EXHIBIT 3

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA
Miami Division

Case No.: 1:16-cv-23017-DPG

SOUTHERN ALLIANCE FOR CLEAN ENERGY
TROPICAL AUDUBON SOCIETY INCORPORATED,
and FRIENDS OF THE EVERGLADES, INC.,

Plaintiffs,

v.

FLORIDA POWER & LIGHT COMPANY,

Defendant.
_____/

DECLARATION OF W. KIRK MARTIN, P.G., CPG, CGWP

I, W. Kirk Martin, being competent to provide this Declaration, do declare as follows:

1. I am a Professional Geologist and Certified Groundwater Professional with over 35 years of experience conducting water supply investigations and managing complex integrated water resource programs. I have expertise in water resource evaluations, groundwater hydraulic interpretations, and fresh/saline water relationships in coastal aquifers. I also have extensive experience in the application of statistical analyses, computer models and geophysical methods to the solution of water resource issues. My project experience includes large-scale water supply, aquifer recharge, and injection well design, construction, testing, and evaluation. I also have extensive knowledge of water policy and the regulations governing water supply and water resource management in Florida. I have worked with clients in the cities of Fort Myers, Jacksonville, Marco Island, Boca Raton, Cape Coral, Sanibel, Hollywood, Titusville, and Melbourne; and Palm Beach, Charlotte, Lee, Collier, St. Johns, Indian River, Hillsborough, Brevard, Pinellas, Miami-Dade, and Seminole counties as well as the South Florida Water

Management District ("SFWMD"), the Southwest Florida Water Management District ("SWFWMD"), the St. Johns River Water Management District ("SJRWMD"), and the Florida Department of Environmental Protection ("FDEP"). I commonly serve as a technical advisor to state, regional, and local governing bodies on water resource issues. I have a B.S. in Geology from Florida Atlantic University. My C.V. is attached as Exhibit A.

2. Over the past two years I have been engaged by the Florida Keys Aqueduct Authority to monitor, evaluate and communicate issues and progress regarding potential contamination of ground and surface waters from the Cooling Canal System ("CCS") at the Florida Power and Light ("FPL") Turkey Point nuclear power plant in Miami-Dade County. The primary source of water for the Florida Keys is the Biscayne Aquifer, which underlies Miami-Dade County, including the area of the FPL Turkey Point CCS. As part of these efforts, I have evaluated groundwater and surface water conditions in and around the CCS, documented the extent and magnitude of contaminant plumes originating from the CCS, reviewed operational histories of the CCS, and provided technical review and commentary on proposed remedial action plans and supporting studies.

3. FPL maintains a cooling canal system for operation of power generation units at their Turkey Point Power Generation Facility in southeast Miami-Dade County. The CCS consists of some 6000 acres of canals through which water is circulated for dissipation of heat created by the power generation units. The CCS is characterized as a "closed-loop" cooling system in that the same water is circulated through the extensive canal network without direct input of new water to the system. However, the CCS does not function as a closed loop system hydrologically in that as the warmed water is circulated, evaporation losses to the atmosphere remove freshwater from the canal system causing a concentration of salinity that exceeds typical ocean salinities by a factor

of two or more. This increased salinity is accompanied by a corresponding increase in water density that causes hypersaline water to migrate downward into the underlying groundwater system and radially outward from beneath the CCS.

4. Groundwater monitoring data shows that hypersaline water emanating from the CCS has moved westward of the L-31E Canal more than two miles and is influencing movement of the saline water interface within the Biscayne Aquifer more than four miles inland.

5. To the east in Biscayne Bay there is evidence of direct hydrological connection between the contaminated groundwater beneath the CCS and surface water in the Bay. Sampling of surface water at numerous deep locations within Biscayne Bay both inside and outside of the manmade channels has shown elevated levels of nutrients and tritium consistent with water quality emanating from the CCS. In addition, aquifer water level data and modeling evidence has shown that movement of the contaminant plume originating from the CCS is radial and likely extends as far east as the empirical data show the plume migration to the west.

6. Water quality data from surface water quality sampling conducted between May 2015 and June 2016 in Biscayne Bay indicate Numeric Nutrient Criteria ("NNC") established in Florida Administrative Code ("FAC") 62-302.532 for Biscayne Bay were exceeded at several locations near Turkey Point. FAC 62-302 requires that the annual geometric mean (AGM) of a regulated nutrient not exceed the established criteria more than once in a three-year period. The sampling locations labeled TTBBSW-6 and TTPPBW-7 (Figure 1) show Total Nitrogen and Chlorophyll A levels in excess of the FAC NNC and elevated levels of ammonia in exceedance of Miami Dade County water quality standards (Figure 2). Both of these sites are located adjacent to or within manmade channels that connect Biscayne Bay to the outer edge of the CCS. TTBBSW-6 is adjacent to the channel known as the Barge Basin Canal and TTBBSW-7 is located within the

Turtle Point Canal. Data from discrete depth sampling in and adjacent to these two canals as well as within the Old Card Sound Canal located at the southern end of the CCS indicate that bottom samples exhibit significantly higher nutrient levels than do mid or top water samples. In addition, Tritium sampling conducted at various water depths shows elevated concentrations in bottom samples collected in the canals adjacent to the perimeter berm surrounding the CCS.

7. The elevated nutrient and tritium levels found in deep canals within Biscayne Bay are indicative of water that originated within or beneath the CCS and demonstrate a direct hydrological connection between the CCS and the Bay. Bedrock immediately underlying the CCS and Biscayne Bay consists of the Miami Limestone and the Fort Thompson Formation, both of which contain highly porous and permeable limestone within the shallow substratum and provide direct connection of the groundwater and surface water environments. Deeper portions of Biscayne Bay that intersect permeable groundwater strata exist as both natural seeps and manmade excavations. Each connection has the potential to facilitate movement of contaminated water from within and beneath the CCS to Biscayne Bay.

8. The Florida Department of Environmental Protection ("FLDEP") has not cited FPL for the NNC violations in Biscayne Bay, and FPL has not admitted these violations. However, FPL has proposed a remedial action plan to mitigate the nutrient contamination within Biscayne Bay adjacent to the CCS. The plan consists primarily of backfilling the two manmade excavations at the Barge Basin Canal (sites TPBBSW-6 and 8) and the Turtle Point Canal (site TPBBSW-7). A groundwater flow model was developed by FPL to evaluate remediation alternatives. Five remedial strategies and 19 remedial alternatives were evaluated with the selected alternative being backfilling deeper areas of the Barge Basin to an elevation of -15 feet NAVD88 and backfilling deeper areas of Turtle Point to an elevation of -7 feet NAVD88.

9. While backfilling of deeper excavations at these two sites will likely reduce the direct flow of contaminated groundwater into Biscayne Bay at those sites, the overall remediation plan does not fully address the continued contamination of Biscayne Bay by the CCS. Only two pathways for contaminant travel are being addressed, whereas numerous pathways exist. For example, sampling at sites TPBBSW-1 through TPBBSW-5 all showed violations of the FAC NNC for Phosphorous without deeper excavations being present. Other existing deep excavated sites such as the Old Card Sound Canal and unfilled continuations of Barge Bay and Turtle Point canals will continue to provide direct pathways for contaminant travel. In addition, numerous natural underground connections exist within the Biscayne Aquifer, and recent sampling from identified deep seeps indicate groundwater migration into the Bay, especially during low tide events.

10. The groundwater model developed by FPL and relied upon by FDEP for evaluation of various remedial measures has a number of technical issues that should be corrected before the model can be used reliably to justify the remedial measures proposed by FPL. In my opinion the model suffers from the following inadequacies:

- Inappropriate representation of canals in the model allowing only one way of water travel between the canals and the groundwater system
- Inaccurate representation of net recharge to the groundwater system that does not allow for accurate simulation of rainfall, runoff, evaporation and transpiration.
- Use of constant hydraulic coefficients over large areas of the model known to have highly varying aquifer characteristics
- Representation of an inappropriate hydraulic disconnect of the CCS from the underlying groundwater system during the remedial action simulations
- A lack of capture of existing contaminated groundwater in the lowermost portions of the aquifer
- Impacts to wetland systems adjacent to the CCS from the proposed remedial actions

11. My opinion is supported by technical reviews of the FPL model by University of Florida professor Dr. Lou Motz, SFWMD senior modeler Jeff Giddings, and U.S. Geological Survey SEAWAT model code developer Dr. Weixing Guo.

12. Given the inaccuracies associated with the FPL model used to develop the proposed remedial actions and given the limitations of only addressing two possible hydraulic connections between the CCS and Biscayne Bay within a highly permeable groundwater matrix, it is my opinion that the proposed remedial actions by FPL will not stop the continued flow of contaminated water from the CCS to the surrounding groundwater system and the surface waters of Biscayne Bay.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct to the best of my knowledge.

This the __8__ day of November, 2016.

W. KIRK MARTIN

Exhibit A

Water Science Associates

W. Kirk Martin, P.G., CPG, CGWP

President/Principal Scientist

Education

B.S. – Geology, Florida Atlantic University, 1981

Graduate Geophysics, Wright State University, 1984

Registration

Professional Geologist: North Carolina (1987), Florida, Kentucky, Texas, and Alabama

Certifications

Certified Professional Geologist

Certified Groundwater Professional

Mr. Martin has over 30 years of experience conducting groundwater resource investigations and managing complex integrated water resource programs. He has special expertise in water supply development, groundwater hydraulic interpretations, and fresh/saline water relationships in coastal aquifers. He also has extensive experience in the application of statistical analyses, computer models and geophysical methods to the solution of water resource issues. He takes a "total water management" approach to water resource planning and management challenges that provides for more creative solutions to address multiple level issues. His project experience includes large-scale water supply, aquifer recharge, and injection well design, construction, testing, and evaluation. He has extensive knowledge of water policy and the regulations governing water supply and water resource management. Mr. Martin has completed over 300 reports on regional and local geology/hydrology in Florida and has provided the primary technical direction on development of over 500 mgd of raw water supply and over 100 mgd of aquifer recharge and wastewater disposal projects. Mr. Martin served as the principal hydrologist for three projects winning awards from the Governor's Commission for a Sustainable South Florida. He has worked with clients in the cities of Fort Myers, Jacksonville, Marco Island, Boca Raton, Cape Coral, Sanibel, Hollywood, Titusville, and Melbourne; and Palm Beach, Charlotte, Lee, Collier, St. Johns, Indian River, Hillsborough, Brevard, Pinellas, Miami-Dade, and Seminole counties. He commonly serves as a technical advisor to state, regional, and local governing bodies on water resource issues.

Water Supply Planning and Development

Technical Director, Collier County Wellfield Reliability Improvements and Expansion Program, Collier County, FL, 2004-2014. Recognizing the increasing uncertainty in securing critical raw water resources in a rapidly growing community of 240 square miles, Collier County elevated their water supply efforts to a programmatic status in order to ensure they could meet long-range needs in an environmentally sustainable manner. Mr. Martin serves as the lead technical resource for the program which provides management and direction of multiple engineers, scientists, and contractors in the planning, evaluation, design, permitting, construction, and operations of the County's water supply facilities. Additionally, the program provides for strategic visioning and streamlining of water supply development with modifications to land development codes, standardized design, land acquisition, tactical permitting, and links to comprehensive plans and capital improvement programs. System elements include fresh, brackish and saline water supplies, supplemental wastewater reuse, aquifer storage and recovery, and hydrologic and operational monitoring and improvements. Among the many success of the program was using long term operating data to obtain a 40 percent increase in the CUP from a freshwater aquifer that had been declared off limits in the 1990s.

Technical Director, PRASA Water Resource Investigation, Arecibo, Puerto Rico, 2009-2011 Arecibo contains one of the most karstic aquifer regions in the world meaning that water supply capacity is high but that characterization and planning for water resource development can be challenging. Mr. Martin served as the technical director for a comprehensive hydrogeologic and geophysical investigation project to evaluate water supply development potential without

adversely impacting environmentally sensitive estuarine systems or creating conditions for saline water intrusion.

Technical Director, Saltwater Intrusion Data Analyses. Florida Keys Aqueduct Authority, 2012-2013. Saltwater intrusion was limiting withdrawals from the authority's most efficient water source. Mr. Martin directed a team in a detailed statistical evaluation of a wide range of hydrogeologic data that showed that FKAA withdrawals were not the primary cause of saline water migration but that regional operation of upgradient canal control infrastructure was the critical factor in controlling salinity in the production aquifer.

Technical Director, Preliminary Design of the South Miami Heights Brackish Water Wellfield. Miami Dade Water and Sewer Authority, 2013-2014. Mr. Martin provided critical guidance in the planning of hydrogeological evaluations and development of a 25 mgd brackish water wellfield to supply raw water to the proposed MDWSA SMH Reverse Osmosis WTP. Key issues in the preliminary design were development of new wells in a highly urbanized area, provision for a robust testing and analysis program, and management and disposal of brackish water during construction and testing efforts.

Technical Director, Wellfield Performance Evaluation. City of Cape Coral Florida, 2013-2014. The City of Cape Coral has a long and successful history of brackish water development for reverse osmosis treatment. In addition, the City has planned reclaimed water ASR wells and additional Floridan Aquifer supply wells to meet future growth demands. Mr. Martin provided technical direction for a complete brackish wellfield performance evaluation to identify trends in productivity and water quality and any issues with individual wells or wellfield areas. Recommendations were provided for additional assessment of individual wells to determine potential causes of water quality degradation and remedial actions. Additionally, data and analysis developed for the project will be used in development of models for planning, design and operation of future production wells and ASR wells.

Technical Director, Wellfield Performance Evaluation. St. Johns County Utilities, 2013. Mr. Martin worked closely with SJCUD operations staff at the SR 214 brackish wellfield in evaluating historic and ongoing operational data including production rates, static and dynamic water levels, and production water salinity. Production wells with declining productivity or degraded water quality were identified for further analyses including dynamic video and geophysical logging to identify primary production intervals, contributions to flow, and production water quality with depth. Specific recommendations were provided for upgrades or modifications to well construction and operation of the most impacted wells. Additionally, Mr. Martin provided ongoing services to the operations staff in periodic evaluation of production data to optimize wellfield productivity and minimize raw water salinity over time. These efforts resulted in a more stabilized production water quality and general operational improvements of the SR 214 wellfield.

Lead Hydrologist, Water, Transportation, and Stormwater Optimization Study, Collier County, 2014. Mr. Martin provided the key technical evaluation for development of irrigation water supplies using available stormwater in concert with planned potable water supply development, reclaimed water production, and Irrigation Quality (IQ) supplemental water management in the Northeast Region of the Collier County Water-Sewer District (CCWSD). The evaluation of these supply sources included a combination of surface water and groundwater systems that maintained a focus on beneficial use and management of available stormwaters generated in the area. The results of the investigation identified multiple opportunities for storage of seasonally or temporally available sources using aquifer storage and recovery technology and surface water reservoirs where appropriate. Key recommendations were provided for numerous water supply development options depending upon area specific demands, resources, constraints, and permitting challenges.

Technical Director, Alternative Water Supply Evaluation and Implementation Plan Jacksonville Electric Authority, 2010-2011. JEA had completed preliminary evaluations of several alternative water supply (AWS) options as part of their Total Water Management Plans but needed a higher level of certainty as to the timing, quantity, type, and location of AWS alternatives. The effort included evaluation of 18 separate AWS options with prioritization based on a variety of time horizons, demand locations, and potential supply capacities. Evaluation criteria included environmental impacts, regulatory acceptability, technical feasibility, and costs. Key implementation strategies and

specific recommendations included a targeted reuse program to displace competing water users and to develop a salinity barrier adjacent to wellfields experiencing salt water encroachment, providing for recharge of the Upper Floridan Aquifer between the JEA wellfields and Keystone Heights, and desalination of surface water at the Northside Generating Station.

Technical Director, Integrated Water Supply Plan, Lee County, Florida, 2009-2011. Mr. Martin provided the key technical direction for a countywide integrated water supply plan, which included evaluation of all ground, surface, and reclaimed water supplies, as well as opportunities for storage of seasonally or temporally available sources using aquifer and recovery technology and surface water reservoirs where appropriate. Key recommendations were provided for numerous water supply development options depending upon area specific demands, resources, constraints, and permitting challenges.

Technical Reviewer, Emerald Coast Utilities Authority (ECUA) Northern Wellfield Conceptual Design, Pensacola, Florida, 2009. As a means to provide needed expansion and reliability in the utility's raw water supply system, ECUA sought to develop a new wellfield north of their service area where potential competition for available resources was diminished, the water supply source was less susceptible to urban and industrial contamination, and saline water intrusion was not of concern. Conceptual wellfield design parameters were developed and potential wellfield sites screened for hydrogeologic characteristics, parcel size, competing uses, land cover, ownership, potential environmental impacts, potential hydrologic impacts, distance to existing infrastructure, and costs.

Water Resource Director, Collier Rural Land Stewardship Area, Collier County, Florida, 2005. Mr. Martin provided the water resource expertise for development of the first rural land stewardship area designation in Florida. The resulting effort garnered a prestigious award from the Governors Commission for a Sustainable Florida and established an innovative incentive-based system for preservation of critical wetlands and wildlife habitat over a 300-square-mile area at no cost to the public.

Lead Hydrogeologist, Wellfield Design, Construction, and Management, Collier County, Florida, 1984 to 2010. Mr. Martin provided primary hydrogeologic expertise for all development activities for the Collier County wellfields, including over 35 freshwater wells and over 45 brackish water wells with depths of up to 1200 feet and with a combined capacity of over 80 mgd.

Lead Hydrogeologist, Water Supply Planning and Wellfield Design, Construction, and Management, Cape Coral, Florida, 1983 to 1994. Mr. Martin provided primary hydrogeologic expertise for planning and development activities for the city's wellfields, including wellfield layout for over 40 brackish supply wells and design and construction of over 20 brackish water wells with an installed capacity of over 40 mgd.

Lead Hydrogeologist, Hobart Park and South County Brackish Supply Wellfields, Indian River County, Florida, 1992 to 2010. Mr. Martin provided hydrogeologic oversight for expansion and rehabilitation of the county's South County Reverse Osmosis Water Treatment Plant (ROWTP) wellfield and design, permitting, and construction of the Hobart Park ROWTP wellfield with capacities of 6 mgd and 4 mgd respectively.

Technical Director, Evaluation of Groundwater Under Direct Influence (GWUDI) and Well Rehabilitation and Expansion, Valdosta, Georgia, 2004 to 2010. Mr. Martin served as the hydrogeologic advisor for the City of Valdosta, Georgia, in assessing GWUDI for the city's primary wellfield and developed a plan of action to minimize the potential for a single well GWUDI declaration from affecting other wells in the wellfield. A comprehensive study of UDI contributing areas and features was undertaken, including groundwater modeling in development of a wellfield expansion program from 15 to 45 mgd.

Lead Hydrogeologist, Screened Well Design and Construction, Various Clients. Mr. Martin was the lead hydrogeologist for over 100 mgd capacity of screened well design and construction. Clients have included the City of Titusville, City of Boca Raton, City of Deerfield Beach, Palm Beach County, Town of Jupiter, Cape Hatteras, Dare County, City of Hollywood, U.S. Sugar Corporation, Citrus Producers, and others.

Managed Aquifer Recharge/Aquifer Storage and Recovery

Project Director, Irrigation Aquifer Storage and Recovery System Permitting, Cape Coral, Florida, 2012. Mr. Martin provided technical oversight and direction for the permitting of five ASR wells for seasonal storage of irrigation quality water to support the city's reuse and stormwater harvesting program to irrigation demands throughout the city.

Project Director, Irrigation Aquifer Storage and Recovery System, Collier County, Florida, 2012-2014. Mr. Martin provided technical direction and hydrogeologic services for the design, permitting, and construction oversight for two irrigation quality Aquifer Storage and Recovery wells to provide critical seasonal storage of large volumes of irrigation quality water that allows more efficient and effective utilization of the county's reclaimed water and supplemental irrigation sources. The wells will provide for storage of up to 240 million gallons annually of a combination of municipal reclaimed water, raw groundwater, and canal water to help in the overall integrated management of available water resources to the county.

Technical Advisor, Irrigation Quality Aquifer Storage and Recovery, Cape Coral, Florida, 2010. Mr. Martin provided critical technical analysis in hydrogeologic interpretation and recommendation for siting an irrigation quality (IQ) water aquifer storage and recovery (ASR) system for the city. The site included unusually high salinities that threatened existing city production wellfields. Mr. Martin identified innovative groundwater management opportunities that protected the existing water supplies and provided important seasonal storage of surface water and municipal reclaimed water.

Technical Advisor, Aquifer Storage and Recovery System, Seminole County, Florida, 2009 to 2011. The St. Johns River Water Management District (SJRWMD) has sponsored an ASR program to explore alternative water supply sources. Mr. Martin is providing technical review and advisement services for the Seminole County ASR projects, which have a combined budget of $5 million. The ultimate use of these ASR wells will be to facilitate the county's/city's ability to store and recover potable water when a surface water treatment plant is developed on the St. Johns River. In the near-term, the ASR systems will be used for seasonal demand management such as excess wet-season surface water flows.

Technical Advisor, Aquifer Storage and Recovery System, Sanford, Florida, 2009 to 2011. The St. Johns River Water Management District (SJRWMD) has sponsored an ASR program to explore alternative water supply sources. Mr. Martin is providing technical review and advisement services for the Sanford ASR projects, which have a combined budget of $5 million. The ultimate use of these ASR wells will be to facilitate the county's/city's ability to store and recover potable water when a surface water treatment plant is developed on the St. Johns River. In the near-term, the ASR systems will be used for seasonal demand management such as excess wet-season surface water flows.

Technical Advisor, Miami-Dade Water and Sewer Department Water Reclamation Project, Miami-Dade County, Florida, 2010. Under constraint by conditions of their Water Use Permit (WUP) and by legislative requirements to severely reduce ocean outfall of treated wastewater, the Miami-Dade Water and Sewer Department (MDWASD) undertook a progressive project that included very high-level wastewater treatment with indirect potable recharge to the Biscayne Aquifer. A complete understanding of the groundwater hydraulics was required for design and permitting of the recharge facilities. Options evaluated included recharge to an existing mote and multiple configurations of shallow injection wells.

Technical Director, Reclaimed Water ASR Testing, Design, and Permitting, Hillsborough County, Florida, 2004. Mr. Martin provided hydrogeologic direction for the reclaimed water test program that resulted in recommendation of the storage and recovery components due to unfavorable hydrogeologic characteristics but continued use of the system for aquifer recharge and provision of a groundwater salinity barrier.

Technical Director, Manatee Road Aquifer Storage and Recovery System Construction and Expansion, Collier County, Florida, 1999 to 2010. Mr. Martin provided project oversight for the design and permitting of the expansion of the Manatee Road ASR system and the construction of four additional ASR recharge and recovery wells, associated monitor wells, a 6 MG prestressed concrete storage tank, and associated piping and instrumentation. He also oversaw the evaluation of the

operational data from the existing ASR wells to identify changes in the operating protocols that would allow for maximization of system performance.

Technical Director, Livingston Road Reclaimed Water Aquifer Storage and Recovery System, Collier County, Florida, 2009 to 2011. Mr. Martin directed testing, design, and conceptual operations for the reclaimed water ASR program. Options developed for the site included use of reclaimed water, partially treated surface water, and raw groundwater for seasonal recharge and use to supplement the county's reclaimed water system as part of an overall integrated water management program for the county.

Project Director, Feasibility Study of Salinity Barrier by Injection, Hollywood, Florida, 2007. Mr. Martin served as project director for this aquifer recharge and salinity management project that included testing the feasibility of using direct injection of reclaimed water to control movement of the salinity interface threatening the City's primary water supply. The project established a program to test the feasibility of injecting highly treated effluent (reclaimed water) from a Class I wastewater treatment facility into areas where saltwater intrusion contaminated the Biscayne Aquifer as a means to maintain and possibly increase use of the Biscayne Aquifer for municipal supply.

Lead Hydrogeologist, Construction and Testing of the Potable Water Aquifer Storage and Recovery System for Lee County Utilities, Lee County, Florida, 1994 to 1996. Mr. Martin provided hydrogeologic oversight for the construction and testing of the first potable water ASR system in Southwest Florida. Since that early success, the system has been expanded to include five ASR wells and proves to be a critical component in the county's water management program.

Deep Injection Well/Wastewater Disposal

Project Director, Deep Injection Well Design and Permitting for the SWROWTP, Cape Coral, Florida, 2012. Mr. Martin provided technical direction and hydrogeologic services for the design and permitting of a Class I injection well at the City's Southwest Reverse Osmosis Water Treatment Plant and Water Reclamation Facility. The evaluation included determination of optimum casing selection and construction completion to provide for a full disposal capacity for the SWROWTP and the SWWRF with a cost savings to the City of approximately $2 million over a conventional design approach. The project approach also included meeting critical milestones to comply with a FDEP Consent Order.

Technical Advisor, West Water Treatment Plant Concentrate Injection Well System, Deerfield Beach, Florida, 2007. Mr. Martin was involved in the design, permitting, and construction of a concentrate pump station related to a deep injection well system. The injection well design utilized a tubing and packer with a pressurized annulus. Included in the well design was a dual zone monitor well so that regulatory water quality monitoring requirements could be complied with. The entire system is designed to dispose of approximately 4 mgd of concentrate.

Lead Hydrogeologist, North County Regional Water Treatment Plant, South County Regional Water Treatment Plant, and South County Water Reclamation Facility, Collier County, Florida, 1995 to 2005. Mr. Martin provided hydrogeologic direction for design, permitting, and construction of six deep injection wells for the Collier County water (RO concentrate) and wastewater departments with a combined injection capacity of over 60 mgd.

Technical Director, Wastewater Treatment Plant Class I Injection Well (IW-2), Marco Island, Florida, 2009. Mr. Martin provided oversight of the design, permitting, and construction of the injection well and wellhead, and the design and permitting of the piping, controls, and instrumentation for the injection well system. As an additional component of this project, Mr. Martin directed investigation of the feasibility of utilizing approximately 1.5 mgd of reclaimed water treated to potable water standards from the Marco Island WWTP for injection into aquifer recharge wells designed to both replenish the Hawthorn Aquifer System and to attenuate the effects of saltwater intrusion on the city's RO production wells.

Technical Director, Reverse Osmosis Water Treatment Plant, Floridan Aquifer Wellfield, and Deep Injection Well, Clewiston, Florida, 2007. Mr. Martin provided technical direction for the City of Clewiston water treatment plant, Floridan aquifer wellfield, and deep injection well. Mr. Martin directed engineering services to design, permit, and bid the injection well system. The injection well

design of approximately 4 mgd capacity considered both initial concentrate and potential wastewater disposal needs.

Technical Director, Babcock Ranch Community Concentrate and Wastewater Injection Well System, Charlotte County, Florida, 2010. For the Deep Injection Well IW-1 and Dual Zone Monitor Well, Mr. Martin provided hydrogeological direction for design and permitting of the Class I industrial deep injection well used to dispose of reverse osmosis reject concentrate and for wastewater effluent wet weather disposal.

Technical Advisor, South Beaches Wastewater Underground Injection Permitting, Brevard County, Florida. Mr. Martin directed the preparation of an Underground Injection Control operation permit application for a deep injection well system and evaluated hydrogeologic and well integrity criteria for an existing deep injection well system. Detailed evaluation of water quality signature and age resulted in over $7 million in savings to the county as they did not have to modify the injection system or their wastewater treatment process.

Lead Hydrogeologist, Pinewoods Reverse Osmosis and Membrane Softening Water Treatment Plant Injection Well Evaluation, Lee County, Florida, 2010. Mr. Martin provided technical oversight of the deep well evaluation and rehabilitation resulting in more than doubling the well capacity. Further analysis was provided to modify waste blending operations to provide improved well performance.

Technical Advisor, Lake Region Water Treatment Plant Disposal Well System, Palm Beach County, Florida, 2008. Project included design, permitting, and construction oversight for a 10 mgd LPRO water treatment plant (WTP), a raw water Floridan Aquifer wellfield, a raw and finished water pipeline, and deep injection well for concentrate disposal to serve the Cities of Belle Glade, South Bay, and Pahokee. Mr. Martin provided technical oversight for the design of the injection well system and associated monitor wells.

Lead Hydrogeologist, Concentrate and Wet Weather Wastewater Disposal Injection Well, Island Water Association, Sanibel, Florida, 1998. Mr. Martin provided hydrogeologic evaluation, design, and permitting services for the deep injection well system for the Island Water Association and the City of Sanibel.

Professional Activities

Member, Association of Groundwater Scientists and Engineers

Member, American Institute of Professional Geologists

Member, Florida Water Environment Association

Member, American Water Works Association

Member, American Water Resources Association

Publications/Presentations

Martin, Kirk, S. Magenheimer, “Apparent Upward Migration Determination: Multi-Level Diagnostic Strategies That Can Save Your Deep Injection Well,” Groundwater Protection Council Underground Injection Control Conference, 2013.

Martin, Kirk, J. Mills, L. Wiseman, “Patching Holes: Successful Remediation of Production Wells Under the Direct Influence of Surface Water,” FSAWWA Annual Meeting, 2012.

Martin, Kirk. “What in the World is Going on with Water?” Florida Watershed Journal, 2012.

Martin, Kirk. “A Coastal Wellfield Salinity Barrier Using Reclaimed Water: Managing the Biscayne Aquifer from Both Sides Now.” Presented at the FSAWWA Florida Section Fall Conference, 2012.

Martin, Kirk, G. Reilly, J. Sorrells. “Lessons Learned from Three Decades of Integrated Water Management.” FSAWWA Annual Meeting, 2012.

Martin, Kirk. “One Water – Integrated Solutions and Lessons Learned.” Presented at the AWRA Florida Section Meeting, 2012.

Martin, Kirk. "Public Private Partnerships: A Better Way to Manage Water in Florida?" Presented at the University of Florida Water Institute Symposium, 2012.

Martin, Kirk. "A Coastal Wellfield Salinity Barrier Using Reclaimed Water: Managing the Biscayne Aquifer from Both Sides Now." FSAWWA Annual Meeting, 2011.

Martin, Kirk. "Public/Private Partnerships for Better Water Supply Management." 25th Annual Florida Chamber Environmental Permitting School, 2011.

Martin, Kirk. "ASR: Is it a Viable Solution for Effluent Management." Florida Water Environment Association Effluent Disposal Seminar, 2010.

Martin, Kirk. "Is There Hope for ASR?" Emerging Solutions to the Arsenic Issue." FSAWWA, 2010.

Martin, Kirk, R. Cavalieri, K. Hoskins. "Integrated Water Resource Master Planning." 2nd Annual University of Florida Water Institute Symposium, 2010.

Martin, Kirk. "Aquifer Storage and Recovery: Potential for Saudi Arabia." Total Water Solutions Workshop – Ministry of Water and Energy, Kingdom of Saudi Arabia, 2010.

Martin Kirk. "Case Studies Addressing EPA's Draft Numerical Nutrient Criteria." CDM SmithU – NNC Workshop, 2010.

Martin, Kirk, R. Cavalieri, K. Hoskins. "Development of an Integrated Water Resources Plan for Lee County Utilities." AWWA-FWEA Florida Water Resources Conference, 2010.

Martin, Kirk, P. Mattausch, K. Probst, J. Sciandra. "Water Levels and Water Resource Management: Real World Data Still Matters." FSAWWA Water Resources Conference, 2009.

Martin, Kirk. "Water Resource Planning for Private Development." Presented at Land Development East Conference & Expo, 2007.

Martin, Kirk. "Sustainable Water Resource Development: West Side Story." Presented at FS AWWA Florida Water Resources Conference, 2006.

Martin, Kirk, L. Turner, and L. Wiseman. "Aquifer Storage and Recovery System Implementation: Techniques for Improving Success." Presented at FS AWWA Florida Water Resources Conference, 2006.

Martin, Kirk, R. Maliva, and W. Guo. "Predictive Modeling of Brackish Water ASR System Performance." Presented at FSAWWA Florida Water Resource Conference, 2005.

Martin, Kirk and T. Missimer. "Natural Hydraulic Entrapment of Relict Saline Water in Semi-Confined Aquifers." Presented at Southwest Florida, NGWA/AGWSE Annual Meeting, 2004.

Martin, Kirk, R. Maliva, T. Missimer, and R. Blind. "Conjugate Use of Aquifer Storage and Recovery with Desalination to Meet Expanding Potable Water Demand." Presented at 79th Annual Florida Water Resources Conference Technical Proceedings, 2004.

Martin, Kirk, T. Missimer, and W. Guo. "Hydraulic Entrapment of Relict Saline Water within Semi-Confined Aquifers of Southwest Florida." Presented at Gulf Coast Association of Geological Societies, SEPM Transactions, 2003.

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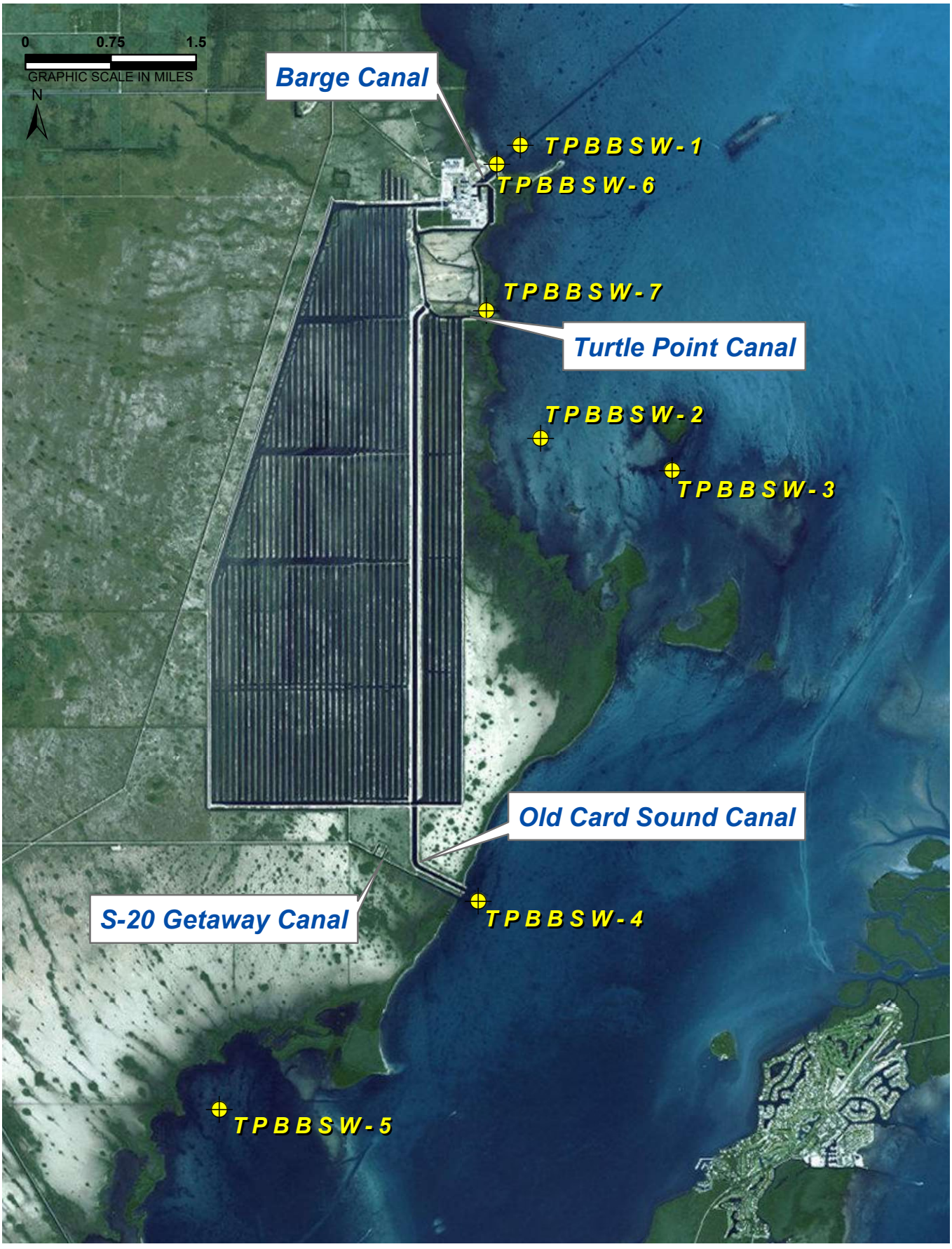

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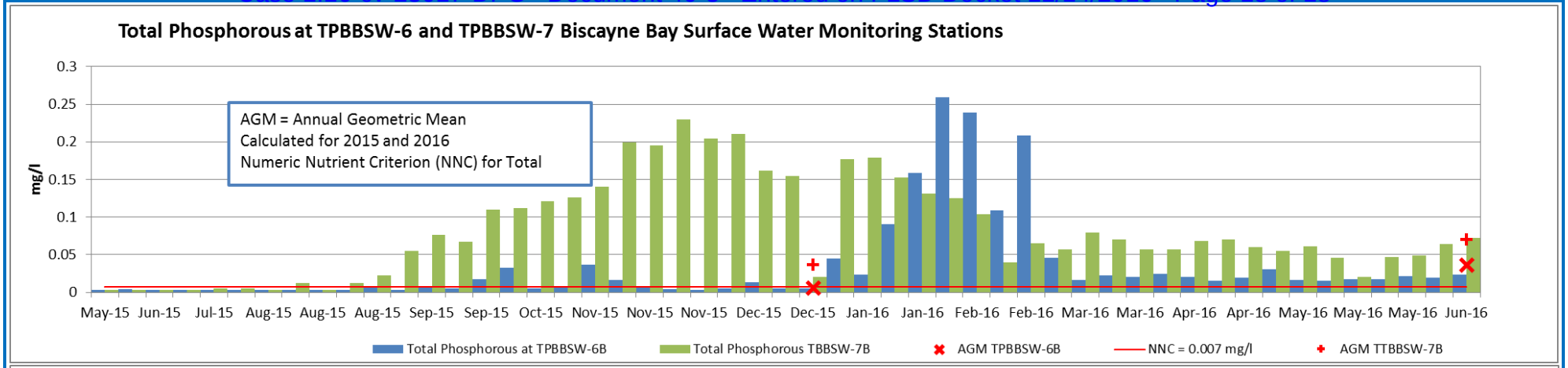
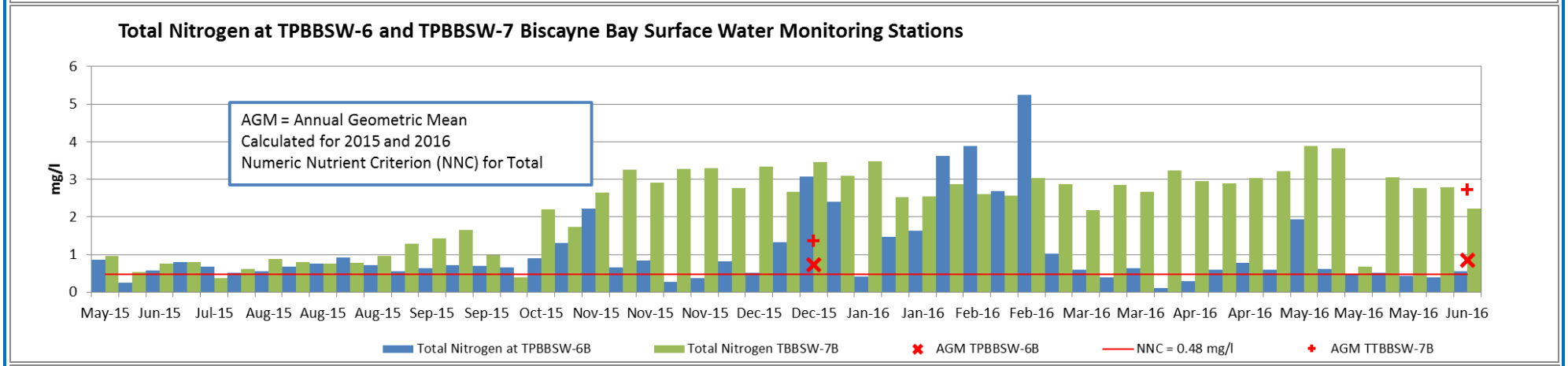
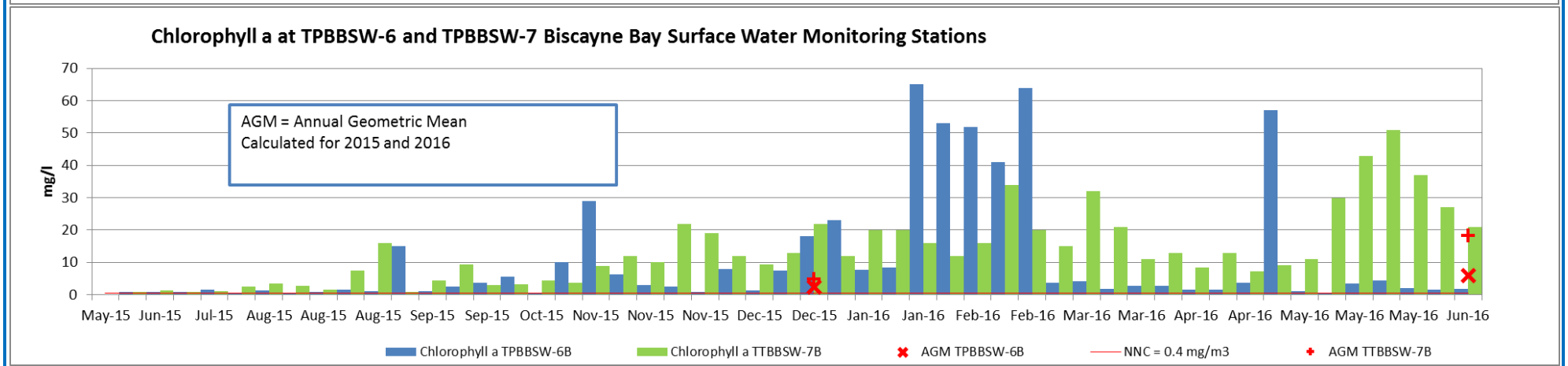
PROJECT NAME: FP&L TURKEY POINT WATER QUALITY EVALUATION

DATE: OCTOBER 2016

FIGURE. 1. LOCATION MAP OF SAMPLE SITES AND CANALS







Water Science Associates	PROJECT NAME: FLORIDA POWER AND LIGHT WATER QUALITY EVALUATION	
	PROJECT NUMBER:	DATE: OCTOBER 2016

FIGURE 2. NUMERIC NUTRIENT CRITERIA DATA FROM TPBBSW-6 AND TPBBSW-7