



CITY OF FORT LAUDERDALE

DRAFT
MEETING MINUTES
CITY OF FORT LAUDERDALE
INFRASTRUCTURE TASK FORCE COMMITTEE
FORT LAUDERDALE CITY HALL
100 NORTH ANDREWS AVENUE
FORT LAUDERDALE, FLORIDA
MONDAY, FEBRUARY 3, 2020 – 2:00 P.M. TO 5:00 P.M.

January-December 2020

Attendance

Marilyn Mammano, Chair	P	2	0
Gerald Angeli	P	2	0
Michael Marshall	P	2	0
Norm Ostrau	P	2	0
Peter Partington	P	1	1
Jacquelyn Scott	P	2	0
Fred Stresau	P	2	0
Roosevelt Walters	P	2	0
Ralph Zeltman	P	2	0

As of this date, there are 9 appointed members to the Board, which means 5 would constitute a quorum.

Staff

Rob Hernandez, Deputy City Manager
Raj Verma, Director of Public Works
Aneisha Daniel, Deputy Director of Public Works
Omar Castellon, Chief Engineer
Thomas Lawrence, Project Manager II
Jill Prizlee, Chief Engineer
Pauline Ricketts, Administrative Assistant
Lisa Tayar, Recording Secretary, Prototype Inc.

Communication to the City Commission

None.

1. Call to Order

• Roll Call

Chair Mammano called the meeting to order at 2:01 p.m. Roll was called and it was noted a quorum was present.

2. Approval of Agenda

Motion made by Mr. Walters, seconded by Mr. Stresau, to approve. In a voice vote, the **motion** passed unanimously.

3. Approval of Previous Meeting Minutes

A. January 6, 2020

Motion made by Mr. Stresau, seconded by Mr. Walters, to approve. In a voice vote, the **motion** passed unanimously.

Mr. Zeltman requested clarification of the reason for a change in the attendance format. It was explained that the City Clerk's Office had determined the Committee's attendance would re-set each January for the new year.

4. General Discussion and Comments by Committee Members

Mr. Partington asked if the position of Senior Project Manager for Fort Lauderdale's consent order has yet to be filled. Chief Engineer Omar Castellon replied that the City is in the process of interviewing for this position. It was further clarified that one to two additional consent orders are anticipated in response to the City's water main breaks in July 2019 and December 2019.

Assistant City Manager Rob Hernandez stated that additional consent orders are likely because the City has experienced several incidents of this nature over time. While the July 2019 water main break was not due to infrastructural failure, it was believed that the City could have taken actions to lessen the impact of this break. The City is in the process of identifying all valves in its water system. The City Commission has approved a budget amendment that would allow for four additional Public Works staff members, as well as additional funding, to determine the location and performance of this infrastructure.

Chair Mammano requested information on the timing of this response. Aniesha Daniel, Deputy Director of Public Works, replied that this crew has identified the vehicles necessary for their task. Because purchasing this type of vehicle can be a lengthy process, the City is considering leasing or renting this equipment to save time.

Chair Mammano recommended that information be documented so the public can access it and see the work the City is doing to address issues such as valve replacement, including what has already been done and when it is likely to be completed. Ms. Daniel advised that the Assistant Director of Public Works (Utilities) has requested that a valve exercise policy be developed. Once this is in place, a plan and policy documentation will be available.

Mr. Zeltman observed that the water main break in July 2019 may have led to a consent order because the Florida Power and Light (FPL) contractor responsible for the break was at the location of the incident and using a directional drill without control or oversight

by the City. Mr. Hernandez explained that on the day of the incident, FPL was working approximately 200 ft. from their approved location and had informed the City that they did not plan to use a directional bore.

Mr. Zeltman continued that the American Water Works Association (AWWA) recommends a valve exercise routine. He noted that the City has taken steps to gather “as built” information that could show where its existing infrastructure is located. Mr. Ostrau asserted that the City should have oversight responsibility for all contractors to ensure they are acting within the permissions of their contract.

Mr. Walters asked if FPL has experienced any consequences related to their activity that resulted in the break. Mr. Hernandez replied that the City has brought a damage claim against FPL for approximately \$700,000, which addresses response, repair, overtime, and other issues stemming from the break.

Mr. Partington commented that the Reese report, which was released in 2017, contains much of the information that is now known about the state of the City’s water and sewer infrastructure. He felt Staff should seek short-term measures to reduce the pressure and velocity in at-risk pipes. He also asked if one solution might be to replace certain pipes, such as 42 in. pipes, with larger diameter pipes to reduce pressure. He provided three pages of the Reese report, as well as two pages’ content of capital improvement projects for pipes considered to be at risk, and requested that Staff be prepared to provide information on these pipes at the next meeting.

Mr. Zeltman advised that one of his major concerns in 2017 was the infiltration of groundwater and sand into broken clay gravity pipes. He continued that the City has not maintained its gravity sewers to prevent this infiltration, which damages pipes, increases the velocity of flows, and causes wear and tear on force mains. He felt the way to reduce this damage was to inspect gravity mains for infiltration and inflow (I&I) and address the problem through lining or replacement.

Mr. Partington stated that he wished to determine whether or not there are short-term measures the City can take to minimize the number of breaks. Mr. Zeltman noted that not all damaged gravity mains throughout the City have been lined: if these are repaired or replaced, it would reduce I&I. Mr. Partington stated that it is force mains rather than gravity mains which are rupturing. He reiterated that he would like to hear information on the status of capital improvement projects outlined in the Reese report at the March 2020 meeting.

Mr. Partington continued that the Committee should also hear information and regular updates on the Reese report and its recommendations, as he felt too many aspects of this report have been overlooked. He noted that the report refers to hydraulic force and gravity main models, and recommended that these be updated by Reese. Other recommendations in the report include the addition of permanent flood monitoring at pump stations, which he felt was a necessary step in the hydraulic upgrade. He concluded

that over time the Reese report has proved to be accurate, and he felt the current City Commission is aware of its accuracy.

The Committee determined by consensus to include the documents provided by Mr. Partington in the record without objection.

Chair Mammano reported that she met with Fort Lauderdale Mayor Dean Trantalis earlier in the day to discuss the possible continuation of the Infrastructure Task Force (ITF). While no decision has been made thus far, she advised that there may be sufficient sentiment among the City Commission to renew the Committee for another 18 months.

Mr. Ostrau strongly objected to continuing the Committee under its existing structure. Chair Mammano replied that there may be some modifications to the tasks with which the Committee is charged. She encouraged the members to attend the Tuesday, February 4, 2020 City Commission Agenda Conference meeting for more specific information.

Mr. Zeltman commented that the Committee's future makeup should include more members with engineering experience and field knowledge of utilities, and water utilities in particular. Chair Mammano pointed out that the Staff members in attendance represent this expertise and experience.

Mr. Walters advised that he had also discussed the future of the Committee with City Commissioners, and was informed that they wished to retain as many current members as possible while potentially expanding the number of members to include individuals with field expertise.

Mr. Walters also recalled that in the past, there have been references to the City's pipes and pumps operating both at and below full capacity. He requested clarification of whether or not the City has reached full capacity for this infrastructure. Mr. Partington replied that considerations include the capacity of wastewater processing facilities as well as the capacity and distribution of pipes that dispose of wastewater. While force mains can move more water using pumps rather than gravity, the increased pressure results in greater stress on the system. He concluded that judgment calls are necessary when determining where gravity or force mains are used.

Mr. Zeltman added that although gravity mains were not designed to operate under pressure, in certain areas these mains have exceeded their design. More flow going into pump stations results in more hours of work for the pumps, depending upon I&I in the collection system. By the time liquid reaches force mains, it may have exceeded what the pipe is designed to accommodate. At present, the water and wastewater treatment plants do not exceed capacity. The City and regulatory agencies may place moratoriums on development if they determine that these plants have exceeded capacity. Mr. Partington noted that many of the City's force mains may be up to 50 years old and not in condition to accommodate current capacity.

Ms. Scott pointed out that projects coming before the Planning and Zoning Board are accompanied by a letter stating that their capacity can be met. She suggested that projects be evaluated in light of the specific pipes they will affect. Chair Mammano advised that capacity would be discussed further under Item 6A.

Mr. Walters asked Staff if this capacity has been breached. Chair Mammano noted that the Reese report identifies “high-risk” pipes for which pressure and velocity were exceeded in 2017. Mr. Castellon stated that there is capacity within the existing pipes.

Public Works Director Raj Verma advised that the valve exercises currently underway are difficult for both City Staff and residents. He is in the process of determining what has been done thus far. He added that the City can contract with companies to exercise the valves; however, at present the database is not accurate, which makes it difficult to fast-track the process.

Mr. Verma continued that he is assigning Staff to undertake these procedures with a specific direction and timeline. He requested the Committee’s patience until he is able to analyze where the City is at present and what can be done expeditiously. He has not yet determined whether or not Staff is sufficiently experienced or trained to make quick decisions on their own.

With regard to capacity, Mr. Verma stated that this determination depends upon the type of capacity under discussion: for example, sewage from a project is connected to a gravity line, which moves water to lift stations and ultimately to the wastewater treatment plant. The connection to the gravity line must have sufficient capacity to move material from the project. Mr. Verma advised that he had stopped one project due to the need to upgrade this pipe near the subject location. He confirmed that Staff checks capacity at the gravity line connection, pump run time at the lift station, and processing capacity at the treatment plant, for which there are industry standards.

Mr. Verma continued that when a project connects to a force main system, it increases the pump run time depending upon the volume brought in by the project. As long as the pump run time does not generate too much pressure on the system, there is not a problem. This is checked by Staff as part of the overall analysis of a project. The primary issue is the material failure of a force main, which can occur when pipes are not flowing full and the bottom of the pipe erodes. There is also an outside reaction from the soil and groundwater intrusion into the pipes.

Mr. Zeltman added that another issue may occur at pump stations when the flow coming in is greater than what can be pumped out in a timely manner. Mr. Verma confirmed this, reiterating that Public Works is working to ensure all pertinent information is available so they can determine whether there is sufficient capacity to accommodate a project.

Chair Mammano asked if controlling the run time on a pump station ensures there is no additional pressure in the line. Mr. Verma replied that additional pressure should show up

on the status monitoring system. Other issues affecting pressure could include lack of valve exercise, existence of air pockets, or other conditions not known until all data has been collected. When pipes are repaired, as Mr. Partington had suggested, Staff can add features that allow them to better maintain the system.

Mr. Ostrau asked if Staff performs “postmortem” analyses of breaks to determine if they could have been prevented. Mr. Verma replied that this is part of the process in determining the reason for material failure.

Mr. Partington requested confirmation that in the future, capacity calculations will consider known pressures and velocities, as well as the age of the pipes involved. He reiterated that he would also like to see a more current hydraulic model. Mr. Verma stated that he must first make sure that existing models are working as intended. He is presently focusing on infiltration and will take inflow into account as well, as he must determine the effectiveness of current procedures and the effects of events such as high tides and street flooding. He concluded that his goal is “less policy, more action.”

Chair Mammano encouraged Mr. Verma to write down his summary of the current situation so residents can access this information.

Mr. Angeli observed that until necessary redundancies are in place, including new force mains, the City will continue to patch weak spots in its system. He recommended accelerating the installation of new mains if possible. Mr. Zeltman advised that Staff is already working to install new mains. Mr. Castellon clarified that when the new mains are installed, the old mains will be lined and will provide redundancy.

Ms. Scott asked if Mr. Verma could provide an overview of the system for distribution to the Planning and Zoning Board members to enhance their understanding of how capacity is determined. Mr. Verma replied that he planned to attend an upcoming Planning and Zoning Board meeting, as well as meetings of other City advisory bodies, to hear their concerns.

Mr. Partington stated that he understood two design/build contracts to have been fast-tracked over the recent holiday season for the placement of redundant lines. He noted that while most design work was already available for the southern area of the City, this did not seem to be true for the northern area. Mr. Castellon replied that Staff has determined a route for the northern area, as well as the size of pipe needed. He estimated that work on both the northern and southern portions would be complete in 18 months.

Mr. Walters requested clarification of whether or not the main coming from the Coral Ridge area to Sunrise Boulevard will be replaced. It was confirmed that this main will be replaced and the old main will be re-lined and continue to exist as a redundancy.

5. Old Business

A. Welcome Public Works Director – Raj Verma

This Item was previously addressed.

B. Sunset of the ITF

Mr. Ostrau reiterated his objection to continuing the Committee with its existing structure. He felt the membership should reflect greater diversity in expertise, and that membership terms should be fixed.

Mr. Stresau advised that at a City Commission planning session he had attended, the City Manager had suggested a “typical Committee format” should be implemented for the Infrastructure Task Force Committee, including membership terms with term limits. Mr. Zeltman added that he had been informed the Committee would remain through September 2021. It was clarified that this extension has not yet been a formal Agenda Item for the Commission.

C. Carollo Report / Ralph’s Comments

Chair Mammano stated that Mr. Zeltman had provided comments to the Committee members via email before today’s meeting.

Mr. Zeltman reviewed his concerns with the Carollo report, noting that his main concern was with options presented for the existing Fiveash Water Treatment Plant. One option would modernize the current facility, maintaining use of its administration building, basins, chemical tanks, and other features to provide a cost-efficient treatment process. This modernization would also advance the plant’s technology to provide better drinking water using a more cost-effective method. The second option would keep the existing plant in operation while building a newer, more advanced facility on the same site but further to the north.

Mr. Zeltman explained that water treatment facilities would be ideally located in the center of the City. The Fiveash plant is within the northwestern quadrant of the City, which means it has longer runs to the east and south. Constructing a new plant even further to the north would mean water takes more time to reach its full distribution area. Another issue would be construction within a well field, which could subject the wells to contamination.

Mr. Zeltman concluded that concerns include the location and logistics of the proposed new site, as well as the treatment processes involved, which could use chemicals with a longer life than those currently in use. He proposed that the engineers who authored the Reese report provide a collective consensus on the best type of treatment and location of the new plant.

Mr. Partington stated that he also had concerns regarding relocation of the plant to the current well field. He asked if Mr. Zeltman felt the three design schemes recommended

and analyzed in the Carollo report were the best options, as well as whether he felt cost and location were the primary drivers of the report's conclusions. Mr. Zeltman replied that while Carollo had performed testing to determine the best technology, he also felt Reese might have another opinion on the best and most efficient water treatment for the City.

Chair Mammano recalled that in the past, the Committee had decided that they would not become deeply involved in the process of determining location and technology with respect to a new plant, but would instead defer to the expertise of engineers. She asked if the members wished to change this position. Mr. Zeltman replied that the City's operating staff is knowledgeable about the kind of water they would be working with and in a better position to make these types of decisions.

Mr. Partington noted that the process the Carollo report put forth as the best fit for the Fiveash plant has the lowest capital costs; however, these estimates increase significantly once maintenance costs are added. He felt the Carollo report overplayed the difficulties that would come with changing from the existing site. Mr. Zeltman stated that moving the plant farther to the north would necessitate more pumping and pressure, which would be more expensive.

Chair Mammano commented that she had questions regarding some of the funding issues noted in the report, but not the science. She asked how deeply the Committee felt they should delve into the science of the report, pointing out that costs are very high if a link from the prospective new plant to the existing Fiveash facility is constructed. This link would make Fiveash the distribution point and would add roughly \$100 million to the cost.

Mr. Stresau stated that he felt the Committee should only become involved with the scientific aspect of the discussion if there is some alternate use for the existing Fiveash plant that might preclude the Carollo report's proposal.

Mr. Castellon explained that a new plant cannot be constructed at the current Fiveash location due to lack of space. Mr. Zeltman noted that the full site is 23 acres, with the current facility on the northern one-third to one-half of the parcel. The remaining space includes parking and administration buildings. He suggested that the southern half of the property could accommodate new technological components for the plant.

Mr. Castellon explained that Carollo's first step was to test the water. The current technology in use cannot improve the color of the City's water without prohibitive cost. The report proposes aeration, nanofiltration, and ion exchange to achieve the necessary color, as well as other parameters. Infrastructure for these technologies cannot be constructed on the existing plant location, which led to the proposal of moving to the well field and using transmission lines to convert Fiveash into a distribution, chlorination, and storage facility.

Mr. Partington referred to individual schemes included in the report which seemed to suggest some technology could fit on the existing site. Mr. Castellon cautioned that growth

must also be taken into consideration: if the plant needs to be expanded in the future, the well field location would provide additional space.

Mr. Walters asked if the need to pump fresh water to the Fiveash plant was a concern. Mr. Castellon replied that while water would be treated at the well field, the distribution point would remain at Fiveash. It was noted that more pressure would be necessary to move treated water to the distribution point, which would require extra costs.

Mr. Walters also asked if building at the current Fiveash location meant the existing system would remain in place after the new facility is constructed. Mr. Castellon advised that only the storage tanks and distribution system would remain if construction is done at the well field. Chair Mammano noted that the Carollo report included a chart comparing the estimated expenses of options.

Chair Mammano asked which stage will follow the conceptual stage. Mr. Castellon replied that this would be either a design build or the full design of the facility, once a decision has been made by the City Commission. He advised that there may be forthcoming technology that could reduce the necessary space and change its design.

Mr. Partington observed that he had not seen an internal analysis by City Staff regarding the ease of relocation of some aspects of the site, including parking, the administrative building, and storage tanks. Mr. Castellon explained that both the Utilities and Engineering Departments have been involved throughout the process. Mr. Stresau emphasized the importance of planning for the future needs of the facility.

Chair Mammano commented that the City Commission has asked the Committee to opine only on whether or not this proposed capital project is appropriate for a public-private partnership (P3). They have communicated their recommendation to the City Commission, with the caveat that the City must never lose control of the asset or rates.

Mr. Zeltman noted that the P3 process would allow an outside entity to provide a portion of the financing for a new facility, and advised that any entity taking on this role should have experience and a record of success with this type of project. The members agreed by consensus to allow the Carollo report to speak for itself, as Staff is comfortable with its conclusions.

Mr. Partington asserted that he would prefer the City has the Reese engineers also review the Carollo report. Mr. Zeltman also spoke in favor of a second opinion before moving forward with an investment of this significance. Chair Mammano pointed out that this would add another significant level of expense.

Motion made by Mr. Partington, seconded by Mr. Zeltman, that [the Committee] recommend to the Commission that before making a decision on the Carollo report, they retain Reese to review and comment on the Carollo report.

Mr. Walters recommended that the **motion** be contingent upon Reese not having submitted a bid to prepare the report. Mr. Partington accepted this **amendment** to the **motion**.

It was also noted that the act of specifying Reese as the prospective reviewing entity would predetermine a City contract, which is not permitted. Mr. Zeltman advised that because Reese had prepared a previous report which included a section on the treatment plant, the City already has input from two consultants which could be compared for concurrency. If the findings of both reports are not concurrent, the City would need to make a decision on how to proceed.

Chair Mammano stated that she would not vote in favor of the **motion**, as the Reese report recommended a new water treatment plant. The City then followed up on this recommendation by commissioning the Carollo report on the specifics of this proposed new plant. She did not feel a second opinion would add value to the process.

Mr. Angeli agreed that a second opinion should be left to the discretion of the City Commission. Mr. Marshall added that if there are specific reasons for skepticism with the report, the Committee should request that these items be addressed rather than bring in another firm. Mr. Stresau advised that the City selected Carollo to prepare the report and should stand by that decision. Ms. Scott felt a second opinion on the report could provide checks and balances for greater surety.

Mr. Partington stated that his understanding of the Carollo report was that the least expensive option was Scheme 11, which includes a nanofiltration system at the Fiveash plant. He felt the ongoing maintenance costs provided by Carollo, which added significantly to the expense, were more difficult to estimate than capital costs and may not be accurate.

Mr. Zeltman characterized the issue of a second opinion as allowing the City to perform due diligence to find the best option for a treatment plant on the existing site or elsewhere. Mr. Stresau pointed out that this would be addressed in part by the City Commission's decision on whether or not to construct the plant as a City expense or undertake it as part of a P3.

Mr. Partington restated his **motion** as follows: **motion** for the ITF to recommend to the Commission that before making a decision on relocating the future water treatment plant to the well field, that they have consultants Reese comment on the recommendation that [the City has] been given by Carollo, subject to Reese not having been a bidder on the contract that Carollo obtained.

In a roll call vote, the **motion** failed 3-6 (Chair Mammano, Mr. Angeli, Mr. Marshall, Mr. Ostrau, Mr. Stresau, and Mr. Walters dissenting).

6. New Business

A. Capacity Availability Analysis Presentation – City Staff

Mr. Castellon explained that there are three Public Works engineers at the Department of Sustainable Development (DSD) who perform capacity analyses. When a potential development goes before the Development Review Committee (DRC), the City must ensure that they can provide the following for that project:

- Fire protection
- Potable water
- Wastewater service

These necessities must be provided according to the requirements set forth in the City's Unified Land Development Code.

An analysis is performed by the City to determine if existing water and wastewater infrastructure can provide these services. The amount expected to result from the proposed development is determined by equivalent residential connection (ERC) calculations. One ERC equals 300 maximum gallons of water demand per day and 175 average gallons of sewer demand per day. Mr. Castellon provided a copy of the table used by Staff to calculate ERC for wastewater and water, which is available on the City's website.

When performing this analysis, Staff considers the following:

- Networks between connection points of the proposed development to treatment plants in order to determine whether or not there is sufficient capacity to meet the proposed demand; includes water mains, gravity sewer mains, wastewater pumping stations, and force mains
- Detailed analysis of the area for which the development is planned, including which pipes may need to be changed or upgraded
- Age and condition of pipes at the connection points

Chair Mammano asked if pipes are physically inspected to determine their condition. Mr. Castellon replied that some pipes are exposed in areas where development is underway, which means Staff is aware of their condition.

Chair Mammano recalled from Mr. Verma's earlier discussion that pump stations are intended to regulate the pressure in force mains, keeping it at an appropriate level. She noted, however, that according to the Reese report, some of these pipes are either running for longer periods or experiencing greater than optimal pressure. Mr. Zeltman added that degradation of pump equipment, such as blades, also contributes to loss of efficiency.

Mr. Partington asked if the calculations take the age and condition of the mains into which liquid is pumped into account as well as the age and condition of pump stations. Mr. Castellon confirmed that this is taken into consideration through the run time of the

pumps. If Staff knows the age and material of a pipe, they know when these pipes should be replaced. Developers may be required to replace some of these pipes as part of their development.

Mr. Partington also asked how a force main can be attributed to a single development if multiple developments feed into the same pump stations. Mr. Castellon explained that the most recent development may be asked to replace pipe, even if effluent from other developments is carried into those stations as well.

Mr. Stresau asked why pumps are only intended to run for a certain number of consecutive hours within capacity. Mr. Castellon advised that pipes must be filled to 50%: if a pump runs for a longer time, the pipe may exceed this percentage. This means either the size of the pipe must be changed or the pump station must be addressed. He also noted that there may be multiple developments coming forward within the same area. The capacity letter provided to a development requires that project to be developed within one year; if it exceeds this time frame, a new letter will be required, and conditions may have changed since the first letter was issued.

Chair Mammano asked if a developer could be asked to replace a pipe that has already been identified as high-risk. Mr. Castellon confirmed this, pointing out that the responsibility of replacing a pipe may be shared among multiple developments in an area. Staff monitors the area(s) and ensures pipes are replaced before the development is issued a certificate of occupancy.

Mr. Castellon continued that if the City cannot provide sufficient water to a development, that development cannot be constructed unless the developer can change the size of the pipes where necessary. If existing water/wastewater infrastructure lacks sufficient capacity, improvements are required, such as upsizing the gravity sewer mains or water mains, rehabilitation or improvement of a pump station, or replacement of pipe. He provided examples of letters to developers informing them of what is required in order for them to receive a building permit.

It was asked if an appeal process exists for developers. Mr. Castellon advised that DRC statements are final. Once the DRC process is complete, a project may also advance to the Planning and Zoning Board and/or the City Commission for further approval(s).

Mr. Partington commented that the Reese report suggests beginning in 2019, under emergency conditions, the City would need one additional injection well to meet maximum hourly flows unless inflow is reduced. He felt the City may already need this additional injection well. Mr. Castellon replied that there is sufficient capacity at the plant.

Mr. Partington expressed concern with what is done regarding effluent during emergencies. Mr. Castellon stated that after the water has been treated, it is discharged into the Intracoastal Waterway in an emergency. He advised that this is not a regular occurrence.

It was further clarified that once a letter of adequacy has been issued, a development must receive approval for the expiration of the adequacy determination. The approval precedes a development order, which is live for 18 months, in which time frame the building permit must be pulled. Mr. Castellon reiterated that the adequacy letter is good for one year: regardless of the length of time of the building process, adequacy is revisited every year.

Mr. Partington observed that the City's capacity analysis report, which was most recently updated in 2017, projects an annual average daily flow (AADF) of 44.4 million gallons by the year 2026. He asked if the City must provide similar projections each year. It was noted that these projections are based on population.

Chair Mammano asked if the City tracks the burden placed on its water and wastewater infrastructure by large users from other municipalities, pointing out that the City treats sewage from Pompano Beach, Oakland Park, and other cities. Mr. Castellon advised that the City is aware of how much water these municipalities must process. It was also clarified that these cities are not obligated to share development information with Fort Lauderdale.

Chair Mammano asked that the Committee be provided with a list of all development projects that have been approved using this enhanced process.

B. Seawall and Bridges Presentation – City Staff

This presentation was deferred to a later date.

7. Informational Items

A. Impact Fees

This Item was not discussed.

8. Public Comments

Boyd Corbin, member of the public, stated that the most cost-effective way to produce good drinking water in Florida is through lime softening plus granular activated carbon (GAC) filtration. He noted that the Reese report lists the upgrade of the Fiveash facility for \$100 million to \$150 million as one option, with another option being the construction of a new \$200 million GAC/lime softening water treatment plant. He characterized the proposed nanofiltration and ion exchange treatment plant as a mistake.

Mr. Corbin continued that the Carollo report ruled out use of GAC to filter water at Fiveash, as it would need to be recharged at an annual cost of \$1 million or \$2 million per year. He asserted that GAC was ruled out because the bromide level in source water is too high,

and that pairing GAC with ozone and biofiltration would increase the amount of time between recharging. He concluded that Fort Lauderdale should commission another GAC pilot study by Reese.

Mr. Castellon observed that the cost of recharging may be significantly higher than characterized in Mr. Corbin's comments.

Bill Pfeffer, member of the public, advised that the firm for which he is a civil engineer has an extensive branch capable of assisting with underground utility location if the City is in need of assistance.

9. Adjournment – Next Regular Meeting Monday, March 2, 2020

There being no further business to come before the Committee at this time, the meeting was adjourned at 4:49 p.m.

Any written public comments made 48 hours prior to the meeting regarding items discussed during the proceedings have been attached hereto.

[Minutes prepared by K. McGuire, Prototype, Inc.]