SOUTH FLORIDA WATER MANAGEMENT DISTRICT

March 11, 2015

Francois Domond, Deputy Director
Department of Public Utilities
1621 North 14th Avenue
P.O. Box 229045
Hollywood, FL 33020-3263

Subject: City of Hollywood, DEO #15-1ESR
Comments on Proposed Comprehensive Plan Amendment Package

Dear Mr. Domond:

The South Florida Water Management District (District) has completed its review of the proposed amendment package from the City of Hollywood (City). The amendment updates the City's Water Supply Facilities Work Plan (Work Plan) and associated goals, objectives and policies of the Comprehensive Plan. There appear to be no regionally significant water resource issues; therefore, the District forwards no comments on the proposed amendment package. However, the District offers the following comments that we request the City address prior to adopting the amendment:

- Revise Section 3.2.1, Ocean Outfall Legislation, to provide additional information on the infrastructure alternatives under consideration to comply with the requirements of the legislation including a listing of infrastructure alternatives under consideration, alternative evaluation process, schedule for implementation, and progress to date.
- Revise Table 6-1, Public Utility Funding Over the Next Five Years, to include the year each project is to be implemented and the cost of each project. The Table should include all projects for 5 years after adoption of the Work Plan Comprehensive Plan Amendment.
- Revise Conservation Element Policy 1.7 to specifically include the date of adoption and title of the 2013 Lower East Coast Water Supply Plan Update.
- Revise Section 7, Goals, Objectives and Policies, to include a policy to adopt by reference Appendix A, the Broward County 2014 Water Supply Plan Update, and Appendix B, the City of Fort Lauderdale Water Supply Plan – 2014 Update. The policy should include the date and exact title of each document.

The District offers its technical assistance to the City and the Department of Economic Opportunity in developing sound, sustainable solutions to meet the City's future water supply needs and to protect the region's water resources. Please forward a copy of adopted amendments to the District.

effluent is filtered and treated to the FDEP's High Level Disinfection (HLD) standards as required to facilitate public access reuse.

3.2.1. Ocean Outfall Legislation

In 2008, the State Legislature promulgated Ocean Outfall Legislation (OOL) which requires all utilities in the State of Florida to eliminate discharges from their ocean outfalls by 2025, except for during peak flow events. The rule also requires that utilities provide technically, economically, and environmentally feasible reuse of 60 percent of a base condition annual average flow by December 31, 2025. The legislation also requires this facility to reduce the mass loading of nitrogen and phosphorus from the outfall by 2018. The City has elected to comply with this requirement by shifting outfall flows to its deep injection well system, thereby reducing the mass loading of nitrogen and phosphorus being discharged through the outfall.

The OOL provides that alternative water supply capacity allocated to meet its water supply needs prior to July 2011 may not displace and "strand" that alternative water supply capacity. The City of Hollywood has been investing in its Floridan Aquifer supply and treatment structure since the mid-1990s, and has developed and installed 8 mgd of treatment capacity and the corresponding firm water supply capacity. Consequently, it is not anticipated that reuse may be feasibly utilized to meet anticipated water demand growth through the planning horizon, as that will be fully supplied by its existing Biscayne and Floridan supply and treatment infrastructure. Also, as described above, the salinity of the City's wastewater effluent precludes direct reuse without extensive treatment (RO) beyond what is typical for providing irrigation-quality reuse water.

The City evaluated alternatives for reuse and their associated costs. Based on the preliminary evaluation, an expanded treatment and dual distribution irrigation system was estimated to cost approximately $1,000,000,000. Floridan Aquifer recharge through direct injection was identified as a potentially more viable method of compliance. However, because local regulatory standards outlined in the Broward County Code are substantially more stringent than those of the State of Florida, the advanced treatment technology required (i.e. MF/RO/UV-AOP) was not only overly costly, it was also accompanied by substantial carbon emissions. In an attempt to reduce both the cost and environmental impacts, the City piloted, at a cost of approximately $3,000,000, an alternate treatment strategy specific to recharge of the brackish Floridan Aquifer. However, while results from the alternate treatment strategy seem promising for the removal of emerging contaminants, the stringent requirements of the Broward County regulations still leave it economically infeasible to remove or significantly lower the levels of other regulated parameters.

The City formulated a revised compliance initiative that integrates reuse into other existing water supplies, future anticipated need, and other circumstances that are unique

to the City. This initiative was based on the following limiting conditions with respect to expanding reuse:

1. The City's coastal collection system is located within a low-lying area with a high brackish groundwater elevation that results in over 90% of the collection infrastructure being perpetually submerged. This creates tidally influenced surcharge conditions that elevate influent chloride levels, rendering the combined effluent unsuitable for conventional reuse applications.

2. The 20.4 mgd reuse requirement, estimated under current interpretation of the baseline flow, exceeds the annual average potable water consumed within the City of Hollywood. Consequently, if 100% of existing water use in Hollywood was replaced with reclaimed water, sufficient demand would not exist to meet the requirement of the Outfall Rule Change with the exclusive use of reuse water.

3. When adjustments are made for wholesale water supplied to other utilities (forecast to be approximately 7 mgd in 2025) and the fact that irrigation is typically approximately 50% of residential demand, the estimated maximum irrigation demand within the City that is theoretically available to be replaced by reclaimed water is an estimated 9.1 mgd, in 2025.

4. The City has made significant investments in other alternative water supplies (AWS). Existing permitted traditional and alternative water supplies established in conformance to the Water Availability Rule (promulgated in 2007) provide adequate capacity to support forecasted water supply needs beyond the year 2030.

5. Aggressive conservation measures implemented since passage of the Outfall statute have successfully decreased water demand and thereby reduced opportunities for reclaimed water to further offset surficial water supply withdrawals.

Based on the above considerations, the City is currently formulating a more feasible strategy for compliance with the reuse portion of the statute which may involve the following:

1. Maximize utilization of the existing 4 mgd SRWWTP reclaimed water treatment capacity (target an additional 0.5 to 1.0 mgd).

2. Virtual reuse arrangement with a western community in Broward (target 1 to 2 mgd).

3. Recognizing the fact that conservation measures deliver equivalent benefits as reuse, credit water demand reduction achieved through conservation measures,

implemented since passage of the Outfall Rule Change, across all outfall Large Users to provide an equivalent reuse benefit on a 1:1 basis (combined credit for all Large Users to be determined, estimated to be 3 mgd for Hollywood).

4. Credit the City's 8 mgd Floridan Aquifer supply and reverse osmosis treatment capacity as providing equivalent reuse benefit on a 1:1 basis.

5. Given the limited need for reclaimed water by the year 2025, allocate 30% of required reuse capacity to backup disposal classification (subject to filtration, disinfection and DIW disposal) as allowed under F.S.403.086(7) and subject to future use only as need emerges and where feasible relative to other AWS options (estimated backup disposal capacity is up to 6 mgd).

6. Exclude brackish groundwater not derived from a useful source of water supply, which results from tidal surcharging of the collection system, where its impact is determined to impair effluent quality so as to limit conventional reuse and produce continuous surcharge conditions that increase base condition flow beyond a level that can be feasibly utilized by reuse applications. Excluding brackish groundwater influence from the base condition flow would reduce the reuse requirement by an estimated 4.7 to 7.3 mgd.

The City of Hollywood will conduct additional meetings with FDEP and other regulatory agencies before finalizing the compliance steps; however, the City remains on track to meet the compliance schedule.

3.3. City of Hollywood Water Conservation Program

Since 2008, the City's per capita demands have decreased substantially (from a historic 140 gpcd to 114 gpcd). This corresponds to a variety of conservation efforts that include plumbing fixture replacement programs, public education, year-round irrigation restrictions, replacement of aging (leaky) water mains, and other measures. The impact of the City's efforts appear to be durable, as evidenced from a lack of demand rebound with the recent economic recovery and provides equivalent impact to reclaimed water. Its success further diminishes opportunities for reuse integration due to the resulting reduced and intermittent irrigation demand. Florida Statute 373.250(1) recognizes the importance of conservation and gives it equal consideration with reuse in defining what's in the public's best interest. Conservation programs are effective in producing equivalent impact as reuse at a fraction of its cost.

The City's Water Conservation Plan was developed with the goal of maximizing the City's water use efficiency and reducing overall potable water demand. The water conservation plan includes recommendations on water conservation measures and the best management practices (BMPs) that the City has elected to implement to reduce its

Table 6-1.
Public Utilities Funding over the Next Five Years

Project Name	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Reuse System Infrastructure Expansion	$425,000					$425,000
Water Conservation Phase II	$290,000					$290,000
Water Conservation Phase III	$240,000					$240,000
Water Distribution Upgrades at the North End of A1A	$1,200,000					$1,200,000
Water Main Replacement Program (Level 2)	$29,400,000	$6,600,000	$3,400,000	$0	$0	$39,400,000
Water Main Replacement Program (Level 3)	$4,400,000	$4,800,000	$0	$10,400,000	$0	$19,600,000

Project Name	Description	Funding Source
Reuse System Infrastructure Expansion	Extension of the reuse distribution system via the installation of pipelines	RRI – Water and Sewer
Water Conservation Phase II	Implementation of water conservation measures included in the limiting conditions of the City's 2008 water use permit	RRI – Water and Sewer
Water Conservation Phase III	Implementation of water conservation measures included in the limiting conditions of the City's 2008 water use permit	RRI – Water and Sewer
Water Distribution Upgrades at the North End of A1A	To improve the volume and pressure of the distribution system via an elevated storage tank or a parallel 15,000 ft., 12 inch pipe along A1A from north dead end down to Dania Beach	RRI – Water and Sewer
Water Main Replacement Program (Level 2)	Replacement of pipelines that have reached their useful lives	RRI – Water and Sewer
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Water Main Replacement Program (Level 2)	Replacement of pipelines that have reached their useful lives	RRI – Water and Sewer
Water Main Replacement Program (Level 3)	Replacement of pipelines that have reached their useful lives	RRI – Water and Sewer
Water Main Replacement Program (Level 3)	Replacement of pipelines that have reached their useful lives	RRI – Water and Sewer

Source: City of Hollywood FY 2015 CIP

~~(now known as the Office of Natural Resource Protection)~~ in the development review process ~~to ensure~~ that new development is required to provide adequate drainage measures to service itself and to neutralize any deficiencies which would be created by such new development.

- Policy 7.25: Maintain the existing land development regulations requiring new development to provide adequate drainage measures to service itself and to neutralize any deficiencies created by proposed projects.
- Policy 7.26: To continue to address the protection of natural groundwater recharge areas and natural drainage features.
- Policy 7.27: The City will prohibit the use of land ~~uses,~~ which conflicts with the functions of the natural drainage and natural groundwater aquifer recharge areas, and will not permit development in ~~those areas shown as~~ conservation areas.

7.2 Conservation Element

Goal: To maintain, and if possible, encourage better natural environmental quality.

Objective 1.0: Continue to provide enough potable water for a year-round water supply including the increased utilization of the Floridan Aquifer in addition to the Biscayne Aquifer thus discouraging an increase in saltwater intrusion.

- Policy 1.1: Coordinate with the SFWMD on any measures they take to decrease the possibility of further saltwater intrusion through their canals.
- Policy 1.2: Cooperate with the SFWMD in enforcing their emergency water conservation measures during droughts.
- Policy 1.3: Require City parks to use reclaimed water instead of potable water for irrigation. Maintain City golf courses using reclaimed water instead of potable water for irrigation.
- Policy 1.4: Investigate whether or not industrial, office, and commercial uses can also use reclaimed water for watering landscaping.
- Policy 1.5: Investigate whether or not some industries and businesses can reuse water in their service or manufacturing processes.
- Policy 1.6: Encourage the use of native instead of exotic plants in landscaping.
- Policy 1.7: The City shall participate in the development of the Regional Water Supply Plan in conjunction with the SFWMD and shall adopt the *2013 Lower East Coast Water Supply Plan Update*, which was approved by the District's Governing Board on September 12, 2013 ~~plan~~ into the Utilities Element of this Plan as required by Florida Statute.

Effectiveness Measures:

(a) Number of meetings with the South Florida Water Management District.
(b) Ground water monitoring for saltwater showing no further intrusion.

efforts (i.e. meetings, workshops, committees, agreements, etc). This objective shall also be made measurable by its implementing policies.

- Policy 4.1 The City shall provide immediate and ongoing coordination with the SFWMD to ensure that the City's plans, requirements, and related actions contained in the 10-Year Water Supply Facilities Work Plan are consistent with the Lower East Coast Water Supply Plan.
- Policy 4.2 The City shall provide the SFWMD with annual reports on the status of the development of all alternative water supply projects in accordance with limiting condition #30 of Water Use Permit 06-00038-W and the provisions of Section 373.0361(7)(b) F.S. The annual report shall include work completed to date, expenditures, capacities, and any changes in timelines. Where appropriate and feasible, the annual reports shall include ongoing collaborative approaches with other local governments for long term alternative water supply source use and water treatment technology.
- Policy 4.3 The City shall submit Water Use Compliance reports to the SFWMD for review and approval by the District Staff every five years from April 10, 2008 (date of permit issuance) in accordance with Limiting condition #23 of Water Use Permit 06-00038-W.
- Policy 4.4 The City shall submit unaccounted-for water loss reports to the SFWMD every year from April 10, 2008 (date of permit issuance) in accordance with Limiting condition #20 of Water Use Permit 06-00038-W.
- Policy 4.5 The City shall notify the SFWMD within 30 days of any change in service area boundary in accordance with Limiting condition #19 of Water Use Permit 06-00038-W.
- Policy 4.6 The City will hold annual meetings with local governments in the City's Water Service Area and the SFWMD to discuss forecasted populations, service area expansions, review land use changes that increase water supply demand, and review the implementation of all alternative water supplies.
- Policy 4.7 The City shall continue to provide utility services to governments with which the City has executed agreements and will continue to exchange information with surrounding local governments regarding relative items that affect the standing for such service agreements.
- Policy 4.8: The City shall participate in the development of the Lower East Coast Water Supply Plan Update. The City shall adopt a 10-year water supply facility work plan into their comprehensive plan within 18 months after the South Florida Water Management District approves the Lower East Coast Water Supply Plan Update in accordance with Chapter 163.3177(6)(c), F.S.
- Policy 4.9: Since Broward County supplies water to parts of Hollywood and the City of Fort Lauderdale also supplies water to parts of Hollywood, the Broward County Water Supplies Facilities Work Plan dated November 24, 2014, and the City of Fort Lauderdale 10-Year Water Supply Facilities Work Plan dated October 6, 2014 are

hereby included in the City of Hollywood Water Supply Plan 2015 Update by reference and as respectively included in Appendix A and Appendix B.