

**Solicitation
For Participation in
For
Wastewater/Water System Resiliency Assessment, Program Management and Engineering Design Services**



**Jacksonville, FL
Solicitation Number 030-17**

Mandatory Pre-Proposal Meeting in Person or Teleconference

on December 13, 2017, at 01:00 PM

or

December 18, 2017, at 01:30 PM

Dial in Phone Number: 1-888-714-6484

Dial in Passcode: 817050

JEA Customer Center, 1st Floor, Room 002

21 W. Church Street, Jacksonville, FL

Proposals are due on January 9, 2018 by 12:00 PM EST

Direct delivery or mail to JEA Bid Office, Customer Center 1st Floor, Room 002

21 W. Church Street, Jacksonville, FL 32202

**JEA will publicly open all Proposals received from qualified Proposers on January 9, 2018, at
2:00 PM in the JEA Bid Office, Customer Center 1st Floor, Room 002, 21 W. Church Street, Jacksonville, FL**

Table of Contents

1. REQUEST FOR PROPOSALS	7
1.1. INVITATION	7
1.1.1. SCOPE OF WORK.....	7
1.1.2. INVITATION - REQUEST FOR PROPOSAL.....	7
1.1.3. OPENING OF PROPOSALS	7
1.1.4. MANDATORY PRE-PROPOSAL MEETING IN PERSON OR TELECONFERENCE.....	8
1.1.5. QUESTIONS	8
1.2. SPECIAL INSTRUCTIONS.....	9
1.2.1. MINIMUM QUALIFICATIONS FOR SUBMISSION	9
1.2.2. EVALUATION METHODOLOGY	9
1.2.3. BASIS OF AWARD.....	10
1.2.4. SELECTION CRITERIA	10
1.2.5. REQUIRED FORMS TO SUBMIT WITH PROPOSAL.....	14
1.2.6. NUMBER OF CONTRACTS TO BE AWARDED	14
1.2.7. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM REQUIREMENTS	15
1.3. COMPLETING THE SUBMITTAL DOCUMENTS.....	15
1.3.1. SUBMITTING THE PROPOSAL.....	15
1.3.2. COMPLETING THE PROPOSAL.....	15
1.3.3. OBTAINING OFFICIAL SPECIFICATION DRAWINGS FOR THIS RFP.....	16
1.3.4. ADDENDA	16
1.3.5. MODIFICATION OR WITHDRAWAL OF PROPOSALS	16
1.4. GENERAL INSTRUCTIONS	16
1.4.1. CONFLICT OF INTEREST.....	16
1.4.2. SUBCONTRACTORS	16
1.4.3. CONTRACT EXECUTION AND START OF WORK.....	17
1.4.4. DEFINED TERMS	17
1.4.5. EX PARTE COMMUNICATION.....	17
1.4.6. JEA PUBLICATIONS.....	17
1.4.7. PROHIBITION AGAINST CONTINGENT FEES.....	17
1.4.8. RESERVATIONS OF RIGHTS TO JEA.....	17
1.4.9. PUBLIC RECORDS AND SUNSHINE LAW	18
2. CONTRACT TERMS AND CONDITIONS.....	19
2.1. CONTRACT DOCUMENT AND TERMS AND CONDITIONS	19
2.2. DEFINITIONS.....	19

2.2.1.	DEFINITIONS	19
2.2.2.	ACCEPTANCE	19
2.2.3.	ADDENDUM/ADDENDA	19
2.2.4.	ANNIVERSARY DATE	19
2.2.5.	AWARD	20
2.2.6.	BID SECTION.....	20
2.2.7.	CHANGE ORDER	20
2.2.8.	COMPANY	20
2.2.9.	COMPANY REPRESENTATIVE	20
2.2.10.	COMPANY SUPERVISOR.....	20
2.2.11.	CONTRACT	20
2.2.12.	CONTRACT ADMINISTRATOR.....	20
2.2.13.	CONTRACT DOCUMENTS.....	21
2.2.14.	CONTRACT PRICE	21
2.2.15.	CONTRACT TIME.....	21
2.2.16.	CONTRACTOR	21
2.2.17.	DEFECT	21
2.2.18.	FINAL COMPLETION	21
2.2.19.	HOLIDAYS	21
2.2.20.	INVOICE	21
2.2.21.	JEA	21
2.2.22.	JEA REPRESENTATIVES.....	21
2.2.23.	PERFORMANCE - ACCEPTABLE PERFORMANCE/PERFORMER.....	22
2.2.24.	PERFORMANCE - TOP PERFORMANCE/PERFORMER.....	22
2.2.25.	PERFORMANCE - UNACCEPTABLE PERFORMANCE/PERFORMER.....	22
2.2.26.	PROPOSAL	22
2.2.27.	PROPOSER.....	22
2.2.28.	PURCHASE ORDER (PO).....	22
2.2.29.	QUALITY ASSURANCE.....	22
2.2.30.	QUALITY CONTROL	22
2.2.31.	REQUEST FOR PROPOSALS.....	22
2.2.32.	SOLICITATION	22
2.2.33.	SUBCONTRACTOR	22
2.2.34.	TASK ORDER	23
2.2.35.	TERM.....	23

2.2.36.	UNIT PRICES	23
2.2.37.	WORK OR SCOPE OF SERVICES	23
2.3.	CONTRACT DOCUMENTS	23
2.3.1.	ORDER OF PRECEDENCE	23
2.4.	PRICE AND PAYMENTS	24
2.4.1.	PAYMENTS	24
2.4.2.	OFFSETS	25
2.4.3.	TAXES	25
2.4.4.	TRUTH IN NEGOTIATION CERTIFICATE	25
2.5.	WARRANTIES AND REPRESENTATIONS	26
2.5.1.	WARRANTY (PROFESSIONAL SERVICES)	26
2.6.	INSURANCE, INDEMNITY AND RISK OF LOSS	26
2.6.1.	INSURANCE	26
2.6.2.	INDEMNIFICATION & LIMITATION OF LIABILITY	27
2.7.	ACCEPTANCE	28
2.7.1.	ACCEPTANCE OF WORK - RECEIPT, INSPECTION, USAGE AND TESTING	28
2.8.	TERM AND TERMINATION	28
2.8.1.	TERM	28
2.8.2.	TERMINATION FOR CONVENIENCE	28
2.8.3.	TERMINATION FOR DEFAULT	29
2.9.	CONFIDENTIALITY AND OWNERSHIP OF DOCUMENTATION	30
2.9.1.	CONFIDENTIALITY AND PUBLIC RECORD LAWS	30
2.9.2.	INTELLECTUAL PROPERTY	30
2.9.3.	PROPRIETARY INFORMATION	31
2.9.4.	PUBLICITY AND ADVERTISING	31
2.9.5.	OWNERSHIP OF DOCUMENTS AND EQUIPMENT	31
2.9.6.	PATENTS AND COPYRIGHTS	32
2.9.7.	WORK MADE FOR HIRE	32
2.10.	LABOR	33
2.10.1.	NONDISCRIMINATION	33
2.10.2.	LEGAL WORKFORCE	33
2.10.3.	PROHIBITED FUTURE EMPLOYMENT	33
2.10.4.	HIRING OF OTHER PARTY'S EMPLOYEES	34
2.10.5.	PERSONNEL AND CHANGES IN COMPANY'S PROFESSIONAL PERSONNEL	34
2.10.6.	COMPANY'S LABOR RELATIONS	34

2.11.	COMPANY'S RESPONSIBILITIES AND PERFORMANCE OF THE CONTRACT	34
2.11.1.	COMPANY REPRESENTATIVES	34
2.11.2.	COMPANY REVIEW OF PROJECT REQUIREMENTS	34
2.11.3.	CONDITIONS OF PROVISIONING	34
2.11.4.	LICENSES	35
2.11.5.	SAFETY AND PROTECTION PRECAUTIONS	35
2.12.	VENDOR PERFORMANCE EVALUATION	35
2.12.1.	VENDOR PERFORMANCE EVALUATION	35
2.13.	JEA RESPONSIBILITIES	37
2.13.1.	COORDINATION OF SERVICES PROVIDED BY JEA	37
2.14.	CHANGES IN THE WORK, CONTRACT TIME OR PRICE	37
2.14.1.	SUSPENSION OF SERVICES	37
2.14.2.	CHANGE IN SCOPE OF SERVICES	37
2.14.3.	AMENDMENTS	37
2.14.4.	FORCE MAJEURE	38
2.15.	MISCELLANEOUS PROVISIONS	38
2.15.1.	AMBIGUOUS CONTRACT PROVISIONS	38
2.15.2.	APPLICABLE STATE LAW; VENUE; SEVERABILITY	38
2.15.3.	CUMULATIVE REMEDIES	38
2.15.4.	DELAYS	38
2.15.5.	ENTIRE AGREEMENT	39
2.15.6.	EXPANDED DEFINITIONS	39
2.15.7.	HEADINGS	39
2.15.8.	LANGUAGE AND MEASUREMENTS	39
2.15.9.	MEETINGS AND PUBLIC HEARINGS	39
2.15.10.	NEGOTIATED AGREEMENT	39
2.15.11.	NONEXCLUSIVE	39
2.15.12.	REFERENCES	39
2.15.13.	RELATIONSHIP OF THE PARTIES	40
2.15.14.	SEVERABILITY	40
2.15.15.	SUBCONTRACTING OR ASSIGNING OF CONTRACT	40
2.15.16.	SURVIVAL	40
2.15.17.	TIME AND DATE	40
2.15.18.	TIME OF ESSENCE	40
2.15.19.	TITLE TO MATERIALS FOUND	41

2.15.20.	USE OF JEA CONTRACTS BY THE CITY OF JACKSONVILLE	41
2.15.21.	WAIVER OF CLAIMS	41
3.	TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK.....	41
3.1.	TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK (APPENDIX A)	41
4.	FORMS.....	41
4.1.	FORMS (APPENDIX B)	41
5.	SUPPLEMENTAL INFORMATION	41
5.1.	SUPPLEMENTAL INFORMATION (APPENDIX C)	41
6.	EVALUATION MATRIX.....	41
6.1.	EVALUATION MATRIX	41

Solicitation

1. REQUEST FOR PROPOSALS

1.1. INVITATION

1.1.1. SCOPE OF WORK

The scope of work for this program is for engineering services to enhance JEA's Water, Wastewater, Reclaimed Water, and Chilled Water systems' resiliency to both extreme weather events and potential longer-term sea level rise.

Further information can be found in Appendix A Technical Specifications.

1.1.2. INVITATION - REQUEST FOR PROPOSAL

You are invited to submit a Proposal in response to the Request for Proposals noted below:

Request for Proposals (RFP) Title: Wastewater/Water System Resiliency Assessment, Program Management and Engineering Services

To obtain more information about this RFP:

Download a copy of the Solicitation, PDF quality drawings (if applicable, and any required forms at jea.com.)

JEA RFP Number: 030-17

Proposal Due Time: 12:00 P.M. - **ALL LATE PROPOSALS WILL BE RETURNED UNOPENED.**

Proposal Due Date: January 9, 2018

All Proposals must reference the RFP Title and Number noted above. All Proposals must be made on the appropriate forms as specified within the RFP and placed in an envelope marked to identify the RFP and delivered or mailed to:

JEA Bid Office, 21 West Church Street, Customer Center 1st Floor, Room 002, Jacksonville, FL 32202

The Proposer shall be solely responsible for delivery of its Proposal to the JEA Bid Office. **Please note, JEA employs a third party courier service to deliver its mail from the local U.S. Post Office (USPS) which could cause a delay of Proposal delivery if mailed through the USPS.** Therefore, JEA recommends direct delivery to the JEA Bid Office. Reliance upon the USPS, the courier service employed by JEA to make pick-ups from the local USPS, or public carriers is at the Proposer's risk.

Proposals are due by the time and on the date listed above. **ALL LATE PROPOSALS FOR WHATEVER REASON WILL BE RETURNED UNOPENED.**

1.1.3. OPENING OF PROPOSALS

All Proposals received shall be publicly announced and recorded at 2:00 PM on January 9, 2018, in the JEA Bid Office, 21 W. Church Street, Customer Center First Floor, Room 002, Jacksonville, FL 32202. At the opening of Proposals, a JEA representative will publicly open each Proposal that was received prior to the due date and time, except for those Proposals that have been properly withdrawn. JEA has the right to waive any irregularities or informalities in the Proposals.

Please note, any Proposer whose contract with JEA was terminated for default within the last two (2) years shall have their Proposal rejected.

1.1.4. MANDATORY PRE-PROPOSAL MEETING IN PERSON OR TELECONFERENCE

There will be two (2) Pre-Proposal meetings associated with this Solicitation. All interested Companies must attend at least one (1) Pre-Proposal meeting. Each Proposer will be required to sign in at the beginning of the meeting. A Proposer shall only sign in representing one (1) company, unless otherwise specified by JEA. Companies not attending one (1) of the Pre-Proposal meetings shall have their Proposals rejected and returned unopened.

Proposers must be on time to the meeting and must be present at the starting time of the meeting. Proposers not arriving on time for the meeting may have their Proposals rejected and returned unopened.

PLEASE BE AWARE DUE TO JEA SECURITY AND/OR SIGN IN PROCEDURES IT MAY TAKE UP TO FIFTEEN (15) MINUTES TO OBTAIN ACCESS TO A JEA FACILITY. PLEASE PLAN ACCORDINGLY SO AS TO ARRIVE TO THE MEETING ON TIME.

Meeting Time: 1:00 PM

Meeting Date: December 13, 2017

Meeting Location: JEA Customer Center, 1st Floor, Room 002; 21 W. Church Street, Jacksonville, FL 32202

Dial in Phone Number: 1-888-714-6484

Dial in Passcode: 817050

or

Meeting Time: 1:30 PM

Meeting Date: December 18, 2017

Meeting Location: JEA Customer Center, 1st Floor, Room 002; 21 W. Church Street, Jacksonville, FL 32202

Dial in Phone Number: 1-888-714-6484

Dial in Passcode: 817050

1.1.5. QUESTIONS

All questions must be submitted in writing to the JEA Buyer listed below at least five (5) business days prior to the opening date. Questions received within five (5) business days prior to the opening date will not be answered.

For Procurement Related Questions:

Buyer: Dan Kruck

E-mail: krucdr@jea.com

For Technical Questions:

Contact: Oliver Domingo

E-mail: domioc@jea.com

1.2. SPECIAL INSTRUCTIONS

1.2.1. MINIMUM QUALIFICATIONS FOR SUBMISSION

Proposer shall have the following Minimum Qualifications to be considered eligible to submit a Proposal in response to this Solicitation. **A Minimum Qualification Form, which is required to be submitted, is provided in Appendix B of this Solicitation.**

1. The Proposer shall have successfully engaged a similar system resiliency program(s) in the United States (U.S.A.) during the last five (5) years as of the RFP due date. Submit as many similar programs necessary to meet these minimum qualifications. A similar program is defined as:
 - a) A multifaceted resiliency assessment that incorporates immediate opportunities with specific operational and design recommendations, mid-range defensive actions and longer-term initiatives to enhance design requirements when needed and building to new resiliency standards
 - b) The program engagements must have been with a wastewater utility with greater than 40 MGD AADF of wastewater treatment and collection
 - c) The program engagements must have been with a water utility with greater than 50 MGD AADF of water treatment and distribution
2. The Proposer shall be able to clearly demonstrate significant engineering design, consulting, operating and maintenance, Enterprise Asset Management (EAM) experience in the past five (5) years, as of the RFP due date.
 - This experience must be with a water/wastewater utility that has greater than or equal to \$100 million per year of water/wastewater revenues and operates greater than 200 sewer pump stations. Multiple projects may be submitted, however the aggregate total for submitted projects must have resulted in a minimum value of work of least five million dollars (\$5,000,000.00) with a single water/wastewater utility.

Please note, any Proposer whose contract with JEA was terminated for default within the last two (2) years shall have their Proposal rejected.

1.2.2. EVALUATION METHODOLOGY

1.2.2.1. COMPETITIVE SEALED PROPOSALS - CONSULTANTS' COMPETITIVE NEGOTIATION ACT (CCNA)

JEA shall evaluate the Proposer's qualifications, rank the qualifications from all Proposers, and negotiate a Contract for the Work in accordance with Florida Statute, Section 287.055, known as the Consultants' Competitive Negotiation Act ("CCNA").

In evaluating the qualifications, JEA will not consider price, but may consider factors including, but not limited to, the Proposer's professional personnel, past performance, whether the Proposer is a Jacksonville Small and Emerging Business (JSEB); recent, current and projected workloads of the Proposer, and volume of work previously awarded to each Proposer by JEA. JEA will also require presentations and interviews from the Proposers during its selection.

After approving the rankings of all the Proposers, JEA will enter into negotiations of contractual terms with the best ranked Proposer. During negotiations, JEA will consider detailed information regarding the Contract Price, the Proposer's hourly rates, and scope of the Contract.

If JEA and the Company are unable to negotiate a satisfactory Contract, JEA will formally terminate the negotiations with the Proposer and undertake negotiations with the next ranked Proposer. JEA will Award the Contract to the highest-ranking qualified Proposer that successfully completes Contract negotiations with JEA.

1.2.3. BASIS OF AWARD

1.2.3.1. EVALUATED PROPOSAL

JEA will use the "Selection Criteria" listed below to evaluate the Proposals. JEA will have Proposers make presentations to representatives of JEA prior to scoring the Proposals, and will use information from the presentations to aid in scoring the Proposals. It is always in the best interest of the Proposer to provide informative, concise, well-organized technical and business information relative to the Work, in both the initial submittal of its Proposal and in the presentation PowerPoint submittal. Proposers will have forty-five (45) minutes for presentations followed by a question and answer period scheduled for up to forty-five (45) minutes. **Please note, JEA may reject Proposals that request material changes or take exceptions to JEA commercial terms and conditions.** Material changes to the commercial terms and conditions can only be made by JEA prior to public opening of the Proposals.

The PowerPoint presentation will be due at the Proposal due date. Presentations will be scheduled with each Proposer for the time period between January 17-24, 2018. At least two (2) of the three (3) following primary positions are required to attend in person: Program Manager, Resiliency Specialist and Electrical/I&C Engineer. After the last pre-proposal meeting JEA will publish a listing of available times for presentations. Minimum Qualifications are due with the submittal of the Proposal. However, a Proposer may submit minimum qualifications to the Buyer prior to the Proposal due date, to allow presentations to be scheduled once the minimum qualifications are approved. The minimum qualifications will be reviewed in the order they are received, and the Proposers will be notified via email once the minimum qualifications have been met or rejected. Presentations will be scheduled on a first come first serve basis. Note, if the Proposal is not turned in before or at the time and date specified in this solicitation, the Company's Proposal will be rejected. The early submittal of the minimum qualifications does not guarantee participation in this solicitation. If the early submittal of minimum qualifications are rejected, the Company may submit a revised minimum qualification form with the Proposal one (1) last time at the Proposal time and due date.

Proposals will be scored and ranked by a committee of 3 to 5 evaluators consisting of JEA's staff. Each evaluator will individually score the Proposals using the evaluation matrix attached to this Solicitation. Using these scores, each evaluator will rank the Proposals using "1" for the Proposal receiving the highest number of points from the matrix. Proposals with an equal number of points will receive the same numerical ranking. JEA will total the numerical rankings for each Proposal and consider the Proposal with the lowest total to be the most highly qualified Proposal. Any tie will be broken using the total of the matrix scores of all evaluators.

1.2.4. SELECTION CRITERIA

1.2.4.1. PROFESSIONAL STAFF EXPERIENCE

Maximum score for this criterion is: 32 POINTS

1. Team Members

The Proposer shall provide a maximum of ten (10) resumes of the professional staff to be assigned to perform the Work. The resumes provided shall identify the Program Manager, Resiliency Specialist, Design Engineer, Electrical/I&C Engineer, O&M Specialist and the backups for each (collectively, the "Team Members").

Primary positions and Backup positions (as shown in the attached Evaluation Matrix) shall only serve in one (1) role. Note, the Program Manager must be from the company submitting the Proposal and not a

Subcontractor. **All proposed engineering staff shall be registered professional engineers in the U.S. and have the capacity to obtain a Florida P.E. if required for elements of the Program.** Persons whose resumes are submitted as a Team Member must actually perform the Work unless Proposer receives prior approval by the JEA Project Manager to use a backup Team Member. Finally, if Proposer submits a resume of a Subcontractor that is employed by a JSEB firm, please note this on the resume.

At a minimum, each resume shall present the Team Member's name, title, office location, years of service with company, total years of experience (based on this type of work), applicable professional registrations, education, and work experience (in the designated role). Resumes shall also identify any specialty or technical process expertise. **Resumes shall be no more than two (2) pages in length, single sided, and on 8.5" by 11" sized paper. If more than two pages are submitted, only the information contained on the first two pages will be evaluated by JEA. No more than ten (10) resumes will be evaluated.**

2. Communication

For purposes of awarding points for this selection criteria, "Communication" shall be defined as the ability to clearly convey information both in the written proposal and orally during the presentation. Scoring will be based on the scale below:

- Demonstrated ability and experience in providing high quality technical presentation, engineering studies, executive summaries, succinct descriptions and recommendations for a business audience (4-5 points)
- Showed a clear understanding of the questions asked by giving an answer that not only showed knowledge of the subject but also how to frame and solve the problem (2-3 points)
- Responded well to the questions asked and provided general answers (1 point)
- Had trouble answering the questions asked, did not provide clear and concise answers (0 points)

3. Share of Project Work

For purposes of awarding points for this selection criteria, "Share of Project Work" shall be defined as the number of assigned hours to the task for each individual primary Team Member divided by the total hours on the task, expressed as a percent. This information will be taken from the project schedule referenced in the Section below titled "Design Approach and Work Plan", and will be rounded two decimal places. **JE A prefers that the Share of Project Work information be submitted in a Microsoft Excel format. The same information should also be submitted with the hard copy of the Proposal.**

4. Organizational Chart

Finally, Proposer shall provide an organizational chart delineating company's personnel responsibilities and functions associated with the Work. If applicable, this chart shall also delineate any responsibilities and functions of subcontractor(s) and/or JSEB firm(s).

Points will be awarded as described on the Evaluation Matrix attached to this RFP.

1.2.4.2. DESIGN APPROACH AND WORK PLAN

Maximum score for this criterion is: 32 POINTS

Proposer shall provide an explanation of how it typically manages its engagements to realize program objectives, produce high quality engineering deliverable most suitable for effective and cost efficient construction project management, operations and EAM processes. The expected program/project delivery model that the Proposer plans on utilizing for this engagement shall be outlined and described in the proposal. Proposer shall explain, for this specific Scope of Work, how it intends to meet the budgetary goals, timetables and quality control objectives. Consideration shall be given for cost effectiveness of potential solution(s), creativity and innovation of proposed solutions and comprehensive utilization of proposed personnel to meet the deliverables.

Proposer shall also provide a project schedule indicating: (i) all the activities envisioned to fulfill the requirements of the Work; (ii) the estimated duration for each activity; (iii) the estimated man-hours for each activity; and (iv) the total estimated man-hours each primary Team Member, identified in the Section titled "Professional Staff Experience", will devote to the Work through completion. As stated in the Section above, the "Share of Project Work" should be calculated using the man-hours indicated on the project schedule. Additionally, the project schedule must demonstrate the utilization of any Subcontractors.

This section will be evaluated as follows:

- Comprehensive and appropriate Resource Plan, completeness of project schedule, clear description of milestones and deliverables are provided with Proposal (up to 10 points)
- Completeness and depth of tasks and subtasks in relation to the Scope of Work and Technical Specifications (up to 10 points)
- Cost effectiveness of proposed approaches and solutions (up to 7 points)
- Creativity and innovation in program approach and solution selection options (up to 5 points)

Maximum points will be awarded for clearly convey information both in the written proposal and orally during the presentation.

Work plan shall be no more than twenty (20) pages in length, single sided, and on 8.5" x 11" or 11" x 17" sized paper. Project schedule shall be no more than three (3) pages in length, single sided, and on 8.5" x 11" or 11" x 17" sized paper.

Please use your own form for this section.

1.2.4.3. COMPANY EXPERIENCE

Maximum score for this criterion is: 32 POINTS

Proposer shall provide the following:

1. A summary of the two (2) submitted projects that have a similar scope as stated in this RFP. The examples should be able to demonstrate that Proposer's experience and knowledge qualify them to complete the necessary work in a successful manner.
 - a. Proposer should identify whether any of the proposed Team Members worked in key roles in the projects
 - b. Proposer should provide detailed information to describe how Proposer managed the engagements to realize project budgetary goals, timetables, and quality control objectives
 - c. Proposer should describe any working relationship with subcontractors that will be used for this project
 - d. Proposer should indicate the status of the project

2. Other past experience/performance for the following topics that can demonstrate successful engineering with the unique characteristics of this project.
 - a. Large water/wastewater utility like JEA with 1,400 sewer pump stations, thirty-seven (37) water treatment plants and 138 wells and eleven (11) wastewater treatment plants
 - b. Significant practical design implementation and operational assessment directly related to minimizing the impact of power supply losses, rainfall inundation, rising water and flooding to wastewater, water and chilled water facilities during hurricane events
 - c. Demonstrated knowledge and experience with mitigating electrical power supply faults, voltage sags, and other electrical faults on the multiple electronic devices powering or activating pumps, VFD's, relays, breakers, ATS's and generators
 - d. Potential climate change and rising sea level impacts and actionable, prioritized, multi-stage mitigation plans recommended for water/sewer utilities
3. Published project documents, including executive summary and project management spreadsheets from a relevant engagement with a similar Scope of Work as stated in this RFP, along with a brief description of how the reporting framework will be modified for JEA's project. Provide examples of previous engineering documents including:
 - Reports, executive summaries and presentations specifically related to water/sewer resiliency
 - Reports, executive summaries and presentations for other engineering assessments
 - Standard specifications for cost effective enhanced designed standards

These documents must be submitted on a CD or USB Flash Drive and submitted along the Proposal (One (1) CD or USB Flash Drive per copy of Proposal).

Maximum points will be awarded for clearly convey information both in the written proposal and orally during the presentation.

Proposer's response to items 1 and 2 above should be limited to no more than ten (10) pages, 1-sided, single-spaced, on 8.5" x 11" sized paper. Please use your own form for this Section. Responses that are longer than ten (10) pages will not be evaluated after page ten (10).

1.2.4.4. PROGRAM MANAGER OR RESILIENCY SPECIALIST PROXIMITY TO JEA

Maximum score for this criterion is: 1 POINT

Provide the address of Proposer's office that the proposed Program Manager or Primary Resiliency Specialist normally works from and its distance from JEA Headquarters located at 21 West Church St. JEA will use Google Maps to verify distance.

In order to receive points for this criterion, Proposer's office must be occupied and staffed with at least three (3) employees for a duration of six (6) months prior to the Proposal Due Date stated in this RFP. Additionally, the office shall not be used as a residential premise. If necessary, JEA will use zoning records and tax rolls to validate this criteria.

1.2.4.5. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) - RFP

Maximum score for this criterion is: 3 POINTS

Proposer shall indicate if it is certified as a Jacksonville Small and Emerging Business (JSEB) as defined by Jacksonville Ordinance 2004-602; Chapter 126, Part 6A and 6B.

If Proposer is not a certified JSEB, the Proposer shall list any JSEB certified subcontractors that it intends to utilize in the performance of this Work. The listing should include names of the JSEBs, the type of service they will provide, and the percentage of work being subcontracted. Points will be awarded based on the type and amount of work that will be conducted by JSEB firms.

Proposer is not a JSEB but will subcontract Work to JSEBs. The points will be awarded as follows:

Non-JSEB with JSEB partner:

Greater than or equal to 5% of work = 3 pts

Greater than or equal to 3%, but less than 5% of work = 1 pts

Less than 3% of work = 0 pts

1.2.5. REQUIRED FORMS TO SUBMIT WITH PROPOSAL

To submit a Proposal in response to this RFP, all of the following forms must be completed and submitted as part of the Proposal. The Proposer must obtain the required forms, other than the Minimum Qualification Form, by downloading them from JEA.com. If the Proposer fails to complete or fails to submit one or more of the following forms, the Proposal shall be rejected.

The following forms are required to be submitted:

- Company's Proposal
- Proposal Form - This form can be found in Appendix B of this Solicitation
- Minimum Qualification Form – This form can be found in Appendix B of this Solicitation
- List of JSEB Certified Firms (if any)
- List of Subcontractors/Shop Fabricators (if applicable)

If the above listed forms are not submitted with the Proposal by the Proposal Due Time and Date, JEA shall reject the Proposal.

JEA also requires the following documents to be submitted prior to Contract execution. A Proposal will not be rejected if these forms are not submitted at the Proposal Due Time and Date. However, failure to submit these documents prior Contract execution could result in Proposal rejection.

- Conflict of Interest Certificate Form - This form can be found on JEA.com
- Insurance Certificate
- W-9
- Evidence of active registration with the State of Florida Division of Corporations (www.sunbiz.org)
- Any technical submittals as required by the Technical Specifications

1.2.6. NUMBER OF CONTRACTS TO BE AWARDED

JEA intends to Award one (1) Contract(s) for the Work. JEA reserves the right to Award more than one (1) Contract based on certain groupings of the Work items, or JEA may exclude certain Work items, if JEA determines that it is in its best interest to do so.

1.2.7. JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM REQUIREMENTS

1.2.7.1. OPTIONAL USE OF JACKSONVILLE SMALL AND EMERGING BUSINESS (JSEB) PROGRAM

It is at the Company's option as to whether it chooses to subcontract to a JSEB firm. JEA encourages the use of JSEB qualified firms; however, the Company is not required to utilize JSEB firms to be Awarded this Contract.

JSEB firms that qualify for this Contract are only those shown on the current City of Jacksonville JSEB directory appearing at www.COJ.net. Certification of JSEB firms must come from the City of Jacksonville. No other agency or organization is recognized for purposes of this Contract.

In no case shall the Company make changes to the JSEB firms listed in its Bid, revise the JSEB Scope of Work or amount of Work as stated in its Bid without prior written notice to the JEA Contract Administrator, and without subsequent receipt of written approval for the JEA Contract Administrator.

Any subcontractors of Company shall procure and maintain the insurance required of Company hereunder during the life of the subcontracts. Subcontractors' insurance may either be by separate coverage or by endorsement under insurance provided by Company. Note: Any JSEB firms identified by Bidders for this Solicitation are considered "Subcontractors" under the direct supervision of the Prime or General Contractor (herein referred to as Company in this Solicitation). Companies should show good faith efforts in providing assistance to JSEB firms in the securing of Subcontractors' insurance requirements stated in this section. Company shall submit subcontractors' Certificates of Insurance to JEA prior to allowing subcontractors to perform Work on JEA's job sites.

All question and correspondence concerning the JSEB program should be addressed to the following contact:

Rita Scott
JSEB Manager
JEA
(904) 665-6257
scotrl@jea.com

1.3. COMPLETING THE SUBMITTAL DOCUMENTS

1.3.1. SUBMITTING THE PROPOSAL

The Proposer shall submit one (1) original Proposal, three (3) duplicates (hardcopies) and four (4) CDs. If there is a discrepancy between the electronic copy and the hard copy, the hard copy will prevail. JEA will not accept Proposals transmitted via email. **IF Proposer IS INTERESTED IN SUBMITTING A RESPONSE TO THIS RFP, PLEASE EMAIL krucdr@jea.com TO RECEIVE THIS PROPOSAL FORM IN A WORD FORMAT. REQUESTS MUST BE MADE NO LATER THAN FIVE (5) BUSINESS DAYS BEFORE PROPOSAL OPENING.**

1.3.2. COMPLETING THE PROPOSAL

Proposers shall submit their Proposals and any enclosed documents attached to this RFP with responses typewritten or written in ink. Proposers should refer to the Special Instructions of this RFP to review specific items which may be required with the submittal of the Proposal. The Proposer, or its authorized agent or officer of the firm, shall sign the Proposal. Failure to sign the Proposal may disqualify the Proposal. JEA-approved erasures, interlineations or other corrections shall be authenticated by affixing in the margin, immediately opposite the correction, the handwritten signature of each person executing the Proposal. Failure to authenticate changes may disqualify the

Proposal. JEA may disqualify any Proposals that deviate from the requirements of this RFP, and those that include unapproved exceptions, amendments, or erasures.

1.3.3. OBTAINING OFFICIAL SPECIFICATION DRAWINGS FOR THIS RFP

If drawings are required to be reviewed prior to submitting a Proposal, JEA offers electronic drawing files for viewing at no-charge at JEA.com.

1.3.4. ADDENDA

JEA may issue Addenda prior to the Proposal opening date to revise, in whole or in part, or clarify the intent or requirements of the Solicitation. The Proposer shall be responsible for ensuring it has received all Addenda prior to submitting its Proposal and shall acknowledge receipt of all Addenda by indicating where requested on the Proposal Form. JEA will post all Addenda when issued online at jea.com. The Proposer must obtain Addenda from the JEA website. All Addenda will become part of the Solicitation and any resulting Contract Documents. It is the responsibility of each Proposer to ensure it has received and incorporated all Addenda into its Proposal. Failure to acknowledge receipt of Addenda may be grounds for rejection of a Proposal.

1.3.5. MODIFICATION OR WITHDRAWAL OF PROPOSALS

The Proposer may modify or withdraw its Proposal at any time prior to the Proposal Due Date and Time by giving written notice to JEA's Chief Purchasing Officer. JEA will not accept modifications submitted by telephone, telegraph, email, or facsimile, or those submitted after Proposal Due Date and Time. The Proposer shall not modify or withdraw its Proposal from time submitted and for a period of ninety (90) days following the opening of Proposals.

1.4. GENERAL INSTRUCTIONS

1.4.1. CONFLICT OF INTEREST

Pursuant to Florida Statute Sec. 287.057, a person or company who receives a contract which was not procured pursuant to public bidding procedures to perform a feasibility study, or who participated in the drafting of an invitation to bid or request for proposals, or who developed a program for future implementation shall not be eligible to contract with JEA for any other contracts dealing with that specific subject matter.

Should JEA erroneously Award a Contract in violation of this policy, JEA may terminate the Contract at any time with no liability to Company, and Company shall be liable to JEA for all damages, including but not limited to the costs to rebid the Work. The purpose of this policy is to encourage bidding and eliminate any actual or perceived advantage that one Company may have over another.

1.4.2. SUBCONTRACTORS

The Company shall list the names of all Subcontractors and subsuppliers/shop fabricators that it plans to use on the List of Subcontractors Form which is available at jea.com. Failure to submit this form with the Proposal shall result rejection of Company's Proposal. The Company shall not use Subcontractors and subsuppliers/shop fabricators other than those shown on the Subcontractor form unless it shows good cause and obtains the JEA Representative's prior written consent. In cases where the Subcontractor or subsupplier/shop fabricator is a JSEB firm, the City of Jacksonville Ombudsman will review the substitution request, and make a written recommendation prior to the JEA Representative's written consent.

If the Company plans to use Subcontractors or subsupplier/shop fabricators to perform over fifty percent (50%) of the Work, the Company shall obtain JEA's approval at least five (5) days prior to the Proposal Due Date. Failure to obtain JEA approval will disqualify the Company and result in rejection of Company's Proposal.

1.4.3. CONTRACT EXECUTION AND START OF WORK

Within thirty (30) days from the date of Award, JEA will present the successful Company with the Contract Documents. Unless expressly waived by JEA, the successful Company shall execute a Contract for the Work or Services within ten (10) days after receiving the Contract from JEA. If the Bidder fails to execute the Contract or associated documents as required, or if it fails to act on a JEA-issued Purchase Order (PO), JEA may cancel the Award with no further liability to the Company, retain the bid security or bond (if applicable), and Award to the next-ranked Company.

1.4.4. DEFINED TERMS

Words and terms defined in the Section entitled "Definitions" of this document are hereby incorporated by reference into the entire document.

1.4.5. EX PARTE COMMUNICATION

Ex Parte Communication is strictly prohibited. Ex Parte Communication is defined as any inappropriate communication concerning a Solicitation between a firm submitting a Proposal and a JEA representative during the time in which the Solicitation is being advertised through the time of Award. Examples of inappropriate communications include: private communications concerning the details of Solicitation in which a Proposer becomes privy to information not available to the other Proposers. Social contact between Proposers and JEA Representatives should be kept to an absolute minimum during the solicitation process.

Failure to adhere to this policy will disqualify the noncompliant Company's Proposal. Any questions or clarifications concerning a Solicitation must be sent in writing via email to the JEA Buyer at least five (5) business days prior to the opening date. If determined by JEA, that a question should be answered or an issue clarified, JEA will issue an addendum to all Proposers.

For more information on Ex Parte communications, see JEA Procurement Code, Section 2-103, which is available at www.jea.com.

1.4.6. JEA PUBLICATIONS

Applicable JEA publications are available at www.jea.com.

1.4.7. PROHIBITION AGAINST CONTINGENT FEES

The Company warrants that it has not employed or retained any company or person, other than a bona fide employee working for the Company, to solicit or secure a contract with JEA, 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 the Company, any fee, commission, percentage, gift, or any other consideration, contingent upon or resulting from the Award or making of the Contract. If a breach or violation of these provisions occurs, JEA shall have the right to terminate the Contract without liability, and at its discretion deduct from the Contract Price the costs associated with the termination, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration.

1.4.8. RESERVATIONS OF RIGHTS TO JEA

The Solicitation provides potential Companies with information to enable the submission of written offers. The Solicitation is not a contractual offer or commitment by JEA to purchase products or services.

Proposals shall be good for a period of ninety (90) days following the opening of the Proposals.

JEA reserves the right to reject any or all Proposals, or any part thereof, and/or to waive Informalities if such action is in its best interest. JEA may reject any Proposals that it deems incomplete, obscure or irregular including, but not

limited to, Proposals that omit a price on any one or more items for which prices are required, Proposals that omit Unit Prices if Unit Prices are required, Proposals for which JEA determines that the Proposal is unbalanced, Proposals that offer Equal Items when the option to do so has not been stated, Proposals that fail to include a Proposal Bond, where one is required, and Proposals from Companies who have previously failed to satisfactorily complete Contracts of any nature or who have been scored "Unacceptable" and as a result, are temporarily barred from bidding additional work.

JEA reserves the right to cancel, postpone, modify, reissue and amend this Solicitation at its discretion.

JEA reserves the right to cancel or change the date and time announced for opening of Proposals at any time prior to the time announced for the opening of Proposals. JEA may Award the Contract in whole or in part. In such cases whenever JEA exercises any of these reservations, JEA will make a commercially reasonable effort to notify, in writing, all parties to whom Solicitations were issued. JEA may award multiple or split Contracts if it is deemed to be in JEA's best interest.

1.4.9. PUBLIC RECORDS AND SUNSHINE LAW

General

Article I, Section 24, Florida Constitution, guarantees every person access to all public records and Chapter 119, Florida Statutes, provide a broad definition of public records. JEA is a body politic and corporate and subject to these laws and related statutes ("Florida's Public Records Laws"). All responses to this Solicitation are public records and available for public inspection unless specifically exempt by law.

IF A PROPOSER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTORS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

JEA

Attn: Public Records

21 West Church Street

Jacksonville, Florida 32202

Ph: 904-665-8606

publicrecords@jea.com

Redacted Submissions

If a Proposer believes that any portion of the documents, data or records submitted in response to this Solicitation are exempt from Florida's Public Records Law, Proposer must (1) clearly segregate and mark the specific sections of the document, data or records as "Confidential," (2) cite the specific Florida Statute or other legal authority for the asserted exemption, and (3) provide JEA with a separate redacted copy of its response (the "Redacted Copy"). The cover of the Redacted Copy shall contain JEA's title and number for this Solicitation and Proposer's name, and shall be clearly titled "Redacted Copy." Proposer should only redact those portions of records that Proposer claims are specifically exempt from disclosure under Florida's Public Records Laws. If Proposer fails to submit a redacted copy of information it claims is confidential, JEA is authorized to produce all documents, data and other records submitted to JEA in answer to a public records request for such information.

In the event of a request for public records to which documents that are marked as confidential are responsive, JEA will provide the Redacted Copy to the requestor. If a requestor asserts a right to any redacted information, JEA will notify Proposer that such an assertion has been made. It is Proposer's responsibility to respond to the requestor to assert that the information in question is exempt from disclosure under applicable law. If JEA becomes subject to a demand for discovery or disclosure of Proposer's redacted information under legal process, JEA shall give Proposer prompt notice of the demand prior to releasing the information (unless otherwise prohibited by applicable law.) Proposer shall be responsible for defending its determination that the redacted portions of its response are not subject to disclosure.

By submitting a response to this Solicitation, Proposer agrees to protect, defend and indemnify JEA from and against all claims, demands, actions, suits, damages, liabilities, losses, settlements, costs and expenses (including but not limited to reasonable attorney fees and costs) arising from or relating to Proposer's determination that the redacted portions of its response to this Solicitation are not subject to disclosure.

2. CONTRACT TERMS AND CONDITIONS

2.1. CONTRACT DOCUMENT AND TERMS AND CONDITIONS

Provided below are the Contract terms and conditions that will be incorporated by reference in the Contract Document executed by the Company and JEA. The Contract Document will incorporate by reference the terms contained in the Solicitation portion of this document provided in Section 1, the Contract Terms provided in Section 2; and the Technical Specifications provided in Section 3. An example of the Contract that the Company will be required to execute is available for review at jea.com.

2.2. DEFINITIONS

2.2.1. DEFINITIONS

Words and terms defined in this section shall have the same meaning throughout all parts of the Contract Documents. Where intended to convey the meaning consistent with that set forth in its definition, a defined word or term is marked by initial capitalization. The "Technical Specifications" part may define additional words and terms where necessary to clarify the Work. Unless otherwise stated in the Contract Documents, definitions set forth in the "Technical Specifications" shall apply only within the "Technical Specifications."

2.2.2. ACCEPTANCE

JEA's written notice by the Contract Administrator to the Company that all Work as specified in the Contract has been completed to JEA's satisfaction. Approval or recognition of the Company meeting a Milestone or interim step does not constitute Acceptance of that portion of Work. Acceptance is only applicable to the entirety of Work as specified in the Contract. Acceptance does not in any way limit JEA's rights under the Contract or applicable laws, rules and regulations.

2.2.3. ADDENDUM/ADDENDA

A written change or changes to the Solicitation which is issued by JEA Procurement Services and is incorporated into the Solicitation as a modification, revision and/or further clarification of the intent of the Solicitation.

2.2.4. ANNIVERSARY DATE

The twelve (12) month period beginning on the date of the Contract Award, and each subsequent twelve (12) month period that the Contract is in effect.

2.2.5. AWARD

The written approval of the JEA Awards Committee that the procurement process for the purchase of the Work was in accordance with the JEA Procurement Code and Florida Statutes. Once an Award is approved, JEA will either issue a Purchase Order or execute a Contract with the successful bidder or proposer.

2.2.6. BID SECTION

The office located at 21 West Church Street, Jacksonville, FL, Customer Center Building – 1st Floor, Room 002, and where Proposals are administered and received.

2.2.7. CHANGE ORDER

A written order issued by the JEA Procurement Department after execution of the Contract to the Company signed by the Contract Administrator or his designated representative and authorizing an addition, deletion, or revision of the Work, or an adjustment in the Contract Price or the Contract Time. Change Orders do not authorize expenditures greater than the monies encumbered by JEA, which is shown on the associated Purchase Order(s). An executed Change Order resolves all issues related to price and time for the work included in the Change Order.

2.2.8. COMPANY

The legal person, firm, corporation or any other entity or business relationship with whom JEA has executed the Contract. Where the word "Company" is used it shall also include permitted assigns. Prime Contractor, Contractor, Vendor, Supplier and Company shall be considered synonymous for the purpose of the Contract.

2.2.9. COMPANY REPRESENTATIVE

The individual responsible for representing the Company in all activities concerning the fulfillment and administration of the Contract.

2.2.10. COMPANY SUPERVISOR

The individual, employed or contracted by the Company, to manage the Work on a day-to-day basis and ensure the Work is performed according to the Contract. The Company Supervisor may be authorized by the Company Representative to act on Contract matters. Such authorization shall be in writing and delivered to the Contract Administrator and shall clearly state the limitations of any such authorization. In the event that the Company Supervisor and the Company Representative is the same person, the Company shall notify the Contract Administrator of such situation.

2.2.11. CONTRACT

An agreement between JEA and a Company, signed by both parties. Once a Contract is executed, a Purchase Order will be issued by JEA to the Company as its Notice to Proceed with the Work.

2.2.12. CONTRACT ADMINISTRATOR

The individual assigned by JEA to have authority over the Contract, including the authority to negotiate all elements of the Contract with the Company, authorize Change Orders within the maximum amount awarded, terminate the Contract, seek remedies for nonperformance including termination, and otherwise act on behalf of JEA in all matters regarding the Contract. The Contract Administrator may authorize JEA Representative in writing to make minor changes to the Work with the intent of preventing Work disruption.

2.2.13. CONTRACT DOCUMENTS

Contract Documents, also referred to as the "Contract" or "Agreement" means the executed Contract Document and any written Change Orders, amendments or Purchase Orders executed by JEA, and insurance and/or bonds as required by the Contract.

2.2.14. CONTRACT PRICE

The total amount payable to the Company under the Contract, as set forth in the Contract Documents. The Contract Price may also be referred to as the Maximum Indebtedness.

2.2.15. CONTRACT TIME

The number of calendar days or the period of time from when the written Purchase Order is issued to the Company, to the date Company has agreed to complete the Work, as set forth in the Contract Documents.

2.2.16. CONTRACTOR

The legal person, firm, corporation or any other entity or business relationship with whom JEA has executed the Contract. Where the word "Contractor" is used it shall also include permitted assigns. Contractor and Company shall be considered synonymous for the purpose of the Contract.

2.2.17. DEFECT

Work that fails to meet the requirements of any required test, inspection or approval, and any Work that meets the requirements of any test or approval, but nevertheless does not meet the requirements of the Contract Documents.

2.2.18. FINAL COMPLETION

The point in time after JEA makes the determination that the Work is completed and there is Acceptance by JEA, and the Company has fulfilled all requirements of the Contract Documents.

2.2.19. HOLIDAYS

The following days: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, Christmas Eve Day, and Christmas Day.

2.2.20. INVOICE

A document seeking payment to Company from JEA for all or a portion of the Work, in accordance with the Contract Documents, and including at a minimum the following items: the Company name and address, a description of the product(s) or service(s) rendered, a valid JEA PO number, the amount payable, the payee name and address, any associated JSEB forms and any other supporting documentation required by the Contract Documents.

2.2.21. JEA

JEA on its own behalf, and when the Work involves St. Johns River Power Park (SJRPP), as agent for Florida Power and Light Company (FPL). JEA and FPL are co-owners of SJRPP.

2.2.22. JEA REPRESENTATIVES

The Contract Administrator, Contract Inspector, Contract Administrator's Representative, JEA Engineer, Field Engineer, Project Manager, and other persons designated by the Contract Administrator as JEA Representatives acting in a capacity related to the Work or Contract under the authority of the Contract Administrator.

2.2.23. PERFORMANCE - ACCEPTABLE PERFORMANCE/PERFORMER

The Company averages more than 2.80 and less than 4.0 across all performance scorecard evaluation metrics, and does not receive a score of less than 2.0 on any metric.

2.2.24. PERFORMANCE - TOP PERFORMANCE/PERFORMER

The Company averages 4.0 or more across all scorecard evaluation metrics and does not receive a score of less than 4.0 on any one metric.

2.2.25. PERFORMANCE - UNACCEPTABLE PERFORMANCE/PERFORMER

The Company averages less than 2.80 across all scorecard evaluation metrics, or scores a 1.0 on any one metric regardless of average, or receives a score of 2.0 on the same metric on two sequential performance evaluations.

2.2.26. PROPOSAL

The document describing the Company's qualifications to verify it complies with the requirements of the RFP.

2.2.27. PROPOSER

The respondent to this RFP.

2.2.28. PURCHASE ORDER (PO)

A Work authorization document issued by the JEA Procurement Department with the words "Purchase Order" clearly marked across the top, a PO number used for reference shown on the front of the document, a description of the Work or a listing of the applicable Contract Documents, an authorized JEA signature and states the dollar amount of the lawfully appropriated funds. The Purchase Order is the only document that authorizes changes to the total dollar amount of the Contract.

2.2.29. QUALITY ASSURANCE

Actions that JEA takes to assess the Company's performance under the Contract.

2.2.30. QUALITY CONTROL

Actions that the Company takes to ensure it successfully completes the Work in full accordance with the Contract Documents.

2.2.31. REQUEST FOR PROPOSALS

The document (which may be electronic) issued by the JEA Procurement Department to solicit Proposals from Companies that includes, but is not limited to, the Minimum Qualifications Form, samples of contract documents and Addenda.

2.2.32. SOLICITATION

The document (which may be electronic) issued by the JEA Procurement Department to solicit Proposals from Proposers that includes, but is not limited to, the Proposal Document, samples of documents and Addenda.

2.2.33. SUBCONTRACTOR

A provider of services performing Work under contract for the Company.

2.2.34. TASK ORDER

A document that describes the Work or describes a series of tasks that the Company will perform in accordance with the Contract Documents. A Task Order may be issued as an attachment to a Purchase Order, but the Task Order is neither a Purchase Order, nor a Notice to Proceed.

2.2.35. TERM

The period of time during which the Contract is in force, from the date of Purchase Order issuance to Final Completion, or termination, or until the Contract's Maximum Indebtedness is reached, whichever occurs first. In some cases, and as expressly stated, some of the Contract requirements may extend beyond the Term of the Contract.

2.2.36. UNIT PRICES

The Proposer's charges, rounded to the nearest cent, to JEA for the performance of each respective unit of Work as defined on the Proposal Documents for all items required for successfully performing the Work through Acceptance.

2.2.37. WORK OR SCOPE OF SERVICES

Work includes as defined in the Contract Documents all actions, products, documentation, electronic programs, reports, testing, transport, administration, management, services, materials, tools, equipment, and responsibilities to be furnished or performed by the Company under the Contract, together with all other additional necessities that are not specifically recited in the Contract, but can be reasonably inferred as necessary to complete all obligations and fully satisfy the intent of the Contract.

2.3. CONTRACT DOCUMENTS

2.3.1. ORDER OF PRECEDENCE

The Contract shall consist of JEA's Contract and/or Purchase Order together with the Solicitation including, but not limited to, the executed Bid Document(s), which shall be collectively referred to as the Contract Documents. This Contract is the complete agreement between the parties. Parol or extrinsic evidence will not be used to vary or contradict the express terms of this Contract. The Contract Documents are complementary; what is called for by one is binding as if called for by all. The Company shall inform JEA in writing of any conflict, error or discrepancy in the Contract Documents upon discovery. Should the Company proceed with the Work prior to written resolution of the error or conflict by JEA, all Work performed is at the sole risk of the Company. JEA will generally consider this precedence of the Contract Documents in resolving any conflict, error, or discrepancy:

- Executed Change Orders / Amendments
- Executed Contract Document
- Exhibits to the Executed Contract Document
- Purchase Order
- Addenda to JEA Solicitation
- Drawings
- Exhibits and Attachments to the Solicitation
- Technical Specifications
- JEA Solicitation
- Company's Proposal
- References

The figure dimensions on drawings shall govern over scale dimensions. Contract and detailed drawings shall govern over general drawings. The Company shall perform any Work that may reasonably be inferred from the Contract as being required whether or not it is specifically called for. Work, materials or equipment described in words that, so applied, have a well-known technical or trade meaning shall be taken as referring to such recognized standards.

2.4. PRICE AND PAYMENTS

2.4.1. PAYMENTS

2.4.1.1. PAYMENT METHOD – PROFESSIONAL SERVICES

For individual tasks or services, the Company shall submit an Invoice to JEA upon successful completion and JEA Acceptance of the individual tasks or services.

For reoccurring tasks or services, the Company shall submit an Invoice to JEA once per month upon successful completion and JEA's Acceptance of the reoccurring tasks or services that occurred during that month.

JEA may elect to make a partial payment or no payment if JEA determines, at its sole discretion, and after due consideration of relevant factors, that either all, or part of the task being invoiced is not in accordance with the Contract Documents.

2.4.1.2. PRICE ADJUSTMENT – ANNUAL

Contract prices for the Work will remain firm through the first calendar year of the Contract. The Company may request a Consumer Price Index (CPI) adjustment annually. Each annual request for a CPI increase must be made within thirty (30) days prior to the end of the calendar year (December 31st) of the Contract. If Company fails to submit a timely CPI adjustment request, the Company may be denied the adjustment for the upcoming Contract year.

Note, the percent mark-up for materials, consumables, subcontractors, and rental equipment shall not be adjustable during the Term of the Contract.

When a timely CPI request is received, JEA will recognize the CPI price adjustment within thirty (30) days after the end of the calendar year. No retroactive price adjustments will be allowed.

Unless the Company and JEA make other agreements, the annual price adjustment for the Contract shall be in accordance with the Consumer Price Index for all urban consumers published monthly by the U.S. Department of Labor, Bureau of Labor Statistics. The index used will be the unadjusted percent change for the previous twelve (12) months of the Company's written CPI adjustment request is received by JEA.

In the event the applicable price index publication ceases, the Company and JEA shall mutually agree on a replacement index. If the Company and JEA fail to agree on a replacement index, the Contract shall terminate effective on the next Anniversary Date.

2.4.1.3. JSEB - INVOICING AND PAYMENT

If the Company utilizes JSEB certified firms, regardless of whether these Contract Documents require or encourage the use of such firms, the Company shall Invoice for and report the use of JSEB certified firms according to the format and guidelines established by the City of Jacksonville.

2.4.1.4. COST SAVINGS PLAN

During the term of this Contract, JEA and Company are encouraged to identify ways to reduce the total cost to JEA related to the Work provided by the Company. JEA and Company may negotiate Amendments to this Contract that support and allow such reductions in total costs including, but not limited to, the sharing of savings resulting from implementation of cost-reducing initiatives between JEA and Company. The decision to accept any cost savings plan shall be in the sole discretion of JEA, and JEA shall not be liable to Company for any cost that may be alleged to be related to a refusal to accept a Cost Savings Plan.

2.4.1.5. INVOICING AND PAYMENT TERMS

Within sixty (60) days from completion of the Work, the Company shall submit all Invoices or Applications for Payment in accordance with the payment method agreed upon in these Contract Documents. Invoices shall be submitted to the following address:

JEA Accounts Payable
P.O. Box 4910
Jacksonville, FL 32201-4310

JEA will pay the Company the amount requested within thirty (30) calendar days after receipt of an Invoice from the Company subject to the provisions stated below.

JEA may reject any Invoice or Application for Payment within twenty (20) calendar days after receipt. JEA will return the Invoice or Application for Payment to the Company stating the reasons for rejection. Upon receipt of an acceptable revised Invoice or Application for Payment, JEA will pay the Company the revised amount within 10 days.

JEA may withhold payment if the Company is in violation of any conditions or terms of the Contract Documents.

In the case of early termination of the Contract, all payments made by JEA against the Contract Price prior to notice of termination shall be credited to the amount, if any, due the Company. If the parties determine that the sum of all previous payments and credits exceeds the sum due the Company, the Company shall refund the excess amount to JEA within 10 days of determination or written notice.

2.4.2. OFFSETS

In case the Company is in violation of any requirement of the Contract, JEA may withhold payments that may be due the Company, and may offset existing balances with any JEA incurred costs against funds due the Company under this and any other Company Contract with JEA, as a result of the violation, or other damages as allowed by the Contract Documents and applicable law.

2.4.3. TAXES

JEA is authorized to self-accrue the Florida Sales and Use Tax and is exempt from Manufacturer's Federal Excise Tax when purchasing tangible personal property for its direct consumption.

2.4.4. TRUTH IN NEGOTIATION CERTIFICATE

Company understands and agrees that execution of the Contract by Company shall be deemed to be simultaneous execution of a truth-in-negotiation certificate under this provision to the same extent as if such certificate had been executed apart from the Contract, such certificate being required by Section 287.055, Florida Statutes. Pursuant to such certificate, Company hereby states that the wage rates and other factual unit costs supporting the compensation hereunder are accurate, complete and current at the time of contracting. Further, Company agrees that the

compensation hereunder shall be adjusted to exclude any significant sums where JEA determines the contract price was increased due to inaccurate, incomplete or noncurrent wage rates and other factual unit costs, provided that any and all such adjustments shall be made within one year following the completion date of the Contract.

2.5. WARRANTIES AND REPRESENTATIONS

2.5.1. WARRANTY (PROFESSIONAL SERVICES)

The Company represents and warrants that it has the full corporate right, power and authority to enter into the Contract and to perform the Work, and that the performance of its obligations and duties hereunder does not and will not violate any Contract to which the Company is a party or by which it is otherwise bound.

The Company represents and warrants that it will conduct the Work. in a manner and with sufficient labor, materials and equipment necessary to affect a diligent pursuance of the Work...

The Company represents and warrants that it has the responsibility and capacity to train and supervise its employees, Subcontractors and suppliers to ensure the Work complies with all safety requirements of the Contract Documents.

The Company represents and warrants that its employees and Subcontractors shall exercise the degree of skill and care required by customarily accepted good practices and procedures.

The Company warrants all Work for a period of one (1) year following Acceptance of the Work. If any failure to meet the foregoing warranty appears within one year after Work is Accepted, the Company shall again perform the Work directly affected by such failure at the Company's sole expense.

The Company warrants that all items provided under the Contract shall be free from Defect in accordance with the requirements of this Contract, and services shall be performed in a professional manner and with professional diligence and skill, consistent with the prevailing standards of the industry.

The obligations and representations contained in this "Warranty" clause are Company's sole warranty and guarantee obligations and JEA's exclusive remedy in respect of quality of the Work. EXCEPT AS PROVIDED IN THIS ARTICLE, COMPANY MAKES NO OTHER WARRANTIES OR GUARANTEES, EXPRESS OR IMPLIED, RELATING TO COMPANY'S SERVICES AND COMPANY DISCLAIMS ANY IMPLIED WARRANTIES OR WARRANTIES IMPOSED BY LAW INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. This clause governs, modifies, and supersedes any other terms in this Contract which may be construed to address warranties or guarantees or the quality of the Work.

2.6. INSURANCE, INDEMNITY AND RISK OF LOSS

2.6.1. INSURANCE

INSURANCE REQUIREMENTS

Before starting and until Acceptance of the Work by JEA, and without further limiting its liability under the Contract, Company shall procure and maintain at its sole expense, insurance of the types and in the minimum amounts stated below:

Workers' Compensation

Florida Statutory coverage and Employer's Liability (including appropriate Federal Acts); Insurance Limits: Statutory Limits (Workers' Compensation) \$500,000 each accident (Employer's Liability).

Commercial General Liability

Premises-Operations, Products-Completed Operations, Contractual Liability, Independent Contractors, Broad Form Property Damage, Explosion, Collapse and Underground, Hazards (XCU Coverage) as appropriate; Insurance Limits: \$1,000,000 each occurrence, \$2,000,000 annual aggregate for bodily injury and property damage, combined single limit.

Automobile Liability

All autos-owned, hired, or non-owned; Insurance Limits: \$1,000,000 each occurrence, combined single limit.

Excess or Umbrella Liability

(This is additional coverage and limits above the following primary insurance: Employer's Liability, Commercial General Liability, and Automobile Liability); Insurance Limits: \$4,000,000 each occurrence and annual aggregate.

Professional Liability

Architects & Engineers; Insurance Limits: \$3,000,000 each claim and \$6,000,000 annual aggregate

Company's Commercial General Liability, Excess or Umbrella Liability, and Professional Liability policies shall be effective for two (2) years after Work is complete. The Indemnification provision provided herein is separate and is not limited by the type of insurance or insurance amounts stated above.

Company shall specify JEA and Florida Power & Light Company (FPL) as additional insureds for all coverages except Workers' Compensation, Employer's Liability, and Professional Liability. Such insurance shall be primary to any and all other insurance or self-insurance maintained by JEA or FPL. Company shall include a Waiver of Subrogation on all required insurance in favor of JEA, FPL, their governing boards, officers, employees, agents, successors and assigns.

Such insurance shall be written by a company or companies licensed to do business in the State of Florida and satisfactory to JEA. Prior to commencing any Work under this Contract, certificates evidencing the maintenance of the insurance shall be furnished to JEA for approval. Company's and its subcontractors' Certificates of Insurance shall be mailed to JEA (Attn. Procurement Services), Customer Care Center, 6th Floor, 21 West Church Street, Jacksonville, FL 32202-3139.

The insurance certificates shall provide that no material alteration or cancellation, including expiration and non-renewal, shall be effective until thirty (30) days after receipt of written notice by JEA.

Any subcontractors of Company shall procure and maintain the insurance required of Company hereunder during the life of the subcontracts. Subcontractors' insurance may be either by separate coverage or by endorsement under insurance provided by Company. Company shall submit subcontractors' Certificates of Insurance to JEA prior to allowing subcontractors to perform Work on JEA's job sites.

2.6.2. INDEMNIFICATION & LIMITATION OF LIABILITY

2.6.2.1. INDEMNIFICATION (JEA STANDARD)

For ten dollars (\$10.00) acknowledged to be included and paid for in the contract price and other good and valuable considerations, the Company shall hold harmless, and indemnify, JEA against any claim, action, loss, damage, injury, liability, cost and expense of whatsoever kind or nature (including, but not by way of limitation, reasonable attorney's fees and court costs) arising out of injury (whether mental or corporeal) to persons, including death, or damage to property, to the extent caused by the negligence, recklessness or intentional wrongful misconduct of the Company and any person or entity used by Company in the performance of this Contract or Work performed thereunder. For

purposes of this Indemnification, the term "JEA" shall mean JEA as a body politic and corporate and shall include its governing board, officers, employees, agents, successors and assigns. This indemnification shall survive the term of this Contract, for events that occurred during the Contract term. This indemnification shall be separate and apart from, and in addition to, any other indemnification provisions set forth elsewhere in this Contract. It is the intent of the parties that this indemnification shall be in accord with Section 725.08, Florida Statutes.

2.6.2.2. LIMITATION OF LIABILITY

Neither the Company nor JEA shall be liable for any indirect, special or consequential damages, under any theory of relief, including without limitation, breach of warranty, breach of contract, tort (including negligence), strict liability, or otherwise, arising out of or related to the Company's or JEA's acts or omissions.

Company's liability to JEA for direct damages under this Contract shall not exceed the contract price. This limitation of liability specifically excludes injury to third parties and third party property and there shall be no limitation of liability with respect to same.

This limitation of liability is in no way to be construed as a waiver by JEA of its sovereign immunity accorded by the Florida Constitution as codified in § 768.28, Fla. Stat.

2.7. ACCEPTANCE

2.7.1. ACCEPTANCE OF WORK - RECEIPT, INSPECTION, USAGE AND TESTING

The Contract Administrator will make the determination when Work is completed and there is Acceptance by JEA. Acceptance will be made by JEA only in writing, and after adequate time to ensure Work is performed in accordance with Contract Documents. JEA will reject any items delivered by Company that are not in accordance with the Contract, and shall not be deemed to have accepted any items until JEA has had reasonable time to inspect them following delivery or, if later, within a reasonable time after any latent defect in the items has become apparent. JEA may partially accept the Work items. If JEA elects to accept nonconforming items, it may in addition to other remedies, be entitled to deduct a reasonable amount from the price as compensation for the nonconformity. Any Acceptance by JEA, even if non-conditional, shall not be deemed a waiver, or settlement or acceptance of any Defect.

2.8. TERM AND TERMINATION

2.8.1. TERM

2.8.1.1. TERM OF CONTRACT – DEFINED DATES

This Contract shall commence on the effective date of the Contract, and continue and remain in full force and effect as to all its terms, conditions and provisions as set forth herein for five (5) years, or until the Contract's Maximum Indebtedness is reached, whichever occurs first. It is at JEA's sole option to renew the Contract.

It is at JEA's sole option to renew the Contract for an additional two (2) year period.

This Contract, after the initial year shall be contingent upon the existence of lawfully appropriated funds for each subsequent year of the Contract.

2.8.2. TERMINATION FOR CONVENIENCE

JEA shall have the absolute right to terminate in whole or part the Contract, with or without cause, at any time after Award upon written notification of such termination.

In the event of termination for convenience, JEA will pay the Company for all disbursements and expenses that the Company has incurred, or those for which it becomes obligated prior to receiving JEA's notice of termination. Upon receipt of such notice of termination, the Company shall stop the performance of the Work hereunder except as may be necessary to carry out such termination and take any other action toward termination of the Work that JEA may reasonably request, including all reasonable efforts to provide for a prompt and efficient transition as directed by JEA.

JEA will have no liability to the Company for any cause whatsoever arising out of, or in connection with, termination including, but not limited to, lost profits, lost opportunities, resulting change in business condition, except as expressly stated within these Contract Documents.

2.8.3. TERMINATION FOR DEFAULT

JEA may give the Company written notice to discontinue all Work under the Contract in the event that:

- The Company assigns or subcontracts the Work without prior written permission;
- Any petition is filed or any proceeding is commenced by or against the Company for relief under any bankruptcy or insolvency laws;
- A receiver is appointed for the Company's properties or the Company commits any act of insolvency (however evidenced);
- The Company makes an assignment for the benefit of creditors;
- The Company suspends the operation of a substantial portion of its business;
- The Company suspends the whole or any part of the Work to the extent that it impacts the Company's ability to meet the Work schedule, or the Company abandons the whole or any part of the Work;
- The Company, at any time, violates any of the conditions or provisions of the Contract Documents, or the Company fails to perform as specified in the Contract Documents, or the Company is not complying with the Contract Documents.
- The Company attempts to willfully impose upon JEA items or workmanship that are, in JEA's sole opinion, defective or of unacceptable quality.
- The Company breaches any of the representations or warranties;
- The Company is determined, in JEA's sole opinion, to have misrepresented the utilization of funds or misappropriate property belonging to JEA;
- Any material change in the financial or business condition of the Company.

If, within thirty (30) days after service of such notice upon the Company, an arrangement satisfactory to JEA has not been made by the Company for continuance of the Work, then JEA may declare Company to be in default of the Contract.

Once Company is declared to be in default, JEA will charge the expense of completing the Work to the Company and will deduct such expenses from monies due, or which at any time thereafter may become due, to the Company. If such expenses are more than the sum that would otherwise have been payable under the Contract, then the Company shall pay the amount of such excess to JEA upon notice of the expenses from JEA. JEA shall not be required to obtain the lowest price for completing the Work under the Contract, but may make such expenditures that, in its sole judgment, shall best accomplish such completion. JEA will, however, make reasonable efforts to mitigate the excess costs of completing the Work.

The Contract Documents shall in no way limit JEA's right to all remedies for nonperformance provided under law or in equity, except as specifically set forth herein. In the event of termination for nonperformance, the Company shall

immediately surrender all Work records to JEA. In such a case, JEA may set off any money owed to the Company against any liabilities resulting from the Company's nonperformance.

JEA has no responsibility whatsoever to issue notices of any kind, including but not limited to deficient performance letters and scorecards, to the Company regarding its performance prior to default by Company for performance related issues.

JEA shall have no liability to the Company for termination costs arising out of the Contract, or any of the Company's subcontracts, as a result of termination for default.

2.9. CONFIDENTIALITY AND OWNERSHIP OF DOCUMENTATION

2.9.1. CONFIDENTIALITY AND PUBLIC RECORD LAWS

Any information disclosed by one party ("Disclosing Party") to the other party ("Recipient") in connection with this Contract that is marked confidential or that due to its character and nature, a reasonable person under like circumstances would treat as confidential (the "Confidential Information") will be protected and held in confidence by the Recipient. Confidential Information will be used only for the purposes of this Contract and related internal administrative purposes. Disclosure of the Confidential Information will be restricted to the Recipient's employees, contractors, or alliance companies on a "need to know" basis in connection with the Work, who are bound by confidentiality obligations no less stringent than these prior to any disclosure. Each party may disclose Confidential Information relating to the Work to providers of goods and services for the engagement to the extent such disclosure is necessary and reasonably anticipated. Confidential Information does not include information which: (i) is already known to Recipient at the time of disclosure; (ii) is or becomes publicly known through no wrongful act or failure of the Recipient; (iii) is independently developed by Recipient without benefit of Disclosing Party's Confidential Information; or (iv) is received from a third party which is not under and does not thereby breach an obligation of confidentiality. Each party agrees to protect the other's Confidential Information at all times and in the same manner as each protects the confidentiality of its own proprietary and confidential materials, but in no event with less than a reasonable standard of care. A Recipient may disclose Confidential Information to the extent required by law, but that disclosure does not relieve Recipient of its confidentiality obligations with respect to any other party. Except as to the confidentiality of trade secrets, these confidentiality restrictions and obligations will terminate five (5) years after the expiration or termination of the Contract under which the Confidential Information was disclosed, unless the law requires a longer period.

The parties acknowledge that JEA is a body politic and corporate that is subject to Chapter 119, Florida Statutes, and related statutes known as the "Public Records Laws". If a request is made to view such Confidential Information, JEA will notify Company of such request and the date that such records will be released to the requester unless Company obtains a court order enjoining such disclosure. If the Company fails to obtain that court order enjoining disclosure, JEA will release the requested information on the date specified. Such release shall be deemed to be made with the Company's consent and will not be deemed to be a violation of law, including but not limited to laws concerning trade secrets, copyright or other intellectual property. In the event the Company breaches this Contract, then the Company hereby grants JEA a limited license to use the Confidential Information in any reasonable way in order to mitigate JEA's damages.

2.9.2. INTELLECTUAL PROPERTY

The Company grants to JEA an irrevocable, perpetual, royalty free and fully paid-up right to use (and such right includes, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right to sublicense all, or any portion of, the foregoing rights to an affiliate or a third party service provider) the Company's intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) that is contained or embedded in, required for the use of, that was used in the production of or is required for

the reproduction, modification, maintenance, servicing, improvement or continued operation of any applicable unit of Work.

If the Work contains, has embedded in, requires for the use of any third party intellectual property, or if the third party intellectual property is required for the reproduction, modification, maintenance, servicing, improvement or continued operation of the Work, the Company shall secure for JEA an irrevocable, perpetual, royalty free and fully paid-up right to use all third party intellectual property. The Company shall secure such right at its expense and prior to incorporating any third party intellectual property (including, without limitation, all trade secrets, patents, copyright and know-how) into any Work, including, without limitation, all drawings or data provided under the Contract, and such right must include, without limitation, a right to copy, modify and create derivative works from the subject matter of the grant of the right and a right to sublicense all or any portion of the foregoing rights to an affiliate or a third party service provider.

Should JEA, or any third party obtaining such work product through JEA, use the Work or any part thereof for any purpose other than that which is specified herein, it shall be at JEA's sole risk.

The Company will, at its expense, defend all claims, actions or proceedings against JEA based on any allegation that the Work, or any part of the Work, constitutes an infringement of any patent or any other intellectual property right, and will pay to JEA all costs, damages, charges, and expenses occasioned to JEA by reason thereof. JEA will give the Company written notice of any such claim, action or proceeding and, at the request and expense of the Company, JEA will provide the Company with available information, assistance and authority for the defense.

If, in any action or proceeding, the Work, or any part thereof, is held to constitute an infringement, the Company will forthwith either secure for JEA the right to continue using the Work or will, at the Company's expense, replace the infringing items with non-infringing Work or make modifications as necessary so that the Work no longer infringes.

The Company will obtain and pay for all patent and other intellectual property royalties and license fees required in respect of the Work.

2.9.3. PROPRIETARY INFORMATION

The Company shall not copy, reproduce, or disclose to third parties, except in connection with the Work, any information that JEA furnishes to the Company. The Company shall insert in any subcontract a restriction on the use of all information furnished by JEA. The Company shall not use this information on another project. All information furnished by JEA will be returned to JEA upon completion of the Work.

2.9.4. PUBLICITY AND ADVERTISING

The Company shall not take any photographs, make any announcements or release any information concerning the Contract or the Work to any member of the public, press or official body unless prior written consent is obtained from JEA. JEA is governed by the Florida Public Records Laws so all Contract Documents are available for public inspection. In addition, JEA is governed by Florida Sunshine Laws and as such, certain meetings are required to be open to the public.

2.9.5. OWNERSHIP OF DOCUMENTS AND EQUIPMENT

The Company agrees that upon completion of the Services, all drawings, designs, specifications, renderings, notebooks, tracings, photographs, reference books, equipment, expendable equipment and materials, negatives, reports, findings, recommendations, data and memoranda of every description (hereinafter referred to as "Works"), arising out of or relating to the Services rendered by the Company under this Agreement, are to become the property of JEA. Company and JEA agree that said Works shall be considered as works made for hire under the United States

Copyright laws. JEA shall have the absolute and exclusive right to own and use all said Works together with any and all copyrights, patents, trademark and service marks associated with said Works. The use of these Works in any manner by JEA shall not support any claim by the Company for additional compensation.

2.9.6. PATENTS AND COPYRIGHTS

In consideration of ten dollars (\$10.00), receipt and sufficiency is hereby acknowledged, Company shall hold harmless and indemnify JEA from and against liability or loss, including but not limited to any claims, judgments, court costs and attorneys' fees incurred in any claims, or any pretrial, trial or appellate proceedings on account of infringements of patents, copyrighted or un-copyrighted works, secret processes, trade secrets, patented or unpatented inventions, articles or appliances, or allegations thereof, pertaining to the Services, or any part thereof, combinations thereof, processes therein or the use of any tools or implements used by Company.

Company will, at its own expense, procure for JEA the right to continue use of the Services, parts or combinations thereof, or processes used therein resulting from a suit or judgment on account of patent or copyright infringement.

If, in any such suit or proceeding, a temporary restraining order or preliminary injunction is granted, Company will make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of such restraining order or temporary injunction.

If, in any such suit or proceeding, any part of the Services is held to constitute an infringement and its use is permanently enjoined, Company will, at once, make every reasonable effort to secure for JEA a license, authorizing the continued use of the Services. If Company fails to secure such license for JEA, Company will replace the Services with non-infringing Services, or modify the Services in a way satisfactory to JEA, so that the Services are non-infringing.

2.9.7. WORK MADE FOR HIRE

With the exception of Company's pre-existing intellectual capital and third-party intellectual capital as described in Intellectual Property, as stated herein, JEA shall own all right, title and interest, including ownership of copyright (limited to the extent permitted by the terms of any governing licenses), in and to any project generated by the Work including, but not limited to, software, source code, reports, deliverable, or work product developed by the Company specifically for JEA in connection with the Work, and derivative works relating to the foregoing. Such Work shall include, but shall not be limited to, those reports and deliverables specified in the Contract Documents. The Company understands and agrees that the "work made for hire", or any portion of the Work, shall be a "work made for hire" for JEA pursuant to federal copyright laws. Any software, report, deliverable, or work product as used in connection with the Work, but, previously developed by the Company specifically for other customers of the Company or for the purpose of providing substantially similar services to other Company customers, generally shall not be considered "work made for hire", so long as the foregoing are not first conceived or reduced to practice as part of the Work. To the extent any of JEA deliverables are not deemed works made for hire by operation of law, the Company hereby irrevocably assigns, transfers, and conveys to JEA, or its designee, without further consideration all of its right, title and interest in such Work, including all rights of patent, copyright, trade secret, trademark or other proprietary rights in such materials. Except as provided in the foregoing sentences, the Company acknowledges that JEA shall have the right to obtain and hold in its own name any intellectual property right in and to the Work. The Company agrees to execute any documents or take any other actions as may reasonably be necessary, or as JEA may reasonably request, to perfect or evidence JEA's ownership of the Work.

2.10. LABOR

2.10.1. NONDISCRIMINATION

The Company represents that it has adopted and will maintain a policy of nondiscrimination against employees or applicants for employment on account of race, religion, sex, color, national origin, age or handicap, in all areas of employee relations, throughout the Term of this Contract. The Company agrees that on written request, it will allow JEA reasonable access to the Company's records of employment, employment advertisement, application forms and other pertinent data and records for the purpose of investigation to ascertain compliance with the nondiscrimination provisions of this Contract; provided however, the Company shall not be required to produce, for inspection, records covering periods of time more than one year from the effective date of this Contract.

The Company shall comply with the following executive orders, acts, and all rules and regulations implementing said orders or acts, which are by this reference incorporated herein as if set out in their entirety:

- The provisions of Presidential Order 11246, as amended, and the portions of Executive Orders 11701 and 11758 as applicable to Equal Employment Opportunity;
- The provisions of section 503 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA); and
- The provisions of the Employment and Training of Veterans Act, 38 U.S.C. 4212 (formerly 2012).

The Company agrees that if any of the Work of this Contract will be performed by a Subcontractor, then the provisions of this subsection shall be incorporated into and become a part of the subcontract.

2.10.2. LEGAL WORKFORCE

Owner shall consider the employment, by Contractor, of unauthorized aliens a violation of section 274A(e) of the Immigration and Nationalization Act. Such violation shall be cause for unilateral cancellation of the contract upon thirty (30) days' prior written notice of such cancellation, notwithstanding any other provisions to the contrary in the Specifications and other Contract Documents.

2.10.3. PROHIBITED FUTURE EMPLOYMENT

It shall be unlawful and a class C offense for any person, who was an officer or employee of JEA, after his or her employment has ceased, to be employed by or enter into any contract for personal services, with a person or company who contracted with, or had a contractual relationship with JEA, while the contract is active or being completed, or within two (2) years of the cessation, completion, or termination of the person's or company's contractual relationship with JEA, where (1) the contract with JEA had a value that exceeded \$250,000, and (2) the officer or employee had a substantial and decision-making role in securing or negotiating the contract or contractual relationship, or in the approval of financial submissions or draws in accordance with the terms of the contract; except that this prohibition shall not apply to an employee whose role is merely as a review signatory, or to contracts entered into prior to January 1, 2008, or to contracts that have been competitively procured. With respect to this subsection a contract is competitively procured if it has been obtained through a sealed low bid award. A "substantial and decision-making role" shall include duties and/or responsibilities that are collectively associated with: (i) approving solicitation or payment documents; (ii) evaluating formal bids and proposals; and (iii) approving and/or issuing award recommendations for JEA Awards Committee approval. The contract of any person or business entity who hires or contracts for services with any officer or employee prohibited from entering into said relationship shall be voidable at the pleasure of JEA. This prohibition shall not apply to any former officer or employee after two (2) years from cessation from JEA employment.

2.10.4. HIRING OF OTHER PARTY'S EMPLOYEES

Each party recognizes that the other party has incurred or will incur significant expenses in training its own employees and agrees that it will not pursue or hire, without the other party's consent, the other party's employees or the employees of its subsidiaries for a period of two (2) years from the termination date of this Agreement.

2.10.5. PERSONNEL AND CHANGES IN COMPANY'S PROFESSIONAL PERSONNEL

Unless otherwise agreed in writing by the parties, all Services shall be rendered by employees: (a.) who are full time employees of Company or approved subcontractors; (b.) qualified to perform the Services, and (c.) fluent in the English language. Subsequent to the execution of this Contract, Company shall notify the JEA Contract Administrator in writing prior to making changes in professional personnel assigned, or to be assigned, as provided in Company's proposal to manage or perform Services under this Contract. The JEA Contract Administrator shall have the right to reject any personnel assigned by Company to perform work under this Contract. If the right of rejection is exercised by the JEA Contract Administrator, Company shall submit for approval of the JEA Contract Administrator, the name or names of substitute personnel to fill the positions resulting from said rejection. The JEA Contract Administrator shall have the right to require the removal of Company's previously assigned personnel and Company shall promptly replace the same, subject to the JEA Contract Administrator's approval at no cost to JEA.

2.10.6. COMPANY'S LABOR RELATIONS

The Company shall negotiate and resolve any disputes between the Company and its employees, or anyone representing its employees. The Company shall immediately notify JEA of any actual or potential labor dispute that may affect the Work and shall inform JEA of all actions it is taking to resolve the dispute.

2.11. COMPANY'S RESPONSIBILITIES AND PERFORMANCE OF THE CONTRACT

2.11.1. COMPANY REPRESENTATIVES

The Company shall provide JEA with the name and responsibilities of the Company Representative, in writing after Award of the Contract and before starting the Work under the Contract. Should the Company need to change the Company Representative, the Company shall promptly notify JEA in writing of the change.

2.11.2. COMPANY REVIEW OF PROJECT REQUIREMENTS

The Company shall review the Work requirements and specifications prior to commencing Work. The Company shall immediately notify the Contract Administrator in writing of any conflict with applicable law, or any error, inconsistency or omission it may discover. JEA will promptly review the alleged conflicts, errors, inconsistencies or omissions, and issue a Change Order or Purchase Order as appropriate if JEA is in agreement with the alleged conflict, and issue revised specifications. Any Work the Company performs prior to receipt of approved Change Order will be at the Company's sole risk.

2.11.3. CONDITIONS OF PROVISIONING

The Company understands and agrees that it shall be solely responsible for providing everything necessary to perform the Work and to be in full compliance with the Contract Documents, except for those items specifically listed herein as being provided by JEA.

If Company's Scope of Work is to supply JEA with inventory items, the Company shall identify inventory items that are in high demand and take appropriate steps to minimize delivery lead time in the event of demand spikes or emergency requirements.

Any use of JEA furnished items on non-JEA work is a breach of the Contract and a violation of the law. All JEA furnished items are the property of JEA when issued, stored by Company, and used in performance of the Work.

The Company agrees that it shall use all JEA furnished items in a manner consistent with industry practice, codes, laws, considering the condition of the JEA furnished item, the skills of the individuals using the JEA furnished item, and all environmental conditions. The Company understands and agrees that where JEA and the Company shall share JEA furnished items, JEA usage shall always have priority over Company usage, and the Contract Administrator shall have sole authority to resolve any usage dispute and such resolution shall not result in any claim by Company.

The Company agrees to return to JEA, and to the location as established by a JEA Representative, any unused or salvageable items prior to final payment. The Company agrees that JEA has the right to audit and investigate the Company at any time how the Company is using JEA furnished items. JEA will bill the Company for unaccountable JEA furnished material at the current JEA cost.

2.11.4. LICENSES

The Company shall comply with all licensing, registration and/or certification requirements pursuant to applicable laws, rules and regulations. The Company shall secure all licenses, registrations and certifications as required for the performance of the Work and shall pay all fees associated with securing them. The Company shall produce written evidence of licenses and other certifications immediately upon request from JEA.

2.11.5. SAFETY AND PROTECTION PRECAUTIONS

The Company shall comply with all applicable federal, state and local laws, ordinances, all JEA procedures and policies including any orders of any public body having jurisdiction for the safety of persons or protection of property. The Company understands and agrees that violation of any provision of this clause is grounds for immediate termination of the Contract and the Company is responsible for all JEA damages associated with such termination.

The Company understands and agrees that JEA Representatives may stop Work at any time that JEA, at its sole discretion, considers the Company's Work to be unsafe or a risk to property, and to direct the Company to, at a minimum, perform as directed in such a way as to render the Work environment safe. The Company understands and agrees that it is responsible for paying all costs associated with providing a safe work environment including, but not limited to, any costs associated with any JEA directed safety improvements. The Company further understands and agrees that it is solely responsible for the safety of personnel and property associated with the Work, and that any actions taken by JEA to prevent harm to persons or damage to equipment does not, in any way, relieve the Company of this responsibility.

The Company Representative, or alternatively, the Company Supervisor, shall be designated as the Company's individual responsible for the prevention of accidents.

2.12. VENDOR PERFORMANCE EVALUATION

2.12.1. VENDOR PERFORMANCE EVALUATION

Use of Vendor Performance Evaluation Scorecards

JEA may evaluate the Contractor's performance using the evaluation criteria shown on the vendor scorecard available at JEA Procurement Bid Section, JEA Tower Suite 103, 21 W. Church Street, Jacksonville, FL 32202 or online at JEA.com. Scores for all metrics shown on the evaluation range from a low of 1, meaning significantly deficient performance, to a high of 5, meaning exceptionally good performance. The Contractor's performance shall be classified as Top Performance, Acceptable Performance, or Unacceptable Performance, as defined herein. The evaluator will be a designated JEA employee or JEA contractor familiar with the performance of the Contractor. The evaluator's supervisor and the Chief Purchasing Officer will review deficient performance letters and Unacceptable Performance scorecards, as described below, prior to issuance. When evaluating the Contractor's performance, JEA

will consider the performance of the Contractor's Subcontractors and suppliers, as part of the Contractor's performance.

Frequency of Evaluations

JEA may conduct performance evaluations and prepare scorecards in accordance with the procedures described herein at any time during performance of the Work or soon after the completion of the Work. JEA may conduct one or more evaluations determined solely at the discretion of JEA.

Unacceptable Performance

- If at any time, JEA determines, using the criteria described on the scorecard, that the performance of the Contractor is Unacceptable, the Contract Administrator and Chief Purchasing Officer or his designated alternate will notify the Contractor of such in a letter. The Contractor shall have ten (10) days to respond to the Contract Administrator. Such response shall include, and preferably be delivered in-person by an officer of the Contractor, the specific actions that the Contractor will take to bring the Contractor's performance up to at least Acceptable Performance.
- Within thirty (30) days from date of the first Unacceptable Performance letter, the Contract Administrator and Chief Purchasing Officer or his designated alternate will notify the Contractor by letter as to whether its performance, as determined solely by JEA, is meeting expectations, or is continuing to be Unacceptable. If the Contractor's performance is described in the letter as meeting expectations, no further remedial action is required by the Contractor, as long as Contractor's performance continues to be Acceptable.
- If the Contractor's performance as described in the letter continues to be Unacceptable, or is inconsistently Acceptable, then the Contractor shall have fifteen (15) days from date of second letter to demonstrate solely through its performance of the Work, that it has achieved Acceptable Performance. At the end of the fifteen (15) day period, JEA will prepare a scorecard documenting the Contractor's performance from the start of Work, or date of most recent scorecard, whichever is latest, and giving due consideration to improvements the Contractor has made in its performance, or has failed to make. If the scorecard shows Contractor's performance is Acceptable, then no further remedial action is required by Contractor as long as Contractor's performance remains Acceptable. If the scorecard shows the Contractor's performance is Unacceptable, JEA will take such actions as it deems appropriate including, but not limited to, terminating the Contract for breach, suspending the Contractor from bidding on any JEA related solicitations, and other remedies available in the JEA Purchasing Code and in law. Such action does not relieve the Contractor of its obligations under the Contract, nor does it preclude an earlier termination.
- In the event that the Contract Term or the remaining Term of the Contract does not allow for the completion of the deficient performance notification cycles described above for those in danger of receiving an Unacceptable Performance scorecard, JEA may choose to accelerate these cycles at its sole discretion.
- If the Contractor receives five (5) or more letters of deficiency within any twelve (12) month period, then JEA will prepare a scorecard describing the deficiencies and the Contractor's performance will be scored as Unacceptable.

Acceptable Performance

JEA expects the Contractor's performance to be at a minimum Acceptable.

Disputes

In the event that the Contractor wants to dispute the results of its scorecard performance evaluation, the Contractor must submit a letter to the Chief Purchasing Officer supplying supplemental information that it believes JEA failed

to take into account when preparing the scorecard. Such letter, along with supplemental information, must be submitted no later than ten (10) days following the Contractor's receipt of the scorecard. If the Chief Purchasing Officer decides to change the scorecard, the Contractor will be notified and a revised scorecard will be prepared, with a copy issued to the Contractor. If the Chief Purchasing Officer decides that no change is warranted, the decision of the Chief Purchasing Officer is final. If the Contractor is to be suspended from consideration for future award of any contracts, the Contractor may appeal to the Procurement Appeals Board as per JEA Purchasing Code.

Public Records

There can be no expectation of confidentiality of performance-related data in that all performance-related data is subject to disclosure pursuant to Florida Public Records Laws. All scorecards are the property of JEA.

2.13. JEA RESPONSIBILITIES

2.13.1. COORDINATION OF SERVICES PROVIDED BY JEA

The JEA Representative for the Work will, on behalf of JEA, coordinate with the Company and administer this Contract. It shall be the responsibility of the Company to coordinate all assignment related activities with the designated JEA Representative. The JEA Representative will be assigned to perform day-to-day administration and liaison functions, and to make available to the Company appropriate personnel, to the extent practical, and to furnish records and available data necessary to conduct the Work. The JEA Representative will also authorize the Company to perform work under this Contract.

2.14. CHANGES IN THE WORK, CONTRACT TIME OR PRICE

2.14.1. SUSPENSION OF SERVICES

JEA may suspend the performance of the Services rendered by providing Company with five (5) days written notice of such suspension. Schedules for performance of the Services shall be amended by mutual agreement to reflect such suspension. In the event of suspension of Services, the Company shall resume the full performance of the Services when directed in writing to do so by JEA. Suspension of Services for reasons other than the Company's negligence or failure to perform, shall not affect the Company's compensation as outlined in this Agreement.

2.14.2. CHANGE IN SCOPE OF SERVICES

From time to time, JEA may direct changes and modifications in the scope of the services, as contained in the Contract Documents, to be performed under this Contract as may be necessary to carry out the purpose of this Contract. The Company is willing and agreeable to accommodate such changes, provided it is compensated for additional services in accordance with its professional fees and expenses under the terms of this Contract. Such changes shall be in the form of a written amendment to this Contract reflecting, as appropriate, an amendment to the Work rendered and adjustment to Company's professional fees, including an extension to the duration of this Contract, as well as the maximum indebtedness of JEA. Maximum indebtedness is the maximum total cost that may be paid to the Company hereunder, including travel related costs, per year during the initial term of the Contract for the Work rendered under the terms of this Contract. The JEA Representative directly responsible for each project will make the final determination as to whether any compensable change exists.

2.14.3. AMENDMENTS

This Contract may not be altered or amended except in writing, signed by JEA Procurement and the Company Representative, or each of their duly authorized representatives.

2.14.4. FORCE MAJEURE

No party shall be liable for any default or delay in the performance of its obligations under this Contract due to an act of God or other event to the extent that: (a) the non-performing party is without fault in causing such default or delay; (b) such default or delay could not have been prevented by reasonable precautions; and (c) such default or delay could not have been reasonably circumvented by the non-performing party through the use of alternate sources, work-around plans or other means. Such causes include, but are not limited to: act of civil or military authority (including but not limited to courts or administrative agencies); acts of God; war; terrorist attacks; riot; insurrection; inability of JEA to secure approval, validation or sale of bonds; inability of JEA or the Company to obtain any required permits, licenses or zoning; blockades; embargoes; sabotage; epidemics; fires; hurricanes, tornados, floods; or strikes.

In the event of any delay resulting from such causes, the time for performance of each of the parties hereunder (including the payment of monies if such event actually prevents payment) shall be extended for a period of time reasonably necessary to overcome the effect of such delay, except as provided for elsewhere in the Contract Documents.

In the event of any delay or nonperformance resulting from such causes, the party affected shall promptly notify the other in writing of the nature, cause, date of commencement and the anticipated impact of such delay or nonperformance. Such written notice, including Change Orders, shall indicate the extent, if any, to which it is anticipated that any delivery or completion dates will be thereby affected within seven (7) calendar days.

2.15. MISCELLANEOUS PROVISIONS

2.15.1. AMBIGUOUS CONTRACT PROVISIONS

The parties agree that this Contract has been the subject of meaningful analysis and/or discussions of the specifications, terms and conditions contained in this Contract. Therefore, doubtful or ambiguous provisions, if any, contained in this Contract will not be construed against the party who physically prepared this Contract.

2.15.2. APPLICABLE STATE LAW; VENUE; SEVERABILITY

The rights, obligations and remedies of the Parties as specified under the Agreement will be interpreted and governed in all respects exclusively by the laws of the State of Florida without giving effect to the principles of conflicts of laws thereof. Should any provision of the Agreement be determined by the courts to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions will not be impaired. Litigation involving this Agreement or any provision thereof shall take place in the State or Federal Courts located exclusively in Jacksonville, Duval County, Florida.

2.15.3. CUMULATIVE REMEDIES

Except as otherwise expressly provided in this Contract, all remedies provided for in this Contract shall be cumulative and in addition to and not in lieu of any other remedies available to either party at law, in equity or otherwise.

2.15.4. DELAYS

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of such obligation is prevented or delayed by any cause beyond the reasonable control of the affected party, and the time for performance of either party hereunder shall in such event be extended for a period equal to any time lost due to such prevention or delay.

2.15.5. ENTIRE AGREEMENT

This Contract constitutes the entire agreement between the parties. No statement, representation, writing, understanding, or agreement made by either party, or any representative of either party, which are not expressed herein shall be binding. All changes to, additions to, modifications of, or amendment to this Contract, or any of the terms, provisions and conditions hereof, shall be binding only when in writing and signed by the authorized officer, agent or representative of each of the parties hereto.

2.15.6. EXPANDED DEFINITIONS

Unless otherwise specified, words importing the singular include the plural and vice versa and words importing gender include all genders. The term "including" means "including without limitation", and the terms "include", "includes" and "included" have similar meanings. Any reference in this Contract to any other agreement is deemed to include a reference to that other agreement, as amended, supplemented or restated from time to time. Any reference in the Contract to "all applicable laws, rules and regulations" means all federal, state and local laws, rules, regulations, ordinances, statutes, codes and practices.

2.15.7. HEADINGS

Headings appearing herein are inserted for convenience or reference only and shall in no way be construed to be interpretations of text.

2.15.8. LANGUAGE AND MEASUREMENTS

All communication between the Company and JEA, including all documents, notes on drawings, and submissions required under the Contract, will be in the English language. Unless otherwise specified in the Contract, the US System of Measurements shall be used for quantity measurement. All instrumentation and equipment will be calibrated in US System of Measures.

2.15.9. MEETINGS AND PUBLIC HEARINGS

The Company will, upon request by JEA, attend all meetings and public hearings as required, in any capacity, as directed by JEA.

2.15.10. NEGOTIATED AGREEMENT

Except as otherwise expressly provided, all provisions of this Agreement shall be binding upon and shall inure to the benefit of the parties, their legal representatives, successors and assigns. The parties agree that they have had meaningful discussion and negotiation of the provisions, terms and conditions contained in this Agreement. Therefore, doubtful or ambiguous provisions, if any, contained in the Agreement shall not be construed against the party who physically prepared this Agreement.

2.15.11. NONEXCLUSIVE

Notwithstanding anything contained herein that may appear to be the contrary, this Contract is "non-exclusive" and JEA reserves the right, in its sole discretion, to retain other companies to perform the Work, and/or JEA may self-perform the Work itself.

2.15.12. REFERENCES

Unless otherwise specified, each reference to a statute, ordinance, law, policy, procedure, process, document, drawing, or other informational material is deemed to be a reference to that item, as amended or supplemented from time to time. All referenced items shall have the enforcement ability as if they are fully incorporated herein.

2.15.13. RELATIONSHIP OF THE PARTIES

The Company agrees that it shall perform the Work as an independent contractor and that it does not (a) have the power or authority to bind JEA or to assume or create any obligation or responsibility, express or implied, on JEA's part or in JEA's name, except as may be authorized by JEA under a separate written document, or (b) represent to any person or entity that it has such power or authority except as may be authorized by JEA under a separate written document.

2.15.14. SEVERABILITY

In the event that any provision of this Contract is found to be unenforceable under applicable law, the parties agree to replace such provision with a substitute provision that most nearly reflects the original intentions of the parties and is enforceable under applicable law, and the remainder of this Contract shall continue in full force and effect. With regard to any provision in this agreement pertaining to damages, equitable or otherwise, it is the intent of the Parties that under no circumstances shall there be recovery for home office overhead. Any damages claimed shall be proven by discreet accounting of direct project costs and no theoretical formula or industry estimating reference manuals shall be permissible.

2.15.15. SUBCONTRACTING OR ASSIGNING OF CONTRACT

Each party agrees that it shall not subcontract, assign, delegate, or otherwise dispose of the Contract, the duties to be performed under the Contract, or the monies to become due under the Contract without the other party's prior written consent.

The assignment of the Contract will not relieve either of the parties of any of its obligations until such obligations have been assumed in writing by the assignee. If the Contract is assigned by either of the parties, it will be binding upon and will inure to the benefit of the permitted assignee. The Company shall be liable for all acts and omissions of its assignee or its Subcontractor.

In the event the Company obtains JEA approval to use Subcontractors, the Company is obligated to provide Subcontractors possessing the skills, certifications, registrations, licenses, training, tools, demeanor, motivation and attitude to successfully perform the work for which they are subcontracted. The Company is obligated to remove Subcontractors from performing Work under this Contract when the Company recognizes that a Subcontractor is failing to work in a manner consistent with the requirements of this Contract, or when JEA notifies the Company that JEA has determined a Subcontractor is failing to work in a manner consistent with the requirements of this Contract.

2.15.16. SURVIVAL

The obligations of JEA and the Company under this Contract that are not, by the express terms of this Contract, to be performed fully during the Term, shall survive the termination of this Contract.

2.15.17. TIME AND DATE

Unless otherwise specified, references to time of day or date mean the local time or date in Jacksonville, FL. If under this Contract any payment or calculation is to be made, or any other action is to be taken, on or as of a day that is not a regular business day for JEA, that payment or calculation is to be made, and that other action is to be taken, as applicable, on or as of the next day that is a regular business day. Where reference is made to day or days, it means calendar days. Where reference is made to workday, workdays, business day, or business days, it means regular working days for JEA Procurement.

2.15.18. TIME OF ESSENCE

For every material requirement of this Contract, time is of the essence.

2.15.19. TITLE TO MATERIALS FOUND

JEA shall retain the title to water, mineral matter, timber and any other materials that the Company, or its Subcontractors, encounters during the excavation or other operations of the Work. The Company shall use or dispose of this material in accordance with the Contract or written instructions from the Contract Administrator. Any materials found in the excavation, or other operations of the Company, that are of archaeological or historical value shall be left in place. The Company shall immediately notify JEA of the find and shall take no further action until directed by JEA.

2.15.20. USE OF JEA CONTRACTS BY THE CITY OF JACKSONVILLE

Where City of Jacksonville agencies' procurement codes allow use of JEA contracts, the Company agrees to extend any pricing and other contractual terms to such agencies.

2.15.21. WAIVER OF CLAIMS

A delay or omission by JEA hereto to exercise any right or power under this Contract shall not be construed to be a waiver thereof. A waiver by JEA under this Contract shall not be effective unless it is in writing and signed by the party granting the waiver. A waiver by a party of a right under or breach of, this Contract shall not be construed to operate as a waiver of any other or successive rights under, or breaches of, this Contract.

The Company's obligations to perform and complete the Work in accordance with the Contract shall be absolute. None of the following will constitute a waiver of any of JEA's rights under the Contract: approval of payments, including final payment; Certificate of Contract Completion; any use of the Work by JEA; nor any correction of faulty or defective work by JEA.

3. TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK

3.1. TECHNICAL SPECIFICATIONS/DETAILED SCOPE OF WORK (APPENDIX A)

Technical Specifications and a Detailed Scope of Work are located in Appendix A of this document.

4. FORMS

4.1. FORMS (APPENDIX B)

Forms required to be submitted with this solicitation are provided in Appendix B or can be obtained on the JEA website at www.jea.com.

5. SUPPLEMENTAL INFORMATION

5.1. SUPPLEMENTAL INFORMATION (APPENDIX C)

The supplemental information listed in Appendix A can be found in Appendix C.

6. EVALUATION MATRIX

6.1. EVALUATION MATRIX

The attached form is the matrix that will be used to evaluate all proposals submitted in response to this RFP.

030-17 Appendix A Technical Specifications
Wastewater/Water System Resiliency Assessment, Program Management and Engineering Design Services

SCOPE OF WORK

Consultant shall provide the below described work under an Engineering Services Agreement (Agreement) with JEA for this System Resiliency Assessment, and associated program management and engineering design services. This work description is general in nature and is to provide a framework of the expected scope of services. JEA's expectations are that the consultants providing proposals for this Agreement, with the final one (1) selected, bring expertise with the technical, business, and stakeholder expectations when developing a final scope of services with JEA.

Background

Northeast Florida and JEA were directly impacted by both Hurricane Matthew in October, 2017 and Hurricane Irma in September, 2017. These were the first hurricanes to reach JEA's service area since Hurricane Dora in 1964. In addition, after a two (2) year drought period, over thirty-two inches (32") of rainfall was recorded in Jacksonville during the three (3) month period of June through August 2017, where fifty-two inches (52") of rainfall is the average annual amount over the past thirty (30) years. The extreme weather during JEA's FY2017, affected and stressed all JEA's water type systems (Water, Wastewater, Reclaimed Water, and Chilled Water), where the extreme weather events most especially impacted JEA's wastewater system.

During Hurricane Matthew in October 2016, JEA's Water/Wastewater system performed very well in maintaining service to customers, as less than one percent (1%) lost water and sewer services during the period impacted by Hurricane Matthew. However, JEA experienced sanitary sewer overflows (SSOs) during the three-day period after the storm's impact to Northeast Florida, primarily due to power outages at over half of JEA's 1,375 sewer pump stations at the time and the inability for operating personnel to travel to pump station sites during the peak storm wind period. Significant investments were made by JEA in FY2017 pre-hurricane season to fortify the electrical power supply, install and mobilize additional back-up power supply, and implement enhanced operational protocols.

Hurricane Irma reached JEA's service area on September 10, 2017 with similar tropical storm and category 1 hurricane force winds as Hurricane Matthew, along with record flooding as a result of concurrent wind, tide and rainfall events in the lower St. Johns River Basin. Over a normal four-day operating period, JEA's collection system and wastewater plants process 300 million gallons of wastewater. During the storms, the flow increased fifty percent (50%) for Hurricane Matthew and seventy-five percent (75%) for Hurricane Irma. Less than three percent (3%) of the elevated flow resulted in sewer overflow during Hurricane Matthew, and improvements put in place during FY2017 resulted in less than 0.5% sewer overflow during Hurricane Irma. Water and wastewater systems across the industry and throughout the country, including JEA's, were not designed nor constructed in the past decades to perform at the highest operating levels during extreme weather events. Hence, there are inherent, albeit costly, opportunities for water/wastewater utilities to: further implement new operating systems and protocols; design and construct mid-range defensive actions such as expanding back-up power supply, elevating equipment and putting flood barrier walls in place; target extreme weather I&I; and designing and building to new resiliency standards when new equipment and systems are installed or need to be replaced.

JEA operates the second largest water/wastewater system in Florida with over 3,900 miles of sewer collection piping, the most number of wastewater pump stations of any utility in the country known to JEA at 1,400, and treats over 80 million gallons per day of wastewater. JEA has invested more than \$3 billion since assuming ownership of the water/wastewater system from the City of Jacksonville in 1997. An additional \$1 billion is scheduled to be invested over the next five (5) years. While the wastewater system has nearly doubled in size, the number of Sanitary Sewer Overflows (SSOs) has been significantly reduced over the last two (2) decades. With JEA's proactive investment in Renewal and Replacement (R&R) programs, adoption of new technology and processes to further improve system reliability and performance, JEA's Sanitary Sewer System continues to perform well in normal operating conditions. Along with many other wastewater utilities across the nation, JEA has opportunities to improve storm resiliency, including minimizing SSOs during extreme weather events, and to upgrade design standards regarding potential sea level rise.

JEA has developed a multi-step plan, **JEA Sewer System: Framework to Resiliency**, to analyze and assess the Hurricane Matthew event to implement near-term resiliency initiatives and to incorporate system resiliency in major rehabilitation and new construction standards. Milestone updates of the multi-step plan have been provided to stakeholders, including at four (4) Board meetings this fiscal year. The following JEA Board Agenda Items with Meeting presentations are included in the RFP for reference in Appendix C:

- November 15, 2016: Multi-step Framework to Resiliency was presented and discussed, including detailed reports on: Hurricane Matthew Assessment Report, Major Capital Improvements and Significant O&M Activities, and the Governor's ninety (90) Day Emergency Rule: Public Notification of Pollution, which was effective beginning September 26, 2016
- February 21, 2017: A preliminary update of FY17 Improvement Activities
- April 18, 2017: Comprehensive update of the Analyze, Plan and Implement Improvement Activities conducted prior to the CY2017 Hurricane Season
- October 17, 2017: Capacity, Management, Operation and Maintenance (CMOM) Assessment was performed under the standard approach developed by Region IV of the EPA with the goal of minimizing SSO's. JEA approached the FDEP with the concept to conduct an independent CMOM assessment under FDEP oversight of JEA's wastewater system.

An initial investment of \$10 million in FY2017 was primarily allocated to increasing the generator fleet, along with dozens of improvement operational activities. The five-year capital plan includes over \$50 million allocated for additional backup generators, supplemental diesel pumps, mid-range defensive actions and longer-term initiatives to construct to new resiliency standards. In addition, changes to several current projects in design have been made to enhance traditional industry designs to improve resiliency to extreme weather conditions

Engineering Services

Perform engineering services to enhance JEA's Water, Wastewater, Reclaimed Water, and Chilled Water systems' storm hardening and resiliency to both:

- ☐ Extreme Weather Events such as tropical storms, hurricanes, extensive rainfall in short periods, flooding, etc.
- ☐ Potential longer-term rise of water bodies.

Major scope functions include:

1. **Program Management and Quality Assurance** services for a multi-year, multifaceted Resiliency Plan which will include numerous individual initiatives and projects consolidated, scheduled, documented and published in an overall program by the selected System Resiliency Consultant (Consultant). The individual projects and initiatives will be performed through a combination of direct functions by the Consultant, by JEA, other engineering consulting firms, and potentially other entities.
2. Perform a **System Resiliency Assessment** including:
 - a. Establish future extreme weather scenarios including damaging winds; inundation and flooding related to rainfall, storm surge, or sea level rise that will impact the operations and design of JEA's water, wastewater, reclaimed, and chilled water systems
 - b. Identification, Inspection, and Quantification of at-risk facilities and equipment
 - c. Prioritize Recommendations to reduce the likelihood and consequences of service interruptions, environmental impacts, and equipment / facility damages to include preventative, protective and

mitigating measures. Recommendations shall be in three distinct phases: Immediate Opportunities, Mid-range Defensive Actions, Longer-term Design Changes to Build to New Resiliency Standards

3. **Design Standards, Construction Standards, System Design Descriptions** developed or updated
4. **Project Definitions** developed for prioritized projects identified in the Resiliency Assessment
5. **Engineering Design Services** from Project Definition to 100% design on select projects. JEA reserves the right to move any project to the RFP process, where the Consultant will potentially be utilized for Owner's Engineering Services.
6. **Owner's Engineering Services** including technical, contract, construction, cost and scheduling review and oversight of projects designed by other entities
7. **Benchmark Assessment** of utility Resiliency plans and types of initiatives, published program information, system performance during both blue-sky and grey-sky conditions, stakeholder outreach and partnerships
8. **Documentation, Publication, Exhibits and Presentations**
9. **Ancillary Findings of the Electric Supply System**

Technical Specifications

- 1) **Program Management and Quality Assurance (QA)** services for a multi-year, multifaceted Resiliency Plan. The individual projects and initiatives will be performed through a combination of direct functions by the Consultant, by JEA, other engineering consulting firms, and potentially other entities. The individual resiliency initiatives and projects shall be consolidated for coordination, along with gap and overlap analysis purposes, documented; scheduled and monitored for deliverable timelines; QA reviewed for technical standards and documentation consistency; and published in an overall **Framework to Resiliency Plan (Resiliency Plan)** by the selected System Resiliency Consultant (Consultant).
- 2) Perform a **System Resiliency Assessment** for JEA's Wastewater, Water, Chilled Water and Reclaimed Water systems to consider both:
 - ☐ Extreme Weather Events such as tropical storms, hurricanes, extensive rainfall in short periods, and flooding
 - ☐ Potential longer-term rise of water bodies due to climate change or other environmental factors

The **System Resiliency Assessment** shall include, but not limited to:

- a. Establish future extreme weather scenarios including damaging winds, inundation and flooding related to rainfall, storm surge, or sea level rise that would impact the operations and design of JEA's water, wastewater, reclaimed, and chilled water systems
- b. Identification, Inspection, and Quantification of at-risk facilities and equipment
- c. Prioritize Recommendations to reduce the likelihood and consequences of service interruptions, environmental impacts, and equipment / facility damages to include preventative, protective and mitigating measures and the associated planning level cost estimates. Recommendations shall incorporate a comprehensive review of JEA's actions put in place to date, development of additional measures, grouping categorization, and prioritization. Documentation and publication of actionable recommendations shall be categorized in three distinct phases:

Immediate Opportunities

- i. JEA's Operational and Capital activities implemented in FY2017 and continuing to be implemented during FY2018 and FY2019
- ii. Recommended Additional Operational activities and actions in FY2018 and future years
- iii. JEA's Design Standard modifications made in FY2017 and FY2018 year-to-date
- iv. Design Standard changes for new Developments per new resiliency standards
- v. Pump Station Electrical/Controls: standard design specifications, controls logic, equipment and device settings for Class III & IV Wastewater Pump Stations
- vi. Design Standard changes for current projects in JEA's five (5) year \$1 Billion Capital Improvement Plan (CIP) per new resiliency standards
- vii. Other as may be identified by the Consultant

Mid-range Defensive Actions

- viii. Design and construction of mid-range defensive actions: prioritized list and grouping of capital projects with planning level cost estimates
- ix. Updates to JEA Design Standards based upon additional operational monitoring, along with innovation and advancements in the Water/Wastewater industry during the length of this Resiliency Plan
- x. Other as may be identified by the Consultant

Longer-term Design Changes to Build to New Resiliency Standards

- xi. New resiliency design standards in conjunction with the current normal replacement cycle: prioritized list and grouping of capital projects with planning level cost estimates
- xii. Other as may be identified by the Consultant

- 3) **Design Standards, Construction Standards, System Design Descriptions** (of operating schemes / control logic) developed or updated in both written specifications and graphical drawings and schematics to document modifications of equipment, systems, and facilities to meet new storm hardening and resiliency criteria
- 4) **Project Definition** development for a multitude of projects recommended from the prioritized results of the System Resiliency Assessment
- 5) **Engineering Design Services** on selected projects from the Project Definition phase to: Schematic (10%), Conceptual (30%), Final Design (60%, 90% and 100%), and Services during Construction Development for projects recommended from the System Resiliency Assessment
- 6) **Owner's Engineering Services** including technical, contract, construction, cost and scheduling review and oversight of projects designed by other entities

Example types of projects which the Consultant will potentially perform full Engineering Design Services (including Services During Construction), and projects/initiatives which the Consultant will potentially perform Owner's Engineering Services are summarized in the following table:

<u>Engineering Design Services</u>	<u>Owner's Engineering Services</u>
<p>Back-up, on-site, power supply, including generators where JEA is self-performing the design and project management for installations at the Class I, II, III & IV Wastewater Pump Stations (PS).</p> <p><i>Note: JEA has performed a prioritized Wastewater PS Criticality Analysis on the 1,375 PS assets present in JEA's system at the beginning of FY2017</i></p>	<p>Large Diameter Pipe Evaluation Program including identification of single point of failure critical piping systems, and development and implementation of actionable mitigation and operational plans</p>
<p>Back-up or supplemental diesel pump installations, including controls and piping where JEA is self-performing the design, project and construction management for installations at the Class I & II Wastewater Pump Stations, and potentially will need services at approximately 10 Class III & IV Pump Stations during FY2018 – FY2020</p>	<p>Implementation of the recommendations within the September 2017 CMOM Assessments</p>
<p>Provide I&I analysis of SCADA data for JEA's 1,400 pump stations utilizing extreme drought period data in year 2016 - April 2017, compared to extreme wet conditions experienced during Hurricane Matthew, July-August 2017 and Hurricane Irma. Identify and prioritize basins in need of field testing, potentially perform the</p>	<p>Oversee I&I studies including analysis, field testing, and rehabilitation services performed by other engineering firms or specialty contractors</p>

needed field testing and services, and establish rehabilitation priorities.	
Pump Station and associated Manhole monitoring assessment with field survey, GIS, SCADA, or other Operational Technology (OT) systems to enhance operational performance and allow more robust management of pump down operations during gray sky events	Review of the JEA outsourced Generator and Diesel Pump testing and maintenance plan
Electrical, Instrumentation & Controls (I&C) assessment and standard design developed and implemented for potential single phasing, voltage sags, and other <u>electrical faults</u> , etc. for: Wastewater Pump Stations (Class III & IV, Class I & II), Wastewater, Water, and Chilled Water Plants / Facilities	On-site Power Generation from Biogas at Buckman WRF to provide on-site power supply to most critical equipment
Electrical, and I&C assessment and standard design and setting configuration developed and implemented to ensure <u>synchronization</u> of transfer switches, generators, VFD's, relays and other electronics such that <u>back-up power systems operate as designed</u> when primary power supply fails	Flood Barrier Wall(s) Design and Construction
Electrical (Switch Panels, Transformers, Breakers, Switches, MCC's, Relays, UPS, etc.) and I&C (VFD's, PLC's, SCADA panels, fiber), <u>equipment specifications and elevations</u> at Pump Stations, Plants / Facilities account for projected long-term water level elevations	
Wastewater Treatment Plant Hydraulic Capacity and Emergency Outfalls	

- 7) **Benchmark Assessment in the Water/Wastewater Industry** related to Resiliency:
 - a. Studies, types of plans, and new design standards, and actual infrastructure investments by types, costs and actual initiatives/projects/programs at their current deployment phase
 - b. Catalog published information by other Utilities and Industry groups for reference by JEA and its stakeholder reference
 - c. Stakeholder Outreach and Partnerships by US Utilities
 - d. System Performance Benchmarking in both blue-sky (normal operating conditions) and grey sky (storm impact periods). Size and Design Basis of large US Sanitary Sewer Collection Systems in terms of miles of pipe, pump stations, Combined Sewer Overflow, Sanitary Sewer Overflow performance, customer water outages during both blue-sky and grey sky conditions, etc.
- 8) **Document, Publication, Exhibits and Presentations** for both JEA internal and external stakeholder audiences will be required
- 9) **Ancillary findings of Electric Supply System** during the assessment should be published in a supplemental conceptual appendix to be provided to the JEA Electric System group to review for potential further analysis and consideration as JEA Electric provides electric service to approximately ninety percent (90%) of the JEA Water/Wastewater facilities

10) **Deliverable Milestones and Schedule** will incorporate the following at minimum:

JEA FY2018 (October 1, 2017 through September 30, 2018)

February 15 th (Pre-contract)	Develop initial framework of deliverable milestone items and schedule
March 15 th	Final deliverable milestone items and schedule Target program kick-off
May 15 th	Review of JEA's Operating and Capital activities being implemented for the CY2018 Hurricane season and recommend adjustments
June 30 th September 30 th December 31 st	Quarterly Progress Report (written and in-person meeting with Consultant Program Manager and at least one lead team member) to include status updates of schedule and deliverables, monthly budget/cost reports, open and closed issues lists, industry resiliency updates, critical item review
June 30 th	Draft of "JEA Framework to Resiliency Plan – First Draft" <ul style="list-style-type: none"> ▪ Content and format determined; Sections and Table of Contents identified ▪ System Resiliency Assessment: SECTION A) extreme weather scenarios determined for equipment and facility design basis ▪ Catalog of relevant JEA Design and Construction Standards ▪ Draft Benchmark Assessments ▪ Framework, and Conceptual Assessment with Draft Recommendations to address Hydraulic Capacity of wastewater plants during an projected weather events and potential long-term sea level or other environmental impacts
September 15 th	Updated 10-year CIP for Resiliency Plan depicting and summarizing items currently in JEA's ten-year Capital plan (potentially needing to be accelerated) and items not currently in JEA's Capital Plan
September 30 th	"JEA's Framework to Resiliency Plan – First Draft" <ul style="list-style-type: none"> ▪ All Items in June 30th Draft updated ▪ System Resiliency Assessment: SECTION B) Identification of at-risk equipment, and facilities ▪ Draft Electrical and I&C assessments, design standard upgrades, and project plan to upgrade all facilities where recommended to address electrical faults and synchronization initiatives listed in the Engineering Design Services table under Item 6) ▪ Draft Wastewater Treatment Plant Hydraulic Assessments and Recommendations ▪ Draft technical and resource plan for enhanced wet well and manhole level monitoring

JEA FY2019 (October 1, 2018 through September 30, 2019)

January 1 st	<ul style="list-style-type: none">▪ System Resiliency Assessment: SECTION C) Finalize Field Inspection and Quantification of “at-risk” facilities; and Draft Prioritization recommendations with associated basis and planning level cost estimates of Preventative, Protective, and Mitigation Measures▪ Finalize Electrical and I&C assessments, design and implementation recommendations▪ Finalize technical and resource plan; and Project Delivery scopes to implement effective solutions to fully address Wastewater Treatment Plant Hydraulic Assessments and Recommendations▪ Finalize technical and resource plan for JEA to implement recommendations related to enhanced monitoring of pump station wet well and manhole levels utilizing GIS, SCADA or other technologies▪ Update Benchmark Assessments
March 31 st	<ul style="list-style-type: none">▪ “JEA Framework to Resiliency Plan Year 2020– Draft”▪ Review of JEA’s Operating and Capital activities being implemented for the CY2019 Hurricane season and recommend adjustments▪ Develop Project Definitions for recommended projects in the Resiliency Assessment▪ Finalize technical and resource plan; and Project Delivery scopes to implement effective solutions for all projects identified in the Resiliency Assessment▪ Finalize Benchmark Assessments
September 15 th	Updated 10-year CIP for Resiliency Plan depicting and summarizing items currently in JEA’s ten-year Capital plan (potentially needing to be accelerated) and items not currently in JEA’s Capital Plan
September 30 th	Final draft of “JEA Framework to Resiliency Plan Year 2020”

JEA FY2020 – FY2022 (October 1, 2019 through September 30, 2022) each year

March 31 st	Review JEA’s Operating and Capital activities prior to annual Hurricane season
September 15 th	Update 10-year CIP for Resiliency Plan
September 30 th	Update and publish a revised “JEA Framework to Resiliency Plan Year 2020”

**APPENDIX B
PROPOSAL FORM**

**030-17 Wastewater/Water System Resiliency Assessment, Program Management and Engineering
Design Services**

COMPANY INFORMATION:

COMPANY NAME: _____

BUSINESS ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE: _____

FAX: _____

EMAIL OF CONTACT: _____

PROJECT MANAGER PROXIMITY

In order to receive points for this criterion, Company's office must be occupied and staffed with at least three (3) employees for a duration of six (6) months prior to the Proposal Due Date stated in the RFP.

Check the box to confirm Company meets criterion ☐ YES ☐ NO

_____ (Initials) I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".

The Company shall submit one (1) original Proposal, three (3) duplicates (hardcopies), and four (4) CDs or USB drives. If there is a discrepancy between the electronic copy and hard copy, the hard copy will prevail. JEA will not accept Proposals transmitted via email.

Company's Certification

By submitting this Proposal, the Proposer certifies that it has read and reviewed all of the documents pertaining to this RFP and agrees to abide by the terms and conditions set forth therein, that the person signing below is an authorized representative of the company, that the company is legally authorized to do business in the State of Florida, and that the company maintains in active status an appropriate license for the work. The company certifies that its recent, current, and projected workload will not interfere with the company's ability to Work in a professional, diligent and timely manner.

The Proposer certifies, under penalty of perjury, that it holds all licenses, permits, certifications, insurances, bonds, and other credentials required by law, contract or practice to perform the Work. The Proposer also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Company shall immediately notify JEA of status change.

We have received addenda _____ through _____

Signature of Authorize Officer of Company or Agent

Date

Printed Name & Title

Phone Number

APPENDIX B MINIMUM QUALIFICATION FORM

030-17 Wastewater/Water System Resiliency Assessment, Program Management and Engineering Design Services

GENERAL

THE MINIMUM QUALIFICATIONS SHALL BE SUBMITTED IN THE FORMAT ATTACHED. THE REPORT SHALL BE PRESENTED IN THE ORDER DESCRIBED BELOW. IN ORDER TO BE CONSIDERED A QUALIFIED SUPPLIER BY JEA YOU MUST MEET ALL THE CRITERIA LISTED AND BE ABLE TO PROVIDE ALL THE SERVICES LISTED IN THIS SPECIFICATION.

THE PROPOSER MUST COMPLETE THE FOLLOWING INFORMATION AND ANY OTHER INFORMATION OR ATTACHMENTS.

PROPOSER INFORMATION

COMPANY NAME: _____

BUSINESS ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE: _____

FAX: _____

E-MAIL: _____

PRINT NAME OF AUTHORIZED REPRESENTATIVE: _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE: _____

1. The Proposer shall have successfully engaged in a similar system resiliency program(s) in the United States (U.S.A.) during the last five (5) years as of the RFP due date. Submit as many similar programs necessary to meet these minimum qualifications. A similar program is defined as:
 - a) A multifaceted resiliency assessment that incorporates immediate opportunities with specific operational and design recommendations, mid-range defensive actions and longer-term initiatives to enhance design requirements when needed and building to new resiliency standards
 - b) The program engagements must have been with a wastewater utility with greater than 40 MGD AADF of wastewater treatment and collection
 - c) The program engagements must have been with a water utility with greater than 50 MGD AADF of water treatment and distribution
2. The Proposer shall be able to clearly demonstrate significant engineering design, consulting, operating and maintenance, Enterprise Asset Management (EAM) experience in the past five (5) years, as of the RFP due date.
 - This experience must be with a water/wastewater utility that has greater than or equal to \$100 million per year of water/wastewater revenues and

operates greater than 200 sewer pump stations. Multiple projects may be submitted, however the aggregate total for submitted projects must have resulted in a minimum value of work of least five million dollars (\$5,000,000.00) with a single water/wastewater utility.

REFERENCE 1

Reference Name_____

Reference Phone Number_____

Reference E-Mail Address_____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____

REFERENCE 2

Reference Name_____

Reference Phone Number_____

Reference E-Mail Address_____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____

REFERENCE 3

Reference Name _____

Reference Phone Number _____

Reference E-Mail Address _____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____

REFERENCE 4

Reference Name _____

Reference Phone Number _____

Reference E-Mail Address _____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____

REFERENCE 5

Reference Name _____

Reference Phone Number _____

Reference E-Mail Address _____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____

REFERENCE 6

Reference Name _____

Reference Phone Number _____

Reference E-Mail Address _____

Contract Year/Amount _____

Project Title _____

Address of Work _____

Description of Project _____



Table of Contents

- I. November 15, 2016: Multi-step Framework to Resiliency
- II. February 21, 2017: A Preliminary Update of FY17 Improvement Activities
- III. April 18, 2017: Comprehensive Update of the Analyze Plan and Implement Improvement Activities
- IV. October 17, 2017: Capacity, Management, Operation and Maintenance (CMOM) Assessment



INTER-OFFICE MEMORANDUM

November 7, 2016

SUBJECT: **JEA SEWER SYSTEM: FRAMEWORK FOR RESILIENCY**
A) STORM ASSESSMENT REPORT
B) MAJOR CAPITAL IMPROVEMENTS AND O&M ACTIVITIES

FROM: Paul E. McElroy, Managing Director/CEO

TO: JEA Board of Directors

BACKGROUND:

JEA's Water/Wastewater Systems performed very well in maintaining service to customers as less than 1% lost water and sewer services during the period impacted by Hurricane Matthew. However, JEA experienced numerous sanitary sewer overflows (SSOs) during the three day period after the storm's impact to Northeast Florida primarily due to power outages at over half of JEA's 1382 sewer pump stations and the inability for operating personnel to travel to pump station sites during the peak storm period. JEA has mature and effective environmental incident response processes and reporting systems, where JEA's Environmental Response Coordinator (ERC) is immediately notified of SSO's upon discovery by operating personnel, customers, or other constituents. The ERC works with operating personnel to isolate and contain SSO's, clean the impacted areas, post signs, coordinates media releases, monitoring and sampling of adjacent waters until the water bodies return to normal background conditions, determines if the event is reportable to the State Warning Officer (SWO), and makes appropriate regulatory telephone notifications within 24 hours of the event. Florida Department of Environmental Protection (FDEP) Reportable events are those where a release of untreated or partially treated sewage is:

- A) Equal to or greater than 1000 gallons; or
- B) Discharges to surface water, regardless of volume; or
- C) The public has unrestricted access to the site

The ERC submits required written regulatory reports no later than 5 days after the event to all necessary agencies. JEA performs a root-cause analysis on each Reportable SSO, meets with the Northeast District of the FDEP to review each of the events on a quarterly basis, and submits a SSO Annual Progress Report to the FDEP.

Effective September 26, 2016, Governor Scott issued an Emergency Rule requiring additional reporting of pollution notices for incidents that may cause a threat to the air, surface waters or groundwater of the state. The rule requires additional reporting to key elected and appointed officials and the media in order to inform the public of pollution events within 24 hours. With the onset of the new Public Notice of Pollution Emergency Rule, JEA has been communicating and noticing both the historical FDEP required Reportable events and events which were previously non-Reportable such as small reclaim water leaks, and SSOs which did not reach waters of state and were less than 1000 gallons (local FDEP information only), and less than 50 gallons which were non-Reportable to FDEP.

DISCUSSION:

JEA's Sanitary Sewer System continues to perform well in normal operating, "blue-sky" conditions. JEA along with many other wastewater utilities across the nation and state have opportunities to improve storm resiliency, including minimizing overflows during Hurricane periods. With the SSO clean-up completed, JEA has moved to fully analyzing, assessing and understanding what happened, insuring

that the JEA Water/Wastewater System is performing better than EPA's best-practice standards. JEA has developed a multi-step plan to analyze, assess the Hurricane Matthew event in effort to implement short term resiliency initiatives and incorporating system resiliency in major rehabilitation and new construction standards. Attached is and outline of the JEA's multi-step **Framework to Resiliency**.

Hurricane Matthew - Storm Assessment Report: The report includes a listing of each of the 67 SSO's with primary root cause, estimated overflow volume, characteristics such as average daily and design flow for pump stations, generator requirements, and association with manhole overflows. During the storm restoration period, JEA worked with FDEP to monitor 58 water bodies impacted by 67 SSO events, and also with the City of Jacksonville's Environmental Quality Division. After monitoring the water bodies post-storm, the three agencies determined by October 21st that 57 of 58 water bodies had returned to pre-storm conditions. The final water body was cleared to pre-storm conditions on Monday October 31st.

Analysis of the SSO events were performed to determine which of the 67 SSO's occurred due to pump stations being out of electrical power without fixed back-up power supply systems and which of the pump stations had back-up systems but required manual reset of switches, breakers, relays and controls due to electrical faults. An element of the analysis includes identifying which of the SSO's derived from pump stations which either discharge into a 12" or larger force main or have a peak flow capacity of greater than 500 gallons per minute. JEA has identified Eight (8) of 67 SSO's occurred at pump stations which either of these two design conditions, where JEA is currently reviewing the site conditions to determine the feasibility of retrofitting the pump stations to the newer design standards. Preliminary assessment has 31 of the 174 JEA pump stations, from a total of 1382, meet either of the two newer design conditions and do not have fixed back-up power supply sources. In addition, JEA has begun the electrical supply assessment for each station to include overhead or underground feeds, heightened tree exposure, the electrical design of controls, switches, breakers to enhance their designs in efforts to minimize and mitigate system failures due to electrical faults.

Historical JEA SSO performance is included for reference in the Storm Assessment Report, and demonstrates favorable benchmark comparisons with other Florida utilities during normal "Blue Sky" operating periods.

JEA, along with three other Northeast Florida wastewater utilities impacted by the Hurricane Matthew will be working with FDEP and its infrastructure consulting firm, RS&H, and with five utilities in Tampa Bay area impacted by Hurricane Hermine to identify solutions that will help minimize overflows during hurricanes and extreme storm events. The FDEP - RS&H report of Sanitary Sewer Overflow Evaluations and Solutions in Response to Hurricanes Hermine and Matthew is expected to be completed in January 2017.

JEA will be developing a Capacity Management and Operations Maintenance Assessment (CMOM) by May 2017, and start implementing improvements as identified. Concurrently, JEA supported by consultants, will develop a comprehensive JEA System Resiliency Assessment which will be completed by December 2017. The System Resiliency Assessment will be conducted in three phases: immediate opportunities, mid-range defensive actions, and longer term by replacing when needed and building new to resiliency standards.

Major Capital Improvements and Significant O&M Activities: Over the past 20 years JEA has invested over \$3 billion in the Water/Wastewater System, resulting in significant improvements in its environmental performance including SSO's, and is a leader in the industry benchmarks of SSO performance which have been based on normal "Blue-Sky" operating conditions. JEA invested approximately \$350 million in Pipebursting work in the early 2000's to rebuild major sections of the gravity sewer collection system in neighborhood and corridor roads resulting in significant reductions of Sewer Cave-ins and SSO's from the pre-rehabilitation periods to reach an average of 54 SSO's from the period of FY04 to FY07. In 2006, JEA embarked on a major Capacity Management Operations Maintenance (CMOM) program which instituted a framework of preventative maintenance programs

including inspection and repair as needed of JEA's 55,000 manholes, 1000 Air Release Valves, current 1382 sewer pump stations, and best operational practices such of close circuit television (CCTV) of lines of gravity mains, a Fats, Oil and Grease (FOG) program, and periodic jetting of sewer lines apt to become clogged. The institution of the CMOM program, along with continued capital renewal and replacement investments has provided material improvements in JEA's SSO performance.

JEA has continued to invest over \$10 million annually in capital projects directly targeted to prevent SSO's including ductile iron force main, air release valve, and pump station replacements, and sewer collection system trenchless renewal and replacement. There has been significant investment in replacing collection system pipes accompanying Joint Projects with COJ, DOT, and JTA road improvements, plant and pump station upgrades, which have all mitigated the risks of SSO's. The attached report details actual and projected JEA Capital expenditures in the Sewer Collection system from FY12 to FY21 which demonstrate increased investment in renewal and replacement. In addition, the O&M resources and significant activities are included in the report.

RECOMMENDATION:

Provide the Board a Framework for Resiliency plan for discussion and feedback. Included in the plan will be an initial Storm Assessment Report and summary of Major Capital Improvements and Significant O&M Activities. The FDEP - RS&H report of Sanitary Sewer Overflow Evaluations and Solutions in Response to Hurricanes Hermine and Matthew is expected to be completed in January 2017. JEA's Framework for Resiliency plan will be a multi-step process where the Capacity Management and Operations Maintenance Assessment (CMOM) will be completed by May 2017, and the System Resiliency Assessment will be completed by December 2017. Staff will bring interim updates of the plan to the Board for further discussion and feedback.

Paul E. McElroy, Managing Director/CEO

PEM/BJR

Attachments:

Framework to Resiliency Outline

Framework to Resiliency Draft Report

Framework to Resiliency

JEA Sanitary Sewer System

“Clean Water for Families is a Top Priority”

Hurricane Matthew Assessment Report

- Detail sanitary sewer failures during Hurricane Matthew
- Include sanitary sewer overflow history and benchmarks

Report Major Capital Improvements and Significant Maintenance Activities

- Include activities for the last twelve months
- Include activities for the next twenty four months

Analyze, Plan and Implement Improvement Activities prior to April, 2017

- Review and improve all Functional Response Procedures (aka Emergency Plans)
- Fortify Sanitary Sewer System power supply systems
- Fortify Sanitary Sewer System communication systems
- Identify other actions to be implemented

System Capacity, Management and Operations Maintenance Assessment (CMOM)

- Comprehensive review by an independent source, identified in partnership with FDEP
- Review will be conducted in three phases: analyze, assess and improve
- Improvements will commence when identified

System Resiliency Assessment

- Will seek strong partnership with FDEP, potential for state leadership on this issue
- To be conducted in three phases:
 - Immediate opportunities
 - Mid-range defensive actions
 - Longer-term by replacing when needed and building new to new resiliency standards

Communication Improvements

- Identify, design and implement more effective communication plans
- Plans will be tailored to various constituents

Regulatory Opportunities

- Engage in the FDEP rule making process as it transitions from an emergency rule to a final rule governing reporting for all statewide pollutant spills
- FDEP partnerships
 - Returning the system to normal operations
 - CMOM review
 - Resiliency standards design



Framework to Resiliency

JEA Sanitary Sewer System

“Clean Water for Families is a Top Priority”

Hurricane Matthew
Assessment Report
November 15, 2016

Note: Initial Draft Report will be provided prior to the Nov. 15 Board Meeting



Building Community_{sm}

Framework to Resiliency

JEA Sanitary Sewer System

“Clean Water for Families is Top Priority”

November 15, 2016

JEA Framework to Resiliency

**Nov
2016**

Hurricane Matthew Assessment Report

- Detail sanitary sewer failures during Hurricane Matthew
- Include sanitary sewer overflow history and benchmarks

**Nov
2016**

Report Major Capital Improvements and Significant O&M Activities

- Include activities for the last twelve months
- Include activities for the next twenty four months

**Apr
2017**

Analyze, Plan and Implement Improvement Activities

- Review and improve all Functional Response Procedures (Emergency Plans)
- Fortify Sanitary Sewer System power supply systems
- Fortify Sanitary Sewer System communication systems
- Identify other actions to be implemented

**May
2017**

System Capacity, Management, Operation and Maintenance Assessment (CMOM)

- Comprehensive review by an independent source, identified in partnership with FDEP
- Review will be conducted in three phases: analyze, assess and improve
- Improvements will commence when identified

JEA Framework to Resiliency

Dec
2017

System Resiliency Assessment

- Will seek strong partnership with FDEP, potential for state leadership on this issue
- To be conducted in three phases:
 - Immediate opportunities
 - Mid-range defensive actions
 - Longer-term by replacing when needed and building to new resiliency standards

Ongoing

Communication Improvements

- Identify, design and implement more effective communication plans
- Plans will be tailored to various constituents

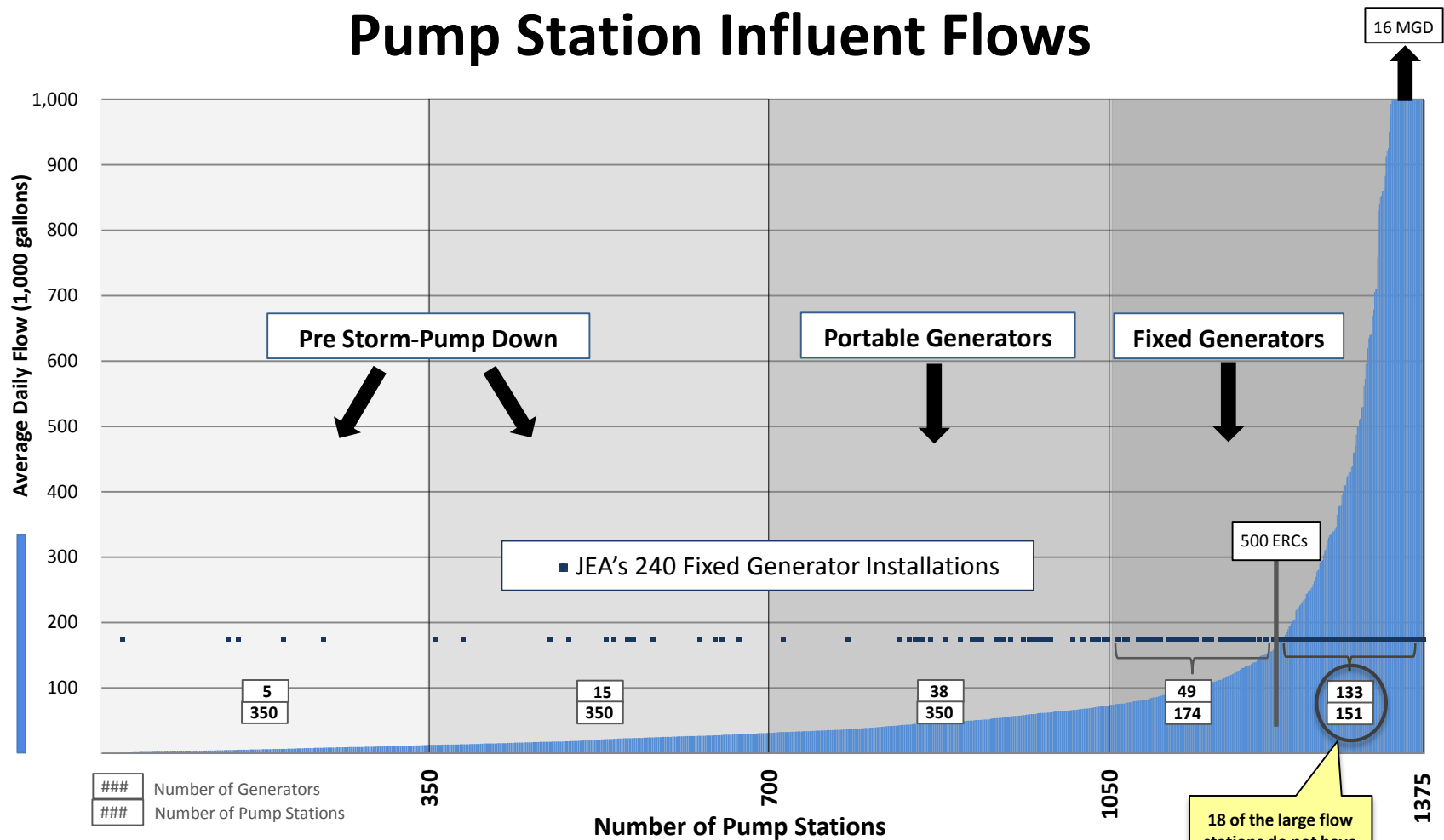
Ongoing

Regulatory Opportunities – FDEP Partnerships

- Engage in the FDEP rule making process as it transitions from the September 26, 2016 Governor's 90-day Emergency Rule: Public Notice of Pollution, to a final rule governing reporting for all statewide pollutant spills
- Returning the system to normal operations **Oct 2016**
- Monitoring and sampling water bodies impacted by Hurricane Matthew related SSO's **Oct 2016**
- CMOM review
- Resiliency standards design

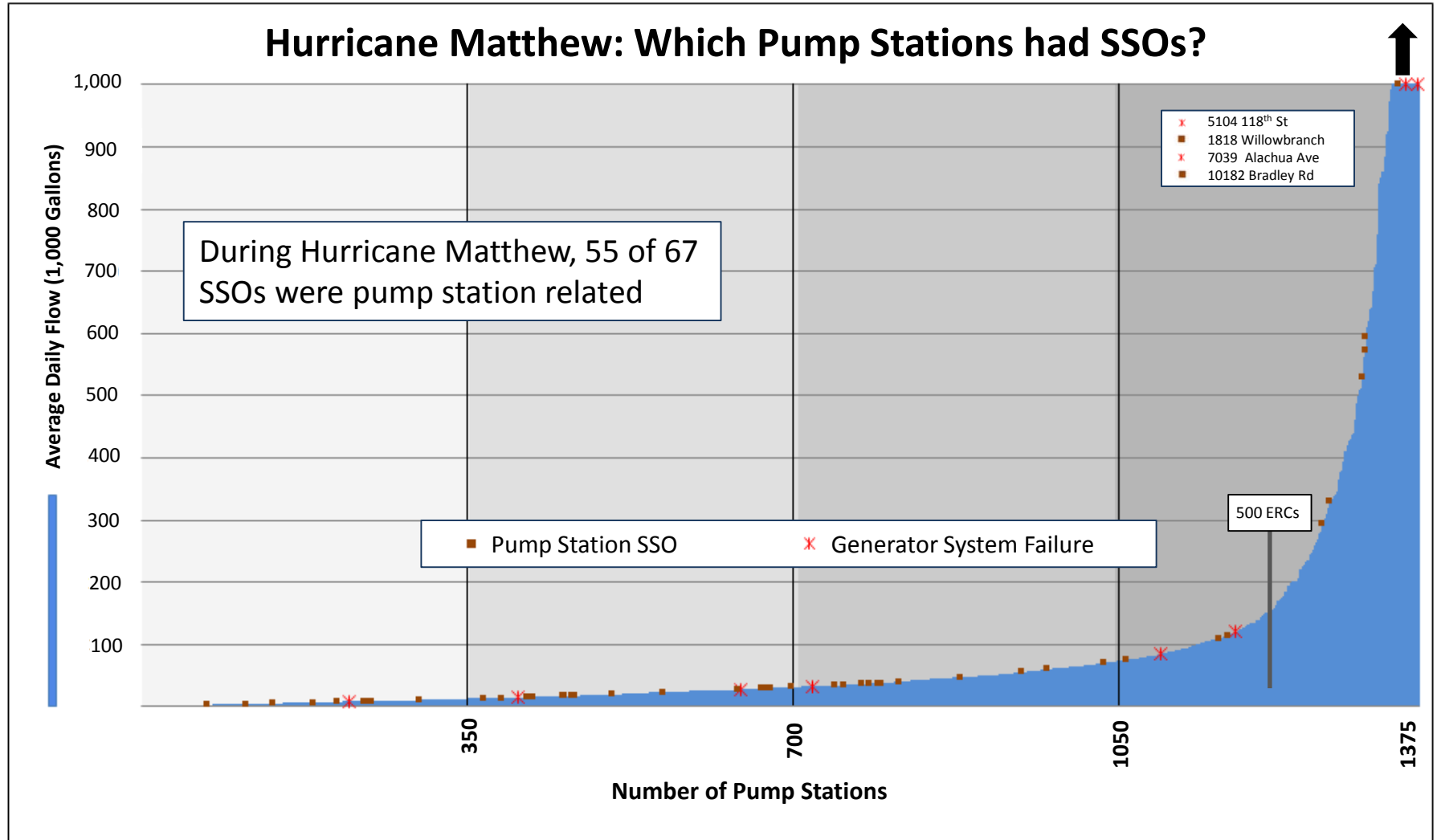
Generator Assessment - Planned Deployment

Pump Station Influent Flows



MGD: Million Gallons per Day
ERC: Equivalent Residential Connections

Storm Assessment – Generator Performance



Installation of New Generators at Pump Stations

	Pump Station Address	FM \geq 12"	Peak Flow (GPM)
1	94 32ND ST E	Yes	2352
2	5233 5TH ST W	No	1875
3	6640 HARLOW BV	No	1569
4	9801 BEAVER ST W	Yes	1143
5	8362 TOUCHTON RD	Yes	943
6	7663 ARGYLE FOREST BV	No	824
7	4467 SAN PABLO RD S	No	722
8	1700 SAN PABLO RD S	No	698
9	12858 GLEN KERNAN PY	Yes	673
10	5490 SWAMPFOX RD	No	665
11	5900 TOWNSEND RD	No	588
12	1520 HAMMOND BV	No	570
13	2197 SAN PABLO RD S	No	558
14	1060 ELLIS RD N	No	498
15	1818 WILLOWBRANCH TERRACE	Yes	471
16	6630 BROADWAY AV	No	470
17	4211 WOODMERE ST	Yes	452
18	2962 MANGROVE AV	No	452

The 8 pump stations experienced SSOs due to the impacts of Hurricane Matthew.

* 500 ERC = 441 GPM peak flow, or 175,000 gallon per day average daily flow

	Pump Station Address	FM \geq 12"	Peak Flow (GPM)
19	11637 ETHEL RD	Yes	383
20	9846 FT CAROLINE RD	Yes	352
21	7998 QUAIL COVE LN	Yes	312
22	250 BRYAN ST	Yes	264
23	10837 BLUE PACIFIC CT	Yes	258
24	2251 MCCOY CREEK BV	Yes	258
25	3092 HUFFMAN BV	Yes	251
26	4950 SAN PABLO RD S	Yes	230
27	79 NOCATEE VILLAGE DR	Yes	179
28	5103 KERNAN BV S	Yes	157
29	15598 MOSS HOLLOW DR	Yes	100
30	3500 BOATWRIGHT WY	Yes	96
31	8617 WESTERN WY	Yes	50
32	4130 SUNBEAM RD	Yes	44
33	11933 ACOSTA RD	Yes	40
34	635 SHEARWATER PY	Yes	31
35	2446 TALLEYRAND AV	Yes	20

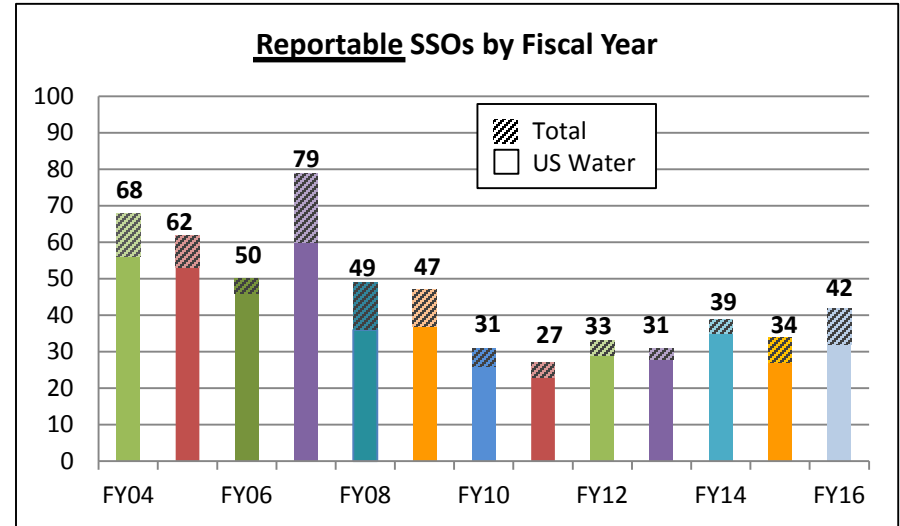
- Initial assessment has 35 of the 184 JEA pump stations, from a total of 1375, which meet either of two newer design conditions of the discharge Force Main (FM) \geq 12-inch diameter or peak flow \geq 441 GPM (175,000 gallons average daily flow) which is the calculated amount for 500 Equivalent Residential Connections (ERCs).
- JEA is currently reviewing the site conditions of the 35 pump stations to determine the feasibility of retrofitting to include generator/transfer switch systems.

Reportable and Non-Reportable SSOs

FDEP Reportable SSOs

- Sewer spills of any volume that reaches designated Waters of the State, or
- Sewer spills $\geq 1,000$ gallons, or
- Threatens the environment or public health

FDEP reviews all Reportable SSOs quarterly, and JEA submits an Annual Report



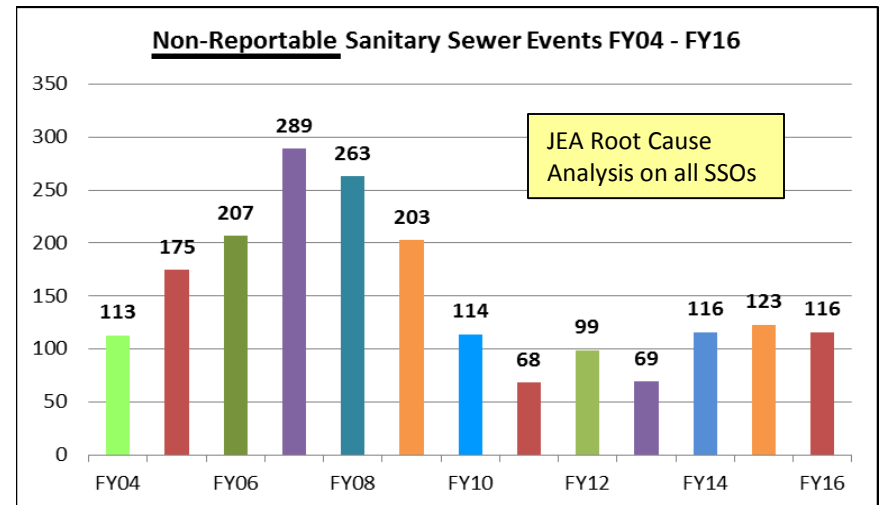
Non-Reportable SSOs – Local DEP Only

50 to 999 gallons

Not to State Watch Officer

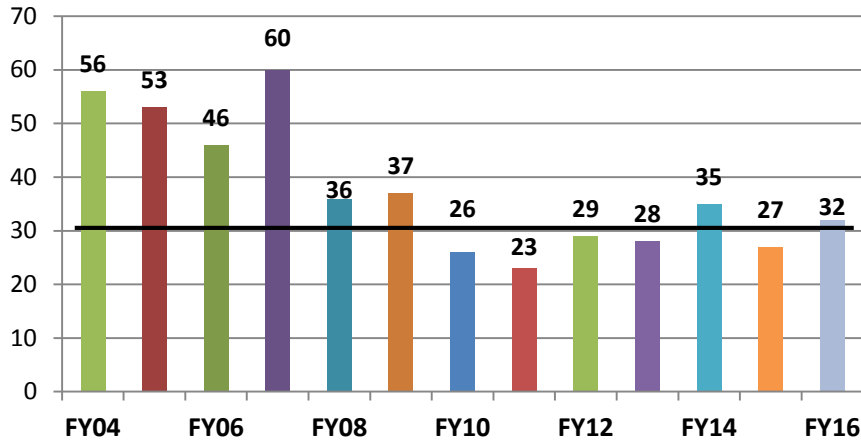
Non-Reportable SSOs

Sewer spills less than 50 gallons that do not threaten the environment or public health

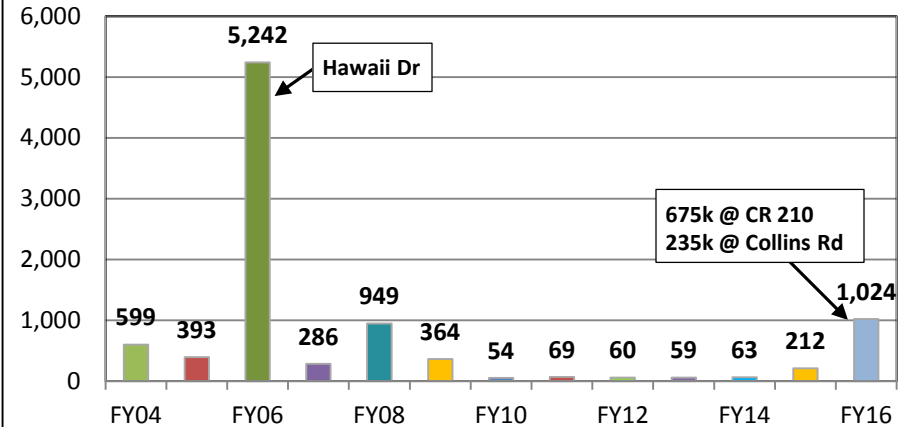


JEA SSOs to US Waters Benchmarks

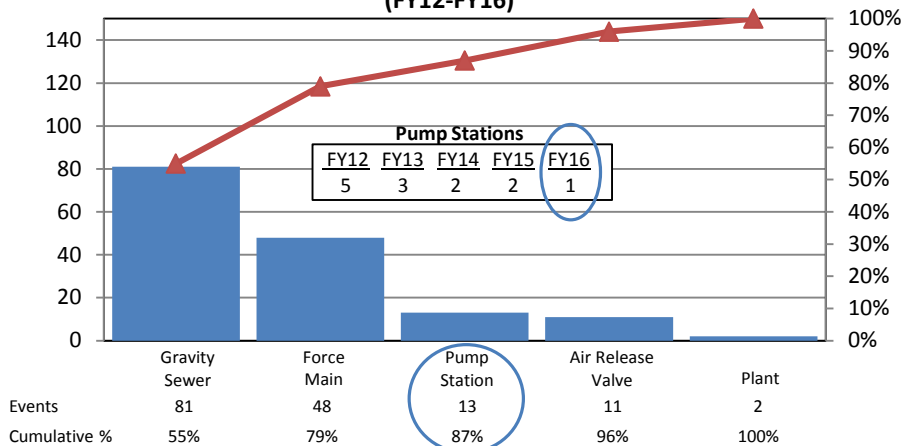
SSOs Impacting US Waters by Fiscal Year



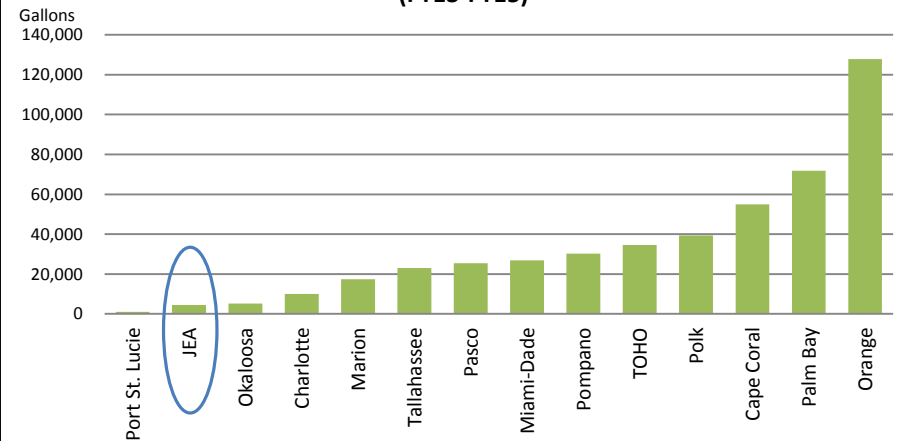
SSO Volume Impacting US Waters by Fiscal Year (in 1,000 gals)



SSOs Impacting US Waters by Source (FY12-FY16)



SSO Volume Impacting US Waters per 100 Miles of Pipe (FY13-FY15)



Governor's Emergency Rule: Public Notice of Pollution

Governor's 90-Day Emergency Rule 62ER16-1: Public Notice of Pollution

Effective September 26, 2016

Requires notification to:

- ☐ Florida Department of Environmental Protection (FDEP)
 - ☐ The highest ranking local elected and appointed officials
 - ☐ The general public via notice to media
 - ☐ Affected property owners
-
- Ensure prompt notification to public regarding any incident or discovery of pollution
 - Emergency Rule did not include reporting thresholds that exist in current rules
 - Accordingly, JEA moved to a reporting system that includes all events, even those below historic reporting thresholds (ex. five gallons in a grass right-of-way, reclaimed water, etc.)
 - Final Rule expected January, 2017

JEA Capital Improvement Plan

Wastewater Collection and Pump Station Funding

FY	Amount
2012	\$27,924,711
2013	21,678,060
2014	22,084,690
2015	25,735,831
2016	44,755,207
2017	58,756,674
2018	61,475,489
2019	55,066,990
2020	41,733,000
2021	40,745,000
Total	\$399,955,652

Major Projects (FY16-FY19)

<u>Project Name</u>	<u>Amount</u>
Southshores River Crossing Force Main	\$14M ✓
Memorial Park/Lane Ave/Timuquana Rd Force Main	\$20M
Pump Station Mechanical and Electrical Rebuilds (McMillan, Alachua, Bradley)	\$20M
Electrical Reliability (New Line Item) (generators, switches, controls, etc)	\$5M
Rehabilitation of 20 to 25 Pump Stations	\$3M/yr
Large Diameter Condition Assessment and Pipe Replacement Program	\$10M/yr

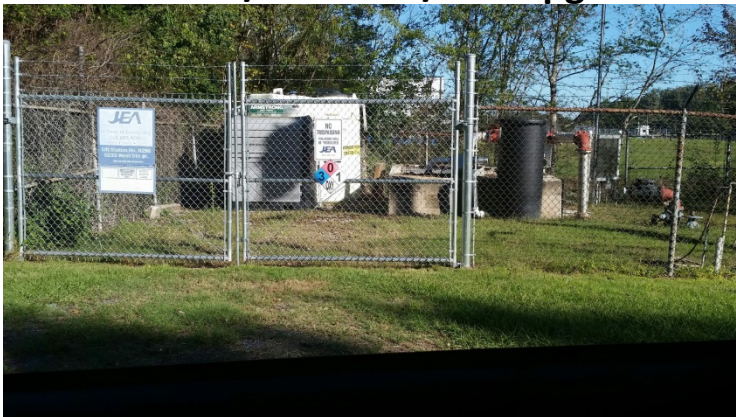
JEA is investing a projected \$250 million into Wastewater Collection and Pump Station Systems during the next five years

Capital Improvement Projects

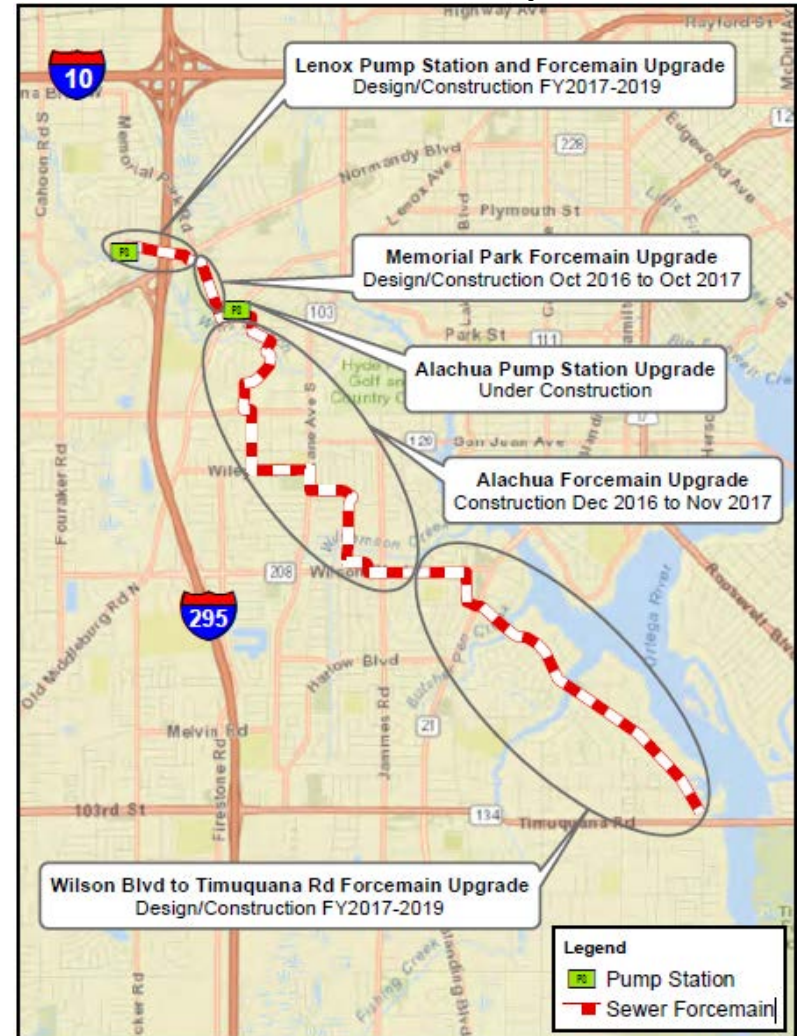
Southshores River Crossing FM



Generator/Electrical/I&C Upgrade



Memorial Park/Lane Ave/Timuquana - \$20 Million



Pump Station O&M – Electrical Faults and Trips

Generator Automatic Transfer Switches (ATS) and Breaker

- ATS allows for instantaneous switching from line to generator power
- Manufacturer set points control the device
- Breakers protect the generator during an under frequency/under voltage event
- Generator breakers must be reset manually
- Newer generators – technician uses laptop to scroll through alarms and operational data
- Not all generators store alarms and operational data



Variable Frequency Drives (VFD)

- Manufacturer-dependent control causes VFD to trip off during power fail and phase loss. Typically provides a threshold for over/under voltage.
- Currently a VFD trip results in personnel responding
- VFD reset opportunities
 - Install a motor relay to program a reset
 - Potential remote reset
- Across the line motor starts are an option if other customers are not on the lateral; limited by the horsepower of the motors



Framework to Resiliency

Nov, 2016	Hurricane Matthew Assessment Report
Nov, 2016	Report Major Capital Improvements and Significant O&M Activities
Apr, 2017	Analyze, Plan and Implement Improvement Activities
May, 2017	System Capacity, Management, and Operation, and Maintenance Assessment (CMOM)
Dec, 2017	System Resiliency Assessment
Ongoing	Communication Improvements
Ongoing	Regulatory Opportunities

INTER-OFFICE MEMORANDUM

February 8, 2017

SUBJECT: JEA SEWER SYSTEM: FRAMEWORK TO RESILIENCY UPDATE

FROM: Brian Roche, VP/GM W/WW Systems

TO: JEA Board of Directors

BACKGROUND:

During Hurricane Matthew in October 2016, JEA's Water/Wastewater Systems performed very well in maintaining service to customers as less than 1% lost water and sewer services during the period impacted by Hurricane Matthew. However, JEA experienced sanitary sewer overflows (SSOs) during the three day period after the storm's impact to Northeast Florida primarily due to power outages at over half of JEA's 1375 sewer pump stations and the inability for operating personnel to travel to pump station sites during the peak storm period. JEA's Sanitary Sewer System continues to perform well in normal operating, "blue-sky" conditions. JEA along with many other wastewater utilities across the nation have opportunities to improve storm resiliency, including minimizing overflows during storm events.

JEA has developed a multi-step plan, **JEA Sewer System: Framework to Resiliency**, to analyze and assess the Hurricane Matthew event in an effort to implement near-term resiliency initiatives and to incorporate system resiliency in major rehabilitation and new construction standards. At the November 15, 2016 Board Meeting, the multi-step Framework to Resiliency was presented and discussed, including detailed reports on: Hurricane Matthew Assessment Report, Major Capital Improvements and Significant O&M Activities, and the Governor's 90-Day Emergency Rule: Public Notification of Pollution which was effective beginning September 26, 2016.

DISCUSSION:

Additional steps of the overall Framework to Resiliency plan are scheduled to reach milestone points and be discussed at future Board Meetings during this 2017 calendar year as noted in the attached presentation. Significant activities have been performed to date since Hurricane Matthew, including:

- Communication: FDEP¹, Waterways Commission, Industry and other stakeholders
- Communication: Enhanced reporting of Reportable SSOs and minor events on JEA.com
- Regulatory: FDEP Evaluation of SSOs Associated with Hurricanes Hermine & Matthew
- Regulatory: CMOM² Assessment conducted under FDEP's oversight began in January
- Immediate Opportunities: Prioritized assessment of 1375 Pump Stations' power supply ongoing
- Immediate Opportunities: Approximately \$7.5 million of additional expenditures in FY17

RECOMMENDATION:

Provide the Board an update on the multi-step Framework to Resiliency plan for discussion and feedback, highlighting early actions implemented to make significant improvements prior to next hurricane season. The next step, Analyze, Plan and Implement Improvement Activities, is planned to be presented and discussed at the April Board Meeting.

Paul E. McElroy, Managing Director/CEO

PEM/BJR

¹FDEP – Florida Department of Environmental Protection

²CMOM – Capacity, Management, Operation, and Maintenance Assessment

JEA Sewer System: Framework to Resiliency

JEA Sewer System: Framework to Resiliency

Nov 2016 Hurricane Matthew Assessment Report

- Detail sanitary sewer failures during Hurricane Matthew
- Include sanitary sewer overflow history and benchmarks
- Governor's 90-Day Emergency Rule: Public Notice of Pollution

Nov 2016 Report Major Capital Improvements and Significant O&M Activities

- Major capital and O&M in the past twelve months
- Major capital and O&M in the next twelve months
- All 1,375 pump stations will have individual site reviews to improve electrical supply (ex. tree trimming, underground service, generators, controls, etc.)

Apr 2017 Analyze, Plan and Implement Improvement Activities

- Review and improve all Functional Response Procedures (Emergency Plans)
- Fortify Sanitary Sewer System power supply systems
- Fortify Sanitary Sewer System communication systems
- Identify other actions to be implemented

Sept 2017 System Capacity, Management, Operation and Maintenance Assessment (CMOM)

- Comprehensive review by an independent source, identified in partnership with FDEP
- Review will be conducted in three phases: analyze, assess and improve
- Improvements will commence when identified

FDEP – Florida Department of Environmental Protection

5

JEA Sewer System: Framework to Resiliency

Dec 2017 System Resiliency Assessment

- Will seek strong partnership with FDEP; potential for state leadership on this issue
- To be conducted in three phases:
 - Immediate opportunities
 - Mid-range defensive actions
 - Longer-term by replacing when needed and building to new resiliency standards

Ongoing Communication Improvements

- Identify, design and implement more effective communication plans
- Plans will be tailored to various constituents

Ongoing Regulatory Opportunities – FDEP Partnerships

- Engage in the FDEP rule making process as it transitions from the September 26, 2016 Governor's 90-day Emergency Rule: Public Notice of Pollution, to a final rule governing reporting for all statewide pollutant spills
- Returning the system to normal operations **Oct 2016**
- Monitoring and sampling water bodies impacted by Hurricane Matthew related SSO's **Oct 2016**
- Capacity, Management, Operations and Maintenance review
- Resiliency standards design

3

PRELIMINARY UPDATE

- **Communication:** FDEP, Waterways Commission, Industry, and other stakeholders
- **Communication:** Enhanced reporting of Reportable SSOs and minor events on JEA.com
- **Regulatory:** CMOM Assessment conducted under FDEP's oversight began in January
- **Immediate Opportunities:** Prioritized assessment of 1375 Pump Stations' power supply
- **Immediate Opportunities:** Approximately \$7.5 million additional expenditures in FY17
- **System Resiliency Assessment:** Mid-Range and Longer-Term Standards evaluated in CY17

Immediate Opportunities: Early Actions

Operating Activities

- ☐ 1375 Pump Stations Data Collection/Analysis/Grouping Nov – Apr / Ongoing
 - ☐ Pump Station Mitigation plans in various stages of planning and implementation
 - ☐ Mutual Aid Outreach Feb - Apr
 - ☐ Rentals/Insurance Policy Jan – Mar: Quotes
 - ☐ January 21st Elevated Weather Event: Storm Preparation
 - ☐ Functional Response Plan Mar – Apr: Rewrite
- { 75 Staff
Activated Generators

Capital Investments

- ☐ 9 Portable Generators, 20% increase Jan purchase
- ☐ 48 Fixed Generators, 20% increase Feb 21st Bid Opening, Turn-key
- ☐ 5 Diesel Pumps, 10% increase Nov – Mar purchase
- ☐ 118th St and Holiday Road (Pottsburg) Electrical Controls Feb: Eng Firm began assessment for July 1st in-service
- ☐ Buckman Main Pump Station Generator Design

Design Changes

- ☐ 28 MGD Bradley Rd PS Design Change – Generator & Cat 5 Electrical Room Dec - Jan
- ☐ Draft Development Design Standards Enhancements All New Pump Stations to have Generators?

Next Step: Analyze, Plan and Implement Improvement Activities to be discussed at the April Board Meeting



INTER-OFFICE MEMORANDUM

April 7, 2017

SUBJECT: JEA SEWER SYSTEM: FRAMEWORK TO RESILIENCY UPDATE

FROM: Brian Roche, VP/GM W/WW Systems

TO: JEA Board of Directors

BACKGROUND:

During Hurricane Matthew in October 2016, JEA's Water/Wastewater Systems performed very well in maintaining service to customers as less than 1% lost water and sewer services during the period impacted by Hurricane Matthew. However, JEA experienced sanitary sewer overflows (SSOs) during the three day period after the storm's impact to Northeast Florida primarily due to power outages at over half of JEA's 1375 sewer pump stations and the inability for operating personnel to travel to pump station sites during the peak storm period. JEA's Sanitary Sewer System continues to perform well in normal operating, "blue-sky" conditions, which is supported by preliminary feedback from the CMOM² consultant that is currently performing an assessment, under FDEP¹ oversight, of JEA's Sewer System. JEA, along with many other wastewater utilities across the nation, have opportunities to improve storm resiliency, including minimizing overflows during storm events.

JEA has developed a multi-step plan, **JEA Sewer System: Framework to Resiliency**, to analyze and assess the Hurricane Matthew event in an effort to implement near-term resiliency initiatives and to incorporate system resiliency in major rehabilitation and new construction standards. At the November 15, 2016 Board Meeting, the multi-step Framework to Resiliency was presented and discussed, including detailed reports on: Hurricane Matthew Assessment Report, Major Capital Improvements and Significant O&M Activities, and the Governor's 90-Day Emergency Rule: Public Notification of Pollution which was effective beginning September 26, 2016. A preliminary update of FY17 Improvement Activities was presented at the February 21, 2017 Board Meeting.

DISCUSSION:

Additional steps of the overall Framework to Resiliency plan are scheduled to reach milestone points and be discussed at future Board Meetings during this 2017 calendar year as noted in the attached presentation, with the April discussion focused on the Analyze, Plan and Implement Improvement Activities step. Significant mitigation activities are being placed in service including:

- Prioritized assessment of 1375 pump stations' power supply with strategic vegetation mitigation
- Turn-key fixed generator installation at 47 pump stations at a cost of \$5.3 million
- Implementing a rental contract for 100 portable units for the June 1st to November 30th season
- Engaging an international engineering firm to redesign the electrical controls at key stations
- Installing an 800 kW generator at the 10 million gallon per day Buckman main pump station
- Activating generators in lieu of electric line power prior to the impacts of a storm
- Leveraging technology to further monitor wet well levels and prioritize power supply restoration
- Fortifying communication systems which monitor pump station well levels and power supply
- Expanding mutual aid requests beyond the state of Florida's central group, FlaWARN³

¹FDEP – Florida Department of Environmental Protection

²CMOM – Capacity, Management, Operation, and Maintenance Assessment

³FlaWARN – Florida's Water/Wastewater Agency Response Network

- Procured a prototype ride-thru bunker
- Enhanced reporting of Reportable SSO's and minor events on JEA.com, and other medians

RECOMMENDATION:

Provide the Board an update on the multi-step JEA Sewer System: Framework to Resiliency plan for discussion and feedback, focusing on the improvement activities being placed in service prior to the potential impact hurricanes may have on Northeast Florida during 2017.

Paul E. McElroy, Managing Director/CEO

PEM/BJR



Building Community_{sm}

Framework to Resiliency
JEA Sanitary Sewer System
April 18, 2017

JEA Sewer System: Framework to Resiliency

JEA Sewer System: Framework to Resiliency

Nov 2016 Hurricane Matthew Assessment Report

- Detail sanitary sewer failures during Hurricane Matthew
- Include sanitary sewer overflow history and benchmarks
- Governor's 90-Day Emergency Rule: Public Notice of Pollution

Nov 2016 Report Major Capital Improvements and Significant O&M Activities

- Major capital and O&M in the past twelve months
- Major capital and O&M in the next twelve months
- All 1,375 pump stations will have individual site reviews to improve electrical supply (ex. tree trimming, underground service, generators, controls, etc.)

Feb 2017 Preliminary Update

Apr 2017 Analyze, Plan and Implement Improvement Activities

- Review and improve all Functional Response Procedures (Emergency Plans)
- Fortify Sanitary Sewer System power supply systems
- Fortify Sanitary Sewer System communication systems
- Identify other actions to be implemented

Sept 2017 System Capacity, Management, Operation and Maintenance Assessment (CMOM)

- Comprehensive review by an independent source, identified in partnership with FDEP
- Review will be conducted in three phases: analyze, assess and improve
- Improvements will commence when identified

FDEP - Florida Department of Environmental Protection

5

JEA Sewer System: Framework to Resiliency

Dec 2017 System Resiliency Assessment

- Will seek strong partnership with FDEP, potential for state leadership on this issue
- To be conducted in three phases:
 - Immediate opportunities
 - Mid-range defensive actions
 - Longer-term by replacing when needed and building to new resiliency standards

Ongoing Multi-Year

Ongoing Communication Improvements

- Identify, design and implement more effective communication plans
- Plans will be tailored to various constituents

Ongoing Regulatory Opportunities - FDEP Partnerships

- Engage in the FDEP rule making process as it transitions from the September 26, 2016 Governor's 90-day Emergency Rule: Public Notice of Pollution, to a final rule governing reporting for all statewide pollutant spills
- Returning the system to normal operations **Oct 2016**
- Monitoring and sampling water bodies impacted by Hurricane Matthew related SSO's **Oct 2016**
- Capacity, Management, Operations and Maintenance review
- Resiliency standards design

3

- **Communication:** JEA.com is the centralized source for information
- **Regulatory:** CMOM Assessment Workshop conducted in March under FDEP oversight
- **Analyze, Plan and Implement Improvement Activities:** Today's Update
- **System Resiliency Assessment RFP:** Mid-Range and Longer-Term Standards

Analyze, Plan and Implement Improvement Activities Before 2017 Hurricanes

Fortify Power Supply Systems to Pump Stations

Electric Service Type

- A) UG Svc, UG Lat, UG Feed
- B) UG Svc, UG Lat, **OH Feed**
- C) UG/**OH Svc**, **OH Lat**, **OH Feed**
- D) **OH Svc**, No Lat, **OH Feed**

Action Plans

Upgrades 1) Equipment 2) Trees 3) Both	Underground Service and/or Lateral	Strategic Vegetation Mitigation	New Backup Generators
--	---	--	----------------------------------

Fortify Communication Systems

- SCADA monitoring, and remote pump down where feasible
- Fiber at three Class 4 pump stations
- Remote start generators
- Battery back-up (48 hours) for high level float alarms

Functional Response Procedures May 1 – 5: Emergency Preparedness Exercise

Pump
Stations

Treatment
Plants

Distribution
and
Collection

Identify Other Actions to be Implemented

- All JEA Electric pump stations logged as critical customers
- 800 kW generator at Buckman main pump station
- Electric controls/VFD redesign – 118th St & Holiday Rd
- Class 4 pump stations disconnected from grid
- Generator testing – extended run times
- Mutual Aid contracts
- Prototype ride-through bunker

Resiliency: Electric Power Supply

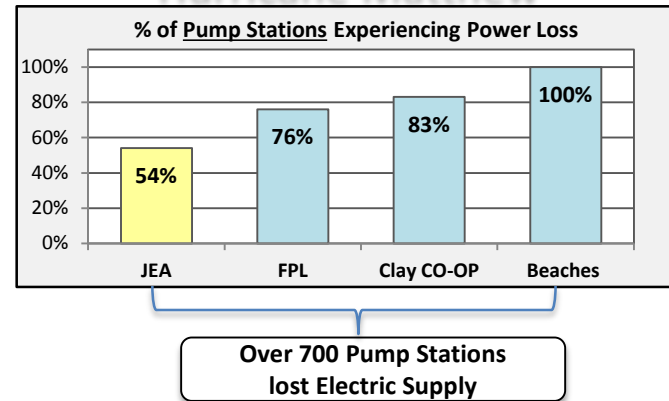
Service Providers

JEA has 1382 pump stations provided power by four (4) electric service providers

Electric Service Provider	# of Pump Stations	% by Electric Provider
JEA	1226	89%
FPL	128	9%
Clay County	12	1%
Beaches Energy	16	1%

JEA's CEMI 5 and storm hardening efforts over the past decade provided more reliable power supply service

Hurricane Matthew



Power Supply Resiliency to Pump Stations

Power Supply Type

Conversion of Overhead services to Underground

Underground Conversion	Identified	In Design	Completed
Service or Lateral	40	7	0

Vegetation Exposure

Strategic vegetation mitigation

Power Supply Type	# JEA Stations	# Evaluated	Action Plans	# Complete
A) UG Svc, UG Lat, UG Feed	307	168	15	6
B) UG Svc, UG Lat, OH Feed	424	137	35	19
C) UG/OH Svc, OH Lat, OH Feed	303	110	49	18
D) OH Svc, No Lat, OH Feed	192	69	24	11
Total	1226	484	123	54

New Generator Deployment

1382 April 2017

Fixed Generators at 248 + 53 of the ~~1375~~ Pump Stations

Prioritization Basis

- ☐ FDEP Regulatory: $\geq 12''$ Force Main
- ☐ EPB Rule III: ≥ 500 ERC's (441 GPM)
- ☐ Hurricane Matthew SSOs
 - ☐ Highest flow stations in FY17
 - ☐ Additional generators in FY18

Installation of New Generators at Pump Stations

	Pump Station Address	FM $\geq 12''$	Peak Flow (GPM)
1	94 32ND STE	Yes	2352
2	5235 5TH STW	No	1875
3	6640 HARLOW BV	No	1569
4	9801 BEAVER STW	Yes	1143
5	8362 TOUCHTON RD	Yes	943
6	7663 ARGYLE FOREST BV	No	824
7	4467 SAN PABLO RD S	No	722
8	1700 SAN PABLO RD S	No	698
9	12858 GLEN KERNAN PY	Yes	673
10	5490 SWAMPFORK RD	No	665
11	5900 TOWNSEND RD	No	588
12	1520 HAMMOND BV	No	570
13	2197 SAN PABLO RD S	No	558
14	1060 ELLIS RD N	No	498
15	1818 WILLOWBRANCH TERRACE	Yes	471
16	6630 BROADWAY AV	No	470
17	4211 WOODMERE ST	Yes	452
18	2962 MANGROVE AV	No	432

The 8 pump stations experienced SSOs due to the impacts of Hurricane Matthew.

	Pump Station Address	FM $\geq 12''$	Peak Flow (GPM)
19	11637 ETHEL RD	Yes	383
20	9846 FT CAROLINE RD	Yes	352
21	7998 QUAIL COVE LN	Yes	312
22	250 BRYAN ST	Yes	264
23	10837 BLUE PACIFIC CT	Yes	258
24	2251 MCCOY CREEK BV	Yes	258
25	3092 HUFFMAN BV	Yes	251
26	4950 SAN PABLO RD S	Yes	230
27	79 NOCATEE VILLAGE DR	Yes	179
28	5103 KERNAN BV S	Yes	157
29	15598 MOSS HOLLOW DR	Yes	100
30	3500 BOATWRIGHT WY	Yes	96
31	8617 WESTERN WY	Yes	50
32	4130 SUNBEAM RD	Yes	44
33	11933 ACOSTA RD	Yes	40
34	635 SHEARWATER PY	Yes	31
35	2446 TALLEYRAND AV	Yes	20

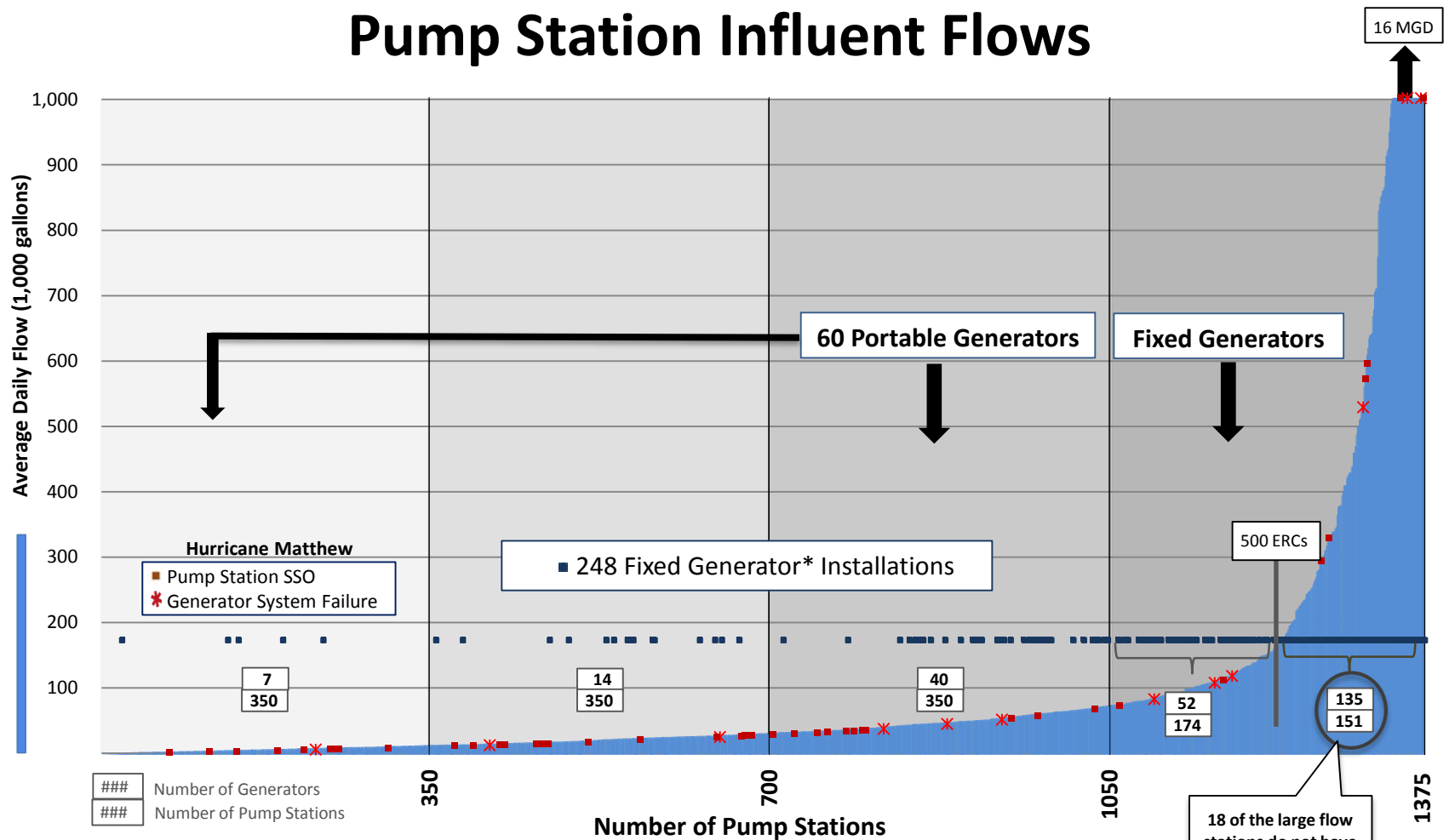
* 300 BIC = 441 GPM peak flow, or 175,000 gallon per day average daily flow

FY2017: \$6 million

- 47 fixed generators/transfer switches: May – July installs through three turn-key contracts
- 9 new portable generators and 6 fixed diesel pumps purchased
- Portable units will be utilized at the 3 locations which can not accommodate a fixed generator or diesel pump due to property constraints, and also at the 1 location where a developer will install a generator during FY18

Generator Assessment – Hurricane Matthew

Pump Station Influent Flows



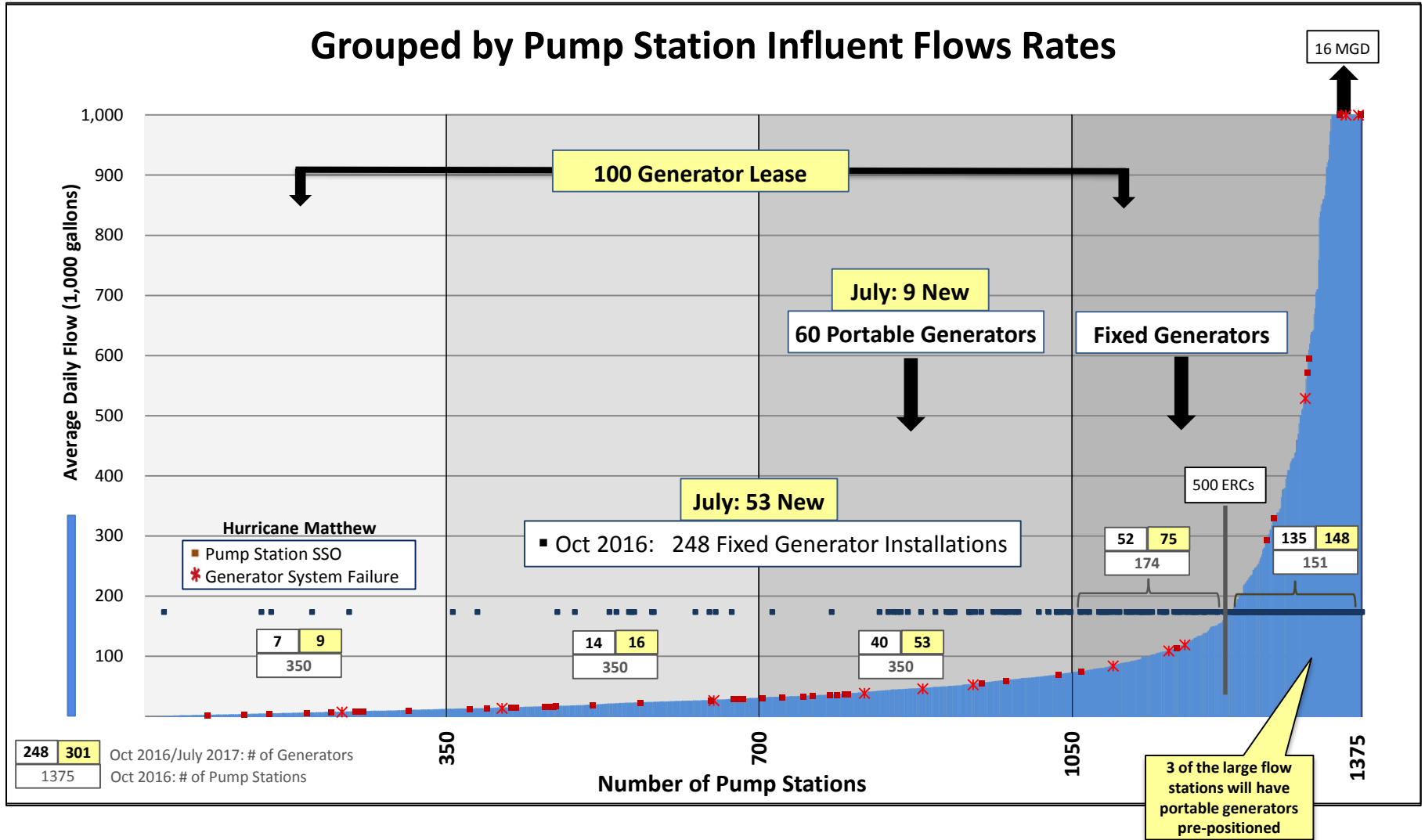
MGD: Million Gallons per Day

ERC: Equivalent Residential Connections

*Generators also include 35 diesel powered pumps

Resiliency: Additional Generator Deployment

Grouped by Pump Station Influent Flows Rates



Capital Improvement Projects: Sewer Collection and Pump Stations

Five-year \$250M Capital Plan

2017	58,756,674
2018	61,475,489
2019	55,066,990
2020	41,733,000
2021	40,745,000
Total	\$257,777,153

Major Projects (FY16-FY19)

<u>Project Name</u>	<u>Amount</u>
Southshores River Crossing FM	\$14M ✓
Memorial Pk/Lane Ave/Timuquana Rd FM	\$20M
Pump Station Mechanical and Electrical Rebuilds (McMillan, Alachua, Bradley)	\$20M
Electrical Reliability (New Line Item) (generators, switches, controls, etc.)	\$7M
Rehabilitation of 20 to 25 Pump Stations	\$3M/yr
Large Diameter Condition Assessment and Pipe Replacement Program	\$10M/yr

Memorial Park/Lane Ave/Timuquana - \$20 Million



Capacity Management Operations Maintenance (CMOM)

152 Business Process Elements

1. Training & Safety
2. Engineering : Design/Construction
3. Engineering: Capacity
4. Engineering: Rehabilitation
5. Financing and Cost Analysis
6. SSO and Violations Reporting
7. Pump Station Operations
8. Contingency Plan
9.
- 10.....

Assessment Key

Importance	Performance	Documentation
High	4: Outstanding (Optimized)	A
	3: Above Average (Managed)	B
Medium	2: Average (Defined)	C
	1: Reactionary (Initial)	D
Low	0: No Program (Unaware)	F
	N/A: Not Applicable to JEA	

- Initial 2-day workshop and 1-day assessment held in March with a preliminary report issued
- Field work will be conducted this summer with a final CMOM report published in September
- Preliminary feedback from the CMOM consultant, under FDEP oversight, indicates that JEA's sewer system is operating well in most elements, and in many areas is an industry leader

Benchmarking: Reportable and SSOs Events

FDEP Reportable SSOs

- Sewer spills of any volume that reaches designated Waters of the State, or
- Sewer spills $\geq 1,000$ gallons, or
- Threatens the environment or public health

FDEP reviews all Reportable SSOs quarterly, and JEA submits an Annual Report

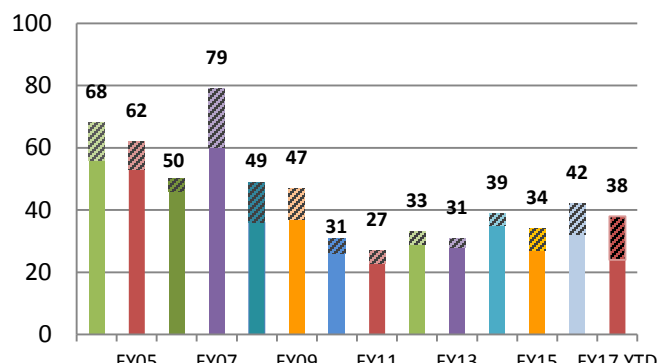
SSO Events – Local DEP Only

- 50 to 999 gallons
- Not to State Watch Officer

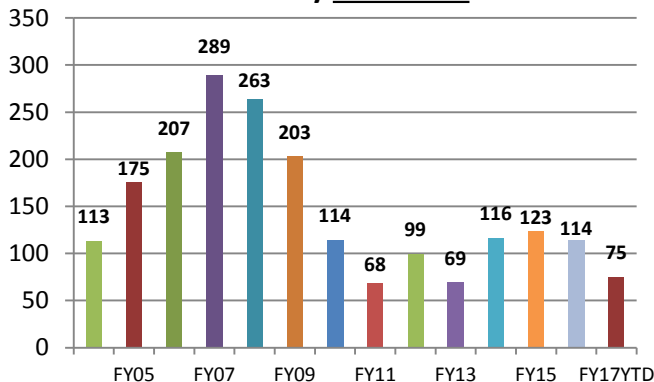
Minor SSO Events

Sewer spills less than 50 gallons that do not threaten the environment or public health

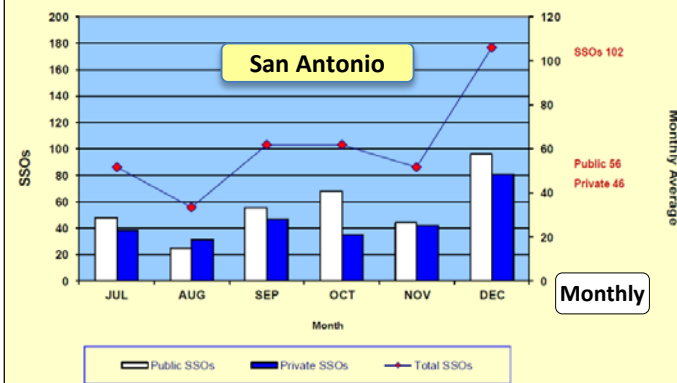
Reportable SSOs by Fiscal Year



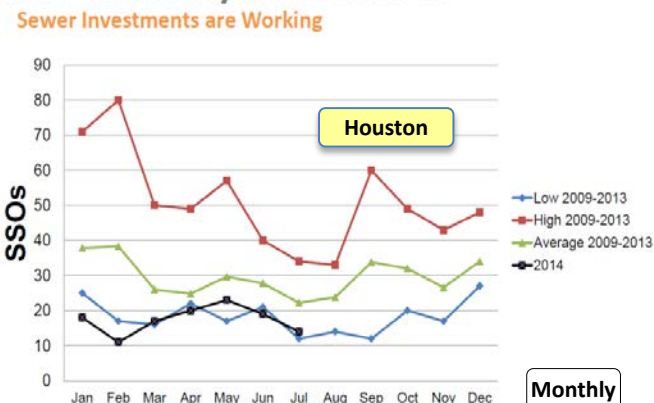
SSO Events by Fiscal Year



WASTEWATER COLLECTION SYSTEM SSOs - Mid-FY15

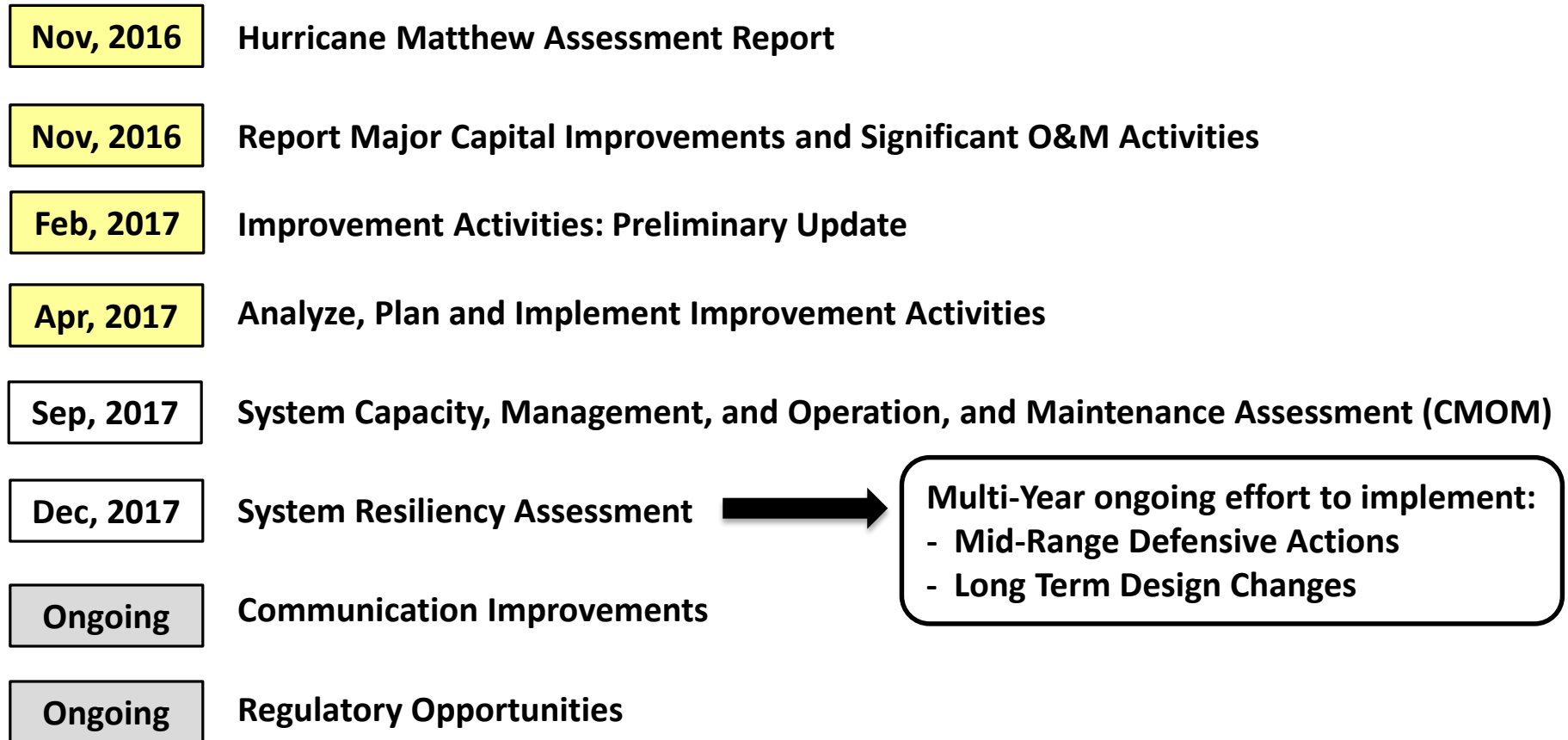


SSOs Summary 2012-2014 YTD



JEA performance in Blue-Sky conditions compares favorably to other large Wastewater Utilities, where further benchmarking analysis and reporting will be developed

Framework to Resiliency





INTER-OFFICE MEMORANDUM

September 7, 2017

SUBJECT: JEA SEWER SYSTEM: FRAMEWORK TO RESILIENCY UPDATE

FROM: Brian Roche, VP/GM W/WW Systems

TO: JEA Board of Directors

BACKGROUND:

During Hurricane Matthew in October 2016, JEA's Water/Wastewater system performed very well in maintaining service to customers, as less than 1% lost water and sewer services during the period impacted by Hurricane Matthew. However, JEA experienced sanitary sewer overflows (SSOs) during the three day period after the storm's impact to Northeast Florida, primarily due to power outages at over half of JEA's 1375 sewer pump stations and the inability for operating personnel to travel to pump station sites during the peak storm period.

JEA operates the second largest water/wastewater system in Florida with 3900 miles of sewer collection piping, the most number of pump stations of any utility in the country, treating over 80 million gallons per day of wastewater. JEA has invested more than \$3B since assuming ownership of the water/wastewater system from the City of Jacksonville in 1997. An additional \$1 billion is scheduled to be invested over the next five years. While the wastewater system has nearly doubled in size, the number of Sanitary Sewer Overflows (SSOs) events has been significantly reduced over the last two decades. JEA's Sanitary Sewer System continues to perform well in normal operating conditions, proactively invests in Renewal and Replacement (R&R) programs, and adopts new technology and processes to further improve system reliability and performance. Along with many other wastewater utilities across the nation, JEA has opportunities to improve storm resiliency, including minimizing SSOs during extreme weather events.

JEA has developed a multi-step plan, **JEA Sewer System: Framework to Resiliency**, to analyze and assess the Hurricane Matthew event in an effort to implement near-term resiliency initiatives and to incorporate system resiliency in major rehabilitation and new construction standards. Updates to the multi-step plan have been provided to stakeholders, including at milestone points at three JEA Board meetings this fiscal year.

- **November 15, 2016:** Multi-step Framework to Resiliency was presented and discussed, including detailed reports on: Hurricane Matthew Assessment Report, Major Capital Improvements and Significant O&M Activities, and the Governor's 90-Day Emergency Rule: Public Notification of Pollution, which was effective beginning September 26, 2016
- **February 21, 2017:** A preliminary update of FY17 Improvement Activities
- **April 17, 2017:** Comprehensive update of the Analyze Plan and Implement Improvement Activities conducted prior to the CY2017 Hurricane Season.

DISCUSSION:

The current milestone completed is the Capacity, Management, Operation and Maintenance (CMOM) Assessment that was performed under the standard approach developed by Region IV of the Environmental Protection Agency (EPA) with the goal of minimizing SSOs. JEA approached the Florida Department of Environmental Protection (FDEP) with the concept to conduct an independent CMOM assessment of its wastewater system. The CMOM assessment was officially incorporated as a consent order item following Hurricane Matthew events.

FDEP and JEA agreed to engage Jim Peters, P.E. of JAKAP Consulting, LLC, under the oversight of the FDEP to conduct the CMOM assessment with full participation from JEA. Mr. Peters has strong industry knowledge of CMOM programs, utilizes a transparent workshop and field validation approach, and has familiarity of JEA's large wastewater system from leading a CMOM assessment previously at JEA with an international engineering consulting firm.

The CMOM assessment began in March with workshops held to review and rank JEA's current performance of the standard 152 business process elements of CMOM. Field validation and on-site documentation was performed by the consultant on 25 key business processes. FDEP also requested the consultant to provide a status report of JEA's progress on the "Framework to Resiliency". A summary status report of forty (40) CMOM related Improvement Actions JEA has initiated for the multi-year Framework to Resiliency initiative to harden the system was developed and included as an appendix to the CMOM report. The final phase of the assessment was producing the attached "JEA CMOM Documentation Report" which contains seven (7) recommendations and five (5) exemplary activities where JEA contributes to the advancement of the Wastewater Industry.

Recommendations

1. Monitor for Inflow and Infiltration (I&I) within Pump Station Service Areas
2. Focus Cleaning and Proactive Closed Circuit Television (CCTV) Programs using Sewer Line Rapid Assessment Tool (SL-RAT) Screening Technology
3. Improve Air Release Valve Rehabilitation and Maintenance
4. Remain focused on Projects associated with JEA's "Framework to Resiliency"
5. Expand SSO Reporting to include Programmatic Overview of Causes and Prevention
6. Resume Data Dashboards for Collection System Maintenance and Rehabilitation
7. Continue Large Diameter Pipe Evaluation for which JEA has planned approximately \$100 million of pipe replacement, and Expand to Small Diameter Ductile Iron, Cast Iron, and Asbestos Cement (AC) Force Mains

JEA Contributions to the Wastewater Industry

1. Apprenticeship Program
2. Capital Improvement Plant (CIP) Planning, Tracking and Funding
3. Data Transfer from Field to GIS
4. Pipe Bursting Program
5. SL-RAT Screening of Gravity Lines (shows great promise)

JEA fully concurs with all of the recommendations from the CMOM assessment and is enhancing the focus on elements of the recommendation where JEA has active programs, or is in the process of initiating new programs to implement all of the recommendations. Additional steps of the overall Framework to Resiliency plan are scheduled to be discussed at future Board Meetings during CY2018 as noted in the attached presentation. The next milestone will be the outline of the multi-year, System Resiliency Assessment that will be conducted in three phases: immediate opportunities such as the CMOM assessment, mid-range defensive actions, and longer-term building to new resiliency standards.

RECOMMENDATION:

Provide the Board an update on the multi-step JEA Sewer System: Framework to Resiliency plan for discussion and feedback, focusing on the Capacity, Management, Operation and Maintenance Assessment Report.

Paul E. McElroy, Managing Director/CEO

PEM/BJR/PKS

Attachments: JEA CMOM Documentation Report



Building Community_{sm}

*Framework to Resiliency
JEA Sanitary Sewer System*

Capacity, Management, Operation and Maintenance Assessment (CMOM)

September 19, 2017

Presented October 17, 2017

Presented by:

Brian Roche, JEA VP/GM Water/Wastewater Systems

Paul Steinbrecher, JEA Director Environmental Permitting

Jim Peters, P.E. of JAKAP Consulting, LLC

JEA Sewer System: Framework to Resiliency

JEA Sewer System: Framework to Resiliency

Nov 2016 Hurricane Matthew Assessment Report

- Detail sanitary sewer failures during Hurricane Matthew
- Include sanitary sewer overflow history and benchmarks
- Governor's 90-Day Emergency Rule: Public Notice of Pollution

Nov 2016 Report Major Capital Improvements and Significant O&M Activities

- Major capital and O&M in the past twelve months
- Major capital and O&M in the next twelve months
- All 1,375 pump stations will have individual site reviews to improve electrical supply (ex. tree trimming, underground service, generators, controls, etc.)

Feb 2017 Preliminary Update

Apr 2017 Analyze, Plan and Implement Improvement Activities

- Review and improve all Functional Response Procedures (Emergency Plans)
- Fortify Sanitary Sewer System power supply systems
- Fortify Sanitary Sewer System communication systems
- Identify other actions to be implemented

Sept 2017 System Capacity, Management, Operation and Maintenance Assessment (CMOM)

- Comprehensive review by an independent source, identified in partnership with FDEP
- Review will be conducted in three phases: analyze, assess and improve
- Improvements will commence when identified

FDEP - Florida Department of Environmental Protection

JEA Framework to Resiliency

Feb 2018 System Resiliency Assessment

- Will seek strong partnership with FDEP, potential for state leadership on this issue
- To be conducted in three phases:
 - Immediate opportunities
 - Mid-range defensive actions
 - Longer-term by replacing when needed and building to new resiliency standards

Ongoing Communication Improvements

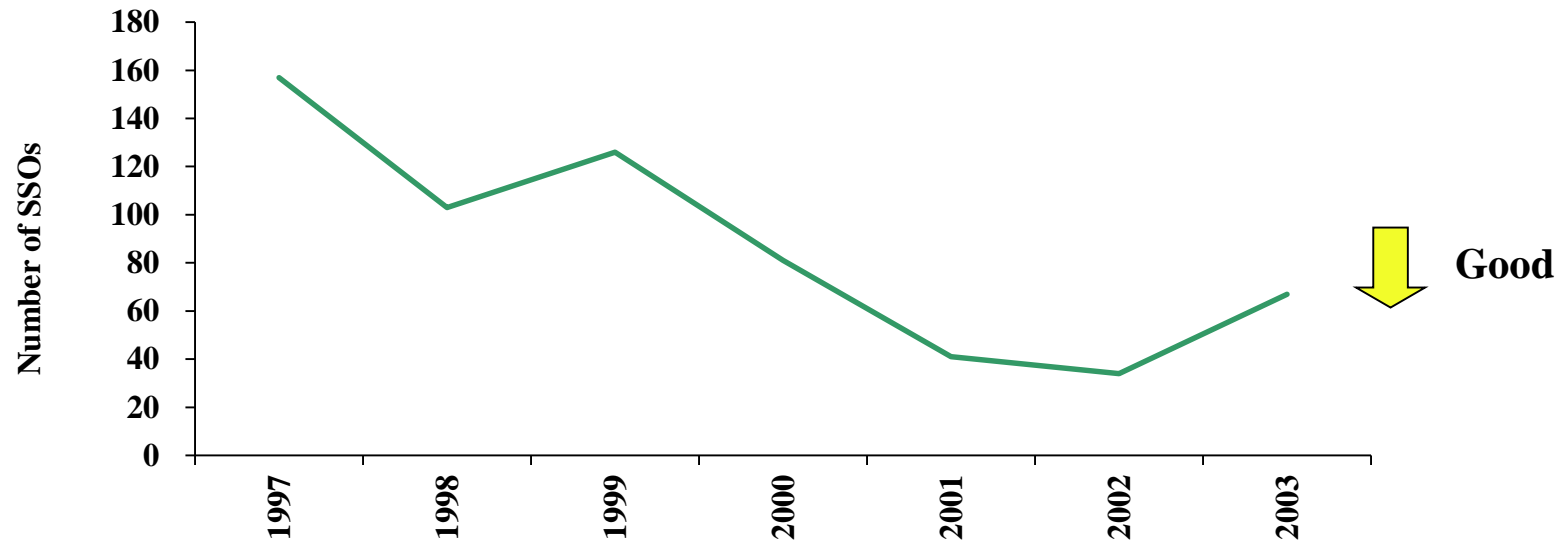
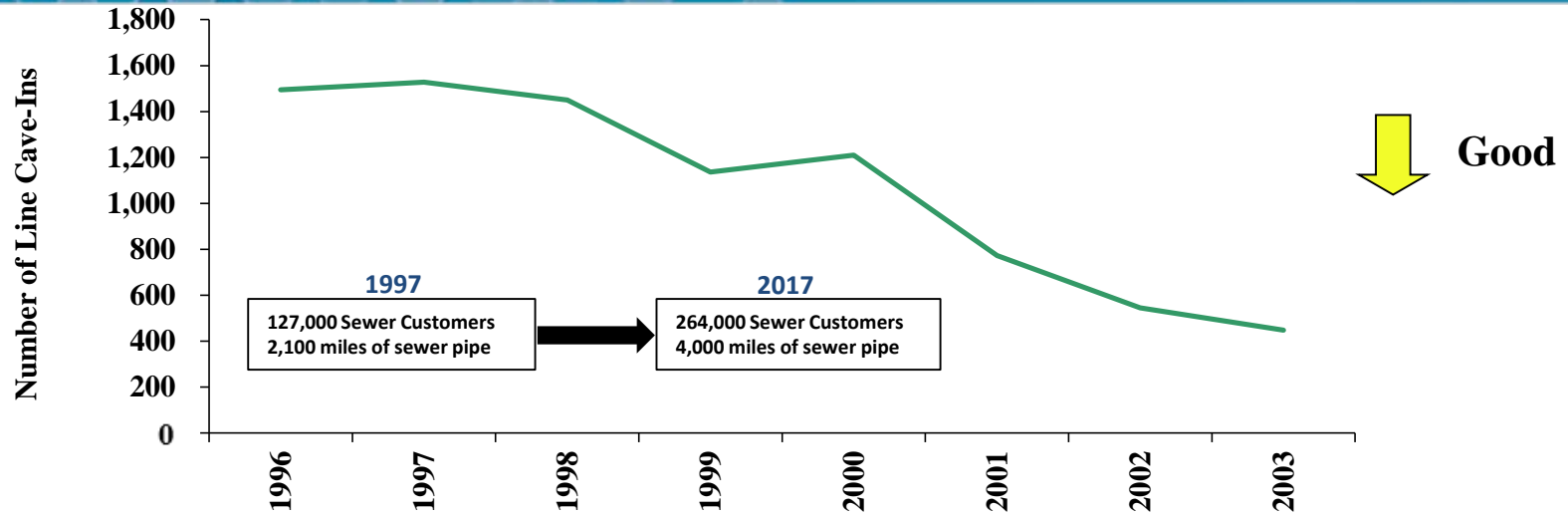
- Identify, design and implement more effective communication plans
- Plans will be tailored to various constituents

Regulatory Opportunities – FDEP Partnerships

- Engage in the FDEP rule making process as it transitions from the September 26, 2016 Governor's 90-day Emergency Rule: Public Notice of Pollution, to a final rule governing reporting for all statewide pollutant spills **Jan 2017**
- Returning the system to normal operations **Oct 2016**
- Monitoring and sampling water bodies impacted by Hurricane Matthew related SSO's **Oct 2016**
- Capacity Management, Operations and Maintenance review **Oct 2016**
- Resiliency standards design **Ongoing**

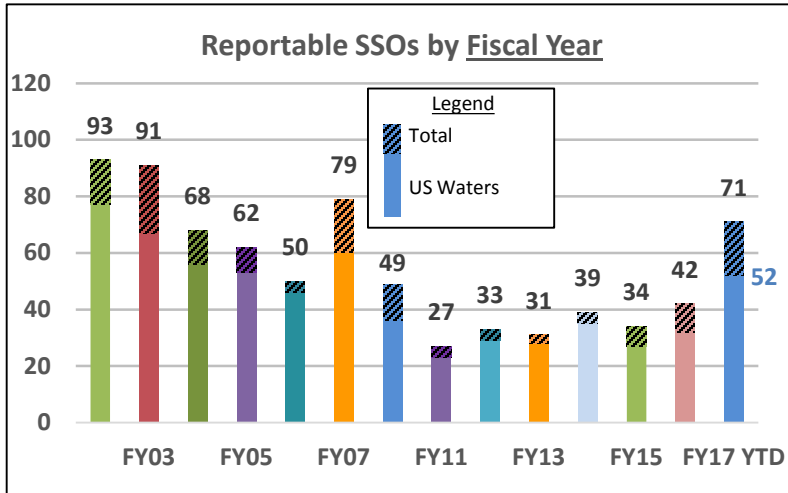
- **Communication:** Stakeholder updates with JEA.com as the centralized information source
- **Analyze, Plan and Implement Improvement Activities:** Pre-2017 Hurricane Season
- **Regulatory:** CMOM Assessment under FDEP oversight - Today's Update
- **System Resiliency Assessment RFP:** Mid-Range and Longer-Term Standards

Historical Sewer System Cave-Ins and SSOs



Post 1997: \$3 billion capital investment in Water/Wastewater included the JEA Groundworks Program in the early 2000's which substantially rehabilitated the collection system infrastructure

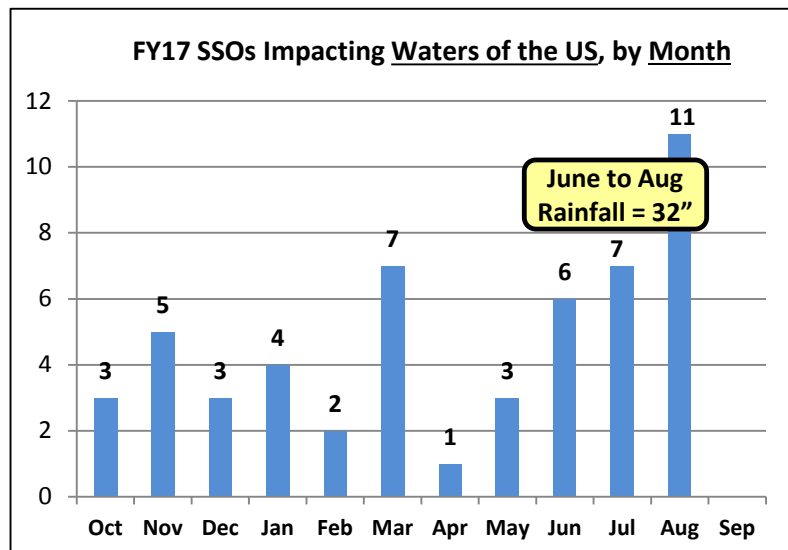
Benchmarking: Reportable and SSOs Events



FDEP Reportable SSOs

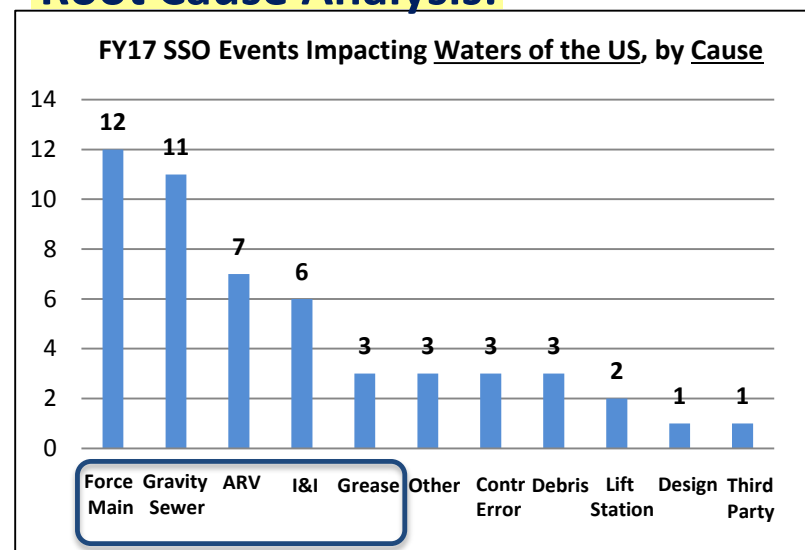
- Sewer spills of any volume that reaches designated Waters of the US, or
- Sewer spills $\geq 1,000$ gallons, or
- Threatens the environment or public health

JEA reviews all Reportable SSOs quarterly with FDEP



Note: FY17 excludes events during Hurricane Matthew

Root Cause Analysis:



- ❑ JEA approached Florida Department of Environmental Protection (FDEP) with the concept to conduct an independent CMOM assessment of JEA's Wastewater System
- ❑ Officially incorporated as a consent order item following Hurricane Matthew events
- ❑ FDEP and JEA agreed to engage Jim Peters, PE of JAKAP, LLC under FDEP oversight because of his knowledge of CMOM programs, transparent workshop approach, and familiarity with JEA's Wastewater System

Capacity, Management, Operations and Maintenance (CMOM) Framework

Assessment Key

Importance	Performance	Documentation
High	4: Outstanding (Optimized)	A
	3: Above Average	B
Medium	2: (Managed)	C
	1: Average (Defined)	D
Low	0: Reactionary (Initial)	F
	N/A: No Program (Unaware)	
	Not Applicable to JEA	

Site Visits to 25 Key Processes

1. Gravity Line Rehabilitation
2. Manhole Inspections
3. Gravity Cleaning Program
4. CIP Funding
5. Industrial Pretreatment Program
6. SSO and Violations Reporting
7. Emergency Pump Station Operations
8. Air Release Valve Maintenance
9. Force/Gravity Main Condition Evaluations
10.

Engagement of Full JEA Team and FDEP in the CMOM Assessment

First Phase: Workshops were held in March to review and rank JEA's current performance of the standard 152 business process elements of CMOM

Second Phase: Field validation and on-site documentation was performed by the consultant on 25 key business CMOM processes. In addition, FDEP requested that the consultant provide a status report of JEA's progress on the "Framework to Resiliency" multi-step plan. A summary status report of forty (40) CMOM related Improvement Actions JEA has initiated for the multi-year "Framework to Resiliency" plan to harden the system was developed

Final Phase: "JEA CMOM Documentation Report" and "JEA and CMOM" PowerPoint presentation includes seven (7) recommendations, and five (5) outstanding programs JEA contributes to the Wastewater Industry

❑ Specific Infrastructure Action

1. Monitor for Inflow and Infiltration (I&I) within Pump Station Service Areas
2. Initiate Cleaning and Proactive CCTV Programs using SL-RAT Screening Technology
3. Improve Air Release Valve Rehabilitation and Maintenance

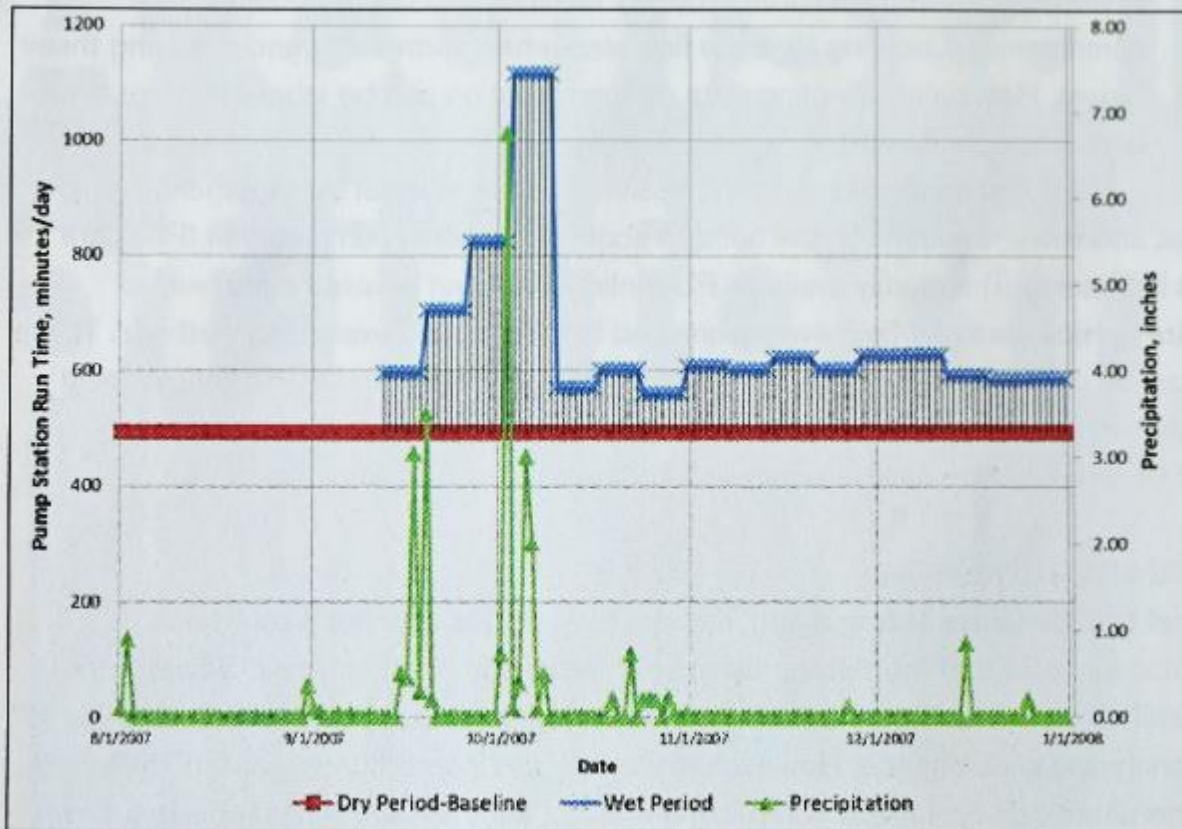
❑ Process Management

4. Remain focused on Projects associated with JEA's "Framework to Resiliency"
5. Expand SSO Reporting to include Programmatic Overview of Causes and Prevention
6. Resume Data Dashboards for Collection System Maintenance and Rehabilitation
7. Continue ARCADIS Large Diameter Pipe Evaluation where JEA has planned approximately \$100 million of pipe replacement, and Expand to Small Diameter Ductile Iron, Cast Iron, and Asbestos Cement (AC) Force Mains

Monitor for Inflow and Infiltration within Pump Station Service Areas

CMOM Recommendations

Figure 1. Typical pump station runtime graph indicating inflow and infiltration



- ☐ Data and methods are available to compare very wet weather pump station run time to very dry weather run time. Data and method are available.
- ☐ Install flow meters during pump station rehabilitation projects to improve flow measurement accuracy
- ☐ Provide communication link between SSO Root Cause Committee and inflow and infiltration evaluator

Improve Air Release Valve (ARV) Rehabilitation and Maintenance

CMOM Recommendations



- ☐ Replace brass valves and fittings with stainless steel
- ☐ Locate ARVs away from water bodies where possible
- ☐ Customize ARV maintenance schedules

Initiate Cleaning and Proactive CCTV Programs using SL-RAT Screening Technology

CMOM Recommendations

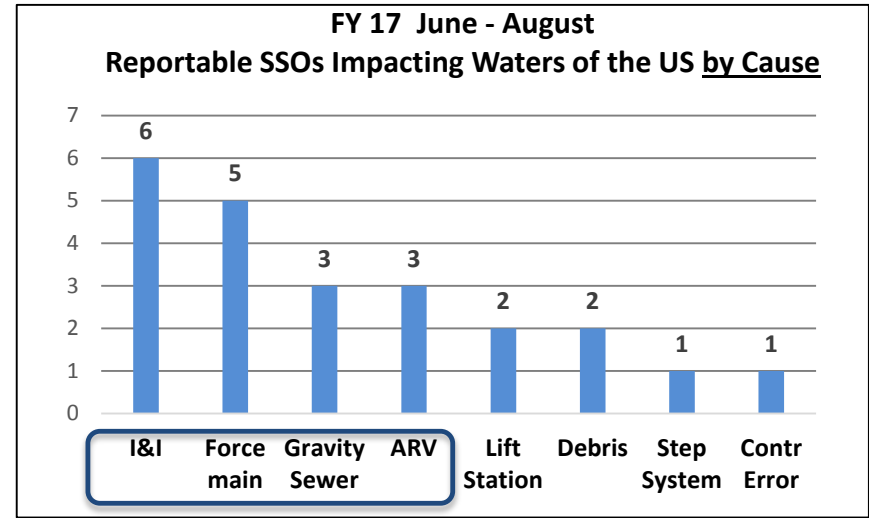
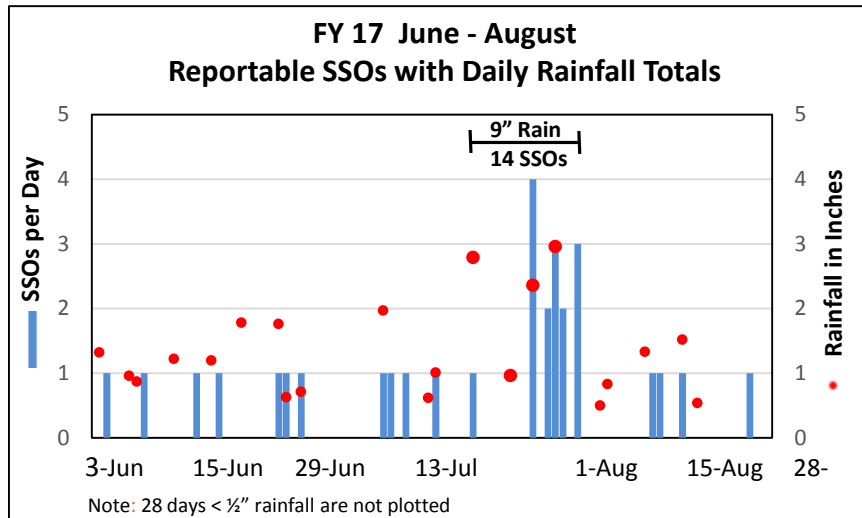


- ☐ Screen areas for CCTV and cleaning using SL-RAT (Sewer Line Rapid Assessment Tool)
- ☐ Initiate proactive CCTV program
- ☐ Initiate gravity line cleaning beyond Hot Spot Cleaning areas
- ☐ Gain additional benefit of accelerated manhole inspections

Outstanding Programs

1. Apprenticeship Program
 - ☐ Four-year state certification of delivery & collection personnel
 - ☐ Recent addition of pipes to plants, “Bridge” program after four years
2. Capital Improvement Plant (CIP) Planning, Tracking and Funding
3. Data Transfer from Field to GIS
4. Pipe Bursting Program
5. SL- RAT Acoustic Screening of Gravity Lines
 - ☐ New technology
 - ☐ Significantly accelerate gravity pipe assessments


Inflow and Infiltration SSO by Cause



Improvement Actions on all CMOM Recommendations

1. Expand FDEP SSO Reporting to include Programmatic Overview of Causes and Prevention
2. Maintain Dashboards for Delivery and Collection Maintenance and Rehabilitation; expand to Pump Stations
3. Engage engineering firm to specifically focus on I&I evaluations wet periods data vs. dry weather baseline
4. Continue implementing the \$100 million Large Diameter Pipe Evaluation and Replacement Program
5. SL-RAT acoustic pipe inspection units are currently being procured to implement CMOM Assessment recommendation, with target inspections on the 2500 miles of pipe less than 12" diameter
6. Multi-year ARV Program beginning in FY18 to replace pipe fittings or entire ARV to meet current standard of 316 stainless steel and relocate ARVs away from US waters if feasible
7. Remain focused on Projects associated with JEA's overall "Framework to Resiliency" plan

Milestones

Nov, 2016	Hurricane Matthew Assessment Report	
Nov, 2016	Report Major Capital Improvements and Significant O&M Activities	
Feb, 2017	Improvement Activities: Preliminary Update	
Apr, 2017	Analyze, Plan and Implement Improvement Activities	
Sep, 2017	System Capacity, Management, and Operation, and Maintenance Assessment (CMOM)	
Feb, 2018	System Resiliency Assessment	 <div>Multi-Year ongoing effort to implement:<ul style="list-style-type: none">- Mid-Range Defensive Actions- Long Term Design Changes</div>
Ongoing	Communication Improvements	
Ongoing	Regulatory Opportunities – FDEP Partnership	



Supplemental

Capital Improvement Projects: Sewer Collection and Pump Stations

Five-year \$250M Capital Plan

2017	58,756,674
2018	61,475,489
2019	55,066,990
2020	41,733,000
2021	40,745,000
Total	\$257,777,153

Major Projects (FY16-FY19)

<u>Project Name</u>	<u>Amount</u>
Southshores River Crossing FM	\$14M ✓
Memorial Pk/Lane Ave/Timuquana Rd FM	\$20M
Pump Station Mechanical and Electrical Rebuilds (McMillan, Alachua, Bradley)	\$20M
Electrical Reliability (New Line Item) (generators, switches, controls, etc.)	\$7M
Rehabilitation of 20 to 25 Pump Stations	\$3M/yr
Large Diameter Condition Assessment and Pipe Replacement Program	\$10M/yr

Memorial Park/Lane Ave/Timuquana - \$20 Million





Large Diameter Pipe Program

- ☐ 12 Discharges to US waters in FY17 due to force main breaks
- ☐ 1,167 Miles of sewer force main are in JEA's system

Actions to Address SSO caused by Force Main Failures

- Matrix established to assess and prioritize force mains
- ARCADIS – contracted for Large Diameter Pipe Program (14" and >) system risk assessment based on Likelihood of Failure and Consequence of Failure. Draft prioritized list is essentially complete for the five-year \$100 million program.
- O&M Maintenance and Engineering and Planning group performs assessments of small diameter (12" and <) force mains and has initiated risk assessment based on the methodology ARCADIS has implemented in the Large Diameter Pipe Program.



Inspection and Cleaning Program

- ❑ 2,500 miles of < 12” diameter Gravity Sewer Pipe
- ❑ New technology: Sewer Line Rapid Assessment Tool (SL-RAT) utilizing acoustic to greatly improve pipe inspection efficiency

Actions to Address SSO caused by Gravity Sewer System Failures

- CMOM Assessment to evaluate current processes is complete with a draft report submitted to JEA and FDEP.
- SL-RAT acoustic pipe inspection units are currently being procured to implement CMOM Assessment recommendation.
- Sewer Preventative Maintenance staff continue to perform routine scheduled cleanings of known “hot spots” to mitigate grease build up and resultant blockages.

Air Release Valve (ARV) Rehabilitation and Maintenance

SSO by Cause



Air Release Valves Preventative Maintenance

- ❑ 1,761 ARVs in operation in wastewater collection system
- ❑ Purpose – release trapped air in high points in sewer force mains to ensure full hydraulic pipe flow for better system performance & prevent build-up of corrosive air in long pipelines
- ❑ ARVs are currently on a 2 year inspection cycle
- ❑ Events caused by ARVs are trending up
- ❑ Volume related to ARV events are typically low volume (less than 100 gals)

Actions to Address SSOs caused by ARV Failures

- Assessment of ARV Maintenance program conducted at Pearl Street Service Center with manufacturer
- New ARV models are currently being tested as alternative
- Water and Sewer Standards and Specifications updated to require 316 stainless steel for all pipe fittings for ARV connections
- Comprehensive ARV Program in FY18 to properly relocate ARVs away from US waters and to replace ARV pipe fittings to meet current standard of 316 stainless steel

Inflow and Infiltration SSO by Cause

Missing Cleanout noted
during I&I Field Inspection



Cleanouts used to
drain parking lot



Inflow & Infiltration Study

- ☐ Original Scope – Southwest WTP basin
- ☐ Pottsburg Creek (Holiday Road/Pattson Creek)
- ☐ Western Way
- ☐ Moncrief Road – Pop Top manhole inspection/Smoke testing/and CCTV Inspection work is currently being conducted by Delivery and Collection staff

Actions to Address SSOs caused by Inflow/Infiltration (I&I)

- Engage engineering firm to specifically focus on I&I
- Evaluate SCADA data – wet periods vs. dry weather baseline
- Prepare maps lift station basins that experienced the highest increase of flow during recent storm events
- Crews are performing visual manhole inspections in each mapped basin
- Perform smoke testing in areas where higher than inflow/infiltration was noted during inspections