follow the city's procurement ordinance or any applicable law may protest to the chief procurement officer, by delivering a letter of protest to the director of finance within five (5) days after a notice of intent to award is posted on the city's web site at the following url: <https://www.fortlauderdale.gov/departments/finance/procurement-services/notices-of-intent-to-award>

The complete protest ordinance may be found on the city's web site at the following url: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeid=coor_ch2ad_artvfi_div2pr_s2-182direpr

PART IV BONDS AND INSURANCE

- 4.01 PERFORMANCE BOND:** If a performance bond is required in Special Conditions, the Contractor shall within fifteen (15) working days after notification of award, furnish to the City a Performance Bond, payable to the City of Fort Lauderdale, Florida, in the face amount specified in Special Conditions as surety for faithful

performance under the terms and conditions of the contract. If the bond is on an annual coverage basis, renewal for each succeeding year shall be submitted to the City thirty (30) days prior to the termination date of the existing Performance Bond. The Performance Bond must be executed by a surety company of recognized standing, authorized to do business in the State of Florida and having a resident agent.

Acknowledgement and agreement is given by both parties that the amount herein set for the Performance Bond is not intended to be nor shall be deemed to be in the nature of liquidated damages nor is it intended to limit the liability of the Contractor to the City in the event of a material breach of this Agreement by the Contractor.

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- 4.02 INSURANCE:** The Contractor shall assume full responsibility and expense to obtain all necessary insurance as required by City or specified in Special Conditions.

The Contractor shall provide to the Procurement Services Division original certificates of coverage and receive notification of approval of those certificates by the City's Risk Manager prior to engaging in any activities under this contract. The Contractor's insurance is subject to the approval of the City's Risk Manager. The certificates must list the City as an ADDITIONAL INSURED for General Liability Insurance and shall have no less than thirty (30) days written notice of cancellation or material change. Further modification of the insurance requirements may be made at the sole discretion of the City's Risk Manager if circumstances change or adequate protection of the City is not presented. Bidder, by submitting the bid, agrees to abide by such modifications.

PART V PURCHASE ORDER AND CONTRACT TERMS:

- 5.01 COMPLIANCE WITH SPECIFICATIONS, LATE DELIVERIES/PENALTIES:** Items offered may be tested for compliance with bid specifications. Items delivered which do not conform to bid specifications may be rejected and returned at Contractor's expense. Any violation resulting in contract termination for cause or delivery of items not conforming to specifications, or late delivery may also result in:
- Bidder's name being removed from the City's bidder's mailing list for a specified period and Bidder will not be recommended for any award during that period.
 - All City Departments being advised to refrain from doing business with the Bidder.
 - All other remedies in law or equity.
- 5.02 ACCEPTANCE, CONDITION, AND PACKAGING:** The material delivered in response to ITB award shall remain the property of the Seller until a physical inspection is made and the material accepted to the satisfaction of the City. The material must comply fully with the terms of the ITB, be of the required quality, new, and the latest model. All containers shall be suitable for storage and shipment by common carrier, and all prices shall include standard commercial packaging. The City will not accept substitutes of any kind. Any substitutes or material not meeting specifications will be returned at the Bidder's expense. Payment will be made only after City receipt and acceptance of materials or services.
- 5.03 SAFETY STANDARDS:** All manufactured items and fabricated assemblies shall comply with applicable requirements of the Occupation Safety and Health Act of 1970 as amended.
- 5.04 ASBESTOS STATEMENT:** All material supplied must be 100% asbestos free. Bidder, by virtue of bidding, certifies that if awarded any portion of the ITB the bidder will supply only material or equipment that is 100% asbestos free.
- 5.05 OTHER GOVERNMENTAL ENTITIES:** If the Bidder is awarded a contract as a result of this ITB, the bidder may, if the bidder has sufficient capacity or quantities available, provide to other governmental agencies, so requesting, the products or services awarded in accordance with the terms and conditions of the ITB and resulting contract. Prices shall be F.O.B. delivered to the requesting agency.
- 5.06 VERBAL INSTRUCTIONS PROCEDURE:** No negotiations, decisions, or actions shall be initiated or executed by the Contractor as a result of any discussions with any City employee. Only those communications which are in writing from an authorized City representative may be considered. Only written communications from Contractors, which are assigned by a person designated as authorized to bind the Contractor, will be recognized by the City as duly authorized expressions on behalf of Contractors.
- 5.07 INDEPENDENT CONTRACTOR:** The Contractor is an independent contractor under this Agreement. Personal services provided by the Proposer shall be by employees of the Contractor and subject to supervision by the Contractor, and not as officers, employees, or agents of the City. Personnel policies, tax responsibilities, social security, health insurance, employee benefits, procurement policies unless otherwise stated in this ITB, and other similar administrative procedures applicable to services rendered under this contract shall be those of the Contractor.
- 5.08 INDEMNITY/HOLD HARMLESS AGREEMENT:** Contractor shall protect and defend at Contractor's expense, counsel being subject to the City's approval, and indemnify and hold harmless the City and the City's officers, employees, volunteers, and agents from and against any and all losses, penalties, fines, damages, settlements, judgments, claims, costs, charges, expenses, or liabilities, including any award of attorney fees and any award of costs, in connection with or arising directly or indirectly out of any act or omission by the Contractor or by any officer, employee, agent, invitee, subcontractor, or sublicensee of the Contractor. Without limiting the foregoing, any and all such claims, suits, or other actions relating to personal injury, death, damage to property, defects in materials or workmanship, actual or alleged violations of any applicable statute, ordinance, administrative order, rule or regulation, or decree of any court shall be included in the indemnity hereunder.
- 5.09 TERMINATION FOR CAUSE:** If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this Agreement, or if the Contractor shall violate any of the provisions of this Agreement, the City may upon written notice to the Contractor terminate the right of the Contractor to proceed under this Agreement, or with such part or parts of the Agreement as to which there has been default, and may hold the Contractor liable for any damages caused to the City by reason of such default and termination. In the event of such termination, any completed services performed by the Contractor under this Agreement shall, at the option of the City, become the City's property and the Contractor shall be entitled to receive equitable compensation for any work completed to the satisfaction of

the City. The Contractor, however, shall not be relieved of liability to the City for damages sustained by the City by reason of any breach of the Agreement by the Contractor, and the City may withhold any payments to the Contractor for the purpose of setoff until such time as the amount of damages due to the City from the Contractor can be determined.

- 5.10 TERMINATION FOR CONVENIENCE:** The City reserves the right, in the City's best interest as determined by the City, to cancel any contract by giving written notice to the Contractor thirty (30) days prior to the effective date of such cancellation.
- 5.11 CANCELLATION FOR UNAPPROPRIATED FUNDS:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.
- 5.12 RECORDS/AUDIT:** The Contractor shall maintain during the term of the contract all books of account, reports and records in accordance with generally accepted accounting practices and standards for records directly related to this contract. The Contractor agrees to make available to the City Auditor or the City Auditor's designee, during normal business hours and in Broward, Miami-Dade or Palm Beach Counties, all books of account, reports, and records relating to this contract. The Contractor shall retain all books of account, reports, and records relating to this contract for the duration of the contract and for three years after the final payment under this Agreement, until all pending audits, investigations or litigation matters relating to the contract are closed, or until expiration of the records retention period prescribed by Florida law or the records retention schedules adopted by the Division of Library and Information Services of the Florida Department of State, whichever is later.
- 5.13 PERMITS, TAXES, LICENSES:** The successful Contractor shall, at his/her/its own expense, obtain all necessary permits, pay all licenses, fees and taxes, required to comply with all local ordinances, state and federal laws, rules and regulations applicable to business to be carried out under this contract.
- 5.14 LAWS/ORDINANCES:** The Contractor shall observe and comply with all Federal, state, local and municipal laws, ordinances rules and regulations that would apply to this contract.

NON-DISCRIMINATION: The Contractor shall not, in any of its activities, including employment, discriminate against any individual on the basis of race, color, national origin, age, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, marital status, or any other protected classification as defined by applicable law.

1. The Contractor certifies and represents that the Contractor will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, (2019), as may be amended or revised, ("Section 2-187"), during the entire term of this Agreement.
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

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- 5.15 UNUSUAL CIRCUMSTANCES:** If during a contract term where costs to the City are to remain firm or adjustments are restricted by a percentage or CPI cap, unusual circumstances that could not have been foreseen by either party of the contract occur, and those circumstances significantly affect the Contractor's cost in providing the required prior items or services, then the Contractor may request adjustments to the costs to the City to reflect the changed circumstances. The circumstances must be beyond the control of the Contractor, and the requested adjustments must be fully documented. The City may, after examination, refuse to accept the adjusted costs if they are not properly documented, increases are considered to be excessive, or decreases are considered to be insufficient. In the event the City does not wish to accept the adjusted costs and the matter cannot be resolved to the satisfaction of the City, the City will reserve the following options:
1. The contract can be canceled by the City upon giving thirty (30) days written notice to the Contractor with no penalty to the City or Contractor. The Contractor shall fill all City requirements submitted to the Contractor until the termination date contained in the notice.
 2. The City requires the Contractor to continue to provide the items and services at the firm fixed (non-adjusted) cost until the termination of the contract term then in effect.
 3. If the City, in its interest and in its sole opinion, determines that the Contractor in a capricious manner attempted to use this section of the contract to relieve Contractor of a legitimate obligation under the contract, and no unusual circumstances had occurred, the City reserves the right to take any and all action under law or equity. Such action shall include, but not be limited to, declaring the Contractor in default and disqualifying Contractor from receiving any business from the City for a stated period of time.

If the City does agree to adjusted costs, these adjusted costs shall not be invoiced to the City until the Contractor receives notice in writing signed by a person authorized to bind the City in such matters.

- 5.16 ELIGIBILITY:** If applicable, the Contractor must first register with the Florida Department of State in accordance with Florida Statutes, prior to entering into a contract with the City.
- 5.17 PATENTS AND ROYALTIES:** The Contractor, without exception, shall defend, indemnify, and hold harmless the City and the City's employees, officers, employees, volunteers, and agents from and against liability of any nature and kind, including cost and expenses for or on account of any copyrighted, patented or un-patented invention, process, or article manufactured or used in the performance of the contract, including their use by the City. If the Contractor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include any and all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

5.18 **ASSIGNMENT:** Contractor shall not transfer or assign the performance required by this ITB without the prior written consent of the City. Any award issued pursuant to this ITB, and the monies, which may become due hereunder, are not assignable except with the prior written approval of the City Commission or the City Manager or City Manager's designee, depending on original award approval.

5.19 **GOVERNING LAW; VENUE:** The Contract shall be governed by and construed in accordance with the laws of the State of Florida. Venue for any lawsuit by either party against the other party or otherwise arising out of the Contract, and for any other legal proceeding, shall be in the courts in and for Broward County, Florida, or in the event of federal jurisdiction, in the Southern District of Florida.

5.20 **PUBLIC RECORDS:**

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301.

Contractor shall comply with public records laws, and Contractor shall:

1. Keep and maintain public records required by the City to perform the service.
2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2019), as may be amended or revised, or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Contractor does not transfer the records to the City.
4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of the Contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

BID/PROPOSAL CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit <http://www.dos.state.fl.us/>).

Company: (Legal Registration) EIN (Optional):

Address:

City: State: Zip:

Telephone No.: FAX No.: Email:

Delivery: Calendar days after receipt of Purchase Order (**section 1.02 of General Conditions**):

Total Bid Discount (**section 1.05 of General Conditions**):

Check box if your firm qualifies for MBE / SBE / WBE (**section 1.09 of General Conditions**): ☐

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

| <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
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VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal.

I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages,

expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars (\$500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Name (printed)

Signature

Date

Title

Revised 4/28/2020

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME**RELATIONSHIPS**

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In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature

Title

Name (Printed)

Date

**CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH
NON-DISCRIMINATION PROVISIONS OF THE CONTRACT**

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Authorized Signature

Print Name and Title

Date

LOCAL BUSINESS PREFERENCE CERTIFICATION STATEMENT

Section 2-186, Code of Ordinances of the City of Fort Lauderdale, (Ordinance No. C-17-26), provides for a local business preference.

In order to be considered for a local business preference, a bidder must include the Local Business Preference Certification Statement of this bid/proposal, as applicable to the local business preference class claimed **at the time of bid submittal**.

Upon formal request of the City, based on the application of a Local Business Preference, the Bidder shall, within ten (10) calendar days, submit the following documentation for the Local Business Preference Class claimed:

- a) Copy of City of Fort Lauderdale current year business tax receipt, **or** Broward County current year business tax receipt, **and**
- b) List of the names of all employees of the bidder and evidence of employees' residences within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of bid submittal shall result in the bidder being found ineligible for the local business preference.

THE COMPLETE LOCAL BUSINESS PREFERENCE ORDINANCE MAY BE FOUND ON THE CITY'S WEB SITE

AT THE FOLLOWING LINK: http://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-186LOBUPR&showChanges=true

Definitions: The term "Business" shall mean a person, firm, corporation or other business entity which is duly licensed and authorized to engage in a particular work in the State of Florida. Business shall be broken down into four (4) types of classes:

1. Class A Business – shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone and staffed with full-time employees within the limits of the City, **and** shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.
2. Class B Business - shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the City, **or** shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.
3. Class C Business - shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of Broward County.
4. Class D Business – shall mean any Business that does not qualify as either a Class A, Class B, or Class C business.

LOCAL BUSINESS PREFERENCE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the local business preference classification as indicated herein, and further certifies and agrees that it will re-affirm its local preference classification annually no later than thirty (30) calendar days prior to the anniversary of the date of a contract awarded pursuant to this bid/proposal. Violation of the foregoing provision may result in contract termination.

- (1)
(Business Name) is a **Class A** Business as defined in City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the City of Fort Lauderdale current year Business Tax Receipt and a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City.
- (2)
(Business Name) is a **Class B** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Business Tax Receipt or a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City.
- (3)
(Business Name) is a **Class C** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Broward County Business Tax Receipt shall be provided within ten (10) calendar days of a formal request by the City.
- (4)
(Business Name) is a **Class D** Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186, and does not qualify for Local Preference consideration.
- (5)
(Business Name) requests a **Conditional Class A** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.
- (6)
(Business Name) requests a **Conditional Class B** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.

BIDDER'S COMPANY:

AUTHORIZED
COMPANY
PERSON:

PRINT NAME

SIGNATURE

DATE

Forms Non-ISO – Revised 7/2/2021



DISADVANTAGED BUSINESS ENTERPRISE (DBE) PREFERENCE

Section 2-185, Code of Ordinances of the City of Fort Lauderdale, provides for a disadvantaged business enterprise preference.

In order to be considered for a DBE Preference, a bidder must include a certification from a government agency, as applicable to the DBE Preference class claimed **at the time of bid submittal**.

Upon formal request of the City, based on the application of a DBE Preference the Bidder shall, within **ten (10)** calendar days, submit the following documentation to the DBE Class claimed:

- a) Copy of City of Fort Lauderdale current year business tax receipt, **or** Broward County current year business tax receipt, **or** State of Florida active registration **and/or**
- b) List of the names of all employees of the bidder and evidence of employees' residences within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of bid submittal shall result in the bidder being found ineligible for the disadvantaged business enterprise preference.

THE COMPLETE DBE PREFERENCE ORDINANCE MAY BE FOUND ON THE CITY'S WEB SITE AT THE FOLLOWING LINK: [hp s://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-185EQOPDIBUEN&showChanges=true](https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-185EQOPDIBUEN&showChanges=true)

Definitions

- a. The term "disadvantaged class 1 enterprise" shall mean any disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the City, and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- b. The term "disadvantaged class 2 enterprise" shall mean any disadvantaged business enterprise that has established and agrees to maintain a permanent place of business within the limits of the City with full-time employees and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- c. The term "disadvantaged class 3 enterprise" shall mean any disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the Tri-County area and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- d. The term "disadvantaged class 4 enterprise" shall mean any disadvantaged business enterprise that does not qualify as a Class 1, Class 2, or Class 3 business, but is located in the State of Florida and provides supporting documentation of its disadvantaged certification as established in the City's Procurement Manual.

DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the disadvantaged business enterprise preference classification as indicated herein, and further certifies and agrees that it will re-affirm its preference classification annually no later than **thirty (30)** calendar days prior to the anniversary of the date of a contract awarded pursuant to this solicitation. Violation of the foregoing provision may result in contract termination.

- (1)
(Business Name) is a disadvantaged **Class 1** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the City, and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- (2)
(Business Name) is a disadvantaged **Class 2** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business within the limits of the City with full-time employee(s) and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- (3)
(Business Name) is a disadvantaged **Class 3** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the Tri-County area and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual.
- (4)
(Business Name) is a disadvantaged **Class 4** enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that does not qualify as a Class 1, Class 2, or Class 3 business, but is located in the State of Florida and provides supporting documentation of its disadvantaged certification as established in the City's Procurement Manual.
- (5)
(Business Name) requests a **Conditional Class 1** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.
- (6)
(Business Name) requests a **Conditional Class 2** classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City.

BIDDER'S COMPANY:

AUTHORIZED
COMPANY
PERSON:

PRINT NAME

SIGNATURE

DATE

Forms Non-Iso – revised 7/2/2021

E-VERIFY AFFIRMATION STATEMENTRFP/Bid /Contract No: Project Description:

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

- (a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,
- (b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: Authorized Company Person's Signature: Authorized Company Person's Title: Date:

9/15/2020

REFERENCES

A minimum of three (3) references shall be provided:

| | |
|-------------------------|----------------------|
| 1. Company Name: | <input type="text"/> |
| <input type="text"/> | |
| Address: | <input type="text"/> |
| Contact: | <input type="text"/> |
| Phone #: | <input type="text"/> |
| Email: | <input type="text"/> |
| Contract Value: | <input type="text"/> |
| Year: | <input type="text"/> |
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| Description: | <input type="text"/> |

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| 2. Company Name: | <input type="text"/> |
| <input type="text"/> | |
| Address: | <input type="text"/> |
| Contact: | <input type="text"/> |
| Phone #: | <input type="text"/> |
| Email: | <input type="text"/> |
| Contract Value: | <input type="text"/> |
| Year: | <input type="text"/> |
| <input type="text"/> | |
| Description: | <input type="text"/> |

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| 3. Company Name: | <input type="text"/> |
| <input type="text"/> | |
| Address: | <input type="text"/> |
| Contact: | <input type="text"/> |
| Phone #: | <input type="text"/> |
| Email: | <input type="text"/> |
| Contract Value: | <input type="text"/> |
| Year: | <input type="text"/> |
| <input type="text"/> | |
| Description: | <input type="text"/> |

4. **Company Name:**

Address:

Contact:

Phone #: Email:

Contract Value: Year:

Description:

5. **Company Name:**

Address:

Contact:

Phone #: Email:

Contract Value: Year:

Description:



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

RFQ No. 12665-1026 WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

ISSUED: May 23, 2022

This addendum is being issued to make the following changes:

1. The opening date has been changed to Monday, June 27, 2022 at 2:00PM Local Time.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 954-686-7296,696755482#](#) United States, Fort Lauderdale

Phone Conference ID: 696 755 482#

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____



City of Fort Lauderdale • Procurement Services Division
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purchase@fortlauderdale.gov

ADDENDUM NO. 2

RFQ No. 12665-1026 WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

ISSUED: June 16, 2022

This addendum is being issued to make the following changes:

1. The following new section is hereby added to Section III, "Scope of Services" of this solicitation.

- Section 3.5 "Incentive – Disincentive" (see attached)

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____

RFQ No. 12665-1026
Water Consent Order Program
Management and Mapping Services
Section III – Scope of Services

Section 3.5 Incentive - Disincentive.

The City desires to expedite the professional services on this Contract to reduce the time to complete the program management, reporting the FDEP, data collection, survey, and georeferenced mapping of the water infrastructure, and assistance with the water line valves exercise program to comply and meet the civil enforcement actions mandates by FDEP Consent Agreement. While the FDEP deadline for this work is July 23, 2022, the City recognizes that this scope will require 18 to 24 months to complete.

In order to achieve this, an incentive - disincentive provision is established for the Contract. The total “incentive payment” or disincentive deduction shall not exceed \$750,000.00. The City will pay the “Consultant” an “incentive payment” in the amount of \$3,000.00, for each calendar day the actual completion date precedes the Original Contract Time and subject to the conditions precedent set forth below. The term “Original Contract Time” as used in this Article will mean the number of calendar days established for completion of the work in the Contract on the date the Contract was executed. The term “calendar day” as used in this Article will mean every day shown on the calendar. Calendar days will be consecutively counted from commencement of Contract Time regardless of weather, weekends, holidays, suspensions of Contractor’s operations, delays or other events as described herein. For purposes of the calculation and the determination of entitlement to the “incentive payment” stated above, the Original Contract Time will not be adjusted for any reason, cause or circumstance whatsoever, regardless of fault, save and except in the instance of a catastrophic event (i.e., hurricane or a declared state of emergency).

The parties anticipate that delays may be caused by or arise from any number of events during the course of the Contract, including, but not limited to, work performed, work deleted, change orders, supplemental agreements, delays, disruptions, time extensions, extra work, actions of suppliers, subconsultants, actions by third parties, weather, weekends, holidays, or other such events, forces or factors sometimes experienced in this type of work. Such delays or events and their potential impacts on performance by the Consultant are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not extend the Original Contract Time for purposes of calculation of the “incentive payment” set forth above. Further, any and all costs or impacts whatsoever incurred by the Consultant in accelerating the Consultant’s work to overcome or absorb such delays or events in an effort to complete the Contract prior to expiration of the Original Contract Time, regardless of whether the Contractor successfully does so or not, shall be the sole responsibility of the Consultant in every instance.

In the event of a catastrophic event (i.e., hurricane or a declared state of emergency) directly and substantially affecting the Consultant’s services on the Contract, the Contractor and the City shall agree as to the number of calendar days to extend the Original Contract Time so that such extended Original Contract Time will be used in calculation of the “incentive payment”. In the event the Contractor and City are unable to agree to the number of Calendar Days to extend the Original Contract Time, the City will unilaterally determine the number of calendar days to extend the Original Contract Time reasonably necessary and due solely to such catastrophic event and the Contractor shall have no right whatsoever to contest such determination, save and except that the Contractor establishes that the number of calendar days determined by the City were arbitrary or without any reasonable basis.

However, notwithstanding anything above to the contrary, upon the Consultant’s written request being made directly to the Director of Public Works, with copies provided to both the City Manager and the

RFQ No. 12665-1026
Water Consent Order Program
Management and Mapping Services
Section III – Scope of Services

City Attorney, the City reserves unto the Director of Public Works, in his sole and absolute discretion, according to the parameters set forth below, the authority to make a determination to either fully enforce the above provisions with no modification, modify the “Original Contract Time” by moving it, or both modify the “Original Contract Time” by moving it and also modify the “incentive amount” by reducing it.

No modification of this “Incentive-Disincentive” provision will be considered by the Director of Public Works for any impacts, whatsoever, beyond the reasonable control of the Consultant, for which the effect results in a time extension of less than 15% of the time remaining in the period from the first day of occurrence of such impact to the expiration of the “Original Contract Time”. Furthermore, as to any such impact, for which the effect results in a time extension of 15% or more of the time remaining in the period from the first day of occurrence of such impact to the expiration of the “Original Contract Time,” no modification of this “Incentive- Disincentive” provision will be considered by the Director of Public Works unless the Consultant clearly establishes that it has continuously from the beginning of the project aggressively, efficiently and effectively pursued the achievement of the “incentive payment”. This would include the utilization of any and all reasonably available means and methods to overcome all impacts and accelerate the work so as to still achieve the “incentive payment”, and that, but for this impact, the Consultant would have otherwise earned the “incentive payment” provided in the original Contract. Also, to the extent the request is submitted in writing to the Director of Public Works within twenty (20) calendar days or more prior to the expiration of the “Original Contract Time,” the Consultant must also continue to aggressively, efficiently, and effectively pursue the completion of the “Incentive-Disincentive” work. This would include the utilization of any and all reasonably available means and methods to overcome all impacts and accelerate the work, until a determination is made by the Director of Public Works or twenty (20) calendar days has expired since such written request was received by the Director of Public Works. There shall be no right of any kind on behalf of the Consultant to challenge or otherwise seek review or appeal in any forum, of any determination made by the Director of Public Works under this provision.

The Consultant shall have no rights under the Contract to make any claim arising out of this incentive payment provision except as is expressly set forth in this Article.

As conditions precedent to the Consultant’s entitlement to any “incentive payment” the Consultant must:

- (1) Deliver in-hand to the City any and all claims, in full accordance and subject to the limitations in this solicitation and subsequent Contract.
- (2) Actually complete the Contract and obtain final acceptance by the City prior to expiration of the Original Contract Time.
- (3) The Consultant shall notify the City in writing, within 60 days after final acceptance of the Contract by the City, that the Consultant elects to be paid the “incentive payment” which the Consultant is eligible to be paid based on the actual final acceptance date, and such written notice shall constitute a full and complete waiver, release and acknowledgment of satisfaction by the Consultant of any and all claims, causes of action, issues, demands, disputes, matters or controversies, of any nature or kind whatsoever, known or unknown, against the City, its employees, officers, agents, representatives, consultants, and their respective employees, officers

RFQ No. 12665-1026
Water Consent Order Program
Management and Mapping Services
Section III – Scope of Services

and representatives, the Consultant has or may have, including, but not limited to, work performed, work deleted, change orders, supplemental agreements, delays, disruptions, time extensions, extra work, permitting issues, actions of suppliers, subconsultants, actions by third parties, weather, weekends, holidays, or other such events, forces or factors sometimes experienced in this type of work, lost profits, prime mark-up on subcontractor work, acceleration costs, any and all direct and indirect costs, any other adverse impacts, events, conditions, circumstances or potential damages, on or pertaining to, or as to or arising out of the Contract. This waiver, release and acknowledgment of satisfaction shall be all-inclusive and absolute, save and except any routine City final estimating quantity adjustments.

Should the Consultant fail to actually complete the Contract and obtain final acceptance by the City prior to expiration of the Original Contract Time, or should the Consultant, having timely completed the Contract and obtained final acceptance by the City prior to expiration of the Original Contract Time but having failed to timely request the “incentive payment” for any reason, or to fully waive, release and acknowledge satisfaction as set forth in paragraph (3) above, the Consultant shall have no right to any payment whatsoever under this Article. Notwithstanding the Consultant’s election or non-election of the “incentive payment” under this provision, the disincentive provision applies to all circumstances where the work in the Contract is not finally accepted by the Allowable Contract Time.

Should the Consultant fail to complete the Contract on or before expiration of the Allowable Contract Time, as adjusted in accordance with the provisions herein, the City shall deduct \$3,000.00 for each calendar day completion exceeds the Allowable Contract Time, from the monies otherwise due the Consultant. The term “Allowable Contract Time” as used in this Article shall mean the Original Contract Time plus adjustments as allowed herein. This deduction shall be the disincentive for the Consultant’s failing to timely complete the Contract. Section II, “General Terms and Conditions,” Article 2.30, “Liquidated Damages for Failure to Perform” shall remain in effect and is applicable. **Note: Deductions will only be applied if the FDEP assesses fines against the city for non-compliance with the Consent Order.**

In the event the Consultant elects to exercise this “incentive payment” provision, should this provision conflict with any other provision of the Contract, the Contract shall be interpreted in accordance with this provision.

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Question and Answers for Bid #12665-1026 - Water Consent Order Program Management and Mapping Services

Overall Bid Questions

Question 1

In reference to Section 4.2 of the RFQ, it states: "The City prefers that responses be no more than 100 pages in one complete pdf document". Will the required forms, including Standard Form 330, be excluded from the 100-page count? (Submitted: Apr 26, 2022 1:22:55 PM EDT)

Answer

- The required forms, including Standard Form 330, are included in the 100-page count. (Answered: May 17, 2022 8:30:58 AM EDT)



City of Fort Lauderdale • Procurement Services Division
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954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 2

RFQ No. 12665-1026 WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

ISSUED: June 16, 2022

This addendum is being issued to make the following changes:

1. The following new section is hereby added to Section III, "Scope of Services" of this solicitation.

- Section 3.5 "Incentive – Disincentive" (see attached)

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____

Section 3.5 Incentive - Disincentive.

The City desires to expedite the professional services on this Contract to reduce the time to complete the program management, reporting the FDEP, data collection, survey, and georeferenced mapping of the water infrastructure, and assistance with the water line valves exercise program to comply and meet the civil enforcement actions mandates by FDEP Consent Agreement. While the FDEP deadline for this work is July 23, 2022, the City recognizes that this scope will require 18 to 24 months to complete.

In order to achieve this, an incentive - disincentive provision is established for the Contract. The total “incentive payment” or disincentive deduction shall not exceed \$750,000.00. The City will pay the “Consultant” an “incentive payment” in the amount of \$3,000.00, for each calendar day the actual completion date precedes the Original Contract Time and subject to the conditions precedent set forth below. The term “Original Contract Time” as used in this Article will mean the number of calendar days established for completion of the work in the Contract on the date the Contract was executed. The term “calendar day” as used in this Article will mean every day shown on the calendar. Calendar days will be consecutively counted from commencement of Contract Time regardless of weather, weekends, holidays, suspensions of Contractor’s operations, delays or other events as described herein. For purposes of the calculation and the determination of entitlement to the “incentive payment” stated above, the Original Contract Time will not be adjusted for any reason, cause or circumstance whatsoever, regardless of fault, save and except in the instance of a catastrophic event (i.e., hurricane or a declared state of emergency).

The parties anticipate that delays may be caused by or arise from any number of events during the course of the Contract, including, but not limited to, work performed, work deleted, change orders, supplemental agreements, delays, disruptions, time extensions, extra work, actions of suppliers, subconsultants, actions by third parties, weather, weekends, holidays, or other such events, forces or factors sometimes experienced in this type of work. Such delays or events and their potential impacts on performance by the Consultant are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not extend the Original Contract Time for purposes of calculation of the “incentive payment” set forth above. Further, any and all costs or impacts whatsoever incurred by the Consultant in accelerating the Consultant’s work to overcome or absorb such delays or events in an effort to complete the Contract prior to expiration of the Original Contract Time, regardless of whether the Contractor successfully does so or not, shall be the sole responsibility of the Consultant in every instance.

In the event of a catastrophic event (i.e., hurricane or a declared state of emergency) directly and substantially affecting the Consultant’s services on the Contract, the Contractor and the City shall agree as to the number of calendar days to extend the Original Contract Time so that such extended Original Contract Time will be used in calculation of the “incentive payment”. In the event the Contractor and City are unable to agree to the number of Calendar Days to extend the Original Contract Time, the City will unilaterally determine the number of calendar days to extend the Original Contract Time reasonably necessary and due solely to such catastrophic event and the Contractor shall have no right whatsoever to contest such determination, save and except that the Contractor establishes that the number of calendar days determined by the City were arbitrary or without any reasonable basis.

However, notwithstanding anything above to the contrary, upon the Consultant’s written request being made directly to the Director of Public Works, with copies provided to both the City Manager and the

City Attorney, the City reserves unto the Director of Public Works, in his sole and absolute discretion, according to the parameters set forth below, the authority to make a determination to either fully enforce the above provisions with no modification, modify the “Original Contract Time” by moving it, or both modify the “Original Contract Time” by moving it and also modify the “incentive amount” by reducing it.

No modification of this “Incentive-Disincentive” provision will be considered by the Director of Public Works for any impacts, whatsoever, beyond the reasonable control of the Consultant, for which the effect results in a time extension of less than 15% of the time remaining in the period from the first day of occurrence of such impact to the expiration of the “Original Contract Time”. Furthermore, as to any such impact, for which the effect results in a time extension of 15% or more of the time remaining in the period from the first day of occurrence of such impact to the expiration of the “Original Contract Time,” no modification of this “Incentive- Disincentive” provision will be considered by the Director of Public Works unless the Consultant clearly establishes that it has continuously from the beginning of the project aggressively, efficiently and effectively pursued the achievement of the “incentive payment”. This would include the utilization of any and all reasonably available means and methods to overcome all impacts and accelerate the work so as to still achieve the “incentive payment”, and that, but for this impact, the Consultant would have otherwise earned the “incentive payment” provided in the original Contract. Also, to the extent the request is submitted in writing to the Director of Public Works within twenty (20) calendar days or more prior to the expiration of the “Original Contract Time,” the Consultant must also continue to aggressively, efficiently, and effectively pursue the completion of the “Incentive-Disincentive” work. This would include the utilization of any and all reasonably available means and methods to overcome all impacts and accelerate the work, until a determination is made by the Director of Public Works or twenty (20) calendar days has expired since such written request was received by the Director of Public Works. There shall be no right of any kind on behalf of the Consultant to challenge or otherwise seek review or appeal in any forum, of any determination made by the Director of Public Works under this provision.

The Consultant shall have no rights under the Contract to make any claim arising out of this incentive payment provision except as is expressly set forth in this Article.

As conditions precedent to the Consultant’s entitlement to any “incentive payment” the Consultant must:

- (1) Deliver in-hand to the City any and all claims, in full accordance and subject to the limitations in this solicitation and subsequent Contract.
- (2) Actually complete the Contract and obtain final acceptance by the City prior to expiration of the Original Contract Time.
- (3) The Consultant shall notify the City in writing, within 60 days after final acceptance of the Contract by the City, that the Consultant elects to be paid the “incentive payment” which the Consultant is eligible to be paid based on the actual final acceptance date, and such written notice shall constitute a full and complete waiver, release and acknowledgment of satisfaction by the Consultant of any and all claims, causes of action, issues, demands, disputes, matters or controversies, of any nature or kind whatsoever, known or unknown, against the City, its employees, officers, agents, representatives, consultants, and their respective employees, officers

RFQ No. 12665-1026
Water Consent Order Program
Management and Mapping Services
Section III – Scope of Services

and representatives, the Consultant has or may have, including, but not limited to, work performed, work deleted, change orders, supplemental agreements, delays, disruptions, time extensions, extra work, permitting issues, actions of suppliers, subconsultants, actions by third parties, weather, weekends, holidays, or other such events, forces or factors sometimes experienced in this type of work, lost profits, prime mark-up on subcontractor work, acceleration costs, any and all direct and indirect costs, any other adverse impacts, events, conditions, circumstances or potential damages, on or pertaining to, or as to or arising out of the Contract. This waiver, release and acknowledgment of satisfaction shall be all- inclusive and absolute, save and except any routine City final estimating quantity adjustments.

Should the Consultant fail to actually complete the Contract and obtain final acceptance by the City prior to expiration of the Original Contract Time, or should the Consultant, having timely completed the Contract and obtained final acceptance by the City prior to expiration of the Original Contract Time but having failed to timely request the “incentive payment” for any reason, or to fully waive, release and acknowledge satisfaction as set forth in paragraph (3) above, the Consultant shall have no right to any payment whatsoever under this Article. Notwithstanding the Consultant’s election or non-election of the “incentive payment” under this provision, the disincentive provision applies to all circumstances where the work in the Contract is not finally accepted by the Allowable Contract Time.

Should the Consultant fail to complete the Contract on or before expiration of the Allowable Contract Time, as adjusted in accordance with the provisions herein, the City shall deduct \$3,000.00 for each calendar day completion exceeds the Allowable Contract Time, from the monies otherwise due the Consultant. The term “Allowable Contract Time” as used in this Article shall mean the Original Contract Time plus adjustments as allowed herein. This deduction shall be the disincentive for the Consultant’s failing to timely complete the Contract. Section II, “General Terms and Conditions,” Article 2.30, “Liquidated Damages for Failure to Perform” shall remain in effect and is applicable. **Note: Deductions will only be applied if the FDEP accesses fines against the city for non-compliance with the Consent Order.**

In the event the Consultant elects to exercise this “incentive payment” provision, should this provision conflict with any other provision of the Contract, the Contract shall be interpreted in accordance with this provision.

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Craven Thompson
& Associates, Inc.
3563 NW 53rd Street
Fort Lauderdale, Florida 33309

IN ASSOCIATION WITH:



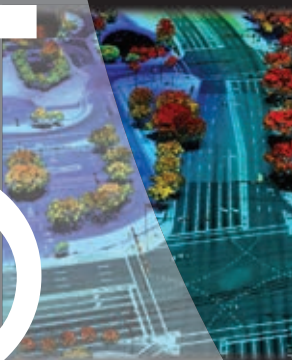
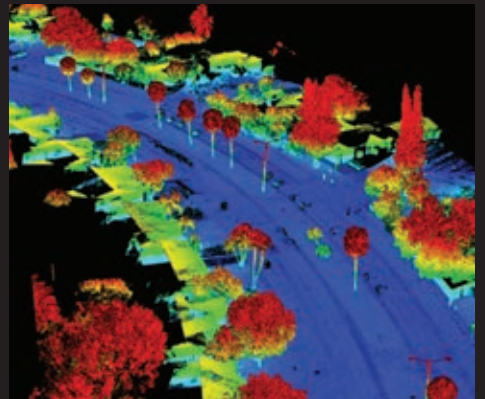
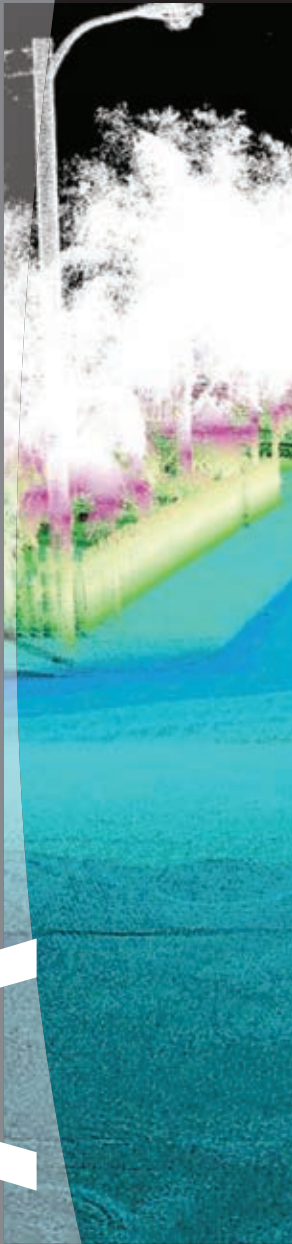
PREPARED FOR



REQUEST FOR QUALIFICATIONS WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

RFQ # 12665-1026

JUNE 27, 2022



FA
TC

LETTER OF INTEREST



June 27, 2022

Attn: Eric Martinez
Senior Procurement Specialist
City of Fort Lauderdale
Procurement Services Division
100 N. Andrews Avenue, 6th Floor
Fort Lauderdale, Florida 33301

**RE: WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES
CITY RFQ # 12665-1026**

Mr. Martinez and Selection Committee Members:

Craven Thompson and Associates, Inc. is pleased to submit this Statement of Qualifications for your consideration in response to the **City of Fort Lauderdale's** Request for Qualifications for *"Water Consent Order Program Management and Mapping Services"*.

We understand the importance of the services required under this RFQ in meeting the City's obligations in the Water Consent Order from FDEP. Due to the limited timeframe to complete and certify the mapping of the water distribution system, we do not believe that meeting the July 24, 2023 deadline stipulated in the Consent Order is achievable under normal conditions, so we have provided two different approaches to the data collection process for the City to consider. One approach will renegotiate both the mapping plan and the timeframe that would be more cost-effective for the City, and a second approach that will meet the current timeframe, utilizing high-tech software, hardware, and personnel, but carries with it a more costly outcome. No matter which approach the City decides upon, it is our intent to expedite the mapping and certification process to the greatest extent possible.

Our team's relationship with the City and with FDEP will allow us to guide the project through the process and bring about a favorable outcome to both entities. We intend to utilize innovative, high tech, and time saving solutions to the various challenges of the project to reduce the project schedule and increase the efficiency of our effort.

Our preferred approach for consideration would be to revisit the water distribution mapping plan with the City and FDEP. We believe that the actual intent of the scope in the Consent Order differs significantly from the scope identified in the WGI water distribution system mapping plan. With a modified plan, which will meet the Consent Order intent, we can significantly reduce the overall time that it will take to complete and certify the system data collection and mapping.

Considering the condensed timeframe under which these services are to be performed, we assembled a team of consultants very familiar with the City of Fort Lauderdale. Craven Thompson as prime consultant, and Hazen and Sawyer, and Woolpert as major subconsultants constitute a team currently working on the Sanitary Sewer Consent Order program management, data collection & mapping (Hazen and Sawyer, Craven Thompson) and the implementation of the Cityworks Asset Management System (Woolpert) for the City of Fort Lauderdale. Each firm is a known entity to City staff and have a proven reliability and expertise with very similar tasks. We believe that this is a great asset to the City as they will not be subject to a "learning curve" as they will with other consultant teams.

We have also included a large number of survey/data collection and S.U.E. subconsultants for the project after a careful review of the WGI Water Mapping Plan and noting the size and complexity of the City's water assets. The required staffing levels necessitated the large number of survey/data collection and S.U.E. firms necessary to meet Consent Order requirements. The following is a list of the Craven Thompson Team members and their roles:

- **Craven & Thompson (Prime)**
Project Director, Survey Project Management, GIS / Data Collection, Subcontractor Coordination / Management

LETTER OF INTEREST



- **Hazen and Sawyer (Sub-consultant)** - Contract Program Management, Oversight of Valve Exercising Program, Reports and City / FDEP Coordination & Liaison
- **Woolpert, Inc. (Sub-consultant)** - GIS Coordination & Management/Data Collection/QA-QC/City Works Integration

Companies, Subconsultants, and Data Collection Responsibilities:

| Company | Task 1 | Task 2 | Survey Crews |
|---|---------------------------------|---|-------------------|
| Craven, Thompson | Project Manager / Survey | Project Manager / GIS / Survey / Coordination | 2 Survey |
| Hazen and Sawyer | Program Management | Program Management | N/A |
| Woolpert | Survey | GIS / Mobile-Aerial Lidar/ Subsurface Utility Mapping | 2 Survey / S.U.E. |
| Keith & Associates | Survey | Mobile Lidar/ Subsurface Utility Mapping | 2 Survey / S.U.E. |
| Surveying and Mapping (SAM) | Survey | Mobile Lidar/ Subsurface Utility Mapping | 2 Survey / S.U.E. |
| Manuel G. Vera | Survey | Mobile Lidar/Subsurface Utility Mapping | 2 Survey / S.U.E. |
| Craig A. Smith | Survey | Subsurface Utility Mapping | 2 Survey / S.U.E. |
| Ritzel-Mason | Survey | Subsurface Utility Mapping | 1 Survey / S.U.E. |
| InfraMap | Survey | Subsurface Utility Mapping | 1 Survey / S.U.E. |
| Zeman Consulting | Survey | Subsurface Utility Mapping | 1 Survey / S.U.E. |
| Gibbs Land Surveying | Survey | | 1 Survey |
| Stoner & Associates | Survey | | 2 Survey |
| McLaughlin Engi. | Survey | | 2 Survey |
| MOT Plans.com | Maintenance of Traffic | Maintenance of Traffic | 3 Crews |
| Pure Technologies, dba Wachs Water Services (Xylem) | Valve Conditioning / Exercising | | |

Mr. Patrick J. Gibney, P.E. of Craven Thompson will serve as Project Director for this contract. He will have overall responsibility and authority over all personnel, both Craven Thompson and subconsultants, on this project. Mr. Gibney has been involved in managing a number of City of Fort Lauderdale projects over the past ten years.

Authorized Representative/Principal-In-Charge/Project Director:

Patrick J. Gibney, P.E., Vice President, Engineering, Craven Thompson & Associates, Inc.

Phone: (954) 739-6400 / Fax: (954) 739-6409 / Email: pgibney@craventhompson.com

Mr. Khamis Al-Omari, P.E. (Hazen and Sawyer) will act as the Program Manager under this contract. Mr. Al-Omari currently serves as the Program Manager for the City of Fort Lauderdale Sewer Design and Implementation Consent Order Program. He is responsible for the program budget, schedule controls, risk management, and reporting. Mr. Richard Pryce, P.S.M. of Craven Thompson will act as the Project Manager for this task as the primary focus of this RFQ is the survey/data collection and G.I.S. Mapping of the City's water system. Mr. Pryce managed these services for the mapping services under the Sanitary Sewer Consent Order, and also managed the survey/data collection and G.I.S. mapping of the City's stormwater assets as a subconsultant to Hazen and Sawyer for the City's Stormwater Master Plan.

We sincerely appreciate the opportunity of providing this response to the City of Fort Lauderdale and hope to continue to build upon the relationship we have with the City and staff.

Sincerely,

Craven Thompson & Associates, Inc.

PATRICK J. GIBNEY, P.E.
Vice President, Engineering

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SECTION 4.2.2: EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

We understand the importance of the services required under this RFQ in meeting the City's obligations in the Water Consent Order from FDEP. Due to the limited timeframe to complete and certify the mapping of the water distribution system, we do not believe that meeting the July 24, 2023 deadline stipulated in the Consent Order is achievable under normal conditions so we have provided two different approaches to the data collection portion of the project for the City to consider as part of our submittal. One approach will renegotiate both the mapping plan and the timeframe that would be more cost effective for the City, and a second approach that will meet the current timeframe, utilizing high tech software, hardware, and personnel, but carries with it a more costly outcome.

We have enlisted a large number of subconsultants to provide surveying, mapping, and Level A and Level B Subsurface Utility Engineering (S.U.E.) Services as identified in the Water Distribution System Mapping Plan developed by WGI and accepted by the Florida Department of Environmental Protection (FDEP). This Craven Thompson Team along with major subconsultants, Hazen and Sawyer (Program Management), and Woolpert, Inc. (Mapping and G.I.S. integration) provides the City with the most highly qualified team with the greatest ability to deliver the project successfully. We are fully capable and willing to work with the City and FDEP to satisfy the intent of the Consent Order.

The Craven Thompson Team has worked together and separately on several successful projects for the City of Fort Lauderdale over the past ten years. The advantage of this team is that the City already knows our capabilities and the quality of our work and can rest assured that we will deliver what we commit to in the most efficient and cost-effective way possible. The Team members are very familiar with the City of Fort Lauderdale's requirements for program management, survey\GIS data collection, GIS processing, quality control, mapping, and maintaining the integrity of the GIS data due to our (Craven\Hazen) previous projects on the Sanitary and Storm Sewer systems and for Woolpert's work on the Cityworks Asset Management Software. We all take our work seriously and will be able to provide the city with a comfort level on our ability to complete and deliver what's needed for this project.

Achieving success on this project requires a team who fully understands the City's processes, distribution system, GIS, Cityworks, data models and asset management principles. This Craven Thompson Team not only meets all of those requirements, our team members have worked together on multiple projects, which will result in greater efficiency and effectiveness in working toward aggressive deadlines.

We have a clear line of sight of the required goals and objectives. In our approach, we describe our ability to partner with the City, which has been proven with our work on the Sewer Consent Program, to develop a Plan to transition active Consent Order projects without losing any of the momentum you have already built. We will continue to operate under a "right-sized" Program Management umbrella. This approach requires a large contingent of qualified surveyors, engineers, as well as project controls, GIS and Cityworks personnel who have experience successfully delivering projects in the Fort Lauderdale public works environment. Our team was specifically constructed to deliver such a talent pool to the City. This is not a project to learn on. It is a program that demands wealth of prior knowledge and experience.

Section 4.2.3: Firm Qualifications and Experience

Section 4.2.3

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



FIRM QUALIFICATIONS AND EXPERIENCE

Craven Thompson & Associates, Inc. has worked with the City of Fort Lauderdale since the creation of the firm in 1962, sixty years ago. We have provided civil engineering, surveying, project management, landscape architecture, G.I.S. mapping, and construction services on the many projects we have successfully completed for the City. Our subconsultant, Hazen and Sawyer also has extensive experience with the City of Fort Lauderdale including many projects and programs where Hazen and Sawyer and Craven Thompson have teamed together to provide our joint expertise to the City.

In 2016, Hazen and Sawyer, was awarded the Stormwater Master Plan Modeling and Design Implementation Engineering Consulting Services by the City of Fort Lauderdale. Craven Thompson, providing subconsultant services to Hazen and Sawyer under this contract, performed a surveying and stormwater inventory/data collection task that involved providing detailed information about the land surface characteristics, the hydrographic features and the stormwater infrastructure throughout the City of Fort Lauderdale. Craven Thompson had aerial photogrammetry subconsultant, Pickett & Associates that developed a high-resolution aerial LiDAR survey of the City of Fort Lauderdale. Craven Thompson prepared an extensive vertical and horizontal GPS control network to an extremely high level of accuracy for the Lidar Survey. We also verified the accuracy of the LiDAR by performing traditional survey topographic checks of various points within the survey limits, as well as acquired the drainage inverts, and other pertinent vertical information not visible to the aerial photogrammetry. This included, but was not limited to: storm manholes, catch basins, junction boxes, culverts headwalls and pipe ends. Information such as pipe diameters, pipe materials, pipe geometrics, inverts, the existence of exfiltration trench and/or pollution retardant baffles, headwall treatment and materials, seawall locations and elevations, canal cross sections, drainage pumps, retention and detention area geometrics, and swale locations were obtained.

Using this information, we prepared Digital Elevation Models (DEM) from the Lidar for use in the stormwater modeling task. We also delivered the information obtained to the City in the original (.las) format and the final surface models in Geotiff format for use in ArcGIS.

In 2017, the City of Fort Lauderdale entered into Consent Order No. 16-1487 with the Florida Department of Environmental Protection (FDEP) to improve sanitary sewer service within the City. The City hired Hazen and Sawyer to act as program manager for the projects necessary under this Consent Order. Craven Thompson, as a subconsultant to Hazen and Sawyer was tasked with developing a Sanitary Sewer Mapping Plan for approval by FDEP, developing a network of high-accuracy survey benchmarks and performing survey-grade Global Position System (GPS) calibrations throughout the City, and finally, developing a complete map of the wastewater collection and transmission system for the entire City service area.

Incorporating the survey control established for the Stormwater project, Craven Thompson created City-Wide Benchmarks (BM) including the establishment of primary and secondary vertical control benchmarks around the perimeter and throughout each of the 52 designated Data Collection Zones (established by Craven Thompson). This project also utilized the same horizontal datum and coordinate system as the stormwater data collection, in order to keep all utilities relative to the same survey control within City limits. After establishing the primary and

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



secondary vertical control benchmarks, a concrete monument with a brass disc (stamped with the Data Collection Zone designation) was set at a central location within each data collection zone. A GPS Static Survey was performed with a minimum of four (4) hours of GPS satellite observations collected at 1-second intervals and processed through the National Geodetic Survey (NGS) Opus program to provide accurate horizontal positioning.

We then developed Global Positioning System (GPS) localized calibration networks for each of the 52 Data Collection Zones. This was accomplished by using the primary vertical control benchmarks surrounding each zone and occupying them until the Dilution of Precision (DOP) in both the Position (POOP) and the Vertical (VDOP) levels is acceptable. Acceptable levels fall between levels 1 and 2 with highest precisions being closer to 1.

Craven Thompson then moved to the data collection phase of the sanitary sewer mapping. We completed the field data collection for approximately 5,917 sanitary manholes, 190 sanitary pump stations, 15 meters, and 80 miles of pressurized force mains. Craven Thompson updated the City sanitary sewer GIS geodatabase with data from accepted as-built drawings, field data collection, operation and maintenance markups, and as-built drawings. At the conclusion of the sanitary sewer mapping, we provided a written response to FDEP certifying that mapping of the existing sewer system was completed as required by the Consent Order.

Standard Form 330

See the attached Standard Form 330s for the prime and subconsultants.

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION (City and State)

Water Consent Order Program Management and Mapping Services, Fort Lauderdale, Florida

2. PUBLIC NOTICE DATE

April 22, 2022

3. SOLICITATION OR PROJECT NUMBER

RFQ No. 12665-1026

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Richard D. Pryce, P.S.M., Vice President, Surveying & G.I.S.

5. NAME OF FIRM

Craven Thompson & Associates, Inc.

6. TELEPHONE NUMBER

(954) 739-6400

7. FAX NUMBER

(954) 739-6409

8. E-MAIL ADDRESS

rpryce@craventhompson.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

| | (Check) | | | 9. FIRM NAME <input type="checkbox"/> CHECK IF BRANCH OFFICE | 10. ADDRESS | 11. ROLE IN THIS CONTRACT |
|----|---------|------------|---------------|---|--|--|
| | PRIME | IN PARTNER | SUBCONTRACTOR | | | |
| a. | X | | | Craven Thompson & Assoc. <input type="checkbox"/> CHECK IF BRANCH OFFICE | 3563 NW 53 rd Street Fort Lauderdale, Florida, 33309 | Survey Project Management, GIS / Data Collection, Sub Coord. / Mgt. |
| b. | | | X | Hazen and Sawyer <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 999 Ponce de Leon Blvd., # 1150 Coral Gables, Florida 33431 | Program Management |
| c. | | | X | Hazen and Sawyer <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 7870 E. Kemper Road, #300 Cincinnati, Ohio 45249 | Program Management |
| d. | | | X | Hazen and Sawyer <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | One S. Street, #1150 Baltimore, MD 21202 | Program Management |
| e. | | | X | Woolpert, Inc. <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 6100 Blue Lagoon Dr., #440 Miami, Florida 33126 | GIS Coordination/ QA-QC / City Works Integration / Management |
| f. | | | X | Keith and Associates <input type="checkbox"/> CHECK IF BRANCH OFFICE | 301 East Atlantic Blvd. Pompano Beach, Florida 33060 | Surveying, Mobile LiDAR, S.U.E. Services |
| g. | | | X | Surveying and Mapping (SAM) <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 1800 Pembroke Drive, Suite 300 Orlando, Florida 32810 | Surveying, Mobile LiDAR, S.U.E. Services |
| h. | | | X | Surveying and Mapping (SAM) <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 2844 Pablo Avenue Tallahassee, Florida 32308 | Surveying, Mobile LiDAR, S.U.E. Services |
| i. | | | X | Manuel G. Vera & Assoc. <input type="checkbox"/> CHECK IF BRANCH OFFICE | 13960 SW 47 th Street Miami, Florida 33175 | Surveying, Mobile LiDAR, S.U.E. Services |
| j. | | | X | Craig A. Smith & Associates <input type="checkbox"/> CHECK IF BRANCH OFFICE | 21045 Commercial Trail Boca Raton, Florida 33486 | Surveying & S.U.E. Services |
| k. | | | X | Ritzel-Mason <input type="checkbox"/> CHECK IF BRANCH OFFICE | 5119 Beachwood Road Delray Beach, Florida 33484 | Surveying & S.U.E. Services |
| l. | | | X | InfraMap Corp. <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE | 1100 N. Florida Mango Road, #D West Palm Beach, Florida 33409 | Surveying & S.U.E. Services |
| m. | | | X | Zeman Consulting Group <input type="checkbox"/> CHECK IF BRANCH OFFICE | 3970 RCA Blvd., Suite 7750 Palm Beach Gardens, FL 33410 | Surveying & S.U.E. Services |
| n. | | | X | Gibbs Land Surveyors <input type="checkbox"/> CHECK IF BRANCH OFFICE | 2131 Hollywood Blvd., #204 Hollywood, Florida 33020 | Surveying Services |
| o. | | | X | Stoner & Associates <input type="checkbox"/> CHECK IF BRANCH OFFICE | 4341 SW 62 nd Avenue Davie, Florida 33314 | Surveying Services |
| p. | | | X | McLaughlin Engineering <input type="checkbox"/> CHECK IF BRANCH OFFICE | 1700 NW 64 th Street, Suite 400 Fort Lauderdale, Florida 33309 | Surveying Services |
| q. | | | X | MOTPlans.Com <input type="checkbox"/> CHECK IF BRANCH OFFICE | 631 NE 45 th Street Oakland Park, Florida | Maintenance of Traffic |
| r. | | | X | WachsWater (a Xylem brand) <input type="checkbox"/> CHECK IF BRANCH OFFICE | 8920 State Route 108, Suite D Columbia, MD 21045 | Valve Conditioning / Exercising |

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

☒ (Attached)



STANDARD FORM 330

4.2.3 | Page 3

CAM #22-1089

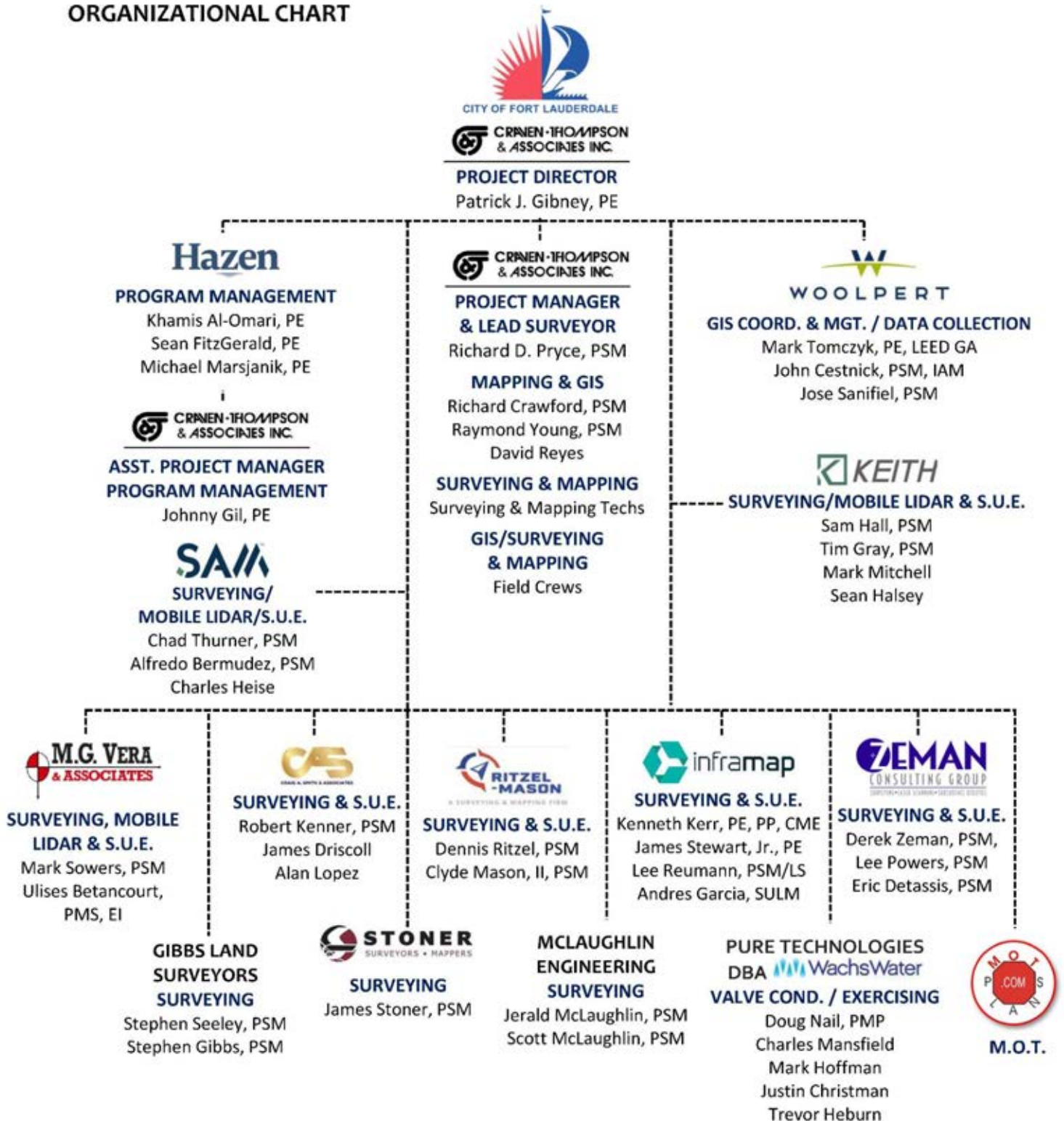
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EXHIBIT D

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

ORGANIZATIONAL CHART



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|---|--|----------------------------|
| 12. NAME Patrick J. Gibney, P.E. | 13. ROLE IN THIS CONTRACT Project Director | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 35 | b. WITH CURRENT FIRM 29 |
| 15. FIRM NAME AND LOCATION (City and State) Craven Thompson & Associates, Inc., 3563 NW 53 rd Street, Fort Lauderdale, Florida 33309 | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Rutgers, The State University, Bachelor of Science, Civil Engineering (1987) | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Engineer - Florida No. 49428 (1995) | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Society of Civil Engineers, FDOT Pre-Qualified Roadway Construction Engineering Inspection | | | |

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|--|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | Eastside Master Infrastructure Project – Phases 2 & 3 Davie, Florida | 2015 | 2018 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gibney managed the project which included: 5,075 linear feet of 8" watermain, 5,140 linear feet of 12" watermain, 11,455 linear feet of 8" sanitary gravity sewer, 2,945 linear feet of 16" sanitary forcemain, 18,940 linear feet of storm sewer, 41,000 square yards of swale regrading, and over 20,000 SY of roadway reconstruction. | | |
| b. | Installation of New Redundant Bypass Line (Zone 4B & 4C) – 54" FM, Fort Lauderdale, Florida | 2020 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Director - The project involved the installation of 54" nominal OD HDPE Force Main by Horizontal Directional Drill (HDD), with sections of open cut trench installation of 16" HDPE Force Main. The total length of Horizontal Directional Drill (HDD) 54" OD HDPE Force Main is 3,223 Linear Feet in length which was proposed to minimize the disturbance to the community and limit the amount of pavement restoration, with an additional 653 Linear Feet of 16" HDPE Force Main installed by open cut trench. | | |
| c. | Las Olas Watermain and Forcemain Design Criteria Package Fort Lauderdale, Florida | 2015 | 2016 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm The purpose of this \$3.1 Million project, completed in December 2016, was to deepen a critical 20-inch water main crossing of the ICW along with adding a new 16-inch sewage force main to enhance system reliability. | | |
| d. | Pump Station A-13 & Sewer Redirection East of Federal Highway Fort Lauderdale, Florida | 2015 | 2019 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm This project was for the construction of Lift Station A-13, located at the southeast corner of Southeast 2 nd Court and Southeast 8 th Avenue. The project scope included the construction of an 18-inch diameter gravity sanitary sewer system and the connection to an existing active sanitary sewer manhole located at the intersection of Federal Highway and Broward Boulevard to the new lift station. | | |
| e. | South Middle River Force Main Crossing – 16" Redundant Pipe Fort Lauderdale, Florida | 2020 - 2021 | 2020 - 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Director - The project involved the installation of 16" nominal OD HDPE Force Main under the South Middle River Waterway, with sections of open cut trench installation of 16" PVC Force Main. The total length of subaqueous crossing of 16" HDPE Force Main is 1092 Linear Feet (LF) in length, with an additional 832 Linear Feet (LF) of 16" PVC Force Main installed by open cut trench. | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | |
|--------------------------------------|--|----------------------|----------------------------|
| 12. NAME Richard D. Pryce, P.S.M. | 13. ROLE IN THIS CONTRACT Project Manager GIS, Surveying, Data Collection & Mapping | 14. YEARS EXPERIENCE | |
| | | TOTAL 49 | b. WITH CURRENT FIRM 16 |

15. FIRM NAME AND LOCATION (City and State)

Craven Thompson & Associates, Inc., 3563 NW 53rd Street, Fort Lauderdale, Florida 33309

16. EDUCATION (DEGREE AND SPECIALIZATION)

Certificate in advanced GIS & Remote Sensing, BCC (2002)
 Advanced ESRI ARCINFO & ARCIMS Training (ESRI,) 2004

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

Professional Surveyor and Mapper
 Florida No. 4038 (1983)

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

- Chairman FSMS GIS Committee - State & County Chapters, Florida Surveying & Mapping Society

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|--|--------------------------------------|--|
| a. | Fort Lauderdale Sanitary Sewer Mapping - GIS and Surveying Fort Lauderdale, Florida | PROFESSIONAL SERVICES 2018 - 2019 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Survey /GIS Manager. Responsible for establishing Primary and Secondary Vertical Control with over 3000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory 5,917 Sanitary Manholes, 190 pump Stations, 15 meters, and 80 miles of force mains and their associated valves. | | |
| b. | Fort Lauderdale Stormwater Master Plan – GIS and Surveying Fort Lauderdale, Florida | PROFESSIONAL SERVICES 2016 - 2017 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Survey Manager. Responsible for LiDAR of the City, As-built/Inventory 5,400 Stormwater Features for GIS Model. Collected and evaluated 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data in ArcGIS Geodatabase. | | |
| c. | Seminole Tribe of Florida Stormwater Data Collection/GIS Hollywood, Florida | PROFESSIONAL SERVICES 2020-2021 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey Project Manager – Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field. | | |
| d. | City of North Miami Beach Water & Sewer GIS North Miami Beach, Florida | PROFESSIONAL SERVICES 2014 - 2016 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm The purpose of the 25,600-Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. | | |
| e. | Stormwater GIS/Data Collection Project North Miami Beach, Florida | PROFESSIONAL SERVICES 2017 - 2018 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm The City is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The Craven Thompson data was collected by a Unique ID. We provided the City with a copy of the updated geodatabase with all the proposed data fields to be collected for review. The GIS data collected consisted of: Structure type (junction, inlet, control structure, drainage well): Pipes, Culvert and Outfalls, and Headwalls and Seawalls. | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|--|---|---------------------------|
| 12. NAME Richard G. Crawford, Jr., P.S.M. | 13. ROLE IN THIS CONTRACT GIS, Surveying, Data Collection & Mapping | 14. YEARS EXPERIENCE | |
| | | TOTAL 37 | b. WITH CURRENT FIRM 1 |
| 15. FIRM NAME AND LOCATION (City and State) Craven Thompson & Associates, Inc., 3563 NW 53 rd Street, Fort Lauderdale, Florida 33309 | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Associates of Science in Land Surveying (1994) Associates of Arts in Architecture (1986) | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Surveyor and Mapper Florida No. LS5371 (1994) | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Florida Surveying & Mapping Society - Broward Chapter | | | |

19. RELEVANT PROJECTS

| | | | |
|----|---|--------------------------------------|--|
| | (1) TITLE AND LOCATION (City and State) Sanitary Sewer Mapping - Control Surveying Fort Lauderdale, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If applicable) Not Applicable |
| a. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Survey Project Manager - Responsible for establishing Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory 5,917 Sanitary Manholes, 190 pump Stations, 15 meters, and 80 miles of force mains and their associated valves. (Mr. Crawford worked on this project while employed by another company, as a subconsultant to Craven Thompson). | | |
| | (1) TITLE AND LOCATION (City and State) Citywide Benchmarks Pompano Beach, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 - 2015 | CONSTRUCTION (If applicable) Not Applicable |
| b. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Survey Project Manager - Responsible for establishing Primary and Secondary Vertical First Order Control to establish new city benchmarks to support a Storm Drainage Study. | | |
| | (1) TITLE AND LOCATION (City and State) Modeling and Design Implementation of Stormwater Master Plan Fort Lauderdale, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 - 2015 | CONSTRUCTION (If applicable) Not Applicable |
| c. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project Surveyor - Responsible for directing survey data collection, GIS analysis, and assisting others team members. Provided oversight for field data acquisition of storm water infrastructure attributes needed to populate an existing GIS Database. (Mr. Crawford worked on this project while employed by another company, as a subconsultant to Craven Thompson). | | |
| | (1) TITLE AND LOCATION (City and State) FDOT, District 4 and District 6 Districtwide Miscellaneous Services Contract, South Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 1993 - 2005 | CONSTRUCTION (If applicable) Not Applicable |
| d. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project Surveyor - Supervised a wide variety of land surveying assignments throughout Southeast Florida region as a Project Surveyor in responsible charge. Utilized GNSS, and conventional land surveying techniques to perform digital terrain modeling, subsurface utility locations (SUE), boundary determinations, sewage infrastructure analysis, bridge details, control surveys, and right-of-way establishment. | | |
| | (1) TITLE AND LOCATION (City and State) Broward County UAZ 110 / 111 & 113 Water Sewer Improvements 113B, Lauderhill, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 - 2019 | CONSTRUCTION (If applicable) Not Applicable |
| e. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project Surveyor/Field Coordinator - Mapping, Field Coordination, Survey Data Processing. Responsible for establishing Primary and Secondary Vertical Control for Drone Mapping including flying, and processing drone data. | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|--|---|----------------------------|
| 12. NAME Raymond Young, P.S.M. | 13. ROLE IN THIS CONTRACT GIS, Surveying, Data Collection & Mapping | 14. YEARS EXPERIENCE | |
| | | TOTAL 41 | b. WITH CURRENT FIRM 29 |
| 15. FIRM NAME AND LOCATION (City and State) Craven Thompson & Associates, Inc., 3563 NW 53 rd Street, Fort Lauderdale, Florida 33309 | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Surveyor and Mapper Florida No. 5799 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Florida Society of Professional Surveyors and Mappers | | | |

19. RELEVANT PROJECTS

| | | | |
|----|--|--------------------------------------|--|
| a. | (1) TITLE AND LOCATION (City and State) Fort Lauderdale Sanitary Sewer System GIS & Surveying Fort Lauderdale, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 - 2019 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, Pump Stations, meters, valves, air valves and 80 miles of force mains. | | |
| b. | (1) TITLE AND LOCATION (City and State) Nova Southeastern University – Parking Garage Construction Layout Davie, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 - 2019 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Surveyor. Craven Thompson calculated the position of, and field staked seventy-seven (77) pilings for the parking garage at NSU. We placed a 60d nail or 5/8" iron rod at the center of each piling. | | |
| c. | (1) TITLE AND LOCATION (City and State) Hydrographic and Storm Water Infrastructure Survey Greenacres, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Along with our sub-consultant, Craven Thompson created a survey from high-resolution, low-level LiDAR and ground surveying. The survey included roadways and canal cross-sections for proposed Drainage Improvements. Also, included Right-of-way surveys, storm drains, canals and ditches along 1 st Street in the Original Section area of the City of Greenacres and a portion of Lake Worth Canal E-3 (cross sectioned). | | |
| d. | (1) TITLE AND LOCATION (City and State) City of North Miami Beach Water & Sewer GIS North Miami Beach, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 - 2016 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project surveyor/GIS. Data Collection and G.I.S. Specialist - The purpose of the 25,600 Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. | | |
| e. | (1) TITLE AND LOCATION (City and State) Seminole Tribe of Florida Stormwater Data Collection/GIS Hollywood, Florida | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2020 - 2021 | CONSTRUCTION (If applicable) Not Applicable |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project surveyor/GIS - Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field. | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|--|--|----------------------------------|
| 12. NAME David Reyes | 13. ROLE IN THIS CONTRACT G.I.S., Surveying, Data Collection & Mapping | 14. YEARS EXPERIENCE | |
| | | TOTAL 28 | b. WITH CURRENT FIRM 8 |
| 15. FIRM NAME AND LOCATION (City and State) Craven Thompson & Associates, Inc., 3563 NW 53rd Street, Fort Lauderdale, Florida 33309 | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Multiple Continuing Education programs in Surveying, GIS, and Mapping technologies. | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Certified Survey Technician Level III, FL, 2003 FDOT Maintenance of Traffic, FL | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) | | | |

19. RELEVANT PROJECTS

| (1) TITLE AND LOCATION (City and State) | | (2) YEAR COMPLETED | |
|--|--|---|---|
| Fort Lauderdale Sanitary Sewer System GIS & Surveying Fort Lauderdale, Florida | | PROFESSIONAL SERVICES 2018 - 2019 | CONSTRUCTION (If applicable) Not Applicable |
| a. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, Pump Stations, meters, valves, air valves and 80 miles of force mains. | | |
| (1) TITLE AND LOCATION (City and State) Seminole Tribe of Florida Stormwater Data Collection/GIS Hollywood, Florida | | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2020 - 2021 | CONSTRUCTION (If applicable) Not Applicable |
| b. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Data Collection and G.I.S. Specialist -. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field. | | |
| (2) TITLE AND LOCATION (City and State) Fort Lauderdale Storm Water Master Plan - GIS & Surveying Fort Lauderdale, Florida | | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2016 - 2017 | CONSTRUCTION (If applicable) Not Applicable |
| c. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Data Collection and G.I.S. Specialist - Responsible for LiDAR of the City, As-built/Inventory 5,400 Stormwater Features for GIS Model. Collected and evaluated 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data to the City in ArcGIS Geodatabase. | | |
| (1) TITLE AND LOCATION (City and State) Stormwater GIS/Data Collection Project North Miami Beach, Florida | | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2017 - 2018 | CONSTRUCTION (If applicable) Not Applicable |
| d. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Data Collection and G.I.S. Specialist - The City is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The Craven Thompson data was collected by a Unique ID. We provided the City with a copy of the updated geodatabase with all the proposed data fields to be collected for review. | | |
| (1) TITLE AND LOCATION (City and State) City of North Miami Beach Water & Sewer GIS North Miami Beach, Florida | | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 - 2016 | CONSTRUCTION (If applicable) Not Applicable |
| e. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Data Collection and G.I.S. Specialist - The purpose of the 25,600 Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|--|---|---------------------------|
| 12. NAME Johnny Gil, P.E. | 13. ROLE IN THIS CONTRACT Assistant Program Manager | 14. YEARS EXPERIENCE | |
| | | TOTAL 12 | b. WITH CURRENT FIRM 7 |
| 15. FIRM NAME AND LOCATION (City and State) Craven Thompson & Associates, Inc., 3563 NW 53 rd Street, Fort Lauderdale, Florida 33309 | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) Masters of Science, Civil Engineering - Structures (2010) Bachelor of Science, Civil Engineering (2008) | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Civil Engineering, State of Florida No. 78613 (2015) | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Technical Skills: AutoCAD Civil 3D, Microstation, GTSTRUDL, STAAD, ETABS, MathCAD, Matlab, Primavera, Project Planner, Microsoft PowerPoint, Advanced Excel Programming, Word, ICPR3, Cascade | | | |

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | City of Fort Lauderdale Wastewater Consent Order Program (OGC No 16-1487) – Program Management Services, Fort Lauderdale | 2019 | Present |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Responsibilities include periodically gathering project status information, producing monthly progress reports, and Semi-Annual Reports, maintaining and consistently updating the overall Consent Order Program Master Schedule, recording and archiving of project completion and certification documentation, coordinating presentation graphics, assembling program status updates, drafting project notifications for project completions and Milestone achievements to the Florida Department of Environmental Protection (FDEP). | | |
| b. | Project Delivery Plan - Bid Package 10 Oakland Park, Florida | 2012 -2014 | 2012-2014 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Responsible for the layout, replacement and upgrade design of approximately 10,000 LF of water main and 2,000 LF of force main throughout the City of Oakland Park. Design required coordination with existing utilities and permitting with City, County and State Agencies. | | |
| c. | City of Miami Gardens, Vista Verde Drainage Design Miami Gardens, Florida | 2013-2014 | 2015 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Responsible for creating a drainage model of the Vista Verde Neighborhood and preparing a complete set of drainage plans and cost estimate. Design included pipe sizing, grading and coordination with concurrent Dade County water main installation. | | |
| d. | Floranada Road Roundabout and Traffic Calming Improvements City of Oakland Park, Florida | 2013 - 2014 | 2015 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Engineer - Assisted project manager in preparation of contract documents, including revisions to plans and quantity take-offs. | | |
| e. | NE 38 th Street Complete Streets Project Oakland Park, florida | 2011 | 2015 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Assisted project manager coordination for Complete Street LAP funded improvements through FDOT. Prepared preliminary roadway design plans, including quantity take-offs. | | |

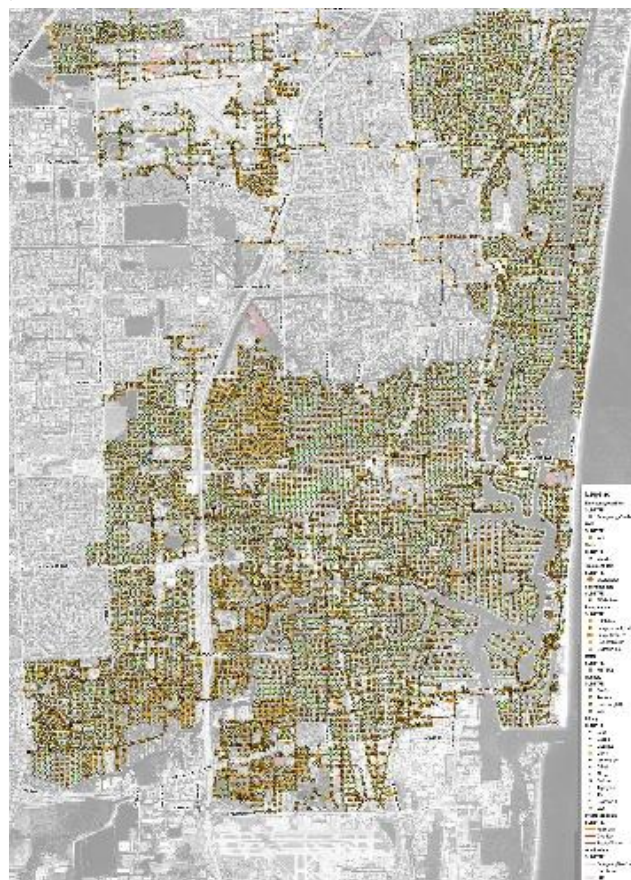


| | | |
|---|--|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | | 20. EXAMPLE PROJECT KEY NUMBER 1 |
| 21. TITLE AND LOCATION (CITY AND STATE) Fort Lauderdale Sanitary Sewer System GIS & Surveying Fort Lauderdale, Florida | | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2018-2019 (Data Collection) CONSTRUCTION (If applicable) Not Applicable |
| 23. PROJECT OWNER'S INFORMATION | | |
| a. PROJECT OWNER City of Fort Lauderdale (Owner) Hazen & Sawyer (Client) | b. POINT OF CONTACT NAME Mr. Jorge Holguin, Sr. Project Mgr. Ms. Patricia Carney, V.P. | c. POINT OF CONTACT TELEPHONE NUMBER (954) 828-5675 / jholguin@fortlauderdale.gov (954) 987-0066 / pcarney@hazenandsawyer.com |
| 24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost) | | |

Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, pump Stations, meters, valves, air valves and 80 miles of force mains. During Sewer Mapping Phase I, the Benchmarks and GPS Control monuments were established for each of the 52 Data Collection Zones (DCZ). The benchmarks and monuments were utilized with a GPS base station during the feature data acquisition phase. Phase II included multiple feature data acquisitions for the City's GIS System and for certain areas to be thoroughly modeled. The data acquisition features collected as part of this Phase included 5908 manholes, 190 Pump Stations, 15 Meters, and 80 miles of pressure pipes with 752 valves and 285 Air release valves.

The initial work on this phase focused on the 5,908 manholes identified under Phase I. These features required the most of the field work and acquisition time. The manholes were divided into two categories, those that needed to be modeled completely, including 1,163 manholes which needed complete horizontal and vertical as-built information inside and out, and another 4,745 manholes which need only a minimum of horizontal and vertical information, being the rim and the inside bottom of structure.

Craven Thompson collected and updated manhole GIS geodatabase. We utilized the Trimble Terraflex program to extract the database fields from the GIS manhole feature class inside of an electronic data collector (Samsung or Ipad) for collecting the structure and pipe information inside of each manhole, pump stations and valve vaults.

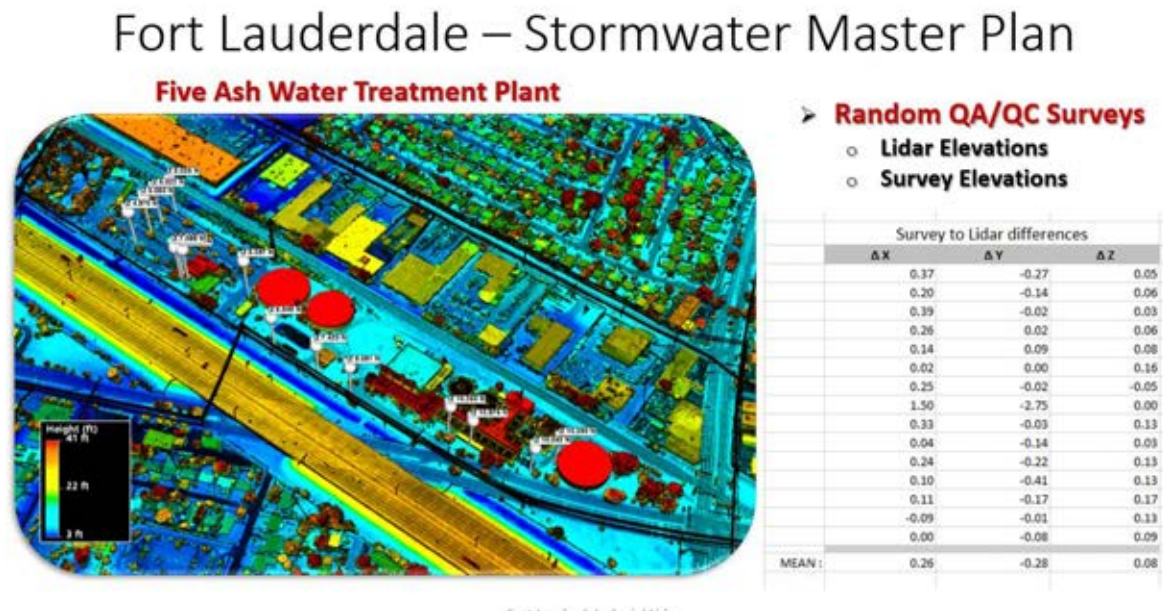


| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | | |
|---|---|---|---|
| a. | (1) FIRM NAME Craven Thompson & Associates, Inc. | (2) FIRM LOCATION (City and State) 3563 NW 53 rd Street Fort Lauderdale, Florida 33309 | (3) Role Sub-consultant – G.I.S./Surveying & Mapping |
| b. | (1) FIRM NAME Hazen & Sawyer | (2) FIRM LOCATION (City and State) 4000 Hollywood Blvd., Suite 750-N Hollywood, Florida 33021 | (3) Role Prime - Program Manager for Consent Order |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) Role |



| | | |
|---|--|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | | 20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 24pt; font-weight: bold;">2</div> |
| 21. TITLE AND LOCATION (CITY AND STATE) Fort Lauderdale Storm Water Master Plan - GIS & Surveying Fort Lauderdale, Florida | | 22. YEAR COMPLETED PROFESSIONAL SERVICES <div style="text-align: center; font-weight: bold;">2016 - 2017</div> (Data Collection) |
| 23. PROJECT OWNER'S INFORMATION | | |
| a. PROJECT OWNER City of Fort Lauderdale (Owner) Hazen & Sawyer (Client) | b. POINT OF CONTACT NAME Mr. Rares Petrica, PE, Sr. Project Mgr. Ms. Patricia Carney, V.P. | c. POINT OF CONTACT TELEPHONE NUMBER (954) 828-6720 / Rpetrica@fortlauderdale.gov (954) 987-0066 / pcarney@hazenandsawyer.com |
| 24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i> | | |

Craven Thompson performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The survey limits of this project are described as the entire City limits of Fort Lauderdale. The City was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the City in the Stormwater system and provide the data to the City in ArcGIS Geodatabase conforming to their GIS Model Schema.



| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|--|
| a. | (1) FIRM NAME Craven Thompson & Associates, Inc. | (2) FIRM LOCATION <i>(City and State)</i> 3563 NW 53 rd Street Fort Lauderdale, Florida 33309 |
| b. | (1) FIRM NAME Hazen & Sawyer | (2) FIRM LOCATION <i>(City and State)</i> 4000 Hollywood Blvd., Suite 750-N Hollywood, Florida 33021 |
| c. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> |
| d. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> |



| | | |
|---|--|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | | 20. EXAMPLE PROJECT KEY NUMBER 3 |
| 21. TITLE AND LOCATION (CITY AND STATE) Stormwater GIS/Data Collection Project North Miami Beach, Florida | | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2017 - 2018 (Data Collection) |
| CONSTRUCTION (If applicable) Not Applicable | | |
| 23. PROJECT OWNER'S INFORMATION | | |
| a. PROJECT OWNER City of North Miami Beach | b. POINT OF CONTACT NAME Mr. D. Chidi Tobias Civil Engineer | c. POINT OF CONTACT TELEPHONE NUMBER Phone: (305) 947-7581 ext. 2313 Email: Chidi.Tobias@citynmb.com |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The City is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The Craven Thompson data was collected by a Unique ID. Craven Thompson provided the City with a copy of the updated geodatabase with all the proposed data fields to be collected for review. The GIS data collected consists of: Structure type (junction, inlet, control structure, drainage well): Pipes, Culvert and Outfalls, and Headwalls and Seawalls.



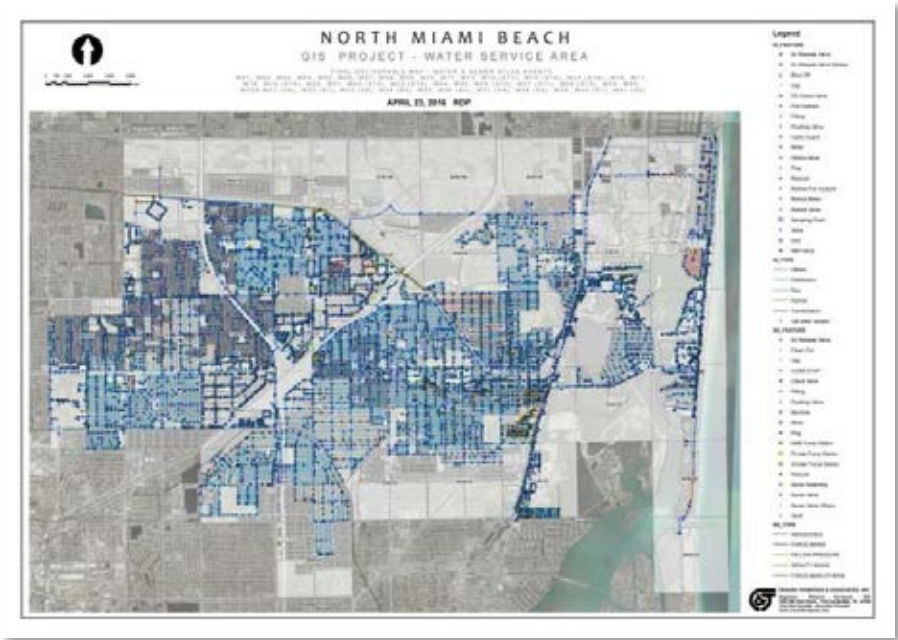
| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | | |
|---|---|--|---|
| a. | (1) FIRM NAME Craven Thompson & Associates, Inc. | (2) FIRM LOCATION <i>(City and State)</i> 3563 NW 53 rd Street Fort Lauderdale, Florida 33309 | (3) Role Prime – G.I.S/Surveying & Mapping |
| b. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) Role |
| c. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) Role |
| d. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) Role |



| | | |
|---|--|--|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | | 20. EXAMPLE PROJECT KEY NUMBER 4 |
| 21. TITLE AND LOCATION (CITY AND STATE) North Miami Beach Water & Sewer Service Area GIS & Mapping North Miami Beach, Florida | | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2014 - 2016 CONSTRUCTION (If applicable) Not Applicable |
| a. PROJECT OWNER NMB Water / Jacobs | b. POINT OF CONTACT NAME Mr. Karim Rossy Development Engineer 3 | c. POINT OF CONTACT TELEPHONE NUMBER Phone: (305) 948-2980, Ext. 7962 Email: karim.rossy@jacobs.com |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

The purpose of the 25,600-Acre Service Area Project was to provide the City with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area. The process included conversion of existing AutoCAD files, into the same coordinate system as the GIS, so that future updates will be more easily transferred between the two systems, for updates and maintenance. The project involved setting up a GIS Network file structure for the City to insert existing and future documentation into, as well as, adding GIS database information in the future.



| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|--|
| a. | (1) FIRM NAME Craven Thompson & Associates, Inc. | (2) FIRM LOCATION <i>(City and State)</i> 3563 NW 53 rd Street Fort Lauderdale, Florida 33309 |
| b. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> |
| c. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> |
| d. | (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> |
| | | (3) Role |



| | | |
|---|--|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | | 20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 1.2em; font-weight: bold;">5</div> |
| 21. TITLE AND LOCATION (CITY AND STATE) Hollywood Seminole Reservation Stormwater Data Collection/GIS, Hollywood, Florida | | 22. YEAR COMPLETED <div style="display: flex; justify-content: space-between;"> <div> PROFESSIONAL SERVICES 2020 - 2021 (Data Collection) </div> <div> CONSTRUCTION (If applicable) Not Applicable </div> </div> |
| 23. PROJECT OWNER'S INFORMATION | | |
| a. PROJECT OWNER Seminole Tribe of Florida | b. POINT OF CONTACT NAME Mr. Ranthus Fouch, P.E. Sr. Civil Engineer | c. POINT OF CONTACT TELEPHONE NUMBER Phone: (954) 203-1034 Email: ranthusfouch@seminoletribe.com |
| 24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i> | | |

The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation

Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, age, and structure condition were obtained in the field.

We modified the Tribe's GIS database to include new relevant information and to include all information from the data collection efforts and condition assessment.



| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | | |
|---|---|---|--|
| a. | (1) FIRM NAME Craven Thompson & Associates, Inc. | (2) FIRM LOCATION (City and State) 3563 NW 53 rd Street Fort Lauderdale, Florida 33309 | (3) Role Prime – Stormwater Master Plan, G.I.S. Data Collection & Mapping |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) Role |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) Role |



G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

[illegible]

29. EXAMPLE PROJECTS KEY

| NO. | TITLE OF EXAMPLE PROJECT (FROM SECTION F) | NO. | TITLE OF EXAMPLE PROJECT (FROM SECTION F) |
|-----|--|-----|---|
| 1 | Fort Lauderdale Sanitary Sewer System GIS & Surveying, Fort Lauderdale, Florida | | |
| 2 | Fort Lauderdale Storm Water Master Plan - GIS & Surveying Fort Lauderdale, Florida | | |
| 3 | Stormwater GIS/Data Collection Project North Miami Beach, Florida | | |
| 4 | North Miami Beach Water & Sewer GIS & Mapping, North Miami Beach, Florida | | |
| 5 | Hollywood Seminole Reservation Stormwater Data Collection/GIS, Hollywood, Florida | | |



H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

Craven Thompson & Associates, Inc. has been a consulting industry leader in the South Florida area since our inception in 1962. With our office located in South Florida, we have established a high-profile presence through the years with a reputation of excellent service to many varied clients, performing the full range of professional services. We have worked closely with many municipalities to provide services such as survey (platting, right-of-way surveys, special purpose and topographical surveys, easements, sketch & legal descriptions, hydrographical surveys, high definition laser scanning, LiDAR, As-builts, and establishment of horizontal & vertical control), G.I.S./Geo-Spatial Services (for water, sewer, storm, plats, etc.), roadway design, landscape architecture, neighborhood improvements, water and wastewater design, GIS/Mapping, surveying, planning, storm water management, streetscape, roadway beautification and construction management.

Craven Thompson presents many distinct and unique advantages which will assure timely and cost-effective completion of projects. These advantages include the following:

- An experienced team: Craven Thompson's staff has extensive experience with various types of unusual and difficult surveying and mapping, and G.I.S. tasks.
- Full-service firm: Craven Thompson can provide all of the surveying, G.I.S., civil engineering landscape architecture, planning, and construction support services needed in-house.
- Project management: Organization lines and responsibilities are clearly defined for each project, ensuring that the best qualified individual is matched to a particular assignment.
- Familiarity with the latest surveying and G.I.S. technology and trends.
- Continuity: The Resources and staff available at Craven Thompson ensure responsive service and continuity throughout the entire project.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts

31. SIGNATURE



32. DATE

May 23, 2022

33. NAME AND TITLE

Richard D. Pryce, P.S.M., Vice President, Surveying & G.I.S.



EXHIBIT D

STANDARD FORM 330

4.2.3 | Page 17


CAM #22-1089

Exhibit 2

Page 199 of 397

RFQ No. 12665-1026

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | |
|--|--|--|
| <p>a. SIGNATURE</p>  | | <p>12. AUTHORIZED REPRESENTATIVE The foregoing is a statement of facts.</p> |
| <p>c. NAME AND TITLE Richard D. Pryce, P.S.M., Vice President, Surveying & GIS</p> | | <p>b. DATE May 23, 2022</p> |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | | |
|--|---|--|-----------------------|-----------------------------------|--|
| 12. NAME Khamis Al-Omari, PE Senior Associate | 13. ROLE IN THIS CONTRACT Program Manager | 14. YEARS EXPERIENCE <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">a. TOTAL 33</td> <td style="width: 50%;">b. WITH CURRENT FIRM 23</td> </tr> </table> | a. TOTAL 33 | b. WITH CURRENT FIRM 23 | |
| a. TOTAL 33 | b. WITH CURRENT FIRM 23 | | | | |
| 15. FIRM NAME AND LOCATION (City and State) Hazen and Sawyer, Coral Gables, Florida | | | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) MS, University of Cincinnati, 1988 BS, Ohio University, 1984 | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) PE / FL (FL 90087), FL, MI, OH – Civil Engineering | | | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Al-Omari has over 33 years of experience in wastewater and water engineering and project management. He currently serves as a Project Manager on the City of Ft. Lauderdale Sewer Design and Implementation Consent Order Program, responsible for program budget and schedule controls, risk management and reporting. He also served as the Program Manager managing contracts, budgets, and schedules for the \$165 million Zarqa Water and Wastewater Networks Projects in Jordan. Professional Organizations: Water Environment Federation, Construction Management Association of America. | | | | | |



19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|----------------------------------|---|
| | City of Fort Lauderdale Sewer Design and Implementation Consent Order Program, FL | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) Ongoing |
| a. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm For the \$181 million Consent Order Program, Mr. Al-Omari is responsible for developing and monitoring the Master Program Schedule and Cost Model; planning and monitoring the projects defined in the Consent Order by defining their scope, deciding their project delivery method, and validating their schedule and project budget; risk management including risk identification, impact analysis, mitigation, and monitoring; quality assurance; and preparing monthly and semi-annual progress reports. Status: The program started in 2017 and is expected to be completed by 2026. Cost: \$17.2 million (estimated fee authorized to date); \$26 million (total fee anticipated); \$174.6 million (est. construction). Specific Role: Project Manager. | | |
| | Zarqa Water and Wastewater Program Management and Construction Supervision Project, Jordan | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If applicable) 2016 |
| b. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm The \$163 Million Jordan Water and Wastewater Program included five wastewater and six water projects involving construction of approximately 500 miles of water supply networks, 200 miles of wastewater collection systems, and a new regional administration building for the Water Authority of Jordan. He also served as the Project Manager for the detailed design of the \$103-million Water Network Restructuring and Rehabilitation Project (Water Network Project). The scope involved condition assessment of the existing water network, planning and design of the new water supply network (approximately 500 miles), rehabilitation of multiple water storage reservoirs, new booster station, and new pump station and reservoir. Cost: \$163 million (construction); \$19.7 million (fee). Specific Role: Program Manager. | | |
| | Miami-Dade Ocean Outfall Legislation (OOL) Program, Miami-Dade County, FL | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) Ongoing |
| c. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Al-Omari served as Design Project Manager for this program. The \$2 billion master planning program addressed implications of new state regulations as well as threats of sea level rise and storm surge to their wastewater infrastructure. He managed design of three 20-MW electrical distribution buildings at the South and Central Districts WWTPs. As a subconsultant to another national firm, Hazen shares responsibility for wastewater system master planning, as well as management of the overall delivery of a long-term program encompassing design, procurement, construction, and commissioning of approximately 26 major capital projects. Status: Professional services started in 2014 and are ongoing. Cost: \$2 billion (construction) \$100 million (constructed-to-date). Specific Role: Design Project Manager. | | |
| | Clarksville WWTP Improvements, Clarksville, TN | PROFESSIONAL SERVICES 2012 | CONSTRUCTION (If applicable) 2012 |
| d. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the construction management phase of the \$72 Million WWTP Improvements, which included (among others) a Headworks Facility, RAS/WAS Pump Station, Final Clarifiers, Administration Building, yard piping, flood protection and Berm improvements, Blower Building, Aeration Basins Improvements, Sludge Dewatering Building, Site Drainage Pump Station, Chemical Building, etc. Cost: \$72 million. Specific Role: Project Manager for construction management phase; and Task Leader for the Preliminary Engineering Report and Detailed Design. | | |
| | Conner Creek 30-MG Pilot CSO Control Facility in Detroit, MI | PROFESSIONAL SERVICES 2008 | CONSTRUCTION (If applicable) 2008 |
| e. | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for the construction assistance phase of the award-winning \$186.5-million facility. The 8,500 mgd CSO facility includes screening, high-rate disinfection, settling, and skimming. Construction administration services included construction management, project controls, document control, resident engineering, construction inspection, training, startup and testing, project close-out, project performance certification, etc. Cost: \$186.5 million. Specific Role: Project Manager. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | |
|---|---|---|-----------------------------------|
| 12. NAME Sean FitzGerald, PE Vice President | 13. ROLE IN THIS CONTRACT Vice President – Conveyance Practice Leader | 14. YEARS EXPERIENCE a. TOTAL 32 | b. WITH CURRENT FIRM 15 |
|---|---|---|-----------------------------------|

15. FIRM NAME AND LOCATION (City and State)
Hazen and Sawyer, Cincinnati, Ohio



| | |
|---|---|
| 16. EDUCATION (DEGREE AND SPECIALIZATION) MSEnvE, University of Cincinnati, 1994 BSCE, University of Cincinnati, 1992 | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) PE / FL – Civil Engineering, PE / OH, KY, NY, TX, Washington DC, MN |
|---|---|

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
 Mr. FitzGerald has over 30 years of experience in conveyance planning, design and asset management. He serves as Hazen and Sawyer's Corporate Conveyance Practice Leader and has helped develop and implement numerous conveyance related programs across the Country utilizing industry best practices for program controls as well as using innovative tools used to manage, track, and visualize work progress. Many of these programs include detailed asset mapping, condition assessment, and rehabilitation and replacement planning and budgeting. **Professional Organizations:** Water Environment Federation: Collection System Committee; Ohio Water Environment: Association Collection System Committee; American Water Works Association; Kentucky-Tennessee Water Environment Association; Construction Management Association of America (CMAA); Water Environment Federation (WEF).

19. RELEVANT PROJECTS

| (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED |
|--|---|
| Sewer Design and Implementation Program City of Fort Lauderdale, Florida | PROFESSIONAL SERVICES Ongoing |
| a. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and over 81,000 manholes. The County contracted with Hazen and Sawyer to completely overhaul their collections system and operations. Since the program began, overall SSOs are down 50% and dry weather SSOs are down over 55%, with steady improvement expected in the coming years. Status: The program started in 2017 and is expected to continue until 2026. Cost: \$17.2 million (estimated fee authorized to date), \$26 million (total fee anticipated), \$174.6 million (est. construction). Specific Role: Project Engineer. | <input checked="" type="checkbox"/> Check if project performed with current firm CONSTRUCTION (If applicable) N/A |
| Project Management Services and Staff Augmentation for the City's Water Utilities Program, Florida Baltimore City, Baltimore, MD | PROFESSIONAL SERVICES 2018 |
| b. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE In 2015, Hazen and Sawyer was selected by the City of Baltimore to provide Program Management Services and Staff Augmentation for the Water Utilities program. In this role, Hazen provided staff to support multiple projects within the City's Capital Improvements Program (CIP), including water main rehabilitation and replacement projects, and AMI/R implementation. Project scopes typically consisted of rehabilitation and/or replacement of existing water mains ranging from 3 to 20 inches in diameter, replacement of various sized valves and fire hydrants, renewal of existing water services, meter vault replacement, temporary by-pass piping, sidewalk restoration, curb & gutter, and paving restoration. Cost: \$4.6 million (construction). Specific Role: Project Engineer | <input checked="" type="checkbox"/> Check if project performed with current firm CONSTRUCTION (If applicable) 2018 |
| Collection System Asset Management Program Jefferson County, Birmingham, Alabama | PROFESSIONAL SERVICES 2009 |
| c. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Jefferson County retained Hazen to develop and implement a Collection System Asset Management Program and Capital Improvement Plan (CIP). The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and more than 81,000 manholes as part of its collection system. Hazen has achieved tremendous success in the first few years of the program with eliminations of numerous highly active sanitary sewer overflows and informed budgeting through a robust asset management approach. Status: Program management services current contract is expected to conclude in 2023. Construction is scheduled for completion in 2030. Cost: \$49.5 million (estimated fee), >\$400 million (estimated construction). Specific Role: Project Engineer. | <input checked="" type="checkbox"/> Check if project performed with current firm CONSTRUCTION (If applicable) Ongoing |
| City of Clearwater, FL Sewer CIP Program Management Services | PROFESSIONAL SERVICES Ongoing |
| d. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Program management services for a citywide review and assessment of existing sewer and facility conditions to facilitate resources for collection systems evaluations and repairs. Hazen's scope of services includes a review of available information and assessment (as directed by City) of existing sewer and facility conditions to facilitate long term planning and allocation of resources for collection system evaluations and repairs. Status: Ongoing through 2026. Hazen develops periodic reports quantifying improvements to the wastewater collection system, including ongoing recommendations for future periods. Cost: \$3.0 million (fee authorized to date) \$18 million (total fee anticipated). Specific Role: Project Engineer. | <input checked="" type="checkbox"/> Check if project performed with current firm CONSTRUCTION (If applicable) Ongoing |
| Remedial Measures Plan (RMP) and Capacity, Management, Operations, and Management (CMOM) Implementation Services, Lexington-Fayette Urban County Government, Lexington, KY | PROFESSIONAL SERVICES Ongoing |
| e. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Hazen and Sawyer is assisting Lexington-Fayette Urban County Government (LFUCG) with the implementation of its RMP and CMOM related programs in compliance with their Consent Decree. With Hazen's assistance, LFUCG has saved over \$57M (based on original estimates) in the RMP and met every CMOM related Consent Decree deadline. Status: Hazen has been assisting LFUCG with RMP Implementation services since its inception in 2012 and is currently still serving as LFUCG's RMP Program Manager. Cost: \$900,000/year (RMP fee), \$300,000/year (CMOM fee). Specific Role: Project Engineer. | <input checked="" type="checkbox"/> Check if project performed with current firm CONSTRUCTION (If applicable) Ongoing |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | | |
|--|---|---|-----------------------|----------------------------------|---|
| 12. NAME Michael Marsjanik, PE Associate Vice President | 13. ROLE IN THIS CONTRACT Program Administration and Controls | 14. YEARS EXPERIENCE <table style="width: 100%;"> <tr> <td style="width: 50%;">a. TOTAL 29</td> <td style="width: 50%;">b. WITH CURRENT FIRM 8</td> </tr> </table> | a. TOTAL 29 | b. WITH CURRENT FIRM 8 | 15. FIRM NAME AND LOCATION (City and State) Hazen and Sawyer, Baltimore, Maryland |
| a. TOTAL 29 | b. WITH CURRENT FIRM 8 | | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) BSCEnvE, Civil and Environmental Engineering, 1992 | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) PE / FL – Civil Engineering, PE / NY, MD – Civil Engineering | | | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) As Lead for Program Administration and Controls, Mike will oversee development of the Project Management Plan, selection and tailoring of tools and controls to be used, and management of cost and schedule throughout the project; he will ensure the project is delivered successfully on schedule and within budget. He has a proven track record serving as Program Manager on multiple large-scale water and wastewater infrastructure programs. Professional Organizations: Construction Management Association of America (CMAA); Water Environment Federation (WEF) | | | | | |

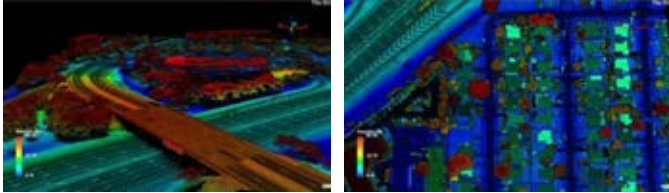

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | | | |
|---|--|---|--|---|--|
| a. | Water Main Replacement/Rehabilitation Program City of Baltimore, Maryland | <table style="width: 100%;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES 2018</td> <td style="width: 50%;">CONSTRUCTION (If applicable) 2018</td> </tr> </table> | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If applicable) 2018 | <input checked="" type="checkbox"/> Check if project performed with current firm Hazen served as Program Manager assisting the City in the annual replacement/rehabilitation of approximately 15-20 miles of water mains within the City limits. Oversaw and managed a team of office engineers working on-premises performing in-house designs, design review of consultants' deliverables, project management for all capital projects, supporting the internal workforce development initiatives including comprehensive training of City staff, and construction inspection related to the Automated Meter Reading/Infrastructure program. Cost: \$4.6 million (fee). Specific Role: Program Manager. |
| | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If applicable) 2018 | | | |
| Collection System Asset Management Program Birmingham, Alabama | <table style="width: 100%;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES Phase 1: 2011 Phase 2: Ongoing</td> <td style="width: 50%;">CONSTRUCTION (If applicable) Phase 1: 2013 Phase 2: Ongoing*</td> </tr> </table> | PROFESSIONAL SERVICES Phase 1: 2011 Phase 2: Ongoing | CONSTRUCTION (If applicable) Phase 1: 2013 Phase 2: Ongoing* | <input checked="" type="checkbox"/> Check if project performed with current firm The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and over 81,000 manholes. The County contracted with Hazen and Sawyer to completely overhaul their collections system and operations. Since the program began, overall SSOs are down 50% and dry weather SSOs are down over 55%, with steady improvement expected in the coming years. *Status: Phase 2 is ongoing. Cost: Phase 1: \$3.5 million. Phase 2: \$100 million (total to date). Specific Role: Project Advisor. | |
| PROFESSIONAL SERVICES Phase 1: 2011 Phase 2: Ongoing | CONSTRUCTION (If applicable) Phase 1: 2013 Phase 2: Ongoing* | | | | |
| c. | Sewershed Repair, Replacement and Rehabilitation Plan Services Baltimore County, Maryland | <table style="width: 100%;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES Ongoing*</td> <td style="width: 50%;">CONSTRUCTION (If applicable) Ongoing*</td> </tr> </table> | PROFESSIONAL SERVICES Ongoing* | CONSTRUCTION (If applicable) Ongoing* | <input checked="" type="checkbox"/> Check if project performed with current firm Hazen and Sawyer prepared Sewershed Repair, Replacement and Rehabilitation (SRRR) Plans as part of the County's Consent Decree Program for the Bread and Cheese, Delmar, Dundalk and Eastpoint Sewersheds, totaling approximately 568,000 linear feet of gravity sanitary sewers. We reviewed and evaluated the work completed to date, conducted fieldwork, reviewed CCTV and manhole inspection data for approximately 1,400 pipes and 400 manholes, and developed a Corrective Action Recommendation Plan for each SRRR Plan. The SRRR Plans were approved by EPA and MDE. Hazen is performing design services, permitting, and engineering services during construction. *Status: Ongoing. Cost: \$6 million. Specific Role: Project Director. |
| | PROFESSIONAL SERVICES Ongoing* | CONSTRUCTION (If applicable) Ongoing* | | | |
| Wet Weather Sewer Consent Decree, Baltimore, Maryland | <table style="width: 100%;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES 2009</td> <td style="width: 50%;">CONSTRUCTION (If applicable) Ongoing</td> </tr> </table> | PROFESSIONAL SERVICES 2009 | CONSTRUCTION (If applicable) Ongoing | <input type="checkbox"/> Check if project performed with current firm Wet weather sewer consent decree program management, including staffing, development of document management system utilizing Primavera Expedition, development of master schedule, preparation of regulatory reports, overseeing over \$90 million of study-phase consulting work, and development of more effective preventive and routine maintenance programs. Cost: \$1 billion. Specific Role: Program Manager. | |
| PROFESSIONAL SERVICES 2009 | CONSTRUCTION (If applicable) Ongoing | | | | |
| e. | Wet Weather Sanitary Sewer Overflow Consent Decree Baltimore County, Maryland | <table style="width: 100%;"> <tr> <td style="width: 50%;">PROFESSIONAL SERVICES 2010</td> <td style="width: 50%;">CONSTRUCTION (If applicable) Ongoing</td> </tr> </table> | PROFESSIONAL SERVICES 2010 | CONSTRUCTION (If applicable) Ongoing | <input type="checkbox"/> Check if project performed with current firm Oversaw a diverse staff of on-premise and office support personnel in the management of the Consent Decree work. Assisted the County in formulation of policies pertaining to the implementation of the work and ultimately ensured that the team is on top of all aspects of the work. Had overall responsibility for development and oversight of communications protocols, Primavera master schedule, standardization of reports, sewershed deliverables and public outreach efforts, document management in accordance with the recordkeeping requirements, and conducting multiple meetings (both internal and external coordination meetings). Conducted action item and status meetings to review all elements of the Consent Decree. Assisted the County in obtaining extensions for over 30 pumping station construction projects with the end result being no stipulated penalties. Managed the development and maintenance of a web portal to link all data types, including closed circuit television, manhole, smoke/dye tests, Geographic Information System, and flow monitoring to one website for easy access to users. Lastly, performed final reviews on all reports associated with the program, including Quarterly Reports, letters to Maryland Department of the Environment and U.S. Environmental Protection Agency for extensions, and all other reports required. Cost: \$850 million. Specific Role: Program Manager. |
| | PROFESSIONAL SERVICES 2010 | CONSTRUCTION (If applicable) Ongoing | | | |

| | |
|--|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT</p> <p><i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i></p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>1</p> |
|--|---|

| | | |
|---|-----------------------|-------------------------------------|
| <p>21. TITLE AND LOCATION <i>(City and State)</i></p> <p>Stormwater Master Plan Modeling and Design Implementation Services City of Fort Lauderdale, Florida</p> | 22. YEAR COMPLETED | |
| | PROFESSIONAL SERVICES | CONSTRUCTION <i>(If applicable)</i> |
| | Ongoing | N/A |

| 23. PROJECT OWNER'S INFORMATION | | |
|---|---|--------------------------------------|
| a. PROJECT OWNER | b. POINT OF CONTACT NAME | c. POINT OF CONTACT TELEPHONE NUMBER |
| City of Fort Lauderdale Public Services Department | Rares Petrica, PE Senior Project Manager, Public Works | (954) 828-7150 |

| | |
|---|--|
| <p>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i></p> <div> <div> <p>Size</p> <p>Delivery of a stormwater master plan and implementation of designs to address chronic flooding and other stormwater management issues in the City.</p> </div> <div> <p>Cost</p> <p>\$17.4 million (estimated fee authorized to date)</p> <p>\$20 million (total fee anticipated)</p> <p>\$200 million (est. construction for initial 7 neighborhoods)</p> </div> <div> <p>Description</p> <p>Hazen was selected to deliver a new stormwater master plan model, a prioritized stormwater/resiliency capital improvements plan, and implementation of designs to address chronic flooding and other stormwater management issues in the City.</p> <p>The city covers approximately 23,000 acres of highly urbanized neighborhoods with much of its coastal land in low-lying areas, and numerous rivers and tributaries running throughout the city.</p> <p>The scope of work includes data collection; city-wide hydraulic/hydrological stormwater modeling, including consideration of climate change impacts; a revised stormwater master plan with prioritized capital improvements; design, permitting, and construction services for stormwater capital improvement projects resulting from the revised stormwater master plan; watershed planning; community outreach services; and construction management services. The program is expected to result in a re-prioritized capital improvement plan to address key neighborhoods and climate change adaptation action areas.</p> <p>The project team evaluated long-range solutions that perform effectively over a broad range of climatological and other uncertain future conditions. Concurrent with the planning process, the city identified seven neighborhoods with immediate needs relative to chronic stormwater and/or tidal flooding for accelerated design implementation. Improvements in the neighborhoods include a variety of flood protection and water quality measures, and for certain neighborhoods, heavy focus on resilience to tidal flooding (which will be exacerbated by SLR). Sea-wall raising, backflow prevention devices, Americans with Disabilities Act-compliant infrastructure, drainage wells, stormwater pump stations, and created wetlands are amongst the components comprising the approximately \$200 million worth of initial improvements.</p> </div> </div> <div> <p>Final designs are substantially complete, and projects are currently in permitting. Further modeling and project development associated with improvements beyond the original seven neighborhoods are anticipated to continue through 2021.</p> <div>  <p>Example LiDAR Data</p> </div> <p>Scope of Work. Work is being authorized on a task-order basis. Tasks recently completed include the following:</p> <ul style="list-style-type: none"> • Collection of high-resolution LiDAR for the entire city • Field collection of stormwater infrastructure for modeling and geodatabase development purposes • New City-wide stormwater geodatabase • Standard construction details and specifications (including Green Infrastructure) • Comprehensive City-wide hydrologic/hydraulic modeling • Design for seven priority neighborhoods <div>  <p>Further modeling and project development associated with improvements beyond the original seven neighborhoods are anticipated to continue through 2021.</p> </div> </div> | |
|---|--|

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|---------------------------|
| a. (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
| Craven Thompson & Associates | Fort Lauderdale, Florida | Primary Consultant |
| b. (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |
| c. (1) FIRM NAME | (2) FIRM LOCATION <i>(City and State)</i> | (3) ROLE |

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified.
Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

2

21. TITLE AND LOCATION (City and State)

**Sewer Design and Implementation Program
City of Fort Lauderdale, Florida**

22. YEAR COMPLETED

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (If applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

**City of Fort Lauderdale
Public Services Department**

b. POINT OF CONTACT NAME

**Omar Castellon, PE, PMP, ENV SP
Assistant Public Works Director –
Engineering**

c. POINT OF CONTACT TELEPHONE NUMBER

(954) 828-5064

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Size

Program Manager responsible for the implementation and coordination of projects to satisfy 40 Consent Order deadlines.

Cost

\$17.2 million (estimated fee authorized to date)

\$26 million (total fee anticipated)

\$174.6 million (est. construction)

**Consent
Order
Driven**

Description

The City of Fort Lauderdale's Sewer Design and Implementation Program is under way to address requirements of a Consent Order with the Florida Department of Environmental Protection (FDEP), as well as to improve the management, operation, and maintenance of its sanitary sewer collection system.

The sanitary sewer system is a regional system that serves the City as well as four large users. It consists of 186 City-operated pump stations, five regional repump stations, 113 miles of force main, and 500 miles of gravity sewer that were built between 1954 and the present.

Hazen serves as Program Manager for this effort and is responsible for implementation and coordination of projects to satisfy 40 Consent Order deadlines. The project includes conducting a risk-based prioritization and condition assessment of the City's wastewater force mains. The work includes prioritization of force mains based on probability and consequence of failure, evaluation and recommendation of alternatives for collection of additional condition assessment data where needed, and development of recommendations for repair or replacement through short- and long-term planning periods.

Key components of the Sewer Design and Implementation Program include:

- Development of a Mapping Plan and mapping of the City's sanitary sewer collection system.
- Development and Implementation of an Asset Management, Capacity Management, Operation, and Maintenance (AM-CMOM) Program for the City's wastewater collection and treatment systems. AM-CMOM efforts include condition assessment, risk analysis, and prioritization of assets for rehabilitation and/or replacement.
- Risk-based prioritization of pipeline repairs.

- Rehabilitation or replacement of approximately 75,000 linear feet of force main.
- Development, calibration, and application of a Wastewater Collection and Transmission System Hydraulic Model using Innovyze software. The model included 113 miles of force mains and more than 170 pump stations.
- Development and calibration of a Water Distribution System Hydraulic Model using Innovyze software. The model included 770 miles of pipes.
- Multi-phase Force Main Condition Assessment, consisting of desktop analysis of all force mains and targeted physical inspection of medium and high-risk force mains.
- Infiltration and inflow (I/I) reduction programs, including CCTV inspection and remediation where required, in six pump station basins (A-7, A-18, A-19, A-21, D-40, and D-43).
- New construction, rehabilitation or replacement of seven pump stations (A-12, B-10, D-41, D-45, A-13, D-11, and D-38), including in-kind services for one of the pump stations and installation of approximately 3,800 linear feet of force main via Horizontal Direction Drilling to offset FDEP penalties.
- Program management of the City's implementation of the Cityworks Enterprise Asset Management System.
- Reporting the progress of all Consent Order activities to FDEP on a semi-annual basis.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| a. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
|----|---|------------------------------------|---------------------------|
| | Craven Thompson & Associates | Fort Lauderdale, Florida | Primary Consultant |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| | Hazen and Sawyer | Coral Gables, Florida | Subconsultant |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| | Hazen and Sawyer | Cincinnati, Ohio | Subconsultant |

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EXHIBIT D

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified.
Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

3

21. TITLE AND LOCATION (City and State)

Project Management Services and Staff Augmentation for the City's Water Utilities Program, Florida Baltimore City, Baltimore, MD

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2018

CONSTRUCTION (If applicable)

2018

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Baltimore City Department of Public Works, Baltimore, MD

b. POINT OF CONTACT NAME

Hernan Guadalupe Engineer II

c. POINT OF CONTACT TELEPHONE NUMBER

(410) 396-8198

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Size

Hazen provided Program Management Services and Staff Augmentation to support multiple projects within the City's CIP.

Cost

\$4.6 million (construction)

Description

As Program Managers between 2015 and 2018, Hazen and Sawyer is proud to have assisted the City in exceeding their water main replacement goals within that period.

In 2015, Hazen and Sawyer was selected by the City of Baltimore to provide Program Management Services and Staff Augmentation for the Water Utilities program. In this role, Hazen provided staff to support multiple projects within the City's Capital Improvements Program (CIP), including water main rehabilitation and replacement projects, and AMI/R implementation. Project scopes typically consisted of rehabilitation and/or replacement of existing water mains ranging from 3 to 20 inches in diameter, replacement of various sized valves and fire hydrants, renewal of existing water services, meter vault replacement, temporary by-pass piping, sidewalk restoration, curb & gutter, and paving restoration.

To assist in the implementation of capital projects, Hazen provided on-site project managers, design reviewers, in-house CADD/designers, and field construction inspectors. Project Managers worked closely with City staff in managing schedule, cost and quality of on-going capital projects. Roles included development of scope, tracking performance and schedule, communications and progress meetings with design consultants contracted separately with the City, coordination of agency comments of design deliverables and coordination with the City's Office of Asset Management. Hazen also provided technical review services for all design deliverables, typically including 30%, 70%, 90%, and bid-ready documents. Hazen senior engineers provided detailed, focused review comments, typically for all elements of each design deliverable from 30% design to final bid ready documents. For each review, these technical reviews included special focus on valve shut down, sequencing, and bypass plan requirements. Overall, Hazen managed and/or performed technical design reviews for over 30 deliverables.

As part of project management and technical reviews, Hazen assisted the City in their internal workforce development initiatives with

the development of a comprehensive training session for City staff working on Water Utilities Projects. Since September 2016, Hazen prepared and conducted, or organized, two training programs, consisting of over 50 training sessions, focused on the technical and managerial aspects of water utility projects. Session topics have included detailed water main replacement design, CADD standards, project management, engineering computations and standard specifications. The graphic below summarizes the training conducted by our team under this contract.

In addition to staff augmentation under this program, Hazen provided construction inspection services in support of the Advanced Metering Infrastructure and Water Meter System Installation projects city-wide, as well as other water capital projects. Hazen provided an inspector on the WC1346 Elm Avenue 48" Joint Repairs emergency contract and rapidly deployed seven program management staff inspectors assigned to the WC1353 AMI/R Urgent Need Metering Infrastructure Repair & Replacement, Various Repairs.

As part of our programmatic roles, Hazen also assisted the City update multiple standardization documents, including Master Specifications, Standard Notes, internal design review guidelines, cost estimating templates, and the CAD standards manual. In addition, we worked with the City to enhance capital project planning by creating a P6 master schedule with cash flow. This tool was used to track progress of replacement as well as assist in the planning of replacement goals for the outer years, based on anticipated funding.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
|----|-------------------------|------------------------------------|----------------------|
| c. | Hazen and Sawyer | Coral Gables, Florida | Subconsultant |
| c. | Hazen and Sawyer | Cincinnati, Ohio | Subconsultant |

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EXHIBIT D

| | |
|---|--|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | 20. EXAMPLE PROJECT KEY NUMBER <div style="font-size: 24pt; text-align: center;">4</div> |
|---|--|

| | | |
|---|---------------------------|------------------------------|
| 21. TITLE AND LOCATION (City and State) Collection System Asset Management Program Jefferson County, Birmingham, Alabama | 22. YEAR COMPLETED | |
| | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |

| |
|--|
| 23. PROJECT OWNER'S INFORMATION |
|--|

| | | |
|--|--|--|
| a. PROJECT OWNER Jefferson County Commission Birmingham, AL | b. POINT OF CONTACT NAME Daniel White, PE, Deputy Director, Environmental Services Department | c. POINT OF CONTACT TELEPHONE NUMBER (205) 214-8610 |
|--|--|--|

| |
|---|
| 24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i> |
|---|

Size
Large complex program where Hazen is coordinating and all field inspections, planning, design, and construction for over \$400 Million in projects. Developed robust project controls, dashboards and other tools to efficiently allocate resources and manage vast amounts of data.

Status
Program management services current contract is expected to conclude in 2023. Construction is scheduled for completion in 2030.

Cost
\$49.5 million (estimated fee)
>\$400 million (estimated construction)

Description
Jefferson County retained Hazen to develop and implement a Collection System Asset Management Program and Capital Improvement Plan (CIP).

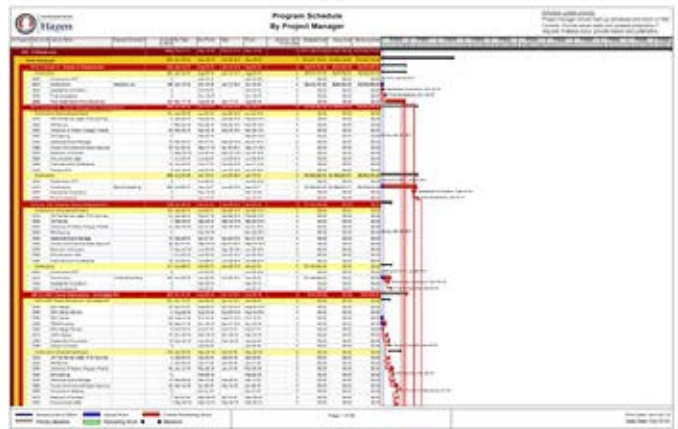
The County owns and operates approximately 3,137 miles of sanitary sewer lines, 174 pump stations, and more than 81,000 manholes as part of its collection system.

Jefferson County is under a 1996 Consent Decree to address sanitary sewer overflows in the collection system, but was under bankruptcy, and needed to develop and implement a highly efficient and effective program to address aging infrastructure, as well as significant infiltration and inflow. Hazen was hired to help the County achieve this goal and to provide full program management for implementation, including the following completed within the last 5 years:

- Developed an ongoing cash loaded P6 master schedule to manage all aspects of the program from planning to design and construction.
- Developing plans and specifications for SSES field work in more than 400 priority minibasins.
- Managing all field inspections
- Coordinated with Cityworks team to develop field forms that enables critical data to be tracked in Cityworks.
- Managing all construction totaling more than \$131M to date with an additional \$250 million in next five years.
- Managing and analyzing more than 500 flow meter locations.
- Assessing CCTV data for more than 1,200 miles of pipe.

- Developing plans and specifications for rehabilitation and repairs for more than 500,000 LF.
- Conducted detailed field condition assessments of 178 pump stations including development of prioritized
 - 156 pump stations
 - 69 miles of force main
 - 922 miles of gravity sewer
- Conducting preliminary design and managing more than 15 firms' detailed designs for all pipeline replacements and capacity improvements.
- Conducting pre- and post-construction flow monitoring and I/I reduction effectiveness evaluations.
- Optimization of I/I reduction activities.
- Developing and tracking of program KPIs in Power BI.

Hazen has achieved tremendous success in the first few years of the program with eliminations of numerous highly active sanitary sewer overflows and informed budgeting through a robust asset management approach.




| |
|--|
| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT |
|--|

| | | | |
|-----------|--|--|----------------------------------|
| a. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| b. | (1) FIRM NAME Hazen and Sawyer | (2) FIRM LOCATION (City and State) Coral Gables, Florida | (3) ROLE Subconsultant |
| c. | (1) FIRM NAME Hazen and Sawyer | (2) FIRM LOCATION (City and State) Cincinnati, Ohio | (3) ROLE Subconsultant |

| | |
|---|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i> | 20. EXAMPLE PROJECT KEY NUMBER 5 |
|---|---|

| | | |
|---|------------------------------|---|
| 21. TITLE AND LOCATION (City and State) City of Clearwater Sewer CIP Program Management Services | 22. YEAR COMPLETED | |
| | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) N/A |

| 23. PROJECT OWNER'S INFORMATION | | |
|--|---|--|
| a. PROJECT OWNER City of Clearwater, FL | b. POINT OF CONTACT NAME Todd Kuhnel Senior Engineering Specialist | c. POINT OF CONTACT TELEPHONE NUMBER (727) 562-4798 |

| | | |
|---|--|---|
| 24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost) <p>Size Program management services for a citywide review and assessment of existing sewer and facility conditions to facilitate resources for collection systems evaluations and repairs.</p> <p>Status Ongoing through 2026</p> <p>Cost \$3.0 million (fee authorized to date) \$18 million (total fee anticipated)</p> <p>Description Hazen's scope of services includes a review of available information and assessment (as directed by City) of existing sewer and facility conditions to facilitate long term planning and allocation of resources for collection system evaluations and repairs. This includes a review of the City's Capacity, Management, Operations and Maintenance (CMOM), force main condition assessment, WWCS's Master Plan maintenance recommendations and flow monitoring data. Hazen also provides construction administration services overseeing City contractor work involving sewer point repairs, I&I identification and remediation, sewer main (gravity & force) and lateral replacement/upsizing and/or relocation, utility conflict resolution, lift station & water reclamation facility repair/remediation, cleaning and CCTV of gravity mains/laterals, cured-in-place pipe (CIPP), and manhole repair and coating. As part of this Hazen oversees the confirmation and repairs of sewer defects previously identified by the City.,</p> <p>Professional design services are included as well as as-built review and approval followed by Record Drawing development for existing projects.</p> <p>The City has also collected a significant amount of data using smoke and dye testing in addition to flow monitoring. Hazen is using the data collected to direct the ongoing efforts of the City's current five WWCS repair Contractors for:</p> <ul style="list-style-type: none"> • Sanitary Sewer Trenchless Reconstruction • Sewer Cleaning and Televising Inspection • Manhole Surfacing | | <ul style="list-style-type: none"> • Sanitary Cleanout and Lateral Repairs • Additional Smoke and Dye Testing <p>Hazen also provides strategic review and prioritization of pending projects. Projects are added to the prioritization list as they are developed, either as part of the City's normal Capital Improvement Plan (CIP) process or as they are identified and developed under this program. After City approval of a proposed repair, Hazen oversees the City's sewer repair contractors for activities including scheduling, MOT, permits, public notifications, procurement, and preparation of record drawings.</p> <p>Hazen develops periodic reports quantifying improvements to the WWCS system, including ongoing recommendations for future periods.</p>  |
|---|--|---|

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|---|
| a. (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| b. (1) FIRM NAME Hazen and Sawyer | (2) FIRM LOCATION (City and State) Cincinnati, Ohio | (3) ROLE Subconsultant |
| c. (1) FIRM NAME Hazen and Sawyer | (2) FIRM LOCATION (City and State) Baltimore, Maryland | (3) ROLE Subconsultant |

ARCHITECT - ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

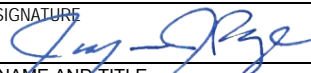
| | | | | |
|--|--|-----------------------|--|------------------------------|
| 2a. FIRM (OR BRANCH OFFICE) NAME Hazen and Sawyer | | | 3. YEAR ESTABLISHED 1951 | 4. UNIQUE ENTITY IDENTIFIER |
| 2b. STREET 999 Ponce de Leon Boulevard, Suite 1150 | | | 5. OWNERSHIP | |
| 2c. CITY Coral Gables | 2d. STATE FL | 2e. ZIP CODE 33143 | a. TYPE Corporation (Employee Owned) | |
| 6a. POINT OF CONTACT NAME AND TITLE Jayson Page, PE, Vice President | | | b. SMALL BUSINESS STATUS | |
| 6b. TELEPHONE NUMBER (305) 443-4001 | 6c. E-MAIL ADDRESS jpage@hazenandsawyer.com | | 7. NAME OF FIRM (If block 2a is a branch office) Hazen and Sawyer | |
| 8a. FORMER FIRM NAME(S) (If any) | | | 8b. YR. ESTABLISHED | 8c. UNIQUE ENTITY IDENTIFIER |

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS* | | |
|----------------------------|--------------------------|---------------------|------------|---|--|-------------------------------------|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 02 | Administrative | 131 | 1 | C15 | Construction Management | 9 |
| 06 | Architect | 13 | | C18 | Cost Estimating | 2 |
| 08 | CADD Technician | 109 | | D02 | Dams (Earth, Rock) | 6 |
| 10 | Chemical Engineer | 25 | 1 | D03 | Desalination (Process & Facilities) | 2 |
| 12 | Civil Engineer | 204 | 6 | D04 | Design-Build | 8 |
| 15 | Construction Inspector | 28 | 1 | E03 | Electrical Studies & Design | 2 |
| 16 | Construction Manager | 77 | 1 | E07 | Energy Conservation | 4 |
| 18 | Cost Engineer/Estimator | 7 | | E08 | Engineering Economics | 5 |
| 20 | Economist | 5 | | E09 | Environmental Impact Studies | 6 |
| 21 | Electrical Engineer | 78 | | H04 | HVAC | 2 |
| 23 | Environmental Engineer | 377 | 5 | I03 | Industrial Waste Treatment | 1 |
| 24 | Environmental Scientist | 28 | | P05 | Planning (Comm., Reg., Area, State) | 6 |
| 30 | Geologist | 1 | | P06 | Planning (Site, Install. and Project) | 3 |
| 32 | Hydraulic Engineer | 31 | | P07 | Plumbing and Piping Design | 2 |
| 39 | Landscape Architect | 1 | | S04 | Sewage Collect, Trmt and Disposal | 10 |
| 41 | Mechanical Engineer | 40 | 1 | S07 | Solid Wastes | 1 |
| 47 | Planner: Urban/Regional | 1 | | S10 | Surveying; Platting; Mapping | 2 |
| 53 | Scheduler | 1 | | S11 | Sustainable Design | 6 |
| 57 | Structural Engineer | 48 | 1 | S13 | Stormwater Handling & Facilities | 9 |
| 62 | Water Resources Engineer | 85 | | T02 | Testing & Inspection Services | 5 |
| | Other Employees | 6 | | W02 | Water Resources; Hydrology; Ground Water | 8 |
| | Total | 1296 | 17 | W03 | Water Supply; Trmt and Distribution | 9 |

| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right) | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER | |
|--|----|--|---|
| a. Federal Work | 6 | 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| b. Non-Federal Work | 10 | 2. \$100,00 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| c. Total Work | 10 | 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| | | 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| | | 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|---------------------------|
| a. SIGNATURE  | b. DATE April 26, 2022 |
| c. NAME AND TITLE Jayson Page PE, Vice President | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT
(Complete one Section E for each key person.)

| | | | |
|--|--|---|-----------------------------------|
| 12. NAME John Cestnick, PSM, IAM | 13. ROLE IN THIS CONTRACT Program Director | 14. YEARS EXPERIENCE | |
| | | a. TOTAL 26 | b. WITH CURRENT FIRM 23 |
| 15. FIRM NAME AND LOCATION (City and State)  Woolpert, Inc., Miami, Florida | | | |
| 16. EDUCATION (DEGREE AND SPECIALIZATION) B.S., Surveying Engineering, University of New Brunswick | | 17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Professional Surveyor and Mapper: Florida Certified Asset Management | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) | | | |

| 19. RELEVANT PROJECTS | | | |
|-----------------------|---|---|--|
| a. | (1) TITLE AND LOCATION (City and State) Cityworks Asset Management System Implementation, Fort Lauderdale, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE [X] Check if project performed with current firm Project Manager responsible for project oversight and contract compliance. In 2019 the City of Fort Lauderdale selected Woolpert to implement a new Cityworks AMS GIS-centric asset management system for the water, wastewater, and stormwater divisions. Also included within the project was system integrations between Cityworks and their Cayenta meter billing system, and the QAlert 311 system. | | |
| b. | (1) TITLE AND LOCATION (City and State) Asset Management Implementation GIS/GPS Utility Mapping and Data Conversion, Fort Lauderdale, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2007 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE [X] Check if project performed with current firm Phase Manager for all surveying and inventory services. Between 2000 and 2002, Woolpert assisted the Public Services Department in developing and implementing a state-of-the-art asset management system to provide accurate, current information on its utility infrastructure. After initial planning, Woolpert provided a GPS inventory of water, sewer, and stormwater utility structures, as well as an inventory of light poles, to build GIS layers in geodatabase format. Woolpert then integrated the GIS with the City's Hansen CMMS, and developed specifications and applications for maintaining, querying, and viewing the asset data in a web environment. | | |
| c. | (1) TITLE AND LOCATION (City and State) Onsite GIS Support Services WASD, Miami, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE [X] Check if project performed with current firm Project Manager responsible for project oversight and contract compliance. Between January 2013 and November 2016, Woolpert had as many as 40 GIS Technicians onsite at WASD providing GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called <i>GIS Atlas Maintenance System (GAMS2)</i> to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information. | | |
| d. | (1) TITLE AND LOCATION (City and State) GIS/GPS Water and Sewer Utility Survey WASD, Miami, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE [X] Check if project performed with current firm Project Manager responsible for all surveying activities. Beginning with a nine square-mile pilot area and continued with full conversion of the 414 square-mile service area, provided services to build a GIS that support both water and sewer distribution networks by locating surface utility features. Woolpert worked extensively with a Trimble Navigation software programmer in co-developing a pen based RTK data collection software. This allowed for the quick and efficient data collection of over 180,000 water and sewer utility features to accuracies of 3.5 centimeters. After the successful completion and client acceptance of the pilot area, John managed the full production of all field aspects of the project. | | |
| e. | (1) TITLE AND LOCATION (City and State) Utility GIS/GPS Utility Mapping and Data Conversion, Deerfield Beach, FL | (2) YEAR COMPLETED | |
| | | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If Applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE [X] Check if project performed with current firm Project Manager responsible for the successful completion of the project. Woolpert was contracted to provide a citywide inventory of their water, sewer, and stormwater utility systems. Following the field data collection, we used existing As-Built and other utility source documentation to build utility networks using a refined version of the Esri Local Government Information Model. Contracted task items included a project management plan; project communications website; field and GIS procedures manuals; geodatabase design documentation; personal geodatabase deliverables; project training; and RTD GPS utility mapping for the entire city. | | |

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, If not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

1

| | | | |
|---|---|------------------------------|-----------------------|
| 21. TITLE AND LOCATION (City and State) | | 22. YEAR COMPLETED | |
|  | GIS Utility Mapping and GPS Data Collection | | PROFESSIONAL SERVICES |
| | Fort Lauderdale, FL | | 2007 |
| | | CONSTRUCTION (if Applicable) | |
| | | N/A | |

| 23. PROJECT OWNER'S INFORMATION | | |
|---------------------------------|--------------------------|--------------------------------------|
| a. PROJECT OWNER | b. POINT OF CONTACT NAME | c. POINT OF CONTACT TELEPHONE NUMBER |
| City of Fort Lauderdale | Ian A. Wint | 954.828.6332 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Woolpert assisted the Public Services Department in developing a state-of-the-art asset management system using GPS derived positions of features and customized information system tools. This included planning, collecting data, designing the database, converting the data, developing custom applications, and providing maintenance solutions.

Master Planning. Using our proven planning methodology, Woolpert conducted interviews by teaming Fort Lauderdale's staff experience with Woolpert's technical knowledge. We also evaluated the City's business processes and workflows and recommended changes to reengineer their processes to flow more efficiently.

Data Collection. Woolpert collected GIS data by scanning, indexing, and georeferencing available source documents, such as City atlases, sewer books, intersection detail drawings, and as-built drawings. Field crews then used GPS and pen-based computers to conduct a field inventory of more than 45,000 water, sewer, and stormwater utility features and 13,000 light poles. Utility features were surveyed using RTK technology and provided horizontal and vertical locations of ± 0.2 -foot accuracy. Light poles were surveyed to an accuracy of ± 3 feet using RTD survey techniques.

Database Design. Woolpert first conducted a conceptual database design, organizing the data and deciding what, where, and how it would be stored. Woolpert then created a physical database model for the City's GIS data.

Data Conversion. Once the database was created, Woolpert converted the field-collected data into the following layers: water force mains, gravity sewers, stormwater, environmentally sensitive areas, customer service address, and street annotation. We used proprietary automated tools to check the quality of the data before migrating it from ArcInfo coverages to ArcInfo 8.x geodatabase.

Application Development. The City and Woolpert identified the need for three customized applications and developed software requirements and specifications for each. Woolpert implemented the following three applications:

- **GIS Utility Billing System Integration.** The application extracts and collects data from the existing utility billing system and makes it available to the GIS. ArcGIS Maintenance application combines standard ESRI ArcGIS desktop functions with custom tools to provide a user interface that enables maintenance of an ESRI ArcSDE database.
- **Fort Lauderdale Infrastructure, Public Property, and Environmental Resources.** The application uses custom ESRI, ArcIMS, and Visual Basic development tools to distribute water, sewer, and stormwater utility data to internal and external users over the Internet or intranet. Woolpert also completed the application development necessary to integrate the GIS data into the City's existing Hansen System.
- **Maintenance.** To bring the GIS data to the point where the City can begin routine maintenance of its utility assets, Woolpert incorporated all data changes that had occurred since the data conversion began. The GIS based management system helps the City keep accurate inventories of its assets and spare parts, predict maintenance schedules, and make changing information more efficient by reflecting actual conditions. These benefits make sustainability more cost effective.

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | | |
|---|---------------------------------|---|--|
| a. | (1) FIRM NAME Woolpert, Inc. | (2) FIRM LOCATION (City and State) Miami, FL | (3) ROLE GIS Utility Mapping, GPS Data Collection |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |

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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

2

21. TITLE AND LOCATION (City and State)



University of Miami, CMOM Updates, Coral Gables, Florida

22. YEAR COMPLETED

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (if Applicable)

NA

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Corradino Group

b. POINT OF CONTACT NAME

Robert Regalado

c. POINT OF CONTACT TELEPHONE NUMBER

305.594.0735

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Woolpert was contracted by The Corradino Group to ensure University of Miami (UM) compliance with a Miami-Dade County Consent Decree requiring conformance to State Code and the Federal Clean Water Act for the operation of sanitary sewer collection systems, as well as a proactive system management approach to prevent sanitary sewer overflows (SSO). As a utility volume sewer customer, UM needed Woolpert's assistance in providing a CMOM Plan of Compliance documenting how they would meet the decree requirements as well as updating the University's Sanitary Sewer Master Plan (SSMP). The SSMP incorporated University planning information, past flow data, discussions with University staff and field inspections to provide recommendations to the University. Recommendations were made to ensure adequate sewer capacity for both gravity sewer basins, downstream pump stations and force mains, as necessary. The impact of on-campus growth both in the near-term (within two years) and mid-term (two–five years in the future) planning horizons were evaluated to propose phasing the recommended projects to coincide with the timing of the future demands on the system. Budget-level cost estimates were prepared to allow the University to prepare long-term funding plans for building sufficient system capacity, which are an important part of the regulatory-required CMOM program.

The effect of a student housing complex currently under construction and its proposed sanitary sewer pump station was evaluated for the existing University facilities that would be impacted by the project. Woolpert provided an evaluation of these impacts to the existing upstream pump station No. 2 and nearby pump station No. 3 and pump station No. 7, as well as recommendations for the future flow conditions of the proposed pump station pump station No. 18 within the housing complex. Recommendations included pertinent consistency and constructability observations relative to the sanitary sewer design plans performed by UM's design consultant for the student housing complex.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | | | |
|----|---------------------------------|---|--|
| a. | (1) FIRM NAME Woolpert, Inc. | (2) FIRM LOCATION (City and State) Miami, FL | (3) ROLE Engineering, Compliance Services |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |

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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, If not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER
3

| | | | |
|---|---|--|--|
| 21. TITLE AND LOCATION (City and State) Woolpert Consulting Services Relating to Consent Decree's CMOM, Miami, FL | | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2019 CONSTRUCTION (if Applicable) N/A | |
| 23. PROJECT OWNER'S INFORMATION | | | |
| a. PROJECT OWNER Miami Dade County Water and Sewer Department (WASD) | b. POINT OF CONTACT NAME Juan Bedoya | c. POINT OF CONTACT TELEPHONE NUMBER 305.439.0038 | |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)
Miami-Dade WASD provides drinking water and wastewater disposal services to nearly 2.3 million residents. Woolpert provided Miami-Dade County with a multitude of surveying, engineering and other consulting and technical services to comply with a Consent Decree from the US Environmental Protection Agency (USEPA) and Florida Department of Environmental Protection (FDEP), that requires the preparation of CMOM Programs by the County, with WASD as the responsible wastewater system operating entity.

Woolpert assisted WASD with the development of the following programs over the course of this CMOM contract:

- SSO Response Plan
- Information Management System Program
- GIS
- Sewer System Asset Management Program
- Gravity Sewer System Operation and Maintenance Program
- Pump Station Operations and Preventative Maintenance Program
- Force Main Operations, Preventative Maintenance and Assessment/Rehabilitation Program
- Force Main Criticality Assessment and Prioritization Program
- Force Main Rehabilitation and Replacement Program
- WWTP Operations and Maintenance Program

Additionally, climate change impacts on the wastewater collection and transmission system (WCTS) were evaluated under each of the above programs. The CMOM programs were intended to reduce SSOs through the improvement of the operation and maintenance of County wastewater collection, transmission and treatment systems. A key component to achieve this goal was inclusion and integrating WASD's information systems and databases to facilitate improved decision making and allow WASD personnel at all levels better access to data currently stored in standalone databases and to improve reporting capabilities.


Woolpert reviewed and evaluated WASD CMOM Programs' procedures and policies that were currently in place and utilized this information to identify needed refinements and enhancements to the existing programs. Special focus was placed on all related Information Management Systems to understand existing capabilities, existing uses and components of existing systems. This allowed Woolpert to develop an optimal approach that will maximize the value of work that had already been performed by WASD staff. This process also was used to identify interdependencies among the CMOM programs and establish protocols to improve integration of existing and supplemental practices that were compatible with and complementary to the objectives and goals of each of the affected CMOM program elements.

Finally, upon EPA/FDEP approval of each CMOM Program, the client assessed the need for Woolpert to provide implementation assistance. This assistance included implementation with the EPA-approved Gravity Sewer System Operations and Maintenance Program plan prepared by others in addition to the CMOM Programs prepared by Woolpert.



| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---------------------------------|---|
| a. | (1) FIRM NAME Woolpert, Inc. | (2) FIRM LOCATION (City and State) Miami, FL |
| | | (3) ROLE Survey, Engineering, Consulting |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) |
| | | (3) ROLE |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) |
| | | (3) ROLE |

| | | |
|--|--|--|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, If not specified. Complete one Section F for each project.) | | 20. EXAMPLE PROJECT KEY NUMBER 4 |
|--|--|--|

| | | | |
|--|--|--|--|
| 21. TITLE AND LOCATION (City and State)  Subsurface Utility GIS and Surveying and Mapping Services, Miami, FL | | 22. YEAR COMPLETED PROFESSIONAL SERVICES: 2017 CONSTRUCTION (if Applicable): N/A | |
|--|--|--|--|

| 23. PROJECT OWNER'S INFORMATION | | |
|--|---|---|
| a. PROJECT OWNER Miami Dade WASD | b. POINT OF CONTACT NAME Jose Lopez | c. POINT OF CONTACT TELEPHONE NUMBER 305.596.8461 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)
 Woolpert was contracted to perform utility mapping and GIS services at the Port of Miami through five separate work orders.

Seaboard Subsurface Utility Engineering (SUE) Services
 Woolpert performed surveying and engineering services for locating and mapping all utilities in support of future project development. The work included a complete subsurface investigation to conform to ASCE Quality Levels B, C, and D. The work entailed a review of preliminary engineering design, topographic surveying, location of existing pipelines, integrating orthophotography images for background mapping, preparation of site plans for future construction projects, and utility investigation reports.

Onsite GIS Consulting Services
 Woolpert completed a full GIS Needs Assessment for the Port of Miami IT systems and operations to determine opportunities to leverage GIS and their asset management system. Services included designing full enterprise-wide geodatabase design for communications, water, sewer, stormwater, and electrical assets. Future phases may include developing custom web-based applications and system integration between ship berth systems, security systems, and GIS.

Quality Level D SUE Services
 Woolpert was contracted to design and build ArcGIS geodatabases for each of the five existing utilities at the Port of Miami to include: water, sanitary sewer, stormwater, communication, and electrical. Each geodatabase design was developed based on existing source documents. Following the approval of each design, Woolpert GIS/Survey technicians used all of the available Port of Miami source documentation to compile each utility according to the ASCE 38-02 Quality Level D standards.

Quality Level B SUE Services (Westside)
 Woolpert was contracted to field survey all underground utilities for approximately one-third of the Port of Miami. Deliverables included populated ArcGIS geodatabases according to the ASCE 38-02 Quality Level B utility locating standards.

Quality Level B SUE Services (Eastside)
 Woolpert was retained to survey and map the location of the Port's underground utilities. All final data was processed and delivered within Esri ArcGIS geodatabases, separated by utility type.



| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---------------------------------|---|
| a. | (1) FIRM NAME Woolpert, Inc. | (2) FIRM LOCATION (City and State) Miami, FL |
| | | (3) ROLE Utility Mapping/Engineering, GIS Services |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) |
| | | (3) ROLE |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) |
| | | (3) ROLE |

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT
(Present as many projects as requested by the agency, or 10 projects, If not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

5

21. TITLE AND LOCATION (City and State)



Onsite GIS Support Services, Miami, FL

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2018

CONSTRUCTION (if Applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Miami-Dade WASD

b. POINT OF CONTACT NAME

Jose Lopez

c. POINT OF CONTACT TELEPHONE NUMBER

305.596.8461

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The Miami-Dade WASD GIS is the system of record for the majority of the field assets maintained in their Enterprise Asset Management System (EAMS). An existing backlog of thousands of as-builts and construction drawings hindered WASD's ability to accurately track inventory and maintenance costs associated with these assets. Conversion and migration of this utility data into the WASD GIS was vital to supporting WASD's compliance with a Federal Consent Decree program. WASD contracted Woolpert to provide onsite GIS staffing resources to assist with eliminating the GIS backlog of as-builts and construction drawings and converting all utility related information to GIS geodatabases.

Between January 2013 and June 2018, Woolpert provided as many as 40 GIS Analysts onsite at WASD supporting GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called GIS Atlas Maintenance System (GAMS2) to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information.



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | | | |
|----|---------------------------------|---|--------------------------|
| a. | (1) FIRM NAME Woolpert, Inc. | (2) FIRM LOCATION (City and State) Miami, FL | (3) ROLE GIS Services |
| b. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| c. | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |

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1. SOLICITATION NUMBER (If any)

(If a firm has branch offices, complete for each specific branch office seeking work.)

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|--------------------------|--|---|--|---|--|
| a. Function Code | b. Discipline | c. No. of Employees (1) FIRM (2) BRANCH | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| 02 | Administrative | 157 | 1 | C13 | Computer Facilities; Computer Service | 3 |
| 28 | Geodetic Surveyor | 10 | 1 | C16 | Construction Surveying | 1 |
| 38 | Land Surveyor | 86 | 5 | G04 | Geographic Information System Services: | 5 |
| 58 | Technician/Analyst | 152 | 0 | L02 | Land Surveying | 1 |
| 62 | Water Resources Engineer | 26 | 2 | S04 | Sewage Collection, Treatment & Disposal | 3 |
| | | | | S13 | Stormwater Handling & Facilities | 2 |
| | | | | T04 | Topographic Surveying and Mapping | 1 |
| | | | | U03 | Utilities (Gas and Steam) | 1 |
| | | | | W03 | Water Supply; Treatment and | 1 |
| | | | | | CADD, Computer-Aided Design & Drafting | 5 |
| | | | | | | |
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| | | | | | | |
| | Other Employees | 450 | 0 | | | |
| Total | | 881 | 9 | | | |

| | | | |
|--|---|---|---|
| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i> | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER | |
| | | 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| | | 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| a. Federal Work | 1 | 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| b. Non-Federal Work | 5 | 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| c. Total Work | 5 | 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

| | |
|---|-----------|
| a. SIGNATURE | b. DATE |
|  | 4/27/2022 |
| c. NAME AND TITLE | |
| J.P. Johns, Vice President | |

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



FIRM'S ABILITY TO MEET TIME AND BUDGET REQUIREMENTS

Our careful attention to detail and defined processes have helped ensure that projects are delivered successfully, meeting the highest standard of care while on schedule and on budget. Whether in the beginning stages of the project, currently working through the design, or in the construction phase, experience and insight help our projects succeed every step of the way.

While every civil engineering design is unique, our teams have developed steps around several key milestones that can help save time, money and potential rework for our clients. Success looks different for every project, which is why our team's first priority is to listen. Whether it's cost, schedule, quality or community impact, we develop succinct criteria standards to review during and after project completion, so the focus never deviates from creating a successful project.

By looking at the design process from our client's perspective, we are able to see a comprehensive view of the project and apply our past experience to develop unique solutions. Our team maintains constant communication, both internally across disciplines and with the municipal client, so all parties are aware of the progress on deliverables, design, and permitting. This collaborative relationship with all parties, from the kick-off meeting to project certification, helps ensure an accurate and timely final product.

SUSTAINABLE BUSINESS PRACTICES

Craven Thompson is committed to lessening its environmental impact and advocating green initiatives throughout the company. Our goal is to benefit our community and employees while setting the bar in our profession. The following is a brief summary of our green policies and procedures which were initiated over the past decade:

- At Craven Thompson the recycling of paper goods is not limited to those containing confidential information. All paper, including newspapers, magazines and inter-office memos are thoroughly and completely shredded in order to expedite the recycling process.
- Craven Thompson has instituted effective recycling practices and significantly reduced our paper consumption. We continually seek to minimize the volume of paper used in printing, copying, data storage and communication. We have increased our focus on paperless technology and developed electronic templates for a wide variety of internal and external communications. We have also converted the vast majority of our reports, newsletters and bulletins from hard copy to electronic versions. Internal campaigns urge our personnel to view documents on-screen whenever possible; if paper copies are necessary, we use recycled paper for printing and copying. Duplex printing set as the default for "two-sided" use is an increasingly effective way to achieve our paper reduction goals.
- In addition to paper recycling, we work with our local property managers to minimize disposables and reuse equipment and supplies wherever possible. We systematically recycle large volumes of printer/photocopier cartridges, batteries and plastics.
- Craven Thompson conserves energy by using more efficient lighting systems. We steadily encourage energy-conscious practices across the company. Our offices promote energy efficiency through motion-sensitive light switches.

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



BUSINESS INFORMATION AND STRUCTURE

For over sixty (60) years Craven Thompson & Associates has provided consulting services to governmental agencies throughout South Florida. We have provided some or all of the following services to numerous clients including: civil engineering, landscape architectural services, utilities engineering, land surveying, GIS mapping, and water, wastewater, utility management.

Craven Thompson was founded in 1962 and has a large group of professional engineers, graduate engineers, surveyors, G.I.S. specialists, landscape architects and planners. Craven Thompson has been providing engineering, surveying and CEI services for the past sixty (60) years, landscape architectural services for the past thirty-seven (37) years, and G.I.S. services for the past sixteen (16) years. Craven Thompson has sixty-nine employees consisting of four Landscape Architects, two planners; twenty-five civil engineers, twenty-one surveyors & GIS specialists (includes field crews), one construction manager, eight construction inspectors; and seven administrative personnel - four of which are clerical. Craven Thompson and our sub-consultants have extensive experience with projects involving roadways, complete streets, stormwater drainage, water, wastewater, landscape architecture, surveying, and G.I.S.

Firm Ownership

Thomas M. McDonald

President / 100% Owner

Craven Thompson & Associates, Inc.

3563 NW 53rd Street

Fort Lauderdale, Florida 33309

Phone: (954) 739-6400 / Email: tmcdonald@craventhompson.com

Organizational Structure

Patrick J. Gibney, P.E., V.P., Engineering

Craven Thompson & Associates, Inc.

3563 NW 53rd Street

Fort Lauderdale, Florida 33309

Phone: (954) 739-6400

Email: pgibney@craventhompson.com

Richard D. Pryce, P.S.M.

Vice President, Surveying & G.I.S.

Craven Thompson & Associates, Inc.

3563 NW 53rd Street

Fort Lauderdale, Florida 33309

Phone: (954) 739-6400

Email: rpryce@craventhompson.com

Joseph D. Handley, P.L.A.

Vice President, Planning & Landscape Architecture

Craven Thompson & Associates, Inc.

3563 NW 53rd Street

Fort Lauderdale, Florida 33309

Phone: (954) 739-6400

Email: jhandley@craventhompson.com

Location of Headquarters, Number and Location of Branch Offices

Corporate Headquarters

3563 NW 53rd Street

Fort Lauderdale, Florida 33309

One Branch Office:

4723 W. Atlantic Avenue, Suite 12A

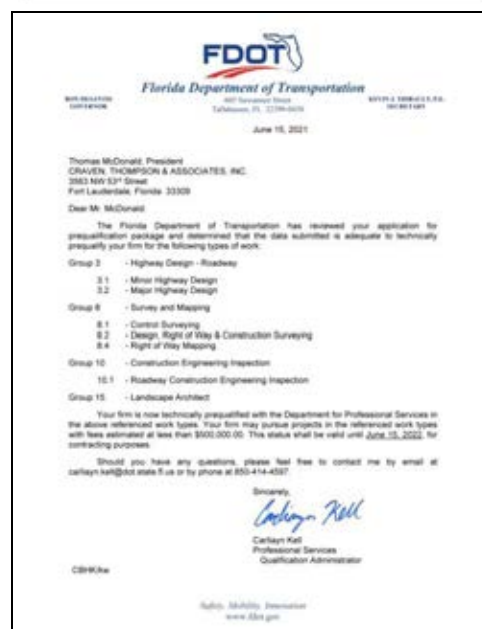
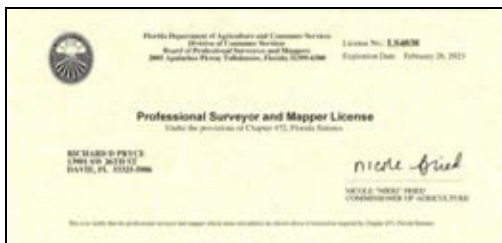
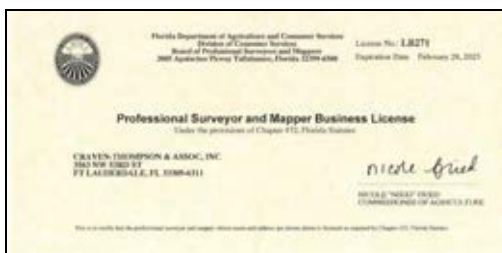
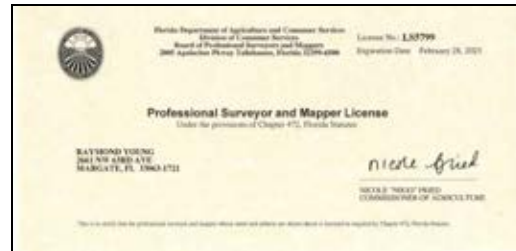
Delray Beach, Florida 33445

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE

PROFESSIONAL LICENSES / CERTIFICATIONS

CRAVEN THOMPSON & ASSOCIATES, INC.


| Licensee | | | | | | |
|-----------------------------|-------------------------------------|-------------------|-------------------|--------------------------|-----------------------|-----------------|
| Name: | CRAVEN, THOMPSON & ASSOCIATES, INC. | | | License Number: | 271 | |
| Rank: | Registry | | | License Expiration Date: | | |
| Primary Status: | Current | | | Original License Date: | 05/10/1977 | |
| Related License Information | | | | | | |
| License Number | Status | Related Party | Relationship Type | Relation Effective Date | Rank | Expiration Date |
| 49428 | Current, Active | GIBNEY, PATRICK J | Registry | 03/14/2014 | Professional Engineer | 02/28/2023 |



SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



HAZEN & SAWYER

 **dbpr** Florida Department of Business & Professional Regulation

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- Verify a Licensee
- View Food & Lodging Inspections
- File a Complaint
- Continuing Education Course Search
- View Application Status
- Find Exam Information

Licensee

| | | | |
|-----------------|------------------------|--------------------------|------------|
| Name: | HAZEN AND SAWYER, P.C. | License Number: | 2771 |
| Rank: | Registry | License Expiration Date: | |
| Primary Status: | Current | Original License Date: | 11/08/1978 |

Related License Information

| License Number | Status | Related Party | Relationship Type | Relation Effective Date | Rank | Expiration Date |
|----------------|-----------------|---------------------|-------------------|-------------------------|-----------------------|-----------------|
| 44165 | Current, Active | TAYLOR, ROBERT B JR | Registry | 04/27/2017 | Professional Engineer | 02/28/2023 |

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

AL-OMARI, KHAMIS ABDEL-RAHMAN

8445 N. 33RD AVE. UNIT 2202 MIAMI FL 33193

LICENSE NUMBER: PE30087

EXPIRATION DATE: FEBRUARY 28, 2023

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STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

FITZGERALD, SEAN WILLIAM

4060 OAK TREE CT LOVELAND OH 43140

LICENSE NUMBER: PE31137

EXPIRATION DATE: FEBRUARY 28, 2023

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STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

MARSJANIK, MICHAEL VERNON

2144 NODLEIGH TERRACE JARRETTSVILLE MD 21084

LICENSE NUMBER: PE54717

EXPIRATION DATE: FEBRUARY 28, 2023

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State of Florida
Department of State


I certify from the records of this office that HAZEN AND SAWYER, P.C. is a New York corporation authorized to transact business in the State of Florida, qualified on October 18, 1978.

The document number of this corporation is 841657.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 12, 2022, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twelfth day of January, 2022


Secretary of State

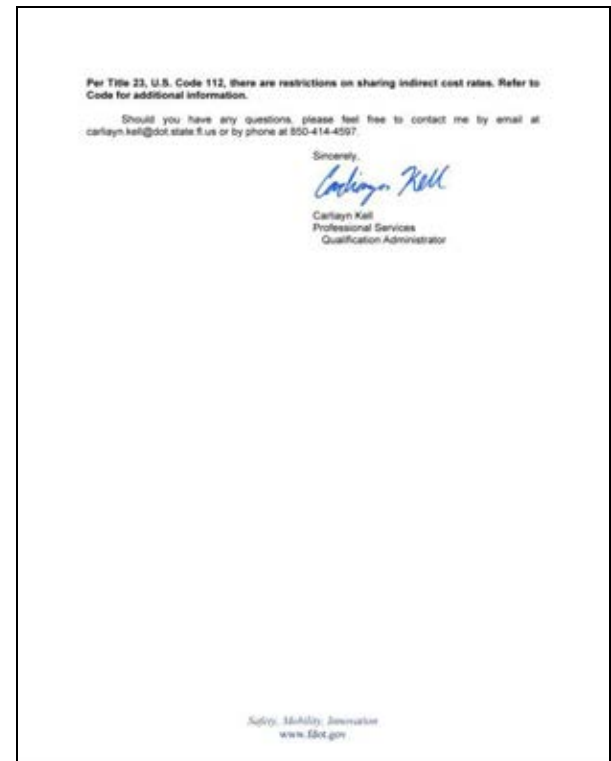
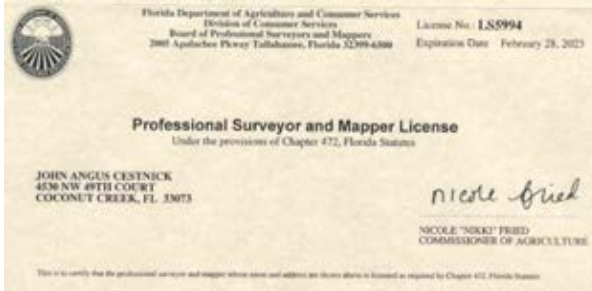
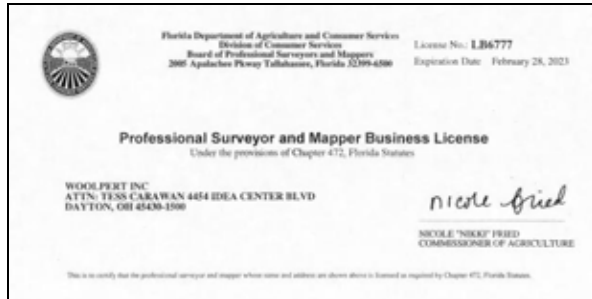
Tracking Number: #982614329CC

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

<https://services.austlii.org/Files/CertificateOfStatus/CertificateAuthentication>

SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE

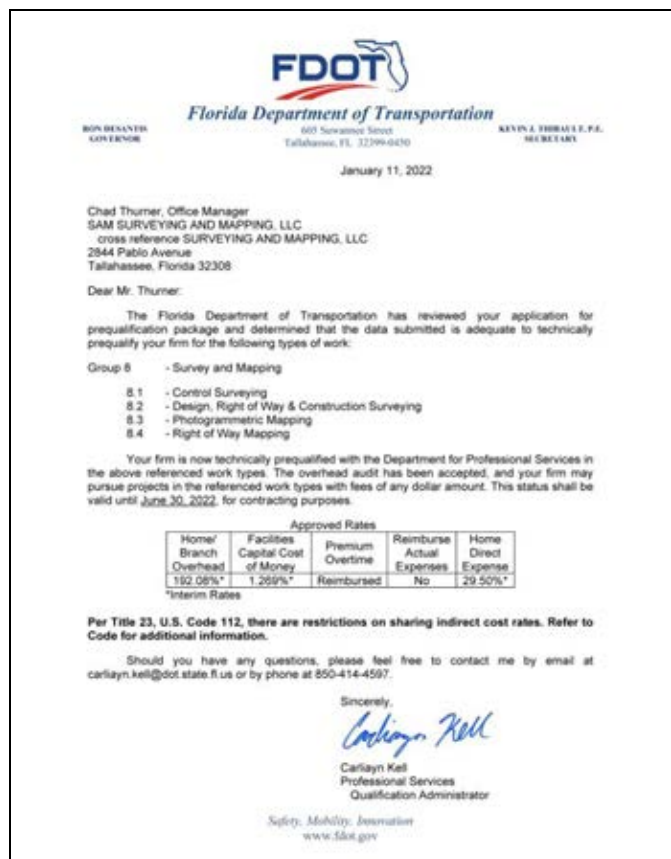
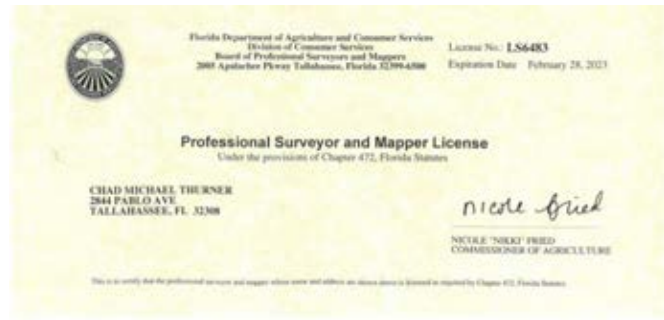
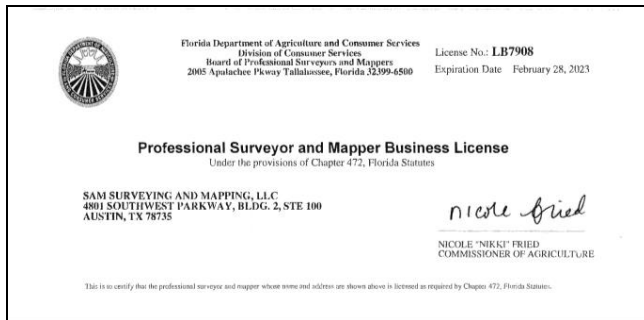
WOOLPERT, INC.



SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE

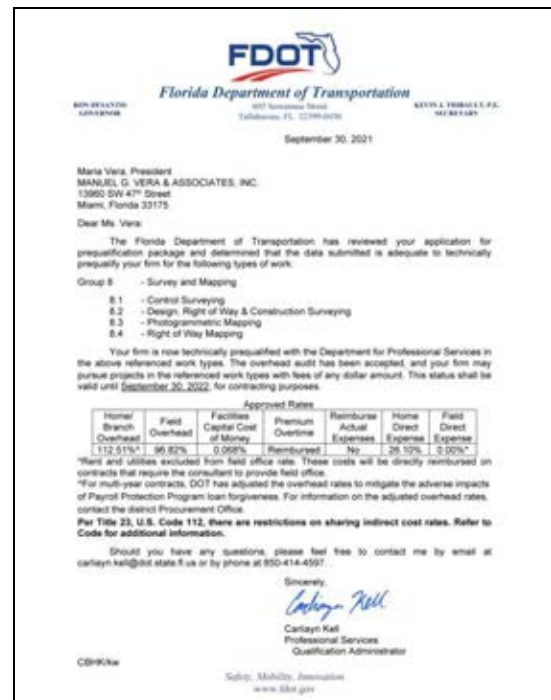
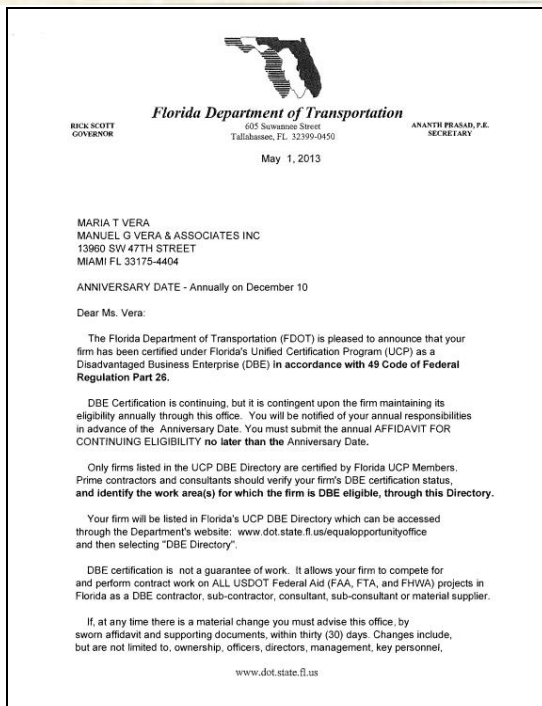


SURVEYING AND MAPPING, INC. (SAM)



SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE

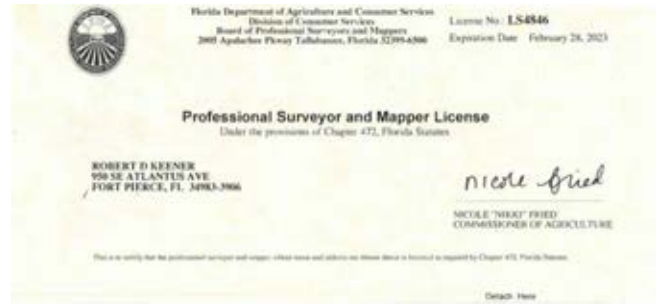
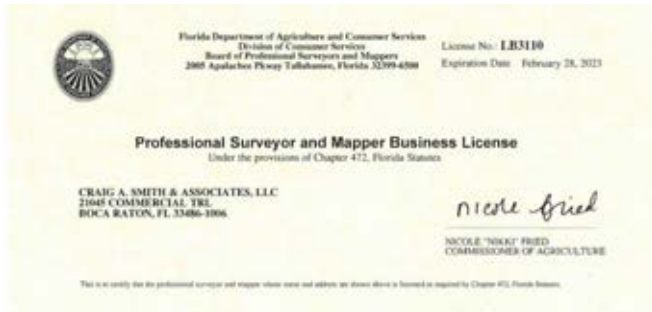
MANUEL G. VERA & ASSOCIATES, INC.



SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



CRAIG A. SMITH & ASSOCIATES



**State of Florida
Department of State**

I certify from the records of this office that CRAIG A. SMITH & ASSOCIATES, LLC is a limited liability company organized under the laws of the State of Florida, filed on May 13, 2021.

The document number of this limited liability company is L21000210726.

I further certify that said limited liability company has paid all fees due this office through December 31, 2021 and that its status is active.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Tenth day of June, 2021*


Randy A. Bee
Secretary of State

Tracking Number: 1561931601CU

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SECTION 4.2.3: FIRM QUALIFICATIONS AND EXPERIENCE



PROJECT MANAGER (PROJECT DIRECTOR)

Patrick J. Gibney, P.E. is the proposed project manager for the *“Water Consent Order Program Management and Mapping Services”*.

Mr. Gibney graduated from Rutgers, The State University, with a Bachelor of Science Degree in Civil Engineering in 1987. He received his professional engineering license in the State of Florida in 1995. With a total of thirty-four years of experience in the civil engineering field, Mr. Gibney has spent twenty-eight of those years with Craven Thompson & Associates.

As project manager, Mr. Gibney serves as the project lead, client contact, and technical specialist for municipal water distribution and wastewater collection and transmission projects. He provides technical experience and expertise for water and wastewater projects and leads planning, study, design and permitting efforts related to water distribution, reuse water distribution and wastewater collection and transmission infrastructure. He provides leadership, direction, and technical guidance to staff and municipal clients on a variety of water, wastewater related projects.

He has designed and/or managed projects involving water, wastewater, and pumping facility rehabilitation in Broward County since 1993. His initial project was the South County Neighborhood Improvement Project for Broward County Water & Wastewater Service which ran from 1993 to 2005. This 1,440-acre project included the design, permitting, bidding and construction consisting of 53 miles of roadway, 140,618 linear feet of watermain, 236,226 linear feet of gravity sanitary sewer, and eleven (11) wastewater pumping stations. Following that project, he was also heavily involved in the design and management of the Central County Neighborhood Improvement Project, the North Central County Neighborhood Improvement Project, and the North County Improvement Project. Combined these projects included hundreds of thousands of feet of watermain, sewer collection main, force main, along with numerous wastewater pump station rehabilitations and new pump station design.

Mr. Gibney has managed and/or directed a large number of water and wastewater system projects for municipalities within Broward County. This includes: Fort Lauderdale, Plantation, Oakland Park, Davie, Hollywood, Miramar, and Hallandale Beach. Craven Thompson currently has continuing services CCNA contracts for water and wastewater for each of these Broward County municipalities. Recently, Mr. Gibney has managed projects such as: Eastside Infrastructure improvements for the Town of Davie; Hollywood Watermain Replacement Program - City Projects 15-5129 and 12-5517, Driftwood Septic to Sewer Conversion Phases 1 & 2; Master Lift Station W-14 and Lift Stations A-6, & E-2 Rehabilitation for Hollywood; and Master Pump Station 8 Rehabilitation for Hallandale Beach. He was the project manager for the Fort Lauderdale *Pump Station A-13 and Sewer Re-Direction South of Federal Highway Project*. Mr. Gibney also acted as project director for the *Fort Lauderdale South Middle River Force Main Crossing Design-Build Project*, as well as the *Fort Lauderdale 54” Diameter Redundant Force Main Bypass Line (Zones 4B & 4C) Design-Build Project*.

Section 4.2.4: Qualifications of the Project Team

Section 4.2.4

SECTION 4.2.4: QUALIFICATIONS OF THE PROJECT TEAM



ORGANIZATIONAL CHART



SECTION 4.2.4: QUALIFICATIONS OF THE PROJECT TEAM



PATRICK GIBNEY, P.E.
PROJECT DIRECTOR



CRAVEN THOMPSON & ASSOCIATES INC.

Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Education

Rutgers, The State University,
Bachelor of Science
in Civil Engineering
(1987)

Years of Experience

Total: 34; With Firm: 28

Licenses/Certifications

State of Florida
Professional Civil Engineer
Florida No. 49428 (1995)

FDOT Pre-Qualified
Roadway Construction
Engineering Inspection

Mr. Gibney has over thirty-four years of experience providing project management, design and construction management services for public civil engineering projects. These projects include infrastructure improvements for a multitude of infrastructure rehabilitation projects. This includes design and CEI services for water distribution systems, sanitary sewer collection & transmission systems, lift Stations, pavement design, storm water management systems, drainage systems, preparation of contract documents and specifications and construction inspections.

Relevant Experience:

East Las Olas Boulevard Watermain and Forcemain Design Criteria Package | Fort Lauderdale, Florida | Project Manager. The City of Fort Lauderdale retained Craven Thompson & Associates and Hazen and Sawyer to develop the design criteria package documents and obtain all long-lead permits for crossing of the ICW. This team's permitting expertise was critical to meeting the City's Deadline. The purpose of this \$3.1 Million project, completed in December 2016, was to deepen a critical 20-inch water main crossing of the ICW along with adding a new 16-inch sewage force main to enhance system reliability. The impetus for this project was a Florida Inland Navigation District (FIND) plan to deepen the Intracoastal Waterway navigation channel from 10 to 17 feet below the water surface to stimulate economic development of the region's marine industry.

Installation of New Redundant Bypass Line (Zone 4B & 4C) – 54" FM | Fort Lauderdale, Florida | Project Director - The project involved the installation of 54" nominal OD HDPE Force Main by Horizontal Directional Drill (HDD), with sections of open cut trench installation of 16" HDPE Force Main. The total length of Horizontal Directional Drill (HDD) 54" OD HDPE Force Main is 3,223 LF in length which was proposed to minimize the disturbance to the community and limit the amount of pavement restoration, with an additional 653 LF of 16" HDPE Force Main installed by open cut trench.

South Middle River Force Main Crossing – 16" Redundant Pipe | Fort Lauderdale, Florida | Project Director - The project involved the installation of 16" nominal OD HDPE Force Main under the South Middle River Waterway, with sections of open cut trench installation of 16" PVC Force Main. The total length of subaqueous crossing of 16" HDPE Force Main is 1,092 LF in length, with an additional 832 LF of 16" PVC Force Main installed by open cut trench.

Pump Station A-13 & Sewer Redirection East of Federal Highway | Fort Lauderdale, Florida | Project Manager - This project is for the construction of Lift Station A-13, located at the southeast corner of Southeast 2nd Court and Southeast 8th Avenue. The project scope included the construction of an 18-inch diameter gravity sanitary sewer system and the connection to an existing active sanitary sewer manhole located at the intersection of Federal Highway and Broward Boulevard to the new lift station.

SECTION 4.2.4: FIRM QUALIFICATIONS AND EXPERIENCE



RICHARD D. PRYCE, P.S.M.,
PROJECT MANAGER DATA COLLECTION & MAPPING

Mr. Pryce has over forty-four years of experience surveying in South Florida. He has specialized in all aspects of the land surveying & mapping profession and has also specialized in developing GIS/Survey applications using ESRI ArcGIS software since 1990.

Relevant Experience:



Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

education

Broward Community College,
Associate of Science in
Criminal Justice (1978)

years of experience

Total: 44; With Firm: 16

licenses/certifications

Professional Surveyor
and Mapper: LS4038 (1983)

publications

Co-author POB Magazine -
"22,000 Acres and Counting"
November 1998

Co-author POB Magazine -
"The CAD Resolution"
September 1999

affiliations

Past Director - Broward County
Chapter of Florida Surveying &
Mapping Society
State & County Chapters, Florida
Surveying & Mapping Society
American Congress on
Surveying and Mapping
National Society of
Professional Surveyors
American Society of
Photogrammetry and
Remote Sensing

North Miami Beach Sewer & Water GIS Project | North Miami Beach, Florida - Project Manager - This project for North Miami Beach Utility Department was undertaken to create an ArcGIS geodatabase of water and sanitary sewer system for the entire services area. The goal of this project was to provide Survey/GIS grade data without actual surveying the entire water & sanitary sewer system.

Stormwater GIS/Data Collection Project | North Miami Beach, Florida | Principal Survey/GIS Manager - The City is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The Craven Thompson data was collected by a Unique ID. Craven Thompson provided the city with a copy of the updated geodatabase with all the proposed data fields to be collected for review. The GIS data collected consisted of: Structure type (junction, inlet, control structure, drainage well); Pipes: Culvert, Outfalls, Headwalls & Seawalls.

Fort Lauderdale Stormwater Master Plan GIS & Survey | City of Fort Lauderdale, Florida | Project Manager - Performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data in ArcGIS Geodatabase conforming to their GIS Model Schema.

Fort Lauderdale Sanitary Sewer System GIS & Surveying | Fort Lauderdale, Florida | Project Manager - Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, pump Stations, meters, valves, air valves and 80 miles of force mains. During Sewer Mapping Phase I, the Benchmarks and GPS Control monuments were established for each of the 52 Data Collection Zones (DCZ). The benchmarks and monuments were utilized with a GPS base station during the feature data acquisition phase. Phase II included multiple feature data acquisitions for the City's GIS System and for certain areas to be thoroughly modeled. The data acquisition features collected as part of this Phase included 5,908 manholes, 190 Pump Stations, 15 Meters, and 80 miles of pressure pipes with 752 valves and 285 Air release valves.

SECTION 4.2.4: FIRM QUALIFICATIONS AND EXPERIENCE



RICHARD G. CRAWFORD, JR., P.S.M.
LAND SURVEYOR / FIELD CREW COORDINATOR

Mr. Crawford has over thirty-six years of experience within the surveying industry. During this time, his experience has grown to include all types of surveys. Richard is well trained and proficient in the processing of survey data collection from a variety of data collection devices, such as GPS, Digital Leveling, and Conventional Total Stations.

Relevant Experience:

Sanitary Sewer Mapping – Control Surveying | Fort Lauderdale | Principal Survey Project Manager - Responsible for establishing Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory 5,917 Sanitary Manholes, 190 pump Stations, 15 meters, and 80 miles of force mains and their associated valves.

Citywide Benchmarks | City of Pompano Beach, Florida | Principal Survey Project Manager – Responsible for establishing Primary and Secondary Vertical First Order Control to establish new city benchmarks to support a Storm Drainage Study.

Florida Department of Transportation (FDOT), District 4 and District 6, Districtwide Miscellaneous Services Contract-South Florida – Project Surveyor. Supervised a wide variety of land surveying assignments throughout Southeast Florida region as a Project Surveyor in responsible charge. Utilized GNSS, and conventional land surveying techniques to perform digital terrain modeling, subsurface utility locations (SUE), boundary determinations, sewage infrastructure analysis, bridge details, control surveys, and right-of-way establishment.

City of Fort Lauderdale Modeling and Design Implementation of Storm Water Master Plan | Fort Lauderdale, Florida | Project Surveyor. Responsible for directing survey data collection, GIS analysis, and assisting others team members. Provided oversight for field data acquisition of storm water infrastructure attributes needed to populate an existing GIS Database.

Dania Pointe | Dania Beach, Florida | Project Surveyor
Construction of 101+ acres of infrastructure, roadways and buildings, retail and residential, as-builts of the same. Project cost - \$1 Billion.

Broward County UAZ 110/111 & 113 Water Sewer Improvements 113B | Lauderdale - Project Surveyor/Field Coordinator. Mapping, Field Coordination, Survey Data Processing. Responsible for establishing Primary and Secondary Vertical Control for Drone Mapping including flying, and processing drone data.



CRAVEN THOMPSON & ASSOCIATES INC.

Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

education

Palm Beach Community College,
Associates of Science in Land
Surveying (1994)
Broward College, Associate of
Arts in Architecture (1986)

Years of experience

Total: 36

Licenses/certifications

Professional Surveyor
and Mapper: LS5371 (1994)

FAA Remote Pilot with a
UAS Rating Certificate
Number 3911523 (2016)

Computer Skills

AutoCAD, MicroStation, Star
Net, Civil 3D, Carlson Survey

Affiliations

Florida Surveying & Mapping
Society - Broward Chapter

SECTION 4.2.4: FIRM QUALIFICATIONS AND EXPERIENCE



RAYMOND YOUNG, P.S.M.
LAND SURVEYOR

Mr. Young has thirty-nine years of experience surveying in South Florida. He has performed both field and office work on a variety of projects both large and small. He is experienced in all aspects of surveying including boundary, topographic, construction layout, ALTA mortgage, as-built, control and location surveys. He has prepared numerous plats and has been involved in the recordation of these plats.

Related Work Experience (Partial Listing):



Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

years of experience

Total: 39; With Firm: 29

licenses/certifications

Professional Surveyor
and Mapper: LS5799

affiliations

Florida Society of
Professional Surveyors and
Mappers

North Miami Beach Water & Sewer Service Area GIS & Mapping | North Miami Beach, Florida | Surveyor - Project surveyor/GIS. Data Collection and G.I.S. Specialist - The purpose of the 25,600 Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, ESRI Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area.

Fort Lauderdale Sanitary Sewer System GIS & Surveying | Fort Lauderdale, Florida | Surveyor - Project surveyor/GIS. Data Collection and G.I.S. Specialist - Craven Thompson performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The survey limits of this project are described as the entire City limits of Fort Lauderdale. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research Asbuilt records of the city in the Stormwater system and provide the data to the City in ArcGIS Geodatabase conforming to their GIS Model Schema.

Seminole Hollywood Reservation Stormwater Data Collection/GIS | Hollywood, Florida | | North Miami Beach, Florida - Senior Survey /GIS Technician - The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field.

SECTION 4.2.4: FIRM QUALIFICATIONS AND EXPERIENCE



DAVID REYES, SURVEY & G.I.S. TECHNICIAN
LAND SURVEYING, G.I.S. DATA COLLECTION & MAPPING

Mr. Reyes has significant surveying and mapping experience in Florida. He has extensive private and public sector project experience including design, construction engineering inspection (CEI), construction, global positioning systems (GPS), geographic information systems (GIS), right-of-way control.

Relevant Experience:



Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Registrations / Certifications

Certified Survey Technician Level
III, Florida, 2003
FDOT Maintenance
of Traffic, Florida

Continuing Education

FDOT Intermediate Work Zone
Traffic Control Refresher (2005)

Years of Experience

Total: 30; With Firm: 6

FDOT Work Type Codes:

- 8.1 - Control Surveying
- 8.2 - Design, Right-of-Way
Construction Survey
- 8.4 - Right-of-Way Surveying

Affiliations

Member, CAICE Users Group
Member, Florida GPS
Users Group
Member, Florida Local
Users Group
MicroStation Community
Secretary, Florida Surveying &
Mapping Society,
Broward County Chapter 2004

Fort Lauderdale Sanitary Sewer System GIS & Surveying | Fort Lauderdale, Florida - Craven Thompson established Primary and Secondary Vertical Control with over 3,000 new benchmarks for Sanitary Sewer Mapping of the City, including As-built/Inventory of Manholes, pump Stations, meters, valves, air valves and 80 miles of force mains. During Sewer Mapping Phase I, the Benchmarks and GPS Control monuments were established for each of the 52 Data Collection Zones (DCZ). The benchmarks and monuments were utilized with a GPS base station during the feature data acquisition phase. Phase II included multiple feature data acquisitions for the City's GIS System and for certain areas to be thoroughly modeled. The data acquisition features collected as part of this phase included 5,908 manholes, 190 Pump Stations, 15 Meters, and 80 miles of pressure pipes with 752 valves and 285 Air release valves

Seminole Hollywood Reservation Stormwater Data Collection/GIS | Hollywood, Florida | Senior Survey /GIS Technician - The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation. Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, and structure condition were obtained in the field.

Fort Lauderdale Stormwater Master Plan GIS & Survey | City of Fort Lauderdale, Florida - Performed surveying, and an As-built/Inventory 5,400 Stormwater Features for GIS City-Wide Stormwater Model. The city was flown with high density aerial LiDAR to a vertical accuracy of 0.15 feet across the entire City. From the Lidar we created a 2-foot grid Digital Elevation Model of the ground for modeling drainage flow. This required a GPS Control Network, and 309 ground control for the flight, performed over 5,000 verification shots on hard surfaces at major roadways across the city. The second part of this survey was to collect and evaluate 5,400 storm structures with Rims, Inverts, Pipe Size, material, and research As-built records of the city in the Stormwater system and provide the data to the City in ArcGIS Geodatabase conforming to their GIS Model Schema.

SECTION 4.2.4: FIRM QUALIFICATIONS AND EXPERIENCE



JOHNNY GIL, P.E.
ASSISTANT PROGRAM MANAGER

Mr. Gil's experience includes program management, and design of paving, grading & drainage, water & sanitary sewer, permitting, project coordination, estimating and drafting.

Relevant Experience:

City of Fort Lauderdale Wastewater Consent Order Program (OGC No 16-1487) – Program Management Services (2019-Present) | Fort Lauderdale | Senior Engineer
Responsibilities include periodically gathering project status information, producing monthly progress reports, and Semi-Annual Reports, maintaining and consistently updating the overall Consent Order Program Master Schedule, recording and archiving of project completion and certification documentation, coordinating presentation graphics, assembling program status updates, drafting project notifications for project completions and Milestone achievements to the Florida Department of Environmental Protection (FDEP).

- Responsible for gathering, compiling and overall production of the Consent Order Projects Monthly Progress Report and Semi-Annual Reports. The projects reported consists of (15) Sewer Force Main projects, (5) Pump Station projects, (6) Infiltration & Inflow projects and (2) Wastewater Treatment Plant Generator projects, among other City-wide asset management plans, infrastructure mapping and Utility Condition Assessments programs and reports.
- Responsibilities also include maintaining and tracking updates of the Master Program Schedule, which tracks all the Consent Order Projects and required Milestones. Tracking and tabulating project percent complete for each individual project. Planning and coordinating the completion of the Consent Order requirements with the City and Consultants to meet the Program Milestones. Development and updating of program and project costs reports requested by FDEP as per the Amended Consent Order.

Project Delivery Plan - Bid Package 10 | City of Oakland Park | Project Engineer -
Responsible for the layout, replacement and upgrade design of approximately 10,000 LF of water main and 2,000 LF of force main throughout the City of Oakland Park. Design required coordination with existing utilities and permitting with City, County and State Agencies.

City of Miami Gardens, Vista Verde Drainage Design | Miami Gardens | Project Engineer -
Responsible for creating a drainage model of the Vista Verde Neighborhood and preparing a complete set of drainage plans and cost estimate. Design included pipe sizing, grading and coordination with concurrent Dade County water main installation.

Floranada Road Roundabout and Traffic Calming Improvements | City of Oakland Park | Project Engineer -
Assisted project manager in preparation of contract documents, including revisions to plans and quantity take-offs.



Firm:

**Craven Thompson &
Associates, Inc.**

3563 NW 53rd Street
Fort Lauderdale, Florida 33309

Education

Georgia Institute of
Technology, Atlanta, Georgia,
Masters of Science, Civil
Engineering - Structures (2010)

Florida International University,
Miami, Florida Bachelor of
Science in Civil Engineering
(2008)

Years of Experience

Total: 12; With Firm: 7

Licenses/Certifications

State of Florida
Professional Civil Engineer
Florida No. 78613 (2015)

Technical Skills

AutoCAD Civil 3D,
Microstation, GTSTRUDL,
STAAD, ETABS
MathCAD, Matlab, Primavera,
Project Planner, Microsoft
PowerPoint, Advanced Excel
Programming, Word, ICPR3,
Cascade

RFQ # 12665-1026

CITY OF FORT LAUDERDALE

WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING SERVICES

EXHIBIT D



Education

MS, University of Cincinnati, 1988
BS, Ohio University, 1984

Certification/License

Professional Engineer: FL, MI, OH

Master Citizen Planner, Michigan State University Extension, 2007

Areas of Expertise

- Construction management
- Program management
- Constructability review
- Combined sewer systems
- Wastewater treatment plants
- Water and sewer systems
- Pumping stations

Experience

- 33 total years
- 23 years with Hazen

Professional Activities

Water Environment Federation

Construction Management Association of America

Project Awards

Conner Creek CSO Control Facility, Detroit, MI:

- 2007 Construction Management Association of America (CMAA) Project Achievement Award for Infrastructure Project with Constructed Value Greater than \$100 Million
- 2007 Honorable Conceptor Award for Engineering from the American Council of Engineering Companies (ACEC) of Michigan and Michigan Society of Professional Engineers MSPE)

Khamis Al-Omari, PE

Program Manager

Mr. Al-Omari has over 33 years of experience in wastewater and water engineering and project management. He currently serves as a Project Manager on the City of Ft. Lauderdale Sewer Design and Implementation Consent Order Program, responsible for program budget and schedule controls, risk management and reporting. He also served as the Program Manager managing contracts, budgets, and schedules for the \$165 million Zarqa Water and Wastewater Networks Projects in Jordan.

City of Fort Lauderdale Sewer Design and Implementation Consent Order Program, FL

Mr. Al-Omari currently serves as a Project Manager on the City of Fort Lauderdale's \$181 million Consent Order Program. He is responsible for developing and monitoring the Master Program Schedule and Cost Model; planning and monitoring the projects defined in the Consent Order by defining their scope, deciding their project delivery method, and validating their schedule and project budget; risk management including risk identification, impact analysis, mitigation, and monitoring; quality assurance; and preparing monthly and semi-annual progress reports.

Zarqa Water and Wastewater Program Management and Construction Supervision Project, Jordan

Mr. Al-Omari served as the Program Manager for the \$163 Million Jordan Water and Wastewater Program which included five wastewater and six water projects involving construction of approximately 500 miles of water supply networks, 200 miles of wastewater collection systems, and a new regional administration building for the Water Authority of Jordan. He also served as the Project Manager for the detailed design of the \$103-million Water Network Restructuring and Rehabilitation Project (Water Network Project). The scope involved condition assessment of the existing water network, planning and design of the new water supply network (approximately 500 miles), rehabilitation of multiple water storage reservoirs, new booster station, and new pump station and reservoir.



Education

MSEnvE, University of Cincinnati, 1994

BSCE, University of Cincinnati, 1992

Certification/License

Professional Engineer: FL, OH, KY, NY, TX, Washington DC, MN

Areas of Expertise

- GIS-based analyses
- Sewer and water master planning
- Sewer and force main assessment and rehabilitation
- Hydraulic analysis
- Pipe and pump station design

Experience

- 32 total years
- 15 years with Hazen

Professional Activities

Water Environment Federation

- Collection System Committee

Ohio Water Environment Association

- Collection System Committee

American Water Works Association

Kentucky-Tennessee Water Environment Association

Technical Publications

Fitzgerald, Sean. Manuals of Practice, including FD-6 Existing Sewer Evaluation and Rehabilitation (2020) and FD-17 Prevention and Control of Sewer System Overflows (2012).

Sean FitzGerald, PE

Vice President – Conveyance Practice Leader

Mr. FitzGerald has over 30 years of experience in conveyance planning, design and asset management. He serves as Hazen and Sawyer's Corporate Conveyance Practice Leader and has helped develop and implement numerous conveyance related programs across the Country utilizing industry best practices for program controls as well as using innovative tools used to manage, track, and visualize work progress. Many of these programs include detailed asset mapping, condition assessment, and rehabilitation and replacement planning and budgeting.

City of Clearwater Wastewater Collection System Program Management, Clearwater, Florida

Technical and QA/QC lead for the Clearwater WCS PM project. The program includes overseeing all aspects of the collection system program including program controls, schedules, field inspections, flow monitoring, data management, reporting, CIP planning, design and construction management.

Sarasota County AM CMOM Program Development and Implementation, Sarasota County Public Utilities, Florida

Technical Lead for the development and implementation of the Sarasota County asset management and CMOM programs. Program tasks include the development and implementation of the CSAMP that incorporates all aspects of the collection and transmission system. Supported development of as-is and to-be business process mapping to support the program and development of the lift station risk framework, asset inventory process, and maintenance programs. Also supported evaluation of the CMMS software to consider switching to a more GIS-focused program.

City of Fort Lauderdale Cityworks Implementation, Fort Lauderdale, FL

Senior Project Manager on behalf of the City of Ft. Lauderdale for the implementation of Cityworks CMMS software for the Public Works Department and includes all assets for the wastewater, stormwater, and drinking water divisions. Providing technical assistance with development of workflows, business processes, and geodatabase design for implementation for linear and vertical assets.



Michael Marsjanik, PE

Program Administration and Controls

As Lead for Program Administration and Controls, Mike will oversee development of the Project Management Plan, selection and tailoring of tools and controls to be used, and management of cost and schedule throughout the project; he will ensure the project is delivered successfully, on schedule and within budget.

Education

BS, Clarkson University, Civil/
Environmental Engineering, 1992

Certification/License

Professional Engineer: FL

Areas of Expertise

- Program Management
- SSES, I/I Study
- CMOM

Experience

- 29 total years
- 8 years with Hazen

Technical Publications

Marsjanik, M.V., C. Espinosa, and W. Qadri. 2008. Managing a Consent Decree, Baltimore City Consent Decree Program Management. Presented at the Virginia Water Environment Association Spring Conference. Richmond, Virginia. 10 April.

Marsjanik, M.V., W. Frankenfield. 2008. Baltimore County's Sewer Collection System Rehabilitation Program. Presented at the Trenchless Road Show. Ellicott City, Maryland. 12 November.

Marsjanik, M.V., C. Espinosa, A. Lambert, W. Qadri. Managing a Consent Decree – How Baltimore's Unique Approach has led to Innovation, Efficiency, and Success. Published in the July/August 2008 Edition of Underground Infrastructure Management.

Mike has a proven track record serving as Program Manager on multiple large-scale water and wastewater infrastructure programs.

Asset Management/Program, Jefferson County, AL

Mike served as an advisor to the team responsible for initiating overall program controls and performance tracking. He oversaw development and implementation of a master schedule encompassing over 100 projects; developed cash flow planning procedures; created monthly performance tracking reports; and assisted in the development of a comprehensive Construction Management Plan.

\$300M CIP Program, City of Baltimore, MD

Program Manager. Responsible for \$5.3M consulting contract for PM/CM services. Client Point of Contact. Services have included 1) creation, development, maintenance, training, and turn-over of a comprehensive Primavera P3 project tracking system for all CIP projects for DOT, W/Ww, Solid Waste, and General Services Departments (PROJECTSTAT), 2) development of Standard Operating Procedures for design/construction project life cycle, 3) Project Manager training for 50 City Project Managers for pre-design, design and construction, 4) strategic planning and programming for fiscal year project funding, 5) facilitation and report development for bi-weekly meetings between the DOT, DPW and Mayor's Office (ProjectStat), 6) evaluation and analysis of CIP processes and procedures, and 7) staffing support.

\$1B Wet Weather Sewer Consent Decree, City of Baltimore, MD

Mike was responsible for overall management for the Consent Decree program, including: development of the document management system utilizing Primavera Expedition; development of the master schedule; overseeing \$90 M of study-phase consulting work; coordinating consultants; development and oversight of a highly successful program communication protocol; development of preventive and routine maintenance programs.



John Cestnick, PSM, IAM Program Director

As a Program Director within Woolpert's Technology Services Market, John Cestnick leads a team of IT experts in designing and implementing information management solutions to meet clients' diverse needs.

John's more than 20 years of progressive experience encompasses GIS utility mapping and asset inventories; GIS conversions to Esri geodatabases; photogrammetric, aerial, and hydrographic mapping; topographic, boundary, and control surveys; laser scanning; and subsurface utility engineering (SUE) for municipal, utility, and airport clients. As a testament to his experience, John has been intimately involved with nearly every GIS implementation and inventory project that Woolpert has completed in South Florida.



Project Experience

Cityworks Asset Management System Implementation, City of Fort Lauderdale—Fort Lauderdale, Florida. Project Manager responsible for project oversight and contract compliance. In 2019 the City of Fort Lauderdale selected Woolpert to implement a new Cityworks AMS GIS-centric asset management system for the water, wastewater, and stormwater divisions. Also included within the project was system integrations between Cityworks and their Cayenta meter billing system, and the QAlert 311 system.

Asset Management Implementation GIS/GPS Utility Mapping and Data Conversion—City of Fort Lauderdale, Florida. Phase Manager for all surveying and inventory services. Between 2000 and 2002, Woolpert assisted the Public Services Department in developing and implementing a state-of-the-art asset management system to provide accurate, current information on its utility infrastructure. After initial planning, Woolpert provided a GPS inventory of water, sewer, and stormwater utility structures, as well as an inventory of light poles, to build GIS layers in geodatabase format. Woolpert then integrated the GIS with the City's Hansen CMMS, and developed specifications and applications for maintaining, querying, and viewing the asset data in a web environment.

Onsite GIS Support Services, WASD—Miami, Florida. Project Manager responsible for project oversight and contract compliance. Between January 2013 and November 2016, Woolpert had as many as 40 GIS Technicians onsite at WASD providing GIS conversion services to assist the County in updating their water and sewer utility GIS. Onsite staff used a custom application called *GIS Atlas Maintenance System* (GAMS2) to enter new data; used GAMS2 to research and correct reported GIS data errors; used Esri GIS tools to validate and modify GIS layers; interpreted water and sewer as-builts; provided research using various WASD systems; and QA/QC various utility attribute and feature information.

GIS/GPS Water and Sewer Utility Survey, WASD—Miami, Florida. Project Manager responsible for all surveying activities. Beginning with a nine square-mile pilot area and continued with full conversion of the 414 square-mile service area, provided services to build a GIS that support both water and sewer distribution networks by locating surface utility features. Woolpert worked extensively with a Trimble Navigation software programmer in co-developing a pen based RTK data collection software. This allowed for the quick and efficient data collection of over 180,000 water and sewer utility features to accuracies of 3.5 centimeters. After the successful completion and client acceptance of the pilot area, Mr. Cestnick managed the full production of all field aspects of the project, which at times included eight field crews.

Utility GIS/GPS Utility Mapping and Data Conversion—City of Deerfield Beach, Florida. Project Manager responsible for the successful completion of the project. Woolpert was contracted to provide a citywide inventory of their water, sewer, and stormwater utility systems. Following the field data collection, Woolpert used existing as-built and other utility source documentation to build utility networks using a refined version of the Esri Local Government Information Model. Contracted task items included a project management plan; project communications website; field and GIS procedures manuals; geodatabase design documentation; personal geodatabase deliverables; project training; and RTD GPS utility mapping for the entire city.

Professional Data

Years of Experience

26 years

Education

Bachelor of Science, Surveying Engineering, University of New Brunswick
Certificate, Technology Management & Entrepreneurship, University of New Brunswick

Certificate, Survey Technologist, College of Geographic Sciences

Professional Registration

Professional Surveyor and Mapper, Florida, LS5994

Certified Asset Management, National

Section 4.2.5: Approach to Scope of Work

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SECTION 4.2.5: APPROACH TO SCOPE OF WORK



UNDERSTANDING OF CITY'S GOALS, NEEDS, OBJECTIVES

Over the past few years, the City of Fort Lauderdale's water system has been subject to watermain breaks that have warranted city-wide boil water orders. During these events, the City could not quickly identify and close the valves necessary to isolate the breaks to small well-defined locations. As a result, the City entered into Consent Order Number 19-1637 with the Florida Department of Environmental Protection (FDEP) on July 24, 2020 to improve the potable water system.

The City's water infrastructure consists of approximately 750 miles of source and distribution water mains, 19,000 valves, 6,200 fire hydrants, 250 air release valves, and 62,000 water meters and service lines. The City is looking to contract with an engineering/surveying consulting team to manage the Water Consent Order Program Report to FDEP; perform data collection, surveying, and georeferenced mapping of the water infrastructure; and assist with the water line valves exercise program. Other tasks required to comply with the Consent Order may be added to the overall scope.

For the program management task, the consultant will prepare and maintain, together with City staff, a Program Management Plan which establishes communication protocols and data collection, and process standards that will ensure the conditions set forth by the FDEP Consent Agreement are met. This includes developing documents, memorandums and progress reports as required for submission to FDEP to meet Consent Agreement mandates and deadlines, and to stay in compliance with FDEP regulations. Other program management tasks to be provided by the consultant includes assistance with the water valve exercising program through planning the field work, providing and updating field schedules, and preparation of field activity reports. The selected consultant is to provide supplemental resources for valve exercising if necessary. Xylem will provide these services. We acknowledge that the City is currently in the process of exercising the valves per the Consent Order requirements. The remaining items to be completed in the valve exercising program include: exercise 20% of the water distribution system valves in Year 2; preparation of an annual report of water distribution system valves exercised in Year 2; exercise 20% of the water distribution system valves in Year 3; exercise 20% of the water distribution system valves in Year 4; and exercise 20% of the water distribution system valves in Year 5.

Under program management, the consultant will review and validate maintenance records and prepare an annual report showing that the water line valves were exercised as required by the Consent Order. They will provide a physical condition assessment of all water valves and provide recommendations based on the findings of the assessment. The selected consultant will also prepare and submit reporting to FDEP in a timely fashion.

MANAGEMENT & COORDINATION

Craven Thompson's Project Director (overall Project Manager), Mr. Patrick Gibney, P.E., will be responsible for all aspects of this contract. He has extensive experience designing and managing watermain projects over the past twenty-nine (29) years. He has worked with the City of Fort Lauderdale staff on a continuing basis on various capital improvement projects for the past ten years. Mr. Gibney will be the main contact between the Program Manager, Mapping Project Manager, City, Hazen and Sawyer, and Woolpert for all aspects of this project.

Under Mr. Gibney's directions, the Mapping Project Manager, Mr. Richard Pryce, PSM with Craven Thompson, will oversee, manage, and coordinate the field efforts of the Craven Thompson survey crews and all subconsultant's field survey crews. He was the survey project manager for the data collection and mapping for the City's Sewer Design and Implementation Consent Order.

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Mr. Khamis Al-Omari, P.E., with Hazen and Sawyer, will serve as the Program Manager for this contract. Mr. Al-Omari currently serves as the Program Manager for Fort Lauderdale's Sewer Design and Implementation Consent Order. He will be assisted by Mr. Johnny Gil, P.E. of Craven Thompson.

Mr. John Cestnick, PSM, with Woolpert, will serve as the Project Manager for Cityworks tasks, as well as the GIS QA/QC services of the survey field data, and City Works integration of the Survey data for this project. He has worked with the City on their asset management and Cityworks implementation.

PROGRAM MANAGEMENT APPROACH

We understand that the City has completed many of the requirements of the Water Consent Order to date. We also understand that one of the City's main priorities is to achieve full compliance with the Consent Order mandates. We will make all efforts to expedite the delivery of the water system map as soon as possible, as well as work with the City and FDEP to implement innovative ideas to expedite the process.

The proper performance of the tasks delineated in this RFQ requires a team that fully understands the City's processes, distribution system, GIS, Cityworks, data models and asset management principles. This Craven Thompson Team not only meets all of those requirements, but our team members have also worked together on multiple projects, which will result in greater efficiency and effectiveness in meeting the aggressive deadlines.

We have a clear line of sight of the City's goals and objectives with respect to the Consent Order. In our approach, we describe our ability to partner with the City, which has been proven with our work on the Sewer Consent Program, to develop a Plan to transition active Consent Order projects without losing any of the momentum that you have already built. We will continue to operate under a "right-sized" Program Management umbrella. This approach requires a large contingent of qualified surveyors, engineers, as well as project controls, GIS and Cityworks personnel who have experience successfully delivering projects in the Fort Lauderdale public works environment. Our team has been specifically constructed to deliver such a talent pool to the City. The success of this project requires a wealth of prior knowledge and experience working with and for the City of Fort Lauderdale.

We have developed our approach methodology with the City's needs and objectives in mind. We formulated a program plan that will enable our team to mobilize quickly to take on (or assist depending upon the City's direction) the execution and reporting activities for active Consent Order projects while simultaneously monitoring the data collection and valve exercising work, assisting the City in determining if a Mapping Plan revision should be proposed to the FDEP, and completing the data collection and mapping work. Our proven operational tools that leverage dashboards, Cityworks and GIS will help ensure efficient planning and scheduling of field crews while providing for real-time visualization of ongoing field activities allowing all key stakeholders to see completed work, planned work, and field survey results enabling on-demand QA/QC and communication. Additionally, inspection and condition data will be effectively managed using Cityworks' inspection work orders, as team member Woolpert led the configuration of the Cityworks' EAM system and fully understands how to ensure the effective use of its full functionality. Below is an example operational dashboard that displays progress along with identified field issues.

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The Craven Thompson team will work with the City to develop a framework for the program, including communication protocols and document sharing methods to facilitate effective team coordination. For example, the Sewer Program has successfully maintained a SharePoint site with a City Access Folder that includes an area to share large files, a deliverables folder that maintains a record of deliverables for each Task Order, Monthly Progress Reports regarding each aspect of the program, and a depository of various presentations should the City need to retrieve them easily.

The Team's goal is to avoid overspending on management tasks, thereby ensuring that resources are spent on the program deliverables. We will fully leverage those existing systems to expedite program initiation so we can begin working productively with the City immediately following the Notice to Proceed. Moreover, we will focus on right sizing the management team and program to ensure timely and orderly completion of the work, the judicious expenditure of the public's funds, and meaningful communication with the public during the process. This process is a uniquely "Fort Lauderdale" approach that works.

Early development of program management plans and deliverables is essential to guide our activities and ensure the City's program goals and objectives will be met. The Craven Thompson Team will "right-size" program plans to meet the schedule, while conforming to City's standards, and maximizing investment in actual infrastructure. Examples of program control tools include:

- Program Management/Execution Plan (PMP)
- Document Control Plan (DCP)
- Program Controls Plan (PCP)
- Communications and Stakeholder Management Plan (CSMP)
- Change Management Plan (CMP)
- Health, Safety and Environment Plan (HSE)
- Quality Control Plan (OCP)
- Outreach Plan (OP)
- Risk Management Plan (RMP)

The Craven Thompson Team and the City have a common knowledge base of document control tools for the Stormwater Program and the Sewer Program such as SharePoint, Buzzsaw, and U-serve to coordinate work products and share documents. We have also standardized our computer platforms, established a common drawing set that is compliant with the City's standards, and developed a program execution plan to enable all team members to collaborate seamlessly. This advanced work will

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streamline program startup and will allow our team to begin collaborating with the City productively from day one.

■ *Program Management Plan*

The Program Management Plan, developed in conjunction with the City, will include a Master Program Schedule which will be monitored continuously for Consent Order compliance.

Weekly meetings that discuss progress made as well as look-ahead schedules will be discussed, along with any permit, MOT or City staff assistance required. Monthly reports will be prepared to demonstrate progress and call attention to any risks that develop.

■ *Program Communication and Compliance Documentation*

Program Communication Documents will be prepared as needed for submittal to FDEP and Stakeholders (e.g., Neighborhood Associations, Infrastructure Task Force, City Manager's Office, etc.). Compliance documents will be developed for submittal to the FDEP upon completion of requisite milestones, as well as, to regulatory agencies having an interest or jurisdiction over this project, including required Maintenance of Traffic (MOT) permits. A copy of all permits, deliverables, correspondence, presentation, and compliance documentation will be maintained on the Program SharePoint site.

SURVEY AND DATA COLLECTION

The data collection, surveying, and mapping of the water infrastructure comprise the vast majority of the work required for this project. It will necessitate considerable effort and expertise, a large group of team members, meticulous coordination, and a proven background of being able to successfully accomplish similar tasks. The Craven Thompson Team has performed an extensive review and analysis of the current Mapping Plan and the FDEP Consent Order and has developed two different Approach Methods.

The **"First Approach Method"** is suggested because it would be the more traditional survey approach and cost-effective for the City and the Craven Thompson Team to renegotiate the data collection timeframe with FDEP and spread the costs to the City over a period of two years instead of one year while still meeting the intent of the Consent Order. This method would more closely adhere to the current requirements stipulated in the Mapping Plan and the Consent Order. However, this option would require the Craven Thompson Team to renegotiate the data collection and mapping timeframe with FDEP.

We understand that the current accepted mapping plan allows for thirty-six (36) months to complete (from the date of the effective Consent Order, July 24, 2020) the data collection and system certification efforts. As of today, no additional mapping of the water system has occurred since the Consent Order effective date. Therefore, only thirteen (13) months remain and we believe that thirteen (13) months to complete the tasks as currently detailed in the Mapping Plan is not a realistic schedule. The attached Method 1 Approach schedule delineates the actual timeframes we believe necessary to complete the data collection and system certification efforts including renegotiation with FDEP of plan requirements that we feel confident can be accomplished.

The **"Second Approach Method"** is a very aggressive schedule that will come closer to the current Consent Order data collection and certification of the potable water system map deadline of July 24, 2023. The methods employed under this effort, although significantly more costly, will allow us to accomplish the data collection and certification by October 2023. We will focus specifically on the Consent Order requirements using the Mapping Plan as a reference only and recommend ways to reduce actual field time and apply innovative advanced technologies and utilize highly trained technicians and

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field personnel to speed up the process. Both Approaches will require the City to accelerate the negotiation process and issue the Notice to Proceed so that we may begin the project no later than August 22, 2022. Due to the extremely large amount of data that will be delivered, the method of managing the City's review and acceptance will need to be discussed in detail prior to commencing the project. The schedule we prepared for the Method 2 Approach details the timeframe that meets the intent of the Consent Order for certification of the mapping of City's water system.

Survey and Data Collection Approach Method 1

The survey and data collection of the Water System will involve several steps including: evaluating the existing GIS data; creating forms from the existing GIS data for the data collection process; establishing and maintaining survey control for accuracy throughout the collection process; and providing efficient methods for the collection of the data in a consistent manner for the GIS within the project timeframe.

Horizontal Datum and Positions

A high accuracy GPS Control Survey Network was performed by Craven Thompson & Associates as part of the Stormwater Project in 2016 and further defined in the Sanitary Sewer Project in 2018-19. The horizontal coordinate system for this project will be the same as the previous projects, State Plane, Florida East Zone, NAD 83 (2011), U.S. Survey Feet. The survey control established as part of that network will be utilized for this project to maintain a high degree of horizontal positional accuracy and to keep all utilities relative to the same survey control within the City limits and the water service areas.

All features that can be located with GPS\GNSS satellite signals will be done using highly accurate survey grade GPS\GNSS rover and base station units. Those that cannot be located by GPS\GNSS (because of tree canopy, tall buildings, or other ground features that might obstruct the GPS\GNSS satellite signals) will be located by traditional field survey methods and/or the use of Mobile Lidar.

Vertical Datum and Positions

To maintain a high level of vertical accuracy across the entire City, a series of 52 GPS\GNSS monuments were established for the data collection process on the previous sanitary project. These 52 monuments and the additional 3,000 new benchmarks that we established for the sanitary project in 2018 will be utilized for this project. They will be used to calibrate the GPS\GNSS rover units carried by the survey crews for the capturing and for quality assurance of water features in the data collection process. All elevations will be referenced to the North American Vertical Datum of 1988 (NAVD88) and based on the City's Benchmark System that was enhanced and certified by the Craven Thompson Team in 2018.

Data Collection Process

The data collection process starts when we receive the City's ArcGIS geodatabase and agree upon the features and fields to be collected for this project. Meetings between the City's GIS\IT staff and the Craven Thompson Team members to establish the details needed for this will be important to the success of the project. The Craven Thompson Team will take the agreed upon GIS and create electronic forms to be used on an IPAD or Android device that can be attached to a survey-grade GPS\GNSS unit for the field data collection. Each field survey crew will receive direct training on the device and a Field Data Collection Instruction pamphlet will be created for them to always use during the data collection effort. The data collection devices will have the GIS data loaded onto them and the crew will be able to navigate, locate, edit, and add to the field version of the geodatabase. This will be a working geodatabase for the field collection effort. Once the feature is collected and stored in the device, it will also be transferred to

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the internet cloud for storage and retrieval in the office should something happen to the device. All features collected in one of the designated zones, will be reviewed and processed daily, through QA/QC, and then added to the office “working geodatabase”. This version will then be sent to the Craven Thompson Team GIS Manager who will review and do a final QA/QC before sending it to the City for review.

We anticipate that we will have a minimum of eight to twelve (8-12) field crews collecting data at any one time during this project, with ten (10) crews being the optimum number we will strive for throughout the project. We currently have six (8) Subsurface Utility companies that will be working full-time on this project.

The City’s Mapping Plan established ten (10) data collection zones which correspond to multiple sheets of the Water Atlas and are a reasonable starting place for the data collection process. However, with some further planning, we will most likely increase the number of collection zones by cutting up the existing ten zones into smaller and more manageable pieces for efficiency and project management purposes.

Once the data collection zones are agreed upon and established, previously established vertical benchmarks will be mapped and added to each zone so they can be easily found and identified in the field. These benchmarks will be used to calibrate and check the survey crews GPS\GNSS equipment and to be used for vertical checks during each day’s data collection effort. Because of the nature of GPS for vertical precision, the benchmarks surrounding each zone will be utilized to perform a localized calibration for the zone. Each feature will then be collected within that zone at least one time in the field to achieve the horizontal and vertical measurements. The positions for each feature will be analyzed for accuracy based on the GPS Dilution of Precision (DOP) in both the Position (PDOP) and the Vertical (VDOP) levels. This information will be used for the horizontal and vertical coordinates to be placed within the GIS system. The horizontal and vertical positions collected by this methodology will have an accuracy level of plus/minus 0.3 feet which will meet the accuracy needed for this project.

The field acquisition process is to collect detailed aboveground information on the water features, such as fire hydrants, system valves, control valves, air release valves, water mains, and the meters. The acquisition process will include working with the City and the Craven Thompson Team to review the ArcGIS geodatabase structure and make changes as required before commencing collection of the water features information for the GIS. The fields within the geodatabase must be in the correct format with any ArcGIS domains already predetermined to ensure the proper information is exported to the field data collectors for the survey crews.

When the geodatabase format is agreed upon, the Survey Project Manager will perform the export process from ArcGIS to either the Trimble “Terraflex” software or to ArcGIS Collector. Terraflex has been used successfully on the City’s Sanitary and Stormwater projects in 2016-2019 and it is an efficient way to collect GIS data in the field electronically. Terraflex and ArcGIS Collector can import the existing GIS fields directly from the geodatabase and create a set of forms associated with the ArcGIS information, including drop-down menus from the domains. The forms created by these processes can be uploaded directly to an IPAD, or other data collection device for use by the field crew doing the investigation of the structures. The primary focus of the initial data collection will be on locating the valves, fire hydrants and air release valves first, leaving the water meters to last.

For efficiency purposes, the data collection process will include two separate operations: 1) Horizontal and Vertical locations; and 2) Maintenance of Traffic (MOT). This process will simplify the data collection at each structure and make it both efficient and time effective. We anticipate a minimum of 20-25% of the features will require some form of MOT.

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■ *Maintenance of Traffic (MOT)*

The data collection for some of the structures will require Maintenance of Traffic (MOT). Mainly along the major roadways within the City as many of the structures lie within travel lanes of heavily traveled rights-of-way.

MOT is a critical part of this project for the safety of the survey field crews while gathering water system features. The information collection process to gather this data may or may not require the crews to open each valve cover to make measurements and observations, and take pictures. This process will require between 15 to 30 minutes per structure with the MOT, so making the area safe for the crews and for the vehicular traffic during this process is critical to the efficiency, speed, and success of the project.

We will have a full-service barricade company, known as, “MOT Plans.com, Inc.”, as a subconsultant on our team to ensure the MOT is in place as the survey crews do their work. Most of the MOT barricade work will be on or along the busy highways as we work through the Data Collection Zones.

The survey crews will evaluate the roadways within each zone as they start their work to determine where they will need the MOT service and approximate dates for the data collection effort. As the MOT areas are determined, the Survey Manager will coordinate the information with the City, the Engineer, and MOT subconsultant which will start the process in motion. It is important that all of the pertinent entities, including the Police Department be aware of the MOT areas so that the safety of both individual and vehicular traffic can be made priority. Some areas will involve a rolling MOT that is set up one day for a portion of the road, and then every other day continues to move further down the road as the data collection process moves. Because of the speed at which the data collection process can be accomplished with MOT in place, the MOT setup on each section of roadway can be kept to a minimum, a day or two, in most cases.

It should be noted that expediting the survey and data collection process with MOT is dependent on the timely notification and provision of Police for the functions noted above.

■ *Subsurface Utility Engineering (SUE)*

Subsurface Utility Engineering and Mapping is spelled out in the Water Mapping Plan and will be a key component of the project for locations and connections of the multiple water mains throughout the project. According to the Mapping Plan, all mains will need to be horizontally located based on ASCE 38-02 “Standard Guideline for Collection and Depiction of Existing Subsurface Utility Data” Quality Level B using Ground Penetrating Radar (GPR) for non-toneable mains and/or Direct Induction method where toneable mains. Some mains may possibly need more information and will need ASCE 38-02 Quality Level A by performing test holes by vacuum excavation to obtain pipe attributes.

We will also utilize new technologies for this task as well as the Ground Penetrating Radar (GPR) on non-conductive and Electromagnetic Induction (EMI) on conductive watermains as stated in the Mapping Plan. One of our SUE subconsultants has “**3D Radar Tomography**” units for subsurface utility locations and another subconsultant has the newest technology, “**Raptor Impulse Radar**” units for use on this project. Both units use multiple arrays of GPR sensors to capture 3D images of the utilities underneath the units as they drive down each street in 6-foot swaths. This technology, while being very high-tech and important for this project, is not a catch-all but another technology tool that we will be using to identify and map underground waterlines for this project. These new units will be used in select areas where there are multiple utilities within a corridor and high traffic areas. This will provide a safer environment for the SUE crews to work in those areas and provide high quality data for the project.

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We have eight SUE subconsultants on our team with surveyors performing the SUE work so they can certify their locations as they proceed and certify the results.

Survey and Data Collection Approach Method 2

This alternate method will still maintain the Horizontal and Vertical datums as reflected in Method 1, but the data collection process and timeframe will change based on the use of advanced technology and staff, and by adjusting for focus of the Mapping Plan to match the intent of the Consent Order. This may require renegotiating the Water Distribution System Mapping Plan with FDEP, but we feel confident that we can assist the City with this if necessary while we are progressing with this approach.

▪ Data Collection Process Method 2

The data collection process for this method still starts when we receive the City's ArcGIS geodatabase and agree upon the features and fields to be collected for this project. Meetings between the City's GIS\IT staff and the Craven Thompson Team members to establish the details needed for this will be important to the success of the project. This should take place immediately after the Notice to Proceed is given.

There will be multiple methodologies used, combining traditional and new technologies to ensure that all assets are collected by the Consent Order deadlines.

Valves, Fire Hydrants, and Air Release Valves:

For this approach we recommend concentrating our field crew data collection efforts only on the valves, fire hydrants, and air release valves that appear under the "Inventory Class" field in the geodatabase as DGPS, GIS entry, Not Found, and Null. The other features that are designated as previously located by GPS or converted to GPS from Asbuilt will only be reviewed in the GIS and overlaid on high-resolution georeferenced aerials. Using both Aerial and Mobile Lidar point clouds collected as part of this project, we will perform a separate QA/QC process to verify their locations and, if necessary, correct them to meet the accuracy levels stated. This method will eliminate field work on 65% of all valves, and 46% of the fire hydrants from having to relocate them with a field crew on the ground.

For the field data collection process with survey crews on these features, the Craven Thompson Team will take the agreed upon GIS and create electronic forms to be used on an IPAD or Android devices that can be attached to survey-grade GPS\GNSS units for the field data collection. Each field survey crew will receive direct training on the device and a Field Data Collection Instruction pamphlet will be created for them to always use during the data collection effort. The data collection devices will have the GIS data loaded onto it and the crew will be able to navigate, locate, edit position, take pictures, and update to a field version of the geodatabase. This will be a working geodatabase for the field collection effort, similar to the same methods used by the Craven Thompson Team on the sanitary project in 2018-19. Once the feature is collected and stored in the device, it is also transferred to the internet cloud for storage and retrieval in the office should something happen to the device. The office personnel will then proceed with the QA/QC effort before it is accepted for the final geodatabase to the City.

The selected remaining features (6,728 valves, 2,153 hydrants, and 250 air release valves) will be located utilizing a GNSS/GPS rover unit connected to either a standalone GNSS/GPS base station unit occupying a known Survey Control monument, or one of several State-wide Real Time Kinematic (RTK) Base Station satellite systems that are accessible within the city limits of Fort Lauderdale.

This plan will also utilize two different but compatible types of Lidar (Mobile and Aerial). Using Mobile Lidar, the Craven Thompson Team will drive every street in the City within a 30-day period and obtain 3D

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point clouds of each street with an accuracy of +/- 0.3 tenths of a foot horizontally and vertically. In the downtown urban areas, where GNSS/GPS satellite signals are interrupted by tall buildings, the features may be collected by traditional survey methods and/or using locations from Mobile Lidar point clouds. The collection will include the horizontal (x-y) position and the elevation of the rim of the valve box only. Top of nut elevation inside the valve box will not be collected as part of this task as it is not necessary to meet the Consent Order and will greatly increase the timeframe for this project. This will save an enormous amount of field effort and time, with the horizontal positioning being most important for meeting the Consent Order requirements. Along with the Mobile Lidar solution, we plan to also have the City flown with brand new high density aerial Lidar with a ground point density of 100-150+ points per square meter and high-resolution aerial photogrammetry with 2-3-inch pixel resolution. The combination of Mobile Lidar, dense aerial lidar data, and high-resolution aerials will allow us to identify and extract ground features such as fire hydrants, valves, and meter boxes inside the office computer environment as opposed to boots on the ground field crews. However, this will not eliminate all field work, but greatly reduce it, and the crews will be assigned to the areas where there is dense vegetation and tree canopy and areas of obstructed views due to traffic and buildings. We do anticipate that by using this methodology, that we can eliminate up to 50 percent of the field crew work and thus speeding up the project and deliverables. As soon as we receive the Notice to Proceed from the City, we will coordinate with the 3-4 Mobile Lidar subconsultants and the Aerial Lidar firm to commence with an anticipated delivery of both within the first two months. The field crews will be working during this time to collect the data in the same manner as Method 1 Approach and restated in this approach.

Water Meters:

Recommendation: It is our opinion, due to the time constraints with the Consent Order and under normal conditions, the 62,000 + water meters, stated in the RFQ could not all be located and validated before the Consent Order due date of July 24, 2023. The original 36-month timeframe in the Consent Order was reasonable at that time on this item and would have been less costly to the City. We recommend that we assist the City to renegotiate the Consent Order timeframe with FDEP for these particular features. Our opinion is that the number of meters should be split into two categories. The first category being the Master Meters and the Commercial Meters, the second category being all other residential meters. The Master and Commercial meters represent about one-quarter (14,645) of the total meters and the most critical in our opinion to be located. The Craven Thompson Team will locate these meters as part of the overall project using Mobile and Aerial Lidar extraction and traditional survey methods where they are hidden in the lidar. We believe these meters can be reliably located and mapped by August 1, 2023.

The residential meters, while being listed in the Consent Order for determining the service lines are important to the overall mapping, however, they do not represent a high risk to any of the mains. What we recommend on the residential meters is that we utilize the City's existing survey staff to assist in this effort or the consultant that reads the meters and knows where they are to assist in mapping them as part of this project. We understand that there are currently about ten people that go in the field to read the meters. We would like to suggest that we purchase handheld GPS units that have an accuracy of +/- a meter, and provide the unit to each meter reader, or City Staff member. We will then set the Mapping grade GPS unit up and train the City Staff or the meter readers to go out and collect the xy horizontal position of each residential meter as they do their normal work operations. We believe we can train and QA/QC their work as they progress across the City getting information on the residential meters. If this is not an option, we will have existing office staff from our other team members to take care of this part of the task.

Technology driven Data Collection Method to meet the Consent Order: To meet the intent of the current Consent Order and to be as close as possible to the original deadline, we will utilize a combination of new

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



technologies to cut the timeframe down and assist the City in meeting their deadline and goal. These technologies, as mentioned previously herein, have been in use by the Craven Thompson Team and some of our subconsultants for many years, and they have the expertise and qualified staff it will take to perform and deliver the final product on time.

After receiving the Notice to Proceed, we will utilize our survey subconsultants with Mobile Lidar and imagery capabilities to drive every street using un-controlled Lidar sensors and cameras within the water system limits. This will provide three-dimensional (3D) point cloud data of all features visible in every street to plus/minus 0.25' – 0.50' feet accuracy where there is GNSS/GPS satellite coverage. In the downtown area with the tall buildings, the accuracy will be plus/minus 1 foot, but still acceptable for this project. All roadways within the City should be able to be driven within twenty (20) days using this method. After driving the streets, it will take approximately another twenty (20) days processing the Mobile Lidar data. The processed point clouds can then be cut up into manageable tiles for viewing and data extraction by qualified technicians using the appropriate software. The Mobile Lidar point clouds are connected to the camera imagery collected at the same time through the software as it is driven in the field. The lidar technicians can then view the imagery and measure directly to the lidar points saving extraction time. We should be able to extract at least 50-60% of all water meters, valves, air release valves and fire hydrants using this method if the feature can be seen in the lidar. We could then be able to direct the survey field crews to the areas and features not visible in the lidar. Once the valves and fire hydrants are completed then all survey crews will concentrate on water meter locations. The aerial lidar firm will fly at an altitude of 1,800 feet aboveground level and collect both lidar and aerial photogrammetry across the entire City with 50 percent overlap along each flight line. This overlap area will produce a ground point pixel resolution of lidar points approximately 120-140 pixels per square meter and will be provided to us with ground and hydro classifications within the Lidar. There will be over 300 surveyed ground targets for the aerial firm to use for photo identification and to calibrate to with (x-y-z) positions. This should produce aeriels and lidar with an accuracy of +/- 0.25 feet both horizontally and vertically. The aeriels collected will be delivered in 2-3" pixel resolution and be adjusted to minimize building lean. But because of the 1,800-foot aboveground level flight, not all lean can be adjusted out of the picture. The Aerial Lidar combined with the Aerial image will provide a platform inside the computer for skilled technicians to extract water line features (fire Hydrants, water valves and meter boxes) in the areas that the Mobile Lidar cannot reach because of obstructions. We estimate that utilizing these methods will save at least 50% of field crew time for this approach.

▪ *Maintenance of Traffic (MOT)*

No matter how much advanced technology we utilize on this project, the location of some structures will require Maintenance of Traffic (MOT). Many of the structures lie within heavily traveled Rights of Way. Mobile Lidar should eliminate at least 50% or more of water features that we would need MOT for on this project.

MOT is a critical part of this project for the safety of the Survey and SUE field crews as they gather the water features. The reason for the need to have MOT is because many of the water valves lie within travel lanes on the roads and highways within the City. The information collection process to gather this data in this method will require the crew to do some measurements, observations, and/or the taking of pictures. This process will require from 15 to 30 minutes per structure with the MOT, depending on the area, and making the area safe for both the crew and vehicular traffic during this process is critical to the efficiency, speed, and success of the project.

We will have a full-service barricade company, known as, "MOT Plans.com, Inc.", as a subconsultant on our team to ensure the MOT is in place as the survey crews do their work. Most of the MOT barricade work will be on or along the busy highways as we work through the Data Collection Zones.

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



The survey crews will evaluate the roadways within each zone as they start their work to determine where they will need the MOT service and approximate dates for the data collection effort. As the MOT areas are determined, the Survey Manager will coordinate the information with the City, the Engineer, and MOT subconsultant which will start the process in motion. It will be important that all of the pertinent entities, including the Police Department be aware of the MOT areas so that the safety of both individual and vehicular traffic can be made aware. There will be some areas that will involve a rolling MOT that is set up one day for a portion of the road, and then every other day continues to move further down the road as the data collection process moves. Because of the speed at which the data collection process can be accomplished with MOT in place, the MOT setup on each section of roadway can be kept to a minimum, a day or two, in most cases.

It should be noted that expediting the survey and data collection process with MOT is dependent on the timely provision of Police for the functions noted above.

■ **Subsurface Utility Engineering (SUE)**

The Subsurface Utility Engineering and Mapping methods, spelled out in the current Mapping Plan, will be a key component of the project for accurate locations and connections of the Source and Distribution water mains throughout the City. We will also utilize new technologies for this task as well as the Ground Penetrating Radar (GPR) on non-conductive and Electromagnetic Induction (EMI) on conductive water mains as stated in the Mapping Plan. One of our SUE subconsultants has “**3D Radar Tomography**” units for subsurface utility locations and another subconsultant has the newest technology, “**Raptor Impulse Radar**” units for use on this project. Both units use multiple arrays of GPR sensors to capture 3D images of the utilities underneath the units as they drive down each street in 6-foot swaths. This technology, while being very high-tech and important for this project, is not a catch-all but another technology tool that we will be using to identify and map underground waterlines for this project. These new units will be used in select areas where there are multiple utilities within a corridor and high traffic areas. This will provide a safer environment for the SUE crews to work in those areas and provide high quality data for the project.

The timeframe for field collection, processing, and to QA/QC the data to meet the current Consent Order is approximately 300+ days with eight (8) SUE crews working continuously for nine to eleven months, so it will be imperative that the Notice to Proceed be no later than August 22, 2022 in order to meet the schedule we represent for Survey Approach Method 2. The field collection and QA/QC process for the mains is just the start. We will also need to have a comprehensive QA/QC process in the office for the GIS that will include connecting the found mains with the point features (valves, fire hydrants, and air release valves), and verifying the pipe size and materials with random test holes if necessary. If test holes become necessary, we recommend, at the most, only two (2) test holes per mile of waterline, with a total of no more than 1,500 test holes to eliminate time to meet the Consent Order.

Because of the reduced timeframe remaining in the Consent Order and our estimated completion time, there is a concern that by the time the data is collected and prepared, the City may not have time to review and accept the data. The Consent Order stated it should be completed in 36 months which was acceptable at that time, but now the City has less than a year to complete the process, which we have already stated is not possible, but we still feel that our stated schedule time can be met if expedited by the City.

We are committed to using whatever means are possible to meet the intent of the Consent Order, however, we strongly believe that we could assist the City in renegotiations with FDEP to spread the costs and timeframe out into a more manageable timeframe, while still meeting the intent of the Consent Order.

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



GIS DELIVERY APPROACH

■ *GIS Data Delivery*

To ensure a seamless GIS delivery to the City, the Craven Thompson Team will meet with the City GIS and project team at the onset of the project to finalize an approach that is acceptable to all participants. The Craven Thompson Team fully understands that data security and integrity is of the utmost importance to the City IT and GIS divisions. It is also fully understood that there are specific protocols and policies that will have to be followed when data deliverables are accepted and integrated into the City's GIS production environment.

At the beginning of the project, the Craven Thompson Team will work with the City staff to outline and document the entire flow of data. It should include items such as:

- Checking out Zones or Sections of water GIS data from the City's production environment.
- Identifying all asset attributes that will be expected to be populated to meet the intent of the Consent order, and those that will not be expected to be populated because of the time crunch.
- Defining the delivery frequency, as well as the QA/QC review and acceptance process.

As outlined within the RFQ, the timeline for completing this work is extremely limited for the amount of work that is required. To complete the project within our estimated schedule, it will be imperative to have a very defined workflow, QA/QC review process, and acceptance plan.

■ *GIS Data Processing*

Prior to processing any field data, the Craven Thompson Team will develop a detailed 'Office Processing Manual' which will outline the specific data processing guidelines. This is necessary to ensure that all office technicians process the field data consistently according to City approved rules. This becomes critical with this type of mass field data collection project because various situations will be encountered that will require a defined processing approach. For example:

- Newly discovered assets: When new assets are found, like water valves, what's the exact procedure to follow for splitting a water line? How should the attribution be populated on the newly created waterline? How will the asset Facility ID be maintained?
- Assets Not Found: How will the technicians process assets identified as 'Not Found'? Will the asset be left within the database and simply marked as 'Not Found', or will the asset be moved to a different layer? If an asset like a water valve is removed, how will the two water mains be joined?

Many such situations will exist requiring discussion and a documented approach to ensure that the GIS data processing is done consistently, and according to directions approved by the City.

Field data collection and verification can be performed in the native GIS geodatabase format, or in a format that is directly compatible with the GIS schema. This will eliminate the need for any complex data conversion process, as well as reduce the effort in processing the field data. Once field data collection is complete for a specific area, office technicians will review the information and make comparisons to available as-builts as well as to the provided source GIS geodatabase. Office technicians will use the 'Office Processing Manual' to make the required data edits, as well as to complete the final review and QA/QC.

Prior to delivery, the Craven Thompson Team will QA/QC each deliverable according to a documented process. QA/QC will not only include visual inspections, but it will also include running automated scripts to check the attribute completeness.

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



■ *Cityworks Asset Management System (AMS)*

The Cityworks AMS software directly uses the City's production GIS as the asset registry. As long as there is no change to the GIS schema, or naming of the asset types, there is no special data processing required by Cityworks. As the asset data is loaded into the City's water GIS production environment, it will instantly become available to the Cityworks AMS software.

Once the Craven Thompson Team completes all mapping, we will certify to the FDEP in writing that mapping is complete in accordance with the terms of the Consent Order.

FIRMS CURRENT WORKLOAD

The Craven Thompson business plan target composite utilization rate for the company is 75%. The targeted rate accounts for holiday, vacation, marketing, administration, illness, and other non-billable time. We employ a very small yet efficient number of administration personnel which contributes significantly to reducing our costs.

Our 2022 workload was below the 2021 level as a result of the ongoing pandemic, and therefore our utilization rate was down. In 2021, Craven Thompson was at a company-wide utilization rate of 68%. For the beginning of 2022 we continued with a company-wide utilization of 68%. Uncertainty due to the pandemic and other economic issues has led to a smaller number of projects being issued by our municipal clients, while some existing projects have been placed on hold. At this time our staff is underutilized. We see recovery from this situation as a gradual process and anticipate that for the next year or so we will slowly, but steadily increase our workload and perhaps approach a 70% - 73% utilization rate at the end of that period. This will still leave excess staff availability.

Our Project Director, Program Manager, Data Collection and GIS Managers, will be able to devote all necessary time to the City of Fort Lauderdale as described under this RFQ. Based on our current and projected workload, and that of our subconsultants, the City of Fort Lauderdale can be assured that the Craven Thompson Team will provide the staff as identified in this submittal and the resources necessary to complete the services in the most efficient and timely fashion as possible.

FIRMS AVAILABLE FACILITIES, TECHNOLOGY CAPABILITIES AND OTHER AVAILABLE RESOURCES

In addition to conventional boundary topographic and construction surveys, Craven Thompson has vast experience in providing the latest in 3D Laser Scanning – High-Definition Surveying, Geodetic Control, PLSS Retracement, Hydrographic, Cadastral, Photogrammetric Control, Right-of-Way and Construction Surveys. Through the utilization of our Global Positioning System, 3D Laser Scanner and total stations with state-of-the-art data collectors, our survey data can be imported into a CAD or GIS environment which can be plotted or transferred to our clients via email, FTP, or on CD/DVD. Craven Thompson continues to refine and adapt CAD and GIS to a broad spectrum of uses. This blend of traditional and the newest technology, with personalized service, forms the core of every Craven Thompson project.

Our subconsultants also provide all of the most current SUE equipment and Mobile Lidar capabilities for location and extraction of the underground main information and to provide survey accurate feature locations with the areas that have poor GPS\GNSS satellite signals.

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



Craven Thompson's Software and Hardware:

Craven Thompson continues to update all of the needed software as the new versions are available. These programs include, but are not limited to:

- Autodesk Civil 3D 2019-2022
- Autodesk Navisworks Freedom 2019-22
- Transoft Solution AutoTURN 10
- ESRI Arc GIS 10.8 Standard and Advanced
- Applied Imagery- Quick Terrain Modeler
- Global Mapper Pro
- Bentley WaterCAD Connect Edition
- Bentley SewerCAD Connect Edition
- EPA PCSWMM Hydro
- Streamline Technologies ICPR
- Custom designed Engineering Calculation Software
- Trimble Geospatial
- Trimble Terraflex
- Leica Cyclone 2021\ 3D Laser Scan Software
- Leica Jetstream 2021\ AutoCAD Server application
- Leica Cloudworx 2021\ AutoCAD Scan Software

Servers: Our server infrastructure is running two Dell PowerEdge Host Servers running VMware Virtual Software. These 2 servers run 8 virtual servers running Windows 2008 R2 and Windows 2012 R2 server software and connect to a 96 Terabyte SAN (Storage Attached Network) device configured with RAID 6 redundancy which provides us with a high availability of file access and fault tolerance. All data is backed up to a Quantum Ultrium 4 SCSI tape drive with the capacity to backup up to 9.6 TB compressed data.

Network: Our network infrastructure consists of the latest Cisco Catalyst switches and CAT 6 network cabling with speeds up to 1 GBS.

Workstations: Our workstations are Dell Precision line workstations all running Windows 10 Professional with either Xeon or i7 Dual and Quad Core processors with solid state hard drives and a minimum 16 Gigabytes of RAM. Production workstation utilizes a minimum 4 GB video cards with dual 24" high resolution monitors.

Plotting: We have an in-house Ricoh MP W8140 high-capacity wide format plotter with color scanning capability and two Hewlett Packard High Resolution 1050 Design Jet plotters.

Surveying Department Resources and Equipment:

A complete list of Craven Thompson's equipment and software are as follows:

- **Craven Thompson Vehicles**
 - Eight (8) Ford F-150 Pick-ups fully equipped for Surveying Crews
 - Two (2) - 16-foot John Boat w/motor
- **Craven Thompson Field Data Collection GPS**
 - One (1) Trimble R8 GNSS GPS Systems Base Station
 - Six (6) Trimble GNSS RTK GPS Systems [Three (3) Trimble R2 and Three (3) Trimble R10]
 - One (1) Trimble R9 GNSS GPS Base Station with Trimble VRS Network
 - Five (5) Trimble DiNi Digital Level 0.3mm
 - One (1) Trimble TSC3 data collectors with Trimble Access Software
 - Six (6) Trimble TSC7 data collectors with Trimble Access Software
 - Two (2) Intuicom bridge radios
- **Field Data Collection**

| | |
|---|--|
| Three (3) Trimble Robotic Total Stations | Six (6) Leica Total Stations |
| Two (2) Trimble Total Stations | Seven (7) Leica Levels |
| Ten (10) Radios | Two (2) Apple IPAD Pro |
| Seven (7) Spectra Precision 3L Data Collectors with Survey Pro Software | Two (2) Android Tablets |
| | One (1) Trimble GEO7x GIS Data Collection Unit |
- **Sonar Equipment**
 - One (1) Hydrolite Single Beam Echo Sounder
 - One (1) Hydrone Portable Hydro-Lite Boat

SECTION 4.2.5: APPROACH TO SCOPE OF WORK



- **3D Laser Scanning**
Leica C10 Laser Scanner - 3D Laser High-Definition Survey System
Cyclone 2021 Scanning Software
CloudWorx Pro 2021 for AutoCAD

Team Members and Subconsultants Software and Hardware:

All Survey Team members and Subconsultants have the latest in surveying and SUE equipment that will be utilized on this project. Some key members and subconsultants have specialized and new technology that may be used for this project.

- **WOOLPERT**
Advanced Surveying & Mapping software and hardware:
ArcGIS and Cityworks AMS, SUE (GPR, EMI, Vacuum Excavation) Aerial Photogrammetry and Lidar Services, Leica Pegasus 2 Mobile Lidar Unit and software
- **CRAIG A. SMITH & ASSOCIATES**
Advanced Surveying & Mapping software and hardware:
SUE (3D Radar Tomography System & Software, GPR, EMI, Vacuum Excavation)
- **MANUEL G. VERA & ASSOCIATES**
Advanced Surveying & Mapping software and hardware:
Leica Pegasus 2, Mobile Lidar Units and software, SUE (GPR, EMI, Vacuum Excavation)
- **KEITH & ASSOCIATES**
Advanced Surveying & Mapping software and hardware:
Leica Pegasus 2, Mobile Lidar Units and software, SUE (GPR, EMI, Vacuum Excavation)
- **SAM, LLC**
Advanced Surveying & Mapping software and hardware:
Riegl VMX-2HA, Mobile Lidar Units and software, SUE (Raptor Impulse Radar System & Software, GPR, EMI, Vacuum Excavation) Aerial Photogrammetry, Drones and Lidar services



Typical 3-D Radar Tomography Scanning Unit

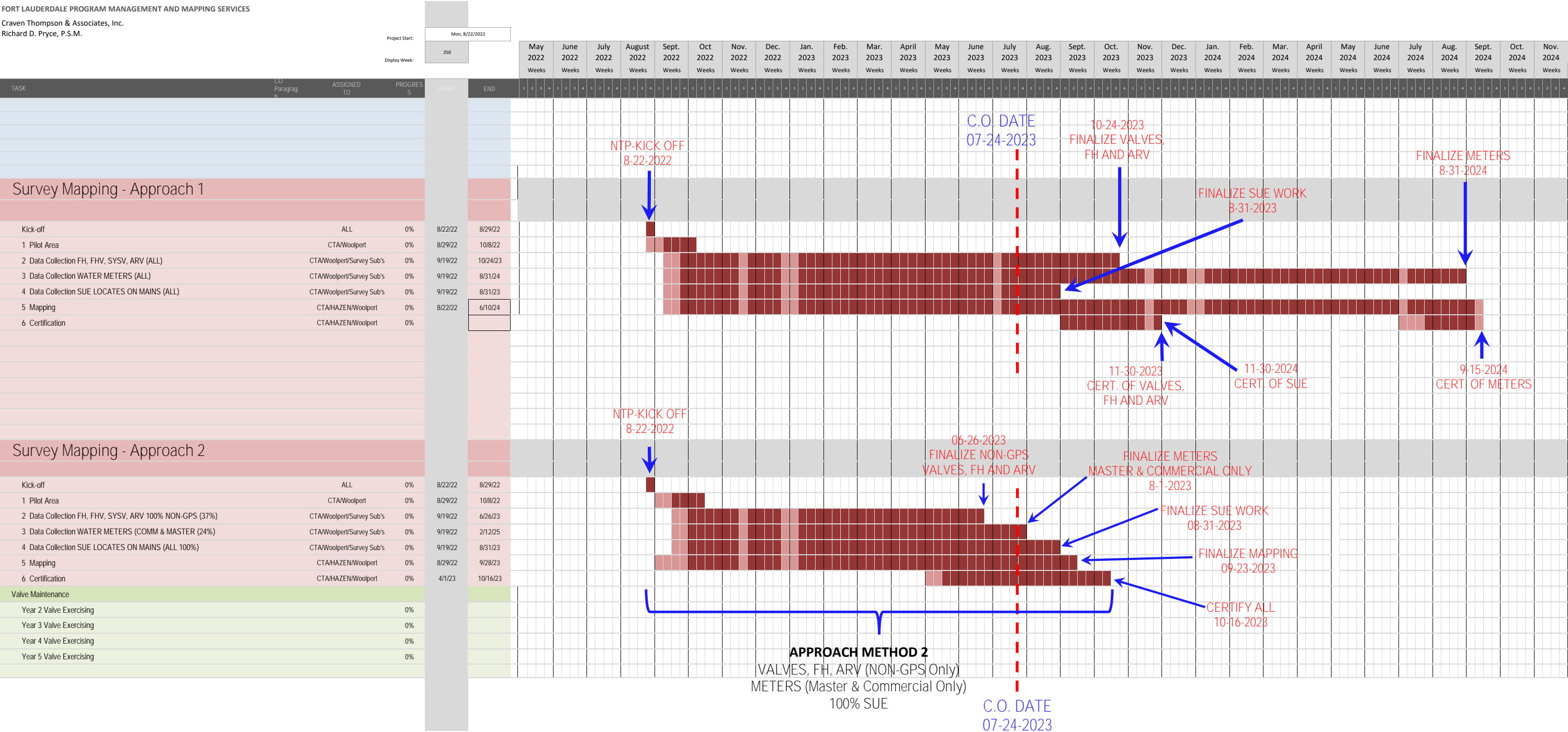
Multi-Channel GPR

The Raptor system is a multi-channel ground penetrating radar system designed for utility locating and mapping. The Raptor utilizes 18 separate channels at 450 MHz to cover wide surfaces in a single path. Data is spatially identified using GPS surveying technology. These units detect additional features such as voids, trench sizes, backfill identification, abandoned underground structures, and other irregularities not identifiable by other means. Using this technology allows SAM, LLC to clarify the horizontal and vertical position of the utilities, while modeling other features identified during the scan. From this, 3-D models for deliverables can be created.



PROPOSED SCHEDULE - APPROACH METHODS 1 & 2

REFER TO PROPOSED SCHEDULE, LOCATED AT THE END OF THIS SECTION.



Section 4.2.6: References

Section 4.2.6

SECTION 4.2.6: REFERENCES



REFERENCES

Craven Thompson & Associates (Data Collection and Mapping)

REFERENCE NO. 1:

Client Contact:

Mr. Karim L. Rossy, Development Engineer 3
NMB Water / Jacobs
17050 NE 19th Avenue
North Miami Beach, Florida 33162
Phone: (305) 948-2980 / Email: karim.rossy@jacobs.com

Description of Work:

North Miami Beach Water & Sewer G.I.S. - The purpose of the 25,600-Acre Service Area Project was to provide the city with the complete GIS product of their water and sanitary system. This involved the conversion of the City's existing water and sanitary sewer infrastructure, from an AutoCAD drawing file format to the industry standard, Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) format. The Project included the entire North Miami Beach Utility service area. The process included conversion of existing AutoCAD files, into the same coordinate system as the GIS, so that future updates will be more easily transferred between the two systems, for updates and maintenance. The project involved setting up a GIS Network file structure for the city to insert existing and future documentation into, as well as, adding GIS database information in the future.

- **Project Duration:** 1½ years
- **Year the Project was Completed:** 2016
- **Total Cost of the Construction, Estimated and Actual:** Fees \$1,065,580.00

REFERENCE NO. 2:

Client Contact:

Mr. D. Chidi Tobias, Civil Engineer
Public Works Department
City of North Miami Beach
17050 NE 19th Avenue, 2nd Floor
North Miami Beach, Florida 33162
Phone: (305) 947-7581 ext. 2313
Email: Chidi.Tobias@citynmb.com

Description of Work:

Stormwater G.I.S./Surveying Data Collection Project - The City of North Miami Beach is divided into six (6) zones and that structure/pipe data was collected within each zone and identified by zone and structure numbers. GIS data was collected and processed utilizing the City's existing Unit ID naming system in the geodatabase. The data was collected by a Unique ID. Craven Thompson provided the city with a copy of the updated geodatabase with all the data fields that were collected. The GIS data collected consists of:

Structure type (junction, inlet, control structure, drainage well):

- Invert elevation(s) and direction, Bottom of structure, Pollution retardant baffles (PRBs) present, (if present) weir elevation and geometry, (if present) bleeder elevation and geometry, Condition (pictures for documentation)

SECTION 4.2.6: REFERENCES



Pipes:

- Diameter (inches) Material (RCP, CMP, HDPE, Other), Condition (pictures for documentation)

Culvert and Outfalls:

- Upstream/Downstream Invert elevations, Material (CMP, RCP), Type (Circular, Elliptical, H. Ellipse, Rectangular), Diameter (inches), Single barrel vs. multiple, Condition (pictures for documentation)

Headwalls and Seawalls:

- Headwall treatment (Square Edge, Projecting Outlet, Mitered Slope)
- Headwall Material (Concrete, Rip Rap)
- Seawall Construction Material (boulder and rock, sheet pipes, cast concrete, rip rap)
- Top of seawall elevation
- Condition (pictures for documentation)

- **Project Duration:** 1 year
- **Year the Project was Completed:** 2018
- **Total Cost of the Construction, Estimated and Actual:** Fees \$200,000.00

REFERENCE NO. 3:

Client Contact:

Mr. Ranthus Fouch, P.E.
Sr. Civil Engineer
Public Works Department
Seminole Tribe of Florida
5700 Griffin Road, Suite 200
Davie, Florida 33314
Phone: (954) 203-1034
Email: ranthusfouch@semtribe.com

Description of Work: Hollywood Seminole Reservation Stormwater Data Collection/GIS

The Hollywood Seminole Reservation is generally bounded by Stirling Road on the north and by Sheridan Street on the south and includes the Hard Rock Hotel and Casino which is located north of Stirling Road. The east and west boundaries are formed by existing residential neighborhoods in the City of Hollywood. Craven Thompson updated the Tribe's stormwater GIS information through entering as-built data, and surveying the hundreds of stormwater/drainage structures located on the reservation.

Craven Thompson acquired accurate horizontal and vertical information on every stormwater/drainage feature on the Tribe's Hollywood Reservation. We reviewed existing storm sewer surveys and as-builts that could assist with GIS location and with this information our survey crew measured each structure to get accurate horizontal and vertical information for the Tribe's GIS system. During the data collection phase, the GPS locations of structures, canals, retention areas and ditches were captured with X-Y-Z coordinate values in the data collector. In addition, details such as pipe sizes, material, inverts, weirs, age, and structure condition were obtained in the field.

We modified the Tribes' GIS database to include new relevant information and to include all information from the data collection efforts and condition assessment

- **Project Duration:** 1 ½ -years for GIS/Stormwater data collection efforts.
- **Year the Project was Completed:** 2021 for GIS/Stormwater data collection efforts.
- **Total Cost of the Construction, Estimated and Actual:** This was not a construction project. Fees for GIS/Data collection efforts were \$143,720.00

SECTION 4.2.6: REFERENCES



Hazen and Sawyer (Program Management)

REFERENCE NO. 4:

Client Contact:

Mt. Hernán Guadalupe, DBA, MEng, PMP, PSP, Engineer II
Baltimore City Department of Public Works
Horizontal Utility Project Delivery Section (Water)
200 Holliday Street, Suite 305
Baltimore, Maryland 21202
Phone: (410) 396-8189 (office) / (410) 804-5279 (Mobile)
Email: Hernan.guadalupe@baltimorecity.gov

Description of Work:

Program management services for the DPW Water Utilities section, including planning, design management and construction management in support of the City's goal of 15 miles of water main replacement every fiscal year.

- **Project Duration:** 2015 to 2018
- **Year the Project was Completed:** Program Management Services ended in 2018
- **Total Cost of the Construction, Estimated and Actual:** Approximately \$415M over the three years of Program Management.

REFERENCE NO. 5:

Client Contact:

Mr. Daniel A. White, Deputy Director
Jefferson County Commission, Environmental Services Department
Horizontal Utility Project Delivery Section (Water)
716 Richard Arrington Jr. Boulevard North, Suite A300
Birmingham, Alabama 35203
Phone: (205) 214-8610 (Office) / (205) 281-8931 (Mobile)
Email: whited@jaccal.org

Description of Work:

Asset Management Program for the Collection System with primary goal to reduce/eliminate SSOs from a 2-year storm event.

- **Project Duration:** 3-year contracts until completion; initial term began in 2014 with renewals in 2017, 2020. Program planned to continue until 2035.
- **Year the Project was Completed:** Projected completion is scheduled for 2035.
- **Total Cost of the Construction, Estimated and Actual:** Per the CIP as of 12/15/2021, the total construction cost is \$1,228,309,000. (Hazen is not managing all of this but as Program Manager we do the CIP planning). Work completed: Contract amount = \$176,195,914; estimated = \$187,255,453; completed to date = \$130,390,952

Section 4.2.7: Sub-Consultants

Section 4.2.7

SECTION 4.2.7: SUB-CONSULTANTS



QUALIFICATIONS OF THE SUBCONSULTANTS

HAZEN & SAWYER - PROGRAM MANAGEMENT

999 Ponce de Leon Boulevard, Suite 1150
Coral Gables, Florida 33431
Phone: (305) 443-4001



Hazen has a staff of over 1,200 professional engineers, scientists, and support personnel who specialize in a wide range of engineering disciplines focused on the field of water and wastewater. Their professionals are experienced in the design of sanitary sewer systems, sanitary sewer treatment plants, stormwater management systems, and rehabilitation plans. Hazen's experience with the City of Fort Lauderdale ongoing Sewer and Stormwater programs and understanding of their needs and expectations will help ensure that the aggressive schedule of this project will be met. Hazen regularly uses powerful real time operations' dashboards to manage and track crew scheduling as well as real time views of data collected and tracking and resolution of field issues.

WOOLPERT, INC. - GIS COORDINATION & MANAGEMENT / DATA COLLECTION

6100 Blue Lagoon Drive, Suite 440
Miami, Florida 33126
Phone: (305) 418-9370



Woolpert began working with the City of Fort Lauderdale in 2000 when selected to build the City's first utility GIS network. Woolpert was then contracted to develop the GIS database design, field survey utility assets, convert utility as-builts, migrate existing asset maintenance data (HANSEN), and develop system applications for the newly created GIS data. Data Collection: Woolpert collected GIS data by scanning, indexing, and georeferencing available source documents, such as city atlases, sewer books, intersection detail drawings, and as-built drawings. Utility Mapping: Using the accurate field survey locations of the above ground utility assets, Woolpert used heads-up digitizing to then create the underground utility networks relying on the provided City utility as-builts. Over the next two decades Woolpert continued to provide various surveying and GIS related professional services to the city. Most recently, Woolpert was selected by the city to implement a new asset and maintenance management system, for the water, wastewater, and stormwater divisions.

KEITH AND ASSOCIATES, INC. - SURVEYING, MOBILE LIDAR / S.U.E. LOCATES

301 East Atlantic Blvd.
Pompano Beach, Florida 33060
Phone: (954) 788-3400



Keith and Associates (Keith) was incorporated as a Florida Corporation in 1998. As a mid-size close-knit firm of over 180 professionals, Keith provides surveying and mapping, subsurface utility engineering, utility coordination, planning, civil engineering, traffic and transportation engineering, landscape architecture, construction management, and virtual design and construction services with offices in Pompano Beach, Fort Lauderdale, Miami, West Palm Beach, Orlando, and Tallahassee.

SURVEYING AND MAPPING, LLC (SAM) - SURVEYING, MOBILE LIDAR & S.U.E. SERVICES

- | | |
|------------------------------|----------------------------|
| ▪ 1800 Pembroke Drive, # 300 | ▪ 2844 Pablo Avenue |
| Orlando, Florida 32810 | Tallahassee, Florida 32308 |
| Phone: (512) 685-3542 | Phone: (512) 685-3542 |



SAM offers a complete suite of geospatial services including land surveying, airborne/mobile/terrestrial LiDAR, Geographic Information Systems (GIS), Subsurface Utility Engineering (SUE), Utility Coordination (UC), aerial mapping, and photogrammetry.

SECTION 4.2.7: SUB-CONSULTANTS



MANUEL G. VERA & ASSOCIATES, INC. - SURVEYING MOBILE LIDAR & S.U.E. SERVICES

13960 SW 47th Street
Miami, Florida 33175
Phone: (305) 221-6210



Manuel G. Vera & Associates, Inc. has been providing design survey and right of way mapping services to the Central and South Florida area for over forty (40) years, servicing the Florida Department of Transportation for over thirty (30) years in Districts 4, 6, the Turnpike and recently in Districts 1, 5 and 7. In addition to the Florida Department of Transportation, Manuel G. Vera's survey experience in South Florida is second to none.

CRAIG A. SMITH & ASSOCIATES - SURVEYING & S.U.E. SERVICES

277 Goolsby Boulevard, Unit C
Deerfield Beach, Florida 33442
Phone: (954) 782-8222



Craig A. Smith and Associates, Inc. (CAS) was established in 1980. CAS provides complete subsurface utility engineering and location services utilizing the latest in electronic verification, ground penetrating radar, vacuum excavation and GPS survey equipment. CAS performs subsurface utility engineering providing utility mapping, electromagnetic designating, 2D radar designating, 3D radar tomography, & vacuum soft digs.

RITZEL-MASON - SURVEYING & S.U.E. SERVICES

5119 Beachwood Road
Delray Beach, Florida 33484
Phone: (786) 472-0358



Ritzel-Mason follows the industry recognized ASCE 38 – “Standard Guideline for the Collection and Depiction of Existing Underground Utility Data where quality levels are noted for all utilities investigated. They treat utility issues using engineering judgement, focusing attention to properly assess the potential utilities impacted on each project. They use the latest utility detection equipment including Ground Penetrating Radar (GPR), pipe and cable locators from Radio Detection for soft dig test holes.

ZEMAN CONSULTING GROUP - SURVEYING & S.U.E. SERVICES

3970 RCA Blvd., Suite 7750
Palm Beach Gardens, Florida 33410
Phone: (561) 223-8035



Zeman Consulting Group (ZCG) is focused on serving the public sector through both direct contracts and continuing professional services contracts. Since opening in April of 2021, ZCG has been awarded multiple FDOT and South Florida Water Management District contracts. ZCG is also a Certified SBE with FDOT, Palm Beach County, City of West Palm Beach, Solid Waste Authority and South Florida Water Management District.

INFRAMAP CORP. - SURVEYING & S.U.E. SERVICES

1100 N. Florida Mango Road, Suite D
West Palm Beach, Florida 33409
Phone: (561) 586-0790



Since 1987, InfraMap Corp. has been providing professional subsurface utility engineering (SUE) and locating services. InfraMap was one of the earliest subsurface utility engineering and locating firms established, and since their founding, they have focused on being a quality leader and expert in the field. To date, they have successfully completed some of the largest and most complex utility locating and designating projects ever undertaken. As of 2022, they have completed more than 26,000 projects, designated more than 32 million feet of utilities, and completed more than 130,000 air vacuum excavation test holes.

SECTION 4.2.7: SUB-CONSULTANTS



GIBBS LAND SURVEYORS - SURVEYING SERVICES

2131 Hollywood Boulevard, Suite 204
Hollywood, Florida 33020
Phone: (954) 923-7666

Gibbs Land Surveyors has been doing business from the same location for over thirty (30) years. Part of Gibbs' commitment to the community is their location. From their Hollywood office, in close proximity to Fort Lauderdale, they have provided a wide range of services related to the requirements of this project including: Boundary, Topographic, Hydrographic, Data Collection, As-Built and Utility Locations, Construction Staking, Vertical and Horizontal Control Surveys, ALTA/NSPS Land Title Surveys, Plat Recordation, Condominium Document preparation and Legal Descriptions.

STONER & ASSOCIATES - SURVEYING SERVICES

4341 SW 62nd Avenue
Davie, Florida 33314
Phone: (954) 585-0997



Since 1988, Stoner & Associates has practiced the art and science of land surveying, rising to the top of their industry with a focus on good character, reputation and the successful completion of projects. At Stoner & Associates, they are always seeking innovative solutions to improve their survey products and reduce turn-around times. They are continually updating their equipment and software to ensure rapid and accurate data acquisition. Their personnel are trained to look for innovative ways to approach your project.

MCLAUGHLIN ENGINEERING COMPANY - SURVEYING SERVICES

1700 NW 64th Street, Suite 400
Fort Lauderdale, Florida 33309
Phone: (954) 763-7611



McLAUGHLIN ENGINEERING CO.
SURVEYORS • ENGINEERS • LAND PLANNERS

McLaughlin Engineering Company has been proud to serve the various Surveying, Engineering, Land Planning and Platting needs of our clients over 75 years. They strive to ensure that the highest levels of quality control and customer satisfaction are placed upon the unique requirements of each individual client.

MOT PLANS.COM - MAINTENANCE OF TRAFFIC

631 NE 45th Street, #3247
Oakland Park, Florida 33334
Phone: (954) 560-0450



MOT Plans was founded in 2003 with the idea of a more hands on approach to providing superior service. Full-service barricade company providing complete temporary traffic control for any situation. They can provide everything needed from start to finish. MOT Plans starts by evaluating the project to assess the needs, then draw a maintenance of traffic plan to submit to the appropriate agency. Once the plan is approved, MOT Plans will provide the equipment and setup the plan according to FDOT standards. MOT Plans is certified in the State of Florida as a Disadvantaged Business Enterprise and certain municipalities as a SBE and MBE.

PURE TECHNOLOGIES / DBA WACHS WATER SERVICES - VALVE CONDITIONING / EXERCISING

8920 State Route 108, Suite D
Columbia, MD 21045
Phone: (443) 766-7873



Pure Technologies U.S. Inc./dba Wachs Water Services (WWS) is dedicated to helping utilities optimize control of their aging water distribution infrastructures, which reduces the consequences of failure and improves water quality. By deploying the proven methodologies, they have perfected across North America, they provide actionable information that can be used immediately to overcome the most complex underground water infrastructure challenges. They are certified as a General Contractor in the state of Florida. Their experience on similar sized projects as described in their references illustrates their qualifications.

Section 4.2.8: Required Forms

Section 4.2.8



CRAVTHO-01

ANERV

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/24/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | | |
|---|--|-------------------------------|--------|
| PRODUCER Corporate Insurance Advisors, LLC 1401 E. Broward Blvd. Suite 103 Fort Lauderdale, FL 33301 | CONTACT NAME: | | |
| | PHONE (A/C, No, Ext): (954) 315-5000 | FAX (A/C, No): (954) 315-5050 | |
| | E-MAIL ADDRESS: service@ciafl.net | | |
| INSURED Craven Thompson & Associates, Inc. 3563 NW 53rd Street Fort Lauderdale, FL 33309 | INSURER(S) AFFORDING COVERAGE | | NAIC # |
| | INSURER A: Hartford Casualty Insurance Company | | 29424 |
| | INSURER B: Hartford Ins Co of the Midwest | | 37478 |
| | INSURER C: Continental Casualty Co. | | 20443 |
| | INSURER D: | | |
| | INSURER E: | | |
| | INSURER F: | | |

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|----------|---------------|-------------------------|-------------------------|--|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Data Breach Retro Dat GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER: | | | 21UUNOL5298 | 12/1/2021 | 12/1/2022 | EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/POP AGG \$ 2,000,000 EMPLOYEE BENEFIT \$ 2,000,000 |
| B | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY | | | 21UENOL5299 | 12/1/2021 | 12/1/2022 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ \$ |
| A | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000 | | | 21XHUOL5300 | 12/1/2021 | 12/1/2022 | EACH OCCURRENCE \$ 6,000,000 AGGREGATE \$ 6,000,000 \$ |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N N | N/A | 21WBOL6H4G | 1/1/2022 | 1/1/2023 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |
| C | Prof Liab Incl Poll | | | 591918336 | 3/30/2022 | 3/30/2023 | Each Claim 3,000,000 |
| C | Prof Liab Incl Poll | | | 591918336 | 3/30/2022 | 3/30/2023 | Aggregate 4,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

For Proposals Purposes Only

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03)

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4.2.8 | Page 1

EXHIBIT D

CAM #22-1089
Exhibit 2
Page 264 of 397

Supplier Response Form

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME

RELATIONSHIPS

None

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature

Patrick J. Gibney, P.E.
Name (Printed)

Vice President, Engineering
Title

6/27/2022
Date

Supplier Response Form

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Authorized Signature

6/27/2022
Date

* Patrick J. Gibney, P.E., Vice President, Engineering *
Print Name and Title

Supplier Response Form

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No: RFQ # 12665-1026

Water Consent Order Program
Management and Mapping Services

Project Description:

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

- (a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,
- (b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: Craven, Thompson & Associates, Inc.

Authorized Company Person's Signature:



Authorized Company Person's Title: Vice President, Engineering

Date: 6/27/2022

9/15/2020

Supplier Response Form

BID/PROPOSAL CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit <http://www.dos.state.fl.us/>).

Company: (Legal Registration) Craven, Thompson & Associates, Inc. * EIN (Optional): 59-0948029

Address: 3563 NW 53rd Street *

City: Fort Lauderdale

* State: FL

* Zip: 33309

*

Telephone No.: 954-739-6400

* FAX No.: 954-739-6409

* Email: pgibney@craventhompson.com

*

Delivery: Calendar days after receipt of Purchase Order (section 1.02 of General Conditions): To Be Determined

Total Bid Discount (section 1.05 of General Conditions): N/A

Check box if your firm qualifies for MBE / SBE / WBE (section 1.09 of General Conditions): ☐

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

| <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> |
|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| 1 | 5/23/2022 | | | | |
| * | * | | | | |
| 2 | 6/16/2022 | | | | |

VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**

None.

*

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal.

I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars (\$500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Patrick J. Gibney, P.E.
Name (printed)

6/27/2022
Date

Signature

Vice President, Engineering
Title

Revised 4/28/2020



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

**RFQ No. 12665-1026
WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING
SERVICES**

ISSUED: May 23, 2022

This addendum is being issued to make the following changes:

1. The opening date has been changed to Monday, June 27, 2022 at 2:00PM Local Time.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Or call in (audio only)

[+1 954-686-7296,,696755482#](#) **United States, Fort Lauderdale**
Phone Conference ID: 696 755 482#

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: Craven, Thompson & Associates, Inc.

(please print)

Bidder's Signature:  Patrick J. Gibney, P.E., Vice Pres., Engineering

Date: June 27, 2022



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 2

**RFQ No. 12665-1026
WATER CONSENT ORDER PROGRAM MANAGEMENT AND MAPPING
SERVICES**

ISSUED: June 16, 2022

This addendum is being issued to make the following changes:

1. The following new section is hereby added to Section III, "Scope of Services" of this solicitation.

- Section 3.5 "Incentive – Disincentive" (see attached)

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: Craven, Thompson & Associates, Inc.

(please print)

Bidder's Signature:  Patrick J. Gibney, P.E., Vice Pres., Engineering

Date: June 27, 2022

LOCAL BUSINESS PREFERENCE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the local business preference classification as indicated herein, and further certifies and agrees that it will re-affirm its local preference classification annually no later than thirty (30) calendar days prior to the anniversary of the date of a contract awarded pursuant to this bid/proposal. Violation of the foregoing provision may result in contract termination.

- | | | |
|-----|--|--|
| (1) | (Business Name) | is a Class A Business as defined in City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the City of Fort Lauderdale current year Business Tax Receipt <u>and</u> a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City. |
| (2) | Craven, Thompson & Associates, Inc. (Business Name) | is a Class B Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Business Tax Receipt <u>or</u> a complete list of full-time employees and evidence of their addresses shall be provided within ten (10) calendar days of a formal request by the City. |
| (3) | (Business Name) | is a Class C Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186. A copy of the Broward County Business Tax Receipt shall be provided within ten (10) calendar days of a formal request by the City. |
| (4) | (Business Name) | is a Class D Business as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec. 2-186, and does not qualify for Local Preference consideration. |
| (5) | (Business Name) | requests a Conditional Class A classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City. |
| (6) | (Business Name) | requests a Conditional Class B classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City. |

BIDDER'S COMPANY: Craven, Thompson & Associates, Inc.

AUTHORIZED
COMPANY
PERSON: Patrick J. Gibney, P.E.

PRINT NAME



SIGNATURE

6/27/2022

DATE

Forms Non-ISO – Revised 7/2/2021



CITY OF FORT LAUDERDALE BUSINESS TAX YEAR 2021-2022



Business Tax Division

700 NW 19TH AVE. | FORT LAUDERDALE, FL 33311 | (954) 828 - 5195

Business ID: BL-1301193

Business Name: GIBNEY,PATRICK

Business Address: 3563 NW 53 ST

PATRICK GIBNEY
CRAVEN THOMPSON & ASSOCIATES INC
3563 NW 53 ST
FORT LAUDERDALE FL 33309

TAX CATEGORIES

408800 ENGINEER

Contact: PATRICK GIBNEY

Business Email: Tamcdonald@Craventhompson.Com

- This Receipt is issued for the period commencing October 1st and ending September 30th of the years shown above.
- If you have closed or moved out of the city, please email businesstax@fortlauderdale.gov and include the Business ID #.
- A transfer of business location within city limits is subject to zoning approval. Complete a Business Tax Transfer Application online to obtain the necessary approval. A transfer fee of 10% of the Business Tax fee applies, not less than \$3.00, no more than \$25.00.
- If you have sold your business, please email a copy of the Bill of Sale to businesstax@fortlauderdale.gov and include the Business ID #. A transfer of ownership will incur a transfer fee of 10% of the Business Tax fee, not less than \$3.00, no more than \$25.00.

Please be advised that this issuance of a Business Tax Receipt establishes that the business you intend to conduct is a use permitted by the City Zoning Code for the location at which you intend to operate. The issuance of a Business Tax Receipt in no way certifies that the property located at this address is in compliance with other provisions of the City Code of Ordinances.

700 NW 19TH AVE.
Fort Lauderdale, FL 33311
TEL 954 828 5195
WWW.FORTLAUDERDALE.GOV

DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATION STATEMENT

The Business identified below certifies that it qualifies for the disadvantaged business enterprise preference classification as indicated herein, and further certifies and agrees that it will re-affirm its preference classification annually no later than **thirty (30)** calendar days prior to the anniversary of the date of a contract awarded pursuant to this solicitation. Violation of the foregoing provision may result in contract termination.

- | | | | |
|-----|-----|-----------------|--|
| (1) | N/A | (Business Name) | is a disadvantaged Class 1 enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the City, and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual. |
| (2) | N/A | (Business Name) | is a disadvantaged Class 2 enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business within the limits of the City with full-time employee(s) and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual. |
| (3) | N/A | (Business Name) | is a disadvantaged Class 3 enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the Tri-County area and provides supporting documentation of its City of Fort Lauderdale business tax and disadvantaged certification as established in the City's Procurement Manual. |
| (4) | N/A | (Business Name) | is a disadvantaged Class 4 enterprise as defined in the City of Fort Lauderdale Ordinance Section 2-185 disadvantaged business enterprise that does not qualify as a Class 1, Class 2, or Class 3 business, but is located in the State of Florida and provides supporting documentation of its disadvantaged certification as established in the City's Procurement Manual. |
| (5) | N/A | (Business Name) | requests a Conditional Class 1 classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City. |
| (6) | N/A | (Business Name) | requests a Conditional Class 2 classification as defined in the City of Fort Lauderdale Ordinance No. C-17-26, Sec.2-186. Written certification of intent to meet the requirements shall be provided to the City within three (3) months of entering into a contract with the City. |

BIDDER'S COMPANY: Craven, Thompson & Associates, Inc.

AUTHORIZED
COMPANY
PERSON: Patrick J. Gibney, P.E.

PRINT NAME



SIGNATURE

6/27/2022

DATE

Forms Non-Iso – revised 7/2/2021



CREATIVELY TRANSFORMING HOW OUR WORLD IS **envisioned + designed + experienced**

RFQ No. 12665-1026

REQUEST FOR QUALIFICATIONS FOR

Water Consent Order Program Management and Mapping Services

CITY OF FORT LAUDERDALE



EXHIBIT E

CAM #22-1089
Exhibit 2
Page 275 of 397



June 27, 2022

Erick Martinez, Senior Procurement Specialist
City of Fort Lauderdale
Procurement Services Division
100 North Andrews Avenue, 6th Floor
Fort Lauderdale, FL 33301

**RE: WATER CONSENT ORDER PROGRAM MANAGEMENT AND
MAPPING SERVICES • RFQ #12665-1026**

Dear Mr. Martinez,

The City of Fort Lauderdale (City) has clear intentions to achieve the objectives of Consent Order Number 19-1637. To assist the City with program management and mapping services, and produce the water distribution mapping delivery, you need a comprehensive and achievable approach from WGI's team of professionals, with the local resources, commitment, and history of leading the delivery of multi-million-dollar contracts. We reviewed and understand the scope of services outlined in the requirements of 12665-1026 for the water consent order program management and mapping services. Addendum No. 2 for the RFQ is a clear indication of the City's desire to reduce contract time. This is a mapping project, best accomplished as a program, and must be performed in lockstep with the City's ongoing valve exercise reporting activities. **Our foremost obligation is to assist the City in meeting its requirements and deadlines set forth by the Florida Department of Environmental Protection (FDEP) consent order #19-1637**, and to actively lead and deliver the most definitive and dependable mapping of your water infrastructure.

As we embark, there is little to be considered "routine" regarding this water distribution system mapping project. Typical approaches will jeopardize the City's commitment to meeting the consent order deadline and are unlikely to reduce contract time. A routine approach—relying on proposals loaded with superfluous resumes of personnel residing hundreds of miles from the City, that depend on numerous and complex schemes to show depth or qualifications not available from your lead firm, that propose personnel who will never engage with your project and have no local vested interest—will not lead to success on this critical assignment. WGI eliminates that confusion with a motivated, experienced, and technologically advanced local team that is easily managed and focused on your needs. We aggressively work to achieve desired outcomes, including the reduction of contract time. Our leadership team and technical personnel are fully committed to meeting your objectives.

As you read this letter, we invite you to temporarily bypass the review of our Qualifications and Experience or the Qualifications of our Project Team, and to go directly to our Approach to the Scope of Work (Section 4.2.5). After you appreciate our expedient technical approach supported by time- and cost-saving efficiencies, please revisit our local team's outstanding qualifications. We consider every executable step to safely meet the deadlines set forth by the FDEP consent order.



WGI, Inc.

Responsible Office

3230 W. Commercial Boulevard
Suite 300
Fort Lauderdale, FL 33309

2035 Vista Parkway
West Palm Beach, FL 33411
(Corporate Headquarters)

Contacts

Roberto Mantecon, PSM

Project Manager
p. 305.553.0500
Roberto.Mantecon@wginc.com

Brett Oldford, PE

Program Manager
p. 561.687.2220
Brett.Oldford@wginc.com

WGI's proposal is comprehensive and detailed. Our proposed approach is achievable. Our approach has the best chance of reducing contract time. From a programmatic approach, we all understand the importance of WGI's responsibility having defined the mapping program's project strategy. Our program and project managers are responsible for guiding and overseeing WGI's implementation and execution of the project, safety for our crews and the public, our interactions with the City, and the timeliness and quality of our deliverables. Our project manager is responsible for the planning, monitoring, and controlling of the overall project, and managing its risks. We look forward to working with the City in coordination of cross-project activities performed by the City itself or its subconsultants.

Throughout the mapping project's duration, we will maintain constant communication with the City. The project's accelerated schedule drives WGI to be inventive, and intelligently deploy technology and other resources to meet deadlines, budgets, and commitments. WGI has already conducted a successful pilot and the verification of our technical approach. We started the collection of sensor-based data weeks ago in anticipation of this contract's award and a quick start. During the contract period we will continuously assess program performance. For example, in our technical approach we discuss our WGI Work Order Tracking System (WOTS)—developed and deployed to successfully deliver geospatial and related activities on the \$2 billion Brightline Train expansion project—and our mapping portal for coordinating work. City personnel will be able to view our progress live and daily from their desktops. Our approach also includes reporting dashboards to resolve scope issues, present our work product for online review, monitor our schedule progress, and prepare and rapidly present data and reports. Combined, these proven processes, WOTS and other software, and our experience leading in the delivery of critical infrastructure firmly sets us apart.

WGI has a sizable presence in Fort Lauderdale. We are headquartered in West Palm Beach. No other south Florida firm is as well-equipped and staffed, nor can another local firm demonstrate its role in leading large geospatial infrastructure programs of critical importance. The City's ability to safely, efficiently and timely deliver this water distribution system mapping project for FDEP's order requires a program where specific performance is critical. WGI is known to undertake the largest and most challenging GIS, mapping, and subsurface utility engineering (SUE) projects in Florida, like Brightline (a referenced project including client testimonial). We excel when we confront demanding schedules. When clients confront their most challenging projects and need the most qualified and capable company for support, WGI is often their selected partner. In your travels, look for the WGI vehicles that dominate our local communities. Our team members are deployed to dozens of local towns, cities, villages, and counties daily, just as we have for the last 50 years.

Thank you for your time. We look forward to your favorable response and starting work immediately upon selection.

Sincerely,



Robert Hanson, GISP
Senior Vice President, Geospatial



Roberto Mantecon, PSM
Project Manager

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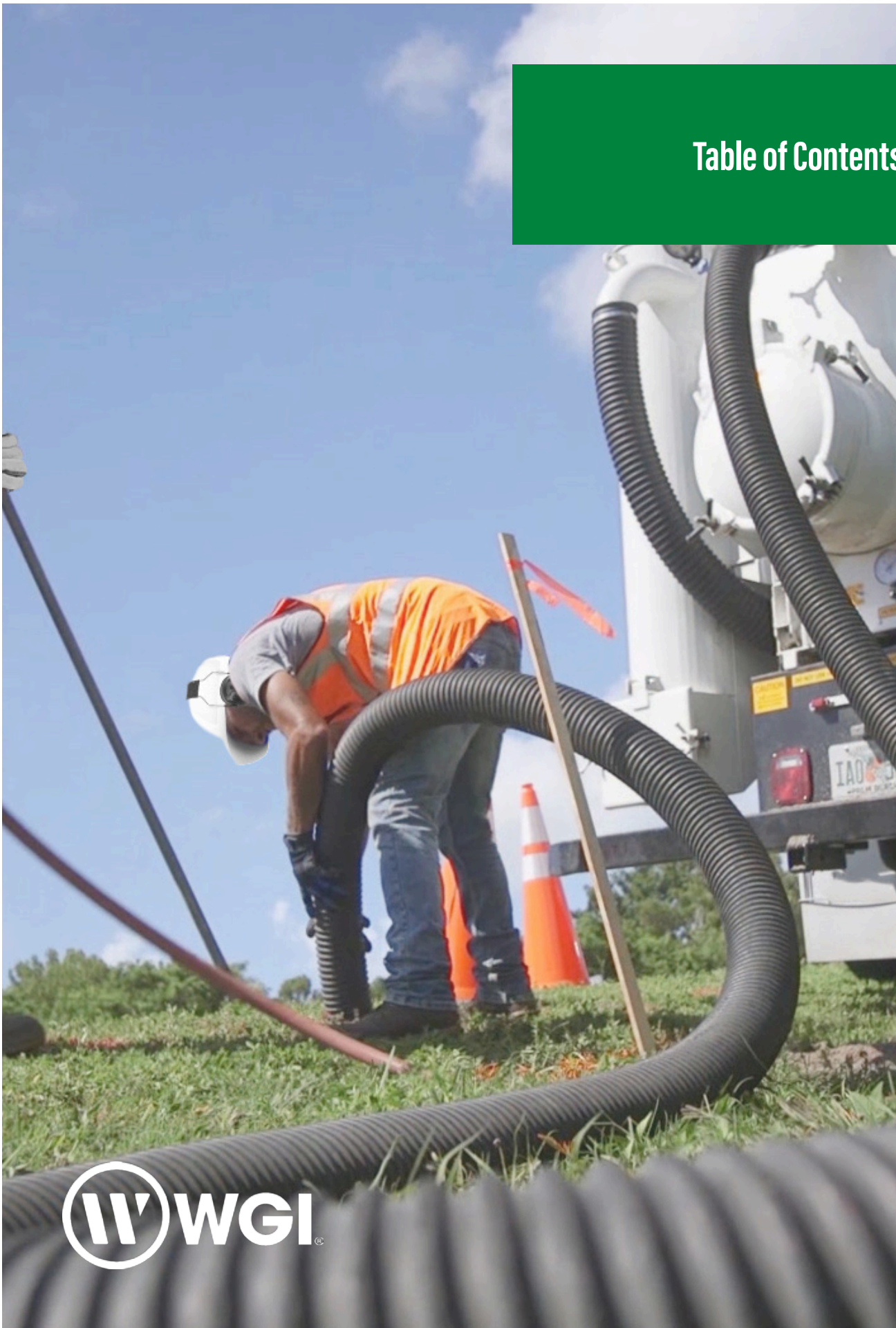


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Executive Summary



EXECUTIVE SUMMARY

At WGI, Inc. we are industry leaders in creating successful and sustainable communities, creatively transforming how our world is envisioned, designed, and experienced. WGI is a national design and professional services firm leading in technology-based solutions for the construction of public and private infrastructure. WGI is an S-Corporation headquartered in West Palm Beach with 23 offices across the country; 11 of those offices are in Florida.

This contract will be managed out of our Fort Lauderdale office, receiving support from our West Palm Beach, Miami, Orlando, and Port St. Lucie offices.



BACKGROUND

WGI was founded in South Florida in 1972 and has continuously expanded its areas of expertise to help clients face global competitiveness, rapid and sustained urbanization, infrastructure investment shortfalls, funding gaps, and climate change. Since our inception in 1972, WGI has a proven record of developing highly innovative solutions for infrastructure improvement projects for governmental clients throughout Florida. Currently, we serve dozens of municipal clients under similar continuing service contracts. By offering a full range of services, including civil engineering; survey; subsurface utility engineering (SUE); planning and urban design; structural engineering; traffic and transportation engineering; mechanical, electrical, and plumbing (MEP)

services; landscape architecture; architecture; and environmental services, we exceed the requirements of this contract and successfully deliver projects that meet the high expectations of the City and its residents.

The depth of our WGI team, nearly 600 professionals, provides ample capacity to competently complete all task orders in a timely manner. Commitment, dedication, and teamwork are all qualities that the WGI team brings to the City. This commitment has been clearly demonstrated by WGI's superior service and professionalism over the years with past and current contracts held with the City.

PRINCIPALS, OFFICES, AND ORGANIZATIONAL STRUCTURE

WGI Executive Officers:

CEO | David Wantman, PE [WPB]
President | Greg Sauter, PE [WPB]

Principal in Charge:

SVP, Geospatial | Robert Hanson, GISP [WPB]

Regulatory Specialist:

SVP, Chief Strategy Officer | Michael Davis [WPB]

Program Manager:

VP, Civil Engineering | Brett Oldford, PE [WPB]

Project Manager:

Roberto Mantecon, PSM [FTL]

Technical Advisor:

Leigh Thomas, PE [TX]

Qualifying Staff/Discipline Leads:

Sandor Laszlo, PE [PA]
Jason Alvarez, CST II [WPB]
Jim Sullivan, PSM [WPB]
Jorge Kappa [FTL]
Radek Grabowski [WPB]

The City of Fort Lauderdale Public Works Department (the City) issued solicitation 12665-1026 for professional services to address its challenges associated with the accuracy of mapping and records data for the entirety of the water distribution system—primarily associated with a consent order-driven schedule, limited staff resources, budget constraints, and aging infrastructure. WGI proposes helping the City advance its program objectives and goals to address the scope for mapping the water distribution system. It involves data collection, surveying, and mapping of water infrastructure, including all source and distribution mains, control valves, hydrants, air release valves, water meters, inactive mains, and directional flow routes.

The primary focus of the City's solicitation and the intent of our work is the verification and completion of water distribution system mapping. WGI and its team members may be called upon to assist in larger programmatic initiatives conducted by the City and/or its consultants. For example, we could be called upon for:

- Assistance with the water valves exercising program through planning the fieldwork, providing and updating field schedules, preparing field activity reports, and as-needed provision of supplemental resources to exercise the valves
- Review and validate maintenance records, and prepare annual reports showing water line valves were exercised as required
- Physical condition assessments of all water valves and provision of recommendations
- Reporting to FDEP to ensure that all consent agreement mandates are met in a timely fashion

The WGI team, with assistance from Jacobs Engineering Group, Inc. (Jacobs), reviewed the water system valve maintenance plan (WSVMP) for the 19,298 water system valves in the City's water system, and the water distribution mapping plan (WDMP) WGI prepared in 2020. We also reviewed the FDEP consent order #19-1637, with a key requirement that the City is to develop a water network valve preventive maintenance plan and implement an aggressive exercise plan; at a minimum, it exercises 100% of the source water valves within the first year and 20% each year thereafter.

Our team understands the program requirements. The approach's foundation is the extensive utility supporting experience by both WGI and Jacobs in South Florida, and Jacob's recent direct involvement with the City, improving and upgrading water system infrastructure, providing program management, asset management, and planning, design, operations, and construction services.

WGI's team has the necessary experience—both in-house WGI staff expertise, and that of our subconsultants: Jacobs Engineering Group, Inc. (Jacobs); Chen Moore and Associates, Inc. (CMA); Stoner & Associates, Inc. (S&A); McKim & Creed, Inc. (MK&C); T2 Utility Engineers (T2); CTS Engineering, Inc. (CTS); and Florida Technical Consultants, LLC, (FTC). We are prepared to add firm(s) for repair and maintenance services for water infrastructure on an as-needed basis when the City requires and approves them. Team roles are as follows:

- WGI - Prime consultant and team leader, program management, project management, water distribution engineering, engineering advisory assistance, mapping, survey, geospatial information systems (GIS), SUE, 3D high-speed ground-penetrating radar (3DHS-GPR), data deliveries, quality control and quality assurance
- Jacobs – Program management assistance, Cityworks integration, possible valve exercising support
- CMA – Mapping assistance, field QC, possible valve exercising support, and engineering support
- CTS – SUE assistance
- S&A – Mapping, survey/fielding assistance and support
- MK&C - Mapping, survey/fielding assistance
- T2 – 3DHS-GPR, SUE assistance
- FTC – GIS assistance

QUICK START, ON-TIME FINISH

The water system distribution mapping project requires a fast-tracked approach. WGI's proven processes, tools, and staff resources augment the City staff, supporting them in meeting the final schedule for completion dictated by the consent order and maintaining future compliance.

WGI's program management delivery approach will help the City manage all project facets by prioritizing implementation, aligning delivery to requirements, and adhering to strict schedule- and budget-management processes.

Our approach uses rapid mobilization, and application of best practices and standard operating procedures (SOPs) gained from implementing similar valve exercising and mapping programs across the United States. The SOPs used by WGI's team are approved by FDEP and guided by American Water Works Association (AWWA) Best Management Practices, as described in its *Manual M44 Distribution Valves: Selection, Installation, Field Testing, and Maintenance*. **Michael Davis (WGI)** and **Mitch Griffin, PE (Jacobs)** are our dedicated compliance and regulatory leads. Both offer decades of experience working directly with regulatory compliance agencies, state and federal, and extensive experience in water systems management. When requested, they will focus on working with the City or to develop a strategy that meets the consent order requirements, and maintains continued communications and transparency. They will identify potential areas of improvement to the program's implementation plan, mitigating any non-compliance issues and avoiding future regulatory enforcement action.

WGI's approach articulates what we will do, but also outlines how we will accomplish the project's scope of work. **We communicate how we will accelerate the schedule, re-prioritize, and expand the zones presented in the WDMP dated on September 22, 2020.** WGI will use innovation and technology, work order management, and sampling to accomplish extensive portions of the program work in a manner that significantly increases safety by reducing the need for extensive fielding efforts or staff. WGI has significant in-house resources to perform this scope of work with an exceptionally qualified team that meets all needs of this project. As a team, we own and operate over 50 survey and 50 SUE crews within Florida, far exceeding any anticipated demands for this project. With the use of our innovative 3D scanning technology, limited field verification is anticipated. With a deep bench of skilled, talented workers and equipment and technology resources, we have every confidence we can hit the ground running on day one to meet the project's scope and schedule.

From our initial analysis, we believe there are nearly 56,000 point features such as valves, hydrants, changes in pipe diameter, etc. that must be considered in the WDMP. Excluding water meters, we estimate over 35,000-point features fall within 20 feet of a paved road centerline. Using the 3DHS-GPR and mobile mapping technology we discuss later in our approach, WGI can accurately locate and verify more than 60% of the system's components without putting field staff in travel lanes, increasing the overall project safety while reducing contract time. Over 600 miles of the approximately 925 miles of water mains (including those abandoned) may fall within the pavement areas as well, based on our understanding of available data. These statistics speak volumes for using the 3DHS-GPR technology we discuss in our approach. **Using 3DHS-GPR, we estimate we may eliminate approximately 50% to 60% of conventionally performed SUE designates. We also estimate we may reduce the number of test holes and MOT/lane closures by a similar percentage. We correlate potential savings in time and labor to potentially a 40% to 50% reduction in the costs for SUE mapping compared to performing this project using conventional equipment and techniques. We have the best chance of reducing contract time.**



Manual fielding is necessary, but can later be combined with the meter locating activity to fill data gaps in the information for mains and appurtenances, verifying locations and attributions. Our accelerated approach will allow the City to show early progress to FDEP throughout the project's progression, including reducing contract time.

ACCELERATING THE VALVE EXERCISE MAINTENANCE PROGRAM

We understand the challenges of such an intensive valve exercise program, and are ready to provide trained staff to augment the City's Operations and Maintenance (O&M) staff, supporting the City in accelerating the WSVMP if called upon. This plan will allow work to proceed concurrently with our mapping of the water distribution system. Our mapping schedule is depicted at the end of our discussion of the Methodology and Approach to Scope of Work. While our approach includes early conversations with the City to gain your insights for a modification to the 2020 schedule for mapping the system, **our team has the resources to meet the consent order's requirement to complete the mapping by July 2023.**

To comply with the WDMP, the City and its existing team will be challenged to keep up with their review and assimilation of the mapping data WGI produces. Your staff, and those consultants you already use for other projects, in the interest of achieving compliance, must continually fulfill their requirements for their ongoing current work. The City should consider how its total workforce, including your current consultants, reviews and utilizes the data we produce while also delivering on their current contract requirements for system modeling and Cityworks implementations.

STAKEHOLDER ENGAGEMENT

We understand the City's commitment to neighborhood enhancement, as highlighted in the *Press Play Fort Lauderdale 2024*, including the goal of building "a thriving and inclusive community of neighborhoods." As detailed in the City's WSVMP, activities related to valve exercising may increase or decrease flow velocities in the water mains, which may result in sediment disruption and temporarily discolored water. Releasing pressure by opening the valve (a network node) has a hydraulic impact upon the connected system, and increases turbidity of settled particulate matter because of flow velocity fluctuations. If requested as a program management activity, we will work closely with the City to design and implement a stakeholder engagement and communication plan. By using maps and other data WGI produces for the WDMP, it builds on existing community relationships, following processes developed by the City and meeting the objectives of the WSVMP.

VALUE-ADDED OPTIONS

At the top of our list of value-added features and options is the data we produce from our technological capabilities. The City utility department will use the resulting data, and other planners can leverage this rich geospatial data (LiDAR, imagery, 3DHS-GPR, and GIS) for a myriad of future uses, including resiliency planning; flood inundation modeling; a complete streets program, code, and zoning enforcement; tax assessment; and other many practical purposes. **The 3DHS-GPR data is indiscriminate as it collects underground features like water, stormwater, and sewer pipes, gas lines, and cables, making this data useful for future utility designation efforts.** In the image below, you can clearly see the underground utilities other than the water system. Our byproducts provide useful visualization tools to maintain data quality and possibly streamline your workflows for GIS-optimized data and reporting, and support your asset-management programs.



S. Andrews Avenue - 3DHS-GPR below-ground facilities and depths

We also offer several other value-added options that would benefit the City and contribute to the success of the valve exercise and mapping program. These options include financing strategies, and grantsmanship and alternate funding options to enhance the program's affordability, such as the Lead Copper Rule and the Infrastructure Investment Jobs Act [IIJA] Bill. We have the resources and experience to provide these added services to strengthen the ability to meet the consent order requirements, and prepare the City for the future.

STAFFING PLAN

WGI's Fort Lauderdale-based and other local staff and teaming partners have the depth of resources and experience that closely align with your RFQ, enabling us to implement an effective water distribution mapping program that will meet all your objectives, including the consent order mandates. In addition to program management experts, water distribution system engineers, and modelers, we offer regulatory specialists with strong relationships and a proven track record with FDEP. We will engage licensed O&M service providers with expertise in valve mechanics and valve exercising, who have directly applicable experience developing approved valve exercise plans and SOPs. Our GIS, geospatial, surveying and mapping, and SUE professionals provide the innovative equipment and expertise to conduct immediate fieldwork. We have the approach to the scope of work to maintain future compliance, and have financial strategists who will help the City identify funding sources, manage budget, and reduce capital costs.

This dynamic, high-performance team is ready to immediately begin work, leverage the strengths and efficiencies of our combined experience, and successfully partner with the City. WGI's team is organized to meet all tasks identified in the RFQ and provides the resources to accelerate surveying and mapping services within the City's service area. The coordination of our team with the City's project activities for the WSVMP is directed by our program manager, **Brett Oldford, PE**, and the mapping project is led by our project manager, **Roberto Mantecon, PSM**. We include a deputy program manager and water infrastructure specialists as advisors with extensive experience working on content-driven water infrastructure programs. With our experience, we will hit the ground running, strive to reduce contract time, and direct our teams of surveyors, mapping specialists, and engineers from initial fieldwork through the completion of the water distribution mapping project.

In cooperation with Jacobs, we will combine our in-depth knowledge of the City's water infrastructure and water distribution management, planning, design, and operations with specific expertise in program management and mapping services. Jacobs performed work with the City spanning the last three decades, including services as program manager and general engineering consultant. Our team offers proven

performance, demonstrating commitment to the City and its goals. Our combined background eliminates any extensive learning curve, enabling a rapid start-up and project delivery on time and within budget—especially for a program with consent order-driven milestones and deadlines.

WGI's team offers a full suite of custom-tailored operations and maintenance support services for water and wastewater utilities. Through applicable experience, innovative technology, protocols, tools, and systems, we will share our best practices with the City that create cost savings and efficiency gained from our team's hands-on experience in water system programs. Our contracts that feature water distribution system scopes have specific deliverable requirements for system maintenance. WGI's team follows the AWWA guidance and developed SOPs for comprehensive valve exercise programs designed to optimize operations and maximize water system performance.

TECHNICAL EXPERTS AND TECHNOLOGY

THE BEST



ASSETS



WE HAVE



TO OFFER





Firm Qualifications
and Experience

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION (City and State)

Water Consent Order Program Management and Mapping Services | City of Fort Lauderdale

2. PUBLIC NOTICE DATE

4.22.2021

3. SOLICITATION OR PROJECT NUMBER

12665-1026

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Roberto Mantecon, PSM | Project Manager

5. NAME OF FIRM

WGI, Inc.

6. TELEPHONE NUMBER

305.553.0500

7. FAX NUMBER

305.553.0501

8. E-MAIL ADDRESS

Roberto.Mantecon@wginc.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

| | (Check) | | | 9. FIRM NAME | 10. ADDRESS | 11. ROLE IN THIS CONTRACT |
|----|---------|-------------|----------------|--|---|---|
| | PRIME | J-V PARTNER | SUBCON-TRACTOR | | | |
| a. | X | | | WGI, Inc. X CHECK IF BRANCH OFFICE | 3230 W. Commercial Boulevard Suite 300 Fort Lauderdale, Florida 33309 | Project Management ▪ SUE ▪ Survey ▪ GIS |
| b. | X | | | WGI, Inc. CHECK IF BRANCH OFFICE | 2035 Vista Parkway West Palm Beach, Florida 33411 | Program Management ▪ Civil Engineering ▪ SUE ▪ Survey ▪ LiDAR |
| c. | X | | | WGI, Inc. X CHECK IF BRANCH OFFICE | 11401 SW 40th Street Suite 455 Miami, Florida 33165 | Project Management ▪ SUE ▪ Survey |
| d. | X | | | WGI, Inc. X CHECK IF BRANCH OFFICE | 548 Mercantile Place Port St. Lucie, Florida 34986 | Data Management, Integration and QC |
| f. | X | | | WGI, Inc. X CHECK IF BRANCH OFFICE | 2021 East 5th St Suite 200 Austin, Texas 78702 | Program Management ▪ Water Asset Management |
| g. | | | X | Chen Moore and Associates, Inc. CHECK IF BRANCH OFFICE | 500 W. Cypress Creek Road Suite 630 Fort Lauderdale, Florida 33309 | Engineering ▪ Field Quality Control |

| | (Check) | | | 9. FIRM NAME <small>CHECK IF BRANCH OFFICE</small> | 10. ADDRESS | 11. ROLE IN THIS CONTRACT |
|----|---------|-------------|----------------|--|---|--|
| | PRIME | J-V PARTNER | SUBCON-TRACTOR | | | |
| h. | | | X | CTS Engineering, Inc. <small>CHECK IF BRANCH OFFICE</small> | 3230 West Commercial Boulevard, Suite 220 Fort Lauderdale, Florida 33309 | SUE |
| i. | | | X | Florida Technical Consultants, LLC <small>CHECK IF BRANCH OFFICE</small> | 533 East Ocean Avenue Suite # 2 Boynton Beach, Florida 33435 | GIS |
| j. | | | X | Jacobs Engineering Group, Inc. <small>X CHECK IF BRANCH OFFICE</small> | 550 W. Cypress Creek Road Fort Lauderdale, Florida 33309 | Program Management Support ▪ GIS ▪ Quality Control |
| k. | | | X | McKim & Creed <small>X CHECK IF BRANCH OFFICE</small> | 551 North Cattlemen Road Suite 106 Sarasota, Florida 34232 | SUE ▪ Survey |
| l. | | | X | Stoner & Associates, Inc. <small>CHECK IF BRANCH OFFICE</small> | 4341 SW 62nd Avenue Davie, Florida 33314 | Survey |
| m. | | | X | T2 Utility Engineers <small>X CHECK IF BRANCH OFFICE</small> | 5670 Zip Drive Fort Myers, Florida 33905 | SUE ▪ Survey |

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

X (Attached)

See Project Team Experience and Qualifications section for Section D and E.

| | |
|---|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>1</p> |
|---|---|

| | | | | | |
|--|---|-----------------------|------------------------------|-------------|------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>Distribution System Mapping Plan - Task Order 1 Fort Lauderdale, Florida</p> | <p>22. YEAR COMPLETED</p> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>2020</td><td>N/A</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | 2020 | N/A |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| 2020 | N/A | | | | |

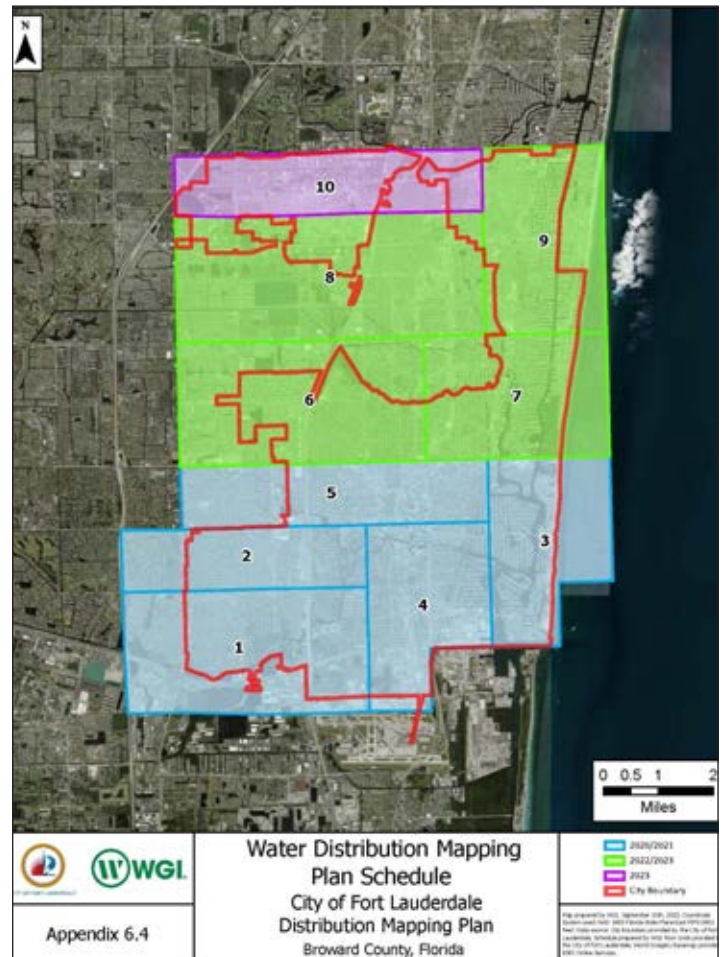
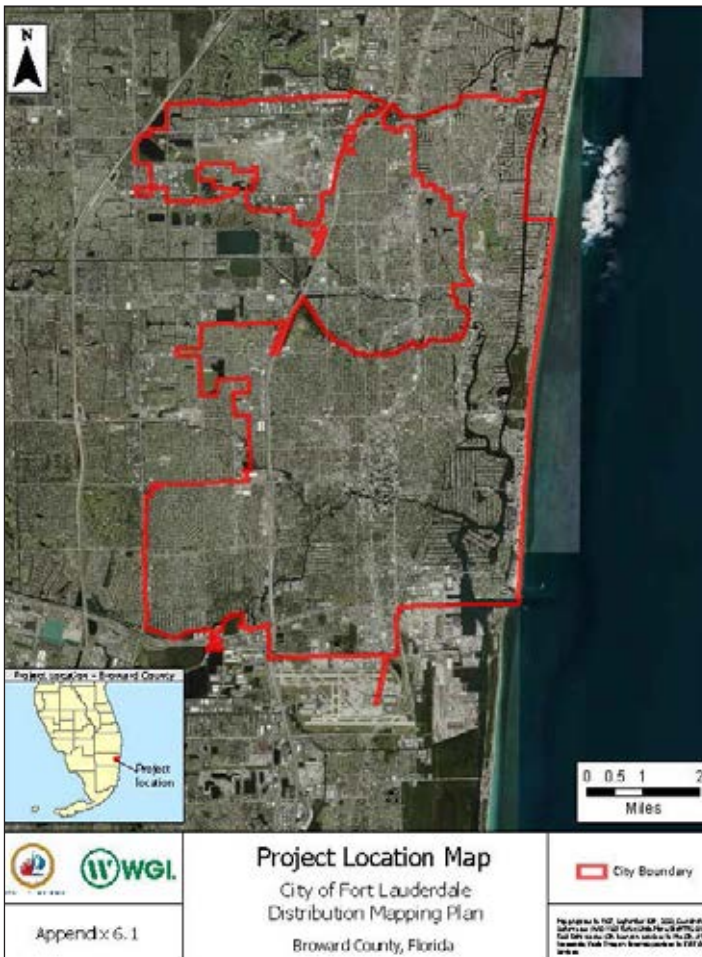
| 23. PROJECT OWNER'S INFORMATION | | |
|---|--|--|
| <p>a. PROJECT OWNER</p> <p>City of Fort Lauderdale</p> | <p>b. POINT OF CONTACT NAME</p> <p>Rick Johnson</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>954.828.7809</p> |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The City of Fort Lauderdale requested that WGI develop a mapping plan for a map of the existing water supply network within the City's geographic boundaries to comply with the FDEP water consent order. The mapping plan outlines the development of a complete map of the existing water supply network for the City that includes all raw water and distribution system mains, valves, hydrants, ARVs, water meters, service lines, and directional flow routes (provided by others). The City's next task work order will be to GIS map 780 miles of waterlines with apparatus (6,220 hydrants).

While faced with a limited schedule, environmental mandate, and GIS features to incorporate into FDEP standards, WGI's multi-discipline geospatial division met with FDEP and GIS staff for constructive discussions to formulate a scope and schedule to satisfy all stakeholders.

This project was submitted on time and within budget.



WGI Fee: \$14,816

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|--|-------------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>Fort Lauderdale, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |



| | |
|---|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>2</p> |
|---|---|

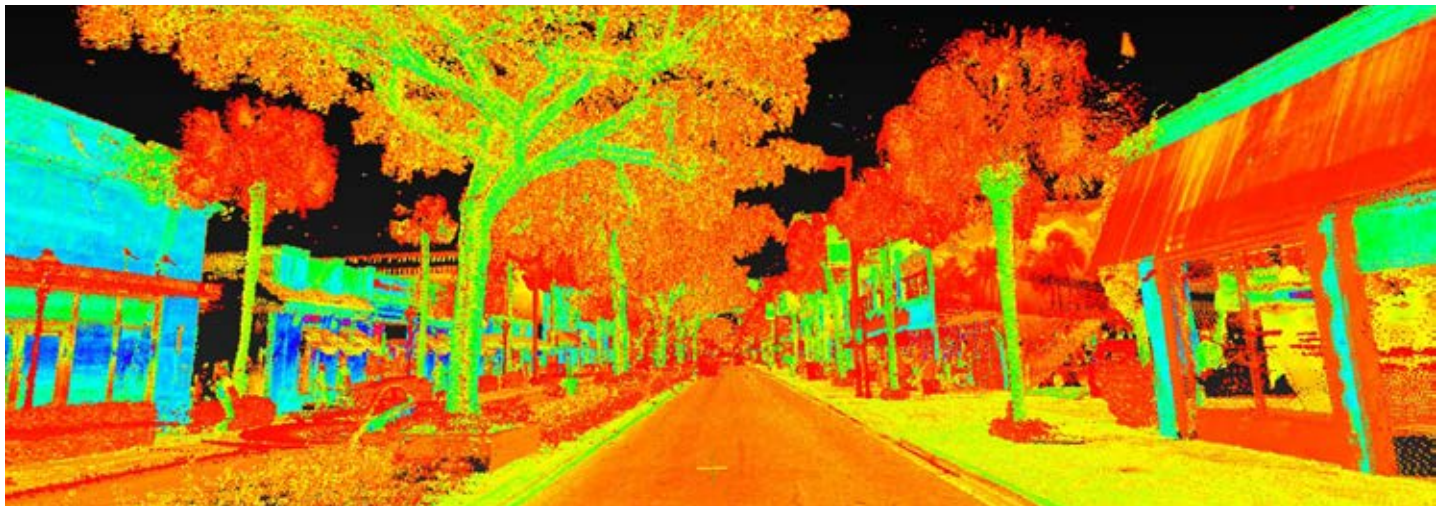
| | | | | | |
|--|---|-----------------------|------------------------------|-------------|------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>Las Olas Boulevard Design Survey Broward County, Florida</p> | <p>22. YEAR COMPLETED</p> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>2019</td><td>N/A</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | 2019 | N/A |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| 2019 | N/A | | | | |

| 23. PROJECT OWNER'S INFORMATION | | |
|---|---|--|
| <p>a. PROJECT OWNER</p> <p>FDOT District 4</p> | <p>b. POINT OF CONTACT NAME</p> <p>Roberto Chavez, PSM</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>954.777.4597</p> |

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| <p>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</p> |
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This project was a complete street assignment in downtown Fort Lauderdale, along one mile of a significant portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. WGI's fieldwork included a budgeted 49 days, which we completed in just 30 days due to WGI's dedication to innovation.

This project was submitted on time and within budget.



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| <p>Survey Fee: \$178,000</p> |
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| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>West Palm Beach, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |

| | |
|---|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>3</p> |
|---|---|

| | | |
|--|--------------------------------------|---|
| 21. TITLE AND LOCATION (City and State) | 22. YEAR COMPLETED | |
| All Aboard Florida - Brightline Fort Lauderdale and West Palm Beach Stations, Florida | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If applicable) 2022 |

| 23. PROJECT OWNER'S INFORMATION | | |
|---------------------------------------|--|---|
| a. PROJECT OWNER Brightline | b. POINT OF CONTACT NAME Deron Haptonstall | c. POINT OF CONTACT TELEPHONE NUMBER 505.975.8754 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

WGI serves as the primary surveying firm responsible for all control, construction, and as-built surveying for the Brightline high-speed rail corridor stretching from Brevard County south to Palm Beach County (approximately 130 miles). Under the multi-year contract, WGI provides six survey field crews to the rail site, seven days a week. WGI also provides on-call SUE services. All fieldwork and supporting office technical staff are managed using WGI's proprietary WOTS to manage office and field production, scheduling, and invoicing support.

WGI has been successfully managing the survey services for approximately three years by holding daily production and scheduling team meetings to communicate the day's schedule and "look ahead." Attention to safety has been recognized by HSR Constructors through multiple "Safety Crew of the Month" awards for our surveying field crews – recognition of our commitment to safety at WGI.

As part of the program management support, WGI participates in the client's daily and weekly planning meetings to assist with resource allocation along with the geographically expansive project site. Our team submits daily production and cost reports together with the deliverables of the day. As priorities shift or our client's resources are altered (material or staff availability), WGI works to realign our resources to support the evolving environment.

In addition to the traditional surveying applied for construction, WGI has also performed mobile LiDAR, static scanning, and SUE services to provide the project team with a single resource to meet the exceptional needs of the Brightline program.

This project was submitted on time and within budget.



WGI Fee: \$12.3M - Construction Cost: \$2B

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|----------------------------|--|
| a. | (1) FIRM NAME WGI, Inc. | (2) FIRM LOCATION (City and State) West Palm Beach, Florida |
| | | (3) ROLE Subconsultant |





300 North Drive, Suite 100
Melbourne, Florida 32934

May 19, 2022

Project: Phase II Zone 4, North South Rail Infrastructure, Contract C-204

Subject: WGI, Inc. Letter of Reference and Recommendation

To whom it may concern,

I prepared this letter to recommend the firm of WGI, Inc. (WGI) for your consideration.

WGI is providing ongoing surveying and mapping, on-call SUE services and as-needed technical engineering services for the Herzog, Stacy and Witbeck and RailWorks, Joint Venture (HSR Constructors (HSRC)) responsible portions of Brightline's Phase II intercity commuter rail project throughout its North / South Corridor.

The Brightline Project requires the rehabilitation of Florida East Coast Railroad's existing track and sidings, construction of a new second main track, reconstruction of over 30 existing railroad bridges, construction / rehabilitation of 155 railroad grade crossings, corridor wide fiber optic installation and upgrades, corridor wide upgrades to existing railroad signaling and grade crossing warning systems and various other civil, drainage and track upgrades from West Palm Beach, FL to the Cocoa Beach, FL in the active FEC Railroad Right-of-Way.

In May 2019 HSRC entered a contract employing the services of WGI as the chosen Professional Surveyor and Mapper responsible for establishing project network control, corridor mapping that also utilized WGI's Hi-Rail mobile LiDAR solution, right of way research, boundary survey, all construction surveying, structures settlement monitoring, and on-call subsurface utility engineering to resolve potential utilities conflicts with new construction. WGI also delivers complete as-built surveys for the newly constructed roadway crossings of newly constructed rail.

WGI was the first and the only survey and on-call SUE contractor that HSRC utilizes on this challenging and high-profile project. WGI was chosen by HSRC because of their large number of in-house survey and SUE crews and their vast technical resources. WGI has consistently delivered timely, high-quality surveying and mapping services and products within the prescribed timeframe and acted responsibly in resolving any technical issues while accommodating HSRC's variable scheduling demands and budgetary constraints. WGI has supported HSRC without interruption during the pandemic period and now on an accelerated seven day per week construction schedule.

Their resources, expertise and experience have been instrumental to HSRC in the progression of the project throughout its continued evolution. Their survey crews have been multiple award winners for the prestigious HSR Constructors Safety Crew of the Month award as well as the Quality Crew of the Month award. WGI possesses the requisite commitment and culture of safety necessary to work with HSR Constructors.

I will be pleased to further discuss the qualifications and performance of WGI. Please feel free to contact me at dhaptonstall@hsrcjv.com or (505) 975-8754.

HSR Constructors is an equal opportunity employer.



Sincerely,
HSR Constructors, A Joint Venture

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke.

Deron Haptonstall
Project Director

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| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>4</p> |
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|--|---|-----------------------|------------------------------|-------------|-------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>Lake Worth Beach Neighborhood Road Program Lake Worth Beach, Florida</p> | <p>22. YEAR COMPLETED</p> <table> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>2017</td><td>2021</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | 2017 | 2021 |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| 2017 | 2021 | | | | |

| 23. PROJECT OWNER'S INFORMATION | | |
|--|---|--|
| <p>a. PROJECT OWNER</p> <p>City of Lake Worth Beach</p> | <p>b. POINT OF CONTACT NAME</p> <p>Brian Shields, PE</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>561.586.1675</p> |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Voters in the City of Lake Worth Beach overwhelmingly approved the proposed Neighborhood Road Program in the November 2016 election. Approximately 67% of the voters supported funding the program through a general obligation bond of \$40M.

The Neighborhood Road Program is the City's largest capital improvement project to date and dramatically improves not only transportation throughout the City's residential areas but improves water distribution and wastewater collection. WGI oversaw engineering, public outreach, and construction management for this four-year roadway improvement program. WGI services included ensuring the overall success of the program, approving design plans for roadway and utility improvements, maintaining project schedules and budgets, developing and implementing a public involvement plan, public meetings, designing and maintaining a program website, and operating a multilingual hotline. WGI served as the single point of contact and information center for City staff and public inquiries. This role maintained consistency, cohesiveness, and collaboration among City staff and consultants resulting in the most effective program.

This project was submitted on time and within budget.



WGI Fee: \$1.86M

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>West Palm Beach, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |



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|---|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>5</p> |
|---|---|

| | | | | | |
|---|--|-----------------------|------------------------------|----------------|------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>Major Sewer Rehabilitation Program Columbia, South Carolina</p> | <p>22. YEAR COMPLETED</p> <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>Ongoing</td><td>N/A</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | Ongoing | N/A |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| Ongoing | N/A | | | | |

| 23. PROJECT OWNER'S INFORMATION | | |
|--|--|--|
| <p>a. PROJECT OWNER</p> <p>Black & Veatch</p> | <p>b. POINT OF CONTACT NAME</p> <p>Robert Osborne, PE</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>864.643.9164</p> |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The City of Columbia's major pipeline rehabilitation project is a multi-year program that includes assessment, rehabilitation method alternatives analysis, preliminary and final design, and construction services support, including document preparation and technical specification development of 108,000 linear feet of 15-inch to 54-inch sanitary sewer infrastructure. The project is part of the City of Columbia's Clean Water 2020 Program in response to a consent decree with the EPA for sanitary sewer overflows. WGI evaluated inspections and investigation information, performed site access and construction feasibility, and analyzed rehabilitation method alternatives to develop recommendations for the design phase. In the design phase, we completed a secondary analysis of method verification, a site survey, and a geotechnical analysis to develop the plan and contract documents. WGI developed technical specifications for identified methods, including cured-in-place-pipe (CIPP), geopolymer lining, pipe bursting, and lateral and manhole rehabilitation methods. We developed a lateral rehabilitation guidance decision process for application during construction. WGI identified easement needs, and coordinated construction and operations and maintenance. We prepared construction documents, project phasing, site access identification, and construction cost estimating.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total pipe length: 108,000 linear feet of sanitary sewer design
- Pipe sizes: 15-inch to 54-inch
- Pipe materials: clay, concrete, RCP, Hobas, ductile, and cast iron
- Pipeline methods: pipe bursting, CIPP, boring, geopolymer lining
- Manhole methods: coating systems and polymer concrete inserts
- Lateral methods: CIPP, pipe bursting, open-cut
- Sewer system condition assessment
- Rehabilitation method selection and risk prioritization planning
- Rehabilitation method specification development
- Lateral rehabilitation method decision process
- Constructability assessment
- Site access and coordination
- Flow bypass planning
- Waterway crossing and wetlands management
- Stakeholder coordination
- U.S. railroad permit coordination
- EPA consent decree compliance program



WGI Fee: \$100,000 - Total Cost: \$40M

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|--|--------------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>Austin, Texas</p> | <p>(3) ROLE</p> <p>Subconsultant</p> |



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| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>6</p> |
|---|---|

| | | | | | |
|--|---|-----------------------|------------------------------|----------------|------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>FDOT District 4 Districtwide Continuing Services for Surveying, Mapping, and SUE, Various Counties, Florida</p> | <p>22. YEAR COMPLETED</p> <table> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>Ongoing</td><td>N/A</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | Ongoing | N/A |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| Ongoing | N/A | | | | |

| 23. PROJECT OWNER'S INFORMATION | | |
|---|---|--|
| <p>a. PROJECT OWNER</p> <p>FDOT District 4</p> | <p>b. POINT OF CONTACT NAME</p> <p>Roberto Chavez, PSM</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>866.336.8435</p> |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

FDOT District 4 contracted with WGI under a five-year, \$5M continuing services contract to support FDOT's in-house and consultant work programs with districtwide surveying, mapping, and utility locating assignments. District 4 encompasses Broward, Palm Beach, Martin, St. Lucie, and Indian River counties. Services are provided on an on-call, task work order basis and include SUE, baseline and right-of-way surveys, terrestrial and terrestrial mobile LiDAR, conventional surveys for design, single and multi-beam hydrographic surveys, drainage surveys, cross-sections, and bridge detail surveys. Right-of-way mapping assignments include right-of-way control survey mapping, right-of-way map preparation, Genesis mapping, sketches to accompany legal descriptions, and appraisal sketches. Utility locating assignments include ASCE 38-02 Quality Level B (utility designating) and Quality Level A (utility test holes), records research, overhead utility scans, and coordination with utility agency owners. WGI has completed more than 120 task work orders to date, most containing SUE scope elements across Southeast Florida, including task work orders within the City of Fort Lauderdale limits.

This project was submitted on time and within budget.



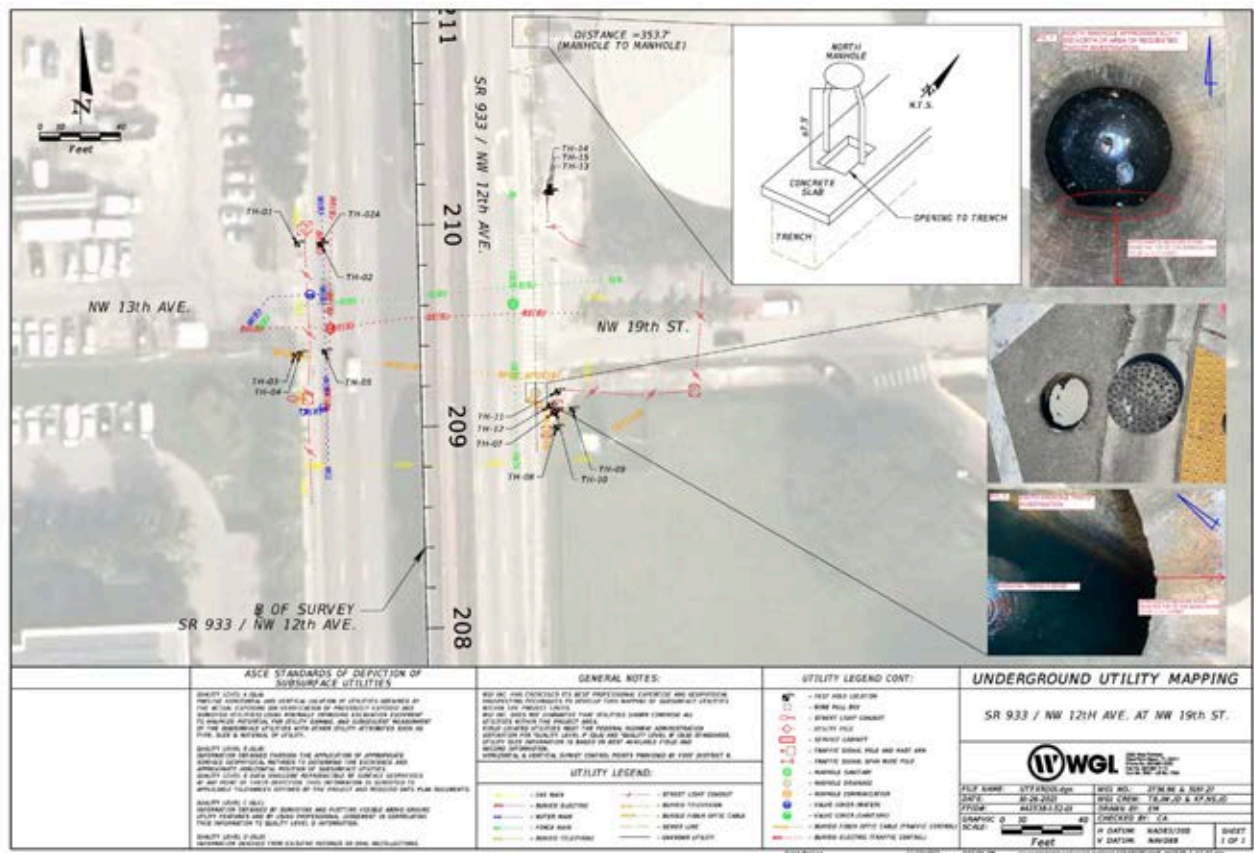
Contract Value: \$5M

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>West Palm Beach, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |



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| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.) | | 20. EXAMPLE PROJECT KEY NUMBER 7 |
| 21. TITLE AND LOCATION (City and State) FDOT District 6 Districtwide Utility Locating Services Miami-Dade and Monroe Counties, Florida | | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2022 CONSTRUCTION (If applicable) N/A |
| 23. PROJECT OWNER'S INFORMATION | | |
| a. PROJECT OWNER FDOT District 6 | b. POINT OF CONTACT NAME Tony Soto/Xenia Rodriguez | c. POINT OF CONTACT TELEPHONE NUMBER 305.470.5232 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



FDOT District 6 contracted with WGI for a five-year, \$5M continuing services contract to provide SUE services throughout Miami-Dade and Monroe counties. WGI provided ASCE 38-02 Quality Level B, Quality Level A, GPR investigations, and right-of-way staking, supporting in-house design and consultant management projects. The contract required a team of consultants, which WGI led and managed, to support FDOT's needs. WGI provided all scope-related field and office services and contract management, administration, billing support, and progress reporting. WGI has completed more than 130 task work orders, 4,000 test holes, and hundreds of miles of designating during the course of the contract. One of the challenging aspects of this contract was safe access to existing infrastructure within the right-of-way. Miami-Dade County is a high-volume tourist destination, where exceptionally elevated levels of mobile and pedestrian traffic posed a safety challenge, both to the public and WGI field associates. To minimize the risk exposure, WGI closely coordinated with Miami-Dade County officials on field deployment schedules, specifically during the off-season and extensive MOT efforts. Limiting the duration of the deployments was an additional factor considered by WGI to mitigate safety concerns.

This project was submitted on time and within budget.

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| Contract Value: \$5M | | | |
| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | | |
| a. | (1) FIRM NAME WGI, Inc. | (2) FIRM LOCATION (City and State) West Palm Beach, Florida | (3) ROLE Prime |

| | |
|---|---|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>8</p> |
|---|---|

| | | | | | |
|---|--|-----------------------|------------------------------|-------------|------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>NPBCID Asset Management Collection Palm Beach County, Florida</p> | <p>22. YEAR COMPLETED</p> <table> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>2021</td><td>N/A</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | 2021 | N/A |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| 2021 | N/A | | | | |

23. PROJECT OWNER'S INFORMATION

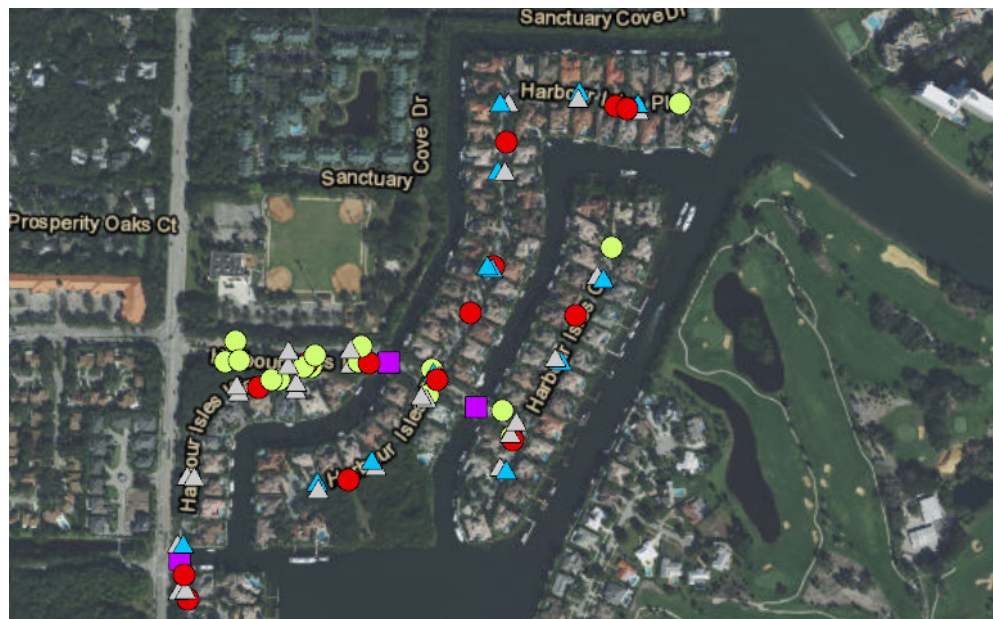
| | | |
|---|---|--|
| <p>a. PROJECT OWNER</p> <p>Northern Palm Beach County Improvement District</p> | <p>b. POINT OF CONTACT NAME</p> <p>Ken Roundtree</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>561.624.7830</p> |
|---|---|--|

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Northern Palm Beach County Improvement District (NPBCID) requested WGI's assistance with asset mapping to verify data in their existing database. After NPBCID reviewed their inventory, they questioned the reliability of data found on current assets. They discovered multiple inconsistencies in the data collected for assets such as signs, drainage structures, poles, and bridges. NPBCID determined the inconsistencies were due to an issue with collection efforts; handheld collectors incorrectly logged data based on the position of the employee collecting the data versus logging data for the asset itself. To supplement NPBCID's efforts and assist with updating their database, WGI verified existing data utilizing mobile mapping by collecting and comparing data from handheld collectors with that of WGI's terrestrial mobile LiDAR collection methods. Using a vehicle-mounted LiDAR sensor, WGI captured data at highway speeds. Google Earth-style "street view" imagery was collected simultaneously to depict asset components such as type, identification labels/signs, defects, etc. The features, images, and information captured for each location were combined using GIS and cataloged in a geodatabase.

Data collected at highway speeds minimizes field effort associated with this approach, providing significant time savings. WGI mobile mapped over 40 miles of NPBCID maintained rights-of-way within 11 units in a single day, creating a snapshot-in-time of their assets. These features were later extracted with imagery and cataloged per unit on an as-needed basis utilizing the same mobile mapped data. This method reduced costs by avoiding multiple field mobilizations while accurately mapping each asset and correcting the previously published data. Newly collected data allowed NPBCID to update and maintain an accurate inventory of their assets, including detailed information for each feature that can be used for future maintenance, insurance, and budgeting purposes. As quoted by NPBCID's GIS consultant, Kevin Mayo, **"This gives me a lot of confidence moving forward collecting features from LiDAR that we are missing in GIS."** WGI has completed over 11 task work orders to date.

This project was submitted on time and within budget.



Design Fee: \$156,460

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

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|---|--|-------------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>West Palm Beach, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |
|---|--|-------------------------------------|

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|---|--|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.) | 20. EXAMPLE PROJECT KEY NUMBER <div>9</div> |
|---|--|

| | | |
|--|-----------------------|------------------------------|
| 21. TITLE AND LOCATION (City and State) | 22. YEAR COMPLETED | |
| Clay County Bonding Green Cove Springs, Florida | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| | Ongoing | N/A |

23. PROJECT OWNER'S INFORMATION

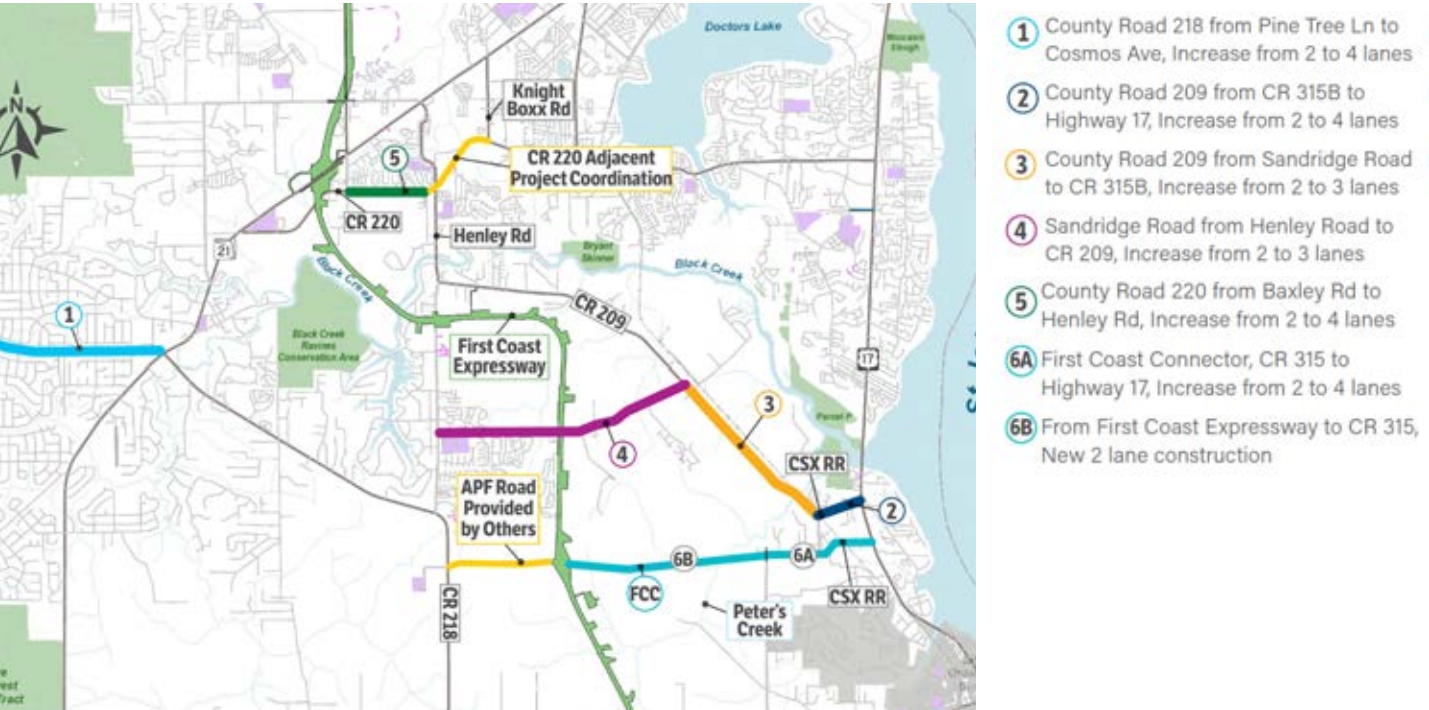
| | | |
|---|--------------------------|--------------------------------------|
| a. PROJECT OWNER | b. POINT OF CONTACT NAME | c. POINT OF CONTACT TELEPHONE NUMBER |
| Clay County Board of County Commissioners | Dale Smith, PE | 904.284.6335 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Clay County selected WGI for their owner's representative services contract for the County's \$130M Transportation Road Bond Program. This project included detailed topographic surveys, SUE services, and accurate right-of-way determination along a significant portion of the County's roadway. With a compressed schedule, multiple crews were mobilized immediately in conjunction with our Leica Pegasus II mobile scanner to safely and efficiently capture the necessary spatial data for our design team. All above-ground features were captured, and we closely coordinated with Clay County Utility Authority (and other local utility providers) to create a comprehensive 3D model for the design of future roadway improvements.

One of the biggest challenges for this project was the condensed schedule. To comply with bond requirements, the County had a limited amount of time to complete seven roadway projects throughout Clay County. As the owner's representative, our in-house staff was tasked with selecting the design firms for each project. To avoid any delay in the start of design, WGI proposed survey would be completed prior to design firm selection. We coordinated with multiple crews to separate sites or to work cooperatively along the same route. In addition to being able to expedite the survey phase, WGI was able to keep consistency in the survey deliverables that would have been lost had the survey been pieced out to multiple firms. We also had the unique advantage of being able to utilize our Leica Pegasus II mobile scanner. This greatly increased efficiency as well as most importantly, increased safety for our crews. The current roads consist of mostly two-lane county roads with little to no shoulder. With our mobile scanner, we were able to reduce the time our crews spent near the roadway and minimize the impact on traffic.

This project was submitted on time and within budget.



Estimated Design Fee: \$15M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

| | | | |
|----|---------------|------------------------------------|----------|
| | (1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE |
| a. | WGI, Inc. | Jacksonville, Florida | Prime |

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| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>10</p> |
|---|--|

| | | | | | |
|--|---|-----------------------|------------------------------|-------------|-------------|
| <p>21. TITLE AND LOCATION (City and State)</p> <p>Seacrest Corridor Utility Improvements Design-Build Boynton Beach, Florida</p> | <p>22. YEAR COMPLETED</p> <table> <tr> <td>PROFESSIONAL SERVICES</td><td>CONSTRUCTION (If applicable)</td></tr> <tr> <td>2018</td><td>2019</td></tr> </table> | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | 2018 | 2019 |
| PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) | | | | |
| 2018 | 2019 | | | | |

| 23. PROJECT OWNER'S INFORMATION | | |
|---|---|--|
| <p>a. PROJECT OWNER</p> <p>City of Boynton Beach</p> | <p>b. POINT OF CONTACT NAME</p> <p>Christopher Roschek, PE</p> | <p>c. POINT OF CONTACT TELEPHONE NUMBER</p> <p>561.742.6413</p> |

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| <p>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</p> |
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The City of Boynton Beach selected WGI to design and oversee the construction of a substantial infrastructure improvement project. The neighborhood improvements included 60,000 linear feet of water main replacement, moving rear yard services and meters to front yards, 5,000 linear feet of stormwater system upgrades, pavement reconstruction and overlay, roadside swales, driveway aprons, and sidewalks over a 50-block residential neighborhood covering all 252 acres. A critical sanitary sewer force main connection was also designed and installed to connect the City's sanitary sewer system across the FEC Railroad and Intracoastal Waterway to the barrier island. Installation of the 6-inch to 10-inch diameter water and force main used a combination of open-cut, horizontal directional drill, jack and bore, and pipe bursting construction methods.

Additional services provided by WGI included survey, SUE, landscape architecture, environmental permitting, and public outreach activities. WGI planners created outreach brochures, hosted neighborhood meetings, managed a website, and monitored a trilingual hotline to answer the questions and concerns of residents and ensure an effective process.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total length: 60,000 linear-feet (watermain); 5,000 linear-feet (stormwater)
- Pipe sizes: 6-inch and 10-inch water main; 10-inch force main
- Pipeline design
- Water infrastructure
- Stormwater improvements
- Pavement reconstruction
- Sidewalk improvements
- Sewer force main connection
- Lateral methods: open cut, horizontal directional drilling, jack and bore, and pipe bursting
- Public outreach
- Permitting
- Landscape architecture
- Topographical survey
- SUE



WGI Fee: \$1.2M - Construction Cost: \$13M

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|---|------------------------------|
| <p>a. (1) FIRM NAME</p> <p>WGI, Inc.</p> | <p>(2) FIRM LOCATION (City and State)</p> <p>West Palm Beach, Florida</p> | <p>(3) ROLE</p> <p>Prime</p> |



| | |
|---|---|
| F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.) | 20. EXAMPLE PROJECT KEY NUMBER 11 |
|---|---|

| | | |
|---|--|--|
| 21. TITLE AND LOCATION (City and State) FDOT District 7 Districtwide Subsurface Utility Locate and Coordination Services, Various Counties, Florida | 22. YEAR COMPLETED PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
|---|--|--|

| 23. PROJECT OWNER'S INFORMATION | | |
|--|---|---|
| a. PROJECT OWNER FDOT District 7 | b. POINT OF CONTACT NAME Jose Vasquez | c. POINT OF CONTACT TELEPHONE NUMBER 813.975.6453 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

FDOT District 7 contracted with WGI for a five-year districtwide contract including Quality Level B and A, right-of-way staking, and utility coordination assignments throughout Hillsborough, Pasco, and Hernando counties. WGI's responsibilities included reviewing and analyzing the design plans, identifying potential conflict areas, selecting proposed test hole locations, coordinating the SUE/survey field and office support services, reviewing the collected data, and preparing and delivering FDOT-compliant CAD files, UTEXRD, and verified utility locate sheets. WGI also provided utility coordination services, including identifying utility company and local government agency involvement and their existing and proposed utility facilities; all site field and office meetings to help develop, review, and approve utility relocation work schedules; utility relocation agreements; joint project agreements; and the proper documentation and negotiations for securing all legal agreements to clear a project for letting. WGI completed more than 40 task work orders to date. This contract also aided WGI's D7 Districtwide Design-Build Push Button contract, **where WGI was faced with exceptionally aggressive production schedules.**

This project was submitted on time and within budget.



| Contract Value: \$1.5M | | |
|---|----------------------------|--|
| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
| a. | (1) FIRM NAME WGI, Inc. | (2) FIRM LOCATION (City and State) Tampa, Florida |
| | | (3) ROLE Prime |



| | |
|---|--|
| <p>F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT (Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</p> | <p>20. EXAMPLE PROJECT KEY NUMBER</p> <p>12</p> |
|---|--|

| | | |
|---|--------------------------------------|---|
| 21. TITLE AND LOCATION (City and State) | 22. YEAR COMPLETED | |
| Sunlake Boulevard from Ridge Road to SR 52 Roadway Development Pasco County, Florida | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) 2021 |

| 23. PROJECT OWNER'S INFORMATION | | |
|--|--|---|
| a. PROJECT OWNER Len-Angeline, LLC | b. POINT OF CONTACT NAME Ted Sanders | c. POINT OF CONTACT TELEPHONE NUMBER 813.288.8078 |

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The extension of Pasco County's utility infrastructure was required to serve the future development of planned communities located east of the Suncoast Parkway. This extension included over 14,000 linear feet of 16-inch high-density polyethylene pipe located within the SR 52 right-of-way and was installed initially in connection with the Angeline Development, a community development district and part of the County's connected city program located south and east of SR 52 and the Suncoast Parkway. The wastewater force main combined horizontal directional drill and open cut installation methods to optimize production and minimize environmental impacts and impacts to utility owners, business owners, and residents.

A unique opportunity that challenged the entire project team was the simultaneous construction of FDOT's SR 52 roadway expansion project during the installation of the wastewater force main. A robust planning and communication plan was implemented to minimize the space constraints of multiple contractors occupying the same space during the construction of both projects. WGI assisted the entire team, including FDOT, Pasco County, contractors, and engineers, by employing a proactive approach to construction scheduling, identifying potential conflicts, and early resolution of disputes to avoid construction delays.

The project was contracted by Len Angeline, LLC, in collaboration with Pasco County and permitted through Pasco County, FDOT, FDEP, and the Southwest Florida Water Management District.

This project was submitted on time and within budget.

PROJECT HIGHLIGHTS:

- Total length: 14,000 linear-feet
- Pipe size: 16-inch sewer force main
- Wastewater pipeline design
- Topographical survey
- Environmental assessment
- SUE
- Horizontal directional drilling
- Open cut
- Highway coordination
- Construction scheduling
- Conflict identification
- Permitting



Survey Fee: \$237,200 - Civil Fee: \$433,000

| 25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT | | |
|---|----------------------------|--|
| a. | (1) FIRM NAME WGI, Inc. | (2) FIRM LOCATION (City and State) Tampa, Florida |
| | | (3) ROLE Prime |



G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

| 26. NAMES OF KEY PERSONNEL (From Section E, Block 12) | 27. ROLE IN THIS CONTRACT (From Section E, Block 13) | 28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.) | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Roberto Mantecon, PSM | Project Manager | | | | | | | X | | | | | |
| Brett Oldford, PE | Program Manager | | | | X | | | | | | X | | X |
| Leigh Thomas, PE | Technical Advisor Condition Assessment | | | | | X | | | | | | | |
| Sandor Laszlo, PE | LiDAR Services Lead | | | X | | | X | | | | | | |
| Radek Grabowski | SUE Services Lead | X | X | X | X | | X | X | | | X | X | X |
| Jim Sullivan, PSM | Survey Services Lead | | | | X | | X | X | X | | | X | |
| Jorge Kappa | GIS Services Lead | | | | | | | | | X | | | |
| Jason Alvarez, CST II | Data Management, Integration & QC | | X | X | X | | X | | X | X | | | |
| | | | | | | | | | | | | | |
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29. EXAMPLE PROJECTS KEY

| No. | TITLE OF EXAMPLE PROJECT (From Section F) | No. | TITLE OF EXAMPLE PROJECT (From Section F) |
|-----|---|-----|---|
| 1. | Distribution System Mapping Plan | 7. | District 6 Districtwide Utility Locating Services |
| 2. | Las Olas Boulevard Design Survey | 8. | NPBCID Asset Management Collection |
| 3. | All Aboard Florida – Brightline | 9. | Clay County Bonding |
| 4. | Lake Worth Beach Neighborhood Road Program | 10. | Seacrest Corridor Utility Improvements Design-Build |
| 5. | Major Sewer Rehabilitation Program | 11. | District 7 Districtwide Subsurface Utility Locate and Coordination Services |
| 6. | District 4 Districtwide Continuing Services for Surveying, Mapping, and SUE | 12. | Sunlake Boulevard from Ridge Road to SR 52 |

PROJECT/PROGRAM MANAGERS

WGI will take full responsibility for all project management, peer review, QC tasks, and overall accountability for this contract. With 44 years of experience, **Roberto Mantecon, PSM** will lead WGI's project team for water distribution system mapping. He will be responsible for scope, schedule, coordination, and project delivery. His project management skills and in-depth knowledge proved successful in working with a variety of municipalities and FDOT, bringing substantial value to meet and exceed the City's project goals. He draws on his field survey and office production experience to direct field crews and office technicians, producing high-quality deliverables under tight schedules. **Brett Oldford, PE** will serve as the program manager for this contract. Brett provided municipal engineering and utility-related services to numerous cities and counties throughout South Florida. He is familiar with working alongside municipal staff to deliver comprehensive and well-thought-out plans, studies, and reports. Brett understands the importance of maintaining project schedules and delivering quality projects on time and within budget. **Godo Canino, PE** will be the deputy program manager. He is a water infrastructure specialist with a history of working on content-driven water infrastructure programs. With 25 years of program management and engineering experience for water infrastructure programs, Godo offers the team experience in achieving regulatory compliance.



Roberto Mantecon, PSM
Project Manager

Roberto has experience simultaneously managing a full department of staff and projects. His responsibilities include project management for abstracting titles, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services. During his over four-decade career, Roberto served as the survey manager or principal surveyor for multiple cities, and public and federal agencies on similar projects.

RELEVANT EXPERIENCE:

- Pembroke Road Water Line Improvements, Project Manager
- Districtwide Miscellaneous Location Survey Consultant Services, Project Manager



Brett Oldford, PE
Program Manager

Brett has provided municipal infrastructure planning, design, and construction management services, including water distribution system modeling and analysis, for over two decades. His experience with local regulatory requirements and the public contractual process enables him to apply his working knowledge and best practices to demanding projects with expedited schedules.

RELEVANT EXPERIENCE:

- Lake Worth Beach Neighborhood Streets Program Management, Palm Beach County, FL, Contract Manager
- Seacrest Corridor Utility Improvements, Principal



Godofredo "Godo" Canino,
PE, MBA, BCEE, PMP
Deputy Program Manager

As program manager for Puerto Rico Aqueduct and Sewer Authority (PRASA), Godo oversaw the development of hydraulic models for water distribution systems during the project planning phase. During this process, the team focused on developing the model using GIS data, calibrating the model using field data, defining the issues/problems, and then identifying a solution. Godo also oversaw the development of the telemetry system, including the water distribution system (tanks, pumps, valves) and the integration of the water distribution systems into the telemetry system. This included identifying assets, overseeing the installation of controls/communication equipment of the assets, and then integrating them into the telemetry/SCADA platform.

RELEVANT EXPERIENCE:

- PRASA Compliance Program, Program Manager

FIRM SUSTAINABILITY

WGI has been an advocate of sustainable business practices and resources for decades. As a multidisciplinary firm, we utilize all our resources in approaching a project. Our engineering, transportation, architecture, planning, structural, landscape architecture, and parking divisions all employ LEED-accredited professionals.

Our associates routinely participate in water resource summits, rising tide discussions, and environmental cleanups—including participation in the Cypress Creek Natural Area Clean-Up. Additionally, our structural engineers recently donated design services for the Andrew “Red” Harris Foundation’s latest artificial reef project. These activities in which our associates participate, many during their spare time, speak to the firm’s commitment to improving our communities and the world around us.



Cypress Creek Natural Area Clean-Up

In 2016, an internal WGI Environmental Advisory Board was formed to designate best practices for the firm. They have implemented several initiatives to encourage recycling, consolidate purchasing, and reduce excess waste. In addition, the design of our corporate headquarters integrated landscape and hardscape using sustainable human-centric practices, creating a location that is workable, walkable, and inspiring.

WGI invests in cutting-edge solutions that our forward-thinking clients demand. Our company trademark “Tomorrow’s Technology Today” inspires all of us to look

ahead to innovation, technology, smart and connected cities, resiliency, and autonomy—a valuable resource to our clients. WGI believes in investing in technology to benefit not only our firm, but our clients as well. WGI staff utilizes cutting-edge technologies for a variety of tasks, from data collection and analysis to graphic presentations to clients. These technologies include vehicle-mounted and personnel-equipped LiDAR, GPR, as well as aerial and aquatic drones for a variety of data collection capabilities. These high-precision systems allow us to create digital 3D scans of project limits within a matter of hours versus weeks of labor-intensive data gathering efforts with traditional survey and SUE methods.

DELIVERING PROJECTS ON TIME AND ON BUDGET

WGI’s extensive staff resources and investment in project scheduling and management software allow our team to submit deliverables under budget and ahead of schedule time and time again—evidenced by our consistent award of continuing contracts from numerous repeat municipal clients. At each task inception, WGI works upfront to identify potential schedule and budget impacts and provide solutions to avoid them.



WGI firmly believes that successful task execution with difficult schedules requires experienced human effort and effective utilization of that workforce. Our project manager has a very talented technical and support staff, and a full array of field and office technology necessary to meet those demanding schedules. WGI uses several programs, including Newforma Project Analyzer and Deltek Vision, to assist with keeping projects both organized and updated for budgetary purposes. Each assignment under this contract will be supported by a detailed, precedent-based schedule. These schedules are clear and concise, include all major milestone events, and account for comprehensive quality-control activities. Ensuring all the City’s requests are addressed in a timely manner, WGI teamed with subconsultants CMA, CTS, FTC, Jacobs, MK&C, S&A, and T2 to provide field crew support as needed. Regardless of project size, this unique team is fully committed to utilizing local field crews and office staff. WGI anticipates that there will be some urgent or emergency task orders during the life of the contract that require extraordinary effort. With ample firm-wide surveying resources, our staff/crews can be in Fort Lauderdale and on-site within 48 hours (if needed).

WGI Licenses

PROFESSIONAL ENGINEERING LICENSE Florida engineering companies used to have a professional license, a CA number. As of October 2019, Florida companies are required to register, but no engineering license will be issued; the CA number has been replaced by a Registry License number.

- WGI's Engineering Registry number is 33574

PROFESSIONAL SURVEY AND MAPPING LICENSE

| | | |
|--|---|---|
|  | Florida Department of Agriculture and Consumer Services Division of Consumer Services Board of Professional Surveyors and Mappers 2005 Apalachee Pkway Tallahassee, Florida 32399-6500 | License No.: LB7055 Expiration Date February 28, 2023 |
| Professional Surveyor and Mapper Business License Under the provisions of Chapter 472, Florida Statutes | | |
| WGI, INC 2035 VISTA PARKWAY WEST PALM BEACH, FL 33411 | |  NICOLE "NIKKI" FRIED COMMISSIONER OF AGRICULTURE |
| <small>This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.</small> | | |

| |
|---|
| <p>State of Florida Department of State</p> <p>I certify from the records of this office that WGI, INC. is a corporation organized under the laws of the State of Florida, filed on July 12, 1991.</p> <p>The document number of this corporation is S66593.</p> <p>I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 3, 2022, and that its status is active.</p> <p>I further certify that said corporation has not filed Articles of Dissolution.</p> <p><i>Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Third day of January, 2022</i></p> <div> Secretary of State</div> <div><small>Tracking Number: 9065464577CC</small> <small>To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.</small> <small>https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication</small></div> |
|---|



Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAUT, P.E.
SECRETARY

July 1, 2021

Kate Fontaine, VP, Administration
WGI, INC.
2035 Vista Parkway, Suite 100
West Palm Beach, Florida 33411

Dear Ms. Fontaine:

The Florida Department of Transportation has reviewed your application for prequalification package and determined that the data submitted is adequate to technically prequalify your firm for the following types of work:

- Group 2 - Project Development and Environmental (PD&E) Studies
- Group 3 - Highway Design - Roadway
 - 3.1 - Minor Highway Design
 - 3.2 - Major Highway Design
 - 3.3 - Complex Highway Design
- Group 4 - Highway Design - Bridges
 - 4.1.1 - Miscellaneous Structures
 - 4.1.2 - Minor Bridge Design
 - 4.2.1 - Major Bridge Design - Concrete
 - 4.2.2 - Major Bridge Design - Steel
- Group 5 - Bridge Inspection
 - 5.4 - Bridge Load Rating
- Group 6 - Traffic Engineering and Operations Studies
 - 6.1 - Traffic Engineering Studies
 - 6.2 - Traffic Signal Timing
 - 6.3.1 - Intelligent Transportation Systems Analysis and Design
 - 6.3.2 - Intelligent Transportation Systems Implementation
 - 6.3.3 - Intelligent Transportation Traffic Engineering Systems Communications
 - 6.3.4 - Intelligent Transportation Systems Software Development
- Group 7 - Traffic Operations Design
 - 7.1 - Signing, Pavement Marking and Channelization
 - 7.2 - Lighting
 - 7.3 - Signalization

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www.fdot.gov

- Group 8 - Survey and Mapping
 - 8.1 - Control Surveying
 - 8.2 - Design, Right of Way & Construction Surveying
 - 8.3 - Photogrammetric Mapping
 - 8.4 - Right of Way Mapping
- Group 10 - Construction Engineering Inspection
 - 10.1 - Roadway Construction Engineering Inspection
- Group 11 - Engineering Contract Administration and Management
- Group 13 - Planning
 - 13.4 - Systems Planning
 - 13.5 - Subarea/Corridor Planning
 - 13.6 - Land Planning/Engineering
 - 13.7 - Transportation Statistics
- Group 14 - Architect
- Group 15 - Landscape Architect

Your firm is now technically prequalified with the Department for Professional Services in the above referenced work types. The overhead audit has been accepted, and your firm may pursue projects in the referenced work types with fees of any dollar amount. This status shall be valid until June 30, 2022, for contracting purposes.

Approved Rates

| Home/ Branch Overhead | Field Overhead | Facilities Capital Cost of Money | Premium Overtime | Reimburse Actual Expenses | Home Direct Expense | Field Direct Expense |
|-----------------------------|-------------------|--|---------------------|---------------------------------|---------------------------|----------------------------|
| 197.35% | 110.07% | 0.204% | Reimbursed | No | 4.15% | 0.00%* |

*Rent and utilities excluded from field office rate. These costs will be directly reimbursed on contracts that require the consultant to provide field office.

Per Title 23, U.S. Code 112, there are restrictions on sharing indirect cost rates. Refer to Code for additional information.

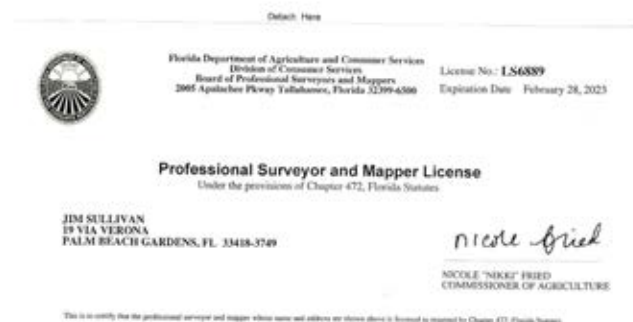
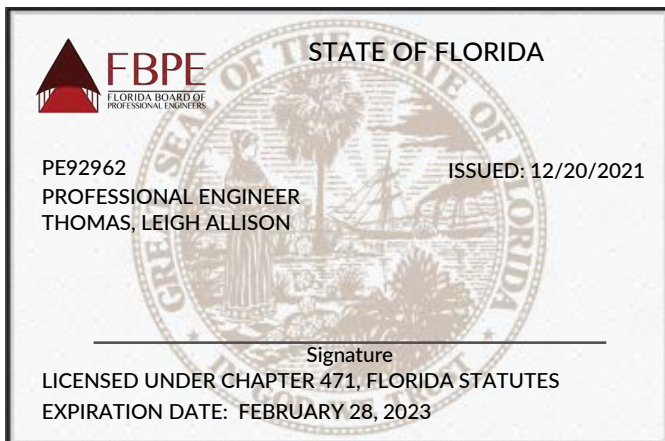
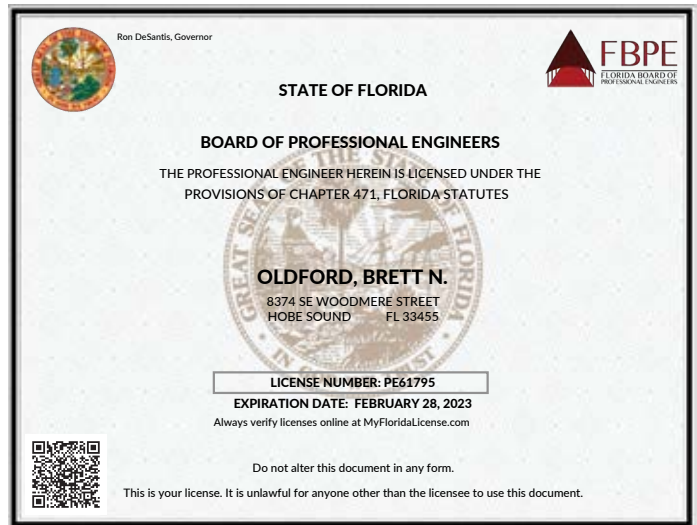
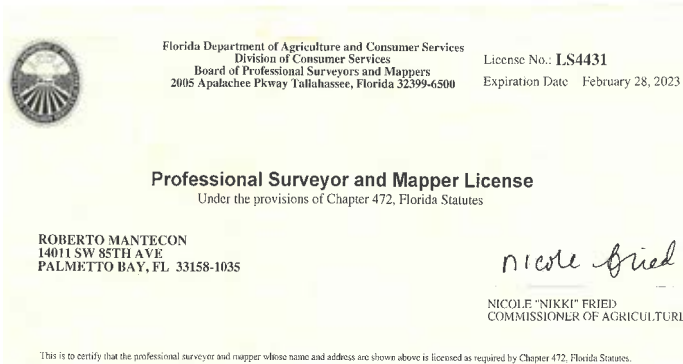
Should you have any questions, please feel free to contact me by email at carliayn.kell@dot.state.fl.us or by phone at 850-414-4597.

Sincerely,

Carliayn Kell
Professional Services
Qualification Administrator

Safety, Mobility, Innovation
www.fdot.gov







State of Florida Department of State

I certify from the records of this office that JACOBS ENGINEERING GROUP INC. is a Delaware corporation authorized to transact business in the State of Florida, qualified on February 12, 1987.

The document number of this corporation is P13217.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on January 14, 2021, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Twentieth day of January,
2021*



Randy A. Be
Secretary of State

Tracking Number: 9411318483CU

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Ron DeSantis, Governor

STATE OF FLORIDA

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

BOARD OF PROFESSIONAL ENGINEERS
THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

CANINO, GODOFREDO
6651 NW 105TH PL
DORAL FL 33178

LICENSE NUMBER: PE81450
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

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PROFESSIONAL LICENSING
GEORGIA SECRETARY OF STATE BRAD RAFFENSPERGER
CORPORATIONS • ELECTIONS • LICENSING • CHARITIES

Licensee Details

Licensee Information

Name: Joan Michael Stearns
Address:
JONES CREEK GA 30006

Professional License Information

| | | | | | |
|------------|-----------|---------------|----------------------------|--------------------|-----------------------|
| License #: | PE000468 | Professional: | Engineers / Land Surveyors | Type: | Professional Engineer |
| Secondary: | | Method: | Examination | Status: | Active |
| Renewal: | 1/15/2023 | Expires: | 12/31/2023 | Last Renewal Date: | 10/22/2020 |

Prescribed Licensee

No Prescribed Information

Public Board Orders

Please see Documents section below for any Public Board Orders

Other Documents

No Other Documents

Data current as of May 19, 2022 14:45:5

This website is to be used as a primary source verification for licenses issued by the Professional Licensing Boards. Paper verifications are available for a fee. Please contact the Professional Licensing Boards at 844-753-7523.



State of Florida Department of State

I certify from the records of this office that CHEN MOORE AND ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on November 7, 1986.

The document number of this corporation is J41454.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 25, 2022, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Twenty-fifth day of January,
2022*



Randy A. Be
Secretary of State

Tracking Number: 3799915237CC

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Ron DeSantis, Governor

STATE OF FLORIDA

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

BOARD OF PROFESSIONAL ENGINEERS
THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

DAVILA, DANIEL EDUARDO
7525 SW 26TH COURT
DAVIE FL 33314

LICENSE NUMBER: PE63014
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.
This is your license. It is unlawful for anyone other than the licensee to use this document.



State of Florida Department of State

I certify from the records of this office that CRAVEN, THOMPSON & ASSOCIATES, INC. is a corporation organized under the laws of the State of Florida, filed on January 1, 1962.

The document number of this corporation is 254407.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 10, 2022, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

*Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Tenth day of January, 2022*



Randy R. ...
Secretary of State

Tracking Number: 8684548764CC

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<https://services.nasbia.org/Filings/CertificateOfStatus/CertificateAuthentication>

Florida UCP DBE Directory

Number of Records Returned: 1
Selection Criteria:
Vendor: CTS ENGINEERING INC

Vendor Name: [CTS ENGINEERING INC](#)
DBE Certification: **CERTIFIED**
DBA:
Business Description: TRANSPORTATION PLANNING/TRAFFIC ENGINEERING AND TRAFFIC DATA COLLECTION
Mailing Address: 8095 NW 12TH ST STE 315
DORAL FL 33126

Contact Name: SHENG YANG
Email: SYANG@CTSENG.COM
Phone: (305) 599-8698 Fax: (305) 599-8692
Statewide Availability: N ACDRE Status: N

Certified NAICS
541330 Engineering Services
541690 Other Scientific and Technical Consulting Services

| DBPR ONLINE SERVICES | |
|----------------------------|--|
| Licensee Details | |
| License Information | |
| Name: | CTS ENGINEERING, INC. (Primary Name) |
| Main Address: | 3230 W COMMERCIAL BLVD SUITE 220 FORT LAUDERDALE Florida 33309 |
| County: | BROWARD |
| License Holding: | |
| License Location: | |
| License Information | |
| License Type: | Registry |
| Rank: | Registry |
| License Number: | 28935 |
| Status: | Current |
| Licensure Date: | 12/28/2009 |
| Expires: | |

| Florida Department of Agriculture and Consumer Services Division of Consumer Services Board of Professional Surveyors and Mappers 2000 Apalachee Pkwy Tallahassee, Florida 32399-6500 | | License No.: LBB439 Expiration Date: February 28, 2023 |
|--|--|--|
| Professional Surveyor and Mapper Business License Under the provisions of Chapter 472, Florida Statutes | | |
| CTS ENGINEERING, INC. 3230 WEST COMMERCIAL BOULEVARD, SUITE 220 FORT LAUDERDALE, FL 33309 | | <i>Nicole Fried</i> NICOLE "NIKKI" FRIED COMMISSIONER OF AGRICULTURE |
| This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes. | | |

| State of Florida Minority Business Certification | |
|--|--|
| CTS Engineering, Inc Is certified under the provisions of 287 and 295.187, Florida Statutes, for a period from: 06/25/2020 to 06/25/2022 | |
| <i>John H. ...</i> Jonathan H. ... Florida Department of Transportation Services | |
| Department of MANAGEMENT SERVICES Office of Supplier Diversity | Office of Supplier Diversity 4000 Englewood Way, Suite 200 Tallahassee, FL 32309 904-487-0903 www.dms.mvflorida.com/ |



State of Florida Department of State

I certify from the records of this office that FLORIDA TECHNICAL CONSULTANTS, LLC is a limited liability company organized under the laws of the State of Florida, filed on January 21, 2014.

The document number of this limited liability company is L14000011037.

I further certify that said limited liability company has paid all fees due this office through December 31, 2022, that its most recent annual report was filed on January 6, 2022, and that its status is active.

Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Sixth day of January, 2022

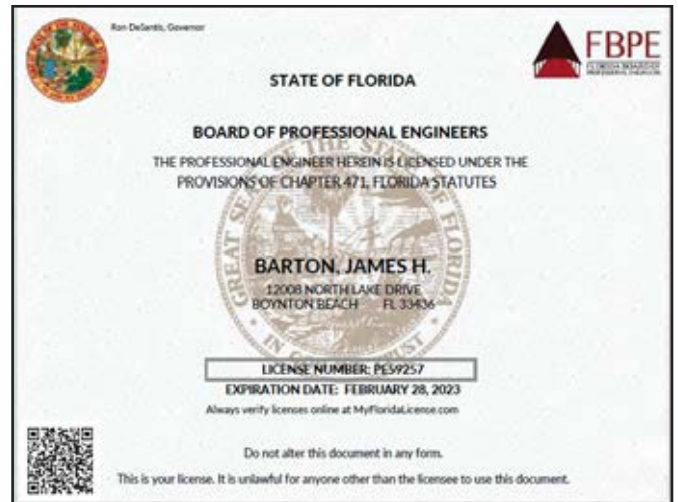


Samuel R. Bee
Secretary of State

Tracking Number: 1864781155CC

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<https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication>



State of Florida Department of State

I certify from the records of this office that MCKIM & CREED, INC. is a North Carolina corporation authorized to transact business in the State of Florida, qualified on May 2, 2011.

The document number of this corporation is F11000001885.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on January 7, 2021, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the
Great Seal of the State of Florida
at Tallahassee, the Capital, this
the Seventh day of January, 2021

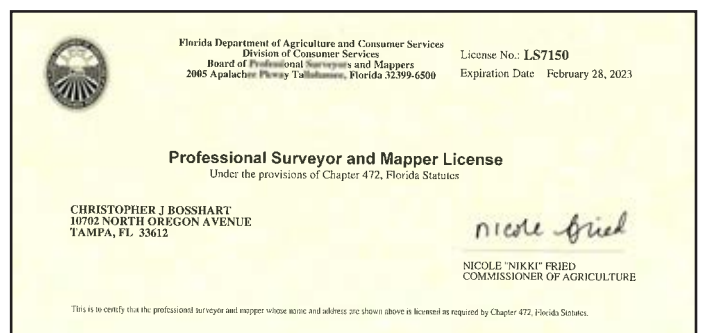
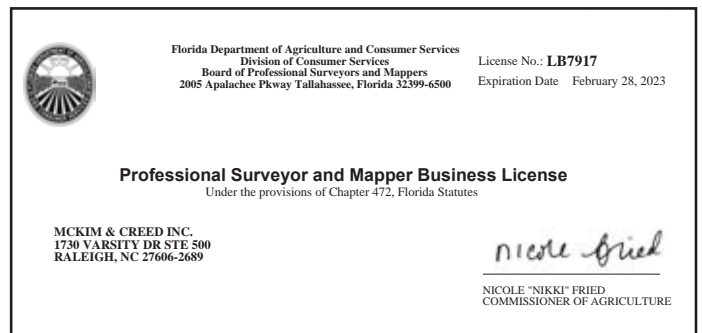


Samuel R. Bee
Secretary of State

Tracking Number: 4049127002CC

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

<https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication>



H. ADDITIONAL INFORMATION (continued)



Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LB6633**
Expiration Date: February 28, 2023

Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

STONER & ASSOCIATES INC
4341 SW 62ND AVE
DAVIE, FL 33314

Nicole Fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LS4039**
Expiration Date: February 28, 2023

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

JAMES D STONER
STONER & ASSOCIATES INC 4341 SW 62ND AVE
DAVIE, FL 33314-3426

Nicole Fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.



dbpr ONLINE SERVICES

Licensee Details

Licensee Information

Name: T2 UES, INC. (Primary Name)
T2 UTILITY ENGINEERS (DBA Name)
7217 E 87TH STREET
INDIANAPOLIS, Indiana 46256

Main Address: 7217 E 87TH STREET
INDIANAPOLIS, Indiana 46256

County: OUT OF STATE

License Holding:

Licensed Location:

License Information

License Type: Registry
Rank: Registry
License Number: 23439
Status: Current
License Date: 08/01/2019
Expires:

Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LS6524**
Expiration Date: February 28, 2023

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

SCOTT B URQUHART
2180 GARDNER RD
ALVA, FL 33920-3812

Nicole Fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LB8336**
Expiration Date: February 28, 2023

Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

T2 UES, INC.
DBA: T2 UTILITY ENGINEERS
7217 E 87TH ST
INDIANAPOLIS, IN 46256-1204

Nicole Fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No.: **LS7133**
Expiration Date: February 28, 2023

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

JASON CORD CHAMBLESS
908 BELVILLE BLVD
NAPLES, FL 34104-7883

Nicole Fried
NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

Robert Hanson

32. DATE

May 23, 2022

33. NAME AND TITLE

Robert Hanson, GISP | Principal in Charge



ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|--|--|-----------------------------|---|
| 2a. FIRM (or Branch Office) NAME WGI, Inc. | | | 3. YEAR ESTABLISHED 1991 | 4. UNIQUE ENTITY IDENTIFIER Y95WMUD2MGN9 |
| 2b. STREET 3230 W. Commercial Boulevard, Suite 300 | | | 5. OWNERSHIP | |
| 2c. CITY Fort Lauderdale | | | | |
| 2d. STATE FL | | | a. TYPE Corporation | |
| 2e. ZIP CODE 33309 | | | b. SMALL BUSINESS STATUS | |
| 6a. POINT OF CONTACT NAME AND TITLE Coriann Salas, PE, Project Manager | | | | |
| 6b. TELEPHONE NUMBER 954.660.1660 | | 6c. E-MAIL ADDRESS coriann.salas@WGIInc.com | | |
| 7. NAME OF FIRM (If Block 2a is a Branch Office) WGI, Inc. | | | | |

| | | |
|---|-----------------------------|---|
| 8a. FORMER FIRM NAME(S) (If any) Wantman Group, Inc. | 8b. YR. ESTABLISHED 2016 | 8c. UNIQUE ENTITY IDENTIFIER 938414349 |
|---|-----------------------------|---|

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|-------------------------|---------------------|------------|---|--|--|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 2 | Administrative | 99 | 1 | A02 | Imagery Collection and Aerial Photograph; Airborne Data and Analysis | 3 |
| 6 | Architect | 5 | 0 | B02 | Bridges | 7 |
| 7 | Biologist | 2 | 1 | C11 | Community Facilities | 5 |
| 8 | CADD Tech | 38 | 0 | C16 | Construction Survey | 6 |
| 12 | Civil Engineer | 74 | 4 | G01 | Garages; Vehicle Maint. Facilities; Parking Decks | 6 |
| 15 | Construction Inspector | 2 | 0 | H02 | Highways; Streets; Airfield Paving; Parking Lots | 8 |
| 21 | Electrical Engineer | 4 | 0 | H13 | Hydrographic Surveying | 5 |
| 24 | Environmental Scientist | 8 | 1 | L02 | Land Surveying | 8 |
| 29 | GIS Specialist | 3 | 1 | L03 | Landscape Architecture | 6 |
| 30 | Geologist | 2 | 0 | P06 | Planning (Site, Installation, and Project) | 6 |
| 38 | Land Surveyor | 126 | 3 | R04 | Recreation Facilities (Parks, Marinas, Etc.) | 3 |
| 39 | Landscape Architect | 18 | 4 | R11 | Rivers; Canals; Waterways; Flood Control | 5 |
| 42 | Mechanical Engineer | 7 | 0 | S03 | Seismic Designs and Studies | 6 |
| 46 | Photogrammetrist | 2 | 0 | S04 | Sewage Collection, Treatment, and Disposal | 5 |
| 47 | Planner: Urban/Regional | 21 | 1 | S09 | Structural Design; Special Structures | 6 |
| 57 | Structural Engineer | 40 | 4 | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 7 |
| 60 | Transportation Engineer | 40 | 1 | T03 | Traffic and Transportation Engineering | 6 |
| | Engineer Intern | 49 | 0 | T04 | Topographic Surveying and Mapping | 7 |
| | Other Employees | 59 | 1 | W03 | Water Supply; Treatment, and Distribution | 3 |
| | Total | 599 | 22 | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

| | |
|---------------------|----|
| a. Federal Work | 6 |
| b. Non-Federal Work | 10 |
| c. Total Work | 10 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000. 6. \$2 million to less than \$5 million
2. \$100,00 to less than \$250,000 7. \$5 million to less than \$10 million
3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million
4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million
5. \$1 million to less than \$2 million 10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Robert Hanson, GISP Principal in Charge | |

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 35

EXHIBIT E

CAM #22-1089
Exhibit 2
Page 313 of 397

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|-----------------|-----------------------|--|---|
| 2a. FIRM (or Branch Office) NAME WGI, Inc. | | | 3. YEAR ESTABLISHED 1991 | 4. UNIQUE ENTITY IDENTIFIER CYNJN6HJAUJ5 |
| 2b. STREET 2035 Vista Parkway | | | 5. OWNERSHIP | |
| 2c. CITY West Palm Beach | 2d. STATE FL | 2e. ZIP CODE 33411 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Brian LaMotte, PE, Senior Vice President | | | a. TYPE Corporation | |
| 6b. TELEPHONE NUMBER 561.687.2220 | | | b. SMALL BUSINESS STATUS N/A | |
| 6c. E-MAIL ADDRESS brian.lamotte@WGIInc.com | | | 7. NAME OF FIRM (If Block 2a is a Branch Office) | |

| | | |
|---|-----------------------------|---|
| 8a. FORMER FIRM NAME(S) (If any) Wantman Group, Inc. | 8b. YR. ESTABLISHED 2016 | 8c. UNIQUE ENTITY IDENTIFIER 938414349 |
|---|-----------------------------|---|

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|-------------------------|---------------------|------------|--|--|-------------------------------------|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 2 | Administrative | 99 | 53 | A02 | Imagery Collection and Aerial Photograph; Airborne Data and Analysis | 3 |
| 6 | Architect | 5 | 0 | B02 | Bridges | 7 |
| 7 | Biologist | 2 | 1 | C11 | Community Facilities | 5 |
| 8 | CADD Tech | 38 | 3 | C16 | Construction Survey | 6 |
| 12 | Civil Engineer | 74 | 11 | G01 | Garages; Vehicle Maint. Facilities; Parking Decks | 6 |
| 15 | Construction Inspector | 2 | 0 | H02 | Highways; Streets; Airfield Paving; Parking Lots | 8 |
| 21 | Electrical Engineer | 4 | 0 | H13 | Hydrographic Surveying | 5 |
| 24 | Environmental Scientist | 8 | 4 | L02 | Land Surveying | 8 |
| 29 | GIS Specialist | 3 | 0 | L03 | Landscape Architecture | 6 |
| 30 | Geologist | 2 | 1 | P06 | Planning (Site, Installation, and Project) | 6 |
| 38 | Land Surveyor | 126 | 37 | R04 | Recreation Facilities (Parks, Marinas, Etc.) | 3 |
| 39 | Landscape Architect | 18 | 10 | R11 | Rivers; Canals; Waterways; Flood Control | 5 |
| 42 | Mechanical Engineer | 7 | 0 | S03 | Seismic Designs and Studies | 6 |
| 46 | Photogrammetrist | 2 | 0 | S04 | Sewage Collection, Treatment, and Disposal | 5 |
| 47 | Planner: Urban/Regional | 21 | 13 | S09 | Structural Design; Special Structures | 6 |
| 57 | Structural Engineer | 40 | 6 | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 7 |
| 60 | Transportation Engineer | 40 | 16 | T03 | Traffic and Transportation Engineering | 6 |
| | Engineer Intern | 49 | 11 | T04 | Topographic Surveying and Mapping | 7 |
| | Other Employees | 59 | 28 | W03 | Water Supply; Treatment, and Distribution | 3 |
| | Total | 599 | 194 | | | |

| | | |
|--|----|--|
| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right) | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER 1. Less than \$100,000. 6. \$2 million to less than \$5 million 2. \$100,00 to less than \$250,000 7. \$5 million to less than \$10 million 3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million 4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million 5. \$1 million to less than \$2 million 10. \$50 million or greater |
| a. Federal Work | 6 | |
| b. Non-Federal Work | 10 | |
| c. Total Work | 10 | |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Robert Hanson, GISP Principal in Charge | |

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 36

EXHIBIT E

CAM #22-1089
Exhibit 2
Page 314 of 397

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|--|-----------------|-----------------------|---|---|
| 2a. FIRM (or Branch Office) NAME WGI, Inc. | | | 3. YEAR ESTABLISHED 1991 | 4. UNIQUE ENTITY IDENTIFIER RTW4RV2DLEW4 |
| 2b. STREET 11401 SW 40th Street, Suite 455 | | | 5. OWNERSHIP | |
| 2c. CITY Miami | 2d. STATE FL | 2e. ZIP CODE 33165 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Andres Garganta, PE, Vice President | | | a. TYPE Corporation | |
| 6b. TELEPHONE NUMBER 305.553.0500 | | | b. SMALL BUSINESS STATUS N/A | |
| 6c. E-MAIL ADDRESS andy.garganta@WGIinc.com | | | 7. NAME OF FIRM (If Block 2a is a Branch Office) WGI, Inc. | |

| | | |
|---|-----------------------------|---|
| 8a. FORMER FIRM NAME(S) (If any) Wantman Group, Inc. | 8b. YR. ESTABLISHED 2016 | 8c. UNIQUE ENTITY IDENTIFIER 938414349 |
|---|-----------------------------|---|

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|-------------------------|---------------------|------------|--|--|-------------------------------------|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 2 | Administrative | 99 | 1 | A02 | Imagery Collection and Aerial Photograph; Airborne Data and Analysis | 3 |
| 6 | Architect | 5 | 0 | B02 | Bridges | 7 |
| 7 | Biologist | 2 | 0 | C11 | Community Facilities | 5 |
| 8 | CADD Tech | 38 | 1 | C16 | Construction Survey | 6 |
| 12 | Civil Engineer | 74 | 0 | G01 | Garages; Vehicle Maint. Facilities; Parking Decks | 6 |
| 15 | Construction Inspector | 2 | 0 | H02 | Highways; Streets; Airfield Paving; Parking Lots | 8 |
| 21 | Electrical Engineer | 4 | 0 | H13 | Hydrographic Surveying | 5 |
| 24 | Environmental Scientist | 8 | 0 | L02 | Land Surveying | 8 |
| 29 | GIS Specialist | 3 | 0 | L03 | Landscape Architecture | 6 |
| 30 | Geologist | 2 | 0 | P06 | Planning (Site, Installation, and Project) | 6 |
| 38 | Land Surveyor | 126 | 6 | R04 | Recreation Facilities (Parks, Marinas, Etc.) | 3 |
| 39 | Landscape Architect | 18 | 0 | R11 | Rivers; Canals; Waterways; Flood Control | 5 |
| 42 | Mechanical Engineer | 7 | 0 | S03 | Seismic Designs and Studies | 6 |
| 46 | Photogrammetrist | 2 | 0 | S04 | Sewage Collection, Treatment, and Disposal | 5 |
| 47 | Planner: Urban/Regional | 21 | 0 | S09 | Structural Design; Special Structures | 6 |
| 57 | Structural Engineer | 40 | 0 | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 7 |
| 60 | Transportation Engineer | 40 | 1 | T03 | Traffic and Transportation Engineering | 6 |
| | Engineer Intern | 49 | 2 | T04 | Topographic Surveying and Mapping | 7 |
| | Other Employees | 59 | 2 | W03 | Water Supply; Treatment, and Distribution | 3 |
| | Total | 599 | 13 | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

| | |
|---------------------|----|
| a. Federal Work | 6 |
| b. Non-Federal Work | 10 |
| c. Total Work | 10 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000.
2. \$100,00 to less than \$250,000
3. \$250,000 to less than \$500,000
4. \$500,000 to less than \$1 million
5. \$1 million to less than \$2 million
6. \$2 million to less than \$5 million
7. \$5 million to less than \$10 million
8. \$10 million to less than \$25 million
9. \$25 million to less than \$50 million
10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Robert Hanson, GISP Principal in Charge | |

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 37

EXHIBIT E

CAM #22-1089
Exhibit 2
Page 315 of 397

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME

WGI, Inc.

3. YEAR ESTABLISHED

1991

4. UNIQUE ENTITY IDENTIFIER

079420847

2b. STREET

548 Northwest Mercantile Place

2c. CITY

Port St. Lucie

2d. STATE

FL

2e. ZIP CODE

34986

5. OWNERSHIP

a. TYPE

Corporation

b. SMALL BUSINESS STATUS

N/A

7. NAME OF FIRM (If Block 2a is a Branch Office)

WGI, Inc.

6a. POINT OF CONTACT NAME AND TITLE

Adam Schildmeier, PE, Director

6b. TELEPHONE NUMBER

772.408.5258

6c. E-MAIL ADDRESS

adam.schildmeier@WGInc.com

8a. FORMER FIRM NAME(S) (If any)

Wantman Group, Inc.

8b. YR. ESTABLISHED

2016

8c. UNIQUE ENTITY IDENTIFIER

938414349

9. EMPLOYEES BY DISCIPLINE

| a. Function Code | b. Discipline | c. No. of Employees | |
|------------------|-------------------------|---------------------|------------|
| | | (1) FIRM | (2) BRANCH |
| 2 | Administrative | 99 | 1 |
| 6 | Architect | 5 | 0 |
| 7 | Biologist | 2 | 0 |
| 8 | CADD Tech | 38 | 1 |
| 12 | Civil Engineer | 74 | 0 |
| 15 | Construction Inspector | 2 | 0 |
| 21 | Electrical Engineer | 4 | 0 |
| 24 | Environmental Scientist | 8 | 0 |
| 29 | GIS Specialist | 3 | 0 |
| 30 | Geologist | 2 | 0 |
| 38 | Land Surveyor | 126 | 20 |
| 39 | Landscape Architect | 18 | 0 |
| 42 | Mechanical Engineer | 7 | 0 |
| 46 | Photogrammetrist | 2 | 0 |
| 47 | Planner: Urban/Regional | 21 | 0 |
| 57 | Structural Engineer | 40 | 0 |
| 60 | Transportation Engineer | 40 | 0 |
| | Engineer Intern | 49 | 0 |
| | Other Employees | 59 | 2 |
| | Total | 599 | 24 |

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

| a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
|-----------------|--|-------------------------------------|
| A02 | Imagery Collection and Aerial Photograph; Airborne Data and Analysis | 3 |
| B02 | Bridges | 7 |
| C11 | Community Facilities | 5 |
| C16 | Construction Survey | 6 |
| G01 | Garages; Vehicle Maint. Facilities; Parking Decks | 6 |
| H02 | Highways; Streets; Airfield Paving; Parking Lots | 8 |
| H13 | Hydrographic Surveying | 5 |
| L02 | Land Surveying | 8 |
| L03 | Landscape Architecture | 6 |
| P06 | Planning (Site, Installation, and Project) | 6 |
| R04 | Recreation Facilities (Parks, Marinas, Etc.) | 3 |
| R11 | Rivers; Canals; Waterways; Flood Control | 5 |
| S03 | Seismic Designs and Studies | 6 |
| S04 | Sewage Collection, Treatment, and Disposal | 5 |
| S09 | Structural Design; Special Structures | 6 |
| S10 | Surveying; Platting; Mapping; Flood Plain Studies | 7 |
| T03 | Traffic and Transportation Engineering | 6 |
| T04 | Topographic Surveying and Mapping | 7 |
| W03 | Water Supply; Treatment, and Distribution | 3 |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

| | |
|---------------------|----|
| a. Federal Work | 6 |
| b. Non-Federal Work | 10 |
| c. Total Work | 10 |

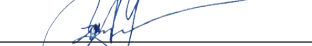
PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000. 6. \$2 million to less than \$5 million
2. \$100,00 to less than \$250,000 7. \$5 million to less than \$10 million
3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million
4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million
5. \$1 million to less than \$2 million 10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE



b. DATE

May 23, 2022

b. NAME AND TITLE

Robert Hanson, GISP | Principal in Charge

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 38

EXHIBIT E

CAM #22-1089

Exhibit 2

Page 316 of 397

ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|--|--|--|---------------------------------|---|
| 2a. FIRM (or Branch Office) NAME WGI, Inc. | | | 3. YEAR ESTABLISHED 1991 | 4. UNIQUE ENTITY IDENTIFIER F334VTMMYXS5 |
| 2b. STREET 2021 East 5th Street, Suite 200 | | | 5. OWNERSHIP | |
| 2c. CITY Austin | | | | |
| 2d. STATE TX | | | a. TYPE Corporation | |
| 2e. ZIP CODE 78702 | | | b. SMALL BUSINESS STATUS N/A | |
| 6a. POINT OF CONTACT NAME AND TITLE Matthew Stewart, PE, Vice President Civil | | | | |
| 6b. TELEPHONE NUMBER 512.669.5560 | | 6c. E-MAIL ADDRESS Matthew.Stewart@wginco.com | | |
| 7. NAME OF FIRM (If Block 2a is a Branch Office) WGI, Inc. | | | | |

| | | |
|---|----------------------------|-------------------------------------|
| 8a. FORMER FIRM NAME(S) (If any) | 8b. YR. ESTABLISHED | 8c. UNIQUE ENTITY IDENTIFIER |
| Wantman Group, Inc. | 2016 | 938414349 |

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|-------------------------|---------------------|------------|---|--|--|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 2 | Administrative | 99 | 9 | A02 | Imagery Collection and Aerial Photograph; Airborne Data and Analysis | 3 |
| 6 | Architect | 5 | 0 | B02 | Bridges | 7 |
| 7 | Biologist | 2 | 0 | C11 | Community Facilities | 5 |
| 8 | CADD Tech | 38 | 9 | C16 | Construction Survey | 6 |
| 12 | Civil Engineer | 74 | 23 | G01 | Garages; Vehicle Maint. Facilities; Parking Decks | 6 |
| 15 | Construction Inspector | 2 | 0 | H02 | Highways; Streets; Airfield Paving; Parking Lots | 8 |
| 21 | Electrical Engineer | 4 | 4 | H13 | Hydrographic Surveying | 5 |
| 24 | Environmental Scientist | 8 | 0 | L02 | Land Surveying | 8 |
| 29 | GIS Specialist | 3 | 0 | L03 | Landscape Architecture | 6 |
| 30 | Geologist | 2 | 0 | P06 | Planning (Site, Installation, and Project) | 6 |
| 38 | Land Surveyor | 126 | 9 | R04 | Recreation Facilities (Parks, Marinas, Etc.) | 3 |
| 39 | Landscape Architect | 18 | 2 | R11 | Rivers; Canals; Waterways; Flood Control | 5 |
| 42 | Mechanical Engineer | 7 | 6 | S03 | Seismic Designs and Studies | 6 |
| 46 | Photogrammetrist | 2 | 0 | S04 | Sewage Collection, Treatment, and Disposal | 5 |
| 47 | Planner: Urban/Regional | 21 | 2 | S09 | Structural Design; Special Structures | 6 |
| 57 | Structural Engineer | 40 | 2 | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 7 |
| 60 | Transportation Engineer | 40 | 1 | T03 | Traffic and Transportation Engineering | 6 |
| | Engineer Intern | 49 | 7 | T04 | Topographic Surveying and Mapping | 7 |
| | Other Employees | 59 | 10 | W03 | Water Supply; Treatment, and Distribution | 3 |
| | Total | 599 | 84 | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

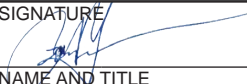
| | |
|---------------------|----|
| a. Federal Work | 6 |
| b. Non-Federal Work | 10 |
| c. Total Work | 10 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000. 6. \$2 million to less than \$5 million
2. \$100,00 to less than \$250,000 7. \$5 million to less than \$10 million
3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million
4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million
5. \$1 million to less than \$2 million 10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Robert Hanson, GISP Principal in Charge | |

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 39

EXHIBIT E

CAM #22-1089
Exhibit 2
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ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)
12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|-----------------|-----------------------|--|--|
| 2a. FIRM (or Branch Office) NAME Jacobs Engineering Group, Inc. | | | 3. YEAR ESTABLISHED 1947 | 4. UNIQUE ENTITY IDENTIFIER 117258278 |
| 2b. STREET 550 West Cypress Creek Road, Suite 400 | | | 5. OWNERSHIP | |
| 2c. CITY Fort Lauderdale | 2d. STATE FL | 2e. ZIP CODE 33309 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Ellen Patterson, VP, South Florida & Puerto Rico Operations Leader | | | a. TYPE Corporation | |
| 6b. TELEPHONE NUMBER 561.914.0192 | | | b. SMALL BUSINESS STATUS N/A | |
| 6c. E-MAIL ADDRESS ellen.patterson@jacobs.com | | | 7. NAME OF FIRM (If Block 2a is a Branch Office) Jacobs Engineering Group, Inc. Duns #74103508 | |

| | | |
|----------------------------------|---------------------|------------------------------|
| 8a. FORMER FIRM NAME(S) (If any) | 8b. YR. ESTABLISHED | 8c. UNIQUE ENTITY IDENTIFIER |
| | | |

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|--------------------------|---------------------|------------|---|--|--|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 002 | Administrative | 6060 | 12 | E09 | Environmental Impact Studies, Assessments or Statements | |
| 012 | Civil Engineer | 1724 | 5 | E13 | Environmental Testing and analysis | 7 |
| 918 | Construction Engineer | 544 | 1 | G04 | Geographic Information System Services: Development, Analysis, and Data Collection | 5 |
| 016 | Construction Manager | 1305 | 9 | H01 | Harbors; Jetties; Piers, Ship Terminal Facilities | 6 |
| 018 | Cost Engineer/Estimator | 560 | 3 | H07 | Highways; Streets; Airfield Paving; Parking Lots | 6 |
| 902 | Designer | 2620 | 1 | P05 | Planning (Community, Regional, Areawide and State) | 8 |
| 023 | Environmental Engineer | 452 | 1 | P06 | Planning (Site, Installation, and Project) | 5 |
| 919 | Intern | 642 | 2 | S04 | Sewage Collection, Treatment and Disposal | 8 |
| 042 | Mechanical Engineer | 1752 | 1 | W02 | Water Resources; Hydrology; Ground Water | 6 |
| 911 | Process Engineer | 698 | 1 | W03 | Water Supply; Treatment and Distribution | 6 |
| 913 | Program Manager | 409 | 1 | | | |
| 915 | Project Controls | 1330 | 1 | | | |
| | Project Coordinator | 377 | 1 | | | |
| 045 | Project Manager | 4506 | 14 | | | |
| 914 | QA/QC Specialist | 990 | 1 | | | |
| 939 | Technologist | 674 | 2 | | | |
| 060 | Transportation Engineer | 2359 | 3 | | | |
| 062 | Water Resources Engineer | 883 | 3 | | | |
| | Other Employees | 28326 | 0 | | | |
| | Total | 56,211 | 62 | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

| | |
|---------------------|----|
| a. Federal Work | 10 |
| b. Non-Federal Work | 10 |
| c. Total Work | 10 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000. 6. \$2 million to less than \$5 million
2. \$100,00 to less than \$250,000 7. \$5 million to less than \$10 million
3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million
4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million
5. \$1 million to less than \$2 million 10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Ellen Patterson Vice President, Geographic Operations Manager | |

STANDARD FORM 330 (REV. 7/2021)



ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|-----------------|-----------------------|---|--|
| 2a. FIRM (or Branch Office) NAME Chen Moore and Associates, Inc. | | | 3. YEAR ESTABLISHED 1986 | 4. UNIQUE ENTITY IDENTIFIER 859459547 |
| 2b. STREET 500 W. Cypress Creek Road, Suite 630 | | | 5. OWNERSHIP | |
| 2c. CITY Fort Lauderdale | 2d. STATE FL | 2e. ZIP CODE 33309 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Peter Moore, PE, LEED AP, FASCE, President and CEO | | | a. TYPE Corporation | |
| 6b. TELEPHONE NUMBER 957.730.0707 | | | b. SMALL BUSINESS STATUS No (note: CMA is an SBE at the federal level) | |
| 6c. E-MAIL ADDRESS pmoore@chenmoore.com | | | 7. NAME OF FIRM (If Block 2a is a Branch Office) | |

| | | |
|--|-----------------------------|---|
| 8a. FORMER FIRM NAME(S) (If any) Chen and Associates Consulting Engineers, Inc. | 8b. YR. ESTABLISHED 1986 | 8c. UNIQUE ENTITY IDENTIFIER 859459547 |
|--|-----------------------------|---|

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|--|---------------------|------------|---|---|--|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 02 | Administrative | 14 | 8 | C10 | Commercial Building; (low rise); Shopping | 1 |
| 08 | CADD Technician | 10 | 3 | C15 | Construction Management | 4 |
| 12 | Civil Engineer | 36 | 16 | C18 | Cost Estimating; Cost Engineering and | 2 |
| 15 | Construction Inspector | 5 | 4 | E02 | Education Facilities; Classrooms | 3 |
| 16 | Construction Manager | 2 | 1 | E09 | Environmental Impact Studies, | 1 |
| 39 | Landscape Architect | 11 | 0 | G04 | GIS development, analysis, data | 2 |
| 47 | Planners (our planners are also registered landscape architects) | 2 | 0 | H07 | Highways; Streets; Airfield; Parking | 3 |
| 21 | Electrical Engineer | 15 | 1 | L03 | Landscape Architecture | 4 |
| 60 | Transportation Engineer | 6 | 0 | P05 | Planning (Community, Regional) | 3 |
| | | | | P06 | Planning (Site, Installation) | 4 |
| | | | | P13 | Public Safety Facilities | 5 |
| | | | | R04 | Recreation Facilities (Parks, etc.) | 3 |
| | | | | R06 | Rehab (Buildings, Structures) | 1 |
| | | | | R11 | Rivers Canals; Waterways; Flood Control | 3 |
| | | | | S04 | Sewage Collection & Treatment | 4 |
| | | | | S11 | Sustainable Design | 2 |
| | | | | S13 | Stormwater Handling & Facilities | 5 |
| | | | | T02 | Testing & Inspection Services | 4 |
| | | | | W03 | Water Supply; Treatment, and Distribution | 3 |
| | Other Employees | 59 | 2 | | | |
| | Total | 101 | 33 | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

| | |
|---------------------|---|
| a. Federal Work | 2 |
| b. Non-Federal Work | 8 |
| c. Total Work | 8 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000.
2. \$100,00 to less than \$250,000
3. \$250,000 to less than \$500,000
4. \$500,000 to less than \$1 million
5. \$1 million to less than \$2 million
6. \$2 million to less than \$5 million
7. \$5 million to less than \$10 million
8. \$10 million to less than \$25 million
9. \$25 million to less than \$50 million
10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Peter Moore, PE, LEED AP, FASCE President and CEO | |

STANDARD FORM 330 (REV. 7/2021)



ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME

CTS Engineering, Inc.

3. YEAR ESTABLISHED

2009

4. UNIQUE ENTITY IDENTIFIER

859459547

2b. STREET

3230 West Commercial Boulevard, Suite 220

2c. CITY

Fort Lauderdale

2d. STATE

FL

2e. ZIP CODE

33309

6a. POINT OF CONTACT NAME AND TITLE

Sheng Yang, PE, PTOE, President

6b. TELEPHONE NUMBER

954.6371608

6c. E-MAIL ADDRESS

syang@ctseinc.com

5. OWNERSHIP

a. TYPE

S-Corporation

b. SMALL BUSINESS STATUS

No (note: CMA is an SBE at the federal level)

7. NAME OF FIRM (If Block 2a is a Branch Office)

8a. FORMER FIRM NAME(S) (If any)

8b. YR. ESTABLISHED

8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code

b. Discipline

c. No. of Employees

(1) FIRM

(2) BRANCH

02

Administrative

4

12

Civil Engineer

22

38

Land Surveyor

2

47

Planner: Urban/Regional

12

58

Technician Analyst

18

Other Employees

15

Total

63

10. PROFILE OF FIRM'S EXPERIENCE

AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code

b. Experience

c. Revenue Index Number (see below)

S10

Surveying; Platting; Mapping; Floor Plain Studies

8

T03

Traffic & Transportation Engineering

8

G04

Geographic Information System Services:

8

Development, Analysis, and Data Collection

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

a. Federal Work

b. Non-Federal Work

c. Total Work

8

8

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000.
2. \$100,00 to less than \$250,000
3. \$250,000 to less than \$500,000
4. \$500,000 to less than \$1 million
5. \$1 million to less than \$2 million
6. \$2 million to less than \$5 million
7. \$5 million to less than \$10 million
8. \$10 million to less than \$25 million
9. \$25 million to less than \$50 million
10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. NAME AND TITLE

Sheng Yang, PE, PTOE | President

b. DATE

May 23, 2022

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 42

EXHIBIT E

CAM #22-1089

Exhibit 2

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ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | | | |
|---|--|-----------------|--|--|-----------------------------|--|
| 2a. FIRM (OR BRANCH OFFICE) NAME Florida Technical Consultants, LLC (Headquarters) | | | 3. YEAR ESTABLISHED 2014 | | 4. DUNS NUMBER 064237293 | |
| 2b. STREET 533 East Ocean Avenue, Suite # 2 | | | 5. OWNERSHIP | | | |
| 2c. CITY Boynton Beach | | 2d. STATE FL | 2e. ZIP CODE 33435 | | | |
| 6a. POINT OF CONTACT NAME AND TITLE James Barton, P.E., LEED AP, President | | | a. TYPE C. Corporation | | | |
| 6b. TELEPHONE NUMBER 954.914.8488 | | | 6c. E-MAIL ADDRESS jbarton@fltechinc.com | | | |
| 6a. POINT OF CONTACT NAME AND TITLE James Barton, P.E., LEED AP, President | | | b. SMALL BUSINESS STATUS Palm Beach County Small Business Enterprise | | | |
| 6b. TELEPHONE NUMBER 954.914.8488 | | | 7. NAME OF FIRM (If block 2a is a branch office) | | | |
| 8a. FORMER FIRM NAME(S) (If any) | | | 8b. YR. ESTABLISHED | | 8c. DUNS NUMBER | |

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|--|---------------------|------------|--|--|-------------------------------------|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 12 | Civil Engineer | 3 | | A02 | Aerial Photography; Airborne Data and Imagery Collection and Analysis | 1 |
| 16 | Construction Manager | 1 | | C01 | Cartography | 1 |
| 29 | Geographic Information System Specialist | 1 | | C15 | Construction Management | 1 |
| | | | | C18 | Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting | 1 |
| | | | | D05 | Digital Elevation and Terrain Model Development | 1 |
| | | | | E10 | Environmental and Natural Resource Mapping | 1 |
| | | | | G04 | Geographic Information System Services: Development, Analysis, and Data Collection | 1 |
| | | | | G05 | Geospatial Data Conversion: Scanning, Digitizing, Compilation, Attributing | 1 |
| | | | | H07 | Highways; Streets; Airfield Paving; Parking | 1 |
| | | | | I06 | Irrigation; Drainage | 1 |
| | | | | M01 | Mapping Location/Addressing | 1 |
| | | | | P05 | Planning (Community, Regional, Area wide | 1 |
| | | | | R04 | Recreation Facilities (Parks and Marinas) | 1 |
| | | | | S04 | Sewer Collection, Treatment and Disposal | 1 |
| | | | | S07 | Solid Wastes; Incineration; Landfill | 1 |
| | | | | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 1 |
| | | | | S13 | Storm Water Handling & Facilities | 1 |
| | | | | U02 | Urban Renewals; Community Development | 1 |
| | | | | W02 | Water Resources; Hydrology; Ground Water | 1 |
| | | | | W03 | Water Supply; Treatment and Distribution | 1 |
| | | | | Z01 | Zoning; Land Use Studies | |
| | Other Employees | | | | | |
| | Total | 5 | | | | |

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

| | |
|---------------------|---|
| a. Federal Work | 1 |
| b. Non-Federal Work | 4 |
| c. Total Work | 5 |

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

- | | |
|---|---|
| 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| 2. \$100,00 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|--------------|-------------------------|
| a. SIGNATURE | b. DATE May 23, 2022 |
|--------------|-------------------------|

c. NAME AND TITLE
James Barton, P.E., LEED AP | President

AUTHORIZED FOR LOCAL REPRODUCTION

STANDARD FORM 330 (REV. 7-2018) PAGE 6



ARCHITECT – ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II- GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking


| | | | | | | |
|--|--|--|---|--|--|--|
| 2a. FIRM (OR BRANCH OFFICE) NAME McKim & Creed, Inc. | | | 3. YEAR ESTABLISHED 1994 | | 4. Unique Entity Identifier 04-693-9948 | |
| 2b. STREET 551 North Cattlemen Road, Suite 106 | | | 5. OWNERSHIP | | | |
| 2c. CITY Sarasota | | | 12d. STATE FL | | 12e. ZIP CODE 34232 | |
| 6a. POINT OF CONTACT NAME AND TITLE Robert Garland, PE Vice President/Regional Manager | | | a. TYPE Professional Corporation | | | |
| 6b. TELEPHONE NUMBER (941) 379-3404 | | | 16c. E-MAIL ADDRESS rgarland@mckimcreed.com | | b. SMALL BUSINESS STATUS No | |
| 8a. FORMER FIRM NAME(S) (If any) | | | 8b. YR. ESTABLISHED 1978 | | 8c. UNIQUE ENTITY IDENTIFIER 04-693-9948 | |
| McKim & Creed, P.A. McKim & Creed Engineers, P.A. | | | McKim & Creed, Inc. | | | |

| 9. EMPLOYEES BY DISCIPLINE | | | | 10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS | | |
|----------------------------|--|---------------------|------------|--|--|-------------------------------------|
| a. Function Code | b. Discipline | c. No. of Employees | | a. Profile Code | b. Experience | c. Revenue Index Number (see below) |
| | | (1) FIRM | (2) BRANCH | | | |
| 02 | Administrative | 101 | 3 | E03 | Electrical Studies and Design | 7 |
| 08 | CADD Technicians | 48 | 1 | F03 | Fire Protection | 1 |
| 12 | Civil Engineers | 65 | 2 | H04 | Heating; Ventilating; Air Conditioning | 6 |
| 15 | Construction Inspectors | 5 | 1 | A12 | Automation; Controls; Instrumentation | 6 |
| 16 | Construction Manager | 6 | 0 | P06 | Planning (Site, Installation, Project) | 7 |
| 21 | Electrical Engineers | 18 | 0 | P07 | Plumbing & Piping Design | 5 |
| 29 | Geographic Information System Specialist | 4 | 0 | S09 | Structural Design; Special Structures | 4 |
| 38 | Land Surveyors | 33 | 3 | P12 | Power Generation; Transmission; Distribution | 1 |
| 39 | Landscape Architects | 5 | 0 | G04 | Geographic Information System Services: Development, Analysis, and Data Collection | 3 |
| 42 | Mechanical Engineers | 20 | 0 | H13 | Hydrographic Surveying | 5 |
| 46 | Photogrammetrists | 1 | 0 | S13 | Storm Water Handling and Facilities | 1 |
| 57 | Structural Engineers | 5 | 0 | U03 | Utilities | 8 |
| 33 | Hydrographic Surveyors | 11 | 0 | S10 | Surveying; Platting; Mapping; Flood Plain Studies | 8 |
| 23 | Environmental Engineers | 0 | 0 | R07 | Remote Sensing | 4 |
| 49 | Remote Sensing Specialists | 9 | 1 | L02 | Land Surveying | 8 |
| | Fire Protection Designers | 2 | 0 | I03 | Industrial Waste Treatment | 8 |
| | Electrical Designers | 21 | 0 | W03 | Water Supply; Treatment; Distribution | 8 |
| | Mechanical Designers | 22 | 0 | | | |
| | Survey Crew Members | 242 | 52 | | | |
| | Instrumentation & Controls Designers | 13 | 0 | | | |
| | Engineer Intern | 51 | 1 | | | |
| | Other Employees | 48 | 2 | | | |
| Total | | 731 | 66 | | | |

| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right) | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER | |
|--|----|--|---|
| a. Federal Work | 4 | 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| b. Non-Federal Work | 10 | 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| c. Total Work | 10 | 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| | | 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| | | 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

| | |
|---|------------------------------|
| a. SIGNATURE  | b. DATE 02/22/2022 |
| c. NAME AND TITLE Robert Garland, PE Vice President/Regional Manager | |

AUTHORIZED FOR LOCAL REPRODUCTION

STANDARD FORM 330 (REV. 7/2021) PAGE 6



ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME

Stoner & Associates, Inc.

3. YEAR ESTABLISHED

1988

4. UNIQUE ENTITY IDENTIFIER

195500624

2b. STREET

4341 SW 62nd Avenue

2c. CITY

Davie

2d. STATE

FL

2e. ZIP CODE

33314

5. OWNERSHIP

a. TYPE

S-Corporation

b. SMALL BUSINESS STATUS

541370-Survey and Mapping Services

7. NAME OF FIRM (If Block 2a is a Branch Office)

6a. POINT OF CONTACT NAME AND TITLE

James D. Stoner, PSM, President

6b. TELEPHONE NUMBER

954.585.0997

6c. E-MAIL ADDRESS

jstoner@stonersurveyors.com

8a. FORMER FIRM NAME(S) (If any)

8b. YR. ESTABLISHED

8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

a. Function Code

b. Discipline

c. No. of Employees

(1) FIRM

(2) BRANCH

38

Land Surveyor

1

48

Project Manager

2

08

CADD Technician

1

02

Administrative

1

Other Employees

9

Total

14

10. PROFILE OF FIRM'S EXPERIENCE

AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Profile Code

b. Experience

c. Revenue Index Number (see below)

L02

Land Surveying

5

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work

0

b. Non-Federal Work

5

c. Total Work

5

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than \$100,000.
2. \$100,00 to less than \$250,000
3. \$250,000 to less than \$500,000
4. \$500,000 to less than \$1 million
5. \$1 million to less than \$2 million
6. \$2 million to less than \$5 million
7. \$5 million to less than \$10 million
8. \$10 million to less than \$25 million
9. \$25 million to less than \$50 million
10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. NAME AND TITLE

James D. Stoner, PSM | President

b. DATE

May 23, 2022

STANDARD FORM 330 (REV. 7/2021)



City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 45

EXHIBIT E

CAM #22-1089

Exhibit 2

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ARCHITECT ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

12665-1026

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

| | | | | |
|---|-----------------|----------------------------|--|---|
| 2a. FIRM (or Branch Office) NAME T2 UES, Inc. d/b/a T2 Utility Engineers | | | 3. YEAR ESTABLISHED 2019 | 4. UNIQUE ENTITY IDENTIFIER 84-2356040 |
| 2b. STREET 5670 Zip Drive | | | 5. OWNERSHIP | |
| 2c. CITY Fort Myers | 2d. STATE FL | 2e. ZIP CODE 33905-5028 | | |
| 6a. POINT OF CONTACT NAME AND TITLE Scott Urquhart, PSM, Branch Manager | | | a. TYPE Corporation | |
| | | | b. SMALL BUSINESS STATUS N/A | |
| 6b. TELEPHONE NUMBER 239.277.0722 | | | 7. NAME OF FIRM (If Block 2a is a Branch Office) T2 UES, Inc. | |
| 6c. E-MAIL ADDRESS scott.urquhart@t2ue.com | | | | |

| 8a. FORMER FIRM NAME(S) (If any) | 8b. YR. ESTABLISHED | 8c. UNIQUE ENTITY IDENTIFIER |
|----------------------------------|---------------------|------------------------------|
| TBE Group, Inc. | 1983 | 118667930 |
| Cardno, Inc. | 2011 | 078391683 |

[illegible]

| | | |
|--|---|---|
| 11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i> | | PROFESSIONAL SERVICES REVENUE INDEX NUMBER 1. Less than \$100,000. 6. \$2 million to less than \$5 million 2. \$100,000 to less than \$250,000 7. \$5 million to less than \$10 million 3. \$250,000 to less than \$500,000 8. \$10 million to less than \$25 million 4. \$500,000 to less than \$1 million 9. \$25 million to less than \$50 million 5. \$1 million to less than \$2 million 10. \$50 million or greater |
| a. Federal Work | 2 | |
| b. Non-Federal Work | 9 | |
| c. Total Work | 9 | |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

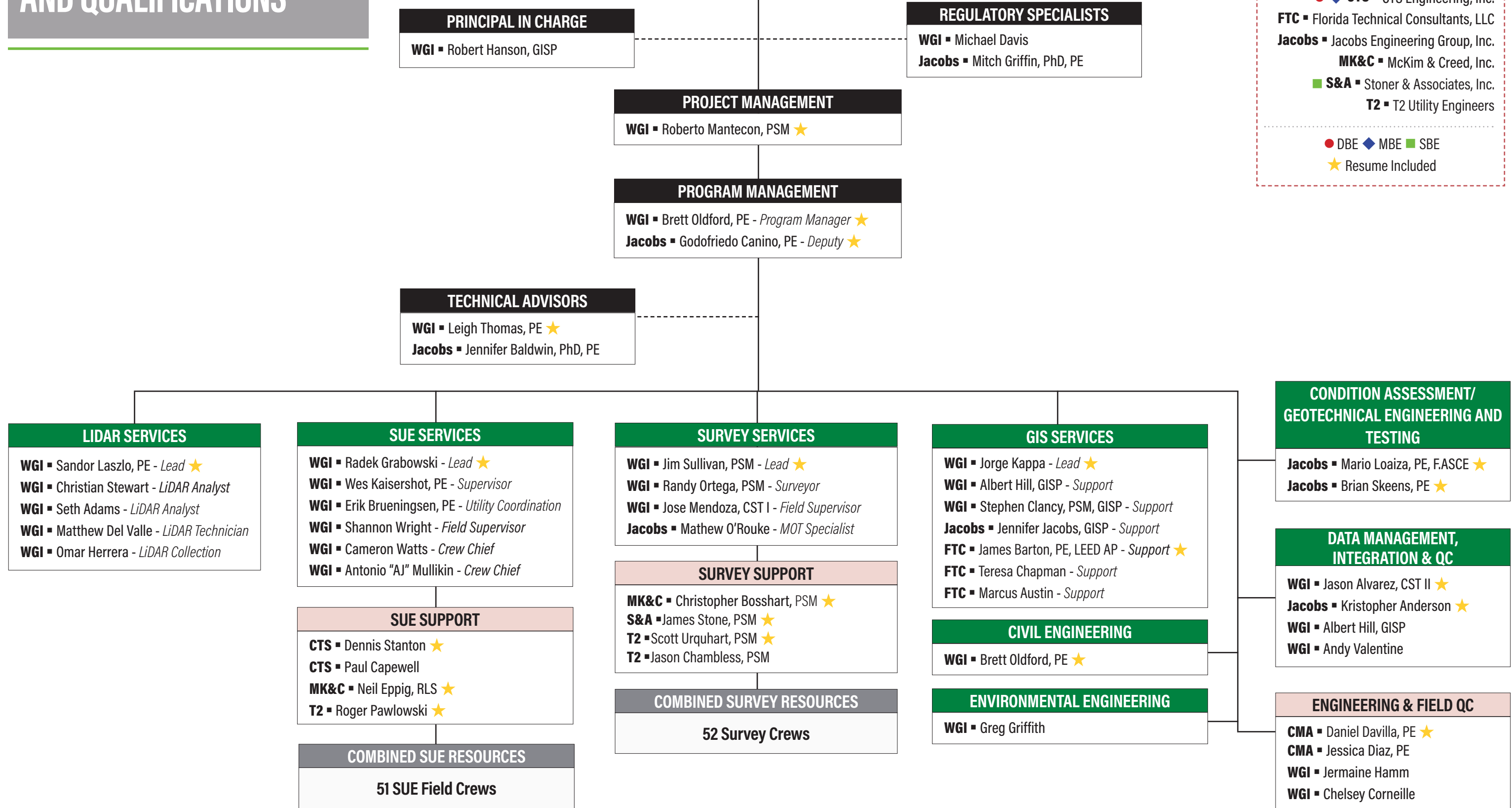
| | |
|---|-------------------------|
| a. SIGNATURE  | b. DATE May 23, 2022 |
| b. NAME AND TITLE Scott Urquhart, PSM Branch Manager, Fort Myers | |



Project Team Experience and Qualifications



PROJECT TEAM EXPERIENCE AND QUALIFICATIONS



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)



| 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
|---|---------------------------|----------------------|----------------------------|
| Roberto Mantecon, PSM | Project Manager | a. TOTAL 44 | b. WITH CURRENT FIRM <1 |
| 15. FIRM NAME AND LOCATION (City and State) WGI, Inc. - Miami, Florida | | | |

| | |
|--|---|
| 16. EDUCATION (Degree and Specializing) Land Surveying Program - Miami-Dade Community | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Surveyor and Mapper: Florida #LS4431, 1987 |
|--|---|

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Publications: Mantecon, Roberto D., and Thomas J. Schweitzer, "Shoring Up Levees," Professional Surveyor Magazine, Vol. 29, No. 10, October 2009, pp.14-16.

Roberto is a senior project manager for all phases of geospatial services offered by WGI. He is experienced in managing a full department of staff and projects simultaneously, and his responsibilities include project management of abstracting for title, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services. With 44 years of experience in his career, Roberto has served as the survey manager or principal surveyor for multiple cities, public, and federal agencies on similar projects.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | FDOT District 6 Districtwide Miscellaneous Location Survey Consultant Services, Various Counties, FL | 2022 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Roberto led what initially began as a five-year miscellaneous survey services contract for 15 years. His team completed hundreds of miles of route surveys, and the associated geodetic control, data collection, boundary surveys, topographic surveys, corridor maps, hydrographic surveys, and parcel mapping. Roberto has served as an extension of District 6 staff as a trusted advisor in complex technical matters. He updated the District's vertical control network to the North American Vertical Datum of 1988 (NAVD88) and has completed GIS databases for Monroe and Miami-Dade counties to assist the District's survey staff in maintaining their project control information. Survey Fee: \$1.5M | | |
| | | | |
| b. | Pembroke Road Water Line Improvements Hollywood, FL | 2014 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Roberto managed 11 miles of topographic survey for water infrastructure improvements. The project required geodetic control and mobile LiDAR to acquire field data in record time, expediting the project delivery. Survey Fee: \$182,391 | | |
| | | | |
| c. | Norris Cut Tunnel, Replacement of Existing 54-Inch Force Main from CDWWTP to Fisher Island under Norris Cut Channel, Miami, FL | 2014 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Principal Surveyor. As a subconsultant, Roberto's team provided main control, as-built surveys, and tunnel boring machine (TBM) alignment for a one-mile-long WASD tunnel under Norris Cut from Virginia Key to Fisher Island. Services included creating an accurate network with GPS at the surface level, then descending 100 feet below the surface to formulate precise horizontal and vertical control, and continuing with set control along the tunnel. This effort included multiple gyro measurements to correct alignment while TBM alignment was conducted an as-built survey of the tunnel as well was performed. Upon breaking through, the error in a mile was 0.08 feet for both the horizontal and vertical aspects. Upon completion of this engagement, an as-built survey map and report were provided to the client. Survey Fee: \$186,000 | | |
| | | | |
| d. | Taft and Sheridan Street Water Main Improvements Hollywood, FL | 2018 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Surveyor. As part of the water main improvement program for the City of Hollywood between Taft Street and Sheridan Street west of the Florida Turnpike, Roberto performed an eight-mile survey of the public right-of-way in the area. He employed an integrated approach to this engagement, using state-of-the-art GPS and high-definition scanning survey techniques. This survey effort provided the City with a thorough survey depicting all visible surface improvements and detailed digital terrain models (DTM) of the project right-of-way, including the underground designation of existing utilities. Survey Fee: \$258,000 | | |
| | | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)



| 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
|-------------------|---------------------------|----------------------|---------------------------|
| Brett Oldford, PE | Program Manager | a. TOTAL 28 | b. WITH CURRENT FIRM 7 |

15. FIRM NAME AND LOCATION (City and State)

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION (Degree and Specializing)

Bachelor of Science, Civil Engineering - Florida State University, 2000

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer: Florida #61795, 2004

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Affiliations: American Public Works Association • Florida Engineering Society

Brett has extensive planning, design, permitting, value engineering, and construction management experience covering municipal infrastructure, civil/site design, and land development projects. His experience includes providing professional consulting services for private and municipal sector clients. Serving as project manager, Brett's projects include large-scale residential, commercial, and mixed-use developments; petroleum facilities; marinas; dredge and fill projects; water resources; stormwater management systems; utility improvements; roadway projects; municipal parks; and infrastructure design.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida | 2017 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Contract Manager. Brett was responsible for assisting with communication, budgeting, scheduling, and civil engineering components. WGI provided program management services and supported the administration for the five-year, \$40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, aerial photography and inspection using WGI drones or unmanned aerial vehicles (UAVs), was also provided. Estimated Fee: \$1.860M | | |
| b. | Seacrest Corridor Utility Improvements Phase II Design-Build Boynton Beach, Florida | 2018 | 2020 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal. Brett was responsible for the project's overall delivery. The extensive improvements included 30,000 linear feet of water main, 39,000 linear feet of streets, 700 water services, 3,200 linear feet of storm sewer, permitting and construction of 7,000 linear feet of wastewater force main, and 5,000 linear feet of stormwater system upgrades. The key components of the water main scope included removing existing mains, relocating services from backyards to right-of-way lines, and placing rear-yard mains out of service. WGI's services consisted of public outreach, survey, geotechnical, environmental, landscape architecture, utility coordination, and engineering to construct the neighborhood improvements and design, permitting, and construction of the 7,000-linear-foot wastewater force main. The team also designed 5,000 linear feet of stormwater system upgrades, pavement reconstruction and overlay, roadside swales, driveway aprons, and sidewalks over a 50-block residential neighborhood covering 252 acres. Design Fee: \$842,700 - Construction Fee: \$13M | | |
| c. | N. Sunlake Boulevard from Ridge Road to SR 52 Roadway Development, Pasco County, Florida | 2020 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Brett was responsible for assisting with communication, budgeting, scheduling, and civil engineering components. N. Sunlake Boulevard is the main north and south road through the Angeline development. Water, reclaimed water, and wastewater main lines in the N. Sunlake Boulevard right-of-way provide services for the overall development and access to Phase 2A from N. Sunlake Boulevard. This project will include design and permitting for approximately four miles of the road from SR 52 to the future Collector Road south of the future Ridge Road alignment. The roadway section will include a four-lane divided urban curb and gutter (expandable to six lanes), with five-foot bike lanes, a five-foot sidewalk (along one side), a 12-foot multi-use path (along the opposite side), and a 15-foot communications easement adjacent to the multi-use path and sidewalk. The drainage system will consist of curb inlets conveying the stormwater through pipes or swales to stormwater management facilities adjacent to the roadway. Design Fee: \$4.2M - Construction Fee: \$26.4M | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)



| 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
|------------------|---------------------------|----------------------|---------------------------|
| Leigh Thomas, PE | Technical Advisor | a. TOTAL 29 | b. WITH CURRENT FIRM 1 |

15. FIRM NAME AND LOCATION (City and State)

WGI, Inc. - Austin, Texas

16. EDUCATION (Degree and Specializing)

Bachelor of Science, Civil Engineering - University of Texas, 1994

Project Management Program - University of Texas, 2006

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer: Florida #92962, 2021

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Certifications: NASSCO PACP/LACP/MACP Certified ▪ OSHA 10-Hour Safety Certification; Confined Space Certified

Affiliations: American Water Works Association, Texas ▪ Water Environment Association of Texas (WEAT), Board ▪ WEAT Collection Systems & Stormwater Committees ▪ Water Environment Federation, Water Environment Federation (WEF) House of Delegates ▪ WEF Water Communications Workgroup ▪ WEF Federal Advocacy Workgroup ▪ WEF Financial Diversification Workgroup

Leigh's nearly three decades of experience includes working on water and wastewater systems for infrastructure inspection and condition assessments, monitoring, asset management, modeling, master planning, rehabilitation method selection, prioritization, method specifications and testing, CIP development and planning, utility design, construction cost estimating and management, regulatory compliance assistance, and expert witness services. She has developed technical specifications specific to infrastructure monitoring, assessment, and rehabilitation methods is a published author in American Society of Civil Engineers and WEF publications, and has presented regionally and nationwide. She is currently a WEF delegate for WEAT.


19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | Major Sewer Pipe Rehabilitation Columbia, South Carolina | 2022 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal/Project Manager. Leigh served as the rehabilitation design technical lead for all phases of the project including assessment, rehabilitation method alternatives analysis and recommendations, preliminary and final design, and construction and bid services support including documentation preparation, technical specifications development, and final acceptance. Fee: \$90,410 | | |
| b. | Water Distribution Maintenance and Management Program Manhattan, Kansas | 2021 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Task Leader/Technical Lead. Leigh managed the development of a maintenance and management program for the water distribution system in response to a state of Kansas order. She researched and applied industry best practices for water system management and maintenance. Leigh reviewed maintenance records, field assessment data and water model hydraulic analysis, and documented infrastructure attribute data. The program focus on valve locating, documenting, and assessing to develop an annual prioritized valve operations protocol. Fee: \$1.21M | | |
| c. | Water Distribution System Modeling, Mapping, and Infrastructure Planning, Kyle, Texas | 2019 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Project Manager/Engineer. Leigh managed the mapping, model development, calibration, and planning model analysis for the water distribution system serving the City. Inventory of water system infrastructure performed with GIS mapping updates. Field testing of fire hydrants coordinated with City staff, with distribution and well pump testing and pump curve research and verification. Test data and pump curve information applied in hydraulic model calibration. Model analysis for water age, node pressure and velocity, and fire flow. Future population projections scenarios model runs performed, and infrastructure planning and water supply need evaluation. Recommendations for system and infrastructure improvements, cost estimating, and CIP phasing. Fee: \$425,000 | | |
| d. | Pasadena 42-inch Waterline Rehabilitation Mesa, Arizona | 2015 | 2016 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Technical Lead/Engineering Design. Leigh engineered the condition assessment of the 42-inch prestressed concrete cylinder pipe transmission main to determine infrastructure condition needs. Methods of remediation were evaluated considering pipe type, size, degree of deterioration, life cycle costs, and access for construction. Due to limited access, through a construction manager at risk, internal rehabilitation methods were prioritized, with slip lining with a modified compressive fit application selected. Fee: \$1.2M | | |



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

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|--|--|----------------------------------|--|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Sandor Laszlo, PE | LiDAR Services - Lead | a. TOTAL 23 | b. WITH CURRENT FIRM 2 |
| | 15. FIRM NAME AND LOCATION (City and State) WGI, Inc. - West Palm Beach, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Master of Engineering, Civil Engineering - Carnegie Mellon, 2004 Bachelor of Engineering, Civil Engineering - Pennsylvania State University, 1998 | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Pennsylvania #060058, 2004 | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Certifications: OSHA 10-Hour Construction

Sandor's professional experience includes consulting, strategic and creative communications, and project management. He is a well-known subject matter expert, managing short-term and private projects. His range of experience in preparing proposals, schedules, budgets, and estimates makes him a well-rounded professional able to apply critical thinking, agility, and focus to the teams he manages. Sandor has directed all project lifecycle phases, including quality control, risk management, and relationship management with stakeholders, staff, and clients. He produces quality results by focusing on the small details while still envisioning the big picture. His process for improvement requires experience in evaluating current methods to help create new processes—yielding measurable performance improvements. Sandor is technically skilled in developing and executing solutions, algorithms, and methodologies to facilitate new capabilities.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|--|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | LiDAR, Imagery Collection, and Pole Extraction, Various States | 2021 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Sandor was responsible for project delivery and coordination. Pearce Services contacted WGI to collect mobile LiDAR and imagery for 550 miles of routing in Belvidere, Illinois, Chesterton, Indiana, Muskegon, Michigan, and Richmond, Indiana. WGI performed an attribute extraction from the LiDAR point cloud in support of make-ready engineering for the placement of new fiber on the poles and relevant feature extraction in support of underground fiber placement. We provided all LiDAR and imagery to our client in the Bentley Orbit GT environment, providing them a "fielding from the office" experience. Design Fee: \$235,000 | | |
| b. | LiDAR, Imagery Collection, Scaled Basemap Production, and Pole Extraction, Calcasieu, Parish County, Louisiana | 2021 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Sandor was responsible for project delivery and coordination. Pearce Services contacted WGI to collect mobile LiDAR and imagery for 154 miles of routing in the Lake Charles, Louisiana area and various sites within Mississippi. WGI developed scaled base map drawings based on the LiDAR and imagery collected. WGI performed an attribute extraction from the LiDAR point cloud in support of make-ready engineering for the placement of new fiber on the poles. WGI provided all LiDAR and imagery to our client in the Bentley Orbit GT environment, providing them a "fielding from the office" experience. Design Fee: \$106,000 | | |
| c. | FDOT District 3, SR 296 from SR 291 to East of Baisden Road Mobile LiDAR Survey Services, Escambia County, Florida | 2022 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Sandor was responsible for coordinating data processing. This resurfacing, restoration, and rehabilitation (RRR) project, performed under WGI's districtwide surveying and mapping contract with FDOT District 3, consists of 2.70 miles of six-lane urban and four-lane urban and two-lane suburban sections of SR 296 in Escambia County, Florida. Terrestrial mobile LiDAR was used for safety reasons and to create an accurate digital DTM of the pavement. WGI located right-of-way monuments and previous alignment monuments to adjust historic alignments and complete existing alignments to found monuments. Right-of-way lines were depicted based on the adjusted alignment. Coordination was done with the UAOs to determine locations and obtain survey information on their underground utilities. Design Fee: \$120,000 | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)



| 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
|-----------------|---------------------------|----------------------|----------------------------|
| Radek Grabowski | SUE Services - Lead | a. TOTAL 26 | b. WITH CURRENT FIRM 11 |

15. FIRM NAME AND LOCATION (City and State)

WGI, Inc. - West Palm Beach, Florida

16. EDUCATION (Degree and Specializing)

Associate of Arts - Palm Beach State College, 2012

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Radek's project experience includes work on major highway projects, bridges, and urban and local roadways. He is responsible for a wide variety of surveying and SUE assignments, including plans preparation, design surveys, survey calculations related to route surveys, location of aerial, underground, and subaqueous utilities. Radek is also responsible for utility coordination and preparing utility location surveys using LiDAR, including 3D modeling of existing utilities and conflict analysis. He is proficient in using computer-automated drafting (MicroStation, AutoCAD) and global positioning systems, as well as GIS data management.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida | 2017 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Services Manager. Radek was responsible for managing all subsurface utility engineering phases. WGI provided program management services and supported the administration for the five-year, \$40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, and aerial photography and inspection using WGI drones or UAVs, was also provided. Estimated Fee: \$1.860M | | |
| | | | |
| b. | FDOT District 6 Districtwide Utility Locating Services Various Counties, Florida | 2022 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Contract Manager. Radek oversaw this districtwide SUE contract with over 120 issued task work orders totaling over 3,750 test holes, starting from the proposal phase through the production cycle and project invoicing. This five-year, \$5M continuing services contract includes subsurface utility locating services throughout Miami-Dade and Monroe counties. ASCE Quality Level B, Quality Level A, GPR investigations, and right-of-way staking to support in-house design and consultant management projects. This contract required a team of consultants to meet FDOT's needs, and WGI provided all scope-related field and office services as well as contract management, administration, billing support, and progress reporting. Contract Value: \$5M | | |
| | | | |
| c. | Las Olas Boulevard Design Survey Broward County, Florida | 2019 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Project Manager. Radek was the SUE project manager. This project was a complete street assignment in downtown Fort Lauderdale, along a signature portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment of roadway. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. Fee: \$178,000 | | |
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E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|--|--|----------------------------------|--|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Jim Sullivan, PSM | Survey Services - Lead | a. TOTAL 25 | b. WITH CURRENT FIRM 4 |
| | 15. FIRM NAME AND LOCATION (City and State) WGI, Inc. - West Palm Beach, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Surveying and Mapping - East Tennessee State University, 2002 | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Surveyor/Mapper: Florida #LS6889, 2012 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) | | | | |

Certifications: OSHA 10-Hour Construction

Affiliations: Florida Atlantic University Program Advisory Council ▪ Florida Surveying and Mapping Society ▪ Leadership Palm Beach County ▪ MAPPS ▪ National Society of Professional Surveyors ▪ Palm Beach County Zoning Division Land Development Regulation Advisory Board ▪ Society of American Military Engineers

Jim is a senior project manager for all phases of geospatial services offered by WGI. He is experienced in managing a full department of staff and projects simultaneously, and his responsibilities include project management of abstracting for title, control surveys, construction staking, boundaries, easements, hydrographic surveys, laser scanning, plat/plan review, platting, right-of-way acquisitions, topographic surveys, and GIS services.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|--|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | Lake Worth Beach Neighborhood Streets Program Management Lake Worth Beach, Florida | 2017 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey Project Manager. Jim served as senior survey project manager. He was responsible for managing all phases of the project. WGI provided program management services and supported the administration for the five-year, \$40M neighborhood streets program. The objective of the neighborhood streets program was to improve the City's aging infrastructure. WGI's role included managing and coordinating with several consultants and contractors through planning, public outreach and involvement, design, bidding, and construction. WGI functioned as a liaison between the City of Lake Worth Beach, consultants, contractors, residents, and other stakeholders. The program management responsibilities included oversight of all scheduling activities, project and program costs, and the technical performance of consultants and contractors to ensure the neighborhood streets program met the goals and objectives of the City. Oversight was provided through all project phases, including preparing construction plans, contract bidding documents, construction, and overall contract compliance. The public outreach and involvement responsibilities included developing and maintaining the program website that provided City officials, emergency services, and the community a place to review all upcoming work, track progress, and celebrate successes. Coordination of social media activities, and aerial photography and inspection using WGI drones or UAVs, was also provided. Estimated Fee: \$1.860M | | |
| b. | FDOT District 4 Districtwide Continuing Services for Surveying, Mapping and SUE, Various Counties, Florida | Ongoing | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey Project Manager. Jim served as senior survey project manager. District 4 contracted with WGI under a five-year, \$5M continuing services contract to support FDOT's in-house and consultant work programs with districtwide surveying, mapping, and utility locating assignments. Services are provided on an on-call, task work order basis, including SUE, baseline and right-of-way surveys, terrestrial and terrestrial mobile LiDAR, conventional surveys for design, single and multi-beam hydrographic surveys, drainage surveys, cross-sections, and bridge detail surveys. Right-of-way mapping assignments include right-of-way control survey mapping, right-of-way map preparation, Genesis mapping, sketches to accompany legal descriptions, and appraisal sketches. Utility locating assignments include ASCE 38-02 Quality Level B and Quality Level A, records research, overhead utility scans, and coordination with utility agency owners. WGI has completed more than 120 task work orders to date. Estimated Fee: \$5M | | |
| c. | NPBCID Asset Management Collection Palm Beach County, Florida | 2021 | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Phase Manager. Jim served as the phase manager. NPBCID requested WGI's assistance with asset mapping to verify data in their existing database. WGI verified existing data utilizing mobile mapping by collecting and comparing data from handheld collectors with that of WGI's terrestrial mobile LiDAR collection methods. Using a vehicle-mounted LiDAR sensor, WGI captured data at highway speeds. Google Earth-style "street view" imagery was collected simultaneously to depict asset components such as type, identification labels/signs, defects, etc. The features, images, and information captured for each location were combined using GIS and cataloged in a geodatabase. Design Fee: \$156,460 | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

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|--|--|---|-----------------------------|----------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Jorge Kappa | GIS Services - Lead | a. TOTAL 23 | b. WITH CURRENT FIRM <1 |
| | 15. FIRM NAME AND LOCATION (City and State) WGI, Inc. - Fort Lauderdale, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Master of Science, Geographic Information Science - Florida State University, 2009 | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) | | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Jorge is a seasoned GIS and CADD professional with broad experience in civil engineering and geographic information systems environments in the private and public sectors. His GIS experience includes supporting state and local government divisions processing geographic-related data in engineering, utilities, environmental, planning, and scientific disciplines performing analyses and producing database, visualization, and cartographic products. He has worked in site development, producing construction plan sets, and participating in all design phases, including horizontal control, grading, drainage, and utilities. He interacts with consultants, field personnel, and government agencies for planning, coordination, and permitting.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|---|----------------------------------|-------------------------------------|
| a. | GIS Services Palm Springs, Florida | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm GIS Specialist. Jorge developed the GIS field collection and analysis applications. This work authorization of the continuing services contract provides the Village of Palm Springs with GIS services, including an in-house GIS technician, mapping, management of data repository, creation of web applications, and training for the planning, zoning and building, public works, utilities, parks and recreation, police, and library departments and divisions. Transportation Fee: \$92,000 | | |
| | | | |
| b. | Delray Beach Parking/Mobility Study Delray Beach, Florida | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm GIS Specialist. Jorge supported field data collection and building, zoning, and future land use analyses. WGI provided a proposal for professional services for a parking and curbside management master plan. The work included analysis, public engagement, and planning exercises that created the master plan, which updates the existing 2010 parking master plan and includes a new curbside management element. The plan updated data elements, provided context to technological advances in transportation and their impacts locally, determined feasible alternatives for the City to consider, and identified policies and projects to implement the plan. Fee: \$192,195 | | |
| | | | |
| c. | Keys Energy Hurricane Irma Aftermath Key West, Florida | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm GIS/CAD Operator. Jorge maintained and improved the Keys Energy electric network model, 12 substations drawing archives, and took part in damage assessment and restoration efforts by supporting mapping and data needs of more than 200 contractors in the aftermath of Hurricane Irma. Fee: Unavailable | | |
| | | | |
| d. | South Florida Water Management District (SFWMD) GIS Projects West Palm Beach, Florida | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Geographer. Jorge worked with the SFWMD on several significant projects that included land use and land cover map updates, population projections to support permitting decisions concerning aquifer drawdown quotas in saltwater intrusion prevention, and aquifer hydraulic modeling data preprocessing. Fee: Unavailable | | |
| | | | |
| e. | Pasco County Post-Disaster Redevelopment Plan Pasco County, Florida | PROFESSIONAL SERVICES 2013 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm GIS Analyst. In cooperation with Pasco County planners, Jorge provided GIS data analysis and mapping for a post-disaster redevelopment plan and vulnerability analysis section reports required for the County to obtain FEMA grants. Fee: Unavailable | | |
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E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)



| 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
|--|--|----------------------|----------------------------|
| Jason Alvarez, CST II | Data Management, Integration & QC Lead | a. TOTAL 22 | b. WITH CURRENT FIRM 19 |
| 15. FIRM NAME AND LOCATION (City and State) WGI, Inc. - Port St. Lucie, Florida | | | |

| | |
|---|--|
| 16. EDUCATION (Degree and Specializing) High School Diploma - Lake Wales Community High School, 2000 | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) |
|---|--|

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Certifications: CST II, CSX Safety, Intermediate Maintenance of Traffic

Affiliations: MAPPS

Jason's project experience includes working on major highway projects and urban and local roads. Jason is responsible for various surveying assignments, including plans preparation and survey calculations related to route surveys, boundary surveys, topographic surveys, as-built surveys, platting, and right-of-way maps. He is proficient in using all CAD platforms and Global Navigation Satellite Systems (GNSS) equipment. Jason's experience includes construction layout, route surveying, boundary surveys, subdivision surveys, sectional surveys, and global positioning surveys.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|---|-----------------------|------------------------------|
| | | PROFESSIONAL SERVICES | CONSTRUCTION (If applicable) |
| a. | All Aboard Florida, Brightline Various Counties, Florida | Ongoing | 2022 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Data Management. WGI serves as the primary surveying firm responsible for all control, construction, and as-built surveying for the Brightline high-speed rail corridor stretching from Brevard County south to Palm Beach County (approximately 130 miles). Under the multi-year, multi-million-dollar contract, WGI provides six survey field crews to the rail site, seven days a week. All fieldwork and supporting office technical staff are managed using WGI's proprietary work order tracking system to manage office and field production, scheduling, and invoicing support. WGI has been successfully managing the survey services for approximately three years by holding daily production and scheduling team meetings to communicate the day's schedule and "look ahead." Attention to safety has been recognized by HSR Constructors through multiple "Safety Crew of the Month" awards for our surveying field crews – recognition of our commitment to safety at WGI. In addition to the traditional surveying applied for construction, WGI has also performed Mobile LiDAR, Static Scanning, and SUE services to provide the project team with a single resource to meet the exceptional needs of the Brightline program. Fees: \$9M | | |
| | | | |
| b. | Las Olas Boulevard Design Survey Broward County, Florida | 2019 | 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Jason was the project manager. This project was a complete street assignment in downtown Fort Lauderdale, along a signature portion of Las Olas Boulevard that includes restaurants, mixed-use commercial, hotels, and high-rise residential towers. WGI provided traffic calming, bike lanes, beautification, and intermodal improvements to this one-mile segment of roadway. WGI's geospatial services included terrestrial mobile LiDAR, design surveys, utility locating, drainage surveys, right-of-way retracement, cross-sections, and coordination of aerial survey services. Fees: \$178,000 | | |
| | | | |
| c. | FDOT District 4, Districtwide Subsurface Utility Excavation Various Counties, Florida | Ongoing | N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey Technician. Jason performed drafting duties, scheduled crews, and provided technical expertise to support this contract. This contract included utility mapping services for aerial and underground targets on a state roadway, bridge, signal and drainage projects throughout District 4. Responsibilities include a review and analysis of the design plans, the identification of potential conflict areas, the selection of proposed test hole locations, coordination of the SUE/survey field and office support services, a review of the collected data, and the preparation and delivery of the GIS/CADD files, plan and verified utility sheets. Services may include utility contacts, utility records research, field meetings with the utility owners, the accurate identification and location of all underground and aerial facilities, preparation and delivery of the utility map, appropriate reports, and digital photo documentation. Non-destructive locating techniques are employed, including electromagnetic induction, ground-penetrating radar, and vacuum excavation. In addition to the utility mapping services, this contract also includes miscellaneous engineering design surveys including laser scanning for aerial targets, GPS control, bench level and right-of-way surveys. Fees: \$1.4M | | |
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E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

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|--|--|---------------------------|---|---------------------------|
| Jacobs | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Godofriedo (Godo) Canino, PE, MBA, BCEE, PMP | Project Management-Deputy | a. TOTAL 25 | b. WITH CURRENT FIRM 1 |
| | 15. FIRM NAME AND LOCATION (City and State) Jacobs Engineering Group, Inc. - Miami, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Master of Business Administration, Inter American University of Puerto Rico Master of Science and Bachelor, Science Civil Engineering - University of Puerto Rico, Mayaguez | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Florida #81450 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Godo is a senior program manager with a solid technical and business acumen with more than 25 years of hands-on experience in planning and implementing large-scale programs and projects. Key practice areas include program and project management, construction management, risk management, capital programs, and team management/development. Godo has an extensive experience helping clients in solving their most pressing problems and meeting tight schedules using large geographically dispersed virtual teams, that includes multiple contractors, and subconsultants. | | | | |

19. RELEVANT PROJECTS

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|-----------|---|-------------------------------|---|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Owner Representative for the Improvements to the Riviera Beach Water Treatment Plant; Riviera Beach Utility District, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) Ongoing |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Served as owner representative for the implementation of multiple improvements to the existing Riviera Beach Water Treatment Plant. The project included the development of a design criteria package for the procurement of two design-build entities to complete the work, technical oversight, construction oversight, stakeholder management, and communications with regulatory agencies. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Design Services for the Improvements to Wastewater Treatment Plants (WWTP) OOL Projects; WASD; Miami-Dade County, FL | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If applicable) Ongoing |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Director. Responsible for the design services contract that included multiple projects under the OOL Program. As part of this work, Godo led the design consultant team providing design services for multiple major upgrades to the three major WASD WWTPs. This effort required the mobilization of numerous technical resources to accelerate design production and to significantly enhance quality assurance/quality control procedures to keep errors/rework to a minimum. The design deadlines were successfully met, and most of the projects are now in the procurement or construction phase. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Design Services for WWTP Consent Decree Program; WASD Miami-Dade County, FL | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If applicable) 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Director. Responsible for the oversight of the design of multiple upgrades required by the U.S. Environmental Protection Agency and FDEP to three WASD WWTPs. The design phase for these projects required to be completed on an extremely accelerated schedule to meet a challenging deadline required by the consent decree. This effort required the mobilization of numerous technical resources to accelerate design production and to significantly enhance quality assurance/quality control procedures to keep errors/rework to a minimum. The design deadlines were successfully met, and most of the projects are now completed or in construction. Led the design services contract for multiple consent decree projects. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Design Services for Oxygen Production Facilities for Central District WWTP; WASD; Miami, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Responsible for the management and oversight of the planning and development of a new, 90-ton-per-day oxygen production facility for the 143-million-gallon-per-day Central District Wastewater Treatment Plant (CDWWTP). The objective of this consent decree project was to replace the existing oxygen production facilities. This design was completed in an extremely accelerated schedule to meet a challenging deadline required by the consent decree, which required producing a design criteria package for design-build set in approximately four months, as opposed to the nine to 12 months that are typically required for a project of this nature. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

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|---|---|---------------------------|---|---------------------------|
| Jacobs | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Mario Loaiza, PE, FASCE | Condition Assessment | a. TOTAL 25 | b. WITH CURRENT FIRM 3 |
| | 15. FIRM NAME AND LOCATION (City and State) Jacobs Engineering Group, Inc. - Palm Beach Gardens, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Civil Engineering - University of Alabama | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Florida #59396 FEMA NIMS Certified, 100 200 300 700 800 | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Mario has 25 years of experience in client account management, water and wastewater utility program management, and engineering design. His experience includes directing capital improvement projects, overseeing the development of engineering master plans, engineering design, and operations of water and wastewater treatment facilities and project management. In addition, Mario has extensive knowledge of long-range planning, budgeting, and developing capital plans; regulatory compliance; inter-government relations; emergency response; and hurricane preparedness.

19. RELEVANT PROJECTS

| | | | |
|-----------|--|----------------------------------|-------------------------------------|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Asset Management Continuing Services Fort Lauderdale, FL | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal in Charge. Mario oversees client satisfaction and ensures that this Citywide asset management program is delivered on time and within budget. As schedules and budgets change, Mario is available to the client to access resources from our local Florida operations and our global solutions and technology personnel. From project visioning to delivery, Mario is available to the client and can address challenges as they emerge. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Water Treatment Plant Facilities, Town of Jupiter Island/South Martin Regional Utility, Hobe Sound, FL | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Utility Director South Martin Regional Utility. As utility director, Mario managed two water treatment plant facilities (Reverse Osmosis and Nanofiltration – 8.145 MGD) and a wastewater treatment plant (Contact Stabilization – 1.44 MGD), capital planning, resource management, and overseeing all aspects of the utility business managing all five divisions of South Martin Regional Utility. He was the program manager for the entire system, including 17 raw water wells, a finished water distribution system serving a diverse and seasonal customer base, a sewer collection system, 110 lift stations, and a reclaimed water system. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Hobe Sound/Jupiter Island, FL | PROFESSIONAL SERVICES 2014 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Utility Direction and Representative Projects. Mario directed all aspects of the WWTP safety improvement design-build project, septic to sewer conversion study, established backflow prevention program, creation of comprehensive policies and procedures manual, managed a \$12M annual budget, capital planning, GIS map system creation, instrumentation and controls conversion, and South Martin Regional Utility history document for newly elected commissioners. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Utility District of Riviera Beach Riviera Beach, FL | PROFESSIONAL SERVICES 2013 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Assistant Executive Director. Mario oversaw 54 Utility District staff. He was responsible for managing personnel, technical plan reviews, construction inspection, and program management of all water and sewer projects within the Utility District limits. Mario assisted in preparing a capital improvement plan and budget and reported to the executive director of utilities. He was the engineering manager for 14.5MGD water treatment plants, 27 deep raw water wells and pipe system, 65-mile finished water distribution system serving a 40,000-person customer base, four 1M gallon re-pump stations, 75-mile sewer collection system, and 52 lift stations. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|---|--|---------------------------|---|----------------------------|
| Jacobs | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Brian Skeens, PE | Condition Assessment | a. TOTAL 24 | b. WITH CURRENT FIRM 17 |
| | 15. FIRM NAME AND LOCATION (City and State) Jacobs Engineering Group, Inc. - Miami, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Master of Science, Environmental Engineering - Georgia Institute of Technology Bachelor of Science, Civil Engineering - Georgia Institute of Technology | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Georgia #28468 | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Brian has 24 years of experience in water and wastewater system planning and is Jacob's global technology leader for water distribution. Brian serves as project manager, technical and task leader, and subject matter expert on projects ranging from water distribution and wastewater collection hydraulic model updates to a full model construction from scratch. He is also involved in projects involving water distribution systems, and water quality and energy optimization for water providers, as well as government entities to help make the most efficient use of water, and plan appropriately to extend the life of current water supplies and infrastructure. Brian has also led the development and implementation of water loss audits and non-revenue water reduction programs.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|---|----------------------------------|-------------------------------------|
| a. | Singapore PUB, AMI Demonstration Project Singapore | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Technical Expert. Served as the data analytics and AMI usage expert for the development of the RFP section focused on data insights studies. The project is to procure and install AMI meters in 20% of the PUB customers, approximately 300,000. The data insights studies are meant to evaluate the AMI data collected and determine insights that can be made useful for water system operations. | | |
| b. | Water Distribution Modeling and Master Plan Update Miami, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Reviewer and Subject Matter Expert. Provided senior guidance and review to the technical team tasked with updating the calibration for the water distribution system model, performing deficiency analysis, and updating the 20-year master plan of system improvements to meet current and future water demands. | | |
| c. | Water Program, Jacksonville Electric Authority Jacksonville, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Technical Consultant. Led the technical team in reviewing the water distribution system model, updating it from a planning model to an operational model for use in optimizing operations to meet CUP (withdrawal) requirements as well as distribution pressure and water quality needs. | | |
| d. | Digital Transformation and Smart H2O Utility Assessment Atlanta, GA | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Performed a smart water utility maturity assessment according to the Water Research Foundation standard to assess current standing and identified projects and actions needed to progress forward towards digital transformation or the water utility. An action plan was developed with projects and activities needed and prioritized over the upcoming five years. | | |
| e. | Pasco County Potable Water System Master Plan Pasco County, FL | PROFESSIONAL SERVICES 2013 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Technical Lead. Provided technical guidance and leadership in the development of an immediate action plan to improve water quality in the distribution system and during the development of a water distribution system model for the entire County. There was an extensive field data collection effort undertaken to calibrate the model and understand water age issues. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|---|--|---|----------------------|---------------------------|
| Jacobs | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Kristopher (Kris) Andersen | Lead Data Management, Integration & Quality Control | a. TOTAL 24 | b. WITH CURRENT FIRM 7 |
| | 15. FIRM NAME AND LOCATION (City and State) Jacobs Engineering Group, Inc. - Miami, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Master of Arts, Geography - University of Connecticut Bachelor of Science, Geography - James Madison University | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Project Management Institute (PMI) American Society for Photogrammetry and Remote Sensing (ASPRS) | | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) <i>Kris oversees Jacobs' North American remote sensing practice and brings more than 20 years of best practices related to high-speed geospatial data, collection, integration, and maintenance to the team. His expertise in major geospatial project management, GIS data development, remote sensing solutions, and project controls is well known throughout the industry. Over the course of his career, he has overseen diverse complex geospatial data collection programs for state and federal government, private and academic sectors, where he has helped provide clients with effective data solutions.</i> | | | | |

19. RELEVANT PROJECTS

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|-----------|---|-------------------------------|-------------------------------------|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Detailed Utility Mapping and GIS Creation for Cityworks Integration The Villages, FL | PROFESSIONAL SERVICES 2024 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Program manager. Managed the collection of utility assets for the District's utilities for integration into a Cityworks asset management application. The current scope of work includes mapping all water (potable and non-potable), stormwater, and sanitary sewer transmission lines using a combination of aerial LiDAR, mobile LiDAR, aerial photogrammetry, and field survey for location and existing record drawings, GIS layers, and CAD files for attribution in Cityworks. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Cityworks Implementation Roadmap Wildwood, FL | PROFESSIONAL SERVICES 2022 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Program manager. Worked closely with TSG to identify and define an asset management implementation plan for the City of Wildwood and Sumter County, Florida. Jacobs met with stakeholders, identified data and end-user requirements, and developed a detailed scope, schedule, and fee to implement a full migration from an aging asset management system, to Cityworks. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | High-Speed LiDAR Scanning N. Metro Denver, CO | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Program manager. Managed the collection, processing, and delivery of detailed mapping data derived from the high-speed mobile scan and aerial photogrammetry. Using a multi-sensor LiDAR Scanner on a Hi-Rail vehicle, Jacobs drove the entire length of the North Metro from Thornton to Denver Union Station, a length of 16 miles. From the LiDAR point cloud, top of rail, positive train control, platform clearances, switches, and catenary features are being compiled. The additional compilation is ongoing as needed by Regional Transportation District. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | I-270 Corridor Survey and Mobile LiDAR Collection Denver, CO | PROFESSIONAL SERVICES 2023 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Program manager. Managed the collection, processing, and delivery of detailed mapping data derived from conventional field surveys, high-speed mobile LiDAR scanning, and aerial photogrammetry. Jacobs recovered existing survey monuments along the corridor and built a robust control network with new monuments, 400+ mobile LiDAR targets, and 140 aerial mapping targets. The driver of this program is to redesign the eight-mile corridor in the future. The data captured for this project will enable designers to immediately begin 30% design layouts and alternatives analysis. Deliverables: MicroStation format. Project Size: eight miles plus arterial street. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)


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|---|---|---------------------------|--|----------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Daniel Davila, PE | Engineer and Field QC | a. TOTAL 22 | b. WITH CURRENT FIRM 10 |
| | 15. FIRM NAME AND LOCATION (City and State) Chen Moore and Associates-Fort Lauderdale, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Civil Engineering | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Florida | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Daniel has experience with numerous private and public clients that range from residential developers, industrial developers, municipalities, federal agencies, hospitals, universities, and educational institutions. His experience includes planning and design of stormwater systems, water and wastewater facilities, facilities planning, utilities master planning, infrastructure renewal, roadway design, and construction management. He has been the contract manager for small projects and large complex projects managing millions of dollars in design fees and several subconsultants. | | | | |

19. RELEVANT PROJECTS

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|----|---|-------------------------------|--------------------------------------|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Broward County UAZ 110/111 and 113 Water Sewer Improvements 113B Lauderdale Lakes, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Engineer. The water and sanitary sewer improvements for the UAZ 110/111 and 113 project includes the improvements to the existing water distribution system, sanitary sewer system, and transmission systems within the project area along with the restoration of surface areas disturbed for the construction of said improvements. All projects combined a total area of over 1,000 acres within multiple cities. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | TO-02 Bayshore Drive Intracoastal Crossing Forcemain Ft Lauderdale, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. CMA prepared a design criteria package for the City of Fort Lauderdale. The City owns and operates 4,420 linear feet of 20-inch diameter wastewater force main which includes 650 feet of subaqueous crossing under the Intracoastal Waterway. The forcemain conveys flow from Pumping Station D-40 and the surrounding area east to the intersection of Middle River Drive and NE 9th Street where it connects to a 48 inch diameter force main. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Emergency Bypass 48-inch Forcemain Fort Lauderdale, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) 2021 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. CMA was responsible for the design, permitting, and construction observation of the replacement of the City of Fort Lauderdale's main transmission line going into the wastewater treatment plant. The new line consists of more than 22,000 linear feet of new pipe which will be installed via 12 horizontal directional drills (HDD) that range between 1,700 and 3,000 linear feet each to a depth of up to 70 feet. The new force main is mostly 48-inch HDPE pipe with ductile iron pipe sections. The project route includes sensitive ecosystems, including the crossing of the South Middle River, which require Benthic surveys for the subaqueous crossing, dewatering calculations, and permitting for construction within a quarter-mile of contaminated areas with a high-water table being close to the coastline. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | TO-01 South River Forcemain Crossing Ft Lauderdale, FL | PROFESSIONAL SERVICES 2019 | CONSTRUCTION (If applicable) 2020 |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Supervisor. CMA prepared the design criteria package for the South Middle River Force Main Crossing for the City of Fort Lauderdale, located along NE 19th Street/NE 21st Street between NE 22nd Avenue and Bayview Drive. The scope of work included preliminary design and permitting of approximately 2,200 linear feet of 16 inch HDPE sanitary sewer force main to replace the existing 12 inch cast iron pipe force main which is currently out of service. This project included approximately 1,410 linear feet of a HDD of the 16 inch force main under the Middle River. CMA prepared the design criteria package and has permitted the HDD with Broward County, SFWMD, U.S. Army Corps of Engineers (ACOE), and FDEP. CMA also provided bidding assistance for this project. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)


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|---|--|---------------------------|--|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Dennis Stanton | SUE Support | a. TOTAL 30 | b. WITH CURRENT FIRM 1 |
| | 15. FIRM NAME AND LOCATION (City and State) CTS Engineering, Inc.- Fort Lauderdale, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Arts, Liberal Arts - Old Westbury | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) | | | | |

Certifications: Florida Intermediate Training - ATSSA ▪ Red Vector's Understanding Subsurface Utility Engineering ▪ Work Zone Traffic Control Intermediate Level
▪ Confined Space Entry Training Program

| 19. RELEVANT PROJECTS | | | |
|---|--|--|-------------------------------------|
| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| a. | Continuing Services for Surveying, Mapping, and SUE Various Counties, FL | PROFESSIONAL SERVICES N/A | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Manager. Provided as-needed surveying, mapping, and SUE support to the FDOT District 4 on this five-year, \$5 million districtwide contract. Services provided included static and mobile LiDAR, historical baseline and existing right-of-way determination, GPS surveys, topographic surveys and DTM, general land and aerial photography survey, monumentation surveys, bathymetric surveys, utility designation and excavation, including GIS files, tree surveys, right-of-way control survey maps, right-of-way maps, maintenance maps, right-of-way monumentation maps, boundary surveys, and quality assurance reviews. | | |
| | b. | Districtwide Utility Location Services Various Counties, FL | PROFESSIONAL SERVICES N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Provided all the necessary management services to designate, locate by excavating, survey, and map the existing surface and subsurface utilities to support the design of construction plans on projects selected by the Department. SUE provides exact horizontal and vertical locations of the existing underground utilities by way of electromagnetic and other geophysical location techniques including vacuum excavation. The client benefits by receiving SUE data which enables them to identify, address and remedy potential utility conflicts during the project's design phase. | | | |
| c. | | Districtwide Utility Location Services and Districtwide Underground Utility Services Contract, Various Counties, FL | PROFESSIONAL SERVICES N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Provided all the necessary services to designate, locate by excavation, survey, and map existing surface and subsurface utilities to support the design of construction plans on projects selected by the Department. Exact horizontal and vertical locations of existing underground utilities were provided by way of electromagnetic, sonic, and other geophysical location techniques including vacuum excavation. | | |
| | d. | I-595 Corridor Roadway Improvements, Design-Build Various Counties, FL | PROFESSIONAL SERVICES N/A |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Project Manager. This project won the People's Choice Award in the 2015 America's Transportation Awards competition. This \$1.2B project relieved traffic congestion and created a multimodal transportation network along I-595 in South Florida. The area of this project extended from the I-75/Sawgrass Expressway interchange to the I-595/I-95 interchange in central Broward County, for a total project length of 10.5 miles. The project consisted of the reconstruction, addition of auxiliary lanes and resurfacing of the I-595 mainline (including associated improvements to frontage roads and ramps), and a new reversible express lanes system in the I-595 median. | | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|---|--|---------------------------|---|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | James Barton, PE | GIS Services- Support | a. TOTAL 22 | b. WITH CURRENT FIRM 8 |
| | 15. FIRM NAME AND LOCATION (City and State) Florida Technical Consultants, LLC - Boynton Beach, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Civil Engineering - Queens University, Canada | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: Florida #59257 | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)


James has over 20 years of engineering experience, both internationally and domestically. His domestic experience includes environmental engineering, utilities, road construction, water and sanitation programs including water resources infrastructure rehabilitation, and GIS implementation. He is working with ESRI developing software tools for implementing GIS/GPS for construction field inspections and work order management.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|---|---|---|-------------------------------------|
| a. | Village of Tequesta - GIS Tequesta, FL | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. FTC converted the Village utilities CAD Atlas to GIS. Systems included water and drainage. Coordination was done with Marin County and Loxahatchee River District to collect their facilities and input them into GIS. Water meters were mapped by geocoding. ArcGIS Online mobile apps were created for maintenance crews to validate the information from the field. All data was loaded into an asset management system. Fee: \$38,892 | | |
| | b. | Cooper City - GIS Cooper City, FL | PROFESSIONAL SERVICES Ongoing |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. FTC converted the City CAD Atlas to GIS. Systems included water, sewer, and drainage. Geometric networks were set up and run for valve isolation and capacity analysis. Coordinated label hydrants with fire department. Tracked progress of valve turning contractor. ArcGIS online applications were developed, and the staff was trained to inventory and field verify features. Fee: \$155,125 | | | |
| c. | | South Martin Regional Utility - GIS Hobe Sound, FL | PROFESSIONAL SERVICES Ongoing |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. FTC converted the utility atlas to GIS, including water and sewer. The process was complicated by the existing CAD parcel data being geographically incorrect in some cases necessitating field verification. Mobile apps were created in ArcGIS online to validate data from the field. Fee: \$94,820 | | |
| | d. | City of Marathon - GIS Marathon, FL | PROFESSIONAL SERVICES Ongoing |
| (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. FTC converted City CAD Atlas to GIS. A systems geodatabase had to be created to handle the vacuum sewer system. CAD text data was used to populate geodatabases. ArcGIS online applications were developed, and the staff was trained to inventory and field verify features. Fee: \$291,669 | | | |
| e. | | Town of Palm Beach - GIS Palm Beach, FL | PROFESSIONAL SERVICES Ongoing |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. FTC converted the CAD Atlas to GIS. Systems included sewer and drainage. CAD text data was used to populate Senior GIS Analyst geodatabases. FTC converted the CAD Atlas to GIS. Systems included sewer and drainage. CAD text data was used to populate geodatabases. Geodatabases were built to create system profiles and perform sewer capacity analysis. ArcGIS online applications were developed and the staff was trained to inventory and field verify features. Fee: \$135,000 | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)


| | | | | |
|--|--|--|----------------------|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Neil Eppig | SUE Support | a. TOTAL 47 | b. WITH CURRENT FIRM 3 |
| | 15. FIRM NAME AND LOCATION (City and State) McKim & Creed - Sarasota, Florida | | | |
| 16. EDUCATION (Degree and Specializing) | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) | | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Neil is a SUE project manager located in McKim & Creed's Sarasota office. With more than 44 years of professional experience, he brings exceptional client and project management skills along with technical expertise in land surveying and SUE and is a recent addition to the McKim & Creed team. | | | | |

19. RELEVANT PROJECTS

| | | | |
|----|---|----------------------------------|-------------------------------------|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Pea Ridge Connector WM Upgrades Pace, FL | PROFESSIONAL SERVICES 2022 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE project manager. McKim & Creed provided engineering, surveying, permitting, bidding, construction, and utility coordination services to upgrade existing water mains impacted by the construction of the new Pea Ridge Connector, Santa Rosa County's new arterial roadway of 1.7+ miles designed to connect Highway 90 and Hamilton Bridge Road. This water main upgrades project preceded the construction of the new Pea Ridge Connector, and consisted of replacing six-inch AC pipelines with 10- or 12-inch HDPE. The project included utility surveying, right-of-way mapping, and subsurface utility investigations. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Hurricane Hermine Sanitary Sewer Collection System Engineering Evaluations, Largo, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE project manager. McKim & Creed performed assessments of the City of Largo's sanitary sewer system to evaluate the impact on the system of Hurricane Hermine and establish and implement a plan to prevent sanitary system overflows (SSOs) from occurring during future wet seasons. Tasks included hydraulic modeling, flow and rainfall monitoring, smoke testing, manhole inspections, CCTV inspections, I&I quantification and abatement, dry and wet weather calibration of the City's InfoWorks model, alternative software evaluation, and identification of system defects and hydraulic deficiencies with recommendations for improvements. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | GIS Mapping of Storm and Sanitary Sewers Tampa, FL | PROFESSIONAL SERVICES 2022 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE project manager. McKim & Creed is mapping the existing private water mains and fire service mains using GPR and SUE, GPS and traditional surveys to locate the piping and appurtenances (valves, hydrants, etc.) and to document piping sizes, materials and depths. Physical inspection of the existing onsite stormwater and sanitary structures is being conducted to document piping connectivity, size, material, and depths. The team also documented construction materials utilized and condition assessment of each structure's primary components. The primary goals of the inspections are to identify the structures which require some form of repair/rehabilitation and potentially additional inspection efforts. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | McCall Road from SR 776 to Dearborn Street Englewood, FL | PROFESSIONAL SERVICES Ongoing | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE project manager. McKim & Creed completed a 1.25-mile roadway drainage improvement along S McCall Road, completed in two phases. Phase 1 included Level B SUE designations, utilizing multi-frequency electromagnetic (EM) and GPR equipment and techniques, in conjunction with the as-built information. Utility designation was surveyed and delivered in MicroStation format, utilizing FDOT standards. Phase 2 included 32 Level A SUE locates using non-destructive vacuum excavation equipment to expose the underground utilities. Once the underground utilities were exposed, we documented the findings on test hole forms which were tied to the construction baseline | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|--|--|--|-----------------------------|----------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Chris Bosshart, PSM | Survey Support | a. TOTAL 18 | b. WITH CURRENT FIRM 17 |
| | 15. FIRM NAME AND LOCATION (City and State) McKim & Creed- Sarasota, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Business Management - Florida Gulf Coast University Certificate in Geomatics - University of Florida | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Surveyor/Mapper: Florida #7150 | | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)


Chris offers more than 18 years of experience in surveying and mapping, working extensively on FDOT roadway design surveys. His experience includes project participation as survey project manager, survey CAD technician, survey party chief, and SUE project coordinator. He is responsible for project planning, field crew dispatch, EFB and CAICE training, the supervision of the collection of field survey data, including GPS survey data, and its transition to the finished project, including final calculations and CAICE/ MicroStation CAD deliverables.

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|--|-------------------------------|-------------------------------------|
| a. | Cypress Creek Post Node Analyzer Building Tampa, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey manager. This project is located at the Cypress Creek Pump Station and includes a new 360 square foot (18 feet by 20 feet) pre-fabricated concrete building, sir conditioning, concrete slab, and demolition and disposal of the existing fiberglass building. | | |
| b. | 31st Street S. 12-inch Water Main Improvement St. Petersburg, FL | PROFESSIONAL SERVICES 2018 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Surveyor. Chris provided design and permitting services for the installation of 3,800 linear feet of 12-inch water main to replace parallel eight-inch and 20-inch water mains, thus reducing in-pipe water storage and increasing water quality. The project design included open- cut construction within the center lane of 31st Street South and reconnection of the existing water distribution piping, services, and fire hydrants. | | |
| c. | Peace River Manasota Regional Water Supply Sarasota, FL | PROFESSIONAL SERVICES 2015 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE project coordinator. Chris served as SUE project coordinator. Scope included an overlay upon graphics of the proposed easements for review, adjustments and approval, the generation of sketches and description for each PID number, field surveys of the boundary of each PID number, partial limited water treatment facility plant topo, and field surveys to support the generation of two ingress/egress access easements. | | |
| d. | Northwest Regional Water Reclamation Facility Expansion Hillsborough County, FL | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Survey CAD technician. Chris served as a survey CAD technician for the expansion of the Northwest Regional Water Reclamation Facility (NWRWRF). A site master plan was developed related to the Northwest Wastewater Consolidation program and a design criteria package for the NWRWRF expansion. The scope of services were comprised of three tasks: site planning, design criteria package/procurement, and design/ construction and implementation support. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT


(Complete one Section E for each key person.)

| | | | | |
|--|---|---------------------------|--|----------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | James D. Stoner, PSM | Survey Support | a. TOTAL 50 | b. WITH CURRENT FIRM 30 |
| | 15. FIRM NAME AND LOCATION (City and State) Stoner & Associates, Inc. - Davie, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Associates of Science, Land College Surveying - Palm Associates Community College | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Surveyor License and Mapper: Florida #LS4039 | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Affiliations: Florida Surveying and Mapping Society ■ American Congress on Surveying and Mapping | | | | |

| 19. RELEVANT PROJECTS | | | |
|-----------------------|--|-------------------------------|-------------------------------------|
| a. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | City of Sunrise Municipal Complex Sunrise, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Complex. Prepared boundary, topographic, tree, and utility survey of 39.36 acre City of Sunrise Municipal Complex. | | |
| b. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | City of Sunrise Athletic Complex Sunrise, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Surveyor. Prepared boundary, topographic, tree, and utility survey of 26.57 acre Sunrise Athletic Complex. | | |
| c. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Lift Station 132 Sunrise, FL | PROFESSIONAL SERVICES 2016 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Surveyor. Prepared a sketch and legal description of utility easement for Lift Station No. 132 located at Springtree Drive and N.E. 97th Terrace. | | |
| d. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | Cypress Bay Annex Sunrise, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Surveyor. Prepared boundary survey of 10.37 acre former school site now known as Cypress Bay Annex located at North New River Circle and Sanctuary Parkway. | | |
| e. | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
| | City Limits Sunrise, FL | PROFESSIONAL SERVICES 2017 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal Surveyor. Stake the City limit boundary line between City of Weston and City of Sunrise. | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)


| | | | | |
|--|--|--|----------------------|---------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Roger Pawlowski | Lead SUE Support | a. TOTAL 20 | b. WITH CURRENT FIRM 8 |
| | 15. FIRM NAME AND LOCATION (City and State) T2 Utility Engineers- Fort Myers, Florida | | | |
| 16. EDUCATION (Degree and Specializing) | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) | | |
| 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Certifications: American Red Cross First Aid/CPR | | | | |

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|-----------|--|-------------------------------|-------------------------------------|
| a. | Bayshore Drive, Intracoastal Force Main Crossing Design-Build Fort Lauderdale, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Field Crew Chief. T2ue was contracted to provide multi-channel ground-penetrating radar (MCGPR), utility designating, and test holes in support of the City of Fort Lauderdale's force main replacement along NE 9th Street between Middle River Drive and Intracoastal Drive. The project was approximately 3,300 feet in length and passes beneath the Intracoastal Waterway. Fee: \$54,185 | | |
| | | | |
| b. | Reclaimed Water Transmission Main – Caloosahatchee River Crossing Project, Cape Coral, FL | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Supervisor. T2ue provided route surveying, topographical data, and SUE services. Horizontal and vertical control was established along the project corridor spanning the Caloosahatchee River tying to both Cape Coral and Fort Myers control. Record information was researched and constructed in CAD format for a project base map assisting design. A bathymetric survey was also performed on a portion of the river. T2ue also provided a SUE investigation along the project corridor in general accordance with ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. Fee: \$257,504 | | |
| | | | |
| c. | Estero Boulevard Improvements Design Survey/LASER Scan Fort Myers Beach, FL | PROFESSIONAL SERVICES 2022 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Supervisor. A phased reconstruction of a County roadway within the Town of Fort Myers Beach. Project components include adding trolley stops, bike lanes, and sidewalks on both sides of the corridor and replacement of City water lines and County sewer lines. Professional surveying consultant responsibilities include: recover or re-establish project alignment; setting aerial targets; locating all above-ground features and improvements; collecting required data for the purpose of creating a DTM; obtain roadway cross-sections/profiles and side street surveys (up to 75 feet down each intersecting street). Fee: \$1.16M | | |
| | | | |
| d. | Fruit Streets Water Main Replacement St. James City, FL | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm SUE Supervisor. T2ue was contracted to perform survey work in support of the design for a water main replacement in St. James City. The task included assembling record information along the project corridor (20,000 feet in length and extended 10 feet outside right-of-way) and compiling into an AutoCAD base map. Vertical control was set throughout utilizing digital leveling procedures. All data was collected using multiple survey grade laser scanners. Information was obtained in obscured areas and canals by conventional survey methods. The final deliverable was a unified topographic survey. Fee: \$82,545 | | |
| | | | |

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

| | | | | |
|---|--|---------------------------|---|----------------------------|
|  | 12. NAME | 13. ROLE IN THIS CONTRACT | 14. YEARS EXPERIENCE | |
| | Scott Urquhart, PSM | Survey Support | a. TOTAL 28 | b. WITH CURRENT FIRM 14 |
| | 15. FIRM NAME AND LOCATION (City and State) T2 Utility Engineers- Fort Myers, Florida | | | |
| 16. EDUCATION (Degree and Specializing) Bachelor of Science, Geomatics - University of Florida, 1999 | | | 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Surveyor/Mapper: Florida #6524, 2004 | |

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Affiliations: Florida Surveying and Mapping Society ■ American Congress of Surveying and Mapping

19. RELEVANT PROJECTS

| | (1) TITLE AND LOCATION (City and State) | (2) YEAR COMPLETED | |
|----|--|-------------------------------|-------------------------------------|
| a. | Bayshore Drive, Intracoastal Force Main Crossing Design-Build Fort Lauderdale, FL | PROFESSIONAL SERVICES 2021 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Project Manager. T2ue was contracted to provide MCGPR, utility designating and test holes in support of the City of Fort Lauderdale's force main replacement along NE 9th Street between Middle River Drive and Intracoastal Drive. The project was approximately 3,300 feet in length and passes beneath the Intracoastal Waterway. Fee: \$54,185 | | |
| | | | |
| b. | Reclaimed Water Transmission Main – Caloosahatchee River Crossing Project, Cape Coral, FL | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Project Manager. T2ue provided route surveying, topographical data, and SUE services. Horizontal and vertical control was established along the project corridor spanning the Caloosahatchee River tying to both Cape Coral and Fort Myers control. Record information was researched and constructed in CAD format for a project base map assisting design. A bathymetric survey was also performed on a portion of the river. T2ue also provided a SUE investigation along the project corridor in general accordance with ASCE Standard 38-02: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. Fee: \$257,504 | | |
| | | | |
| c. | Estero Boulevard Improvements Design Survey/LASER Scan Fort Myers Beach, FL | PROFESSIONAL SERVICES 2022 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Project Manager. A phased reconstruction of a County roadway within the Town of Fort Myers Beach. Project components include adding trolley stops, bike lanes, and sidewalks on both sides of the corridor and replacement of City water lines and County sewer lines. Professional surveying consultant responsibilities include: recover or re-establish project alignment; setting aerial targets; locating all above-ground features and improvements; collecting required data for the purpose of creating a DTM; obtain roadway cross-sections/profiles and side street surveys (up to 75 feet down each intersecting street). Fee: \$1.16M | | |
| | | | |
| d. | Fruit Streets Water Main Replacement, St. James City, FL | PROFESSIONAL SERVICES 2020 | CONSTRUCTION (If applicable) N/A |
| | (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Senior Project Manager. T2ue was contracted to perform survey work in support of the design for a water main replacement in St. James City. The task included assembling record information along the project corridor (20,000 feet in length and extended 10 feet outside right-of-way) and compiling into an AutoCAD base map. Vertical control was set throughout utilizing digital leveling procedures. All data was collected using multiple survey-grade laser scanners. Information was obtained in obscured areas and canals by conventional survey methods. The final deliverable was a unified topographic survey. Fee: \$82,545 | | |
| | | | |



Methodology and Approach
to Scope of Work

METHODOLOGY AND APPROACH TO SCOPE OF WORK



City of Fort Lauderdale - Tarpon River Neighborhood

Nearly two years ago, WGI had initial involvement in developing the WDMP for the City. WGI acquired a basic familiarity with the mapping program's needs and generally outlined the WDMP to satisfy the FDEP consent order requirements. Accurate mapping of the water distribution system provides confidence in knowing the locations and properties of assets for operating and maintaining the City's drinking water supply. The original objectives of the mapping plan are applicable today. However, the established schedule by the zones and grids in the mapping plan of September 22, 2020, is outdated. Since no mapping tasks for Zones 1 to 8 (inclusive) have ever started, according to the WDMP schedule, it necessitates a change based upon our approach and the rescheduling of zones and grids for all areas as identified in this proposal.

The City may consider filing an amendment with FDEP to replace the September 22, 2020 schedule. **A revised mapping schedule is not a request for an extension.** Providing an updated schedule to FDEP is a logical first step. Our team is uniquely positioned to help the City with the plan's update and will complete the mapping by the consent order's required date. WGI is not requesting an extension to the WDMP.

WGI's current workload allows us to complete this project in, or before, the scheduled timeframe. As this water distribution mapping project progresses, we will be winding down our multi-year work with Brightline (a reference project). WGI'S ongoing project work includes regular survey and SUE work for FDOT, SFWMD, and numerous counties, including Miami-Dade, Broward, Palm Beach, Lee, Charlotte, Sarasota, Pinellas, Clay, and many other municipalities across Florida. **WGI is a South Florida-based firm, having the most in-house survey and SUE resources based within Florida to meet the City's needs.** We have subconsultants on our team that are trusted partners, and intend to use their capabilities as discussed in the Executive Summary. We will prioritize the City's tasks within our firm and subconsultants. WGI's team has the availability to complete the work the program requires and is committed to its timely success. Our approach, combined with the SF 330 and other qualification information in this proposal, describes our teams' available facilities, technological capabilities, and resources for the project.

WGI provides a proposed, realistic schedule from notice to proceed until the water distribution system mapping is completed and submitted to FDEP. We will expeditiously complete this project and understand the City reserves the right to adjust our proposed schedule as necessary.

PROGRAM REPORTING, DATA COLLECTION, AND VALVE EXERCISING APPROACH

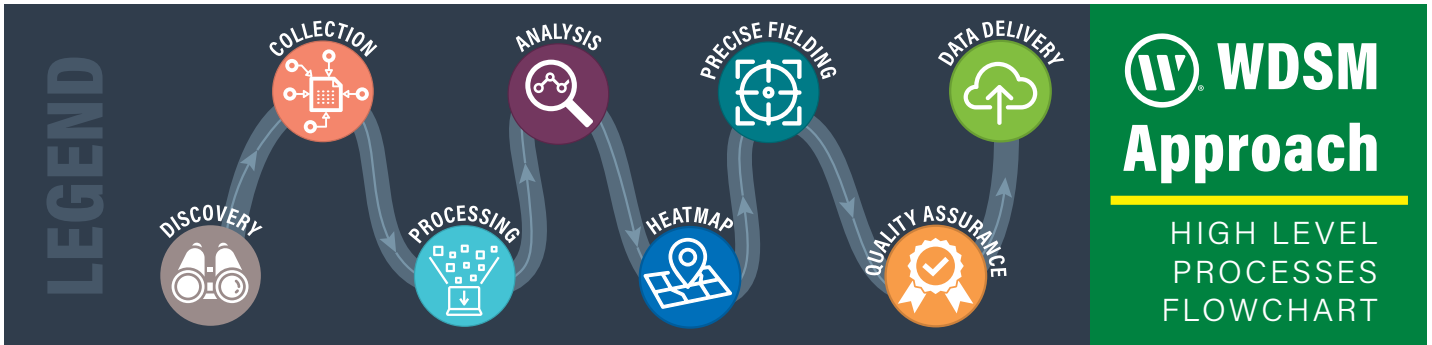
Our team will begin our program planning with a thorough understanding of the City's guiding principles.



| Fort Lauderdale Guiding Principles | | Our Plan to Achieve |
|---|---|---|
| Utility Division will operate based on master planning. The master plans are in alignment with Vision 2035. | ▶ | Collaborate with staff and program consultants in all work performed as guided by City's master planning, valve maintenance plan, and the FDEP consent order. |
| Utility Division should operate as an effective, modern utility. | ▶ | Use advanced technologies to analyze existing data and conditions, identify, locate, survey, georeference, document, assess, and map water valves, mains, and appurtenances of the water distribution system. |
| Utility Division will embark on an aggressive schedule to maintain, harden, and secure infrastructure, including distribution system valves and pipelines. | ▶ | Apply collected data, field-collected and historical records, and WSVMP using analytical software and prioritization criteria to advance field schedules by infrastructure needs. |
| Utility Division will evaluate distribution and collection infrastructure for planned development, population growth, and future capacity to ensure the City delivers the highest-level quality services to our neighbors and visitors. | ▶ | Provide an accurate representation of all collected and applied data in geospatial and database format for use in support of planning efforts. |
| Utility Division is fully committed to training, development, and continuous improvement of its human resources. | ▶ | Implement dashboard for staff that results in an accurate, efficient, and user-friendly interface for operations and maintenance. |
| Utility Division is committed to full compliance with all local, state, and federal regulatory agencies and provides safe, quality drinking water to our neighbors. | ▶ | Produce quality verified data on valve infrastructure operations and automated reporting outputs to facilitate the Utility Division's need to document and achieve regulatory compliance for drinking water distribution to stakeholders. |

The City's purpose and goals of the WSVMP include:

- Maximizing regulatory compliance – identify deficient valves and repair or replace them
- Maintain and exercise 100% of the source water transmission valves annually
- Maintain and exercise 100% of the large water transmission mains annually
- Maintain and exercise 20% of water distribution system mains annually or 100% every five years
- Reporting to FDEP; data collection, survey, and georeferenced mapping of the water infrastructure; and assistance with the water line valves exercise program



PROGRAM MANAGEMENT PLANNING

WGI will apply itself to support the goals of the WSVMP in partnership with City staff or other program consultants in developing and implementing a program focused on key outcomes.



We understand how the WSVMP contributes, integrates, and informs the broader Fort Lauderdale water distribution system efforts. Our team will drive alignment with system-wide goals and programs to ensure the plan is executed to contribute to the City successfully meeting system performance and participant expectations. Our approach to program management is to apply our team's experience with similar programs, using programmatic workflows and processes to ensure all goals tied directly to the water distribution mapping project can be achieved and meet FDEP compliance.





Data Collection and Quality Management Planning

Effective data management is key to quality data delivery. WGI has first-hand knowledge of the City's approved WSVMP, the first document considered in our work-planning efforts. Using the established plan, from the start we will apply proven processes governed by an approach to capture field data, confirm data quality, qualify conditions found, and standardize data. Initiating with the review of all existing GIS and operations information, WGI will perform a rigorous evaluation of current data on valve infrastructure, ensuring identification of both known and undocumented/mapped valves, mains, and other components.

WGI will fast start our data planning efforts (gap analysis described within) to accelerate sensor-based field data collection operations followed by necessary manual fielding. We will apply our proven procedures to ensure data collection software tools are used for **efficient field-to-office review and quality assurance**. We know we must review data as it is collected and perform quick re-collection while our sensors or field staff are deployed. Georeferenced data previously collected by the City will be verified by WGI to ensure accuracy.

WGI has in-house capabilities, within or in proximity to the City of Fort Lauderdale. Our team has all the resources and technologic innovations necessary to complete this project. Paramount to any program is safety in all practices and procedures. Water distribution valves are often located in both high-traffic areas and remote locations where safe access must be planned and executed accordingly. Our hands-on knowledge of the Fort Lauderdale water system, through previous survey and subsurface utility investigative work efforts, ensures a learned perspective of the overall system, enabling safe site access planning for field operations. Our approach is to minimize manual fielding that unnecessarily puts our personnel into traffic. When necessary to have fielding staff collect data within roadways, we will **comply with all traffic control requirements, and applicable maintenance of traffic (MOT) permits will be integral to the field data collection protocols. This is routine with WGI's ongoing survey and SUE projects. WGI is qualified for MOT by FDOT.**

Georeferencing all collected data and applying the City's attribute structure and criteria, with input at the project start from City staff, WGI will ensure field efforts result in data delivery success. In accordance with AWWA M44, building a complete asset inventory of the distribution

valve system is essential for an efficient valve program. Since the City has been self-performing inspection and exercising of valves under the WSVMP, we must review your inspection records. The data review, and with the City's direction for the remaining work, will clarify WGI's role (if any) in undertaking activities directly related to the WSVMP. At a minimum, WGI must review and consider the use of WSVMP data within the WDSM for all data already collected by the City. WSVMP data we recommend reviewing and considering for possible re-collection (as necessary) includes the following key valve information:

- | | |
|----------------------------------|-----------------------------------|
| ■ Valve size | ■ Position |
| ■ Valve type | ■ Date last operated |
| ■ Function | ■ Operable deficiencies |
| ■ Access | ■ Manufacturer |
| ■ Actuator | ■ Year installed |
| ■ Cover | ■ Model |
| ■ Coordinates/location method(s) | ■ Depth to operating nut |
| ■ Direction to close | ■ Existing work orders |
| ■ Asset unique identifier | ■ Stem extension on operating nut |
| ■ Turns | |

Collecting and documenting the key information, and confirming the data each time a valve is exercised, is important to long-term data management and reliability. Since the City was self-performing inspection and exercising of valves under the WSVMP, if it directs us to collect such data, our data collection structure will be designed to collect and/or store key data, as well as any additional data identified through communication with City staff for other ongoing water system programs. WGI will provide field personnel using a mobile application to collect images, the GPS position with positional accuracy, and attributes information directly in the field. To minimize errors associated with field-collected data, WGI will work with the City on the verification of system status and properties (assets records) before incorporating any field data. Software applications are used to collect data and offer an approach for importing final data into the City's computerized maintenance management system (CMMS), Cityworks. Our approach allows for auto-synchronization with GIS and other applications. **Clear, digital, and portable data collection methods are essential to apply accurate information, becoming a dynamic tool for water system management.**

Using the ESRI ArcMap disconnected editing toolset is integral to the workflows WGI employs for your water distribution mapping project. The disconnected editing toolset contains applications for performing check-out/check-in replication. Check-out/check-in

Processes Enabling Disconnected Editing

| Tool | Description |
|---------------------|---|
| Check-In | <ul style="list-style-type: none"> Synchronizes changes from a check-out replica in an ArcSDE, file, or personal geodatabase to the parent ArcSDE geodatabase Use the synchronize changes tool in place of this tool for new applications |
| Check-In from Delta | <ul style="list-style-type: none"> Imports changes from a delta file into the parent replica. A delta file contains only the changes exported from a child replica geodatabase Use the import message tool in place of this tool for new applications |
| Check-Out | <ul style="list-style-type: none"> Creates a check-out replica from datasets in an ArcSDE geodatabase to an ArcSDE, file, or personal geodatabase for offline editing Use the create replica tool in place of this tool for new applications |
| Export To Delta | <ul style="list-style-type: none"> Exports changes in a check-out replica geodatabase to a delta file. A delta file contains only the changes exported from a replicated geodatabase Use the export data change message tool in place of this tool for new applications |

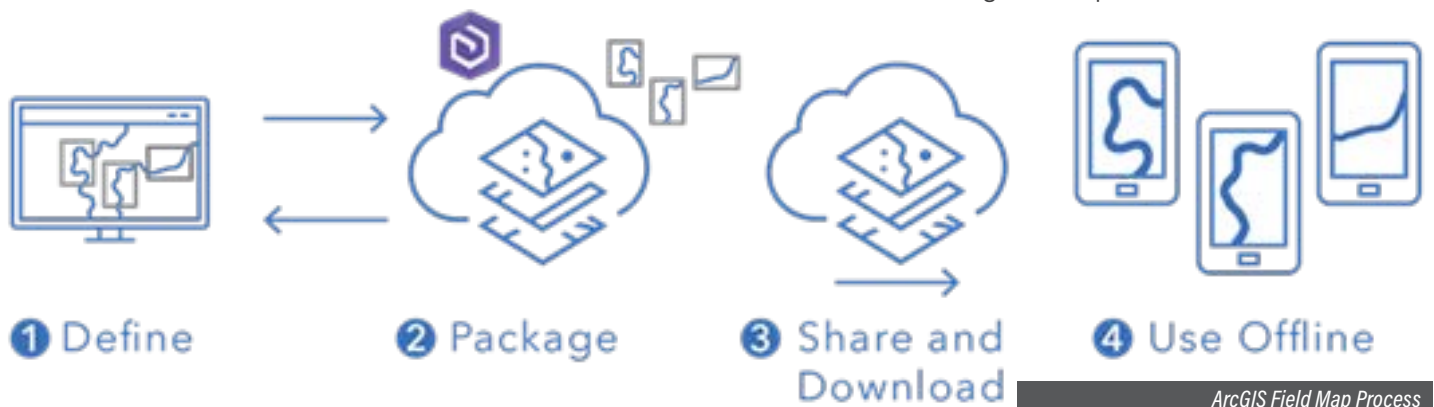
replication allows our office and field users of the water distribution system's GIS database to transfer data from your central database to WGI. Later, transfer to our office and field associates enables WGI and its team members to operate independently from the City. Disconnected editing avoids the overhead of a remote database connection provided by the City to WGI.

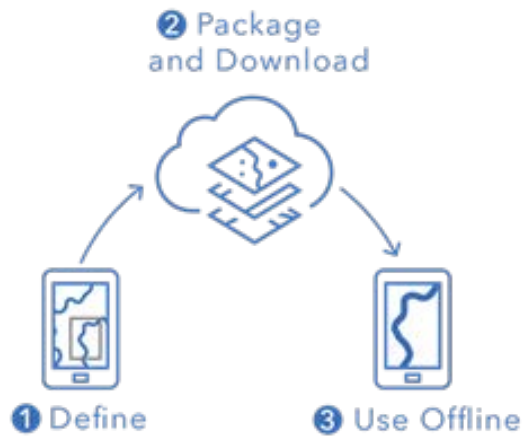
Throughout the work, WGI data reviewers will continue to work with and modify the data. When the City re-establishes our connection to its database for check-in, any changes WGI made to the data can be transferred to, and integrated with, data maintained in the City's central database. Your GIS system administrators are familiar with the disconnected editing toolset.

For your project, we are primarily using our defined mapping hotspots for fieldwork, and the data collection using GPR or test hole locations. We will also use parcel data to verify locations and collect positions for all meters, usually along or near boundary lines. Applying

the check-out (replica) of the City's GIS database, WGI will prepare map areas for offline use by creating mobile map packages (MMPKs) for our field operations. With this approach, we can determine areas well in advance, later downloading MMPKs to mobile devices. Throughout the fieldwork, we will check the offline status of maps and layers using the ArcGIS Field Maps web app.

Defining map areas via GIS analysis allows WGI to package our data, base maps, and attachments for download by our field staff. Once we create map areas in the web app, they are available to download to mobile devices by field staff. The field staff will use the information to collect necessary data (e.g., in larger areas for meter locating or SUE investigations), view assets, and collect new data offline, just as they would in a connected environment. We always plan where field staff will be during the day and track their activities based on work orders issued; we can easily create the map areas in advance for any referenced work orders. For each work order, the assigned map area will be downloaded





Using Field Map to Create Map Areas on Demand

ahead of time using the Field Maps web app. Once we create a map area, it is packaged and available for download in the Field Maps mobile app. The map area is then shared with anyone who needs to review the work order—a supervisor, quality control personnel, and the project manager. If requested, we could potentially share these map areas with the City’s project manager.

On fast-paced projects like this one, we can create map areas on demand using the Field Maps mobile app. This map area creation can occur, if we must send field staff to perform unplanned or unique offline work. In these cases, they can create and download a map area directly on their device using the Field Maps mobile app.

Once field staff completes work for the day, they will sync their data updates and remove the map area from their device, closing the work order and removing the data from the device that is no longer relevant. We will then perform quality control of the data before uploading areas to the City’s GIS database.

Tracking inspection and maintenance activities within a CMMS provides a central location to view the asset’s status, and the inspection and condition history over time. Using Cityworks with a

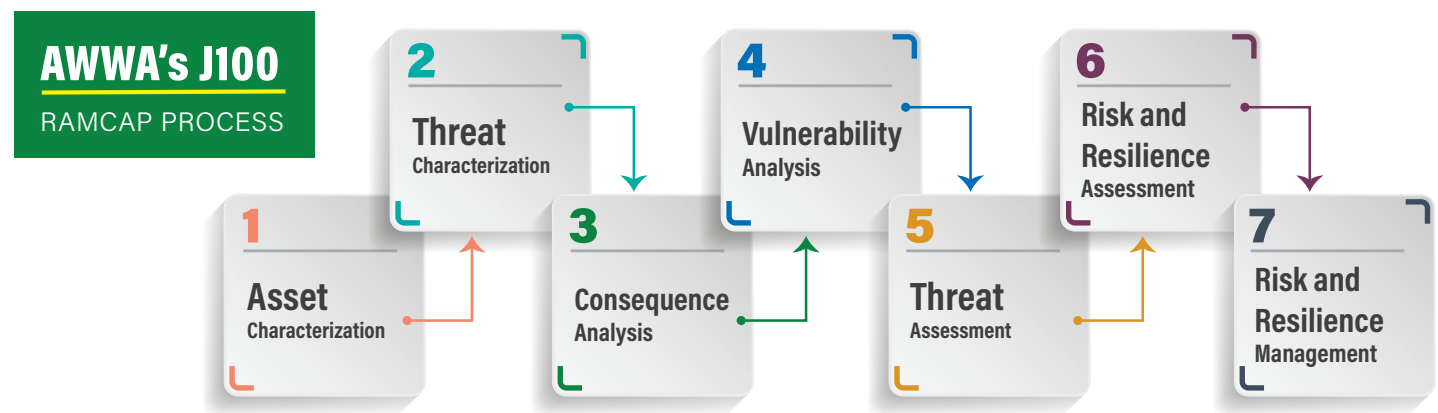
GIS implementation provides the City with a high-level view of all information, including the water distribution mapping program’s data, as we continually update locations and data related to the City’s water system assets. For maintenance, Cityworks permits asset planners, maintenance engineers, Cityworks users, and others in the utility division to view the updated spatially referenced data from the water distribution mapping program. The Cityworks system includes the inspection history of the asset(s), helping the City identify problem areas containing a concentration of identified issues. This functionality helps the maintenance staff plan work activities beyond routine valve maintenance and provides valuable insight for planning future system needs.

Assessing the valve infrastructure’s condition is a function of understanding valve operations and materials. WGI’s team will work in collaboration with the City’s field staff to collect available information on valve conditions (as requested), assist in operations where feasible, and verify collected data. WGI will work with the City to understand all completed self-performed inspections for the WSVMP. We will quickly evaluate our mapping and field schedules to determine if they align with the City’s self-performance inspections and valve operations. We want to ensure WDSM activities complement your needs for the WSVMP using a logical and defensible overall plan.

Knowing the likelihood of an asset failing and its consequences helps define strategies to proactively mitigate failure potential. Working jointly with the City, we will compile and analyze the existing available hydrologic models and valve data to develop a mapping approach that aligns with your prioritization order. Should we be asked to assist the City in the WSVMP, we understand you may further evolve your risk-based methodology to define a risk score for each valve. The risk score is a product of the likelihood of failure (LOF) and consequence of failure (COF) criteria.

| Potential LOF Criteria | Potential COF Criteria |
|---|--|
| Physical Characteristics: age, remaining useful life (RUL), material, change in standards | Environmental Impacts: waterways, regulatory, utility crossings (sewer, storm) |
| Condition and Performance: asset condition, operations, and service history | Social Impacts: critical customers/facilities, redundancy, street/railroad crossings |
| External Impacts: access/location, soil, corrosivity, O&M staff input | Economic Impacts: size, type, location, repair cost (emergency vs. planned) |

The valve assessment evaluates the system’s ability to adapt to change, and measures the infrastructure’s resiliency when changes occur. Mapping the system is important for providing system operators with the location of components and their information, combining methods and procedures to operate the water distribution system effectively and proactively. The mapping we do is essential to providing the asset locations for continuously managing and maintaining the system, extending the infrastructure’s useful life, and ensuring the realization of the stakeholder’s investment. Applying AWWA’s J100 risk analysis and management for critical asset protection (RAMCAP) process is one method to achieve risk and resilience management objectives.



Field schedules for valve operations will be updated based on the City’s ongoing self-performance of the WSVMP and its findings, applying established prioritization criteria. Implementation of a priority order for the water distribution mapping project may be identified through this effort, considering field resource availability, and based on City needs. The overall goal is to define an approach to field valve operations that is prioritized and collects validated information regarding valve conditions and operability. We must determine the extent of alignment between the project’s objectives and schedule, and the WSVMP. The project has a hard-finish date required by the consent order. From a programmatic integration approach between the project and the WSVMP (if any), roles and responsibilities for data collection are determined for each project/program. Within the inspection step (below), the WSVMP and the project share similar valve-related activities and needs. A sample summary of a procedure for valve inspections and operations evaluation could be defined as follows:

| Steps | Inspection | Exercise Normal | Exercise with torque |
|-----------------|--|--|--|
| Define | Location site conditions | Check the working condition of the valve by closing it to 50% | Check the working condition of the valve by closing to 50%, measure the torque of the operating mechanism |
| Information | Accuracy of location, accessibility, condition, leakage of seals or stem | Is the valve operable? Initial position? Validity of position indicator? Condition of operating mechanism? Trends? | Is the valve operable? Initial position? Validity of position indicator? Condition of operating mechanism? Trends? |
| Tools Required | Safety equipment required for site conditions | Safety and valve operations equipment required for site conditions | Safety and valve operations equipment required for site conditions, torque-measuring device |
| Possible Impact | Disrupt traffic (vehicular/pedestrian) and flows | Disrupt traffic, flows, dislodging of sediments and pipe deposits | Disrupt traffic, flows, dislodging of sediments and pipe deposits |
| Actions | Traffic control plan | Traffic control plan - customer notification | Traffic control plan - customer notification |
| Data | Location external condition | Working correctly - the position of the valve | Working correctly - the position of the valve |

Communication Plan

Applying the City’s guiding principle to operate based on master planning and aligning with Vision 2035, the WSVMP requires clear and established communication methods with staff and other ongoing programs. WGI's team will develop and apply a workable and practical communication plan and associated protocols for the project, coordinating the multiple strategic, planning, and delivery activities underway to achieve the guiding principles, WSVMP program goals, and ultimately FDEP compliance.

Realizing City staff have ongoing responsibilities and limited time, we use communication methods that maximize effort and minimize the time required. We start our communication plan by identifying who, when, and how the project team needs to participate, correlating the project schedule, planning effort, and efficient use of time, including:

1. Data requests and written communications
2. Standard protocol and deliverable reviews
3. Project status reporting
4. FDEP compliance documentation submissions

The communication type, and to whom we communicate, will be associated with the project tasks ensuring the right staff and groups are identified during program planning and available at the appropriate time.

Collaboration Plan

With guiding principles and program goals aligned—achieving regulatory compliance for the water distribution mapping project and the WSVMP—WGI’s overall approach is prioritizing collaboration to ensure everyone is working together and the efforts are neither duplicated nor overlooked. At the project kickoff meeting, we will outline our communication plan, project schedule, and establish protocols for information sharing, as it becomes available, through cloud-based applications (e.g., OneDrive, SharePoint, Teams). This effort creates a partnership with project stakeholders, recognizing staff and other consultants as part of the overall team responsible for the program’s success. Through established communication channels and milestone requirements, each key member is informed of the program status at each step, supporting efforts to attain the compliance goals and schedule.

Our team will meet and collaborate with your operations staff to understand their needs and the needs of the water system they are responsible for daily. **Meeting with staff at project initiation to outline the WSVMP’s field data collection workflow allows for tailoring any processes and procedures. It ensures results produce implementable methods and ease of valve infrastructure operations.** Our team performing the WDSM project will support your WSVMP field operations efforts to the extent possible while exercising and

| Communication Type | Communication To | Project Tasks |
|--|------------------------------------|---|
| Project start and milestone meetings (virtual/in-person) | City staff and WGI team | Kick-off, data exchange, and workshops |
| Written data and information requests | City staff and other program teams | Historical data review |
| Digital data collection and delivery protocols | City staff and other program teams | Sensor-based and manual field data collection |
| Digital water distribution mapping project data deliverables | City staff | Project data deliverable milestones |
| Written documentation of FDEP program compliance | City staff and other program teams | Compliance reporting milestones |

documenting valve functionality as needed, providing verified georeferenced location, site access information, and data entry structure/dashboards for field data recording.

Finally, approaching the FDEP and other regulatory agencies collaboratively ensures comprehensive understanding of what is expected/required, driving key program outcomes, and achieving compliance. Our team will evaluate current and draft pending requirements, leveraging our key team members' existing regulatory agency relationships and experience. Team members with roles in organizations like the AWWA keep us informed of requirements that may impact the current WSVMP program. We use the water system mapping project's data to help you plan for future compliance; by enabling the collection of known future data needs, we help you minimize efforts in the future, adding value to the overall program deliverable.

WGI's relationships and vast experience working with **Florida regulatory agencies** foster a collaborative work approach and a **smoother approval process.**

REPORTING STRUCTURE PLANNING

The process of developing required regulatory documentation presents the City with both a challenge to meet these regulatory deadlines, and an opportunity to identify practical ways to improve the resiliency of the City's water system.

Our team's approach to meeting regulatory reporting requirements includes:

- A monitoring and reporting plan that is actionable and adaptable, ensuring that the work is carried out efficiently and in an organized manner. The resulting framework is transparent and replicable so that it can be updated when the plan needs to be resubmitted in compliance-required time intervals.
- A flexible reporting approach designed to ensure adherence to regulatory requirements and any changes to those requirements occurring during this project, delivering compliance before the compliance date.
- A collaborative reporting method, working as a partner with key staff and other ongoing program members, to establish processes from the start that allow for open sharing of data and timely status updating.
- An established protocol for monitoring the progress of the City's WSVMP that is collaborative and supportive, using a developed data collection structure and easy-to-use software applications providing real-time reporting in quick-reference PowerBI dashboard applications.
- A data-sharing structure and applied dashboard tools that auto-populates data to compile completed work summaries without team member intervention.
- A reporting format reviewed and approved by regulatory staff before submitting the initial report, ensuring successful compliance is achieved during each reporting period.
- A report quality review process by WGI to City staff to ensure timely and accurate reporting before submission to FDEP and Broward County.
- A report submission process ensures all City key staff, other program team key members, and WGI staff reviewed and verified all information presented before submission to FDEP and Broward County.
- A protocol for documenting submissions sent/received by FDEP and Broward County, whether electronically and/or hard copy. Having this documentation is essential should there be situations in which timely compliance comes under question.
- A follow-up protocol between key City staff, other program teams, and regulatory staff allows for open communication of reporting reviews and identification of improvements.
- A framework to continuously improve the resiliency of the City's water system and reporting procedures.
- A collaborative approach with City staff to achieve short- and long-term regulatory compliance and evaluate processes, as hands-on staff best understand the strengths and limitations of water utility assets, daily operations, and areas for improvement.

DATA COLLECTION AND MAPPING: PROJECT APPROACH

Quick Start, On-time Finish Approach. We outline below a detailed approach for executing a system-wide mapping program using spatial analysis and cutting-edge LiDAR, imagery, and 3DHS-GPR technologies to strategically identify areas for system validation to minimize fielding and test holes. All activities for the mapping approach are performed to meet compliance with the requirements of the consent order. **Our project plan eliminates the need for a brute force approach, which is dependent on large amounts of staffing.** Instead of coordinating extensive, time-consuming field efforts, we present efficient, carefully planned, and precisely directed methods for the mapping.

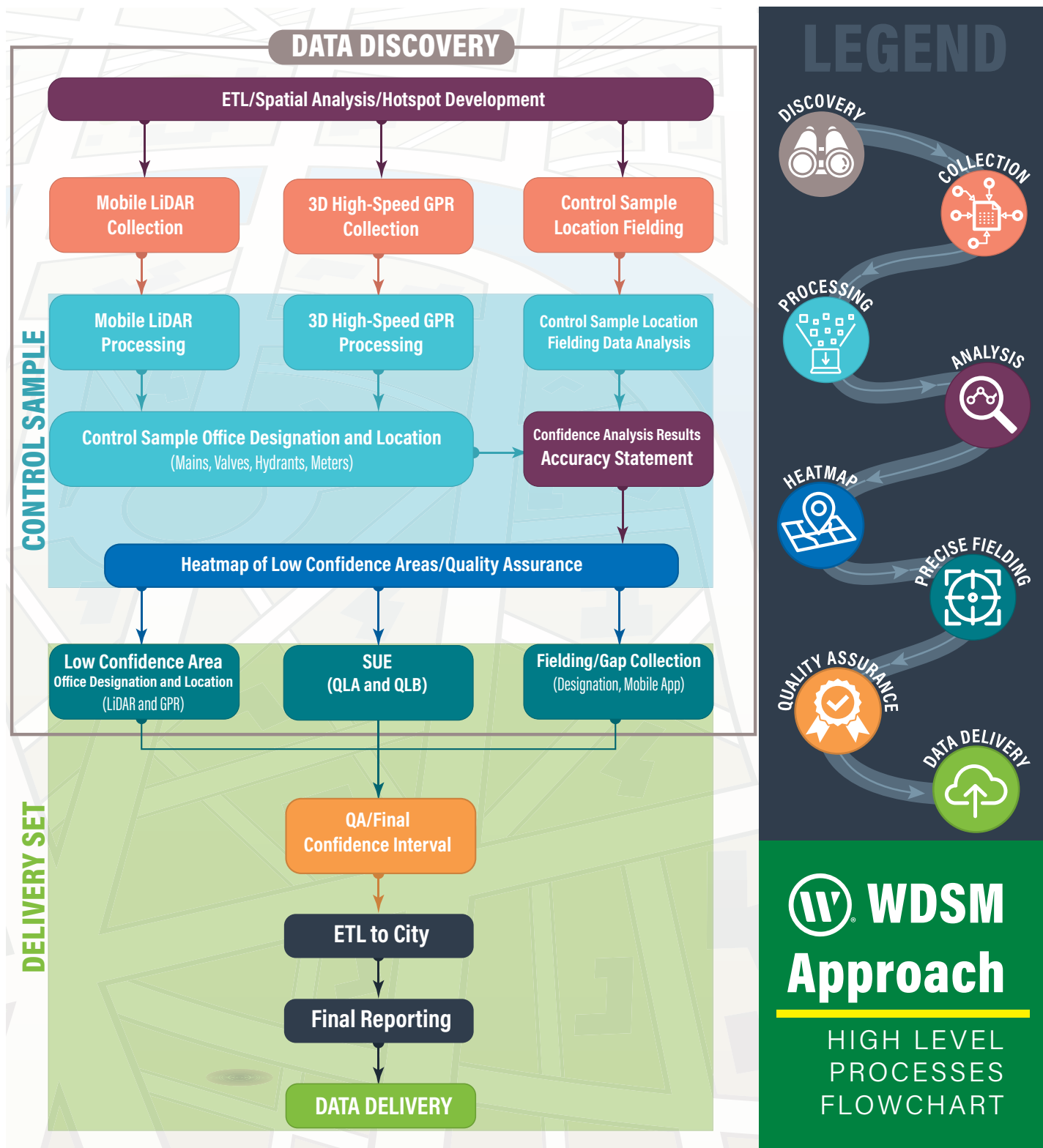
WGI will provide services under this contract that include program management primarily applied to the mapping project; will assist in any requested reporting to FDEP; and perform data collection, conduct surveys, and provide updated georeferenced mapping of the water infrastructure. We are prepared to aid with the WSVMP. The water distribution system mapping is the primary service to be provided, and other services may be required on an as-needed basis, as requested by the City and additionally authorized by individual task orders. Our services are consistent with the required scope of services and those activities typically performed by design consultants; WGI and its team members are experienced, qualified, and able to perform.

For solicitation 12665-1026, Water Consent Order Program Management and Mapping Services and specifically its enumerated requirements, WGI will fulfill them, knowing that the water distribution mapping project efforts are most likely associated with:

- Paragraph 3.3.1 Program Reporting to FDEP for the project efforts.
- Paragraph 3.3.2 Data Collection and Valve Exercising to the extent requested by the City for our involvement, especially as associated with subparagraphs c, d, g, and h that align with the objectives of the project.
- Paragraph 3.3.3 Data Collection and Mapping which is the primary purpose of the project.
 - Review the WSVMP and timeline currently approved by FDEP. If requested by City, make recommendations for City consideration, and revise the mapping plan for resubmittal to FDEP.
 - Develop complete maps by the approved (original or resubmitted) mapping plan to comply with the requirements of the consent order.
- Validate the City's existing water distribution system infrastructure currently in the City's GIS database and validate its locational accuracy.
- Perform survey and collect data required to deliver a complete, spatially accurate, and connected GIS water utility network of the entire water system, including all source and distribution mains, control valves, hydrants, air release valves, water meters, and inactive mains.
- Perform verification of infrastructure component attributes, such as pipe size and material.
- Provide resources to verify the open/close/broken closed status of valves in the field, if needed. Provide and update field schedule and issue field activity reports. Deliver the open/close status information collected in City's desired format for incorporation into the City's GIS database.
- Confirm horizontal and depth locations. Use SUE methods and technologies as appropriate. Designate source and water distribution mains providing quality as specified in the final mapping plan.
- Deliver to the City a completed GIS database compatible with the City's existing GIS and asset management software systems. Ensure that deliverable(s) are formatted in a way that can be seamlessly loaded and operated with little-to-no processing or downtime for the City. This may require entering new location and attribute information, as well as editing existing Cityworks GIS data, based on data collected from survey fieldwork, inspections, and referencing historic documentation. Required database schema will be provided as an ESRI File Geodatabase (FGDB), and delivery may require populating one FGDB for each survey zone.
- **The mapping must be certified complete and accessible by the July 23, 2023, consent order deadline.**
- Paragraph 3.4 Additional Scope Details identify additional work that may include the employment of technologies and methods necessary to implement the mapping plan and provide confirmation of horizontal and vertical locations, such as utility designates and locates, LiDAR, and test holes. WGI's team is aware of the possibility of other as-needed services and disciplines, and may propose them to the City during program work.

APPROACH FOR EXECUTING SYSTEM-WIDE MAPPING

The following flowchart diagrams the sequencing of WGI's proposed activities for the project performance. There are, at times, seven concurrent processes occurring for system mapping and analysis as inputs to fielding operations. The project's schedule reinforces these sequences and assigns the timeline and milestones for delivery areas. The technical discussions of our approach follow our flowchart.





Water Distribution Mapping Project's Data Discovery

After contract approval and award, we begin making as-built requests to the City for records of its water main distribution system. WGI will work with the City to develop a workable schedule for requesting and receiving records, weeks in advance of our mobilizations. We formally make the data requests in parallel with our discovery activities. We will report any need for clarifications or additional information while performing our data collection and mapping, and any valve exercising tasks, if any exercise is requested. Initially, our request will include the current GIS database (and later, any updates during the project's duration), available maintenance records, bore logs for subaqueous crossings, city atlas maps, and details related to the City's ongoing valve exercising program. The importance of records research and evaluating existing data before mobilization cannot be overstated. WGI conducts research, and evaluates and generates hot spot analysis to select areas for data reviews, maximizing our data collection efficiency during all field deployments.

We prioritize reviewing these records based on their currency and relevance. We will also ask the City to review information for planned capital projects related to the water system, during the project's timeframe, ensuring we understand any implications related to construction or maintenance affecting the sequence of our mapping activities.

Records review and discovery is critical for WGI to develop a complete map of the existing water supply network satisfying the agreement with FDEP, while also meeting the City's water mapping needs. The maps, derived from updating the City's GIS database, will include all existing source and distribution mains, hydrants, control valves, and directional flow routes. In addition, inactive mains and related appurtenances with shut-off valves should be illustrated and highlighted to define their unique operational status.

GIS Geodatabase

Performing a full review of the existing GIS database is essential to successfully satisfy the consent order, and ensure seamless integration of new or corrected field data into the GIS. WGI's team is familiar with the GIS database from the work plan development; however, we must analyze the current GIS database and its information and verify table structures, feature classes, and feature classes' relationships with the City. **We must determine the latest status on any newly acquired**

or verified data by the City or other consultants. We must also understand which attributes can be updated by us as our field data is collected and processed. WGI will consult and work closely with the City's GIS staff to ensure all data updates maintain existing topography, Global Unique ID (GUID), and necessary spatial relationships. WGI will also request the City's current inventory of all underground utility infrastructure. Having information related to the presence of water, wastewater, stormwater, or gas lines and communications cables, assists with classifying and verifying underground water facilities during the collection and analysis of 3DHS-GPRs as discussed within our approach.

WGI does not have a workshare commitment for unnecessary subconsultants, nor do we employ an approach with an unwieldy piecemeal labor force to fulfill your project's delivery. WGI places emphasis on appropriately scaled exploratory methods in areas where uncertainty exists in the location, type, size, and configuration of pressurized mains, meters, or appurtenances. By employing appropriately scaled exploratory methods, WGI minimizes field staff deployment, subsequently minimizing MOT requirements, and reducing costly extensive, time-consuming field efforts while delivering a superior product within the consent order's timeline – **quality checked and delivered before July 23, 2023.** The following summarizes our mapping approach:

- WGI uses the GIS and hydrologic model directional flow information from the beginning of the project, with a focus on investigating and mapping the larger water mains originating from water treatment and water storage facilities.
- Complete mapping in multiple phases based upon the water distribution network, and later delivering data in gridded patterns.
- Perform spatial analysis using the City's GIS database to identify all locations where pipe size, material, and connections are most prevalent – also known as "hot spot" analysis.
- Review atlas maps and as-built drawings to identify known ambiguity or significant uncertainty in the system's components.
- Determine the number of test holes necessary in these hot spot locations to verify the City's GIS and as-built information, and make updates to system component locations, pipe size, material, connectivity, or other critical attributes.
- WGI minimizes unnecessary test holes in residential areas where size and material do not fluctuate.

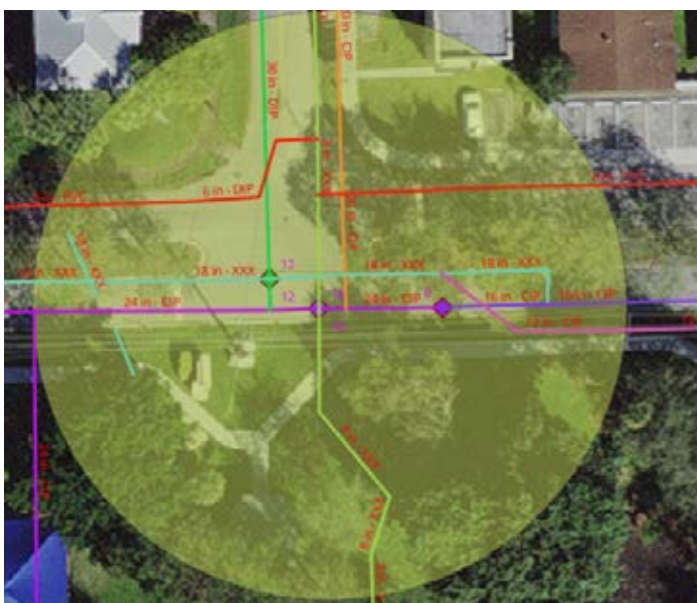


Spatial Analysis/Hot Spot Development

Deploying our foot fielding teams in or near roads and road intersections may require MOT and/or permitting. The confluence of mains along roads usually means additional network assets are also near the road intersections. Using our LiDAR and 3DHS-GPR data within the roadway, we ensure our teams can usually work outside the pavement, preventing the need for any MOT while collecting mains or most above-ground appurtenances.

Using GIS spatial analysis, we develop "hot spots" that represent clusters of network assets that are typically change points. A circular buffer is generated at a radius sufficient to encompass a typical roadway intersection. Then, the other features in the GIS that fall within the buffer are selected. This creates a feature density for each buffer, allowing WGI's team to interrogate those locations within a section grid, providing the most geographical and feature-dense areas to baseline the data for its spatial and attribution accuracy, and data assessment for achievement of the desired confidence interval.

WGI conducted a proof-of-concept for our mapping approach in grid area 155042, determining that approximately 47% of water main lines found within the grid were under the drivable pavement. This means areas with the highest likelihood for critical verification (e.g., non-residential areas) can be mapped with 3D high-speed ground penetrating radar (3DHS-GPR). **Driving day or night at roadway speeds and collecting GPR**



"Hot Spot" Area Derived from GIS Data for Conducting Field Investigations

for buried utility data using 3DHS-GPR is a game-changer for accelerating our mapping efforts.

WGI has integrated the first-of-its-kind solution using the Riegl VMY dual-Lidar, Ladybug 5+ spherical camera, and Raptor 3DHS-GPR system for the accurate positional mapping of your water distribution system. We collect above and below-ground utilities simultaneously.

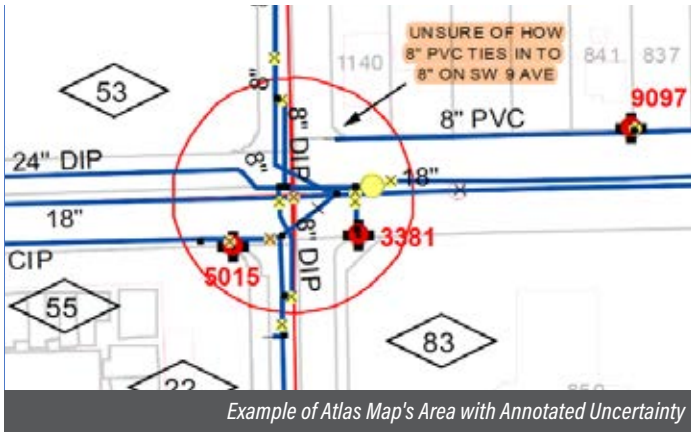


First of its kind integration of LiDAR (Riegl VMY) with GPR

WGI will perform HS-GPR in conjunction with mobile LiDAR data collection. Combining the two systems on a single vehicle will provide significant benefits for performing the project. By leveraging the position and orientation system (POS) of the mobile LiDAR unit, including GPS, inertial measurement unit (IMU), and wheel encoder, WGI will use the post-processed trajectory to reconcile GPS outages caused by buildings, trees, and other overhead obstructions. We have developed an approach that will use the mobile LiDAR trajectory to augment and correct the GPR data, which creates a direct correlation between the GPR and LiDAR data. By synchronizing the data, we eliminate the need to perform any adjustment to either dataset while ensuring the positional integrity of the designated subsurface utilities and alignment with above-ground features—the accuracy of which is well within the needs of the consent order mapping requirements. Furthermore, deploying multiple technologies on a single-vehicle minimizes the need for additional staff, equipment, and other resources to complete the project well within the consent order deadline.

Our proposed approach complies with the WDMF requirements, and our execution of the required scope is further defined in the following sections, including:

- Review and amend the existing mapping plan and facilitate approval by FDEP (if necessary)
- Perform data discovery, surveying, SUE, and work directly with the City on GIS geodatabase revisions to comply with paragraphs 5d and 5e of the consent order



distribution system in an ESRI file geodatabase format compliant with the City's database model – ensuring the GUID is maintained for simple “extract transform load” (ETL) into the City's asset management system

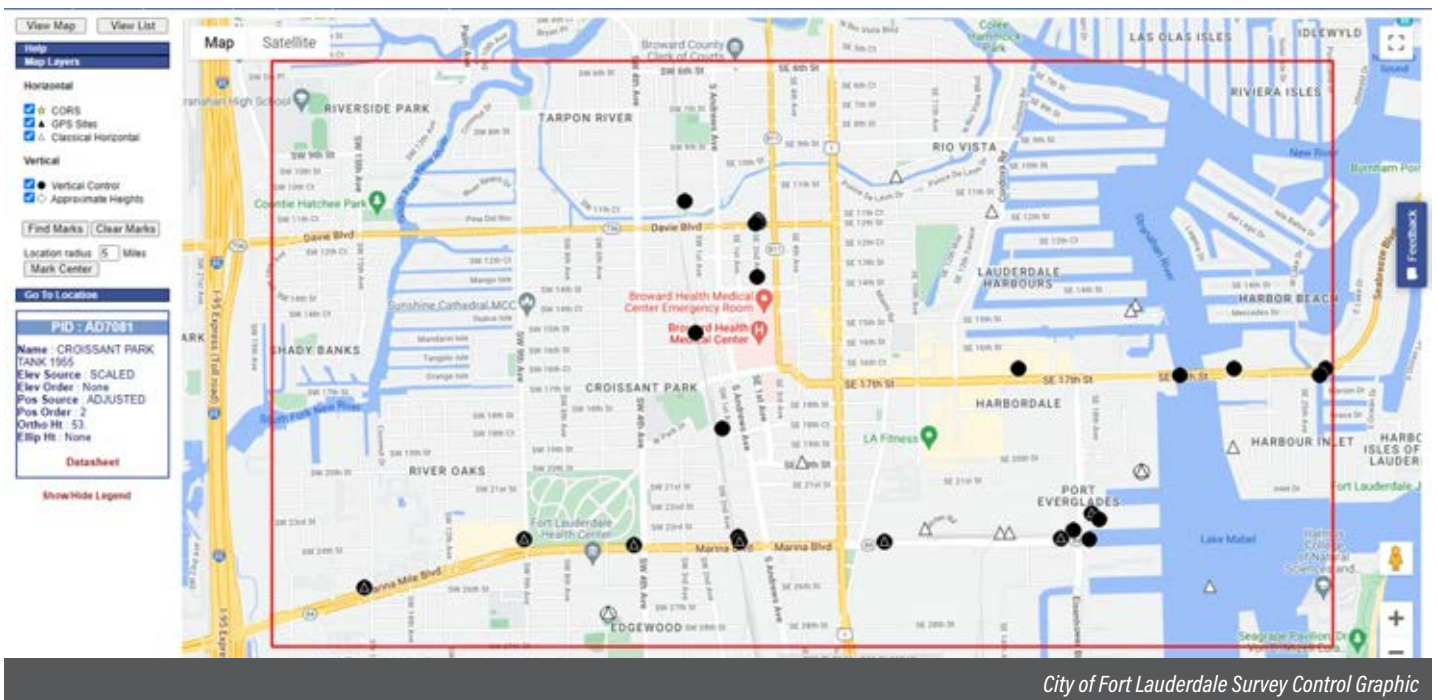
- Facilitate a co-compliant map of the water distribution system to FDEP on or before July 23, 2023

Survey Control

Our team will utilize the City's existing survey control network and compile a list of survey control points available through the East Broward County Control Network and the National Geodetic Survey (NGS). Those monuments with relatively recent mark recovery notes will be reconnoitered and recovered to determine their suitability for GPS observations. Any survey control deemed suitable for observation and in good condition will be maintained within our survey database. WGI employs real-time kinematic (RTK) GPS/GNSS receivers with connectivity to the Florida Permanent Reference Network (FPRN). The survey database is available for field survey teams performing control for mobile LiDAR, 3DHS-GPR, and using GPR receivers for daily check-ins to ensure the hardware and FPRN broadcast corrections are providing reliable horizontal positioning and if necessary, elevation data.

Mapping will be performed in Florida State Plane Coordinate System – East Zone with NAD83 (2011) datum – US Survey Feet units. Any vertical values will be provided in NAVD88 – GEOID18 derived elevations in US survey feet.

- Analyze and validate the City's existing water distribution system
- Perform field surveys to accurately map water distribution facilities, including distribution mains (active and inactive), system valves, hydrants, and service meters
- Perform SUE investigations, including 3D GPR, electromagnetic (EM) devices, and vacuum-excavated test holes to verify distribution main type and size
- Provide routine project reports, including percent complete, schedule, and intermediate deliveries of the project geodatabase
- Develop a survey report, signed and sealed by our Project Manager as the professional surveyor and mapper in responsible charge, attesting to the network level positional accuracy statement
- Deliver data for a hydrologic network compliant, water





WGI's Terrestrial Mobile LiDAR Vehicle for LiDAR and Imagery Collection



3DHS-GPR Data to Validate Mains

3DHS-GPR is used to collect GPR data within the roadways at posted speed limits, validating the horizontal and vertical positional accuracy of the water system features. 3DHS-GPR also allows reasonable measurement of pipes (profile widths) for diameter comparisons and size confirmation analysis. **For achieving ASCE Quality Level B criteria, WGI and team member T2 will use our mobile 3DHS-GPR array equipment (WGI's Impulse Radar—Raptor and T2's IDS GeoRadar Stream EM/C).** These systems quickly and accurately capture underground data, significantly reducing the total calendar days of collection. These 3DHS-GPR systems use an inertial measurement unit (IMU) and GNSS for alignment and positioning for each sensor passing over the road surface areas. Like the mobile LiDAR system and its cameras, we quickly collect georeferenced 3DHS-GPR data for underground mains at road speeds, eliminating the need for conventional "push-cart" GPR methods within the roadway.



WGI's Impulse Radar—Raptor



Mobile LiDAR and Street-Level Imagery

WGI also has the ability to collect very dense point clouds and supplemental imagery for mapping meter boxes. New mobile LiDAR for the entirety of the City along the routes of water mains and system appurtenances is part of the "Quick Start, Early Finish" approach employed by WGI. Our mobile LiDAR teams will deploy immediately upon receipt of notice to proceed, collecting high-resolution LiDAR, frame camera pictures, and spherical imagery along the City roadways and water utility service areas. WGI will use our RIEGL VMX-2HA survey-grade mobile mapping system with an integrated spherical camera system and multiple frame cameras to inventory above-ground and surface-level water utility assets, determining the positions and characteristics of the valve boxes, hand holes, hydrants, and water meters. Leveraging local GPS/GNSS continuously operating reference stations (CORS) and established base stations, we will post-process the vehicle's position and subsequent LiDAR point cloud to ensure the positional accuracy achieves the necessary requirements suitable for mapping. Independent validation measurements using conventional survey techniques will be performed for quality assurance and project reporting following Federal Geographic Data Committee (FGDC) guidelines.



WGI's wgigeo.tech Portal with Colorized LiDAR Point Cloud

We reiterate in our proof-of-concept results that it was determined 66% of water main lines found within the sample grid were under the drivable pavement. The 3DHS-GPR will be deployed, operating day and night, often seven days a week, until water distribution infrastructure beneath paved roadways is verified. The focus of daytime collection will be on residential roads where cars are less likely to be parked on the street. **Nighttime 3DHS-GPR collections** will not produce good imagery; however, as discussed earlier, we have primary imagery; and LiDAR collected in daylight using our process for mobile LiDAR and street-level imagery. **Nighttime 3DHS-GPR collections** will focus on heavily traveled roads, such as arterials and collectors in the road system



3DHS-GPR Raptor Data and Overlay of Existing GIS Vector Data Before Adjustment

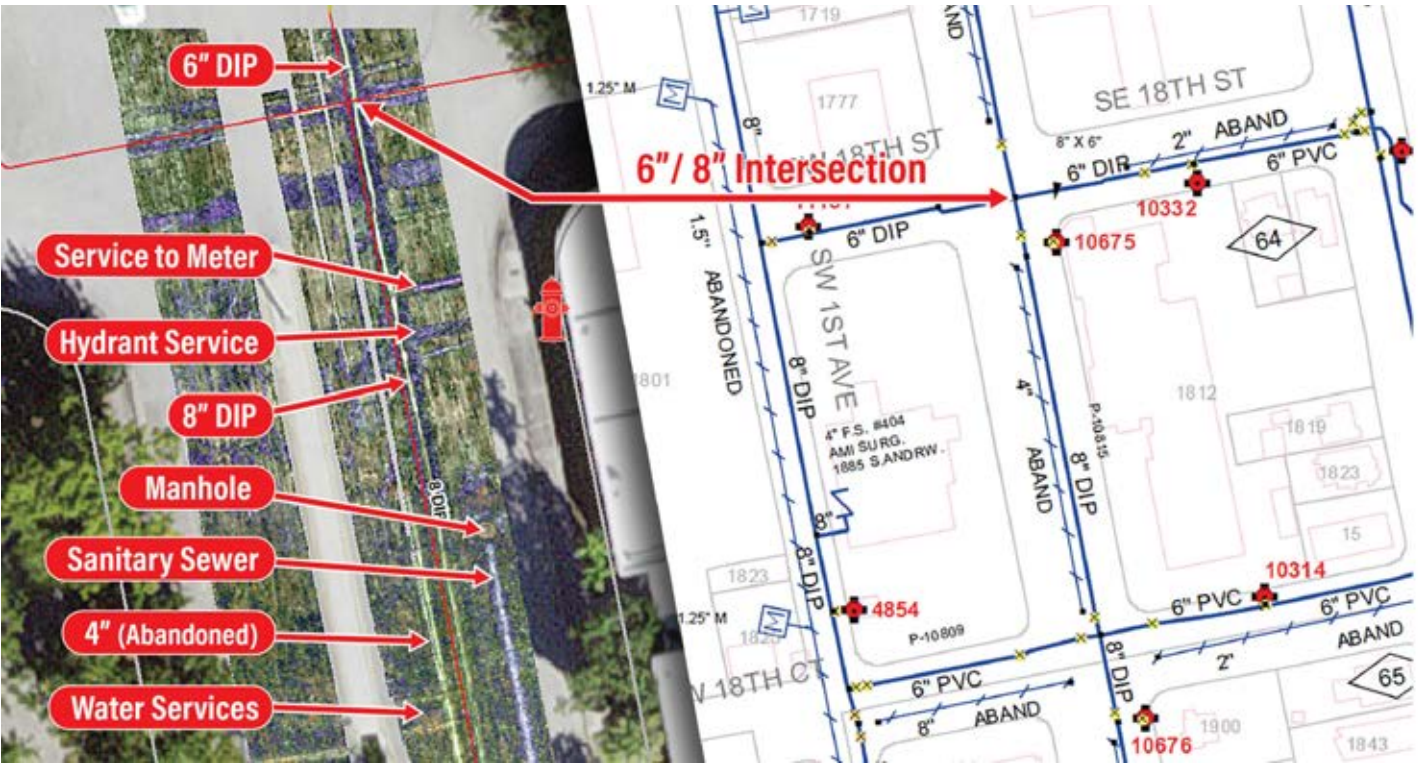
and downtown areas, minimizing disruption to daytime business and tourist activities. Deploying the system early in the project ensures WGI quickly builds a large data inventory of 3D GPR data for back-office analysis. Deploying multiple systems accelerates the completion of work and will reduce contract time, per the City's desires expressed in Addendum 2. As needed, we will also deploy pushcart 3D GPR systems for collection within the right-of-way outside of the roadways. The pushcart 3D GPR is used most often for smaller and specific collections where uncertainty is detected in the City's GIS or Atlas data, or from the data collected with 3DHS-GPR.

Before deploying any conventional survey, fielding, or SUE staff, WGI's approach employs the processing of remotely sensed data, 3DHS-GPR, mobile LiDAR, and imagery, effectively mapping a high percentage of the existing water infrastructure. The term "office designation and location" and back-office processing suggest identifying and classifying those assets which can be inventoried through these sensor technologies, in addition to isolating those areas where we will perform supplemental infill surveying, Field Map mobile app fielding, and SUE activities.



Survey-grade LiDAR and imagery of above-ground water system assets

The 3DHS-GPR post-processing software efficiently interprets the GPR data into 3D georeferenced raster files from which the pipes and identifiable features, such as air release valves, can be mapped using a back-office



S. Andrews Avenue - the 3DHS-GPR collection is a "MOT-less" mapping of below-ground facilities locations

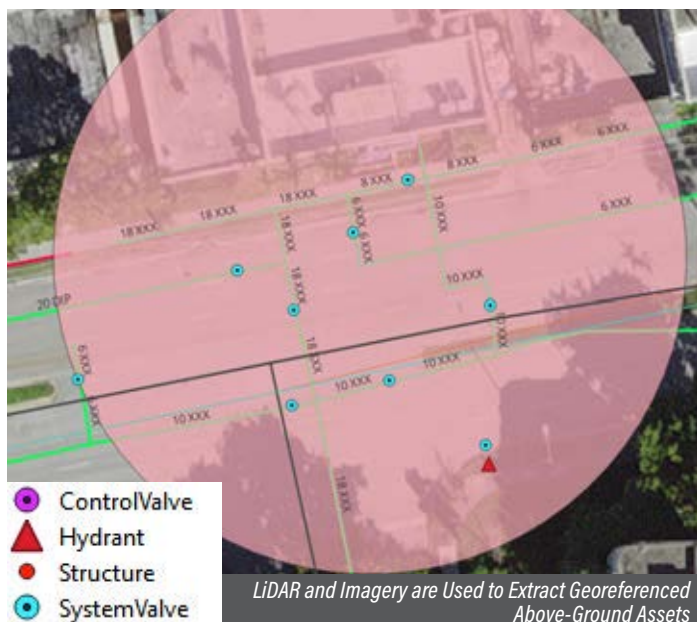
computer. Once the water main features are extracted using semi-automated processes, they will be loaded into a GIS environment and compared to the city's GIS data and City Atlas maps. The team validates facilities by tracing the network into new analysis areas from previously validated areas. The data's ultimate position within mapping will be determined by comparing the lines, points, and vertices of the GIS data (in the above figure the current GIS data are the redlines, referred to by the 6" / 8" intersection label) to the line, points, and vertices extracted from the raster 3D-GPR images and the valve covers/locations, hydrants, and other points extracted from the LiDAR mapping. We will also compare the positional data we derive to the recent orthophotographs acquired in 2022 for Broward County.



Control Sample Office Designation and Location (Mains, Valves, Hydrants, Meters)

The LiDAR and imagery for each day of collection (mission) are processed and loaded into WGI's **www.wgigeo.tech** managed web service. The published LiDAR data is also accessible through plug-ins for a variety of software solutions, including ArcMap, ArcGIS Pro, QGIS, AutoCAD, and MicroStation. Hosting the survey grade information for our workforce using the wgigeo portal provides the flexibility to update and append GIS and other data across the project team, improving efficiency and schedule. **WGI will also allow the City staff to access this LiDAR and imagery data to track progress while we are conducting the project.**

WGI makes significant use of georeferenced imagery. We collect many forms, including pictures from spherical and



frame cameras. At least two frame cameras are angled downward to photograph the entirety of the road and shoulder areas to aid in identification of the valve covers, manholes, and other appurtenances in the streets. Other frame cameras are pointed outward to collect imagery of meters and hydrants along sidewalks or yard areas. Spherical imagery supplements other images with a full scene of areas surrounding the vehicle. In areas of occlusion (e.g., shrubs, fences, vehicles, etc.) where neither LiDAR nor imagery was collected, we identify these "voids" and send field staff directly to those void areas to collect data with our field application. While fielding these voids, personnel also sample other equipment and their locations for quality assurance of any LiDAR-derived or imagery derived data.

Data Validation

We believe that this comparison of lines, points, and vertices supports a holistic approach to the data's development, since the City (and Broward County) use many forms of geographic and utility data to manage assets. Understanding the implications of this water distribution mapping project performed under the program management and mapping services contract allows the City to integrate our work and work products with other mapping activities. The fact we have and maintain verifiable data from sensors is important for establishing confidence in the results from the mapping project and for your water system modeling, GIS and asset management systems. All our sensor-based collection techniques provide verifiable, unambiguous data artifacts that are evidence of both location and asset characteristics. Our approach is a superior methodology, using multiple sensors, field observations, sampling, and confidence ellipses to cross-verify the mapping results.

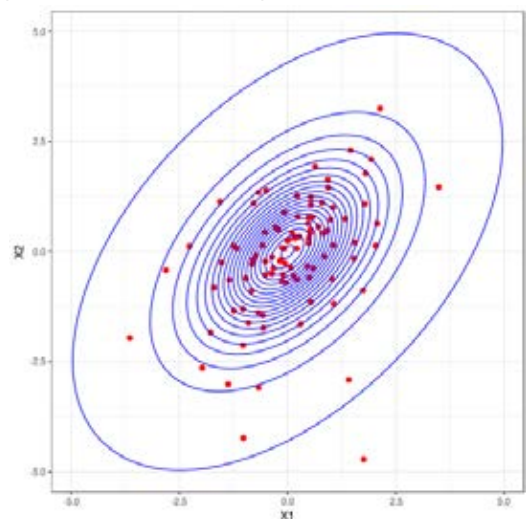


Control Sample Location and Confidence Analysis

WGI goes beyond basic comparisons in data to develop confidence ellipses for the locational accuracy of the mains. Additional identifiable features, such as air release valve locations, can also be used to ensure alignment between the LiDAR, 3DHS-GPR, fielding, Level B investigations, and existing GIS files. We use orthophoto datasets to provide additional validation points for comparison for mapping and make a definitive accuracy statement for the entirety of the project's data. To better understand the implications and use of confidence ellipses to assess accuracy, WGI utilizes:

1. Field teams to collect locations and attributes of features within buffers

2. Determines and analyzes baseline confidence ellipse calculated from collected data at points of investigation (POIs)
3. Compares collected data from LiDAR, 3DHS-GPR, test holes, or fielding with data collectors using ArcGIS Field Maps to a specific confidence ellipse to measure the variation of position from expected confidence. **Our comparisons expose positions where any data is outside established confidence, and baselines the section for supplemental validation**
4. WGI develops a heatmap for the City by section grid (or sub sectioned) of areas that require significant field investigation



Confidence Ellipse

We developed a spatial analysis workflow for quality assurance to strategically baseline the quality of the City's infrastructure records against field-verifiable location and attribute data. With a compressed project timeline, the data's condition must be continually assessed, beginning as early in the project as possible, then continuously as new data is collected, validated, and corrected.

Upon completing the validation (through field visit or office designation), the variances in the City's data position are examined. The City's data positions are usually taken from the City's GIS but can include GPS locations of valves from the WSVMP field data collection. We analyze all data against the collected position and attribution data. We then generate confidence ellipses for each feature type, and overall confidence is established grid-by-grid to make a final accuracy determination for the entire City dataset.

The approach WGI will use for this WDMP project is proven. The methods we will use were performed for one of the nation's most important mapping programs. WGI's

principal in charge, **Robert Hanson, GISP**, for the City's project, was the contractor program manager for the US Census Bureau's MAF/Tiger Accuracy Improvement Project's Accurate Coordinate Data Collection (ACDC) activities. Our approach is similar.



The Census Bureau began a multi-year project called the MAF/TIGER Accuracy Improvement Project (MTAIP) in 2002 to realign and update street features in its geographic database for the 2010 census. The project realigned and updated the street features (in the City's case existing water distribution system mapping and GIS data) by county (or equivalent entity). The MTAIP was completed in 2008. State, tribal, county, and local governments submitted over 2,000 files, which the Census Bureau used as sources to perform the realignment and feature update work.

Much like the City of Fort Lauderdale's needs for the WDMP, the Census Bureau MTAIP used GPS coordinates (in the MTAIP at street centerline intersections) to test and report the Circular Error 95 (CE95) horizontal spatial accuracy of source files obtained to 1) realigned features in the database, and 2) test and report the horizontal spatial accuracy of the features in the TIGER/Line Shapefiles.

The MTAIP test compared a survey-grade GPS coordinate to its associated feature in the update source (in our WDMP's case, all the new data we collect). The MTAIP's testing was based upon an independent collection of GPS coordinates for a random sample of right-angle intersections that meet certain criteria. The points were referred to as the sample points (these are the points in our hot spots for the WDMP).

Since the MTAIP collection method used survey-quality GPS-based field techniques, the resulting control points were considered "ground truth" against which the new data coordinates were compared. The test verified that the spatial accuracy of the network met the Census Bureau's horizontal spatial accuracy standard of CE95. This accuracy standard requires that 95% of the time, the distance between the sample control points coordinates and their corresponding centerline file (in our project's case, distribution mains and appurtenances) intersection points not exceed the expected tolerance and a file point will fall within a radius of its corresponding control point.

The CE95 for MTAIP was calculated from the mean and standard deviation using the formula: mean of differences plus (2.65 times the standard deviation). The CE95 results

were reported for each file tested. The basis of the calculation used the root mean square error (RMSE). This is the method stated in the U.S. Government's Federal Geographic Data Committee Standard FGDC-STD-007.3-1998, Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy. The results of using this measure of accuracy comply with federal spatial data accuracy requirements.

Additional information is provided below in our discussion of Verification and Development of Confidence Interval and at this link: <https://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2010/TGRSHP10SF1CH2.pdf>.

The spatial analysis is crucial for two reasons. It provides an initial and continual assessment of the overall accuracy of the GIS data to the physical locations. It also focuses field resources on areas of low confidence that will require the most field time to validate. Like a surgeon relying on a CT scan before performing surgery, the spatial analysis within confidence ellipses is much the same. **We are identifying exactly where our field crews must precisely and accurately do their work.** We are figuratively utilizing a scalpel and a definitive approach to deploy our resources, and to collect and process data. We see no advantage to having many people in the field wandering about, with data collectors to solve a mapping problem while never really knowing the exact problem their efforts are attempting to resolve.

Data Management

During the mapping plan work, volumes of documents/data are generated, including all information acquired during the initial discovery phase. WGI will implement a data governance approach to ensure data quality and data retention, using best practices for accessing and modifying data. Our approach will address solutions for storing, retrieving, naming, and sharing project files across WGI, our team members, and the City. Additionally, field data will undergo a check-in and validation process to seamlessly enter the processing workflow.

For those water distribution system assets at or above ground level, we will use LiDAR and photographic extraction. WGI's office technicians will perform updates and append the City's inventory using ArcGIS. By leveraging Bentley Systems' OrbitGT plug-in for



ArcGIS, technicians use a hierarchal approach to the extraction and editing process, ensuring the features are successfully inventoried and attributed – whether creating new features or updating existing ones. The inventory or verification of features will include hydrants, valves (control and air release), and all visible service locations/meter boxes. The editing process includes the location of the feature and adding attributes to certain attribute fields, updatable through visual inspection of the LiDAR and imagery.

Discrete visible point features, which currently exist in the City's inventory, will be evaluated for their positional accuracy relative to the LiDAR and GPR data and the accuracy of certain associated attributes. Those features outside the accuracy threshold (the confidence ellipse) will be moved to their more precise location using the LiDAR point cloud, maintaining the GUID and associated attributes.

Existing hydrant and valve features may need adjustments to their respective positions. We understand the service location feature class (and the related meters table) are based upon the tax parcel centroid.

Each of the more than 60,000 points will be investigated and the location of the physical meter box will be determined where visible in the LiDAR point cloud or imagery. Those meters indistinguishable within LiDAR data will be validated by fielding. These fielded features also include meter vaults and meter clusters, when defining the discrete location for one or more individual features may be impossible without the use of manual fielding efforts. Residential meters often occur at parcel boundaries. The 3DHS-GPR data will show the service connections for mains under the pavement, potentially reducing the need to field-validate some meter boxes not visible in LiDAR or imagery.



Ortho Imagery with GIS Database Overlay

Work Order Tracking System (WOTS) for Fielding and Back-office Work Assignments and Tracking

WGI uses its internally developed WOTS to manage the daily operations of office staff, subconsultants, and the numerous geographically distributed field teams. For example, WOTS is used daily by WGI’s survey teams responsible for the Brightline High-Speed Rail Program, where many survey crews are given assignments (work orders) and deployed seven days a week across the entire Treasure Coast to deliver data collection and surveying products.

For this project, WOTS will facilitate the assignment of work packages to individuals in the office, subconsultants, and crews, each with a deadline to complete the task.

The color-coded status will change to red if a task is in jeopardy of schedule slippage. **Work packages are tracked in WOTS from preparation through fieldwork, data check-in, and validation.** Daily summaries are provided to the project team to review for any adjustments to resource allocation.

Those areas with features flagged for fielding will be bundled based upon geographic location, and added to WOTS for assignment to a field collection team. We will track each work package as it progresses through the various stages. With WOTS, we easily track and report on production rates of various staff to dynamically reallocate resources. The routine tracking permitted by WOTS, shown in this Brightline example, provides our program and project manager the ability to easily see the

| WGI No | Request Date | Requested By | Due Date | Location of Stakes | Assigned To | Type | Zone | Status | |
|--------|--------------|--------------|------------|---|-------------|------------|------|-----------------------|--|
| 1895 | 05/19/2022 | Javier Diaz | 05/23/2022 | arnes Blvd to Carver St | | Track | 4A | Received | View Edit Delete |
| 1891 | 05/19/2022 | Trent Martin | 06/02/2022 | 20th St | | Crossings | 4A | Received | View Edit Delete |
| 1890 | 05/18/2022 | Javier Diaz | 05/23/2022 | s between Winter Beach and Vero Be | | Track | 4A | Received | View Edit Delete |
| 1889 | 05/18/2022 | Javier Diaz | 05/21/2022 | Sarno Rd to Babcock St Refresh MT2 | Brian Shea | Track | 4A | In progress - Field | View Edit Delete |
| 1886 | 05/16/2022 | Ryan Roberts | 05/23/2022 | ROW Oslo Sta: 3481+00 -3483+00, east most property line at 1378 Old Dixie Hwy | Brian Shea | Systems | 4A | Preparation for Field | View Edit Delete |
| 1884 | 05/13/2022 | Faheem Uddin | 05/18/2022 | Sebastian River Bridge, as built B22 | Brian Shea | Structures | 4A | Completed | View Edit Delete |
| 1881 | 05/12/2022 | Javier Diaz | 05/17/2022 | NASA to Babcock | Brian Shea | Track | 4A | Completed | View Edit Delete |

Example of WGI's Work Order Tracking System (WOTS)

daily project status. WGI will use WOTS for your project as a key component for the water consent order program management and mapping services as required.

WGI uses WOTS for every aspect of our workflow to manage resources and schedules, including the activities of subconsultants. Other work assignments such as MOT coordination, designation, and test holes will be managed in WOTS to properly track all phases of the project, ensuring proper resourcing and scheduling to meet the consent order deadline.



Gap Collection/Field Validation

WGI will use field staff as GPS survey crews to perform "gap" infill surveys of discrete utility features (valves, hydrants, and meter boxes) and test hole locations. Field staff are assigned a work package through WOTS and will be responsible for completion within the designated schedule. **We will make interim schedule adjustments based on field conditions, weather, or extenuating circumstances with additional resources to maintain the fast-paced schedule.** The field staff is outfitted with a dual-frequency GPS/GNSS receiver and antenna on a two-meter pole and data collector. The data collector has access to the mobile mapping application with the necessary base map information. When mapping appurtenances or meters, the field staff captures the location and updates the necessary attributes.

The attributes to update are based on the feature class data table and domains for each requiring an update. Domain restrictions and picklists are predefined in the application's forms to ensure data integrity and quality.

Field collection of water meters will focus on the following attributes:

- Structure type (meter, meter box)
- Location (northing and easting)
- Serving/associated structure address

WGI will conduct fieldwork for all non-LiDAR-locatable residential and commercial domestic water meters, including master meters for the City's consecutive systems. We will collect all field data per the Department of Agriculture and Consumer Services (DOACS) Chapter 5J-17, Florida Administrative Code under Section 472.027, Florida statute.



Quality Level B SUE (QLB)

In locations where additional field data validation is required, WGI will map water

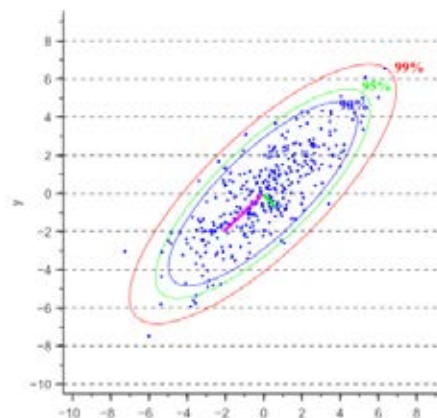
distribution and source mains, per Florida statutes 472 and Chapter 5J-17, and ASCE 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." This includes direct induction of toneable subsurface utility facilities from surface-accessible features whenever necessary. Toneable subsurface utilities will be designated using passive frequencies (60Hz, 60Hz x 5, 60Hz x 9 + 4KHz), low (4KHz - 15KHz), and high (15KHz - 38KHz) radio frequencies, and generally prescribed geophysical prospecting techniques. Non-toneable utilities will be designated using multichannel 3D GPR. Since we are using a dual-frequency GPS/GNSS receiver and antenna for fielding underground utilities, and no imminent excavation projects are associated with the mapping, painting the ground/surfaces is generally unnecessary. A Florida-licensed PSM will sign all QLB SUE deliverables.



Quality Level A SUE (QLA)

WGI will perform ASCE 38-02 QLA investigation (test holes) to verify size transitions in selected locations where data ambiguity is detected through the spatial analysis, and are not verifiable with 3DHS-GPR data. We will investigate mains that are greater than six inches in diameter.

Test hole-based verification will be completed via vacuum excavation per the ASCE 38-02 standards for collecting and mapping QLA data. WGI will neatly cut and remove the pavement, where applicable, and safely vacuum excavate the test hole for visual water main size and material confirmation while preserving its integrity; record the outside diameter of the pipe and the depth of the water main from the original ground surface to the top of the pipe at the centerline; obtain a clear digital photograph of the pipe; record material, composition, and color; and record data in a test-hole report using the field mapping application.



Observational Data Within an Ellipse

There are 120 canal/waterway main crossings of the City's water distribution system. The aerial main crossings will be field verified, and their horizontal location confirmed using conventional surveying methods; however, WGI will perform a QLA investigation (test holes) upland at the subaqueous crossings, where accessible, to accurately depict the horizontal alignment of the bores. The existing bore log information provided by the City during the discovery phase will be considered to supplement this field collection effort.

WGI has the resources to map subaqueous crossings, specifically the Intracoastal, where the horizontal alignment of the main might change significantly. At the canal crossings, a point-to-point (bore pit-to-bore pit) horizontal interpolation can be performed. WGI will use conventional surveying methods to establish the coordinate positions of mains in areas where 3D GPR, GPS, or LiDAR collection is not feasible. A Florida-licensed PSM will sign all QLA SUE deliverables.



Verification and Development of Confidence Interval

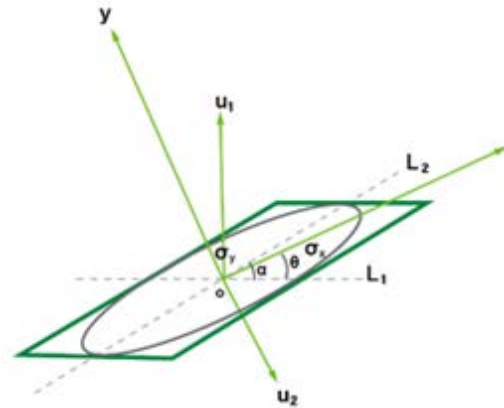
Upon completion of each project grid and at the project closeout, WGI will calculate a final confidence interval for each feature type within the revised GIS dataset with the observed locations and attributes. These statistics ensure that the GIS location of all water distribution network features is within a distance of X feet of the physical location throughout the network. Providing these statistics is vital for the City to convey that requirement of the consent order is satisfied, and the City's water distribution system infrastructure in the its GIS database is validated and locationally accurate.

A confidence interval is an estimate of an interval in statistics that may contain a population parameter. The unknown population parameter is found through a sample parameter calculated from the sampled data. For example, the population means are found using the sample mean. The interval is generally defined by its lower and upper bounds. The confidence interval is expressed as a percentage; the most frequently quoted are 90%, 95%, and 99%. The percentage reflects the confidence level. Typically, we express confidence in surveying or mapping with absolute accuracy or an accuracy class.

With the WDSM, the interpretation of a confidence interval is a different aspect of this statistical concept, given it is an impossibility to expose every pipe now in the ground to determine its type and precise position via physical surveys and observations. For example, a possible interpretation of the confidence interval's concept is the following:

"There is a 95% probability that an observed and measured value of the coordinates of a water main at a point of connection, valve, or other location will fall within X [lower bound] and Y [upper bound] inches."

This expression of the confidence interval is important for asset attribution as well. To the extent possible, it is desirable to express a confidence interval for components (feature classes/data) of the distribution system.



Parameters for Calculating the Error Ellipse

Confidence intervals are associated with the consideration of error ellipses. As we earlier discussed, an error ellipse was computed for control sample location points, and the provided points are approximate locations that are known (e.g., using GIS data). Observations (coordinates for points and lines) as derived from LiDAR and imagery extraction, 3DHS-GPR and pushcart 3D GPR data, fielding with GPS, and an approximate set of normal equations formed with these data. The inverse of the coefficient matrix yields all the information required to compute the parameters of the error ellipses. In such cases, error ellipses are an important analysis tool for the surveyor in planning survey operations. Confidence ellipses are superior to confidence circles since they provide the same probability of location but generally over a significantly smaller region.



Data Delivery

To satisfy the consent order within the established project schedule, delivering the updated GIS data in multiple parts makes updating the City's GIS system more manageable over time, appending previously delivered databases. Each ESRI file geodatabase will be generated through an ETL process from WGI's project database, ensuring that the GUID from the original GIS database is maintained. **WGI will establish rules for how data crosses the boundaries of included sections to ensure no overlap or duplication of data.** Any new

features added to the database will have a new GUID automatically generated, allowing validation during data loading as a catchall to identifying and resolving any potential duplicates.

WGI's team will work closely with the City's GIS team to ensure each geodatabase loads seamlessly into the City's database. We will deliver each database via our Sharefile or another acceptable system. After the project, the City will receive, via hard drives, all geodatabases and QLA utility investigation reports. **As necessary and requested, WGI will assist the City in reporting requirements with FDEP.**

Asset Management and CMMS

Solicitation 12665-1026, water consent order program management and mapping services, does not specifically request direct support or technical assistance from the WGI team for Cityworks; however, we are expected to deliver to the City a completed GIS database compatible with the City's existing GIS and asset management software systems. The desired compatibility is to be based on using the City's geodatabase schema. We will ensure that our deliverable(s) are formatted in compliance with the schema that the City itself will use to load the data. The references to seamlessness or the ability to load data with little-to-no processing or downtime for the City is subject to the City's abilities to load the formatted data.

We understand that our work requires entering new location and attribute information, as well as editing existing GIS data, based on data collected from survey fieldwork, inspections, and by referencing historic documentation. We will provide geodatabase data as formatted to your database schema at the time of the project's initiation. The data will be provided as an ESRI File Geodatabase (FGDB), and delivery will require populating one FGDB for each delivery which contains one or more survey zones.

As mentioned, WGI will submit to the City a preliminary geodatabase. We will work with the City on the loading to optimize the process to the extent possible, before attempting to deliver actual project data. Subsequent geodatabase deliverables provided will contain public water system features (existing source and distribution mains, control valves, hydrants, ARVs, water meters, inactive mains, and directional flow routes) in a geodatabase preserving the facility IDs for integration into the City's existing GIS, meeting the requirements for Cityworks, insofar as possible.

Throughout the duration of the water distribution mapping project, during routine maintenance activities

by City staff, new developments, annexations, or other means of acquisition will occur. As new construction is completed, the City will incorporate information from those as-built drawings of the new components into the Water Distribution Map and geodatabase. The conversion and geodatabase input of as-built plans from previous City projects, dating back four years, will be performed by the City. The mode of mapping will be documented in the geodatabase.

Together with our teaming partners of FTC (ESRI-specific) and Jacobs (Cityworks-specific), we will provide support for the loading process. We can also provide additional support to your asset management programs and performance support including development of metrics that use prudent industry practice. Our team members completed more than 200 CMMS enhancement and implementation projects, including the City of Fort Lauderdale. Our team has subject matter experts (SMEs) and former utility managers with first-hand experience transforming their organizations with Cityworks and sustaining best-in-class performance.

CMMS and Cityworks Experience

WGI's team member, Jacobs, has local knowledge and demonstrated Cityworks experience with CMMS. Jacobs' team's specific skills, experience, and a strong portfolio of CMMS implementation will directly benefit the City of Fort Lauderdale through the following:

- Leaders in utility performance measurement services.
- With ESRI GIS as the foundation on which Cityworks runs, the team is highly experienced in making GIS and Cityworks fully integrated and maximizing the use of these tools in the field and the office.
- Experienced providing effective training for all levels of staff on using Cityworks to ensure the enhanced use of Cityworks is documented for future users. Leader in software integration, managing complex Cityworks integrations with other software systems, meeting client needs, improving efficiencies, saving money, and enhancing the value and functionality of agency GIS and CMMS technology.
- Superior knowledge of Cityworks tools and functionality, team implementers have in-depth knowledge and experience with all the tools Cityworks has to offer and the variety of mobile applications.
- Advanced skill in Cityworks forms customizations.
- XML editing expertise enables quality customization of the Cityworks user interface at an extreme value.
- As a **Cityworks platinum partner**, Jacobs has significant experience with City-wide and complex

CMMS implementation, integrations, enhancements, and workflow improvements. The team vision for the City in which the water distribution system is mapped and incorporated into the City's asset management system, Cityworks. The mapping effort will utilize the latest in mapping technology to get the accuracy of spatial information that the City desires.

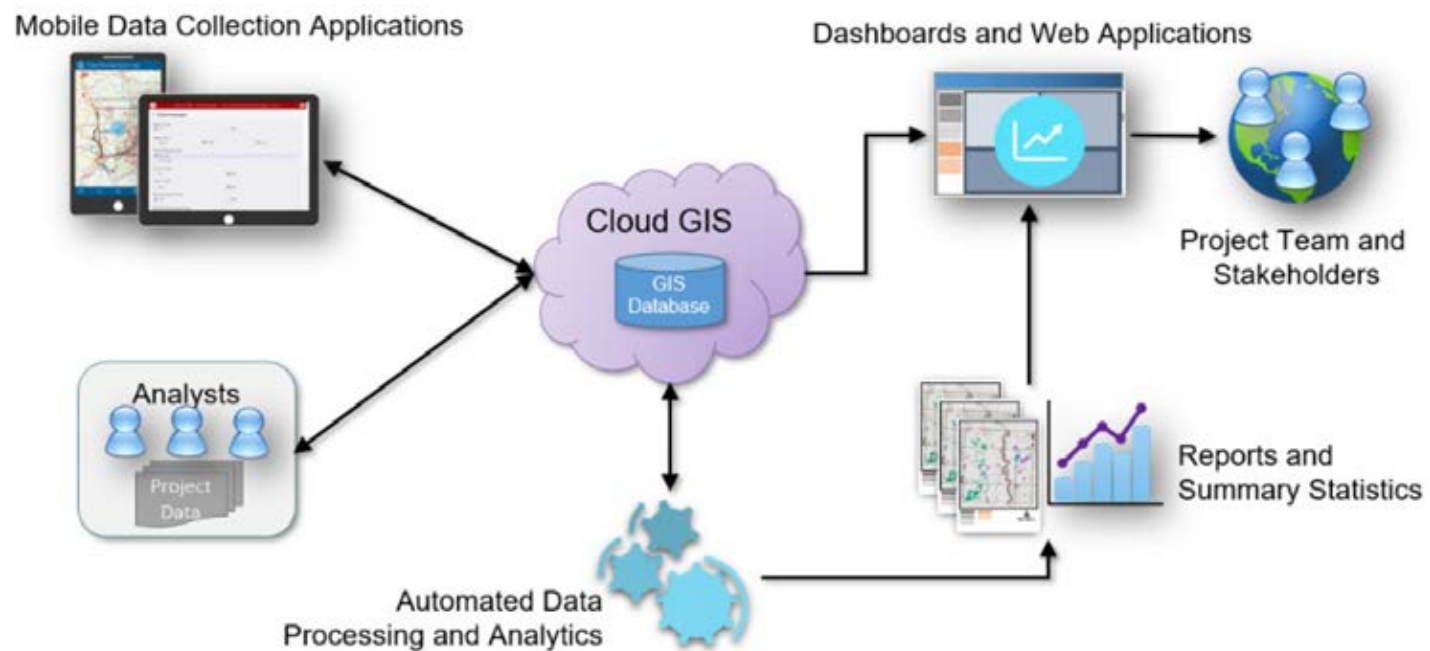
The result is a map that the City can rely on to locate its water distribution system assets, such as water mains, isolation valves, and air release valves. We understand that the City's O&M staff has worked diligently to incorporate the WSVMP.

GIS Optimized Data Collection and Reporting

GIS is an integral tool in helping the City of Fort Lauderdale team manage the project processes and data supporting the water infrastructure mapping planning, execution, analysis, and reporting required as part of the Consent Order. The City will have its water distribution inventory and conditions assessment data for input into Cityworks and it contains defensible data.

ArcGIS Online will be used by WGI. This platform provides superior speed and stability compared to other GIS platforms and allows for real-time data syncing across all devices and users. Using the ESRI/ArcGIS Field Maps mobile app, we can manage the water infrastructure data collected, edited, and validated according to map-driven forms developed by our GIS specialists. For compliance-driven field surveying programs, we have the expertise to develop cloud-based data visualization dashboards to track field survey progress in real-time, allow for the visualization of field activities through asset photos and data, and ensure all team members are in sync with program mapping progress.

Cloud-based GIS Dashboards Enable Real-Time Progress Tracking



OTHER ELEMENTS FOR APPROACH TO THE SCOPE OF WORK

WGI's team and our approach:

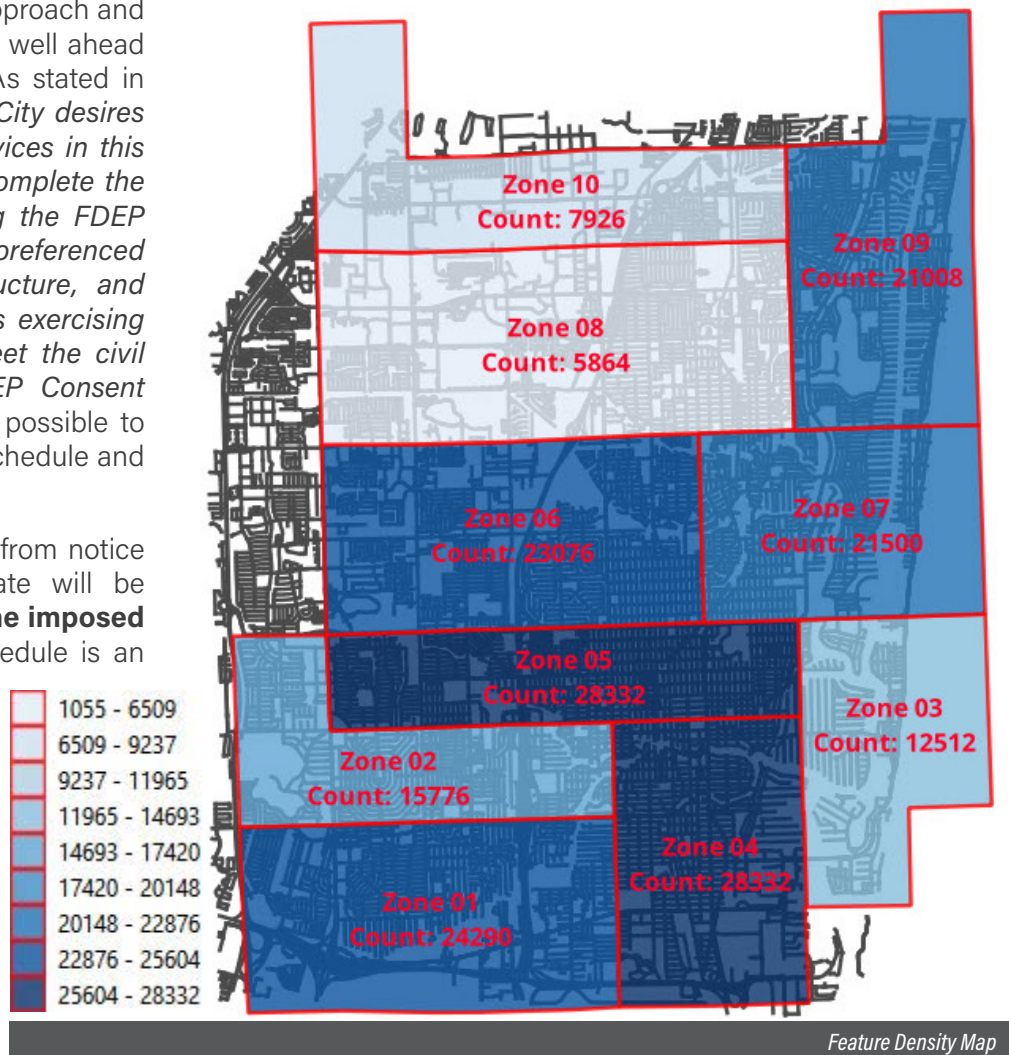
- Minimizes and optimizes the number of survey teams, fielding/data collection staff, and SUE personnel for project cost control
- Provides the City with a program and project management plan consistent with the Project Management Institute's Project Management Body of Knowledge (PMBOK® Guide)
- Includes survey, SUE, GIS, and Cityworks personnel with experience and knowledge in delivering projects for the City of Fort Lauderdale

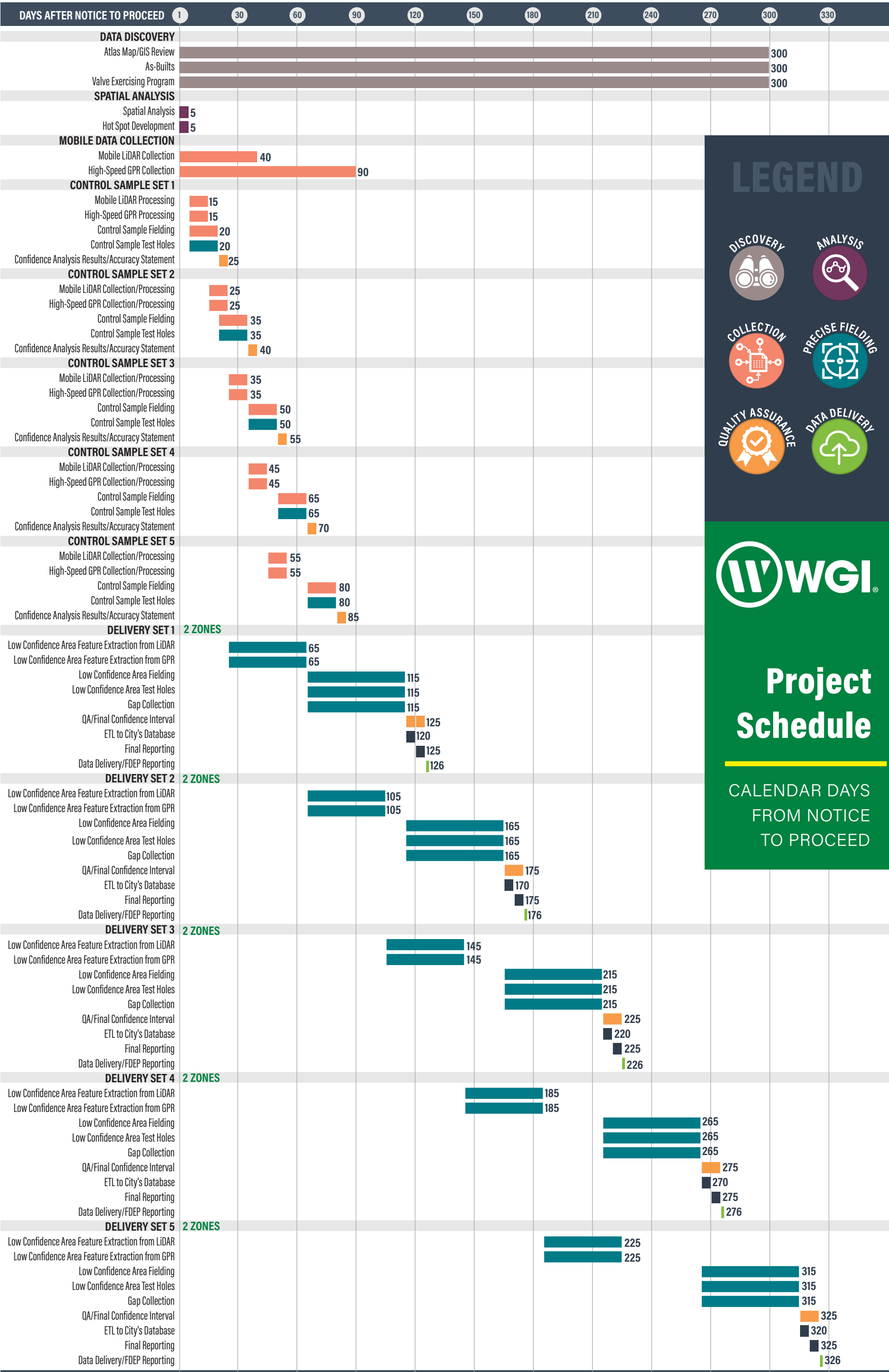
- Leverages Microsoft Teams and SharePoint to manage electronic communications, wgigeo.tech, WOTS reporting, virtual meetings, and document controls for project meeting notes, SOPs, and status reports
- Uses analytical processes to determine appropriate size and areas for delivery zones on this project's accelerated schedule
- Includes appropriate analysis of spatial positions for feature classes using confidence ellipses, knowing that accuracy level must be determined by empirical observations and data
- WGI self-performs community outreach and engagement, police department notifications, and interactions related to our activities and MOT
- Relies on the observed and recorded data from the City's self-performance of WSVMP to minimize our need to open each valve cover and do measurements
- Makes use of Bob's Barricades for MOT signage and equipment when MOT is necessary
- Relies on ESRI disconnected editing to manage additions, deletions, and modifications to records consistent with protocols developed jointly with the City GIS staff
- Certifies our mapping is accurate and complete for the City's completion notification to FDEP

SCHEDULE

WGI's proposed schedule has been simplified to show approximate delivery dates for **five sets of data deliverables**. Given the short time frame for completing the project, **each set will contain two zones' worth of data**. WGI anticipates a project start date in early August and has developed our approach and schedule to complete the project well ahead of the consent order deadline. As stated in Addendum 2 for the FRQ: *"The City desires to expedite the professional services in this contract to reduce the time to complete the program management, reporting the FDEP [sic], data collection, survey, georeferenced mapping of the water infrastructure, and assistance with the water valves exercising program to the comply and meet the civil enforcement mandated by FDEP Consent Agreement."* We will do what is possible to shorten this proposed contract schedule and reduce contract time.

While this schedule shows days from notice to proceed, the completion date will be before the **July 23, 2023 deadline imposed by the consent order**. The schedule is an approximation of the time that will be required to complete all activities in a set, as office designating/locating and fielding times may vary depending on the results of the confidence analysis. An analysis of the density of feature locations/characteristics changes for features of the system within the zones defined in the workplan.





LEGEND



Project Schedule

CALENDAR DAYS FROM NOTICE TO PROCEED

References



EXHIBIT E

REFERENCES



A minimum of three (3) references shall be provided:

1. Company Name: HSR Constructors

300 North Drive, Suite 100
Melbourne, Florida 32934

Address:

Contact: Deron Haptonstall, Project Director

Phone #: 505.975.8754

Email: dhaptonstall@hsrctv.com

Contract Value: \$12.3M

Year: Ongoing

WGI is the primary surveying firm responsible for all control, construction, and as-built surveying for the Brightline high-speed rail corridor stretching from Brevard County south to Palm Beach County (approximately 130 miles). Under the multi-year, multi-million-dollar contract, WGI provides six survey field crews to the rail site seven days a

Description: week.

2. Company Name: FDOT District 4

3400 W. Commercial Boulevard
Fort Lauderdale, Florida 33309

Address:

Contact: Roberto Chavez, PSM

Phone #: 954.777.4597

Email: roberto.chavez@dot.state.fl.us

Contract Value: \$5M

Year: Ongoing

FDOT District 4 contracted with WGI under a five-year, \$5M continuing services contract to support FDOT's in-house and consultant work programs with districtwide surveying, mapping, and utility locating assignments. Services are provided on an on-call, task work order basis, including SUE, baseline and right-of-way surveys, terrestrial and terrestrial mobile LiDAR, conventional surveys for design, single and multi-beam hydrographic surveys, drainage surveys, cross-sections, and bridge detail surveys.

Description:

3. Company Name: City of Lake Worth Beach

301 College Street
Lake Worth Beach, Florida 33461

Address:

Contact: Brian Shields, PE

Phone #: 561.586.1675

Email: bshields@lakeworth.org

Contract Value: \$40M

Year: 2021

The Neighborhood Road Program is the City's largest capital improvement project to date and will dramatically improve not only transportation throughout the City's residential areas but improve water distribution and wastewater collection. WGI oversaw the engineering, public outreach, and construction management of this four-

Description: year roadway improvement program.

REFERENCES



A minimum of three (3) references shall be provided:

1. Company Name: City of Pembroke Pines Water and Wastewater Utilities

8300 S. Palm Drive
Pembroke Pines, FL

Address:

Contact: Jon Cooper, Utility Director

Phone #: 954.518.9000

Email: jcooper@ppines.com

Contract Value: Varies by year

Year: 2015 - Ongoing

Description:

The City of Pembroke Pines asked Jacobs to step in after becoming dissatisfied with its water-utilities operator. We worked around the clock under challenging conditions to develop a beneficial operations strategy, and assumed operations in 2015 for this \$8M, O&M contract for water and wastewater utilities. Our services include all labor to operate and maintain the water system, consisting of a 15.5-MGD lime-softening water treatment plant and its 9.5-MGD biological wastewater treatment plant. We managed utility infrastructure including more than 900 miles of distribution and collection systems, 7,525 manholes, 5,500 fire hydrants and 190 sewer lift stations. Scope includes customer service to nearly 45,000 ratepayers.

2. Company Name: The Villages Community Development District

984 Old Mill Run
The Villages, FL 32162

Address:

Contact: Kenneth C Blocker, District Manager

Phone #: 352.751.3939

Email: Kenneth.blocker@districtgov.org

Contract Value:

Varies by year. Currently on-schedule and on-budget

Year: 1993 - Ongoing (29 years)

Description:

Jacobs delivers complete O&M of public and private utility systems for The Villages, Florida. The project encompasses 13 water treatment systems, four wastewater treatment plants, wastewater collection and water distribution systems, water meter reading, and residential and commercial sanitation services. The Villages formed a partnership with Jacobs in 1993 to operate water and wastewater facilities. During nearly three decades of partnership, Jacobs has expanded and tailored our operations to The Villages' needs and objectives. When we began, an operating staff of 13 served a population of about 5,000, managing water and wastewater utilities. Our work scope and responsibilities grew and diversified, such that a staff of 165 now serves more than 130,000 Villages residents. In the past year, we have changed 8,100 water meters, cleaned 47 miles of sewer collection lines, maintained 1,400 fire hydrants and replaced water valves valued at \$400,000. Jacobs also handles approximately 50 capital and renewal projects varying in size and scope.

3. Company Name: City of Fort Worth

200 Texas St
Fort Worth, TX 76102

Address:

Contact: Elizabeth Young, Business Process Manager

Phone #: 817.392.6785

Email: elizabeth.young@fortworthgov.org

Contract Value:

\$10M Fee with heavy data collection and GIS entry

Year: 2010 - 2014

Description:

The purpose of the Stormwater Geographic Information System (SWGIS) Inventory project was to develop a detailed inventory of the City's stormwater assets in a GIS in order to facilitate these activities. The scope of work for the project included developing a geodatabase design; data compilation and preparation; schematic and easement development; field reconnaissance; survey; schematic rectification; and condition assessment. The result of this effort was a GIS database substantially ready for hydraulic modeling with links to all relevant ancillary data, e.g., engineering plans, field photos, and condition assessment videos. The team cataloged and georeferenced over 20,000 plan sheets (dating back to 1910), identified and created assets for 36,000 inlets, 8,500 manholes, and over 100 miles of pipes.



Subconsultants



SUBCONSULTANTS



REGULATORY SPECIALIST, PROGRAM MANAGEMENT & TECHNICAL ADVISORS

Jacobs Engineering Group Inc. (Jacobs) is a Fort Lauderdale water-focused specialty firm with a 60-year Florida presence. They offer a long history of success in water distribution system management, planning, design, and operations, with specific expertise in program management and mapping services.

Jacobs employs more than 56,000 employees firm-wide, including approximately 110 personnel in Miami/Fort Lauderdale, 460 in South Florida, and nearly 1,500 staff in Florida.

They have enjoyed regular recognition from industry publications and organizations, which further supports their commitment to outstanding achievements in the field. Engineering News-Record has consistently ranked Jacobs as a top service provider, with numerous #1 rankings in various areas of water, wastewater, and utility infrastructure.

The American Society of Civil Engineers has also recognized them as one of the best-managed consulting engineering firms in the country. Jacobs was listed as one of Fortune's 2020 World's Most Admired Companies and Forbes Best Employers for Diversity 2020. As the company has grown, its reputation has grown stronger. Jacobs has been serving Florida for many years. From supplying water to support NASA's Kennedy Space Center to meeting the demand of Florida's economic growth, their firm has worked alongside South Florida clients to provide reliable, high-quality engineering services and innovative solutions to their customers.



ENGINEERING & FIELD QC

Chen Moore and Associates, Inc. (CMA) is a multi-discipline consulting firm with offices in Broward, Miami-Dade, Palm Beach, Orange, Duval, and Alachua counties. Founded in 1986, CMA specializes in civil and environmental engineering; landscape architecture; planning; GIS analysis and mapping; transportation, streetscaping, and traffic improvements; construction administration; wastewater collection, transmission, reuse; pump station design and rehabilitation; water supply, treatment, and distribution; stormwater system design and master plans; and modeling and permitting of drainage, water distribution, and sewer collection. Dr. Chen founded CMA believing relationships are the key to the planning, design, and construction of successful projects. The firm is committed to providing responsive quality services while meeting the schedules and specific project needs of the client.

- CMA's headquarters are in Fort Lauderdale, and they have been doing work for the City since 1989
- CMA has a strong working relationship with many City staff
- Some of CMA's recent projects include utility projects, land development type facilities, drainage projects, site assessments, and public facilities



SUE SUPPORT

CTS Engineering, Inc. (CTS) provides surveying, mapping, and SUE services. Their vastly experienced team will provide the most valuable resource to develop the project-current data. Starting from concept development to final construction plans, CTS will cover improvements, legal aspects, and any utility conflicts. Using the latest state-of-the-art technology, they can deliver data for 3D modeling, collect information in real-time, and provide data fusion between CADD, LiDAR, and GIS.



GIS SUPPORT

Florida Technical Consultants, LLC (FTC), is a civil engineering firm based in Palm Beach County since 2014. FTC has seven full-time staff dedicated to implementing GIS solutions. FTC has provided multiple municipal utilities improved efficiency through understanding and utilizing existing data, applying analytical tools and techniques for quality control, interfacing with contractors to track construction quantities, and providing GIS record drawing submittals to clients.



SURVEY & SUE SERVICES SUPPORT

McKim & Creed, Inc. (MK&C) is a committed team of talented professionals who improve the quality of life for businesses and communities by providing world-class engineering and geomatics solutions. As one of the largest and most comprehensive geomatics firms in the U.S., they understand that complete and accurate data is the foundation—the building block—of every project. MK&C offers comprehensive services, including civil, environmental, mechanical, electrical, plumbing, and structural engineering; industrial design-build services; airborne and mobile LiDAR/scanning; unmanned aerial systems; SUE; and hydrographic and conventional surveying services for the energy, transportation, federal, land development, water, and building markets.



SURVEY SUPPORT

Stoner & Associates (S&A) has over 15 employees, including four licensed professional surveyors and mappers, supervising four survey field crews. S&A maintains an office in Fort Lauderdale, Florida. With over two decades of dedicated surveying experience under their belts, there is little in the way of surveying projects that the experienced staff has not encountered. S&A has completed thousands of survey projects in South Florida and has a large library of relevant experience to draw upon. Their experience translates into accurate, timely, and professional products for the clients. S&A is committed to using the latest technology to produce high-quality surveys. Their formidable arsenal includes electronic and robotic total stations, automated data collection, real-time GPS, and CADD mapping software.



SURVEY & SUE SUPPORT

T2ue specializes in professional utility engineering services, including surveying and mapping, SUE, advanced geophysics, and utility coordination to support infrastructure projects. Recognized as a leader in managing the risks associated with aboveground and sub-surface utilities, T2ue has provided utility investigation and management expertise for projects of all sizes since 1993. They are proud to be a trusted partner for public entities and private firms due to their technical leadership, experience, and quality of our work.

T2ue will respond to a task order within 24 hours and can commence work upon notice to proceed. T2ue's local Fort Myers office resources are available to meet the immediate contract needs. Should an accelerated schedule be required, T2ue can quickly mobilize crews and equipment from our additional Florida offices.



Required Forms





Client#: 25411

WGIINC

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
12/10/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

| | | | | |
|---|--|---|--|---------------|
| PRODUCER Greyling Ins. Brokerage/EPIC 3780 Mansell Road, Suite 370 Alpharetta, GA 30022 | | CONTACT NAME: Carly Underwood PHONE (A/C, No, Ext): 770.670.5324 E-MAIL ADDRESS: carly.underwood@greyling.com FAX (A/C, No): | | |
| INSURED WGI, Inc. 2035 Vista Parkway; Suite 100 West Palm Beach, FL 33411 | | INSURER(S) AFFORDING COVERAGE | | NAIC # |
| | | INSURER A : National Union Fire Ins. Co. | | 19445 |
| | | INSURER B : The Continental Insurance Company | | 35289 |
| | | INSURER C : New Hampshire Ins. Co. | | 23841 |
| | | INSURER D : Berkley Insurance Company | | 32603 |
| | | INSURER E : | | |
| INSURER F : | | | | |

COVERAGES

CERTIFICATE NUMBER: 21-22

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSR | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|--|-----------|----------|---------------|-------------------------|-------------------------|---|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER: | | | 4613985 | 08/01/2021 | 08/01/2022 | EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$25,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$4,000,000 PRODUCTS - COMP/OP AGG \$4,000,000 \$ |
| A | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY | | | 9775972 | 08/01/2021 | 08/01/2022 | COMBINED SINGLE LIMIT (Ea accident) \$2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| B | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$10,000 | | | 6049958687 | 08/01/2021 | 08/01/2022 | EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$ |
| C | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N N | N/A | 011569886 | 08/01/2021 | 08/01/2022 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000 |
| D | Professional liab incl Pollution | | | AEC904648402 | 08/01/2021 | 08/01/2022 | Per Claim \$1,000,000 Aggregate \$2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

| | |
|-----------------------|--|
| For Proposal Purposes | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. |
| | AUTHORIZED REPRESENTATIVE |

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SWY01





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
05/06/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | |
|---|---|-----------------|
| PRODUCER LIC #0437153 Marsh Risk & Insurance Services CIRT_Support@jacobs.com 633 W. Fifth Street Los Angeles, CA 90071 INSURED Jacobs Engineering Group Inc. C/O Global Risk Management 1000 Wilshire Blvd., Suite 1140 Los Angeles, CA 90017 | 1-212-948-1306 CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): 1-212-948-1306 E-MAIL: ADDRESS: INSURER(S) AFFORDING COVERAGE INSURER A: ACE AMER INS CO INSURER B: INSURER C: INSURER D: INSURER E: INSURER F: | NAIC # 22667 |
|---|---|-----------------|

COVERAGES CERTIFICATE NUMBER: 65388037 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL SUBR INSD WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|--------------------|---------------------|-------------------------|-------------------------|--|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTUAL LIABILITY GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER: | | HDO G72493503 | 07/01/21 | 07/01/22 | EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$ |
| A | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY | | ISA H25545631 | 07/01/21 | 07/01/22 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| | UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$ | | | | | EACH OCCURRENCE \$ AGGREGATE \$ \$ |
| A | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y <input checked="" type="checkbox"/> N If yes, describe under DESCRIPTION OF OPERATIONS below | N/A | WLR C67817540 (AOS) | 07/01/21 | 07/01/22 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER |
| A | | | SCF C6781762A (WI) | 07/01/21 | 07/01/22 | E.L. EACH ACCIDENT \$ 1,000,000 |
| A | | | WCU C67817588 (OH)* | 07/01/21 | 07/01/22 | E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 |
| A | | | EON G21655065 012 | 07/01/21 | 07/01/22 | E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |
| A | PROFESSIONAL LIABILITY | | | | | PER CLAIM/PER AGG 2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

PROJECT MGR: Lisa Tinsley. RE: Water Consent Order Program Management and Mapping Services. CONTRACT NUMBER: 12665-1026. CONTRACT END DATE: 5/23/2024. PROJECT NUMBER: 12665-1026. PROPOSAL NUMBER: 12665-1026. SECTOR: Public. The City of Fort Lauderdale, a Florida municipal corporation, its officials, employees, and volunteers are added as an additional insured for general liability & auto liability as respects the negligence of the insured in the performance of insured's services to cert holder under contract for captioned work. Coverage is primary and certificate holder's insurance is excess and non-contributory. Waiver of subrogation is hereby granted in favor of City of Fort Lauderdale, its officials, employees, and volunteers for WC. Coverage includes U.S. Longshore and Harbor Workers Compensation Act

| | |
|--|--|
| CERTIFICATE HOLDER City of Fort Lauderdale 100 N. Andrews Avenue 6th Floor Fort Lauderdale, FL 33301 USA | CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE |
|--|--|

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nyumdo_newgalaxy
65388037

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
12/21/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | | |
|---|--|---|--|
| PRODUCER Lassiter-Ware Insurance 1300 N. Westshore Blvd. Suite 110 Tampa FL 33607 | | CONTACT NAME: Wendy Tyree PHONE (A/C, No, Ext): (800) 845-8437 FAX (A/C, No): (888) 883-8680 E-MAIL ADDRESS: wendyt@lassiterware.com | |
| INSURED Chen Moore & Associates, Inc. 500 W. Cypress Creek Road Suite 630 Fort Lauderdale FL 33309 | | INSURER(S) AFFORDING COVERAGE INSURER A: Crum & Forster Specialty Insurance Co. NAIC # 44520 INSURER B: Old Dominion Insurance Co. 40231 INSURER C: INSURER D: INSURER E: INSURER F: | |

COVERAGES **CERTIFICATE NUMBER:** 22-23 Cert **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|----------|---------------|-------------------------|-------------------------|--|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractors Pollution Liability GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: | Y | | EPK138072 | 01/01/2022 | 01/01/2023 | EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$ |
| B | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY | Y | | B1T2667W | 01/01/2022 | 01/01/2023 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ PIP-Basic \$ 10,000 |
| A | <input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$ | | | EFX119437 | 01/01/2022 | 01/01/2023 | EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$ |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N | N/A | | | | PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$ |
| A | Professional Liability (Claims-Made) Limits included with General Liability | | | EPK138072 | 01/01/2022 | 01/01/2023 | Each Claim \$1,000,000 Aggregate \$2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 All supporting endorsement(s) and policy form(s) attached, if any, comprise the Certificate of Liability Insurance in its entirety. Please review these endorsement(s) and policy form(s) as certain coverage provided by them may only apply when a written contract or agreement between the parties requires such coverage be provided.

The attached page(s) noting additional terms, conditions, coverage and/or comments applies.

| | |
|--|--|
| CERTIFICATE HOLDER The City of Fort Lauderdale c/o Procurement Services Dept. 100 N. Andrews Avenue Fort Lauderdale FL 33301 | CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE |
|--|--|



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
05/05/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| PRODUCER Iron Ridge Insurance 17595 S Tamiami Trail #107 Fort Myers FL 33908 | CONTACT NAME: Karen Brinkley PHONE (A/C, No, Ext): (800) 775-8526 FAX (A/C, No): (239) 288-7544 E-MAIL ADDRESS: kbrinkley@ironridgeinsurance.com | | | | | | | | | | | | | | |
|--|--|-------------------------------|--------|--|-------|--|-------|---|-------|--|-------|------------|--|------------|--|
| INSURED CTS Engineering, Inc 3230 West Commercial Blvd Suite 220 Fort Lauderdale FL 33309 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">INSURER(S) AFFORDING COVERAGE</th> <th style="text-align: left;">NAIC #</th> </tr> <tr> <td>INSURER A: Hartford Casualty Insurance Company</td> <td>29424</td> </tr> <tr> <td>INSURER B: Hartford Accident & Indemnity Company</td> <td>22357</td> </tr> <tr> <td>INSURER C: Travelers Indemnity Company of America</td> <td>25666</td> </tr> <tr> <td>INSURER D: Travelers Casualty and Surety Co of America</td> <td>31194</td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table> | INSURER(S) AFFORDING COVERAGE | NAIC # | INSURER A: Hartford Casualty Insurance Company | 29424 | INSURER B: Hartford Accident & Indemnity Company | 22357 | INSURER C: Travelers Indemnity Company of America | 25666 | INSURER D: Travelers Casualty and Surety Co of America | 31194 | INSURER E: | | INSURER F: | |
| INSURER(S) AFFORDING COVERAGE | NAIC # | | | | | | | | | | | | | | |
| INSURER A: Hartford Casualty Insurance Company | 29424 | | | | | | | | | | | | | | |
| INSURER B: Hartford Accident & Indemnity Company | 22357 | | | | | | | | | | | | | | |
| INSURER C: Travelers Indemnity Company of America | 25666 | | | | | | | | | | | | | | |
| INSURER D: Travelers Casualty and Surety Co of America | 31194 | | | | | | | | | | | | | | |
| INSURER E: | | | | | | | | | | | | | | | |
| INSURER F: | | | | | | | | | | | | | | | |

COVERAGES **CERTIFICATE NUMBER:** CL2221107659 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|----------|---|---|--|---|---------------------|-------------------------|-------------------------|---|---------------------------------|
| A | <input checked="" type="checkbox"/> | COMMERCIAL GENERAL LIABILITY | | | 21 SBM ZG1786 | 05/27/2021 | 05/27/2022 | EACH OCCURRENCE | \$ 1,000,000 |
| | <input type="checkbox"/> | CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR | | DAMAGE TO RENTED PREMISES (Ea occurrence) | | | | \$ 300,000 | |
| | <input type="checkbox"/> | | | MED EXP (Any one person) | | | | \$ 10,000 | |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | PERSONAL & ADV INJURY | | | | \$ 1,000,000 | |
| | <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC | | GENERAL AGGREGATE | \$ 2,000,000 | | | | | |
| | <input type="checkbox"/> OTHER: | | PRODUCTS - COMP/OP AGG | \$ 2,000,000 | | | | | |
| | | | | | | | | \$ | |
| B | <input checked="" type="checkbox"/> | AUTOMOBILE LIABILITY | | | 21UECHF6646 | 02/12/2022 | 02/12/2023 | COMBINED SINGLE LIMIT (Ea accident) | \$ 1,000,000 |
| | <input checked="" type="checkbox"/> | ANY AUTO | | BODILY INJURY (Per person) | | | | \$ | |
| | <input type="checkbox"/> | OWNED AUTOS ONLY | <input type="checkbox"/> SCHEDULED AUTOS | BODILY INJURY (Per accident) | | | | \$ | |
| | <input checked="" type="checkbox"/> | HIRED AUTOS ONLY | <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY | PROPERTY DAMAGE (Per accident) | | | | \$ | |
| | <input type="checkbox"/> | | | | | | | \$ | |
| A | <input checked="" type="checkbox"/> | UMBRELLA LIAB | <input checked="" type="checkbox"/> OCCUR | | 21 SBM ZG1786 | 05/27/2021 | 05/27/2022 | EACH OCCURRENCE | \$ 2,000,000 |
| | <input type="checkbox"/> | EXCESS LIAB | <input type="checkbox"/> CLAIMS-MADE | AGGREGATE | | | | \$ 2,000,000 | |
| | <input type="checkbox"/> | DED <input checked="" type="checkbox"/> RETENTION \$ 10,000 | | | | | | \$ | |
| C | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | | UB-0L05995A-21-42-V | 08/10/2021 | 08/10/2022 | <input checked="" type="checkbox"/> PER STATUTE | <input type="checkbox"/> OTH-ER |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) | | Y/N <input type="checkbox"/> | N/A | | | | E.L. EACH ACCIDENT | \$ 1,000,000 |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | | E.L. DISEASE - EA EMPLOYEE | \$ 1,000,000 |
| | | | | | | | | E.L. DISEASE - POLICY LIMIT | \$ 1,000,000 |
| D | Professional Liability | | | | 106840958 | 12/07/2021 | 12/07/2022 | Per Claim | \$2,000,000 |
| | | | | | | | | Aggregate | \$2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

For Proposal Purposes

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
09/22/2021

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| PRODUCER Harvey E. Oyer Jr. Inc. Oyer, Macoviak and Associates 511 East Ocean Avenue Boynton Beach FL 33435 | | CONTACT NAME: Robert Macoviak PHONE (A/C, No, Ext): (561) 732-9305 FAX (A/C, No): (561) 364-9848 E-MAIL ADDRESS: rmacoviak@oyerinsurance.com | | | | | | | | | | | | | | |
|--|--------|--|-------------------------------|--------|---------------------------------|-------|---------------------------|-------|--------------------------------|-------|----------------------------------|-------|------------|--|------------|--|
| INSURED FLORIDA TECHNICAL CONSULTANTS LLC PO BOX 850 Suite 9 BOYNTON BEACH FL 33425 | | <table border="1"><thead><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A: Continental Casualty</td><td>20443</td></tr><tr><td>INSURER B: Transportation</td><td>20494</td></tr><tr><td>INSURER C: Hiscox Insurance Co</td><td>10200</td></tr><tr><td>INSURER D: BCS Insurance Company</td><td>38245</td></tr><tr><td>INSURER E:</td><td></td></tr><tr><td>INSURER F:</td><td></td></tr></tbody></table> | INSURER(S) AFFORDING COVERAGE | NAIC # | INSURER A: Continental Casualty | 20443 | INSURER B: Transportation | 20494 | INSURER C: Hiscox Insurance Co | 10200 | INSURER D: BCS Insurance Company | 38245 | INSURER E: | | INSURER F: | |
| INSURER(S) AFFORDING COVERAGE | NAIC # | | | | | | | | | | | | | | | |
| INSURER A: Continental Casualty | 20443 | | | | | | | | | | | | | | | |
| INSURER B: Transportation | 20494 | | | | | | | | | | | | | | | |
| INSURER C: Hiscox Insurance Co | 10200 | | | | | | | | | | | | | | | |
| INSURER D: BCS Insurance Company | 38245 | | | | | | | | | | | | | | | |
| INSURER E: | | | | | | | | | | | | | | | | |
| INSURER F: | | | | | | | | | | | | | | | | |

COVERAGES**CERTIFICATE NUMBER:** CL2192205465**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|--|------------------------------|----------|-------------------|-------------------------|-------------------------|---|
| A | COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: | | | 6021699408 | 10/25/2021 | 10/25/2022 | EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 EPLI \$ 10,000 |
| | AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY | | | 6021699408 | 10/25/2021 | 10/25/2022 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| | UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$ | | | | | | EACH OCCURRENCE \$ AGGREGATE \$ \$ |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N <input type="checkbox"/> | N/A | 625101036 | 02/24/2021 | 02/24/2022 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |
| C | Professional Liability | | | UDC-1734967-EO-19 | 04/18/2021 | 04/18/2022 | Aggregate 2,000,000 Each Claim 2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

| | |
|---|---|
| Florida Technical Consultants LLC 533 E Ocean Ave Suite 2 Boynton Beach FL 33435 | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE |
|---|---|

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CERTIFICATE OF LIABILITY INSURANCE

 DATE (MM/DD/YYYY)
 9/13/2021

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| | |
|--|---|
| PRODUCER Scott Insurance - Raleigh 2501 Blue Ridge Road Suite 250 Raleigh NC 27607 | CONTACT NAME: Toni Dyer PHONE (A/C, No, Ext): 919.341.0746 FAX (A/C, No): E-MAIL: tdyer@scottins.com ADDRESS: |
| INSURED McKim & Creed, Inc. 1730 Varsity Drive Venture IV Building, Suite 500 Raleigh NC 27606-2689 | INSURER(S) AFFORDING COVERAGE NAIC # INSURER A : Berkley Assurance Company (A+) 39462 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F : |

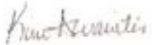
COVERAGES
CERTIFICATE NUMBER: 226173116
REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|----------|-------------------|-------------------------|-------------------------|--|
| | COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: | | | | | | EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$ |
| | AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY | | | | | | COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| | UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$ | | | | | | EACH OCCURRENCE \$ AGGREGATE \$ \$ |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$ |
| A | Professional Liability & Contractor Pollution Liab | | | PCAB-5015353-0921 | 9/5/2021 | 9/5/2022 | Each Claim/Aggregate \$5M / \$10M Each Claim/Aggregate \$5M / \$10M Self-Insd Retention \$500K / \$1M |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER
CANCELLATION

| | |
|--------------------------|---|
| **FOR INFORMATION ONLY** | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE  |
|--------------------------|---|

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ACORD 25 (2016/03)

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
04/06/2022

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| | | | |
|---|--|---|---------------|
| PRODUCER Iron Ridge Insurance 17595 S Tamiami Trail #107 Fort Myers FL 33908 | | CONTACT NAME: Karen Brinkley PHONE (A/C, No, Ext): (800) 775-8526 FAX (A/C, No): (239) 288-7544 E-MAIL ADDRESS: kbrinkley@ironridgeinsurance.com | |
| | | INSURER(S) AFFORDING COVERAGE | NAIC # |
| | | INSURER A: Phoenix Insurance Company | 25623 |
| | | INSURER B: Nutmeg Insurance Company | 39608 |
| | | INSURER C: National Union Fire Insurance Co of Pittsburgh PA | 19445 |
| | | INSURER D: Travelers Casualty & Surety Company | 19038 |
| | | INSURER E: Liberty Insurance Underwriters, Inc | 19917 |
| | | INSURER F: | |

COVERAGES

CERTIFICATE NUMBER: CL224607866

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|--|--------------------|-------------------------|-------------------------|---|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY | | | 680-3N344781 | 04/26/2022 | 04/26/2023 | EACH OCCURRENCE \$ 1,000,000 |
| | <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR | | DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 | | | | |
| | | | MED EXP (Any one person) \$ 10,000 | | | | |
| | | | PERSONAL & ADV INJURY \$ 1,000,000 | | | | |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | GENERAL AGGREGATE \$ 2,000,000 |
| | <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC | | | | | | PRODUCTS - COMP/OP AGG \$ 2,000,000 |
| | OTHER: | | | | | | \$ |
| B | <input checked="" type="checkbox"/> AUTOMOBILE LIABILITY | | | 21 UEC DL7136 | 04/26/2022 | 04/26/2023 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 |
| | <input checked="" type="checkbox"/> ANY AUTO | | BODILY INJURY (Per person) \$ | | | | |
| | <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS | | BODILY INJURY (Per accident) \$ | | | | |
| | <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY | | PROPERTY DAMAGE (Per accident) \$ | | | | |
| | | | | | | | \$ |
| C | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR | | | EBU 020790595 | 04/26/2022 | 04/26/2023 | EACH OCCURRENCE \$ 5,000,000 |
| | <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE | | AGGREGATE \$ 5,000,000 | | | | |
| | <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0 | | \$ | | | | |
| D | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | UB9K576125-22-47-G | 04/26/2022 | 04/26/2023 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) | Y/N | | | | | E.L. EACH ACCIDENT \$ 1,000,000 |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | N/A | | | | | E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 |
| | | | | | | | E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |
| E | Professional Liability | | | AEXNYABMOQH004 | 04/26/2022 | 04/26/2023 | Per Claim \$2,000,000 |
| | | | | | | | Aggregate \$2,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

For Proposal Purposes

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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ACORD 25 (2016/03)

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City of Fort Lauderdale - Water Consent Order Program Management and Mapping Services/RFQ # 12665-1026 | 104

EXHIBIT E

CAM #22-1089
Exhibit 2
Page 387 of 397



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
11/16/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| PRODUCER Aon Risk Services Southwest, Inc. Houston TX Office 5555 San Felipe Suite 1500 Houston TX 77056 USA | CONTACT NAME: PHONE (A/C. No. Ext): (866) 283-7122 FAX (A/C. No.): (800) 363-0105 E-MAIL ADDRESS: | | | | | | | | | | | | | | |
|--|--|-------------------------------|--------|--|-------|-----------------------------------|-------|--|-------|--|-------|------------|--|------------|--|
| INSURED T2 UES, Inc. 7217 E 87th Street Indianapolis IN 46256 USA | <table><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr><tr><td>INSURER A: Allied world Surplus Lines Insurance Co</td><td>24319</td></tr><tr><td>INSURER B: Zurich American Ins Co</td><td>16535</td></tr><tr><td>INSURER C: American Guarantee & Liability Ins Co</td><td>26247</td></tr><tr><td>INSURER D: Ironshore Specialty Insurance Company</td><td>25445</td></tr><tr><td>INSURER E:</td><td></td></tr><tr><td>INSURER F:</td><td></td></tr></table> | INSURER(S) AFFORDING COVERAGE | NAIC # | INSURER A: Allied world Surplus Lines Insurance Co | 24319 | INSURER B: Zurich American Ins Co | 16535 | INSURER C: American Guarantee & Liability Ins Co | 26247 | INSURER D: Ironshore Specialty Insurance Company | 25445 | INSURER E: | | INSURER F: | |
| INSURER(S) AFFORDING COVERAGE | NAIC # | | | | | | | | | | | | | | |
| INSURER A: Allied world Surplus Lines Insurance Co | 24319 | | | | | | | | | | | | | | |
| INSURER B: Zurich American Ins Co | 16535 | | | | | | | | | | | | | | |
| INSURER C: American Guarantee & Liability Ins Co | 26247 | | | | | | | | | | | | | | |
| INSURER D: Ironshore Specialty Insurance Company | 25445 | | | | | | | | | | | | | | |
| INSURER E: | | | | | | | | | | | | | | | |
| INSURER F: | | | | | | | | | | | | | | | |

COVERAGES **CERTIFICATE NUMBER:** 570090329009 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Limits shown are as requested

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | | | | | | | | | | | | |
|--|--|-----------|----------|-----------------|-------------------------|-------------------------|---|--|--------------|---|--------------|------------------------------|-------------|--------------------------------|-------------|-------------------|-------------|------------------------|-------------|
| B | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER: | | | GL0030509702 | 10/31/2021 | 10/31/2022 | <table><tr><td>EACH OCCURRENCE</td><td>\$2,000,000</td></tr><tr><td>DAMAGE TO RENTED PREMISES (Ea occurrence)</td><td>\$1,000,000</td></tr><tr><td>MED EXP (Any one person)</td><td>\$5,000</td></tr><tr><td>PERSONAL & ADV INJURY</td><td>\$2,000,000</td></tr><tr><td>GENERAL AGGREGATE</td><td>\$5,000,000</td></tr><tr><td>PRODUCTS - COMP/OP AGG</td><td>\$4,000,000</td></tr></table> | EACH OCCURRENCE | \$2,000,000 | DAMAGE TO RENTED PREMISES (Ea occurrence) | \$1,000,000 | MED EXP (Any one person) | \$5,000 | PERSONAL & ADV INJURY | \$2,000,000 | GENERAL AGGREGATE | \$5,000,000 | PRODUCTS - COMP/OP AGG | \$4,000,000 |
| EACH OCCURRENCE | \$2,000,000 | | | | | | | | | | | | | | | | | | |
| DAMAGE TO RENTED PREMISES (Ea occurrence) | \$1,000,000 | | | | | | | | | | | | | | | | | | |
| MED EXP (Any one person) | \$5,000 | | | | | | | | | | | | | | | | | | |
| PERSONAL & ADV INJURY | \$2,000,000 | | | | | | | | | | | | | | | | | | |
| GENERAL AGGREGATE | \$5,000,000 | | | | | | | | | | | | | | | | | | |
| PRODUCTS - COMP/OP AGG | \$4,000,000 | | | | | | | | | | | | | | | | | | |
| B | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY | | | BAP 0305096-02 | 10/31/2021 | 10/31/2022 | <table><tr><td>COMBINED SINGLE LIMIT (Ea accident)</td><td>\$2,000,000</td></tr><tr><td>BODILY INJURY (Per person)</td><td></td></tr><tr><td>BODILY INJURY (Per accident)</td><td></td></tr><tr><td>PROPERTY DAMAGE (Per accident)</td><td></td></tr></table> | COMBINED SINGLE LIMIT (Ea accident) | \$2,000,000 | BODILY INJURY (Per person) | | BODILY INJURY (Per accident) | | PROPERTY DAMAGE (Per accident) | | | | | |
| COMBINED SINGLE LIMIT (Ea accident) | \$2,000,000 | | | | | | | | | | | | | | | | | | |
| BODILY INJURY (Per person) | | | | | | | | | | | | | | | | | | | |
| BODILY INJURY (Per accident) | | | | | | | | | | | | | | | | | | | |
| PROPERTY DAMAGE (Per accident) | | | | | | | | | | | | | | | | | | | |
| C | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION | | | AUC0037275302 | 10/31/2021 | 10/31/2022 | <table><tr><td>EACH OCCURRENCE</td><td>\$10,000,000</td></tr><tr><td>AGGREGATE</td><td>\$10,000,000</td></tr></table> | EACH OCCURRENCE | \$10,000,000 | AGGREGATE | \$10,000,000 | | | | | | | | |
| EACH OCCURRENCE | \$10,000,000 | | | | | | | | | | | | | | | | | | |
| AGGREGATE | \$10,000,000 | | | | | | | | | | | | | | | | | | |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N N | N/A | WC030509502 | 10/31/2021 | 10/31/2022 | <table><tr><td><input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH</td><td></td></tr><tr><td>E.L. EACH ACCIDENT</td><td>\$1,000,000</td></tr><tr><td>E.L. DISEASE-EA EMPLOYEE</td><td>\$1,000,000</td></tr><tr><td>E.L. DISEASE-POLICY LIMIT</td><td>\$1,000,000</td></tr></table> | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH | | E.L. EACH ACCIDENT | \$1,000,000 | E.L. DISEASE-EA EMPLOYEE | \$1,000,000 | E.L. DISEASE-POLICY LIMIT | \$1,000,000 | | | | |
| <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH | | | | | | | | | | | | | | | | | | | |
| E.L. EACH ACCIDENT | \$1,000,000 | | | | | | | | | | | | | | | | | | |
| E.L. DISEASE-EA EMPLOYEE | \$1,000,000 | | | | | | | | | | | | | | | | | | |
| E.L. DISEASE-POLICY LIMIT | \$1,000,000 | | | | | | | | | | | | | | | | | | |
| D | Env Contr Pol | | | ICELLUW00114606 | 10/31/2021 | 10/31/2022 | <table><tr><td>Aggregate Limit</td><td>\$10,000,000</td></tr><tr><td>Per Occurrence Limi</td><td>\$10,000,000</td></tr></table> | Aggregate Limit | \$10,000,000 | Per Occurrence Limi | \$10,000,000 | | | | | | | | |
| Aggregate Limit | \$10,000,000 | | | | | | | | | | | | | | | | | | |
| Per Occurrence Limi | \$10,000,000 | | | | | | | | | | | | | | | | | | |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Insurance.

CERTIFICATE HOLDER**CANCELLATION**

| | |
|---|--|
| CERTIFICATE HOLDER T2 UES, Inc. 7217 E. 87th Street Indianapolis IN 46256 USA | CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>Aon Risk Services Southwest, Inc.</i> |
|---|--|

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ACORD 25 (2016/03)

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Holder Identifier :

570090329009

Certificate No :



**NON-COLLUSION STATEMENT:**

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

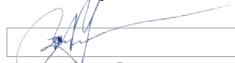
Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME**RELATIONSHIPS**

| |
|-----|
| N/A |
| |
| |
| |

| |
|--|
| |
| |
| |
| |

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.


Authorized Signature

Senior Vice President, Geospatial
Title

Robert Hanson, GISP
Name (Printed)

5/23/2022
Date




**CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH
NON-DISCRIMINATION PROVISIONS OF THE CONTRACT**

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.


Authorized Signature

Robert Hanson, Senior Vice President, Geospatial
Print Name and Title

5/23/2020
Date

**E-VERIFY AFFIRMATION STATEMENT**

RFP/Bid /Contract No: #12665-1026

Project Description: Water Consent Order Program Management
and Mapping Services

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

- (a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,
- (b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: WGI, Inc.

Authorized Company Person's Signature:  Robert Hanson, GISP

Authorized Company Person's Title: Senior Vice President, Geospatial

Date: 5/23/2020

9/15/2020

**BID/PROPOSAL CERTIFICATION**

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit <http://www.dos.state.fl.us/>).

Company: (Legal Registration) EIN (Optional):

Address:

City: State: Zip:

Telephone No.: FAX No.: Email:

Delivery: Calendar days after receipt of Purchase Order (**section 1.02 of General Conditions**):

Total Bid Discount (**section 1.05 of General Conditions**):

Check box if your firm qualifies for MBE / SBE / WBE (**section 1.09 of General Conditions**): ☐

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

| <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> | <u>Addendum No.</u> | <u>Date Issued</u> |
|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
| #1 | May 23, 2022 | | | | |
| #2 | June 16, 2022 | | | | |

VARIANCES: If you take exception or have variances to any term, condition, specification, scope of service, or requirement in this competitive solicitation you must specify such exception or variance in the space provided below or reference in the space provided below all variances contained on other pages within your response. Additional pages may be attached if necessary. No exceptions or variances will be deemed to be part of the response submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. **You must also click the "Take Exception" button.**

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal.

I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages,

expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars (\$500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Robert Hanson, GISP

Name (printed)

5/23/2022

Date



Signature

Senior Vice President, Geospatial

Title

Revised 4/28/2020



[Department of State](#) / [Division of Corporations](#) / [Search Records](#) / [Search by Entity Name](#) /

Detail by Entity Name

Florida Profit Corporation
WGI, INC.

Filing Information

Document Number S66593
FEI/EIN Number 65-0271367
Date Filed 07/12/1991
State FL
Status ACTIVE
Last Event AMENDMENT
Event Date Filed 12/17/2020
Event Effective Date NONE

Principal Address

2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Changed: 01/09/2017

Mailing Address

2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Changed: 01/09/2017

Registered Agent Name & Address

FONTAINE, KATE
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Name Changed: 11/09/2018

Address Changed: 11/09/2018

Officer/Director Detail Name & Address

Title CHAIRMAN EMERITUS
WANTMAN, JOEL
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title VP LAND DEVELOPMENT

BROPHY, JEFFREY N
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title VP TRANSPORTATION

CLEMENTS, NANCY A
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title DIRECTOR -
ARCHITECTURE

Luttmann, Eric
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title PRESIDENT

SAUTER, GREGORY
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title CEO

WANTMAN, DAVID
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title SURVEY MANAGER

SLAYMAKER, JEREMIAH
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title SECRETARY

Fontaine, Kate
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title SVP - GEOSPATIAL

HANSON, ROBERT
2035 VISTA PKWY
WEST PALM BEACH, FL 33411

Title DIRECTOR - OPERATIONS

DeBosier, Kim
2035 VISTA PKWY
WEST PALM BEACH, FL 33411



WGI'S CORE VALUES



PASSION
FOR PEOPLE



BE THE
CHANGE
YOU SEEK



COMMIT TO
GREATNESS



LET'S TALK



ROBERTO MANTECON, PSM
PROJECT MANAGER

p. 305.553.0500
e. Roberto.Mantecon@WGIInc.com

WGIInc.com

EXHIBIT E



CITY OF FORT LAUDERDALE

RFQ EVALUATION COMMITTEE TABULATION - FINAL RANKING
(Updated)

RFQ# 12665-1026

TITLE: Water Consent Order Program Management and Mapping Services

DATE: 7/18/2022

| Rater #1 - C.Bennett | | | | | | | | | | |
|-------------------------------------|------------------------------------|---------|----------------|--|---------|----------------|---|---------|----------------|----------------------|
| PROPOSING FIRM | Firm Qualifications and Experience | | | Project Team Experience and Qualifications | | | Methodology and Approach to Scope of Work | | | Total Points Awarded |
| | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | |
| Craven, Thompson & Associates, Inc. | 0.30 | 1 | 0.30 | 0.30 | 1 | 0.30 | 0.40 | 2 | 0.80 | 1.40 |
| WGI, Inc. | 0.30 | 2 | 0.60 | 0.30 | 2 | 0.60 | 0.40 | 1 | 0.40 | 1.60 |

| Rater #2 - T.Lawrence | | | | | | | | | | |
|-------------------------------------|------------------------------------|---------|----------------|--|---------|----------------|---|---------|----------------|----------------------|
| PROPOSING FIRM | Firm Qualifications and Experience | | | Project Team Experience and Qualifications | | | Methodology and Approach to Scope of Work | | | Total Points Awarded |
| | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | |
| Craven, Thompson & Associates, Inc. | 0.30 | 1 | 0.30 | 0.30 | 1 | 0.30 | 0.40 | 1 | 0.40 | 1.00 |
| WGI, Inc. | 0.30 | 2 | 0.60 | 0.30 | 2 | 0.60 | 0.40 | 2 | 0.80 | 2.00 |

| PROPOSING FIRM | Rater #3 - A.Rivera | | | | | | | | | | Average Points Awarded | Total Combined Points | Local Vendor Preference | Local Preference Deduction | DISADVANTAGED BUSINESS ENTERPRISE (DBE) PREFERENCE | DBE Deduction | Total Final Score | FINAL RANKING |
|-------------------------------------|------------------------------------|---------|----------------|--|---------|----------------|---|---------|----------------|----------------------|------------------------|-----------------------|-------------------------|----------------------------|--|---------------|-------------------|---------------|
| | Firm Qualifications and Experience | | | Project Team Experience and Qualifications | | | Methodology and Approach to Scope of Work | | | Total Points Awarded | | | | | | | | |
| | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | Weight Factor | Ranking | Point Subtotal | | | | | | | | | |
| Craven, Thompson & Associates, Inc. | 0.30 | 1 | 0.30 | 0.30 | 1 | 0.30 | 0.40 | 2 | 0.80 | 1.40 | 0.76 | 3.80 | | - | 0.0% | - | 3.80 | 1 |
| WGI, Inc. | 0.30 | 2 | 0.60 | 0.30 | 2 | 0.60 | 0.40 | 1 | 0.40 | 1.60 | 1.04 | 5.20 | | - | 0.0% | - | 5.20 | 2 |

*Note: Final ranking is being updated since local preference does not apply. The removal of Local Preference does not change the outcome of the final ranking.

EXHIBIT F