FORM 1

SUBMITTAL CHECKLIST FORM

The items below are required components of your solicitation response in order for your bid/proposal/submittal to be consider responsive and responsible. Please complete and submit this submittal checklist form as the cover page of your submittal with all of the items below in the order listed.

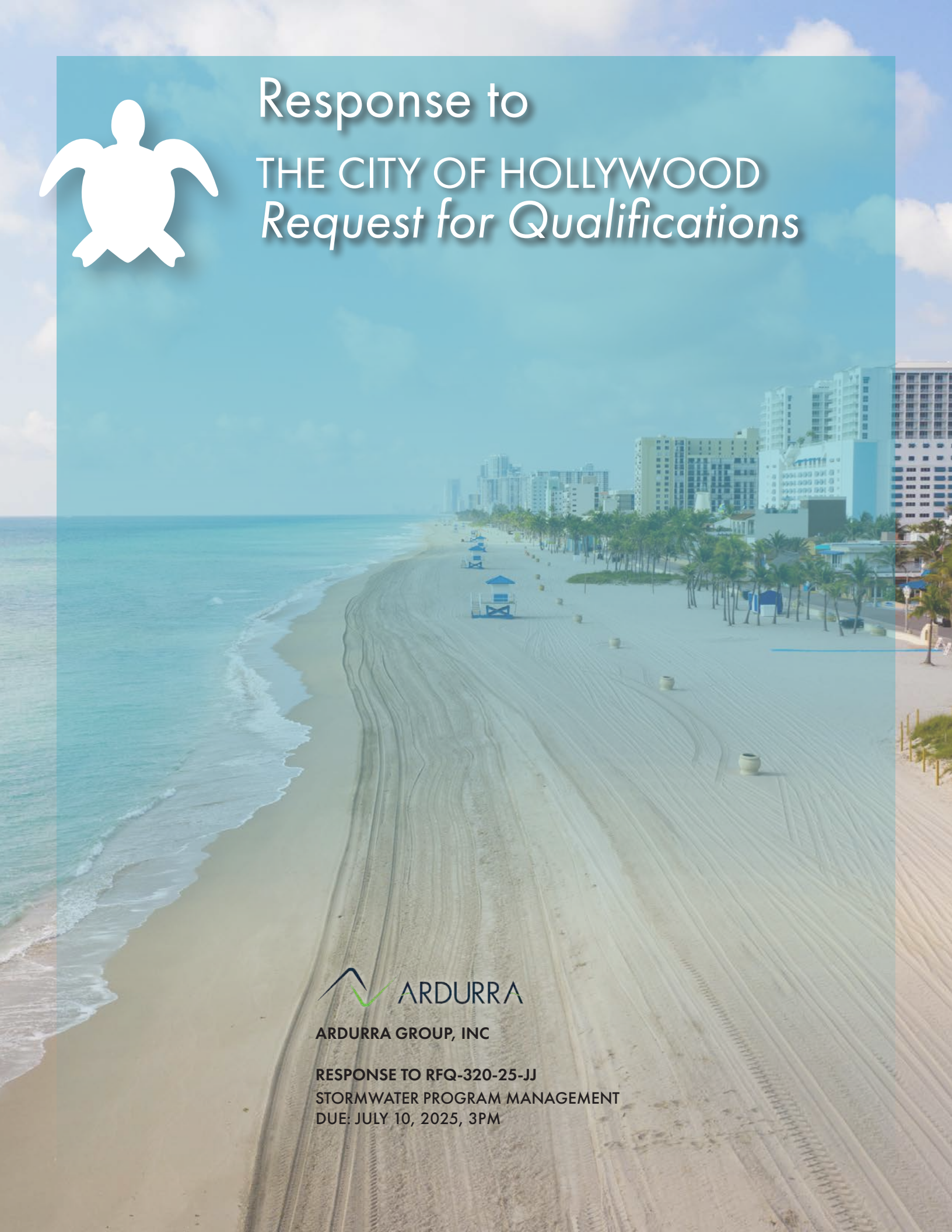
Please indicated Yes or No in the "Submitted (Yes/No)" column below to indicated which required components were provided with your submittal.

Submitted (Yes/No)	Required Bid Components
✓	This Submittal Checklist Form completed and included as the cover page of your submittal.
✓	A Table of Contents that clearly identifies each section and page number of your submittal.
✓	Information and/or documentation that addresses and/or meets the requirements outlined in Section III – Scope of Work/Services, including any procedural or technical enhancements/innovations which do not materially deviate from the objectives or required content of the Scope of Work/Services.
✓	Forms (Completed) Form 1 Submittal Checklist Form* Form 2 Acknowledgement and Signature Page ~~Form 3 Bid Form*~~ Bid Form not required per Q&A #32 Form 4 Vendor Reference Form* Form 5 Hold Harmless and Indemnity Clause Form 6 Non-Collusion Affidavit Form 7 Sworn Statement…Public Entity Crimes Form 8 Certifications Regarding Debarment… Form 9 Drug-Free Workplace Program Form 10 Solicitation, Giving, and Acceptance… Form 11 W-9 (Request for Taxpayer Identification)
✓	Certificate(s) of insurance that meet the requirements of Section 2.17
✓	Proof of State of Florida Sunbiz Registration

This checklist is only a guide, please read the entire solicitation to ensure that your submission includes all required information and documentation.

Response to

THE CITY OF HOLLYWOOD
Request for Qualifications



ARDURRA

ARDURRA GROUP, INC

RESPONSE TO RFQ-320-25-JJ
STORMWATER PROGRAM MANAGEMENT
DUE: JULY 10, 2025, 3PM

LETTER OF INTEREST

Dear Members of the Selection Committee:

Ardurra Group, Inc (Ardurra) is pleased to present our personnel, qualifications, and experience in response to the subject RFQ for the City of Hollywood (City). We have structured this response to address the specific items requested and have supplemented it to demonstrate our extensive experience in stormwater program management in South Florida.

As a trusted service provider, Ardurra is currently providing stormwater engineering services to more than 30 South Florida municipal utilities and more than 50 within the State of Florida. We have assembled a Team of local experts who bring 45+ years of experience in stormwater programs including program management, planning, modeling, engineering, resiliency, permitting, grants management, asset management, condition assessments, construction management and inspection services and public outreach. Below are key advantages and added value our local team brings to the City:

- **Local Water Powerhouse.** Ardurra has more than 1,800 professional and technical staff nationwide and 550+ in Florida, including 150 in South Florida. Water is our passion and our core business line. Our ENR Ranking of #19 in Storm Sewers is a true testament of our strength in stormwater design and management. **Our depth of local resources enables us to dedicate multiple Design and Construction Engineering Inspection (CEI) teams, who can work simultaneously and ensure continuity on every project within the City's Stormwater Program.**
- **Proven Expert Program Manager.** Rares Petrica, PE is a hands-on Program Manager with over 21 years of experience. **Recently, he successfully led the $200M City of Fort Lauderdale Stormwater Program**. He will be fully dedicated from inception to completion to the City bringing numerous lessons learned and strategies implemented.
- **Proven South Florida Program Management Experience.** Ardurra has assisted multiple local government agencies with program management, design, and construction management services for renewal and replacement of citywide utility and roadway infrastructure including the Cities of Fort Lauderdale, North Miami Beach, and Coral Gables; Miami Dade Water & Sewer Department; and the South Florida Water Management District. **We will leverage our WISE engineering approach, which we have used to save our clients millions of dollars in overall program costs** — such as Miami Dade County's Pump Station Improvement Program where we saved the County $3M, and were able to execute 35 additional projects.
- **Grant Management Experts. Ardurra has helped to identify, secure, and administer more than $3B in infrastructure grants** for our clients' capital improvement and resiliency programs. We will leverage our national and local experience to assist the City to identify, secure, and manage state and federal grants.
- **Turnkey, Solution Driven Team.** The Ardurra Team was crafted to tackle each scope of work with seasoned experts who have the hands on experience assisting clients in South Florida with their stormwater challenges. Our strategic partners, **KEITH and Arcadis, complement Ardurra's services and bring the experience of successfully addressing the City's utility and infrastructure challenges** for the last 30 years. Together, the Ardurra team brings more than 1,200 Florida-based professional and technical personnel to support your program.
- **Operations & Maintenance and CEI Experts.** The Ardurra team brings to the City **40 local Certified Stormwater Operators, Certified CTQP personnel**, as well as stormwater, erosion control and sedimentation CEI staff.
- **Resiliency & Sustainability.** Ardurra is an Envision Certified Company with the Institute of Sustainable Infrastructure and has 15 local Envision Sustainability Professionals. **We are committed to partnering with the City to deliver a resilient, robust, and environmentally responsible program.**

We appreciate the opportunity to submit our qualifications to support the City as your Stormwater Program Manager. As south Floridians, our team members are also deeply invested in the success of this contract for the betterment of our own communities. Please feel free to contact us if you require additional information.

Sincerely

Franklin A Torrealba, PE, ENV SP
Principal-In-Charge, Ardurra Group, Inc.
(tel) 305.763.9829, (e) fatorrealba@ardurra.com

Rares Petrica, PE
Program Manager, Ardurra Group, Inc.
(tel) 954.701.2071, (e) rpetrica@ardurra.com

A

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"Ardurra offers more than just qualifications—we bring proven experience delivering large public infrastructure programs with precision, accountability, and care. Our team's understanding of stormwater infrastructure, client and stakeholder engagement, program controls, and complex utility coordination translates into efficient, resilient solutions tailored to the City's goals. With the right people, processes, and partnerships already in place, Ardurra is ready to lead this project with clarity, confidence, and commitment."

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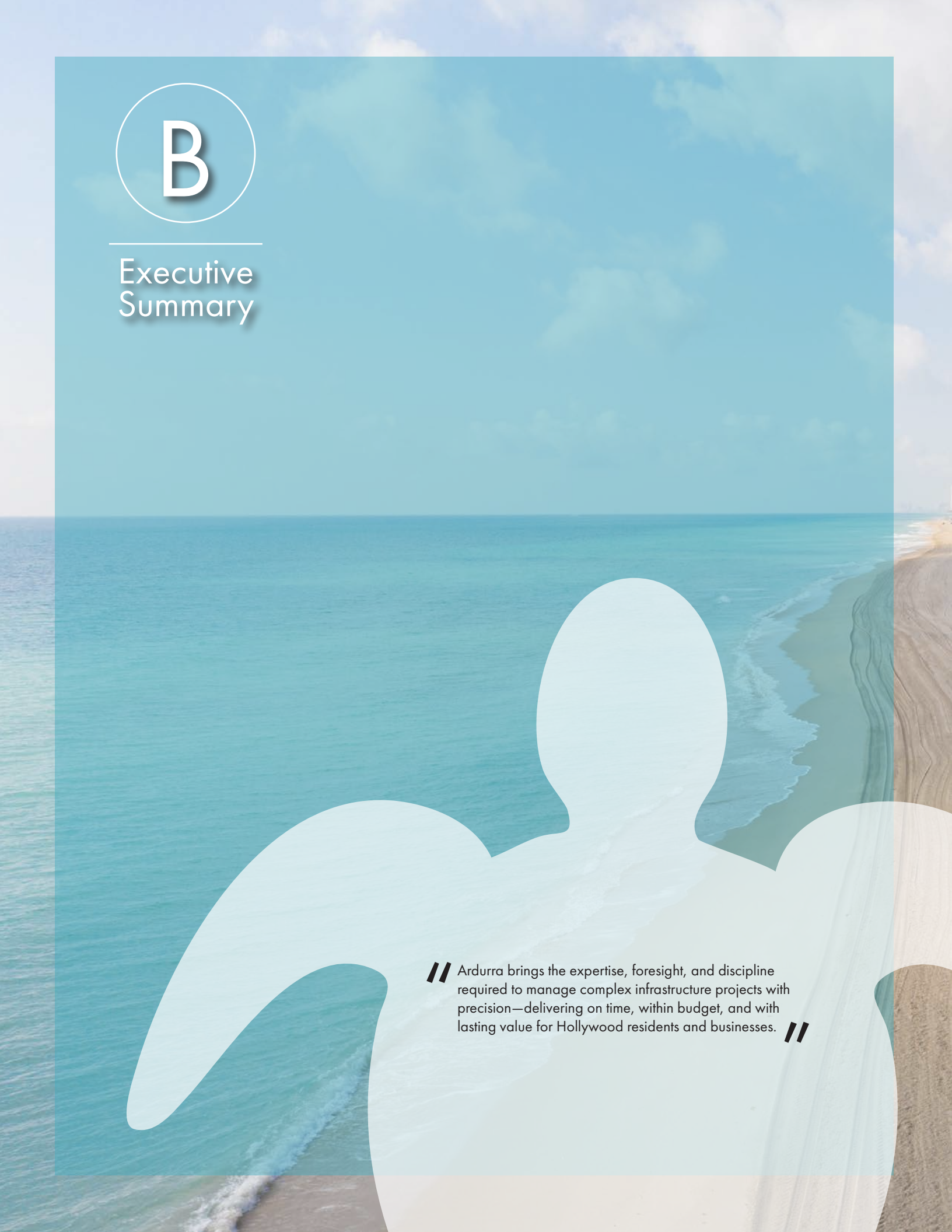
Executive Summary



"Ardurra brings the expertise, foresight, and discipline required to manage complex infrastructure projects with precision—delivering on time, within budget, and with lasting value for Hollywood residents and businesses."

EXECUTIVE SUMMARY

Ardurra Group Inc. (Ardurra) brings to the City of Hollywood (City) capabilities, experience and commitment needed to successfully manage the implementation of the City's Stormwater Master Plan. Our team of local experts to fulfill all the requirements and scope of services outlined in the RFQ. In the following pages, we present key benefits of choosing Ardurra as your preferred Engineering Consultant.

FIRM BACKGROUND

Ardurra is a locally-based ENR Top 500 engineering firm that has been providing multi-disciplinary engineering and construction management services to municipal and government agency clients throughout Florida since 1977. Headquartered in Miami, Ardurra's 1,800+ employees in 85 offices nationwide includes civil, environmental, structural, O&M, transportation, mechanical, I&C, and electrical engineers; licensed water and licensed stormwater operators; environmental scientists; geologists; ecologists; surveyors; GIS professionals; and certified construction managers.

Ardurra's Florida operations has 550 professional and technical personnel in 17 offices throughout Florida.

NATIONAL NETWORK with a LOCAL PRESENCE

Ardurra has 150 staff in South Florida — located in Fort Lauderdale, Miami-Dade, West Palm Beach, and Coral Gables — focused on program management, design, and construction of stormwater, water, wastewater, and transportation. As a local workforce who lives and works locally, we are committed to the success of the City's assignments and the resiliency of our local communities.

For 47 years, Ardurra staff have been providing comprehensive engineering and consulting services for more than 100 municipal utilities throughout Florida. Whether a project involves stormwater systems, utilities, preparing a master plan, rehab/repairs infrastructure, new construction or improvements and/or expansion of existing municipal buildings, roadways, Ardurra's multi-disciplinary capabilities allow us to provide a comprehensive approach to your project, from due diligence, planning, designs, through construction administration, inspections, facility startup, and providing O&M and start up services.

BUSINESS STRUCTURE: Ardurra Group, Inc. is a corporation organized under the laws of the State of Florida and was established in 1977.

COMPANY HEADQUARTERS:
HQ: 1000 NW 57th Ct. Suite 800, Miami FL 33126
OFFICE THAT WILL SERVICE THIS CONTRACT:
900 SE 3rd Ave, Suite 203, Fort Lauderdale FL 33316

PRIMARY CONTACTS:
Rares Petrica, PE, Program Manager
954.701.2071 | rpetrica@ardurra.com
Franklin A Torrealba, PE, ENV SP, Principal In Charge
305.763.9829 | fatorrealba@ardurra.com

RELATIVE SIZE OF FIRM: Ardurra is a Local Water Powerhouse. We employ over 1,800 professionals nationwide, including over 150 employees based in South Florida.

NUMBER OF YEARS PROVIDING THE PROFESSIONAL SERVICES AS IT RELATES TO THE WORK CONTEMPLATED:
Over 30 years in South Florida

Ardurra has built a renowned track record of effectively delivering program management, construction management, and inspection services for condition assessments, repairs, replacements, and rehabilitation of stormwater, utility, and roadway infrastructure projects for local clients in South Florida.

We pride ourselves in providing practical and sound cost effective solutions where added value is demonstrated to our Clients through early results, consistency and straightforwardness in our approach towards project/program execution.

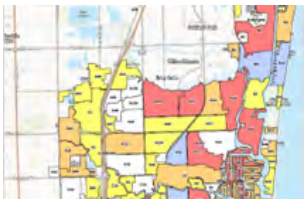
EXECUTIVE SUMMARY

5 KEY ELEMENTS OF OUR STATEMENT OF QUALIFICATIONS

1 FIRM QUALIFICATIONS & EXPERIENCE

Ardurra has served as Program Manager and Owner's Advisor for numerous programs throughout the US valued from $100M to $2.5B in construction value. We bring these lessons-learned and best practices to the City's Stormwater Program. **Ardurra has managed more than 50 ongoing and completed programs, totaling more than $40B in managed funds, nine of which are South Florida water infrastructure programs delivered in the last 10 years by proposed Ardurra staff.** Select programs include:

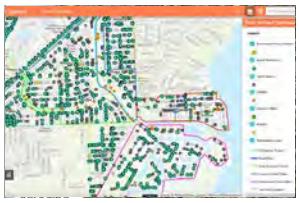
ARDURRA'S PROGRAM MANAGEMENT EXPERIENCE



Fort Lauderdale I/I Reduction Program
500 Miles Gravity Sewer Pip + 186 Collection Basins

Miami Dade WASD Pump Station Improvement Program
$215M

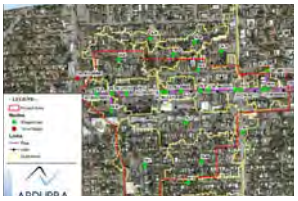
City of North Miami Beach Water & Sewer CIP
$150M



City of Coral Gables Drainage Verification Program
Citi-wide Stormwater Program

Miami Dade WASD Consent Decree Program
$1.9B

Miami Dade WASD Consumer Line Relocation Program
$23M



City of Miami 8th Street Flood Mitigation Improvements
Stormwater Modeling, Drainage Design

South FL Water Mgmt District Flood Level of Service Program
$30-70M annually

Project Controls. Ardurra's proven track record as Program Manager with the ability to keep programs on schedule and on budget, combined with PCI's technology and tools to further enhance project controls, will be critical to set the foundation for a successful program. Our team's program controls experience on large programs in South FL include Miami Dade County's $2B Consent Decree, $5B WASD-Managed CIP, $400M South and Central District Treatment Plants, $300M Prospect Lake Water Plant, and Fort Lauderdale's $100M I/I Reduction Program.

Construction Management. Ardurra's proven comprehensive construction management approach starts by proactively preventing the measures historically resulting in change orders, budget overruns, delays, and scheduling problems, while keeping the client's best interest at the forefront. Our team remains mindful of the project's goals and objectives while serving as the client's representative. Ardurra's personnel balance the fundamentals of construction with the latest technologies and materials and utilize state-of-the-art computer systems and software necessary to plan and manage all phases of construction.

Asset Management. Ardurra's extensive asset management experience ranges from inventory mapping of complete stormwater, water, and sewer systems, to scheduling and tracking work orders through cloud-based applications linked to GIS, such as Cityworks, as well as managing planned budget and actual expenses and revenue.

Grant Application Assistance & Grant Management. Ardurra has successfully obtained federal, state, local and foundation grant funds to support the strategic plans of many public and private entities, for over 20 years. By offering management support throughout the grant and/or loan application process, we can protect the best interests of the City by ensuring the project needs are satisfied.

Utilities and Pipelines. Ardurra has successfully delivered hundreds of miles of pipeline design, including an extensive array of engineering services related to water, sewer, reuse and stormwater pipelines. These services encompass comprehensive master planning and modeling for large-scale projects, evaluations of existing systems, as well as designing and refurbishing projects, spanning from the preparation of a basis of design report to the provision of design, permitting, and construction administration services.

Drainage (Neighborhood Exfiltration Improvements). Our experience related to stormwater improvements ranges from small to large scale projects in a systematic and objective manner, securing grants for flood protection projects, development of adaptive action plans for climate resilience and projected sea-level rise, design of priority CIP projects and compliance with NPDES permits.

Resiliency & Hardening. Ardurra has served as Program Manager for the South Florida Water Management District's Flood Protection Level of Service Program, since its inception. As such, we have worked closely with state and federal agencies and municipalities to identify coastal drainage system vulnerabilities and developed hardening adaptation strategies to protect cities and counties against sea level rise and storm surges. This experience ensures that the City takes full advantage of current and future plans to future proof its infrastructure in a cost-effective manner.

2 PROJECT TEAM QUALIFICATIONS

Ardurra has crafted a uniquely qualified local team to meet the very specific needs of the implementation of the City's Stormwater Master Plan. We have worked with each team firm extensively and can attest to their unwavering commitment to client service, high quality deliverables, and ability to thrive in a collaborative and cohesive team that is laser focused on meeting our clients goals and exceeding expectations! **We are true believers that local firms provide the most value to our neighbor agencies and bring unparalleled knowledge of local conditions, permitting processes, as well as the local consultant and general contractor environment.**

The Ardurra Team has 1,200+ PROFESSIONAL & TECHNICAL STAFF ACROSS FLORIDA to provide additional support as needed!

Based upon our industry leading experience, the Ardurra Team is capable of performing the majority of the work associated with the program in-house; however, we have retained several crucial teaming partners to leverage their past experience performing similar work for the City, and other utilities, which will provide support for key aspects of the anticipated work. Team firms include:

TEAM FIRM & ROLE	OVERVIEW & CAPABILITIES	BENEFIT TO THE CITY OF HOLLYWOOD
KEITH & ASSOCIATES, INC. • *Civil Engineering* • *Survey* • *CEI* • *Landscape*	Established in Broward County 50+ years ago, Keith is a leader in engineering design and survey for local municipalities. Keith has worked alongside Hollywood staff to deliver multiple projects including the SR-7 Art Installation, North Beach Undergrounding and Watermain, and Park Boundary Survey. Keith understands the complexities of stormwater management in low-lying areas and has successfully implemented LiDAR information for initial topographic investigation and determine key problem low areas and applied either ICPR or the EPA SWMM software models to analyze many projects similar to those in Hollywood.	✓ Hollywood design and CEI experience ✓ Experts in LiDAR and modeling
ARCADIS US, INC. • *Civil Engineering* • *Rate Studies* • *Ecological*	Arcadis is a leader in stormwater management and climate resilience and has been at the forefront of helping communities implement climate and sea level rise adaptation strategies. Arcadis brings to the team extensive expertise in the areas of condition assessment and risk-based prioritization, linear assets repair and rehabilitation, environmental engineering, stormwater and green infrastructure, resiliency, and asset management. Arcadis has been a trusted partner to the City for 20+ years, including the City's Water System Master Plan, SRF Funding Support, and LCRR Compliance support.	✓ Hollywood master plan, design, funding support, and CEI experience ✓ Experts in risk based prioritization, rate studies, asset management
PROGRAM CONTROLS, INC. (CBE & MBE) • *Program Controls* • *Cost Estimates* • *Scheduling*	PCI is a Broward County CBE and FL MBE and is one of the few firms in South FL with a complete focus on all controls aspects of construction projects. For 20+ years, PCI has been responsible for project controls services for large water programs in South FL including Miami Dade County's $2B Consent Decree, $5B WASD-Managed CIP, $400M South and Central District Treatment Plants, $300M Prospect Lake Water Plant, and Fort Lauderdale's $100M I/I Reduction Program.	✓ Experts in program controls - estimating, scheduling, cost control, value engineering, claims ✓ Established and led project controls for $100M to $5B design & construction programs
TERRACON, INC. • *Geotechnical* • *Hydrogeology*	Terracon has a strong presence in South FL, offering specialized geotechnical, environmental, hydrogeology, and materials testing to local municipalities and consultants. Their local offices and lab facilities have extensive experience with these services for local clients in low lying areas and complex soil conditions.	✓ Experts in geotechnical and environmental in South FL ✓ 30 years of pertinent experience with local soils

3 APPROACH TO THE SCOPE OF WORK

The Ardurra team will lead all aspects of the City's Stormwater Program, delivering a full-service solution from planning and design to permitting, procurement, and public engagement. With support from Arcadis, Keith, PCI and Terracon our team brings local knowledge, proven program management expertise, and technical depth to drive efficient, resilient, and fundable stormwater improvements. Key elements of our approach:

✓ **Program Management.** Ardurra will implement a customized Program Management Plan to guide all program activities, including scope execution, budgeting, scheduling, QA/QC, and stakeholder coordination. We serve as the single point of accountability, ensuring seamless coordination across all tasks.

✓ **Capital Planning & Prioritization.** We will develop a data-driven CIP that aligns with City goals and available funding. Arcadis will support with data analysis and prioritization modeling.

✓ **Modeling & Predictive Analytics.** We will update and maintain the City's stormwater models to reflect existing and future conditions. Leveraging the Nexus platform, we can integrate live system data, rainfall forecasts, and tidal inputs to simulate flooding scenarios and support real-time decision-making. Predictive modeling will help identify system vulnerabilities, optimize pump operations, and prioritize CIP investments. Arcadis will support advanced analytics and risk forecasting.

✓ **Procurement & RFQ Development.** We will lead the development of RFQs, RFPs, and bid packages for design and construction services. As approved by the City, we will manage the full procurement lifecycle, including scope definition, contractor evaluation, and award recommendations, ensuring compliance with City and grant requirements.

✓ **Design Standards Development.** We will establish stormwater design standards tailored to Hollywood's infrastructure, regulatory requirements, and resilience objectives. These standards will support consistency across CIP delivery and streamline future permitting.

✓ **Design Oversight & Constructability.** We will oversee all design and rehabilitation efforts, ensuring cost-effective and constructible solutions. Keith will support with survey, utility coordination, and permitting, while Ardurra maintains technical and QA/QC leadership.

✓ **Permitting Coordination.** We will lead all permitting efforts with agencies such as SFWMD, FDEP, Broward County EPGMD, and FDOT, managing timelines and approvals through established relationships and local experience.

✓ **Funding Strategy & Compliance.** We secured $3B in funding across the Southeast over the past decade. As approved by the City, we will lead all grant and loan application efforts for the City. Arcadis will support with compliance documentation and reporting.

✓ **Public & Stakeholder Engagement.** We will coordinate with the public, City departments, CRA, and adjacent municipalities. We will develop outreach materials, support public meetings, and develop program dashboards to build awareness and support for program goals.

With Ardurra and its trusted partners, the City will gain a proactive, experienced team equipped to deliver a resilient, well-funded, and community-supported stormwater program.

4 KNOWLEDGE OF SITE & LOCAL CONDITIONS

Ardurra, Arcadis, and Keith bring a fully integrated, locally based team with extensive knowledge of the City's infrastructure, flood-prone areas, coastal resiliency challenges, permitting requirements, and community priorities. With deep roots in South Florida, we understand the City's stormwater challenges—from aging infrastructure and tidal influence to high groundwater and limited outfall capacity—and we know how to deliver solutions efficiently, collaboratively, and with lasting value.

> **The Ardurra Team has completed 26 projects for the City — from condition assessment of water system assets, hydraulic modeling, and waster system master plans to rehabilitation design for water, wastewater, and roadway infrastructure. We understand the City's stormwater challenges — from aging infrastructure and tidal influence to high groundwater and limited outfall capacity.**

Local Expertise and Stormwater Management in Low Lying Areas. We have provided stormwater planning, modeling, resiliency, design, permitting, and Construction Engineering Inspection (CEI) to local clients including Central Broward Water Control District, Broward County, City of Fort Lauderdale, Miami-Dade County, City of Miami, City of North Miami Beach, City of Doral, City of Coral Gables, and SFWMD. As such, we understand the complex nature of stormwater management with low-lying areas and their susceptibility to high tides, storm surges, and regular rain induced flooding. We are cognizant of the balance required between the permitting requirements, restricted positive outfalls, budget limitations, and existing historical drainage patterns. Our team has professional acumen to fully investigate the existing conditions and propose creative solutions that will resolve and simplify the feasible alternatives.

We Understand Local Challenges. We are well aware of the unique conditions that shape Hollywood's stormwater needs, including:

- Flat terrain and limited outfall capacity
- Tidal backflow and high groundwater
- Susceptibility to hurricanes and storm surges
- Dense utility corridors requiring close coordination
- Construction sensitivities in high-visibility and residential areas
- Seawalls

Regulatory Coordination. We maintain active relationships with all relevant permitting agencies, and we have proven permitting strategies and coordination processes to secure approvals and keep projects on schedule. Agencies include:

- City Public Utilities & Engineering Depts.
- Broward County EPGMD
- South Florida Water Management District
- FDEP (& SRF coordination)
- FDOT, USACE
- Franchise Utilities (FPL, AT&T, Comcast, TECO)
- Hollywood CRA

EXECUTIVE SUMMARY

Critical to the success of implementing the City's stormwater program will be our intimate knowledge of the evolving regulatory environment. The passage of Senate Bill 7040 in 2024 has major implications for stormwater management in the City and throughout Florida with significantly heightened scrutiny of operation, maintenance, inspection, and performance, especially as it pertains to water quality criteria.

5 KEY STAFF - LEADERSHIP TEAM

We understand that a hallmark feature of a successful program is strong leadership of your consultant team. Our staffing approach is to **leverage a 'compact' and efficient team of strong key individuals** with the expertise and leadership skills to spearhead key components of the program. This team will be committed to the City from Program inception to completion to achieve consistency and continuity in the execution of the major scopes of work. This team will be supported by subject matter experts and other support staff in the organizational chart on as needed basis.

FRANKLIN A TORREALBA, PE, ENV SP
PRINCIPAL-IN-CHARGE

Mr. Torrealba will serve as Ardurra's Principal In Charge for the City to ensure that adequate resources are assigned to the Program. As a firm Principal, he has signature authority and is empowered to make local decisions quickly and effectively. Mr. Torrealba has 38 years of successful experience and has been involved on major Program Management assignments in South Florida involving development of scopes of work, fees, schedules, work packages, design, permitting, public outreach, project controls, and CEI of utility infrastructure. Some key programs he worked on include Miami Dade WASD's $1.9B USEPA Consent Decree Program, $215M Pump Station Improvement Program, and $27M Consumer Line Relocation Program as well as the Fort Lauderdale I/I Reduction Program.

RARES PETRICA, PE
PROGRAM MANAGER

Mr. Petrica is a local hands-on local project manager with 21 years of experience working on stormwater and utility programs in Florida. He brings a perfect balance of technical and managerial skills with experience in all design elements of this program including grant funding. He has completed multiple neighborhood improvement projects in South Florida's low lying areas, providing design permitting and construction management for stormwater, water, and wastewater infrastructure projects for private consulting, and municipal government. He successfully managed and developed the City of Fort Lauderdale's $200M Stormwater Master Plan Program over 10 years. Mr. Petrica also secured $37M in Florida Resiliency and DEO CDBG-MIT grants, significantly enhancing funding for these critical projects.

"I am excited to serve as The City's Program Manager for this critical stormwater program. I am eager to bring the relevant experience and the lessons learned from my recent role managing the City of Fort Lauderdale's Stormwater Program to Hollywood's respected City leadership and staff. I am committed to leverage the knowledge that our team has gained through similar programs, and identify best value solutions to meet the immediate and long-term needs of the City."

— Rares Petrica, PE, Program Manager

MATTHEW BROOKS, PE
ON SITE REPRESENTATION

Mr. Brooks' career has focused on the design and management of large scale utility programs encompassing stormwater, waster, wastewater, and pipelines. He has hands on experience with planning, design, modeling and QAQC for stormwater programs and has utilized several stormwater routing programs including ICPR, Cascade, and SSA to model stormwater systems throughout Miami-Dade County. Mr. Brooks' combination of design, permitting, and CEI experience for stormwater programs will bring the right on site leadership to the program team.

LEAH RICHTER, PE
QAQC/TECHNICAL ADVISOR

Ms. Richter has 25 years of experience in engineering program management, planning, design, and construction management for stormwater, water, and wastewater facilities in South Florida. She is located in Plantation, just minutes from the City to provide rapid response to any request. She served as project officer for the City's Water System Engineering Services Contract and LCRR Compliance and will bring this knowledge of City systems, processes, preferences, and infrastructure to the project team.

JOSE CUSTODIO, PE
QAQC/TECHNICAL ADVISOR

Mr. Custodio has 16 years of experience in master planning, design, and construction management for stormwater and water infrastructure and capital improvement programs. He assisted the City with the recent Water Master Plan, SRF Grant Application, and LCRR Compliance effort. Jose's experience includes working for municipalities in South Florida as Project Manager and Public Works Director, equipping him with a unique insight into municipal operations and project delivery.

EXECUTIVE SUMMARY

TOM GREEN, PE
QAQC/TECHNICAL ADVISOR

Mr. Green brings 21 years of experience in planning, design, and construction of multi-million-dollar projects across South Florida. His expertise spans municipal coordination and the technical execution of complex developments, ensuring projects stay on scope, schedule, and budget. He recently led multiple stormwater programs including Zone 2 Drainage Study in Plantation; Drainage Improvements at US 1 and NE 14th St in Pompano Beach; and a Vulnerability Assessment grant application and administration in Sunny Isles Beach.

SILVIA BELTRE, PE
PUBLIC OUTREACH

Ms. Beltre is an expert in public outreach and engineering focused in South Florida projects. With 29 years of experience as project manager, engineer of record, or senior project engineer, she understands the critical need for proactive public communication and outreach on city side and local neighborhood programs. Her years of work as an design engineer has provided her a unique perspective that balances engineering excellence with strategic public outreach for key stakeholder support and understanding.

ANN SPRINGSTON, PE
LEAD CIP PROGRAM PLANNING

Ms. Springston is uniquely qualified for this program planning role, bringing 41 years of experience including 20 years as program manager for large stormwater and flood control programs in South Florida and across the Southeast US. Her experience includes facility assessments, planning, design, construction and program management for drainage, open channel hydraulics, pipeline hydraulics, pump station design, hydrologic and hydraulic analysis and computer modeling. She has been involved with numerous projects that integrated utilities (drainage, water, sewer) into roadway projects while also incorporating green infrastructure and beautification to meet neighborhood quality of life and livability goals.

KENNEDY SIMMONDS, PE
ID/PROJECT PRIORITIZATION

Mr. Simmonds has 24 years of experience in stormwater management systems, drainage, permitting, water and wastewater utilities, and land development projects in South Florida. He has led numerous complex projects for FDOT and municipal clients which encompassed several miles of roadway and utility infrastructure, necessitating project groupings or packaging, phasing, and prioritization. He has extensive experience with state and federal funding, grant application and administration and the associated rules and regulations.

BEN PERNEZNY, PE
LEAD ENGINEERING DESIGN

Mr. Pernezny has 17 years of experience as a water resources engineer with a focus on stormwater modeling and design. His experience includes regional model development in SWMM5 and ICPR3, design of stormwater conveyance and treatment systems, roadway and transportation drainage design, modeling and calculation support for stormwater design projects and permitting, stormwater utility development, GIS support and data collection, analysis and summarization. His field experience includes surface water sampling, soil sampling and maintaining pilot and prototype projects.

RICARDO ESCOBAR, PE, CGC
LEAD CONSTRUCTION MANAGEMENT

Mr. Escobar is a Professional Engineer and General Contractor with 30+ years of experience in construction management and inspection and QAQC for large infrastructure programs in South Florida for clients such as Cities of Miami and Miami Beach, FDOT, Florida Turnpike Enterprise, and Miami-Dade Expressway Authority. His expertise includes stormwater construction management, survey and roadway construction, utilities installation, relocation of water and sewer systems, and concrete and steel structures. He is expert serving as the team's interface for the Owner, contractor, and all staff for contract change orders, item payments, and material testing.

HECTOR GOMEZ
CEI SERVICES

Mr. Gomez brings 15 years of expertise in construction management, inspection, and project management for capital improvement projects to include stormwater, water, and wastewater collection, conveyance, distribution, and treatment systems. In his roles as Town Manager, Public Works Director, and Assistant Public Works Director for the Town of Surfside, he gained extensive experience and lessons learned in program planning, project prioritization, and CIP budgets. He managed town-wide operations, overseeing the design, maintenance, and construction of infrastructure projects, as well as contract management.

ASHISH KUMAR, PHD, PE, PMP
LEAD PROGRAM CONTROLS

Mr. Kumar has 30+ years of experience in program controls and management of large and complex stormwater, environmental, aviation, and heavy construction projects and programs. His career has focused on program/construction management, program controls, engineering design and financial management including planning and need assessment for programs; engineering analysis, reports, and review of design; scheduling, earned value and variance analysis; claims avoidance, evaluation, and risk analysis; estimating and value analysis; cost engineering, budgeting, cash flow projections, and change control procedures and systems.

EXECUTIVE SUMMARY

ANGELA METTLEN
CEI SERVICES

Mrs. Mettlen is Ardurra's Director of Strategic Funding and Regulatory Affairs. She has 32 years of experience in regulatory compliance and funding for engineering and public works programs. She has a proven track record of evaluating and optimizing municipal utility systems, helping local governments identify infrastructure needs, developing prioritized capital improvement plans and identifying appropriate and eligible funding mechanisms to support these plans. She has identified, procured, and administered more than $3B in infrastructure funding for clients throughout the Southeast U.S.

VIVEK SAI, PE, PMP
ASSET MANAGEMENT

Mr. Sai has 20 years of work in environmental engineering, utility asset management, and strategies for utility operations, asset assessment, and infrastructure renewal. He has a strong background in designing, implementing, and managing projects, with skills in GIS platforms, utility infrastructure planning, sewer evaluation studies, and condition assessments. Mr. Sai has worked on a variety of municipal projects, including evaluating, modeling, and designing treatment facilities, pump stations, and pipeline systems. He has developed and improved water and wastewater hydraulic models using different software tools. With expertise in databases, information systems, and asset management practices, he helps clients make the most of their existing systems.

HUGO SOTO
HYDROGEOLOGIST & GEOTECHNICAL

Mr. Soto has more than 40 years of experience providing geotechnical engineering, construction materials testing, inspection, and consulting services throughout Florida. He routinely provides geotechnical design, analysis and evaluation of field and laboratory data, in-situ soil testing, in-place permeability testing, and geophysical explorations and recommendations related to the design and construction of foundations as well as geotechnical exploration programs in low lying areas of South Florida. Recent experience includes serving as lead engineer for East Flagami Flood Improvements RAR in Miami, Venetian Water and Sewer Main Crossing in Miami Beach, and Codrington Drive Roadway and Drainage Improvements in Lauderdale-by-the-Sea.

MARK MITCHELL, PSM
SUBSURFACE UTILITY ENGINEERING

Mr. Mitchell has 26 years of experience in engineering design and construction oversight for utility projects in South Florida. His experience includes creating DTMs, topos, TIN models, PNCs, and test hole summary spreadsheets. Mark has served as a liaison between the design team, utility agencies, and owners on hundreds of projects, to provide utility coordination, documentation, inter-coordination, and proper maintenance of files. His recent experience includes serving as lead SUE engineer for Pompano Beach Stormwater Master Plan, Abbott Avenue Drainage Improvements in Surfside, Drainage Improvements At US1 And NE 14th St in Pompano Beach, and FLL Stormwater Improvements at Ravenswood Interconnection in Fort Lauderdale.

KELLI SCHEULER, PLA, LEED AP
LANDSCAPE ARCHITECTURE

Mrs. Scheuler has 21 years of experience in landscape architecture focused on municipal projects in South Florida. As such, she understands the local environment, innovative technologies, and sustainable best practices. Her creative, yet practical detail-oriented approach ensures efficient and accurate implementation while staying within municipal budget constraints. She served as Lead Landscape Architect for the follow 'low-lying' South Florida projects — FLL Airport Stormwater Improvements/ Utilities and Pavements in Fort Lauderdale, Broward College Landscape Drainage in Coconut Creek, Hillsboro Shores Drainage Improvements in Pompano Beach, and Pinnacle At Peacefield Stormwater Management in Hollywood.

KEY STAFF NAME	OFFICE LOCATION
Rares Petrica, PE	Fort Lauderdale, FL
Franklin A Torrealba, PE, ENV SP	Miami, FL
Matthew Brooks, PE	Miami, FL
Leah Richter, PE	Plantation
Jose Custodio, PE	Miami, FL
Tom Green, PE	Pompano Beach, FL
Silvia Beltre, PE	Miami, FL
Ann Springston, PE	Fort Lauderdale, FL
Kennedy Simmonds, PE	Miami, FL
Benjamin Pernezny, PE	Orlando, FL
Ricardo Escobar, PE, CGC	Miami, FL
Hector Gomez	Fort Lauderdale, FL
Ashish Kumar, PhD, PE, PMP	Davie, FL
Angela Mettlen	Fort Lauderdale, FL
Vivek Sai	Buford, GA
Hugo Soto , PE	Miami Lakes, FL
Mark Mitchell, PSM	Pompano Beach, FL
Kelli Scheuler	Fort Lauderdale, FL

C

Firm Qualifications & Experience

"The Ardurra Team has developed master plans, performed condition assessments, and furnished design and construction management services for numerous stormwater programs in South Florida. We understand the complexities of stormwater programs in low-lying areas and we are equipped with proven solutions that stand the test of time."

FIRM QUALIFICATIONS & EXPERIENCE

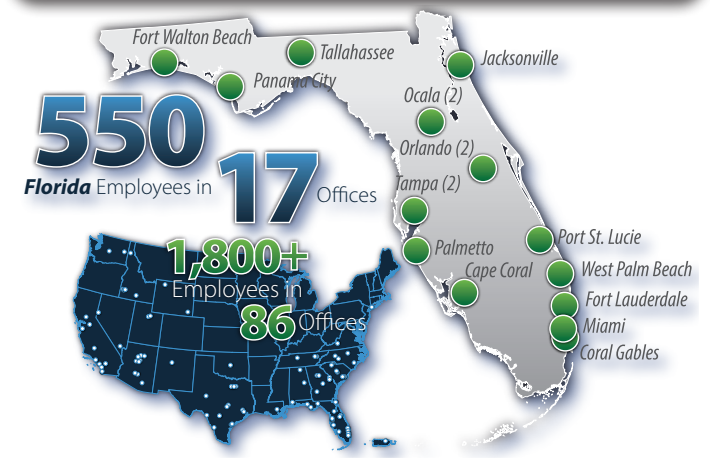
Ardurra is a locally-based ENR Top 500 engineering firm that has been providing multi-disciplinary engineering and construction management services to municipal and government agency clients throughout Florida since 1977. Headquartered in Miami, Ardurra's 1,800+ employees in 85 offices nationwide includes civil, environmental, structural, O&M, transportation, mechanical, I&C, and electrical engineers; licensed water and licensed stormwater operators; environmental scientists; geologists; ecologists; surveyors; GIS professionals; and certified construction managers.

LOCAL CAPACITY & CAPABILITY

Ardurra's Florida operations has 550 professional and technical personnel in 17 offices throughout Florida.

Ardurra has 150 staff in South Florida — located in Fort Lauderdale, Miami-Dade, West Palm Beach, and Coral Gables — focused on program management, design, and construction of stormwater, water, wastewater, and transportation. As a local workforce who lives and works locally, we are committed to the success of the City's assignments and the resiliency of our local communities.

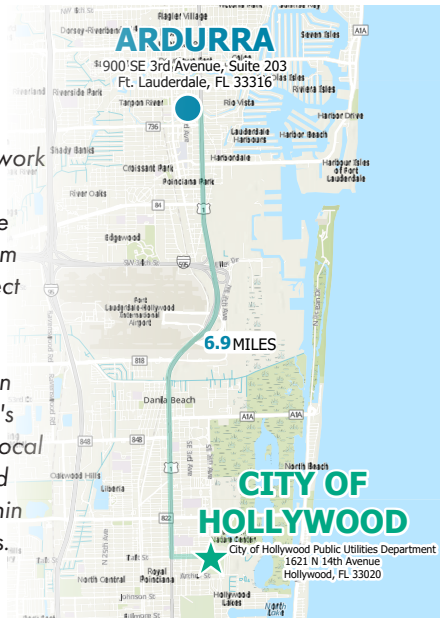
NATIONAL NETWORK with a LOCAL PRESENCE



Ardurra understands that our clients face common challenges on programs that require exceptional customer service coupled with greater accountability and shrinking budgets. In today's environment, these projects need to be delivered within tight budgets and therefore require innovation and creativity to achieve cost savings — the Ardurra Team is ready to provide this.

For 47 years, Ardurra staff have been providing comprehensive engineering and consulting services for over 100 Florida government agencies and utilities. Whether a project involves stormwater systems, utilities, preparing a master plan, rehab/repairs infrastructure, new construction or improvements and/or expansion of existing municipal buildings, roadways, Ardurra's multi-disciplinary capabilities allow us to provide a comprehensive approach to your project, from due

For this contract, our work will be managed out of our Fort Lauderdale office, just minutes from City offices and subject facilities. Support will be provided from our Headquarter offices in Miami. All of Ardurra's subconsultants have local offices within Broward County, and also within minutes of City offices.



BUSINESS STRUCTURE

Business Structure: Ardurra Group, Inc. is a corporation organized under the laws of the State of Florida and was established in 1977

Company Address: 900 SE 3rd Ave, Suite 203, Fort Lauderdale FL 33316

Phone Number: 786.228.5666 | **Fax Number:** N/A

Email: info@ardurra.com | **Website:** www.ardurra.com

Contact Person(s):

Rares Petrica, PE, Program Manager
954.701.2071 | rpetrica@ardurra.com

Franklin A Torrealba, PE, ENV SP, Principal In Charge
305.763.9829 | fatorrealba@ardurra.com

Relative Size of Firm: Ardurra is a Local Water Powerhouse. We employ 1,800 professional and technical staff nationwide. Ardurra's Florida operations includes 880 staff, of which 150 are in South Florida, within close proximity to the City.

Licenses: Ardurra's licenses and certifications to provide professional services in Florida are current and valid as follows:

- Florida Board of Professional Engineers #2610
- Florida Board of Professional Surveyors & Mappers #LB2610
- Florida Department of State Tracking #6119626275CC

Number of Years Providing Professional Services as it Relates to Work Contemplated: 30

diligence, planning, designs, through construction administration, inspections, facility startup, and providing O&M and start up services.

Ardurra has built an enviable track record of effectively delivering program management, construction management, and inspection services for condition assessments, repairs, replacements, and rehabilitation of stormwater, utility, and roadway infrastructure projects for local clients in South Florida.

Our staff proposed for your program brings 30+ years of local successful experience overseeing work performed by CCTV inspection & cleaning contractors including reviewing videos, identifying & cataloging defects in accordance with NASSCO PACP Standards, identifying repair protocols suitable to the nature and extent of defects, prioritizing work flows, developing repair contract documents, and overseeing repair and rehabilitation contractors. **We pride ourselves in providing practical and sound cost effective solutions where added value is demonstrated to our Clients through early results, consistency and straightforwardness in our approach towards project/program execution.**

EXPERTISE IN ALL KEY COMPONENTS OF THE PROGRAM

Proven Program Management Capabilities

Ardurra has served as Program Manager and Owner's Advisor for numerous programs throughout the US valued from $100M to $2.5B in construction value. We bring these lessons-learned and best practices to the City's Stormwater Program. **Ardurra has managed more than 50 ongoing and completed programs, totaling more than $40B in managed funds, nine of which are South Florida water infrastructure programs delivered in the last 10 years by proposed Ardurra staff.** Select programs include:

Project Controls

Ardurra's proven track record as Program Manager with the ability to keep programs on schedule and on budget, combined with PCI's technology and tools to further enhance project controls, will be critical to set the foundation for a succesfull program. PCI's laser focus on all controls aspects of construction projects fir 20+ years will bring lessons learned to the Team. PCI's large water programs in South FL include Miami Dade County's $2B Consent Decree, $5B WASD-Managed CIP, $400M South and Central District Treatment Plants, $300M Prospect Lake Water Plant, and Fort Lauderdale's $100M I/I Reduction Program.

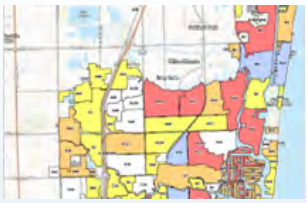
PROJECT PROOF

On the Miami-Dade Water and Sewer Department's Consent Decree Program, our baseline budget of $2.1B and the 15-year schedule have not deviated since initiating work in 2014.

Construction Management

Ardurra's proven comprehensive management approach starts by proactively preventing the measures historically resulting in change orders, budget overruns, delays, and scheduling problems, while keeping the client's best interest at the forefront. Our team remains mindful of the project's goals and objectives while serving as the client's representative. Ardurra's personnel balance the fundamentals of construction with the latest technologies and materials and utilize state-of-the-art computer systems and software necessary to plan and manage all phases of construction.

Ardurra's Program Management Experience



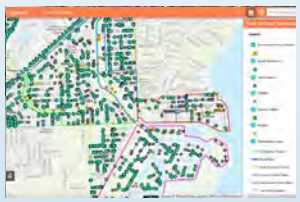
Fort Lauderdale I/I Reduction Program
500 Miles Gravity Sewer Pip + 186 Collection Basins

Miami Dade WASD Pump Station Improvement Program
$215M

Miami Dade WASD Consent Decree Program
$1.9B

Miami Dade WASD Consumer Line Relocation Program
$23M

City of North Miami Beach Water & Sewer CIP
$150M



City of Coral Gables Drainage Verification Program
Citi-wide Stormwater Program

City of Miami 8th Street Flood Mitigation Improvements
Stormwater Modeling, Drainage Design

South FL Water Mgmt District Flood Level of Service Program
$30-70M annually

FIRM QUALIFICATIONS & EXPERIENCE

Ardurra's Program Management Experience (continued)

Southeast Louisiana USACE Urban Flood Control Program

$2.8B

Nassau County NY Superstorm Sandy, Irene Recovery

$1.6B

City of Houston Upper Brays WW System Consolidation

$300M

City of Pearland TX Water & Wastewater Programs

$475M

City of Pflugerville Water & Wastewater Programs

$396M

Upper Kirby Redevelopment Authority Drainage Program

$250M

Arbennie Pritchett WRF Design Build Program Management

$65M

Harris County Flood Control CDBG Grant Program

$800M

Gulf Coast Water Authority Harvey Recovery

$120M

Coastal Water Authority Luce Bayou Inter-Basin Canal

$105M

Asset Management

Ardurra's extensive asset management experience ranges from inventory mapping of complete stormwater, water, and sewer systems, to scheduling and tracking work orders through cloud-based applications linked to GIS, such as Cityworks, as well as managing planned budget and actual expenses and revenue.

Grant Application Assistance & Grant Management

PROJECT PROOF

City of Coral Gables Drainage Verification – Field mapping and GIS creation of full City drainage system including over 140,000 LF of exfiltration trenches, 148,000 LF of solid pipes, 122,000 LF of slab covered trenches, 7,400 catch basins, 3,300 manholes, 165 outfalls, 200 augers, among drainage structures.

Ardurra has successfully obtained federal, state, local and foundation grant funds to support the strategic plans of many public and private entities, for over 20 years. By offering management support throughout the grant and/or loan application process, we can protect the best interests of the City by ensuring the project needs are satisfied.

PROJECT PROOF

City of North Miami Beach, NMB Water CIP Management Support – Assisted in $44.2M WIFIA Loan interpretation of WIFIA Compliance plan, funds dispersion & deadlines tracking, Environmental Review Process development and coordination for Department of Economic Opportunity $6M sewer grant and $11.7M water grant.

Utilities and Pipelines

Ardurra has successfully delivered hundreds of miles of pipeline design, including an extensive array of engineering services related to water, sewer, reuse and stormwater pipelines. These services encompass comprehensive master planning and modeling for large-scale projects, evaluations of existing systems, as well as designing and refurbishing projects, spanning from the preparation of a basis of design report to the provision of design, permitting, and construction administration services.

PROJECT PROOF

GOB Basin 1204 Wastewater and Water System Improvements, Septic to Sewer Neighborhood Project - Engineering design services for a new basin that will eliminate over 180 septic tanks, including the installation of 12,300 LF of gravity sewers and 1,300 LF of 8-Inch force main and 11,060 LF of a 12-inch water main to upgrade deteriorating and undersized pipelines and provide improved system capacity for future development.

Drainage (Neighborhood Exfiltration Improvements).

Our experience related to stormwater improvements ranges from small to large scale projects in a systematic & objective manner, securing grants for flood protection projects, development of adaptive action plans for climate resilience and projected sea-level rise, design of priority CIP projects and compliance with NPDES) permits.

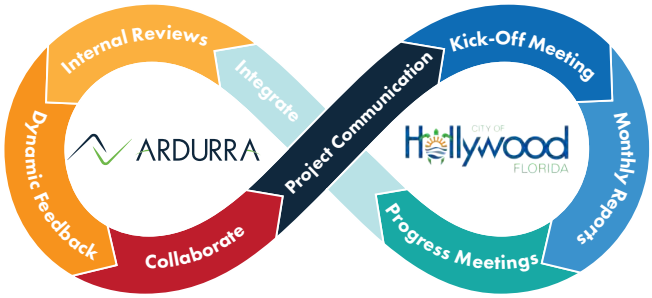
PROJECT PROOF

FLL Airport Design Services for Drainage, Water, & Sewer for Terminal 5 CM at Risk — Design for airside and landside drainage, water, fire protection and sanitary sewer for new concourse at FLL.Our track record of delivering a broad range of water, sewer reuse and stormwater projects on time and schedule guarantees we have the capabilities of providing professional services to the City in any one or a combination of service areas within the City's CIP.

CONTINUAL IMPROVEMENT AND FUTURE READY ORGANIZATION

Ardurra is a true believer in continuous improvement in all of functions, activities, projects and programs. We continuously maintain for every project & program records of areas for improvement. As work progresses, we identify, discuss them, find solutions and share with Team members. As we progress through the program, we strive for ongoing enhancement. We educate our team by using our historical "lessons learned" data. Our objective is not perpetual involvement; rather, it is to transition ourselves out of the program. We collaborate with our clients' staff to empower them to autonomously sustain the program.

Our extensive national experience provides valuable lessons learned that can be directly applied to enhance the management and execution of the City's program – from planning through construction and start-up. The following summarizes some of the lessons learned in past programs.



For Miami Dade County's Pump Station Improvement Program and Consent Decree Program, Ardurra's proposed key staff trained personnel across ALL departments to this process. Examples of our lessons learned from the Pump Station Improvement Program include:

PROGRAM CONTROLS

PMCM Fees Distribution at Project Level

- Issue: Cumbersome/time consuming impacts of invoice processing results in inaccurate distribution
- Solution: Distribute PMCM Fees into projects at program end based on actual project duration

Budgeting of Permitting Costs

- Issue: Inaccurate budget vs actual as a result of budgeting design and permitting fees separately
- Solution: Permitting costs budgeted together with design costs as DESIGN on any new ER or ER revision

DESIGN

Delays with Task Authorization Process

- Issue: Delays in execution of Task Authorizations
- Solution: Project scopes eliminate 60% design submittals. Establish a checklist of key questions to expedite review

Dated, Inaccurate or Incomplete Pump Station Site Records

- Issue: Records of existing pump stations may be outdated, inaccurate or incomplete
- Solution: Prior to design, confirm with client that site records are complete

Undocumented Existing Utilities Encroaching Pump Station Sites

- Issue: No information found regarding utilities that encroach project sites
- Solution: Client authorizing soft digs in the EOR's scope and implement continuous site reconnaissance

CONSTRUCTION

Expedite Permitting (Miami-Dade County, other Municipalities)

- Issue: Expediting of permitting with MDC and other agencies
- Solution: We contact stakeholders on behalf of clients to request expedited review of MOT plans and other permits. We hold pre-permit meetings with agencies.

Expediting the monthly redline/invoice process

- Issue: Expediting contractor's monthly invoice in the client accounting system
- Solution: Consider using computer software/signatures for the submittal and processing of monthly invoices to speed up the process

Contractor completion of as-built/record drawings

- Issue: Contractors not submitting as-built drawings/record drawings in a timely manner
- Solution: Require submission of final as-built drawings 5 days following substantial completion. Provide sample as-built drawings for use by contractor

Site safety

- Issue: Contractors not complying with client and OSHA safety regulations
- Solution: Formal training to address construction safety. Require current proof of safety training (i.e., OSHA 30-hour class)

The purpose of utilizing "Lessons Learned" check lists is to evaluate processes and policies that can be improved by coordination, planning and/or training.

RESILIENCY & SUSTAINABILITY

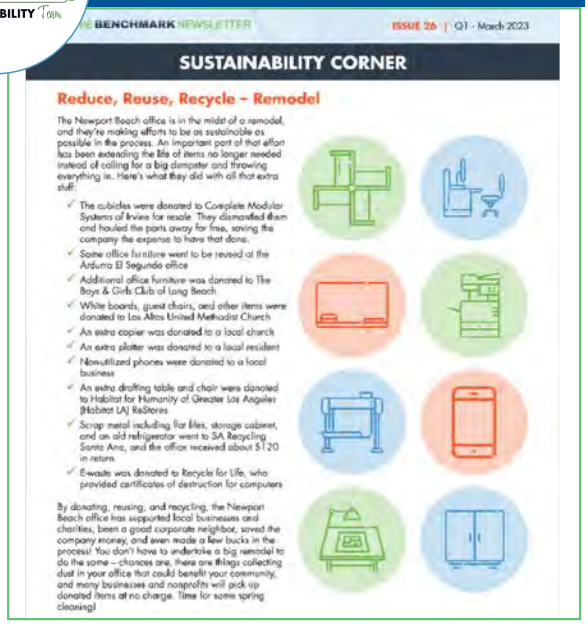
The City is at the forefront of climate change and resiliency adaptation strategies and our professionals are ready to identify threats and adaptation options to help reduce risk from climate change, sea level rise and to build more resilient infrastructure. The Ardurra Team brings a thorough understanding of the City's geographical conditions and resilience goals/guidelines as our partners have worked with the City for decades.

Ardurra is an Envision Certified Company with the Institute of Sustainable Infrastructure and has 15 local Envision Sustainability Professionals. We are committed to partnering with the City to deliver a resilient, robust, and environmentally responsible Program. The Ardurra Team will align with the City's resiliency and sustainability goals — we will support sustainable community programs and civic engagement by working with City staff and stakeholders to encourage public involvement and education as we move methodically through the planning and program and construction management processes. Our services incorporate resiliency and hardening measures to extend the life-cycle of your investment in your infrastructure and mitigate the impacts of sea level rise and natural disasters. We always take a Team approach to our projects to ensure we will meet our clients' goals for design, O&M, quality, schedule, budget and success.

Some projects we have successfully implemented sustainable designs in Florida are:

- Hillsborough County South County Solid Waste Transfer Station
- City of Tampa McKay Bay Solid Waste Transfer Station Sustainable Building Design
- City of Clearwater Solid Waste Transfer Station Replacement
- City of Coral Gables Pump Station D
- City of Coral Gables Journey's End Pump Station

"Ardurra's initiatives towards its own sustainable business practices demonstrate our commitment to conservation"


THE BENCHMARK NEWSLETTER ISSUE 26 | Q1 - March 2023

SUSTAINABILITY CORNER

Reduce, Reuse, Recycle + Remodel

The Newport Beach office is in the midst of a remodel, and they're making efforts to be as sustainable as possible in the process. An important part of that effort has been extending the life of items no longer needed instead of calling for a big dumpster and throwing everything in. Here's what they did with all that extra stuff:

- The cubicles were donated to Complete Modular Systems of Irvine for resale. They dismantled them and hauled the parts away for free, saving the company the expense to have that done.
- Some office furniture went to be reused at the Ardurra El Segundo office
- Additional office furniture was donated to The Boys & Girls Club of Long Beach
- White boards, guest chairs, and other items were donated to Los Altos United Methodist Church
- An extra copier was donated to a local church
- An extra plotter was donated to a local resident
- Non-utilized phones were donated to a local business
- An extra drafting table and chair were donated to Habitat for Humanity of Greater Los Angeles (Habitat LA) ReStores
- Scrap metal including file files, storage cabinet, and an old refrigerator went to SA Recycling Santa Ana, and the office received about $120 in returns
- E-waste was donated to Recycle for Life, who provided certificates of destruction for computers

By donating, reusing, and recycling, the Newport Beach office has supported local businesses and charities, been a good corporate neighbor, saved the company money, and even made a few bucks in the process! You don't have to undertake a big remodel to do the same – chances are, there are things collecting dust in your office that could benefit your community, and many businesses and nonprofits will pick up donated items at no charge. Time for some spring cleaning!


SUSTAINABILITY: ARDURRA IS GOING GREEN

Ardurra is ramping up our sustainability efforts in a big way

We've renewed our commitment to environmental, social and governance best practices.

A group of passionate employees formed our Sustainability Team to promote sustainable operations across the company.

The excitement is building as we've joined the Institute for Sustainable Infrastructure (ISI) as a corporate member. ISI sets the standards for sustainable infrastructure, and we're proud to support their mission.

Best of all, we're now offering the opportunity for employees to become Envision Sustainability Professionals (ENV SPs). This prestigious certification shows your dedication to sustainable infrastructure and will open up more opportunities to work on impactful, eco-friendly projects.

Ardurra is charging ahead into a sustainable future. Join the movement - get involved in the **Sustainability Team**, become an ENV SP, and help us build a greener tomorrow!

I encourage everyone with an interest in sustainability or a desire to tap into this growing market to connect with the Sustainability Team [sustainability.team@ardurra.com] and learn more.

Read the full details on these exciting new sustainability initiatives below.

The future is bright...and green!

Sincerely,

Ernesto Aguilar, PE – CE

VALUE OF PAST CONTRACT AWARDS BY THE CITY IN THE LAST 5 YEARS

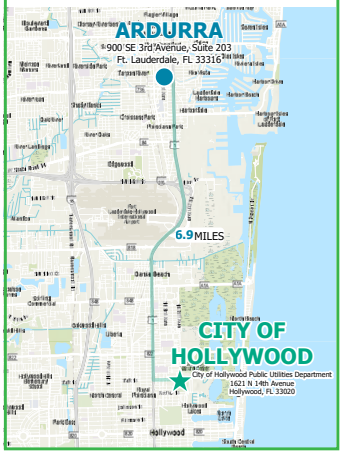
Although Ardurra has not been awarded a contract by the City, we are eager to bring our local knowledge and experience to the City and to help you to deliver this critical stormwater program.

Ardurra has crafted a local team to meet the very specific needs of the City's stormwater program. We have worked with each team firm extensively and can attest to their unwavering commitment to client service, high quality deliverables, and ability to thrive in a collaborative and cohesive team that is laser focused on meeting our clients goals and exceeding expectations! We are true believers that local firms provide the most value to our neighbor agencies and bring unparalleled knowledge of local conditions, permitting processes, as well as the local consultant and general contractor environment.

LOCATION OF RESPONDENT OFFICE

For this contract, our work will be managed out of our Fort Lauderdale office, just minutes from City offices and subject City facilities. Support will be provided from our Headquarter offices in Miami. All of Ardurra's subconsultants have local offices, also within minutes of City offices.

ARDURRA HAS **550 PROFESSIONAL & TECHNICAL STAFF** IN **17 OFFICES** ACROSS FLORIDA TO PROVIDE ADDITIONAL SUPPORT AS NEEDED



PROGRAM MANAGER - SPOTLIGHT

Our team will be led by Program Manager, Rares Petrica, PE, who has 21 years of experience in design, permitting and construction management for stormwater, water, and wastewater infrastructure projects for municipal governments. He successfully managed and developed the City of Fort Lauderdale's $200M Stormwater Master Plan Program, involving stormwater infrastructure and seawall improvement projects over a ten year period. He secured $37M in Florida Resiliency and DEO CDBG-MIT grants, significantly enhancing funding for these critical projects. He is the RIGHT program manager with the RIGHT skill set to lead this program!

- **Technical Expertise.** He possesses extensive expertise in stormwater engineering, with a focus on designing, constructing, operating, and maintaining stormwater management systems. His comprehensive understanding of hydrology, hydraulics, and flow modeling enables him to analyze stormwater system dynamics, identify patterns, and detect irregularities. Furthermore, he has considerable experience in designing and rehabilitating various types of stormwater infrastructure, including stormwater conveyance networks, detention basins, retention ponds, and green infrastructure practices, ensuring the resilience and functionality of these critical assets.
- **Data Collection, Analysis and Decision Support.** Vast experience in data collection through systematically gathering and analyzing a wide range of data to assess existing conditions of stormwater systems. Capability to analyze and interpret hydrological data, stormwater monitoring results, and GIS spatial data to inform decision-making and optimize stormwater management strategies. Experience in developing performance metrics, conducting cost-benefit analyses, and evaluating the effectiveness of stormwater improvement projects.
- **Stormwater Condition Assessment Techniques.** He is proficient in various assessment methods, such as CCTV inspection, smoke testing, dye testing, and flow monitoring. He has a keen ability in interpreting NASSCO inspections under the Pipeline Assessment Certification Program (PACP), Lateral Assessment Certification Program (LACP) and Manhole Assessment Certification Program (MACP) to perform an assessment of data to identify defects, structural issues, infiltration and inflow (I/I) sources, and potential risks.
- **Regulatory Compliance.** He has substantial knowledge of regulatory compliance thorough understanding of federal, state, and local regulations governing stormwater management, including NPDES permits, MS4 requirements, and water quality standards. Proven ability to ensure compliance with regulatory mandates and facilitate permit renewal processes.
- **Infrastructure Rehabilitation and Repair.** He has the expertise in selecting cost-effective rehabilitation techniques tailored to specific stormwater improvement cases. This includes proficiency in both trenchless technologies, such as cured-in-place pipe lining, sectional lining, grouting, and pipe bursting, as well as traditional repair methods like point repairs and dig & replace. He demonstrates a keen ability to evaluate the effectiveness of rehabilitation options considering factors such as cost, feasibility, and long-term performance.
- **Hydraulic Analysis.** He is proficient in collecting hydraulic data, such as pipe sizes, slope gradients, flow velocities, and capacity constraints, to evaluate the hydraulic performance of existing stormwater conveyance systems. Skilled in hydraulic modeling to analyze flow patterns, identify bottlenecks, and optimize the design of stormwater infrastructure components.
- **Project/Program Management.** He has managed a vast amount of multi-million-dollar stormwater capital improvement projects, he has strong project management skills with a track record of successfully leading multifaceted projects on time and within budget. Proficient in project planning, scheduling, budgeting, risk management, and quality assurance to ensure project success and stakeholder satisfaction.
- **Construction Management.** He has comprehensive understanding of construction methodologies, industry standards, and regulatory requirements ensures that projects are executed with precision and adherence to specifications. Through effective communication, stakeholder engagement, and risk management strategies, he consistently delivers projects on time, within budget, and to the highest standards of quality and safety. His construction management experience includes shop drawing review, change order assistance, pay requests recommendations, construction meetings, record drawings
- **Communication and Collaboration.** He possesses outstanding verbal and written communication abilities, enabling him to articulate technical concepts clearly to audiences of varying levels of expertise. His transparent and credible approach fosters confidence and facilitates productive collaboration with clients, regulatory bodies, local authorities, community stakeholders, the general public and internal teams alike.
- **Field Experience.** He is an exceptionally hands-on Program Manager throughout all stages of the stormwater program. Possessing practical experience in the field, she conducts stormwater system inspections, assessments, and repair tasks, while adeptly troubleshooting unforeseen challenges. Ensuring adherence to safety protocols remains her paramount concern.
- **Maintenance of Traffic (MOT).** Seasoned expert in the development and permitting of Maintenance of Traffic, having developed or been responsible for the oversight of hundreds of MOT plans for the City of Fort Lauderdale.

FIRM QUALIFICATIONS & EXPERIENCE

SIMILAR PROJECTS

Below is a table highlighting the Ardurra Team's relevant projects and their respective scope of services as it relates to the City's Stormwater Program Management and the Implementation of the Stormwater Master Plan.

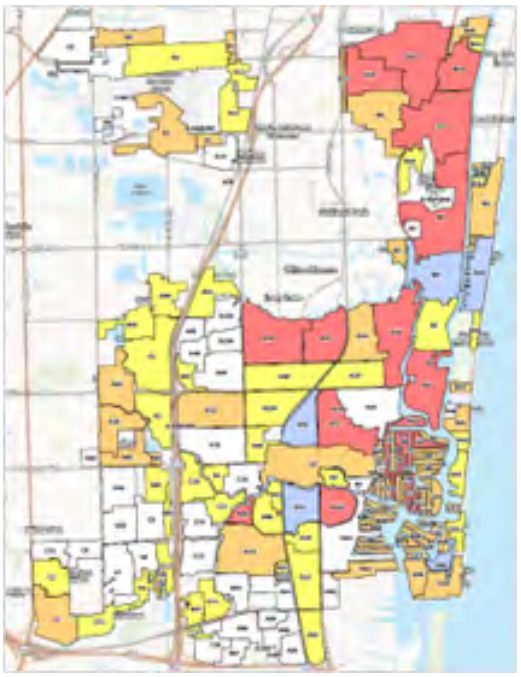
		SCOPES OF WORK																													
		WATER/WASTEWATER	STORMWATER	PUMP STATIONS	CANALS/DITCHES/DRAINAGE CHANNELS	ROADWAYS/TRANSIT WAYS	LANDSCAPE ARCHITECTURE	PROGRAM MANAGEMENT	PROJECT MANAGEMENT	PROJECT CONTROLS	DASHBOARD/PROGRAM VISUALIZATION	COST ESTIMATES/BUDGETS	SCHEDULING	PROJECT PRIORITIZATION	DATA COLLECTION	MODELING	ASSET MANAGEMENT/GIS/INVENTORY	CONDITION ASSESSMENTS	PERMITTING	MAINTENANCE OF TRAFFIC	DEWATERING	SURVEY	GEOTECHNICAL	ENVIRONMENTAL ASSESS.	DESIGN/CONTRACT DOCS	CONSTRUCTABILITY REVIEW/VALUE ENGINEERING	CM/INSPECTION	CONTRACT DOC. CONTROL	BIDDING/RFQ/P DEVELOPMENT	PUBLIC OUTREACH	FUNDING STRATEGY/GRANTS/LOANS
PROJECT NAME	LOCATION	INFRASTRUCTURE						TECHNICAL CAPABILITIES																							
Citi-wide Inflow and Infiltration Reduction Program	Ft. Lauderdale, FL	●						●	●	●	●	●	●	●	●			●	●								●			●	
Lauderdale-by-the-Seas Wastewater Capital Improvement Plan	Ft. Lauderdale, FL								●			●	●	●	●		●	●	●	●							●				●
Durrs Neighborhood Stormwater Improvements (Rares Petrica)	Ft. Lauderdale, FL		●		●	●																									
River Oaks Pump Stations & Stormwater Improvements (Rares Petrica)	Ft. Lauderdale, FL		●		●	●																									
$215M Pump Station Improvement Program Design & CM, MDWASD	Miami, FL	●		●				●	●			●	●	●	●		●	●	●	●	●						●	●	●	●	
$1.9B Consent Decree Program, MDWASD	Miami, FL	●		●		●	●	●	●	●		●	●	●	●	●		●	●	●	●	●	●	●	●		●	●		●	
$23M Consumer Line Relocation Program, MDWASD	Miami, FL	●				●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●		●	●	●	●	●	●	
$23M Consumer Line Relocation Program GIS Workflow/Tracking, MDWASD	Miami, FL	●				●	●	●	●	●	●	●	●	●	●		●														
Miami Springs Sanitary Sewer Evaluation Survey Design and CM, MDWASD	Miami Springs, FL								●			●	●	●	●		●	●	●	●							●	●			
GIS Utility Backlog Projects & Staff Augmentation, MDWASD	Miami, FL	●							●		●		●																		
Flood Protection Level of Service Program Management, SFWMD	West Palm Beach, FL		●	●	●		●	●	●	●		●	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●
CM Services for Canal Bank Stabilizations and Levee Power Conduit, SFWMD	Various Cities, FL		●		●				●										●								●	●			
CM/CI & Material Testing for S-39A Culvert Replacement, SFWMD	Parkland, FL		●		●							●			●			●			●						●	●			
Coastal Control Structures Resiliency Study, SFWMD	Miami Dade County, FL		●		●				●																						
Hydraulic Design & Flow Rating for Water Control Structures, SFWMD	West Palm Beach, FL		●		●				●																						
CEI Services for Drainage Improvements Projects	Miami Lakes, FL		●	●	●				●							●			●	●	●	●						●		●	●	●
$150M Water & Sewer CIP Program Management & CM	North Miami Beach	●		●		●		●	●	●		●	●	●	●		●	●	●			●	●	●	●	●			●	●	
Drainage Verification and Condition Assessment Program Phases I-IX	Coral Gables, FL		●	●	●	●		●	●	●	●	●	●		●	●	●	●	●	●											●
Southeast Louisiana Urban Flood Control Program	New Orleans, LA		●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
The Underline Phase 3 Stormwater Improvements, MDDTPW	Miami, FL		●		●	●	●		●						●	●														●	
8th Street Flood Mitigation Improvements & Watermain	Miami, FL	●	●		●	●			●	●		●	●		●	●			●	●		●	●	●	●	●	●		●	●	
Stormwater Improvements for Sub Basin U35-S	Pinecrest, FL		●		●				●			●	●	●	●	●														●	
Drainage Assessment for Sunrise Harbor	Coral Gables, FL		●		●				●			●	●	●	●	●														●	
Stormwater Improvements for Indian River Estates	St. Lucie County		●		●				●			●	●	●	●	●			●	●		●	●	●	●	●			●	●	
Jet Blue/Terminal 5 Drainage, Water and Sewer Improvements	Broward County, FL	●	●			●			●			●	●		●				●	●							●				

FIRM QUALIFICATIONS & EXPERIENCE

PROJECT NAME	LOCATION	INFRASTRUCTURE						TECHNICAL CAPABILITIES																							
		WATER/WASTEWATER	STORMWATER	PUMP STATIONS	CANALS/DITCHES/DRAINAGE CHANNELS	ROADWAYS/TRANSIT WAYS	LANDSCAPE ARCHITECTURE	PROGRAM MANAGEMENT	PROJECT MANAGEMENT	PROJECT CONTROLS	DASHBOARD/PROGRAM VISUALIZATION	COST ESTIMATES/BUDGETS	SCHEDULING	PROJECT PRIORITIZATION	DATA COLLECTION	MODELING	ASSET MANAGEMENT/GIS/INVENTORY	CONDITION ASSESSMENTS	PERMITTING	MAINTENANCE OF TRAFFIC	DEWATERING	SURVEY	GEOTECHNICAL	ENVIRONMENTAL ASSESS.	DESIGN/CONTRACT DOCS	CONSTRUCTABILITY REVIEW/VALUE ENGINEERING	CM/INSPECTION	CONTRACT DOC. CONTROL	BIDDING/RFQ/P DEVELOPMENT	PUBLIC OUTREACH	FUNDING STRATEGY/GRANTS/LOANS
Water Quality Monitoring Assessment Plan	Coral Gables, FL		●		●				●					●	●		●		●					●				●			
Annual Individual NPDES Reports for Municipal Storm Sewer Systems	Coral Gables, FL		●	●	●				●					●	●		●		●					●							
Hammock Creek Watershed Master Plan	Hernando County, FL		●	●	●				●			●	●	●	●	●	●					●								●	
Lake Hart Basin Stormwater Master Plan	Orange County, FL		●	●	●				●			●	●	●	●	●	●					●								●	
Stormwater Master Plan	Sebastian, FL		●	●	●				●			●	●	●	●		●	●	●												●
Julington Creek Stormwater Asset Inspection and Ranking, Asset Management	St. Johns County, FL		●	●	●			●	●			●	●	●	●		●	●										●			
Augusta Stormwater Inventory Assessment, Asset Management	Augusta, GA		●	●	●			●	●			●	●	●	●		●														
SR 530/US 192 Resurfacing Condition Assessment and Design, FDOT	Kissimmee, FL								●						●		●	●	●	●											
Infiltration & Inflow Plan of Compliance and Rehabilitation	North Bay Village, FL								●			●	●	●	●		●	●									●	●			
MOT and Permitting for the CTV of Large Diameter Sewers	Miami, FL								●						●				●	●								●			
CEI Services Continuing Services Contract	Ft. Lauderdale, FL								●			●	●	●	●					●	●							●	●			
$320M Central Water Reclamation Facility Relocation, ECUA (Arcadis)	Pensacola, FL	●		●				●	●	●		●	●	●	●		●	●	●			●	●	●	●	●	●	●	●	●	●
CEI Services Continuing Contract (Arcadis)	Ft. Lauderdale, FL								●			●	●		●					●	●							●	●			
Stormwater Master Plan (Arcadis)	Sebastian, FL		●						●			●	●	●	●		●	●	●												●
$14.5B Hurricane Storm Damage Risk Reduction Program, USACE (Arcadis)	New Orleans, LA		●	●	●			●		●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●	●	●	●
Plantation Zone 2 Drainage Study (Keith)	Plantation, FL		●						●			●		●	●	●		●												●	
Citi-wide Stormwater Master Plan (Keith)	Parkland, FL		●						●			●		●	●	●	●	●												●	●
Abbott Avenue Drainage Improvements (Keith)	Surfside, FL		●		●	●	●	●	●	●		●	●	●	●			●	●	●		●	●	●	●	●	●			●	●
$400M Ocean Outfalls Program, South & Central WTPs, MDWASD (PCI)	Miami, FL	●		●				●		●	●	●	●																●	●	
Pump Station & Force Main Improvements Project Controls & Bid Analysis (PCI)	Miami Beach, FL	●		●						●	●	●	●														●		●	●	●
$2B Consent Decree Program, Project Controls, MDWASD (PCI)	Miami, FL	●				●		●	●	●	●	●	●	●	●														●	●	
54-inch Water Transmission Line Installation (Terracon)	Miami, FL	●							●						●				●		●		●	●	●						
Stormwater Improvements, Exfiltration Trench & 2 Pump Stations (Terracon)	Dania Beach, FL		●	●	●		●								●					●		●	●	●						
East Flagami Flood Improvements RAR (Terracon)	Miami, FL		●		●				●						●				●	●		●	●	●							
NW 84th Ave Roadway and Stormwater Improvements, MDDTPW (Terracon)	Miami, FL		●		●	●									●				●				●	●							

CITY WIDE INFLOW AND INFILTRATION REDUCTION PROGRAM

City of Fort Lauderdale, FL



RELEVANCE TO HOLLYWOOD

- Program management for aging infrastructure repair/rehab/replace
- Local/regional experience
- Stakeholder coordination
- Public outreach/community meetings
- Multi city/neighborhood program
- Cost effective approach tailored to each basin

KEY STAFF

Franklin A Torrealba, Paola Davalos

DATES, COST

Dates: 2024-Ongoing
Fee: $14.3M

The City owns and operates its sanitary sewer collection system, consisting of 500+ miles of gravity sewer pipe and 186+ sanitary sewer collection basins, which the discharge into the City owned George T Lohmeyer wastewater treatment plant (GTL WWTP) for treatment and disposal. The City has large user wastewater agreements with the Cities of Oakland Park, Wilton Manors, Tamarac, the Town of Davie, and Broward County's Port Everglades. The Florida Department of Environmental Protection (FDEP) has issued a consent order that requires the City of Fort Lauderdale to investigate Inflow and Infiltration (I/I) within the City's sanitary sewer system in order to reduce excessive flows into the GTL WWTP causing the use of emergency outfalls.

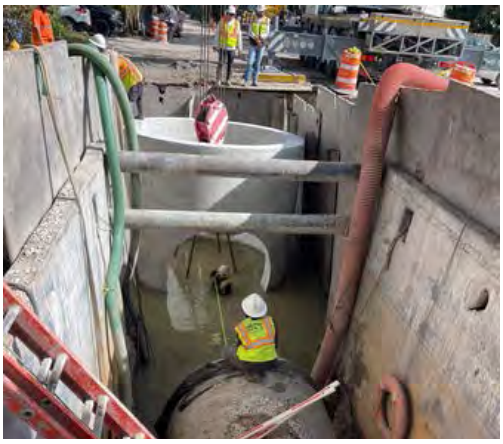
Ardurra is assisting the City with identification, reduction, and mitigation of I/I within the sewer system to reduce the amount of non-effluent water entering the system and to protect and improve the available treatment capacity of the GTL WWTP. The program seeks to improve the overall efficiency, reliability, and sustainability of the city's wastewater management system.

Ardurra worked alongside City staff to develop and implement a customized, cost-effective I/I reduction program which allows the City to focus on cost-effectiveness by identifying the collection basins with the largest I/I contributions and to ensure that a holistic analysis of the I/I problem is executed according to an agreed upon prioritization schedule. Ardurra is responsible for the following components of the program:

- **Program Management.** Effective oversight to ensure the program stays on schedule, within budget, and achieves City goals. Responsible for coordinating all program components, tracking milestones, managing resources, and ensuring compliance with regulations, transparency and accountability.
- **Data Collection & Analysis.** Gathered flow data, rainfall records, and system performance metrics. Used advanced analytical tools and methods including AI for CCTV inspections to pinpoint I/I sources, assess their impact, and guide decision-making for corrective actions.
- **Sanitary Sewer Evaluation.** Detailed inspections using methods such as night flow isolation, targeted CCTV surveys, smoke testing, flow monitoring, and dye testing to locate sources of I/I.
- **Community Engagement.** Developed a partnership strategy with property owners to inform the community of ongoing I/I projects and address private property sources of I/I through educational campaigns, incentives, and compliance programs.
- **Cost Effective Corrective Action Plans.** Developed tailored solutions for each sewer collection basin to ensure efficient use of resources. Plans include prioritized recommendations for repair, rehabilitation, or replacement of sewer infrastructure based on the severity of I/I , cost-effectiveness, and long-term benefits.
- **Infrastructure Rehabilitation.** Implemented targeted repair and replacement of aging or damaged sewer lines, manholes, and connections using various methods including cured-in-place pipe lining, grouting, manhole rehabilitation and point repairs.

*DURRS NEIGHBORHOOD STORMWATER IMPROVEMENTS

City of Fort Lauderdale, FL



RELEVANCE TO HOLLYWOOD

- Stormwater Management Program - Program Management, Planning, Design, Construction Management
- Design for stormwater pipe, exfiltration trench systems, swales, roadway and pavement rehabilitation and reconstruction

KEY STAFF

Rares Petrica

DATES, COST

Dates: 2023-2025
Construction Cost: $34M

Proposed Program Manager, Rares Petrica served as the City's lead program manager for the design, permitting, and construction management of the Durrs Neighborhood Stormwater Improvement Project. Covering a 237-acre area, the neighborhood was previously served by undersized and deteriorating stormwater infrastructure, resulting in significant flood risk during moderate to severe storm events.

To support the $34M program cost, Rares prepared and submitted a successful grant application on behalf of the City of Fort Lauderdale. The project secured $10.5M in HUD Community Development Block Grant-Mitigation (CDBG-MIT) funds administered by the Florida Department of Commerce. Throughout the construction phase, Rares provided oversight for grant compliance, management, and reporting. He ensured that the project was completed on time and within budget, with full utilization of the awarded grant funds. This project included the implementation of a modern stormwater management system designed to augment and replace the existing undersized infrastructure within the neighborhood. The scope of work included:

- **Installation of 7,500 LF of new stormwater** conveyance piping
- **Replacement of 26,150 LF of existing stormwater** piping
- **Construction of 5,000 LF of exfiltration trench systems** to promote groundwater recharge
- **Grading and installation of 7,000 SY of engineered swales** for surface water management
- **Installation of two water quality treatment structures** for pollutant load reduction
- **Full-depth pavement reconstruction** and roadway rehabilitation across the project area

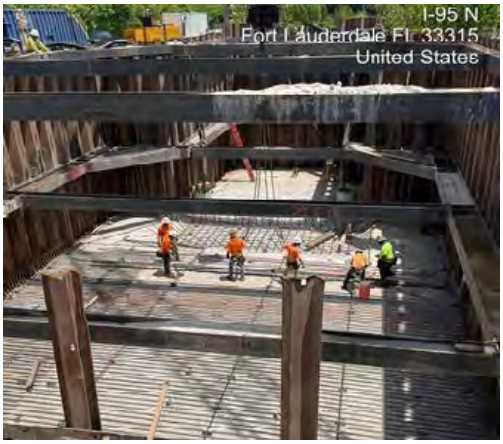
Rares implemented the following key items which were critical to the program's success and maintaining grant funding schedules and budget:

- **Customized engineering design** responsive to the unique site conditions of the neighborhood addressed complex utility conflicts and mitigated site contamination constraints
- **Proactive coordination with key permitting authorities** — FDOT, Broward County EPD, and Florida DEP — streamlined regulatory approvals.
- **Agile RFI response protocols and on-site conflict resolution strategies** supported an accelerated construction timeline, critical to meet CDBG-MIT grant milestones and funding deadlines
- **Proactive public outreach and community involvement** efforts fostered transparent communication with residents, governmental agencies, and project stakeholders throughout the project lifecycle

*This project is personal experience of Ardurra's Program Manager, Rares Petrica.

*RIVER OAKS PUMP STATIONS AND STORMWATER IMPROVEMENTS

City of Fort Lauderdale, FL



RELEVANCE TO HOLLYWOOD

- Stormwater Management Program - Program Management, Planning, Design, Construction Management
- Design for stormwater pipe, exfiltration trench systems, swales, roadway and pavement rehabilitation and reconstruction

KEY STAFF

Rares Petrica

DATES, COST

Dates: 2021-2024
Construction Cost: $34M

Proposed Program Manager, Rares Petrica served as the City's lead program manager for the design, permitting, and construction management of the River Oaks Stormwater Improvement Project. Prior to implementation, the 510-acre River Oaks neighborhood was served by minimal, undersized, and deteriorating stormwater infrastructure, rendering it highly vulnerable to flooding during even moderate rainfall events. The scope included the installation of a new stormwater conveyance system throughout the existing residential area, along with the construction of three stormwater pump stations required to convey collected runoff to the North New River, n downtown Fort Lauderdale.

Rares provided comprehensive oversight of the design and permitting processes for the pump station facilities and the associated underground infrastructure. He facilitated coordination with permitting and regulatory agencies, including those overseeing work within Broward County and FDOT ROW and led public outreach initiatives to engage residents and key stakeholders.

During the construction phase, Rares managed all project progress meetings and reporting activities, while coordinating closely with contractors and engineering consultants to resolve critical construction conflicts. He maintained direct communication with neighborhood residents through HOA meetings and individual engagements to ensure transparency and community awareness. Throughout the three-year construction period, Rares ensured the installation and operation of a temporary backup pumping system to maintain flood protection and stormwater management for the community while permanent infrastructure was under construction. The scope of work included:

- **Installation of 13,500 LF of new stormwater** conveyance piping
- **Replacement of 5,150 LF of existing stormwater** piping
- **Construction of 2,000 LF of exfiltration trench systems** to facilitate groundwater recharge
- **Grading and installation of 8,000 SY** of engineered swales for improved surface water management
- **Canal bank restoration,** including dredging operations and bank stabilization measures
- **Construction of 3 stormwater pump stations** - 66,000 gpm, 18,000 gpm, and 6,000 gpm
- **Installation of 4 water quality treatment structures** to reduce pollutant loads in stormwater runoff
- **Full-depth pavement reconstruction and roadway rehabilitation** throughout the project limits

Rares implemented the following key items which were critical to the program's success and maintaining grant funding schedules and budget:

- **Engineered site-specific stormwater management design** tailored to the River Oaks neighborhood successfully addressed legacy utility conflicts, ROW constraints, and contaminated site conditions
- **Continuous coordination with regulatory agencies** — FDOT, Broward County EPD, and FDEP — expedited permitting and maintained compliance with environmental and jurisdictional requirements
- **Responsive RFI and field issue resolution protocols** maintained construction momentum and adhere to the project's aggressive schedule
- **Public outreach and stakeholder engagement efforts** ensured consistent communication and transparency with residents, community associations, and inter-agency partners throughout design and construction phases

*This project is personal experience of Ardurra's Program Manager, Rares Petrica.

PUMP STATION IMPROVEMENT PROGRAM, PROGRAM MANAGEMENT, DESIGN, CM

Miami-Dade County Water & Sewer Department (WASD), FL

RELEVANCE TO HOLLYWOOD

- Program management, design, CM for aging infrastructure
- Saved the WASD $37M while adding 35 new projects
- Local/regional experience
- Permitting - FDOT,
- Stakeholder coordination
- Public outreach/community meetings
- Multi city/neighborhood program

KEY STAFF

Franklin A Torrealba, Paola Davalos

DATES, COST

Dates: 2014-2022
Construction Cost: $215M

WASD established this Pump Station Improvement Program to upgrade the wastewater collection and transmission system. The program consisted of 153 projects (118 pump station and 35 force main projects) and an I/I reduction program for 50+ sewer basins. Pump station projects involved the repair, rehabilitation, or replacement of out-of-compliance pump stations ranging from 5 to over 300 HP. Pump stations required certification of meeting a nominal average pump operating time of less than or equal to 10 hours/day and capable of meeting peak flows and peak pressures criteria.

Ardurra was a key part of the program management team and served as WASD's representative responsible for planning and engineering, design management, construction management, inspection services, O&M, sea level rise planning, and I/I management for $215M in infrastructure improvements. Ardurra's responsibilities included:

- **Planning & Engineering.** Prepared basis of design reports, Wise Engineering, data acquisition and analysis, SCADA monitoring of pump stations, definition and preparation of remedial plans (I/I repairs, O&M recommendations and/or complete rehab) and assistance with project's prioritization. The program incorporated sea level rise projections through the planning tools developed by the SE Florida Climate Change Compact to protect critical mechanical and electrical components.
- **Design Management.** Managed eight design consultants for preparation and review of design submittals for requirements and permitting compliance. Coordination with Miami-Dade County RER, DTPW, and Building Department and FDOT.
- **Construction Administration, Management and Inspection.** Used County's MCC 7040 procurement method for selection of multiple pump station and force main contractors.
- **I/I Management.** Managed four contractors for manhole, sanitary sewer evaluation survey, CIPP, and dig and replace.
- **O&M.** Administration of business structure, practices, and processes to improve efficiency and maximize profit.

CONSENT DECREE PROGRAM, PROGRAM MANAGEMENT, DESIGN, CM

Miami Dade County Water & Sewer Department, FL

RELEVANCE TO HOLLYWOOD

- Program management, design, CM for aging infrastructure
- Local/regional experience
- Permitting, Regulatory Compliance - EPA/FDEP
- Stakeholder coordination
- Public outreach/community meetings
- Multi city/neighborhood program

KEY STAFF

Franklin A Torrealba, Nicholas Fernandez

DATES, COST

Dates: 2014-ongoing
Construction Cost: $1.9B

WASD entered a federally mandated Consent Decree (CD) committing to make improvements to the County's wastewater collection, transmission and treatment systems. Ardurra was part of the Program Management/Construction Management (PMCM) team, serving as Owner's Representative to provide PMCM services for the wastewater system priority projects included in WASD's third CD with USEPA and FDEP. The team is managing four design consultants divided into four programs:

- Design Services for Wastewater Collection and Transmission Systems (WCTS) Related to CD Projects
- CD Capacity Management, Operation and Maintenance Programs (CMOM)
- Design Services for Wastewater Treatment Plants Related to CD Projects
- Regulatory and Compliance Reporting

For the WCTS program, Ardurra is leading the coordination and management of 93 force main and pump station projects from initial planning to closure including — document control, engineering planning and design, cost estimate reviews, permitting, procurement, construction, inspections, and project certification. WCTS projects include:

- **Force Main (FM) Projects** include replacement of 48-inch, 54-inch FM, 72-inch FMs and 30 miles of Asbestos Cement (AC) FMs; rehabilitation/replacement of 13,300 LF of 48-inch FM in NW 156th St from 57th Ave to 32nd Ave; and project validation including hydraulic modeling analysis of existing and proposed conditions.
- **Pump Station Projects** range from local pump lift stations to regional and booster stations. Responsible for evaluating the operating conditions of regional and booster stations that require upgrades such as — electrical, wet well maintenance, pump station relocation, pumps replacement, etc. Responsible for planning and engineering (BODR and/or Technical Memorandum) and design for nine regional and booster stations, considering sea level rise projections through SE Florida Climate Change Compact.
- **Hydraulic Modeling.** Validating each CD and FM project using Info works. Hydraulic modeling includes upgrades related to 2025 Ocean Outfall Legislation and performed under verification of wet weather and dry weather conditions; development of base line model; and addition of Ocean Outfall Legislation and other WASD programs/projects.
- **Wastewater Treatment Plant Projects.** The CD requires the County to improve three wastewater treatment plants — North District, Central District and South District. Ardurra is currently performing design and cost estimate reviews; oversight of planning, design, and construction; and coordinating design and shutdown sequences with plant operators to minimize interruptions to plant operations.
- **Capacity Management Operation and Maintenance (CMOM)**. Responsible for monitoring and reporting CD projects; developing procedures and processes used to monitor; program compliance reporting on CD CIP and CMOM programs; conducting internal audits to track and validate all compliance related issues; preparing and submitting semi-annual and annual reports to EPA/FDEP.
- **Aesthetics Improvements and Xeriscaping**. WASD is required by resolution to promote water conservation and beautify its structures by installing sustainable vegetation, xeriscaping improvements such as walls, fountains, and artwork at all department structures — admin. buildings, pump stations, and treatment facilities. Ardurra is managing these efforts to ensure compliance with the resolution.

CONSUMER LINE RELOCATION PROGRAM

Miami Dade County Water & Sewer Department, FL

RELEVANCE TO HOLLYWOOD

- Program Management and CM for $23M Program in Residential Neighborhoods
- Dashboard Development, Construction Phasing, MOT
- Public Outreach
- GIS asset management and prioritization
- Property owner agreements

KEY STAFF

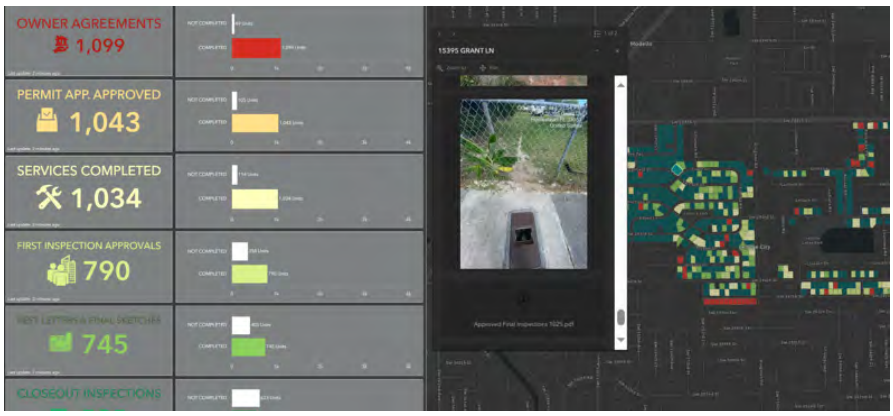
Franklin A Torrealba, Nicholas Fernandez, Ricardo Maristany

DATES, COST

Dates: 2017-ongoing
Fee: $5.4M, Construction Cost: $23M

Ardurra was retained to provide design, program and construction management services for Phase 2A of the Consumer Line Relocation (CLR) program. The program consists of the conversion of over 5,000 water services from the rear to the front of the properties to abandon old, leaky, small diameter, rear water mains. Conversion involves installation of services from existing front water mains and relocating the water lines within the properties to a new water meter box in the front.

- **Turnkey Program Management.** Ardurra's services include program management, property inventory, creation of a GIS asset management system and dashboard, design, permitting, contract documents, owner notifications and securing agreements to work on private property, public outreach, public official coordination, bidding support services, construction management and inspections, MOT reviews, pay application approval, change order evaluation, Owner warranty & close-out services
- **Custom GIS Asset Management System.** Ardurra developed a countywide custom enterprise GIS asset management system for the purpose of managing and tracking the CLR program, allowing for the efficient management and tracking of workflow processes by service connection throughout the life of the program. Information tracked included property pictures, sketches, agreements, utility tickets, permits, customer communications, contract documents, and construction progress.
- **Workflows.** Process workflow is executed by a custom enterprise database which leverages ArcGIS Online, Survey 123, Collector, Navigator, Operations Dashboard, and Workforce for ArcGIS and hosted on private, secure web page for seamless, real time access. The intent is to use the database as a live document repository that is able to provide real time updates. Capabilities include web maps, dashboards, task assignments, assign tasks, data collection, document repository, and visual and statistical analysis.



FLOOD PROTECTION LEVEL OF SERVICE PROGRAM, PROGRAM MANAGEMENT

South Florida Water Management District, FL

RELEVANCE TO HOLLYWOOD

- Program management, design, modeling for stormwater infrastructure
- SOW development and project prioritization
- Public outreach/community meetings
- Local/regional experience

KEY STAFF

Ann Springston, Matthew Brooks, Ana Dvorak

DATES, COST

Dates: 2019-ongoing
Construction Cost: $30-70M Annually

The Flood Protection Level of Service (FPLOS) Program is an initiative to determine existing and future FPLOS for all watersheds in the region in response to sea level rise and storm surge. FPLOS quantifies the protection provided by/for specific features within a watershed, generally expressed in terms of the return frequency of events that cause significant flooding. Information from the FPLOS studies provides input to infrastructure modifications, operations, drainage, and design criteria at regional and local levels.

Ardurra was selected to provide program management services as well as engineering subject matter experts to support the Program. Ardurra's key responsibilities include:

- **Development of scope of work and project management of FPLOS** engineering design, studies, modeling, and construction contracts
- **Project controls** (schedules, budgets, costs, milestones, status report, weekly/monthly updates)
- **Review of technical deliverables** (design, modeling, studies) as well as analysis and interpretation of results
- **Modeling support and QAQC** for — sources and quality of data; model input and output (HEC, MIKE, SWMM, ArcGIS, etc); model calibration; model stability, accuracy and run time; simulation of water control structures and ratings
- **Development and selection of modeling tools, standards, and strategies** to improve design criteria and O&M standards to reduce impacts of flooding
- **Risk Analysis and Mitigation** —analysis of joint probabilities of rainfall, sea level rise, and storm surge events; assessment of potential damages; and development of mitigation strategies
- **Planning and scope of work development** of local and regional infrastructure and facility operational improvements to address deficiencies and which can be used to set stormwater policy
- **Coordination/interface with stakeholders**, local government, and regulatory agencies

CAPITAL IMPROVEMENT PROGRAM, PROGRAM MANAGEMENT, CM

City of North Miami Beach, FL

RELEVANCE TO HOLLYWOOD

- Program management, design, modeling for stormwater infrastructure
- MOT
- SOW development and project prioritization
- Public outreach/community meetings

KEY STAFF

Franklin A Torrealba, Nicholas Fernandez

DATES, COST

Dates: 2019-Ongoing

Construction Cost: $150M

The City owns, operates, and maintains its water and sewer system and provides service to Aventura, Miami Gardens, Sunny Isles Beach, Golden Beach, and portions of Miami Dade County. The City has recently undertaken a $150M CIP to improve aging infrastructure.

Ardurra is providing program management and construction management services for 25 projects, including major upgrades to the Norwood water treatment plant, undersized water pump stations, and out of compliance sanitary sewer pump stations. Ardurra's responsibilities include project controls, design management, alternative delivery procurement, construction inspection, permitting and regulatory compliance, and oversight of the program. Key projects include:

- **Norwood WTP Rehabilitation** (progressive design build) - a novel pellet softening system to treat water coming from the Biscayne Aquifer, new 5MG water storage tank, rehabilitation of the clearwell structure and high service pump building, and new workshop building
- **Easter Shores** - new distribution water mains by HDD and pipe bursting and conversion of the meter from the back of the properties to the front
- **Corona Del Mar** - elimination of 100 septic tanks and installation of new sewage system and pump station
- **Installation of new raw water mains** to Norwood WTP
- **Drilling and installation of new water wells** for Biscayne and Floridan Aquifers
- **Installation of new SCADA system** to obtain reliable information from pump stations and WTP

DRAINAGE VERIFICATION AND CONDITION ASSESSMENT PROGRAM PHASE I-IX

City of Coral Gables, FL

RELEVANCE TO HOLLYWOOD

- Program management, design, CM/
- Neighborhood program
- Public outreach/community meetings

KEY STAFF

Franklin A Torrealba, Paola Davalos

DATES, COST

Dates: 2016-2023
Fee: $1.3M

The City owns, maintains, and operates a stormwater system comprised of **catch basins, manholes, inlets, slab covered trenches, exfiltration trenches, outfalls, and two stormwater pump stations.** Geographical and itemized information is maintained in the City's GIS database. Ardurra was selected to perform a City-wide field verification of the stormwater system, perform asset condition assessments, and update the GIS database accordingly. Ardurra's team field verified the City's stormwater infrastructure in a multi-year, multi-phase program for a total of 197.4 miles of roadway and 18 miles of waterways, organized as follows:

Phase	Stormwater Points (#) *(catch basins, manholes, drainage wells, outfalls)*	Stormwater Lines (LF) *(exfilt. trenches, solid pipes, slab covered trench, trench drain)*	Roadways Verified (miles)	Waterways Verified (miles)
1	197	11,477	4.3	1.8
2	209	5,182	3.3	1.4
3	398	9,527	6.6	1.2
4	552	29,532	13.3	5.8
5	399	17,759	9.4	5.8
6	333	13,431	13	1.5
7	890	22,719	19	
8	3,569	95,299	57	
9	4,606	211,681	71.5	
TOTAL	11,153	416,608	197.4	18

Field Verification. Ardurra field verified the stormwater infrastructure and marked up the observed assets using a GPS Unit, recording horizontal and vertical coordinates and elevations, photos, and attribute information. Condition Assessments were performed, documenting asset condition and any structural or maintenance related issues. A boat navigation inspection was performed to locate outfalls discharging into the City's waterways. Newly found infrastructure was digitized into point and line features (vector data) within the drainage geodatabase, after an extensive quality review process that included spatial, attribute, and photo review, data validation, and metadata. Standard formatting, database schema, and symbology, based on the City's GIS standards and the Florida DEP NPDES Stormwater MS4 GIS Inventory Plan, were developed and used. The program allowed for the significant upgrade of the City's Stormwater GIS, which originally included approximately 3,600 catch basins and storm manholes, exclusively. Over 65% of the infrastructure recorded through the program was not originally included in the existing Stormwater GIS database.

Updated GIS. The updated GIS layers provide an accurate inventory of assets in an easy to use and maintain format, which has brought many benefits to the City. This has allowed for accuracy in the utility coordination process, avoiding damage to the City's drainage infrastructure during construction and providing an appropriate source of data to develop GIS-based stormwater modeling and analysis for critical flooding areas. Ardurra developed a stormwater drainage web/mobile app to allow City staff and contractors to manage data in the field, increasing efficiency in maintenance, work order management, life cycle costing, flood loss reductions, and spill hazard reductions.

SOUTHEAST LOUISIANA URBAN FLOOD CONTROL PROGRAM

Sewerage & Water Board of New Orleans, LA

RELEVANCE TO HOLLYWOOD

- Program management, design, CM/inspection for urban stormwater infrastructure
- GIS asset management and prioritization
- Maintenance of Traffic
- Project bundling
- Property owner agreements
- Public outreach/community meetings
- Local/regional experience

KEY STAFF

Ann Springston, Ben Pernezny

DATES, COST

Dates: 1994-ongoing
Construction Cost: $1.2B

Several large rainfall events from the 1970's through early 1990's caused in excess of $B in damages to local infrastructure. As a result, the federal government authorized and funded the Southeast Louisiana Flood Control Program (SELA) – the first federally funded urban drainage program to reduce flooding from the 10-year rainfall in various locations. The program is a cooperative effort between the City of New Orleans and the US Army Corps of Engineers (USACE), New Orleans District.

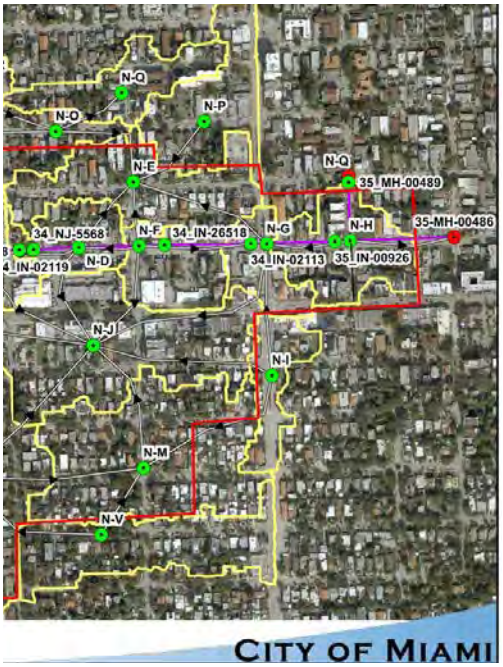
From program inception in 1994, Ardurra has served as program manager and has been integral to the development and implementation of the entire program. Projects include repair, rehabilitation, and replacement for drainage pump stations, canals, flood gates, dams and all types of flood control structures, concrete flumes, box culverts, bridges, .

Ardurra's responsibilities include:

- **Development, implementation and execution of City of New Orleans Master Drainage Plan** as well as Drainage Capital Improvement Program
- **Owner's advisor and representative** to local, state, and federal permitting and regulatory agencies including USACE, Louisiana Coastal Protection and Restoration Authority, utilities
- **Funding.** Assistance with grant, bond, and loan applications and management including reconnaissance and review or required documentation and environmental documents
- Preparation and negotiation of USACE credit reports
- **Data collection and asset inventory** development
- **Development and execution of RFQ/RFPs** - engineering and construction contracts
- **Oversight of design consultants** including review of reports, design, cost estimates, permitting documents
- **Preparation of preliminary design and final design** for select projects and hydraulic design for A/E design firms
- **Hydraulic modeling** of sub-basins utilizing the SWMM hydraulic computer model, various improvement alternatives and development of stage-frequency-discharge relationships.
- **QA/QC and value engineering**
- **Drainage asset management** - inventory and prioritization through data collection and modeling
- **Coordination and oversight** of land acquisition, utility modifications, property owner agreements, ROW
- **Preparation of budgets and schedules**
- **Construction management and inspection**

8TH ST FLOOD MITIGATION IMPROVEMENTS AND WATER MAIN REPLACEMENT

City of Miami, FL



Ardurra is providing engineering design and construction phase services for critical infrastructure improvements along the 8th Street corridor in Little Havana, delivered under multiple agreements with the City of Miami and Miami-Dade WASD to align with the City's Stormwater Master Plan, as well as resilience goals funded by the Miami Forever Bond and associated state and federal grants.

The City and WASD entered a Joint Partnership Agreement to address two parallel integrated scopes, flood mitigation and water main infrastructure replacement. Ardurra's scope includes design for new drainage systems and roadway reconstruction, and for the installation of 8,060 LF of 8-inch and 12-inch ductile iron pipe water mains. These improvements support enhanced potable water delivery, roadway upgrades, and flood protection between SW 5th St and SW 12th St and from SW 17th Ave to SW 22nd Ave—an area historically vulnerable to flooding and utility service limitations.

- **Design.** The design included detailed roadway layouts, ADA-compliant pedestrian facilities, drainage plans, utilities, grading, signing and marking, and SWPPP. Hydrologic modeling, using the ICPR system, was conducted to analyze future stormwater behavior under sea-level rise scenarios. The design also included interconnections, air release and plug valves, pavement restoration, and integration with City-led flood mitigation construction.
- **Survey and Geotechnical.** Ardurra conducted surveys for 17,000 LF of ROW and 28 intersections. Surveys documented all visible utilities, drainage structures, and roadway features. Geotechnical investigations included 15 standard penetration test borings and 15 exfiltration tests to inform the stormwater management design.
- **Permitting and Agency Coordination.** Ardurra is coordinating with multiple agencies including City of Miami RPW, Miami-Dade DERM, and Miami-Dade DTPW to secure necessary permits.

RELEVANCE TO HOLLYWOOD

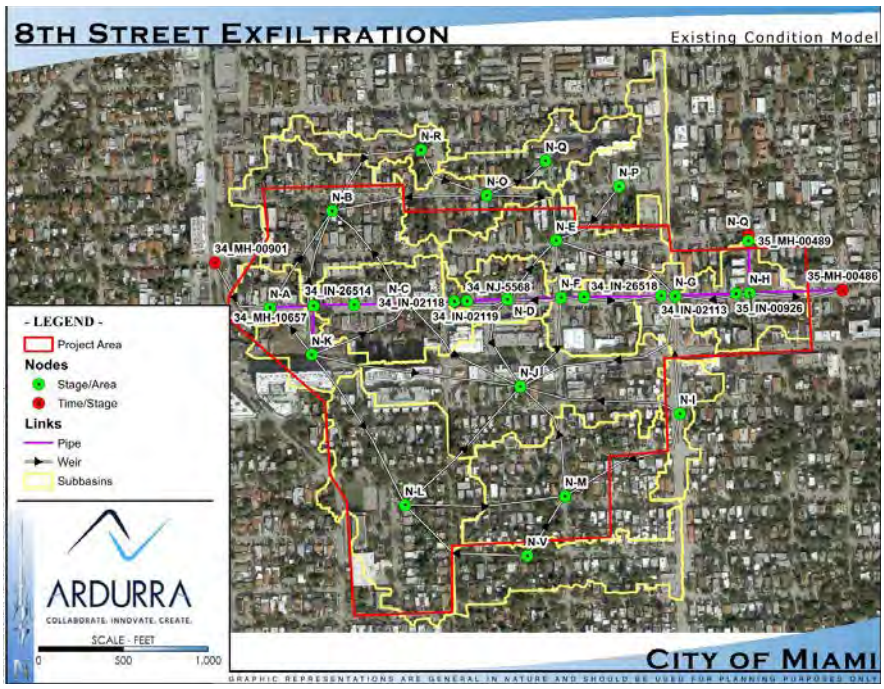
- Stormwater Management System Design
- Stormwater Modeling, Drainage Design, Stakeholder Coordination, Roadway Reconstruction, Permitting

KEY STAFF

Franklin A Torrealba, Paola Davalos, Ana Dvorak

DATES

Dates: Ongoing-2027



THE UNDERLINE PHASE 3 STORMWATER IMPROVEMENTS

Miami Dade County DTPW, Miami, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design
- Modeling, Design, Permitting, Public Outreach, Stakeholder Coordination, Permitting
- Green Infrastructure

KEY STAFF

Franklin Torrealba, Matthew Brooks, Ana Dvorak, Nicholas Fernandez, Fernando Miralles-Wilhelm

DATES

Dates: Ongoing-2026

This design build project includes 7.36 miles of improvements, divided into six segments, running within or parallel to the County's metrorail ROW. The project provides improvements to separate paved off-street bicycle and pedestrian paths, shared use paths, two pedestrian/bicycle bridges over small waterways/canals, native landscaping, site furniture and equipment, amenities, way finding signage, pavement markings, intersection improvements, lighting, drainage, environmental remediation, Wi-Fi and security infrastructure, and reconfiguration of parking lots. Ardurra is key to the design build team, furnishing design services for stormwater management, ICPR modeling, flood protection, erosion control measures, and permitting. Ardurra led coordination efforts with RER/DERM, SFWMD, and FDEP to ensure compliance with regulatory requirements.

To prevent the accumulation of stormwater in pedestrian areas, Ardurra's design includes a complex stormwater drainage systems within each Segment consisting of catch basins, manholes, drainage wells, exfiltration trenches, and stormwater treatment areas.

- **Public Outreach.** Ardurra is actively involved in the Project's public outreach program, attending and presenting at the Friends of the Underline meetings designed to obtain feedback from and educate County residents on the project's developments, intent, benefits, and challenges.
- **Green Infrastructure.** Ardurra is tasked with providing the most technically feasible methods for stormwater collection, conveyance, pre-treatment, retention, and flood protection while taking into consideration identified contaminated areas and the effects of the Saltwater Intrusion Line. Using Green Infrastructure, Ardurra's design provides an ecologically sound solution to stormwater management while promoting habitat creation, direct water quality/quantity benefits, and educational opportunities to engage the public. Additionally, stormwater treatment areas such as bioretention systems, swales, and dry detention areas are used to lower the amount of hard infrastructure required and improve aesthetics throughout the corridor. The proposed drainage system is designed to include Metrorail column Rain Water Leaders (RWLs).

Summary of the stormwater drainage assets proposed for each segment:

Segment	Catch Basins / Nyloplast Domes	Manholes	Drainage Wells	Solid Pipes (LF)			Bioretention Areas (Sq Ft)
				Diameter(s) (in)	Material(s)	Length (LF)	
3	51	18	3	10, 15, 18, 24, 30	HDPE, PVC	4,175	N/A
4	39	12	4	10-24 TBD	HDPE, PVC	4,278	N/A
5	34	1	5	10, 12, 15, 18	HDPE, PVC	3,000	N/A
6	35	0	1	10-24 TBD	HDPE, PVC	1,700	40,000
7	44	1	2	10-24 TBD	HDPE, PVC	2,800	26,000
8	91	0	0	10-24 TBD	HDPE, PVC	2,500	70,000
9	21	0	0	15	HDPE	935	22,000

SUNRISE HARBOR DRAINAGE ASSESSMENT

City of Coral Gables, FL

RELEVANCE TO HOLLYWOOD

- **Planning, Modeling, Preliminary Design for the City of Coral Gables Sunrise Harbor area.**
- **Stormwater Modeling (ICPR), Drainage Design, Stakeholder Coordination, Roadway Reconstruction, Permitting**

KEY STAFF

Franklin Torrealba, Towsif Bhuiyan, Nicholas Fernandez

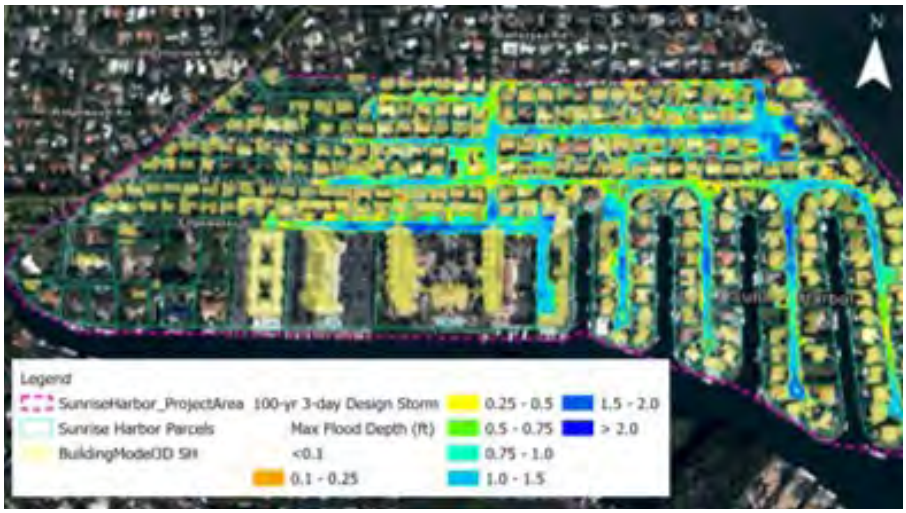
DATES, COST

Dates: 2020-202
Fee: $240K

Sunrise Harbor, within the City of Coral Gables, consists of 290 properties and is affected during high tide events and has elevations as low as 3.5 ft NGVD '29. Ardurra was tasked to perform an assessment of the stormwater management options which included data collection, in-depth field condition evaluations, basin delineation, stormwater modeling and analysis of existing and proposed conditions, geotechnical study, survey, alternative development evaluation and selection, and conceptual design development, and construction cost estimates.

The main objective of the project was to ensure that the recommended stormwater management components were technically, economically and functionally effective and could be implemented in a manner that meets the requirements of the City of Coral Gables, SFWMD, and Miami-Dade County Regulatory and Environmental Resources. Considerations included climate change and sea level rise, feasible methods for construction, community impacts, and environmental impacts.

- **Stormwater Modeling.** Ardurra performed hydraulic/hydrologic stormwater modeling to analyze existing and future land use conditions and scenarios, identify and develop potential capital improvement projects, determine flood elevations and flood LOS, and recommended finished elevations determined for roads, parking lots, and buildings. The analysis of this data was used through Interconnected Pond Routing (ICPR) modeling platform to simulate stormwater conditions and management alternatives. Ardurra used ICPR modeling software using 1D and 2D Surface Flow. The ICPR model developed for existing conditions was executed for the 5-yr/24-hr and 100-yr/72-hr design storm rainfall distributions. Calibration and simulations, the existing conditions model was used as a base template to begin modeling the proposed conditions.
- **Basis of Design Report.** A Basis of Design Report was prepared for the upgrade of the stormwater and ROW. Ardurra met with multiple stakeholders and regulatory agencies to obtain approval of the preferred solution. The results of this assessment included potential benefits to the community such as fewer flood disturbances, improved water quality of the bay, and improved motorist and pedestrian safety.



INDIAN RIVER ESTATES STORMWATER IMPROVEMENTS PHASE 2

St. Lucie County Public, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design
- Modeling, Design, Permitting, Public Outreach, Stakeholder Coordination, Permitting, Roadway Reconstruction

DATES, COST

Dates: 2016-2017
Fee: $934K

This project is in unincorporated St. Lucie County, south of Fort Pierce. Frequent road flooding was documented within the subdivision. Roadside ditches/swales were continuously wet due to a high groundwater table and tailwater from the adjacent FDEP-owned Savanna Preserve. The project was initiated as part of a FEMA grant to address drainage issues and provide a higher flood protection level of service within the residential neighborhood. The County implemented the project in two phases. Phase 1 - construction of a pump station, force main, and treatment pond and Phase 2- retrofit improvements which were designed by Ardurra. The improvements consisted of a new pipe system (44,000 LF) and regraded roadside swales to provide storage of runoff and drainage to the pump station – all within the County ROW. Ardurra assisted with the FEMA grant funding requirements and compliance. The scope included drainage evaluation, engineering assessments, stormwater infrastructure design, plans production, permitting, and post-design engineering services.

- **Engineering Study, Hydraulic/Hydrologic Model, Alternatives Analysis.** An engineering study was performed to confirm the nature and severity of the drainage problems, conceptualize feasible improvement alternatives, and evaluate the overall benefits of the chosen alternative. An ICPR hydraulic/hydrologic model was developed to analyze the existing stormwater system, corroborate known flooding problems, and evaluate conceptual improvements. The project basin area analyzed was 1,420 acres and included 301 nodes and 1,545 links. The chosen alternative included rerouting and upsizing the existing stormwater conveyance system so it would drain to the constructed pump station. Ardurra coordinated with SFWMD to identify permitting requirements. This phase included GIS analysis, alternative concept development, H&H modeling, cost estimate, and identifying ROW/easement needs.
- **Final Design to Mitigate Impacts to Private Property.** The design included a large stormwater collection system that directed runoff to the existing pump station, extensive swale grading/improvements, driveway culvert replacement, and improvements to existing overflow structures from the subdivision to the neighboring Savannas Preserve. In all, the improvements included 44,000 LF of storm sewer pipe and 650 drainage structures within the residential neighborhood. Ardurra designed the proposed improvements to avoid impacts on private property. When impacts were unavoidable, Ardurra identified the necessary construction easements for the County to implement.
- **Public Involvement.** Public outreach and community involvement was critical. Ardurra assisted the County in preparing public information newsletter mailouts during the design phase.
- **Permitting.** Services included a permit modification from SFWMD and USACE. An environmental resource general permit modification was issued for the improvements.

S-39A CULVERT REPLACEMENT & AUTOMATION, CEI SERVICES, SFWMD, Parkland, FL

Ardurra provided construction engineering inspection and materials testing services for the construction for this culvert replacement and automation project. The structure consists of two bi-directional cast-in-place concrete culverts with automated and remotely operated lift gates for storm water flow control and regulation at the junction of the Hillsboro and L-36 canals, in Parkland FL.

The project includes the construction of concrete box culverts, installation of two 10-ft x 8-ft slide gates, a precast control building with power generator, canal cross section modifications, canal stabilization with placement of 600 LF of rip rap on canal embankments, stilling wells, construction of a bypass crossing with three 84-inch metal pipes, construction of steel sheet pile walls, and demolition of existing structure.

Ardurra's services included supervision and inspection of work performed by the contractor for conformance with contract documents and coordination with the subcontractor providing quality control material testing services. Specific responsibilities included review of submittals, verification of work performed by contractor; review of pay applications and change orders; updating the District's web-based Oracle Primavera Contract Management (Expedition); progress meeting attendance; photographic documentation, preparation of daily inspection reports, review of as-built drawings, and punch list and contract closeout.

RELEVANCE TO HOLLYWOOD

- Construction Engineering Inspection for stormwater facilities

DATES, COST

Dates: 2017-2018 | Fee: $290K

FLL TERMINAL 5 DRAINAGE, WATER AND SEWER ENGINEERING DESIGN, Broward County, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design, Modeling, Permitting
- Canals, Detention, Exfiltration Trenches, Catch Basins, Pipelines

DATES, COST

Dates: 2022-Ongoing | Fee: $790K

Fort Lauderdale–Hollywood International Airport is one of the fastest growing US large-hub airports. Jet Blue is administering & overseeing the design and construction of a new five-gate terminal program referred to as T5 and is being built as part of the airport's master plan. This CM at Risk project consists of a two-level, 5-gate domestic concourse with airport/airline/building support spaces necessary for operating T5. Ardurra is providing design services related to drainage, water, and sewer systems.

- **Airside Drainage Design** includes the replacement of the existing canal by a 42-inch RCP that will receive stormwater runoff generated by the proposed terminal, collected via rainwater leaders. The proposed apron extensions into the existing detention areas West of Terminal 4 are being analyzed to accommodate the additional runoff volume generated.
- **Landside Drainage Design** includes drainage design for a temporary perimeter road, design of a stormwater management system to accommodate the runoff generated by the proposed landside improvements including 25 curb inlets interconnected via 18-inch and 24-inch solid pipe discharging to 1,200 LF of exfiltration trench. Additionally, stormwater is proposed to be collected via 9 catch basins for Gate 504 area and the landside area discharging to the proposed exfiltration trench system. For extreme storm events, an overflow connection is being proposed.
- **Potable Water, Fire Protection, and Sanitary Sewer Design** includes a12-inch ductile iron pipe service line for the terminal's potable and fire water supply with fire hydrants placed every 400 feet. Sanitary sewer design includes relocation of an existing 8-inch force main that runs south along the eastern edge of the apron as well as an 8-inch gravity sewer parallel to the force main.

DRAINAGE IMPROVEMENTS, CEI SERVICES, Town of Miami Lakes, FL

RELEVANCE TO HOLLYWOOD

- CEI for Stormwater Improvement Program
- Pipe, Manholes, Catch Basins, Tree Locations, Roadway Restoration, Sidewalk Repairs, Driveway Restoration
- Grant Management

DATES, COST

Dates: 2022-Ongoing | Fee: $657K

As part of the Stormwater Master Plan, the Town is implementing this $30M stormwater improvement program. Ardurra is furnishing CEI services for these stormwater projects consisting of the installation of 24,000 LF of pipe and 350+ manholes (P-8, J-8), catch basins, tree relocations, core drilling existing structures, speed bump construction, an driveway reconstruction. The project include full pavement restoration, Superpave SP 9-5, pavement markings, and sidewalk repairs.

- West Lakes Drainage Improvements
- Royal Oaks 1st Addition Drainage Improvements
- Royal Oaks 6th Addition Drainage Improvements
- West Lakes Drainage Improvements
- Commerce Drive Drainage Improvements

Ardurra's services include:

- Pre-Construction Inspection/Document Review
- Pre-Construction Meeting
- Daily Construction Monitoring
- Submission of Daily Inspection Reports
- Attendance to Project Meetings
- Inspection of Traffic Control
- Environmental Control Monitoring
- Review and Process Contractor's Applications for Payment
- Contract Interpretations and Modifications
- Problem & Dispute Resolution
- Administration of Changed Work
- Notification of Accident Damage/ Injury
- Substantial Completion
- Final As-Built Record Drawing Review
- Final Completion and Certification

SEPTIC TO SEWER NEIGHBORHOOD IMPROVEMENTS, GOB BASIN 1264, MDWASD,FL

RELEVANCE TO HOLLYWOOD

- Design, permitting and CEI services for installation of 12,300 LF gravity sewer main (septic to sewer conversion), 1,300 LF force main and 11,060 LF water main

DATES

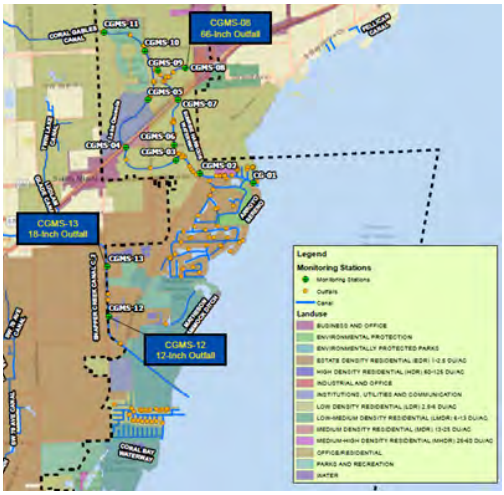
Dates: 2021

Ardurra furnished engineering design services for the installation of new gravity sewers for Basin 1264, a new basin which will eliminate 180+ septic tanks. The project includes 12,300 LF of gravity sewers and 1,300 LF of 8-Inch force main within the Green Tech Corridor, and the installation of 11,060 LF of 12-inch water main to replace the existing undersized water distribution system.

MDWASD identified the need to extend both the current collection/transmission system and upsize certain parts of it within Basin 1264, which is in an area of unincorporated Miami-Dade County delimited by railroad tracks north of NW 74 St., NW 27 Ave, NW 71 St. as well as NW 67th St, and NW 35th Ave. The total 8-inch gravity main is 9,070 LF and the total 10-inch gravity main is 3,330 LF. Approximately 45 manholes are involved in the proposed layout of Basin S-3's sewage system necessary to obtain the required depths for the gravity's main installation. The installation of an 8-inch force main along three different locations within the Basin, from PS S-3 at NW 71 Ter and extending until NW 32 Ave, where it will be connected to an existing 20-inch force main. Ardurra performed the following permitting services with MD-RER, Miami Dade County DTPW, and FDOH among many others:

- Elimination of septic tanks
- Installation of over 12,000 LF of gravity main and 1,000 of force main
- Extension of the wastewater collection to commercial and industrial properties with gravity sewer pipes of 8-inch and 10-inch diameter
- Extension of the wastewater transmission system to commercial and industrial properties with a force main pipe of 8-inch diameter
- Replacement and upsizing the existing water distribution system with a 12-inch diameter water pipe

WATER QUALITY MONITORING ASSESSMENT PLAN, City of Coral Gables, FL



RELEVANCE TO HOLLYWOOD

- Stormwater Management System Monitoring

DATES

Dates: 2018

The Monitoring Assessment Plan was prepared for the City in order to determine the overall effectiveness of its Stormwater Management Program (SWMP) in reducing stormwater pollutant loadings from its Municipal Separate Storm Sewer System (MS4) to receiving water bodies. The City is required to submit an Assessment Program to the FDEP in accordance with Miami-Dade County's MS4 Permit. This program needed to meet the following specific goals:

- Identify potential water quality problem areas related to stormwater runoff that can be targeted for corrective action(s). Corrective action(s) include to retrofits, structural BMPs, and non-structural BMPs (e.g., public education, street sweeping)
- Measure the effectiveness of stormwater pollution reduction measures that have been or will be implemented
- Document pollutant loadings and/or trends in pollutant loadings for specific watersheds or outfalls

In order to meet these goals, Ardurra developed a program which consisted of three parts

Water Quality Monitoring Plan - identified local sources where urban stormwater adversely affects surface water resources. 13 monitoring stations were established to measure the pollutant loadings of the stormwater discharging from the City's 107 stormwater outfalls

Pollutant Loading Estimate Plan - defined the pollutant load analysis to be performed. This analysis is based on assessing land uses in order to identify potential priority areas for pollution reduction and to estimate trends in pollutant loading

Evaluation and Response Plan - specified the program implementation steps and response plan, in order to evaluate trends in pollutants loading from the MS4, evaluate trends in water quality (of discharge from the MS4), and identify portions of the MS4 to be targeted for loading reduction/corrective action.

TOWN CREEK CULVERT REHABILITATION, City of Greenville, NC

RELEVANCE TO HOLLYWOOD

- **Stormwater Management System Design, Modeling, Design, Permitting, Public Outreach, Roadway Reconstruction**

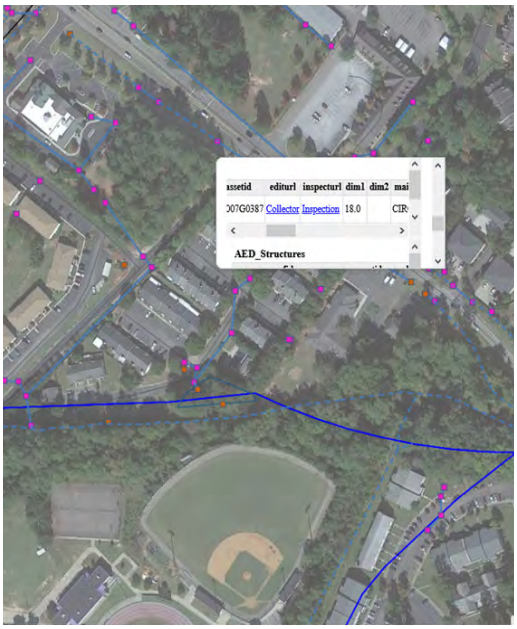
DATES

Dates: 2016-2020

Town Creek Culvert was built over time as Greenville's downtown area developed. The creek that ran through downtown was piped via piecemeal fashion, consisting of various piping materials including masonry, reinforced and unreinforced concrete. This tunnel, constructed in the early 1900s, was failing in many places and was undersized for its contributing drainage area. The City desired to upgrade this tunnel from an existing 2-year to a 25-yr level of service, effectively replacing a 5'x5' box with a 10'X8' RCBC. Since the existing system traversed through the center of the downtown area, this project was a costly $32M.

Ardurra developed rehab. options to suit the City's budget including in-situ rehabilitation, slip-lining, replacement in the existing alignment and new alignment. Design included 306 LF of 84-inch reinforced concrete pipe culvert, and 2,333 LF of 10'X8' RCBC in a highly dense and urbanized core, the 11 BMPs, associated water/sewer relocation, street hardscaping, erosion and sediment control, traffic control and private utility relocation coordination. A detailed public outreach and communication plan was developed to ensure that construction impacts were understood, anticipated, and minimized for both the uptown area and ECU campus. A tailored pedestrian plan was designed to allow ECU students to traverse the construction site at specific locations, so campus pedestrian mobility was maintained. Ardurra assisted to secure a $32M low-interest loan from the Clean Water SRF by integrating low-cost green infrastructure into the overall project.

AUGUSTA STORMWATER INVENTORY ASSESSMENT PHASE II, City of Augusta, GA



RELEVANCE TO HOLLYWOOD

- **Developed program to inventory all stormwater assets**
- **Inventoried 45,000 structures**

DATES

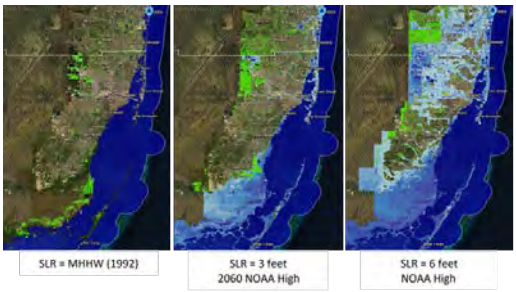
Dates: 2018-2021

In 2013, the City of Augusta adopted a stormwater utility and this, along with a desire to fully comply with their Phase I MS4 NPDES permit, resulted in the City seeking to gather as much stormwater asset inventory data as possible. During this inventory a full inspection of each asset was completed and the data was used to populate the City's stormwater management GIS. Approx. 10% of the structures were delivered with a survey grade rim elevation so that the system would have usable slope information. As one of several firms selected to support the effort, Ardurra performed full inspection of 4,500 assets over the course of one year.

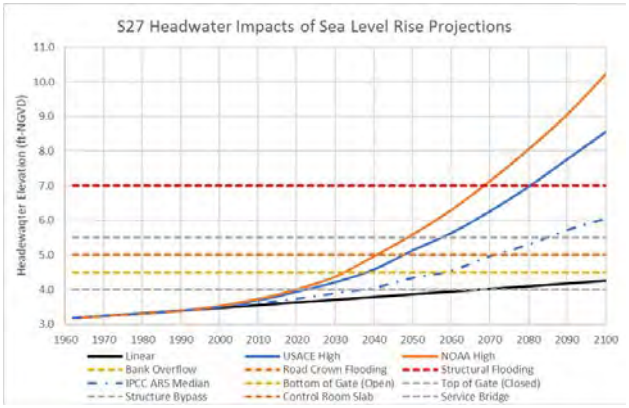
In 2018, Ardurra was selected as the sole contractor to complete Phase II which focused on all the inventory that was not collected during Phase I.

- **Using enhanced system analysis, Ardurra used LiDAR overlay data to identify elevations for all structures.** Data collected includes structures, pipes, ditches, and ponds, and a component to identify which assets are to be included in the MS4 program. Ardurra developed a program to scan record drawings and include them in the GIS so that they can be accessed by City staff to assist in understanding the history of the system.
- **Ardurra inventoried 45,000 structures as a part Phase II, including 36,000 pipes, 1,200 ponds, and 85 miles of ditches and channels.** Ardurra hosts this data in a mapping program on an Amazon Cloud instance for distribution in real-time. Ardurra originally developed a comprehensive data dictionary based on the ESRI Local Government model for stormwater. This descriptive dictionary was ultimately reduced in scope to make the data entry and collection more manageable in the field.

COASTAL CONTROL STRUCTURES RESILIENCY STUDY, SFWMD, FL



Ardurra was retained by the SFWMD to conduct a preliminary assessment of five coastal control structures located in Miami-Dade County (S21, S22, S27, S28, and S179) to evaluate their operational and flood control vulnerability to storm surge and sea level rise. These structures were originally designed to control saltwater intrusion and did not account for sea level rise and storm surges. The study will identify specific hardening measures, design criteria, and operational changes capable of minimizing damages during storm surges with the objective of either maintaining full operational capability during storm surges and/or resuming operations shortly after a storm. These measures include surge barriers, wind/missile barriers, protecting sensors, back-up power, operational resiliency, and elevating critical mechanical, electrical, and communications equipment.



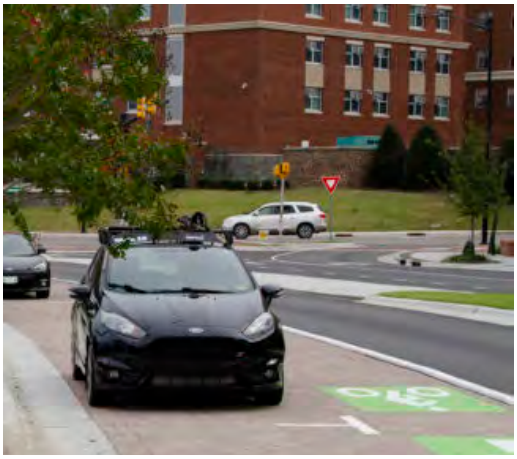
RELEVANCE TO HOLLYWOOD

- Coastal Control Structure Facility Assessment
- Design Criteria, Hardening Measures

DATES

Dates: 2020

DOWNTOWN DRAINAGE IMPROVEMENT PROJECT, City of Rocky Mount, NC



This downtown drainage improvement project is located in the City's historic central district. The existing drainage system consists of varying-sized pipe arches made of hand-laid bricks located under multiple buildings downtown. With the existing system providing a two-year level of service, the project's objective was to bring the system up to the City's standard 50-yr level of service for industrial drainage systems.

The project incorporated green infrastructure design elements to reduce localized flooding in the downtown area, realign sections of stormwater pipe to remove them from under existing buildings, and integrate nature-based solutions within planned parking and green space areas. The natural elements provide benefits such as shade in a traditionally exposed area and breaking up the traditional hardscape with some vibrancy. Ardurra optimized design of the system to ensure a ROI that would be acceptable to funding agencies and is currently assisting the City with funding support to secure the funds necessary for this project.

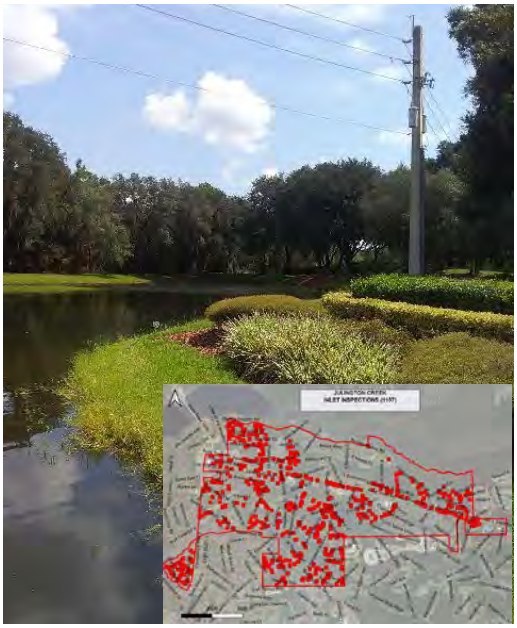
RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design
- Modeling, Design, Permitting, Public Outreach, Stakeholder Coordination, Permitting

DATES

Dates: 2016-2020

JULINGTON CREEK ASSET INSPECTION AND RANKING, St Johns County, FL



RELEVANCE TO HOLLYWOOD

- Construction Inspection
- Neighborhood Improvements
- Public Outreach

DATES

Dates: 2022-2024

Homeowners in Julington Creek expressed concern about failing underdrains in the neighborhoods resulting in cracked driveways and soil erosion. Failure of these underdrains could result in localized flooding, curb and gutter failure, sidewalk failure, yard subsidence, and asphalt failure. Ardurra was retained to inspect the underdrain and storm drainage system and develop a prioritized maintenance plan including a replacement schedule for the failing underdrains and storm assets.

Ardurra developed a stormwater asset inspection and inventory program using a systematic approach to inventory all underdrains and stormwater assets within the drainage basin including inlets pipes, cross drains, ditches, and ponds. Ardurra developed field forms based on the ArcGIS mobile platform which were used to collect the information — Ardurra inventoried and completed condition assessment of 6000+ assets.

Ardurra used ArcGIS and Collector software and Survey123 to gather cross drain information based on a recently completed survey and workflow. The workflow was modified so that a known asset was identified in the Collector software online, and then selected for an inspection in Survey123. This proved useful because the original assets were not modified, but each inspection was recorded as a separate point record and saved the Asset ID and Globally Unique Identifier (GUID) for existing assets. As a result, the inspection record and original asset could be tied together with these identifiers.

Ardurra staff performed a drive-through survey of each area, identifying storm assets and potential underdrains that were not currently mapped and recorded overall structural and functional condition. Crews inspected any underdrain route for signs of failure with a qualitative assessment of severity. Sources grouped based on functional category for inlets, cross drains, underdrains, ponds, ditches, and junction boxes.

Ardurra develop a program to rank the assets based on the field assessment as well as a prioritized replacement schedule and cost estimates for each asset class. Approximately 3000 inspection points were recorded, with approximately 344 being indicated as being in Poor condition or in some need of repair.

GIS UTILITY BACKLOG PROJECTS AND STAFF AUGMENTATION, MDWASD, FL

RELEVANCE TO HOLLYWOOD

- Staff augmentation (30+ staff)
- Programmatic controls and tracking
- Improvement to utility data management and asset register systems

DATES

Dates: 2014-2019

WASD needed assistance to digitize, correct, and update as-built water and wastewater infrastructure records and incorporate them into the County GIS system. WASD had a backlog of 1,800+ as-built plans and 2,000+ Active As-built Supplemental Information System (AASIS) tickets/GIS corrections which needed to be digitized by June 6, 2017 per 2013 Miami-Dade Consent Decree. This work required specialized and qualified personnel with the required training and experience to evaluate and interpret information related to water and wastewater as-builts, perform research, and to be able to enter, manipulate, edit, and update WASD's GIS databases.

Ardurra was a key member of the 'GIS Backlog Team' to provide staff augmentation services for this 30+ staff project. Ardurra's scope of work included:

- Research and correction of reported problems in the GIS databases (reducing backlog of As-built Plans and AASIS tickets)
- Populating County asset management systems such as Infor EAM
- GIS digitization process assessment and optimization
- Generating GIS drafter analysis reports for tracking performance and overall backlog/AASIS reports produced in a biweekly, monthly, and quarterly basis
- Scheduling
- Resource leveling

LAKE HART BASIN STORMWATER MANAGEMENT MASTER PLAN, Orange County, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Master Plan

DATES

Dates: 2014-2015

The Lake Hart Basin encompasses 68 miles^2 of urban and rural areas in southern Orange County. Ardurra developed a comprehensive stormwater management master (SWMMP) plan for the Lake Hart watershed consisting of multiple task work orders to support ongoing efforts by the County to update its master plan data.

- **Phase 1** included the development of a GWIS geodatabase from existing model information.
- **Phase 2** was a data development task, including data collection and extensive desktop data review of hundreds of permit and plan documents. These efforts used source data from SJRWMD, SFWMD, County, and City to map infrastructure in an extensive GWIS HydroNetwork totaling over 20,000 features.
- **Phases 3 and 4** included model refinement and HEP network development. Arc Hydro Tools extension was used as the primary method for delineating detailed subbasins and preliminary node-link connectivity, and the data were developed in a GWIS version 2.1 geodatabase.
- **Phase 5** (in progress) includes model development, model calibration and validation, floodplain mapping, level of service, and alternatives analysis. The ICPR4 model includes a 15-square mile 2D region representing the wetlands adjacent to Lakes Hart and Mary Jane. As the prime consultant, Ardurra (formerly Inwood) provided data collection, H&H modeling, GIS/GWIS data development, HydroNetwork and HEP Network development, survey needs identification, Arc Hydro Tools processing, and model development and calibration.

HAMMOCK CREEK WATERSHED MASTER PLAN, SFWMD, Hernando County, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Master Plan

DATES

Dates: 2019-2022

The Hammock Creek Watershed is a 46.9 mile^2 area in northwest Pasco County, along the Hernando County border. Ardurra completed a comprehensive watershed management plan in accordance with the District's Watershed Management Guidelines and Specifications.

The watershed evaluation included data collection and review, infrastructure mapping, topographic data review and update, and preliminary model network development. Over 9,000 features were mapped as HydroNetwork, of which approximately 980 were identified for development as Hydraulic Element Points (HEPs). Arc Hydro Tools extension was used to create catchments, complete a full HydroNetwork, and create model node-link connectivity. The preliminary model network consisted of 2,500 subbasins, 2,542 nodes, and 7,768 links. The model development as part of the Watershed Management Plan phase is ongoing under a different TWA.

STORMWATER IMPROVEMENTS FOR SUB-BASIN U35-S, Village of Pinecrest, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design
- Stormwater Modeling, Drainage Design, Stakeholder Coordination, Roadway Reconstruction, Permitting

DATES

Dates: 2023-Ongoing

To mitigate flooding concerns, the Village of Pinecrest has identified priority projects within the sub-basins. Projects are based on critical water resource issues, flooding occurrences, susceptibility to sea- level rise, and groundwater rise, aligning with the 2050 planning horizon outlined in their 2015 Stormwater Master Plan (SWMP) Update.

Ardurra was selected to provide data collection, survey, evaluation of stormwater infrastructure, design, subsurface utility engineering, modeling, utility agency coordination, and permitting for Sub-Basin U35-S. The project includes areas along SW 112th St and along SW 72nd Ave. Existing conditions include a 2-lane undivided roadway with curb and gutters, and sidewalks on both sides.

The proposed drainage improvements consist of an interconnected system featuring over 1620 LF of additional exfiltration trench, 1925 LF of solid HDPE storm pipe ranging in size between 15-inch and 24- inch diameters, storm manholes, control structures, swales, catch basins and using existing outfalls to discharge into canal and manatee grates. These enhancements augment subsurface storage volume and address flooding concerns within this prioritized basin. The design includes stormwater improvements, roadway improvements, typical sections, crossing, erosion control plans with tree protection, and MOT details.

NPDES REPORT FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS, City of Coral Gables, FL

RELEVANCE TO HOLLYWOOD

- Storm Sewer Program
- Regulatory Compliance, Regulatory Reporting

DATES

Dates: 2018-2022

In 1972, the Clean Water Act created the National Pollutant Discharge Elimination System (NPDES) permit program, which addressed water pollution by regulating point sources that discharge pollutants to waters of the United States. FDEP requires that annual reports be submitted for NPDES permittees. The City of Coral Gables owns, maintains, and operates stormwater collection, drainage, and discharge systems, and consequently, is required to comply with NPDES permit annual reporting requirements.

Ardurra has assisted the City to collect and review relevant storm sewer annual data as well as prepare and submit NPDES Annual Reports to FDEP. The team reviewed existing permits, analytical test data, reports, maps, drawings, and additional information to prepare the annual report and submit the FDEP annual permitting package. Report sections include background information, updated MS4 major outfall inventory, monitoring program, fiscal analysis, certification statement, and SWMP summary table, evaluation of the stormwater management program, changes to SWMP activities, and additional required attachments/exhibits. Ardurra was responsible for:

- Annual update of the stormwater inventory to include outfalls, catch basins, exfiltration trenches, pump stations, and culverts in accordance with the City-wide Stormwater Drainage Verification project's findings
- Coordination with regulatory agencies and City departments
- Preparation of the SWMP summary table of information regarding initiatives, such as litter collection programs, public outreach and education, illicit discharge reporting, reduced pesticide use, and flood control projects
- Annual NPDES report preparation and submittals - Yr1 - Major Outfall Inventory; Yr 2 - Review of Development Codes & Regulations; Yr 3 - Estimates of Pollutant Loadings & TMDL Monitoring; Yr 4 - Permit Re-Application Documentation; Yr 5 - Customized Water Quality Monitoring Report

SECTION C RESERVOIR & PUMP STATION DESIGN, SFWMD, St Lucie County, FL

RELEVANCE TO HOLLYWOOD

- Construction Management
- Stormwater Modeling, Design, Pump Station Performance Specs, Permitting

DATES

Dates: 2015-2016

Ardurra provided survey, geotechnical, hydraulic analysis, design, cost estimates, and permitting support for a 320-acre above ground impoundment to increase water retention by diverting waters from the C-23 canal during the wet season to reduce peak flows and improve water quality in the Indian River Lagoon. Ardurra's services included:

- Survey, seepage modeling, H&H modeling to test reservoir performance, Basis of Design report, drawings, technical specifications, and OPCC
- Developed pump station performance specifications for Section C & D pump stations (20,000 gpm each) which were built via design-build
- Reservoir consisted of 2.8 miles of 7 foot levees with a top width of 14 feet, seepage collection canals, and a combination control structure that served as both emergency overflow and gated control structure. The system was designed to operate with automated controls during the wet season.
- Hydraulic analysis included review of historical water levels and flows; seepage analysis; establish pump station flow capacity; estimate reservoir fill and drain time for various conditions; and conduct reservoir flood routing to size outflow structure to handle design storm and return flow, establish freeboard, and verify meeting allowable discharge.

WATER BOOSTER PUMP STATION W-2 REHABILITATION, City of Miami Beach, FL

RELEVANCE TO HOLLYWOOD

- Pump Station Design
- Construction Management
- Grant funded project

DATES

Dates: 2020-Ongoing

The City owns, operates, and maintains a water distribution system within its service area that interconnects with the Miami Dade WASD pumping and storage facilities and water distribution/transmission pipelines. The City receives its potable water from the mainland by four interconnections with WASD's transmission system. The water from the interconnects is pumped by pump stations owned and operated by the City.

Pump Station W-2 is located at the intersection of 75th St and Dickens Ave, and it boost pressures in the system by drawing water from the two 4 MG above ground tanks located in the facility. The pump station includes an above-grade pump building which houses three booster pumps and a pressure control valve, with a total installed capacity of 14,000 gpm. The electrical service to the pumps is provided from a separate electrical building (located at the same site) that houses the electrical gear and diesel emergency generator.

The CIP process pipes and yard pipping are above their expected useful life, present severe corrosion and are in need of replacement, the pumps and motors also exceeded their life expectancy and need to be replaced. Ardurra was selected to prepare the design and oversee construction of Pump Station W-2. The project is partially funded by a State of Florida grant. The design includes:

- Replacement and relocation of the cast iron process piping. The discharge header was relocated to a more accessible location within the building
- Replacement of the pumps suction header and suction lines to each pump
- Replacement of the intake isolation valves located within the pump station
- Installation of a new intake/discharge water main up to the pump station property line
- Replacement of the pumps, motors, and yard piping
- Installation of a temporary skid mounted by-pass system to ensure uninterrupted water services during construction
- Installation of permanent by-pass connections to increase pump station resiliency
- On-site generator replacement
- Hardening of the pump station building with the installation of new flood doors and impact resistant windows
- Hardening of the electrical/generator rooms with the installation of new flood doors, and impact resistant louvers
- HVAC improvements with replacement of outdated and out of compliance equipment

GOB BASIN 1264 WASTEWATER AND WATER SYSTEM IMPROVEMENTS, MDWASD, FL

RELEVANCE TO HOLLYWOOD

- Stormwater Management System Design
- Stormwater Modeling, Drainage Design, Stakeholder Coordination, Roadway Reconstruction, Permitting

DATES

Dates: Ongoing

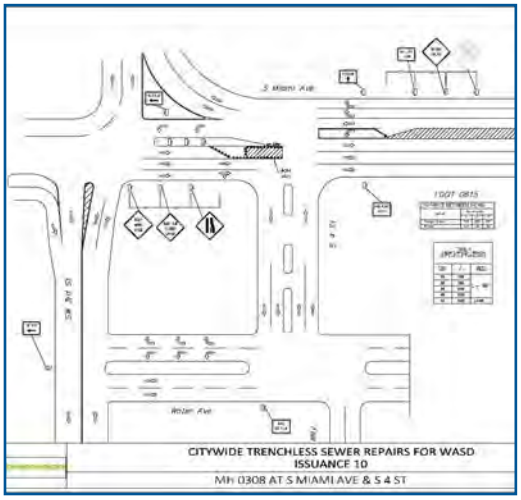
Ardurra furnished engineering design and construction phase services for new gravity sewers for Basin 1264, a new basin which eliminates 180+ septic tanks. The project includes the installation of 2,300 LF of gravity sewers, 1,300 LF of 8-inch force main within Basin 1264–Project S-3 of the Green Tech Corridor, and 11,060 LF of 12-inch water main.

The County identified the need to extend both the current collection/transmission system and up-size certain parts of it within Basin 1264, which is in an area of unincorporated Miami-Dade County delimited by railroad tracks north of NW 74 St., NW 27 Ave, NW 71 St. as well as NW 67th St, and NW 35th Ave.

The project includes a total of 9,070 LF of 8-inch and 3,330 LF of10-inch gravity main and 45 manholes in Basin S-3 necessary to obtain the required depths for the gravity main installation. The work includes the installation of an 8-inch force main along three different locations within the Basin, from PS S-3 at NW 71 Ter extending to NW 32 Ave, where it will be connected to an existing 20-inch force main. Ardurra was responsible for permitting and coordination with MD-RER, Miami Dade County DTPW, and FDOH. Ardurra's design included:

- Elimination of septic tanks
- Installation of 12,000 LF of gravity main and 1,000 of force main
- Extension of wastewater collection to commercial and industrial properties with 8-inch and 10-inch gravity sewer pipes
- Extension of the wastewater transmission system to commercial and industrial properties with a force main pipe of 8-inch diameter
- Replacement and upsizing the existing water distribution system with12-inch pipe

LARGE DIAMETER SEWERS, MAINTENANCE OF TRAFFIC, PERMITTING, MDWASD, Miami, FL



RELEVANCE TO HOLLYWOOD

- MOT
- Permitting

DATES

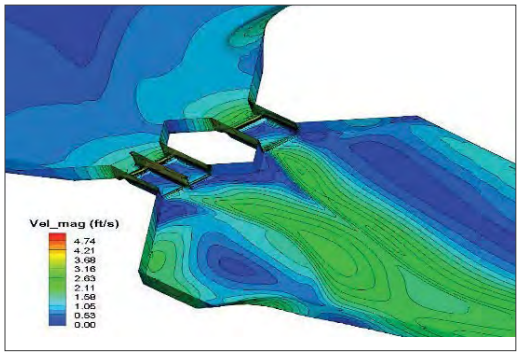
Dates: 2017-2020

Ardurra was contracted as a sub-consultant to Granite Inliner to provide MOT and permitting services under this Cleaning and Televising of Large Diameter Sewers contract. The project involves cleaning and inspecting, via CCTV, large gravity sanitary sewer pipes, sanitary sewer manholes and pump station wet wells under different work orders at various locations as ordered by the County during a two-year. Work orders are executed via lists of large diameter sewer pipes and their associated manholes, as well as sewer atlas maps from WASD, depicting which pipes must be cleaned and televised.

Ardurra was responsible for MOT studies on the impacted area to determine which manholes were best suited for setting up the work area to least impact traffic absed on — location of manhole (swale, traffic lane, etc.), number of driving lanes impacted, road traffic density, alternate routes (detours), equipment limitations (length of run), and adjacent businesses/properties. Ardurra then prepared the MOT plan based on FDOT Design Standards Index 600. MOT plans included one lane closures, work in intersections, two lane closers, work in swale areas, full road closures, and associated detour plans.

Most of the project areas were within City of Miami limits. As such, to begin work within public ROW, Ardurra coordinated with several permitting agencies. Ardurra worked with WASD and the City to streamline the permitting process for the various work orders — as new work orders were generated, the were added to the already approved blanket permit. Once work orders were approved under the City's DPW permit, coordination with City of police could begin. A special events permit was pulled to authorize off-duty police during work hours. The CCTV was completed at night, so a noise waiver permit was necessary which necessitated letters informing the public of the work.

HYDRAULIC DESIGN & FLOW RATING FOR WATER CONTROL STRUCTURES, SFWMD, West Palm Beach, FL



RELEVANCE TO HOLLYWOOD

- Stormwater Modeling

DATES

Dates: 2016-Ongoing

Ardurra supports SFWMD with the development and application of Computational Fluid Dynamics (CFD) modeling, hydraulic designs, flow rating analysis for hydraulic structures, and hydrologic and hydraulic modeling studies for flood control and water supply functions, and prepares of technical reports. Ardurra completed improved flow ratings for 72 structures, utilized CFD for ratings of 24 of the 72 structures, and implemented CFD modeling to support 8 other projects including the hydraulic design optimization of canal junctions (C1/C1N), the layout design and operational strategies to improve flow fields in pump station (S332B/C) approaching canals and forebays, and the design of spillway structures (S333N), among others. Ardurra's staff has also co-authored several papers with District staff.

Flow Rating. Flow rating support requires flow analysis, CFD flow data generation, streamgauging data analysis, rating equations improvement/development at spillways, weirs, pumps and culverts. Flow rating tasks generally include regression, calibration and validation of rating equations, hydrodynamic analysis, impact and sensitivity analyses, and DBHYDRO data reload requests and follow-up. CFD flow data generation and analysis is performed using ANSYS FLUENT software. Ardurra also automated the application of CFD-based flow rating framework for typical structures using Visual Basic Analysis (VBA) and IronPython scripting language.

Hydraulic Design. Ardurra supports the hydraulic design of spillway structures, including structure sizing, location and layout design, and flow analysis of design and operation scenarios using CFD modeling (3D configuration, mesh generation, solution setup, simulation). In addition, Ardurra performs CFD based investigations to obtain detailed 3D flow fields, pressure and velocity distributions, water surface elevations, flow and structure interactions to evaluate the performance and safety risks of different water control structures within levee system under various operational scenarios.

HYDROLOGIC DATA QA FOR STORMWATER TREATMENT, SFWMD, West Palm Beach, FL

RELEVANCE TO HOLLYWOOD

- Stormwater System Analysis, Modeling

DATES,

Dates: 2020-2021

Ardurra was retained by the Hydro Data Management Section of the H&H Bureau to provide QA for improving Stormwater Treatment Areas data. Ardurra performed QA analysis on historical time series data at 60 flow stations. The QA analysis followed the procedures and schedules specified by the District project manager and included:

- Hydrologic/hydraulic systems analyses
- Hydrologic mass balance analyses and temporal and spatial statistical analyses of hydro-meteorological data, including cell by cell and flow-way water budgets, identification of water budget errors and diagnosis of root cause of error
- Evaluation of hydro-meteorological parameter (stage, rain, ET, Flow) measurements and filling/estimation of missing flow data
- Seepage and flow sensitivity analyses
- Resolving complex hydro-meteorological and hydraulic problems, reporting and address data issues
- Documentation of all analyses in technical reports
- Graphical and statistical analysis using GVA application to detect data anomalies
- Review SCADA maintenance database, REMEDY reports and annotations to uncover maintenance issues associated with data, sensors and structures
- Communicate with SCADA maintenance, SCADA operation, survey, field station, operation control room, data processing group, and IT to streamline the processes of reference elevation change and datum adjustment, communication/power issues, programming error, etc.
- Review flow rating equations and structure static information, flow program, available streamgauging data, identify the need to have more measured data, identify the need to improve flow rating equation, and run the FLOW program

CULVERT REPLACEMENT & LEVEE REPAIR, CONSTRUCTION ENGINEERING INSPECTION

SFWMD, Parkland, FL

RELEVANCE TO HOLLYWOOD

- Construction Engineering Inspection, Culverts, Slide Gates, Canals

DATES

Dates: 2017-2018

S-39A Culvert Replacement and Automation

Ardurra provided construction inspection and materials testing services for the construction of the S-39A culvert replacement and automation project. The structure consists of two bi-directional cast-in-place concrete culverts with automated and remotely operated lift gates for storm water flow control and regulation at the junction of the Hillsboro and L-36 canals, in Parkland FL. The project includes construction of a concrete box culverts, installation of two 10-ft x 8-ft slide gates, a precast control building with power generator, canal cross section modifications, canal stabilization with placement of 600 linear feet of rip rap on canal embankments, stilling wells, construction of a bypass crossing with three 84-inch metal pipes, construction of steel sheet pile walls, and demolition of existing structure.

L-31E Levee Repair

Ardurra provided construction engineering inspection and material testing services for the repair of 4 miles of the eastern slope of the L-31E levee that was heavily damaged during Hurricane Irma.

Ardurra's services included supervision and inspection of work performed by the contractor for conformance with contract documents, scheduling material testing activities, review of pay applications and change orders, updating the District's web based Oracle Primavera Contract Management (Expedition), progress meetings, daily inspection reports, review of as-built drawings, and punch list and contract closeout.

C-44 STORMWATER TREATMENT AREA, CONSTRUCTION MANAGEMENT, SFWMD, Martin County, FL

RELEVANCE TO HOLLYWOOD

- Construction Management for Berms, Canals, Water Control Structures, Pump Stations

DATES,

Dates: 2014-2021

Ardurra was a key partner providing construction management, inspection, and surveyQC associated with this $100M construction program which includes 6,300 acres of stormwater treatment area (STA) intended to divert flows and treat runoff to improve the timing and quality of discharges from the C-44 canal into St. Lucie Estuary. This is a joint project between USACE and the SFWMD. The STA consists of 32 miles of berms, 30 miles of canals, and 63 control structures. Pumping capacity for the reservoir pump station is 1,100 cfs or 717 MGD.

Services included construction monitoring, documentation (daily reports, pictures), submittal reviews and processing (RFI's, shop drawings, RFPs, change and field orders, VE proposals, and substitution requests), project meetings, and permit conformance reviews; quality control material testing, test analysis, and interpretations; and assist with verification of project completion milestones, verifying record documents, and contract closeout/commissioning.

LD-1 CANAL BANK STABILIZATION CONSTRUCTION MANAGEMENT, SFWMD, Miami, FL

Ardurra provided construction management (CM) for the LD-1 canal bank stabilization at Uncle Joe's Fish Camp. This project consisted of the construction of bank stabilization elements which included removal of existing vegetation, backfill and compaction of the banks to the specified slope, and sodding and installation of rubble riprap. The work included removal of the existing culvert PC07, replacing it with a culvert, riser, ballast and flap gate. The work also included reconstructing the ditch and berm on the north-west quadrant and demolition of the abandoned SCADA platform and unpermitted boat ramp. Also included was the daily inspection of CR720 to comply with Glades County Memorandum of Understanding and verification that the contractor repaired any damage on CR720 south leg of roadway occurring during the construction period.

Services provided included — construction monitoring, documentation in E-builder, submittal review and processing, meetings, permits, conformance review, quality control of material testing, schedule conformance, pay applications, verification of record documents, commissioning.

RELEVANCE TO HOLLYWOOD

- Construction Management, Bank Stabilization, Culverts, Ditches, Berms, Roadway Repair

DATES

Dates: 2022-2023

C-25 CANAL BANK STABILIZATION CONSTRUCTION INSPECTION, SFWMD, Miami, FL

Ardurra provided construction inspection (CI) and material testing services for 5.4 miles between Structure S-99 to East Keen Road in St. Lucie County. In a District wide effort to restore all structures that have been damaged during hurricane Irma, the C-25 canal banks was repaired using rubble riprap type B and C in order to prevent further erosion in the future. The North banks from downstream of Structure S-99 to West of Kings Highway were repaired representing 4.32 miles of canal bank restoration.

Services provided included — construction monitoring, documentation in E-builder, submittal review and processing, meetings, permits, conformance review, quality control of material testing, schedule conformance, pay applications, verification of record documents, commissioning.

RELEVANCE TO HOLLYWOOD

- Construction Inspection, Canal Bank Restoration

DATES

Dates: 2021-2023

ABBOTT AVENUE DRAINAGE, Town of Surfside, FL

RELEVANCE TO HOLLYWOOD

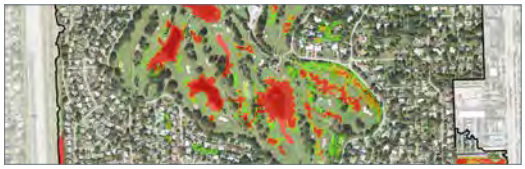
- Drainage Improvement Project
- Drainage Design, Sea Level Rise Projections
- FDEP Grant Application and Management

DATES, COST

Dates: 2021-2023 | Fee: $688K

Keith provided civil engineering and utility coordination for this drainage improvement project. **Phase I** included evaluation and assessment of existing stormwater drainage conditions, preparation of reports including ICPR models and calculations for seven improvement options, cost estimates, evaluation of existing land use development codes, stormwater ordinances, and MS-4 reporting with recommendations and ordinance revisions for compliance and exceedance of federal, state, and local requirements. Sea level rise projections in accordance with Southeast Florida Regional Climate Change Compact were considered in the assessments — Keith had performed evaluations on sea level rise, surge, and resilient infrastructure integrated with the Town's vulnerability assessment. **Phase II** included final design and construction documents and permit processing as early regulatory meetings were scheduled to minimize risk and changes as a result of permitting by taking advantage of pre-application meetings. Keith assisted to secure a 2022 FDEP Flooding and Sea Level Resiliency Grant to cover most of the estimated construction costs.

ZONE 2 DRAINAGE STUDY, City of Plantation, FL



RELEVANCE TO HOLLYWOOD

- Stormwater System Evaluation
- Stormwater Master Plan, Prioritized CIP

DATES, COST

Dates: 2023-Ongoing, Fee: $152K

Keith provided a full range of engineering services for the City's Drainage Zone 2 to provide an evaluation of the existing stormwater system and develop a CIP specifically for this Drainage Zone. The final product will be compiled in a Stormwater Master Plan. Keith leveraged its expertise in hydrology and hydraulics modeling to evaluate the overall existing stormwater system, identify potential areas at risk of flooding and evaluate future required stormwater system upgrades in order to improve the flood resiliency for the City and its residents. The culmination of the study's effort will be presented in the new and comprehensive stormwater master plan that establishes a policy framework, integrates resiliency, conducts vulnerability analysis, and provides a prioritized improvement program that ensures the integrity of the City's future is protected for the generations to come.

CITI-WIDE STORMWATER MASTER PLAN, City of Parkland, FL

RELEVANCE TO HOLLYWOOD

- Stormwater System Evaluation
- Stormwater Master Plan, Prioritized CIP

DATES, COST

Dates: 2020-2022, Fee: $325K

Keith provided engineering services to develop a comprehensive SWMP including evaluation of the stormwater system, updating the GIS database, and evaluating future developments and required improvements. Keith developed an Existing Conditions Model and Proposed Conditions Model using EPA's Stormwater Management Model for 3,235 acres — Ranches (652-acres), Hendrix Farms (596-acres), and Pine Tree (1,987-acres). The final SWMP recommended policies, strategies, and a prioritized and phased stormwater improvement program for current and future stormwater infrastructure needs. The SWMP included projected costs and alternative funding mechanisms for each phase; review of existing permits for the water management districts as well as Broward County, SFWMD, North Springs Improvement District, and Pinetree Water Control District.

The City presented a unique and challenging master planning process, with its large estate lots, newer single-family home developments, the on-going development of the annexed Wedge, possible future annexation of the Hendrix property, and the limited commercial development, much of which occurred on prior agricultural land. Keith leveraged past studies and models, data, permit conditions, and recently completed and ongoing projects and initiatives. The master plan established a policy framework, integrated resiliency, conducted vulnerability analysis, and provided a prioritized improvement program that ensures the integrity of the City's future is protected.

STORMWATER MASTER PLAN, City of Sebastian, FL

RELEVANCE TO HOLLYWOOD

- Detailed Stormwater Asset Inventory in ArcGIS
- Modeling
- 10-Year Prioritized CIP Plan and O&M Plan
- Funding Analysis, Grant Management

DATES, COST

Dates: 2021-2023| Fee: $700K

The City's water quality degradation in local waterways has been an issue for many years and has worsened with the development within the City and surrounding areas. The majority of the City's stormwater runoff is collected by a system of roadside swales, culverts, ditches and canals and discharges to the St. Sebastian River, which ultimately flows into the Indian River Lagoon. Arcadis conducted a comprehensive analysis of the stormwater system infrastructure, O&M resources and practices, planned capital projects, and other information to develop a Stormwater Master Plan and local mitigation strategies in the sensitive Indian River Lagoon watershed. Several Arcadis supported City staff with field survey, GIS, hydrologic and hydraulic modeling, water quality analysis, operations and maintenance, capital projects, financial analysis, sea level rise, green infrastructure, regulatory and permitting, and grant funding. Arcadis developed a detailed Stormwater Asset Inventory in ArcGIS of over 5,039 inlets, canals, ditches, outfalls, pipes, weirs, orifices, and BMPs including asset photos and hydraulic attributes. Arcadis updated the inventory of the stormwater conveyance system. A dynamic 1D H&H model of the stormwater network was developed to evaluate the system performance in response to various wet weather conditions and identify system capacity limitations. CIP projects that improve stormwater management were identified in coordination with the City based on field investigations, model results, and future sea level rise. A 10-year financial model of the Stormwater Department was created and used in the development of the O&M Plan, 10-year prioritized CIP and grant funding analyses.

STORMWATER ASSET MANAGEMENT PROGRAM, City of Virginia Beach, VA

RELEVANCE TO HOLLYWOOD

- Risk-based Stormwater Asset Management Program, LOS, and KPIs
- Stormwater Pump Station Condition and Risk Assessment and O&M Plans
- Condition and Risk Assessment of Linear Stormwater Assets

DATES, COST

Dates: 2023-Ongoing | Fee: $550K

The City has historically suffered from repetitive flooding in many areas and the frequency and severity of flooding has continually increased. Arcadis developed an asset management program that includes people, systems, processes, and data associated with all City stormwater and transportation assets. The project focuses on the development of a risk-based framework for integration and implementation of stormwater asset management activities to prioritize and optimize investments. The comprehensive nature of the program, including the detailed asset management process used and key activities being performed for each of these tasks, is transforming the City from reactive to proactive O&M and capital improvements to better address coastal flooding.

CEI, CONTINUING CONTRACT, City of Fort Lauderdale, FL

RELEVANCE TO HOLLYWOOD

- CEI for Civil, Stormwater, and Utility Projects
- Inspections for Stormwater Outfalls and Catch Basin
- Scheduling & Budget Control
- Trenchless Installation

DATES, COST

Dates: 2023-Ongoing | Fee: $N/A

Arcadis provided CEI services for civil, stormwater, utilities, and airport projects.

- A-16 Pump Station Relocation on SE 11th St. Relocation was needed due to the new Federal Courthouse Building. The project involved the installation of a 30-inch potable water main and a 10-inch sanitary sewer force main along SE 3rd Ave and the side streets (SE 11th St and SE 9th St). The crossing under the Tarpon River was done using horizontal directional drilling.
- Arcadis' full-time onsite inspector served as the City's eyes during construction and was responsible to ensure that the pipeline and pump station were installed according to the plans and City's and County's requirements for work under their ROW and MOT plans; and coordination with third party utilities, courthouse contractor, and City residents.
- Given the proximity to the Tarpon River, Stormwater Pollution Prevention controls were key to avoid contamination to the river. All stormwater outfalls around the project site were inspected by the CEI team daily (start and end of the day) to ensure the stormwater BMPs were in place.
- Dewatering activities were key. Arcadis was responsible for evaluating the dewatering method used by the contractor daily and had stop work authority from the City if the dewatering operations were not performed according to City's and other regulatory requirements.

$1.9B USEPA CONSENT DECREE PROGRAM, Miami-Dade Water & Sewer Department, FL

This $2B Consent Decree Program was an expansion, renovation and capacity management of the collection and transmission systems to prevent sanitary system overflows as required by the Consent Decree. The program spanned 10 years to complete plan, design, and construct 100+ projects. Component of the program include:

Capacity Management Operations & Maintenance (CMOM) Program. Pump Station Remote Monitoring; Wastewater Collection and Treatment System Model; and Volume Sewer Customer Ordinance.

New CMOM Programs. Fats, Oils, Grease Program; Sewer Overflow Response Plan; Information Management System; Asset Management; and O&M program (collection system, pump station, WWTP).

Capital Improvement. 177 projects; WWTPs, WCTS System, Pump Stations; and Supplemental Environmental Project – Installation of 7,660 ft. Gravity Sewer Lines

PCI was a key member of the program delivery team providing program management and controls; management of projects schedules, budget, cost and changes; change orders estimating, negotiations and management; construction engineering and contract administration; review contractor schedule baselines, updates and time impact analyses; monitor progress and review of payment requisitions; participate in stake-holders and executive management meetings; identification of issues affecting program costs and schedules; recommend solutions and corrective actions to the management. Also developed an effective cost and change control and helped implement SharePoint for project management and reporting functions.

RELEVANCE TO HOLLYWOOD

- Project Controls for $2B Program
- Management of Schedules, Budgets, Cost and Changes
- Construction Phasing and Scheduling in Residential Neighborhoods and Down-town Areas

DATES, COST

Dates: 2014-2024 | Fee: $14.9M ($2B Con-struction)

PUMP STATION 28 & FORCE MAIN IMPROVEMENTS, City of Miami Beach, FL

Pump Station 28 lift station collects flow from two upstream pump stations, PS 13 and 14 through two gravity 30-inch and 24-inch lines. A triplex lift station consisting of three 200 HP pumps sends the gravity influent into the 36-inch discharge header associated with the booster pumps. The project includes the complete rehabilitation of the pump station building and demolition of PS and electrical buildings and construction of a new electrical building, bypass pumping, complete replacement of all pumps piping and appurtenances, install new generator and fuel tank, new odor control, new ventilation / AC (HVAC) system, improve site accessibility, electrical, plumbing, instrumentation and site work, storm proof and rehabilitate the pump station by installing watertight hatches and hurricane proof windows and doors

PCI's responsibilities include constructability review, cost estimate, construction phasing (conceptual schedule and critical path) and bid Analysis

RELEVANCE TO HOLLYWOOD

- Project Controls
- Construction Phasing, Scheduling in Residential Neighborhood

DATES, COST

Dates: 2025-2026 | Fee: $25M

DANIA BEACH SOUTHEAST STORMWATER IMPROVEMENTS, City of Dania Beach, FL

RELEVANCE TO HOLLYWOOD

- Subsurface Exploration, Geotechnical Engineering for Drainage Improvements

DATES, COST

Dates: 2020-2021; Fee: $39K

This proposed drainage improvements project includes an exfiltration trench along SE 3rd Avenue and two pump stations. Terracon performed subsurface exploration and geotechnical engineering services including data collection, overlay of baseline and topo maps onto Microsoft Bing Maps, site reconnaissance, marking test locations using a hand-held GPS device and storing the coordinates for future location reference, ROW permits, coordinating MOT, lab testing, engineering analyses, and report preparation.

Test borings included five to depths of 10 feet below existing site grades and two to a depth of 40 feet for the proposed pump station. Two exfiltration tests were performed to a depth of 10 feet below the existing grade. Five pavement cores were performed along the proposed project area. Two double-ring infiltrometer tests were performed at the ground surface at a location. Terracon provided recommendations relative to subsurface soil (and rock) conditions, groundwater conditions, pavement core information, exfiltration test results for drainage design, and pump station foundation.

NW 84TH AVENUE FROM 58TH TO 74TH STREET, Miami Dade County DTPW, Miami, FL

RELEVANCE TO HOLLYWOOD

- Subsurface Exploration, Geotechnical Engineering for Drainage Improvements

DATES, COST

Dates: 2020-2021; Fee: $32K

This improvement project is located along NW 84th Ave from 58th St to 74th St and includes roadway reconstruction, stormwater system of continuous interconnected exfiltration trench, utility relocations, sidewalks, curb and gutter, signage, mast arms, and signalization. Terracon performed subsurface exploration and geotechnical engineering services which included 22 Standard Penetration test borings to depths ranging from 6 to 15 feet below existing site grades. Three borings to a depth of 25 feet were performed for mast arms, and four percolation tests were performed along the alignment. Lab testing was performed on soil samples obtained from the site. Terracon provided recommendations relative to subsurface soil (and rock) conditions, groundwater conditions, and percolation test results.

EAST FLAGAMI FLOOD IMPROVEMENTS RAR, City of Miami, FL

RELEVANCE TO HOLLYWOOD

- Subsurface Exploration, Geotechnical Engineering for Drainage Improvements

DATES, COST

Dates: 2022-2023; Fee: 140K

The drainage improvement project consists of utility improvements along the project corridor and a stormwater well system for storm run-off in the proposed area. Terracon provided subsurface exploration and geotechnical engineering services including data collection, overlaying of baseline and topographic maps onto Microsoft Bing Maps or Google Earth, site reconnaissance, marking test locations using a hand-held GPS device and storing the coordinates for future location reference, applying for ROW permits, locate tickets request/coordination, coordinating MOT, lab testing, engineering analyses, and report preparation.

Terracon's geotechnical engineering report included site location and exploration plans, boring logs with field and laboratory data, stratification based on visual soil (and rock) classification, groundwater levels observed during drilling, subsurface exploration procedures, description of subsurface conditions, exfiltration test results, recommendations for pipe backfill, and foundation recommendations for the proposed pump station. Four Reasonable Assurance Reports (RARs) included current geologic conditions and recommendations for well depth casing that would be sufficient to restrict buoyancy from a class G-III aquifer into a Class G-II aquifer system.

D

Organizational Profile & Project Team Qualifications

"We offer the City a unique approach towards Stormwater Condition Assessment and Repairs as we tailor the most cost-effective approach on a Case-by-case basis to choose the most appropriate improvements for each individual defect. We develop a targeted Work Plan based on basin assessment and prioritization, and focus on repairs that will achieve the greatest impact & cost savings."

ORGANIZATIONAL CHART

CITY OF Hollywood FLORIDA

PRINCIPAL IN CHARGE
Franklin A Torrealba, PE, ENV SP [1]

PROGRAM MANAGER
Rares Petrica, PE [1]

ON-SITE REPRESENTATION
Matthew Brooks, PE [1]

QA/QC & TECHNICAL ADVISORS
Leah Richter, PE [3]
Jose Custodio, PE [3]
Tom Green PE [2]

PUBLIC OUTREACH
Sylvia Beltre PE [1]
Veronica Paredes [1]

CIP PROGRAM PLANNING

LEAD
Ann Springston, PE [1]

Identification/Project Prioritization
Kennedy Simmonds, PE [1]

Value Engineering (Cost Savings)
Jorge Acevedo, PE [1]

Modeling
Towsif Bhuiyan, PE [1]
Michael Tassitino, PE [1]

Resiliency & SLR
Fernando R. Miralles-Wilhelm PhD, PE, BCEE, D.WRE, PMP, F.ASCE [1]

GIS
Stanley David [1]

DESIGN & CONSTRUCTION DOCUMENT DEVELOPMENT

LEAD
Benjamin Pernezny, PE [1]

Design Team 1
Nicholas Fernandez, PE [1] (PM)
Cesar Pena, PE [1]
Yosmary Zumoza [1] (CAD)

Design Team 2
Ricardo Maristany, PE [1] (PM)
Lucia Alonso, PE [1]
Valerie Coloma [1] (CAD)

Design Team 3
Paola Davalos, PE, ENV SP [1] (PM)
Angel Matias-Lopez, PE [1]
Jhonny Montano, ENV SP [1]

Design Team 4
Ana Dvorak, ENV SP [1] (PM)
Paola Rodriguez [1]
Ana Guerra, PE [1]

Design Team 5
Steve Sommerfeldt, PE [1] (PM)
Joshua Spence, PE, CFM [1]
Renato Chow [1]

Design Team 6
Steve Williams, PE [2] (PM)
Omar Rodriguez, PE, CFM, CAPM [2]
Marc Cartossa, PE [2]
Niles Warrick [2] (CAD)

Design Team 7
Christopher Tilman, PE, BCEE [3] (PM)
Ryan Blaida, PE, Engineer [3]
Nhi Ngo, PE, Engineer [3]
Rafael Fonseca, PE [3] (CAD)

Permitting
Kelly Cranford, PE, ENV SP [2]

Utility Coordination
Eugene Khashper [2]

ADMINISTRATION OF CONSTRUCTION CONTRACT & CONSTRUCTION MANAGEMENT

LEAD
Ricardo Escobar, PE, CGC [1]

CEI Services Team 1
Alberto Hernandez [1]
Adrian Bisono [1]
Luis Davalos [1]
Name 4

CEI Services Team 2
Jon Weymouth [2]
Steve High [2]
Brian Eddington [2]
Freddy Rivera [2]

Constructability & O&M Reviews
Hector Gomez [1]

Construction Administration
Andres McEwen, PE, CGC [1]

Grant Compliance
Coleen Simmons

Document Control
Johana Fujita [1]

MOT Engineering
Melissa Monsalve, PE [1]

As-built Review
Ricardo Maristany, PE [1]

PROGRAM SUPPORT

Program Controls Dashboard Implementation

LEAD
Ashish Kumar, PhD, PE, PMP [4]

Cost Estimating
Julio Lostao, PE [4]

Scheduling
Julian Ortega [4]

Grant Funding

LEAD
Angela Mettlen [1]

Grant Specialist
Jessica Leggett [1]

Rate Studies
Robert Ryall, PE [3]

Asset Management
Vivek Sai [1]

Bidding & Contract Support
Arthur Tillberg [1]

Project Tracking & Regulatory Reporting
Dan Scrutchfield [3]

Digital Transformation & Computerized Maintenance Management Systems (CMMS)
Will Kuehne, PE, CFM, ENV SP [1]

Design Standards & Conformance
Steve Sommerfeldt, PE [1]

LEGEND - TEAM FIRMS & % INVOLVEMENT

1. Ardurra Group, Inc. - 59%
2. Keith and Associates - 20%
3. Arcadis, Inc. - 15%
4. Program Controls, Inc. - 3%
5. Terracon Consultants, Inc. - 3%

KEY PERSONNEL

DESIGN & CONSTRUCTION DOCUMENT DEVELOPMENT

Instrumentation & Controls
Chad Morris, PE [1]

Biological/Ecological
Angela Dalsis [3]

Health & Safety
Rena Levine, CHST [1]

Risk Management
David Coleman, PE [1]

Hydrogeologist
Hugo Soto, PE [5]

Geotechnical/Groundwater
Hugo Soto, PE [5]

Environmental
Xavier Pagan [1]

Cultural Resources
Kevin Gidusko [1]

Roadway/Pavement
Nicholas Mata, PE [1]

Coastal/Marine
Renato Vargas, PE [3]

Structural
Diego Jimenez, PE [1]

Utilities Relocation
Rafael Ballesteros, PE [1]

Subsurface Utilities Engineering
Mark Mitchell, PSM [2]

Surveying Services
Bryan Merritt, PSM [2]

Landscape Architecture
Kelli Scheuler [2]

Architectural
Marino Llamas, AIA, NCARB [1]

Electrical
Agata Ristow, PE [1]

Green/Blue Infrastructure
Marc Horstman, PE [1]

ORGANIZATIONAL PROFILE & PROJECT TEAM QUALIFICATIONS

Ardurra's key staff proposed for your project have spent their careers delivering planning, design, and construction management/CEI services for water, wastewater, and stormwater infrastructure for public agency clients throughout South Florida. They have hands on experience with local agency coordination, permitting, environmental clearance, relevant funding and reporting, and have excellent established relationships with the local consultant and general contractor community. The below table illustrates the relevant experience and capabilities of our core team. Full resumes of these individuals follow this chart.

NAME	ROLE	YRS EXPERIENCE	LICENSE/ CERTIFICATION	WATER/ WASTEWATER	STORMWATER	STORMWATER MODELING	TRANSPORTATION	PUMP STATION DESIGN	PROGRAM MANAGEMENT	CONSTRUCTION MANAGEMENT	QA/QC, VALUE ENGINEERING	PUBLIC OUTREACH
Rares Petrica, PE	Program Manager	21	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Franklin A Torrealba, PE, ENV SP	Principal In Charge	38	PE, ENV SP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Matthew Brooks, PE	OnSite Representation	10	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leah Richter, PE	QAQC/Technical Advisor	25	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jose Custodio, PE	QAQC/Technical Advisor	16	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tom Green, PE	QAQC/Technical Advisor	22	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Silvia Beltre, PE	Public Outreach	30	PE	✓	✓		✓		✓	✓	✓	✓
Veronica Paredes	Public Outreach	18		✓	✓		✓		✓			✓
Ann Springston, PE	Lead CIP Program Planning	41	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kennedy Simmonds, PE	ID/Project Prioritization	24	PE	✓	✓	✓	✓		✓	✓	✓	✓
Jorge Acevedo, PE	Value Engineering	23	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Towsif Bhuiyan, PE	Modeling	8	PE	✓	✓	✓		✓		✓	✓	
Fernando Miralles-Wilhelm PhD, PE BCEE	Resiliency & SLR	30	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Benjamin Pernezny, PE	Lead Engineering Design	17	PE, PMP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nicholas Fernandez, PE	Engineering Design	13	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ricardo Maristany, PE	Engineering Design	17	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Paola Davalos, PE, ENV SP	Engineering Design	11	PE, ENV SP	✓	✓	✓	✓	✓		✓	✓	✓
Ana Dvorak, ENV SP	Engineering Design	10	ENV SP	✓	✓	✓	✓	✓		✓		✓
Steve Sommerfeldt, PE	Engineering Design	22	PE, CFM	✓	✓	✓	✓	✓	✓	✓	✓	✓
Steve Williams, PE	Engineering Design	48	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Christopher Tilman, PE, BCEE	Engineering Design	27	PE, BCEE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ricardo Escobar, PE, CGC	Lead Construction Mgmt	31	PE, ENV SP, CGC	✓	✓		✓	✓	✓	✓	✓	✓
Alberto Hernandez	CEI Services	30		✓	✓		✓			✓		✓
Jon Weymouth	CEI Services	35	PE	✓	✓		✓			✓		✓
Hector Gomez	Constructability/O&M Review	15		✓	✓		✓			✓	✓	✓
Ashish Kumar, PhD, PE, PMP	Lead Program Controls	30	PhD, PE, PMP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Angela Mettlen	Lead Grant Funding	33		✓	✓		✓		✓	✓		✓
Jessica Leggett	Grant Specialist	20		✓	✓		✓		✓	✓		✓
Vivek Sai	Asset Management	20	PE, PMP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Will Kuehne, PE, CFM, ENV SP	Digital Transformation & CMMS	13	PE, CFM ENV SP	✓	✓	✓	✓	✓	✓	✓		✓
Hugo Soto , PE	Hydrogeologist & Geotech	42	PE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mark Mitchell, PSM	Subsurface Utilities Engineering	26	PSM	✓	✓		✓		✓	✓	✓	✓
Kelli Scheuler	Landscape Architecture	21	PLA, LEED AP	✓	✓		✓		✓	✓		✓

FRANKLIN A TORREALBA, PE, ENV SP
PRINCIPAL-IN-CHARGE

EDUCATION
- MBA, Loyola University, New Orleans, 1991
- BS Civil Engineering, University of New Orleans, 1986

CERTIFICATIONS
- Professional Engineer (PE), Florida
- NASSCO, PACP, LACP, MACP PMSJ AIA CES
- Envision Sustainability Professional (ENV SP)
- Storm water, Erosion and Sedimentation Control Certified Inspector

YEARS OF EXPERIENCE
Total: 38
With Firm: 12

PERCENT OF TIME ASSIGNED TO PROJECT: 30%

OVERVIEW
Mr. Torrealba has managed over 500 projects from conception to completion, including program management and construction management services for large stormwater, water, and wastewater programs in South Florida. He has provided construction management, engineering & inspection (CEI) services to numerous pump stations, pipeline (water/wastewater) and treatment plant projects. Mr. Torrealba has functioned in the capacity of Program/Construction Manager for the largest renewal, replacement and rehabilitation programs. Mr. Torrealba has managed multiple projects which are critical and require special handling of stakeholders, public relations, multiple governmental entities, and environmental permitting combined with specialized technical requirements.

PROJECT EXPERIENCE

Program Manager, $215M Pump Station Improvement Program (PSIP) Miami Dade County - Program, Design & Construction Management and Support Services, Miami-Dade County, FL. Program Manager for the upgrade of the Wastewater Collection and Transmission System (WCTS). The program aims to bring into compliance 118 sewage pump stations. The program totals 153 projects, including 118 pump stations and 35 force mains. The team worked closely with the Department to use WASD's latest specifications and provide them to the Design Consultants. Updates were performed on a regular basis and were shared with the Department semi-annually. Saved MDWASD $37MM from its original budget.

WCTS Task Manager, $1.9B USEPA Consent Decree Miami Dade County - Program, Design & Construction Management and Support Services, Miami-Dade County, FL. Provided Program and Construction Management Services Related to the Wastewater System Priority Projects, including MDWASD's third Consent Decree with USEPA. Mr. Torrealba managed 93 projects (52 Force Mains and 41 Pump Station projects) including engineering design, permitting, procurement, hydraulic modeling, and construction.

Project Manager, Drainage Infrastructure Verification, Condition Assessment & GIS Updates, Phases 1-9, City of Coral Gables, FL. Responsible for project oversight which includes data collection, field verification, condition assessment, GIS digitization of Assets, QA/QC, and the creation and update of a GIS Web-viewer. Data collection efforts include collecting, compiling and analyzing pertinent drainage infrastructure data. Field verification activities include locating drainage assets using a GPS Trimble Unit to geolocate the observed infrastructure. The project also includes a visual asset condition assessment performed and noted, including photographic record of the assets. The GIS digitization phase includes the post-processing of the field verified infrastructure data and the update of the City's drainage geodatabase including point and line features.

Project Manager, Sanitary Sewer Capital Improvement Plan - Town of Lauderdale By The Sea, Broward County, FL. Development of the Town's Sanitary Sewer System Capital Improvement Plan. The sanitary sewer collection system consists of two separate wastewater collection basins with approximately 10.5 miles of gravity pipes, 165 manholes and two pump stations with their respective force mains. Activities included closet circuit TV (CCTV) video review of the sewer system, identification of defects, and repair recommendations; flow meter inspection

RARES PETRICA, PE
PROGRAM MANAGER

EDUCATION
- MBA, Lynn University, 2016
- BS Civil Engineering, University of Florida, 2004

CERTIFICATIONS
- Professional Engineer (PE), Florida 70972

YEARS OF EXPERIENCE
Total: 21
With Firm: 1

PERCENT OF TIME ASSIGNED TO PROJECT: 90%

OVERVIEW

Mr. Petrica has 21 years of experience in design permitting and construction management for stormwater, water, and wastewater infrastructure projects for private consulting, and municipal government. He successfully managed and developed the City of Fort Lauderdale's $200M Stormwater Master Plan Program over approx. 10 years. Mr. Petrica also secured $37M in Florida Resiliency and DEO CDBG-MIT grants, significantly enhancing funding for these critical projects. As a private consultant, he has led a diverse range of land development and infrastructure projects, including, parks, roadways, airports, seaports, and large-scale stormwater modeling rural and urban.

PROJECT EXPERIENCE

City of Fort Lauderdale Stormwater Masterplan, Fort Lauderdale, FL:
Program Manager. Mr. Petrica led the development and execution of the City 's Stormwater Master Plan Neighborhood Improvements, a $35M design initiative. Responsibilities included developing the initial solicitation, selecting the design team, and overseeing the design and permitting process. He played a key role in all phases of the program, from data collection and public engagement to design, permitting, and close coordination with the consultant team and regulatory agencies. The program's scope encompassed citywide stormwater modeling and utility data collection, watershed planning, and the establishment of neighborhood LOS. It also involved developing comprehensive engineering design plans based on modeling results to address chronic flooding, securing permits, managing construction implementation, and conducting community outreach to inform and gather feedback from residents affected by the proposed infrastructure upgrades. During the construction phase, Mr. Petrica led a team of project managers to ensure the successful completion of neighborhood-wide stormwater improvement projects. Over his tenure with the City, **he oversaw the delivery of approximately $175M in stormwater infrastructure construction projects.**

City of Fort Lauderdale Capital Investment Program, Fort Lauderdale, FL: Program Manager. Managed the Stormwater CIP, overseeing an annual budget of $9–$10M. The program included stormwater improvements and retrofits citywide, prioritized within a five-year budgetary timeline. The design and permitting of CIP stormwater projects were carried out through a combination of in-house design and consultant continuing services contracts, both overseen by Rares and his team. He developed and implemented the Annual Stormwater Construction Contract, which facilitated the construction of the CIP stormwater improvements.

City of Fort Lauderdale Seawall Repair and Replacement, Fort Lauderdale, FL: Program Manager. Mr. Petrica was responsible for an annual budget of $5–$7M, focused on the design, permitting, and construction of new seawalls that met county regulatory criteria, replacing functionally obsolete city seawalls that were overtopped during high tides, in disrepair, or not watertight.

Central Broward Water Control District (CBWCD), FL: Senior Project Manager. For five years, served as the reviewer for all stormwater projects constructed within the CBWCD - including canal widening and extensions, installation of SCADA systems, and ongoing maintenance enhancements. Worked closely with the CBWCD District Engineer, reviewing all project submittals, plans, and calculations. Collaborated with consultants to facilitate project approvals. Conducted stormwater modeling, performed design work, and oversaw the construction improvement projects.

Program Manager, Stormwater Improvement and Seawall Projects, Fort Lauderdale, FL:

- **$18M Edgewood Neighborhood.** Design and construction of a stormwater system to efficiently collect and convey runoff through a 72-inch pipe to a stormwater pump station. The installed infrastructure included 39,000 LF of pipes and exfiltration trenches, 11,000 SY of new swales and water quality structures.

Rares Petrica, PE continued

- **$26M River Oaks Neighborhood.** Design and construction of stormwater collection system, featuring 20,000 LF of pipe, water quality structures, canal restoration, and the construction of a stormwater pump station.
- **$13M River Oaks Stormwater Pumpstation Complex.** Design and construction of two pump stations, each designed to manage runoff from separate neighborhoods and discharge through an energy dissipator outfall into New River. The complex included a 66,000 GPM pump station and a 18,000 GPM pump station.
- **$34M Durrs Neighborhood.** Design and construction of modern stormwater collection system, including 38,000 LF of drainage pipe and exfiltration trenches, water quality structures, water and sewer line relocations, as well as pavement and swale improvements. Partially funded by FDOC grant.
- **$34M Dorsey Riverbend Neighborhood.** Design and construction of stormwater collection system featuring 15,000 LF of drainage pipe and exfiltration trenches, water quality structures, water and sewer line relocations, pavement and swale improvements, and a stormwater pump station. The 18,000 GPM pump station was designed to collect runoff from the low-lying central areas and convey it via a force main to the North Fork of the New River. Partially funded by FDOC grant.
- **$65M SE Isles Neighborhood.** Design and construction of 9,300 LF of new stormwater pipes, the replacement of 100 LF of outdated piping, and the addition of 100 tidal valves on all low-lying outfalls, both new and existing. Included 5,000 SY of new swales, replace 2,500 LF of seawalls, and incorporates two stormwater pump stations to efficiently drain low-lying areas during high tide events while accounting for projected sea level rise.
- **$75M Victoria Park.** Design of new stormwater pump station, tidal valves, and 13,000 LF of stormwater pipes and inlets throughout Victoria Park to enhance drainage after rainfall and significantly improve the quality of life for residents.
- **$36M Progresso Stormwater Improvements.** Design of 1,300 LF of new stormwater pipe, the replacement of 13,370 LF of outdated piping, the addition of 1,450 square yards of new swales, and 10,000 SY of permeable pavement to enhance drainage. Additionally, the stormwater system contains an 18,000 GPM stormwater pump station designed drain low-lying areas during high tide events and accommodate future sea level rise scenarios.

Senior Project Manager, Stormwater Improvement and Seawall Projects, Fort Lauderdale, FL.:

- **$5.5M River Oaks Stormwater Preserve.** Design and construction of an 11-acre stormwater preserve by transforming an old nursery into a wetland preserve - serving as a community park and improving water quality and quantity for stormwater runoff. Included a raised walkway over the wetland management area, gazebos, and a historic 1926 railroad bascule bridge donated by FDOT.
- **$6.7M Osceola Canal Dredging.** Design and construction of 3,000 LF of canal in a residential neighborhood and adjacent to I-95. The canal is a vital stormwater outfall for local communities and FLL Airport, ultimately discharging into the Intracoastal Waterway. The project required coordinating land transfers from FDOT to the City of Fort Lauderdale, removing debris and invasive vegetation, trimming mangroves, dredging the wet perimeter, replacing six box culverts, and implementing shoreline stabilization and erosion control measures.
- **$4.3M Multiple Seawall Replacements in Residential Neighborhoods.** Design and construction for five seawalls totaling 4,400+ LF of cantilever sheet pile seawall, 39 outalls, and 46 inlets.
- **$2.5MNW 21st Avenue Pipe Rehabilitation.** Design and construction of 2,000 LF of 54-inch stormwater pipe partially funded by FDEP resiliency grant. The project involved desilting the heavily obstructed pipe—over 75% blocked—and installing a 48-inch swage-lined pipe through two access pits. Sinkholes were repaired, and NW 21st Ave was fully restored.
- **$750K Argyle Drive Stormwater Improvements.** Design and construction for easement acquisition and the installation of a new stormwater outfall to the Intracoastal Waterway, five inlet structures, and 300 LF of stormwater pipe.
- **$1.2M South Gordon Road Stormwater Improvements.** Design and construction of new stormwater outfall to the Intracoastal Waterway, 12 inlet structures, and 1,200 LF of stormwater pipe. The new infrastructure provided essential stormwater conveyance, significantly improving drainage for this residential area.

$3.5M SW4th Avenue Drainage Improvements, Broward County, FL: Project Manager. Design and construction for 1.5 miles of roadway including upgraded drainage infrastructure with 45 inlets and piping, ADA-compliant ramps, full sidewalk replacement, new curbing, lane widening, and striping.

$2M Prospect Road Drainage Improvements, Broward County, FL: Project Manager. Design and construction for 1.4 miles of roadway including upgraded drainage infrastructure with over 30 inlets and piping, ADA-compliant ramps, sidewalk replacement, new curbing, lane widening, and striping.

Project Manager, $6M South Andrews Avenue Drainage Improvements, Broward County, FL: Project Manager. Design and construction for 2 miles of roadway located downtown Fort Lauderdale including new drainage infrastructure, ADA ramps, full sidewalk replacement, new curbing and lane travel widening and striping.

MATTHEW BROOKS, PE
ON SITE REPRESENTATION

EDUCATION
- BS, Civil Engineering, Florida State University

CERTIFICATIONS
- PE Florida #93890

YEARS OF EXPERIENCE
Total: 10
With Firm: 1

PERCENT OF TIME ASSIGNED TO PROJECT: 85%

OVERVIEW

Mr. Brooks' experience includes land development and large-scale utility projects which include private and public pump stations and pipeline design (water and wastewater), along with stormwater management. Mr. Brooks has extensive experience at overall project administration including scopes, budgets, schedules, and quality assurance/quality control. He has utilized several stormwater routing programs including ICPR, Cascade, and SSA to model stormwater systems throughout Miami-Dade County and the state of Florida. Mr. Brooks has extensive experience in the permitting process throughout the County. He also has experience in construction management which includes site inspection and reports, shop drawing review, addressing RFI's produced by the contractor, and review and certification of as-built record drawings.

PROJECT EXPERIENCE

Transportation Surface & Drainage On-Going Rehabilitation Project (TSDOR), Southwest Ranches, FL: This project consists of an asphalt overlay and the construction of adjacent swales on 3.8 mile residential roadway. Evaluated the existing roadway conditions to determine specific areas which needed full pavement restoration prior to overlay. Determined the swales and pavement requirements and ensured swale limits and locations met the Town's budget constraints. Developed an opinion of probable cost and permitted the plans through the Town of Southwest Ranches. Worked directly with the Town to ensure the construction documents were followed.

Columbus Street Roadway Improvements, Coral Gables, FL: As the Project Engineer, responsible for the development of the construction documents which include the stormwater management report, and the paving, grading, and drainage plans. The goal of the project was to over mill the roadway to better meet the existing grades while adjusting the sidewalks to ensure ADA criteria was met. Utilized the geotechnical borings to identify the depth of asphalt that should be milled and retrofitted the sidewalks as needed. Additional exfiltration trench and stormwater interconnectivity was provided to better distribute the stormwater runoff throughout the roadway.

Greenway Milling and Resurfacing, Coral Gables, FL: Project includes a proposed milling and resurfacing for Greenway Drive. Minor grading revisions were incorporated to alleviate any existing ponding/bird bath areas within the roadway. Responsible for the design and development of the construction documents which included the paving and grading plans.

Traffic Calming Improvements, Coral Gables, FL: Project includes the incorporation of traffic calming devices such as speed cushions and speed tables throughout the City of Coral Gables. As Design Engineer for the project, Mr. Brooks was responsible for the design and permitting of the construction documents which include the paving and grading plans. He coordinated directly with the Project Manager to ensure the overall project schedule was met.

Madruga Avenue Roadway & Drainage Improvements, Coral Gables, FL: Project includes a newly proposed stormwater management system for the existing roadway. Additional parallel parking spaces were incorporated into the road along with the associated curbing. As the Design Engineer, Mr. Brooks was responsible for the development of the construction documents which include the stormwater management report, opinion of probable cost, and the paving, grading, & drainage plans. Additional exfiltration trench and stormwater interconnectivity was provided to better distribute the stormwater runoff throughout the roadway.

Abbott Avenue Drainage Improvements, Town of Surfside, FL: This project includes modeling of the existing storm water system for the Town of Surfside. The town has 280 acres of residential property. As Project Manager, used ICPR storm water program to model the town's existing storm water management system to accurately determine the existing flooding conditions within Abbott Avenue. Designed seven proposed scenarios to determine an economically appropriate solution to flooding problem, specifically within Abbott Avenue which was the low-lying area within the town. The model included several drainage wells, pressurized piping, control structures, outfalls, and gravity pipe up sizing. Mr. Brooks worked directly with the Town of Surfside's Public Works Department to determine the best solution with the current budget constraints.

KEY QUALIFICATIONS
- Project / Program Management
- Asset Management
- Utility Risk & Resilience Assessments
- Financial Services
- Business Advisory
- Procurement
- Strategic Planning

EDUCATION
- MS, Civil Engineering, Florida Atlantic University, 2002
- BS, Environmental Engineering, University of Florida, 1997
- Program Management, Academy – Leading Complexity University of Oxford – Said Business School

CERTIFICATIONS
- Professional Engineer – FL

YEARS OF EXPERIENCE
Total: 25
With Firm: 25

PERCENT OF TIME ASSIGNED TO PROJECT: 50%

LEAH RICHTER, PE
QAQC/TECHNICAL ADVISOR

OVERVIEW

Ms. Richter currently serves as Arcadis' Southeast Florida Operations Leader and is located in Plantation office, just minutes from the City to provide rapid response to any request. She has a diverse background in civil engineering, program management, business advisory and financial consulting services. Also, she specializes in assisting municipal clients in South Florida with managing their planning, operational and capital program needs. Her experience includes project management and delivery, vendor procurement, contract compliance, regulatory permitting, public outreach, annual reporting to bondholders/trustees, litigation support services, environmental compliance and operation and maintenance evaluation. She serves as the contract manager or principal-in-charge for several contracts and projects in South Florida including the City of Hollywood.

PROJECT EXPERIENCE

Water System Engineering Services Contract, City of Hollywood, FL: Project officer and contract manager responsible for the full breadth of services Arcadis provides as the City's Engineer of Record for the City's water treatment plant and water distribution system. Activities and projects have included numerous capital improvement design and construction projects, feasibility studies, condition assessments, asset management and master planning activities.

Lead and Copper Rule Revision (LCRR) Compliance Program, City of Hollywood, FL: Served as project officer supporting the City through the development of a Compliance Program making sure that all requirements are met in accordance with the LCRR. Activities include the development of the initial lead service line inventory and the development of the necessary work plans for the LCRR Compliance Program that will capture the City's strategy for improved data management, public education and outreach, customer tap sampling, school/childcare facility sampling, corrosion control evaluation, and lead service line replacement.

Bridge Condition Assessment, City of Hallandale Beach, FL: Under the Processional Engineering Services Contract, the City engaged Arcadis to prepare inspections and repair recommendations of 12 bridges.

Lift Station No. 6 Rehabilitation Engineering, Services During Construction and Post Construction Services , City of Hallandale Beach, FL: With the existing lift station structure past the end of its service life, Arcadis recommended that the station be rebuilt to meet current and future demand per client requirements. This project work included design, permitting coordination, bidding, support, and services during construction (SDC) for the rehabilitation of Lift Station No. 6.

General Water and Wastewater Professional Engineering Services Continuing Contract, City of Fort Lauderdale, FL: Served as contract manager for the full breadth of services Arcadis provides as the City's Professional Engineer for water and wastewater services throughout the City. Activities and projects to date have include high service pump station design, 48/54-inch finished water pipeline from Prospect to Fiveash design/construction management services, redundant force main construction management services, and lime softening residuals evaluation.

JOSE CUSTODIO, PE
QAQC/TECHNICAL ADVISOR

KEY QUALIFICATIONS
- Project Management
- Civil Design
- CEI Services
- Planning
- Stormwater Design- SWPPP

EDUCATION
- ME, Construction Engineering, Polytechnic University of PR, 2013
- BS, Civil Engineering, Polytechnic University of PR, 2010

CERTIFICATIONS
- Professional Engineer – FL, PR
- OSHA – 30 Hrs. Construction Industry
- Florida Department of Environmental Protection Agency (FDEP) – Qualified Stormwater Management Inspector
- American Water Works Association

YEARS OF EXPERIENCE
Total: 16
With Firm: 4

PERCENT OF TIME ASSIGNED TO PROJECT: 50%

OVERVIEW
Mr. Custodio is a professional engineer registered in the states of Florida, with background in utilities engineering and construction management. Work experience includes planning, design, procurement, construction management of several Capital Improvements Program projects for different municipalities in the State of Florida and for the Puerto Rico Aqueduct and Sewer Authority (PRASA). Jose also has experience working for municipalities in South Florida as Project Manager and Public Works Director.

PROJECT EXPERIENCE

Water Master Plan, City of Hollywood, FL (2023-2025): Provided support to the project management team for the development of the Citywide Water Master Plan. The work included evaluation of the water treatment pant facility, production wells, elevated tanks and distribution system, and provide recommendations on future projects and developed a list of capital improvements projects for the 20 year horizon.

Lead and Copper Rule Compliance, City of Hollywood, FL (2023 - 2024): Project manager responsible for the program implementation. As part of the LCRR, Arcadis provided support to the City in developing the initial lead service line inventory, inspected field work activities, data management implementation, public outreach among others. The work also included the review of all City as-builts available on the distribution system. The inventory was submitted to the FDEP in October 2016.

Stormwater Master Plan, Town of Bay Harbor Islands, FL (2021 - 2022): Town engineer responsible for the development of a comprehensive Town-wide Stormwater Master Plan. The work included ICPR4 modeling of the Town to identify areas with flooding problems and developed capital improvements plan for the implementation of these projects. The recommended projects included, new stormwater infrastructure, pump stations, injection wells, raising the elevation of the seawalls among other resiliency initiatives/projects.

NPDES Permit Development, Town of Bay Harbor Islands, FL (2021 - 2022): Town engineer responsible for the development of the annual NPDES permit application. The work included development of new standard operating procedures for different inspections required by the Florida Department of Environmental Protection (FDEP) for pipeline, catch basins, retention basins, street sweeping, among others. The work also included the inspection of all stormwater catch basins and outfalls on an annual basis.

4 Log State Revolving Fund (SRF) Grant Application Support - City of Hollywood, FL (2025): Project manager responsible for the developing of a facilities plan which is a requirement by FDEP for the grant approval. As part of the project, a public meeting was held to discuss the project scope and the requirements of the grant.

Prospect Lake CWC 48-Inch Finished Water Line Design Criteria Package, City of Fort Lauderdale, FL: Design project manager responsible for developing of design criteria package and conceptual drawings for approximately 17,500 LF of 48-inch finished water line from the new Prospect Lake Clean Water Center to Fiveash WTP along Prospect Road. The work also included construction management, onsite inspections, constructability reviews, detailed plan reviews, and review of pay applications. The project was divided into nine phases. For phases 2, 3, 4, 6 and 9, the design proposed the use of 54-inch-diameter prestressed concrete cylinder pipe via open cut, near the FXE Airport. Phases 1, 5, 7 and 8 the material proposed was HDPE for the horizontal directional drilling segments near on Broward County.

TOM GREEN, PE
QAQC/TECHNICAL ADVISOR

EDUCATION
- BS, Civil Engineering, University of Florida, 2003

CERTIFICATIONS
- PE Florida #67558

YEARS OF EXPERIENCE
Total: 22
With Firm: 3

PERCENT OF TIME ASSIGNED TO PROJECT: 50%

OVERVIEW

Mr. Green brings 21 years of experience as a civil engineer, senior project manager, and capital improvement program manager. He has served both public and private clients as a trusted consultant and advisor. As Project Manager, Lead Engineer, and team leader, Tom has successfully delivered multi-million-dollar projects across South Florida and the Caribbean. His expertise spans municipal coordination and the technical execution of complex developments, ensuring projects stay on scope, schedule, and budget. Tom is proficient in technologies such as AutoCAD, Land Desktop, ICPR, Microsoft Project, and ProLog construction management software.

PROJECT EXPERIENCE

Zone 2 Drainage Study, Plantation, FL: Client Services Manager. The Ardurra Team, under its continuing services contract, was retained to provide a full range of engineering services for the City of Plantation Drainage project to provide an evaluation of the existing stormwater system and develop a Capital Improvement Program (CIP) for this Drainage Zone. The Ardurra Team will leverage its expertise in hydrology and hydraulics modeling to evaluate the overall existing stormwater system, identify potential areas at risk of flooding and evaluate future upgrades. Adhering to federal, state and local regulations to meet water quality and quantity requirements, the final report will consider studies and models, data, permit conditions, and recently completed and ongoing projects. The study's results will be presented in the new and comprehensive stormwater master plan that establishes a policy framework, integrates resiliency, conducts vulnerability analysis, and provides a prioritized improvement program that ensures the integrity of the City's future is protected for the generations to come.

Drainage Improvements At US 1 and NE 14th St, Pompano Beach, FL: Client Services Manager. The Ardurra Team, under its continuing contract with the City, is providing civil engineering, surveying, and subsurface utility engineering for this US1 and NE 14th Street Drainage Improvement project. This comprehensive drainage improvement project aims to significantly enhance the stormwater management system in the City of Pompano Beach. The project involves the installation of new storm drainage infrastructure and the cutting of swales to optimize drainage functionality and mitigate flooding risks. This project area primarily consists of residential properties. Key components of the project include installation and reconstruction, storm drain piping, and enhances drainage functionality.

City of Sunny Isles Beach Vulnerability Assessment Grant Application, Sunny Isles Beach, FL: Client Services Manager. The Ardurra Team is assisting the City of Sunny Isles Beach with a Vulnerability Assessment and Adaptation Plan aimed at identifying, evaluating, and mitigating the City's exposure to coastal hazards. Funded by the Florida Department of Environmental Protection through the Resilient Florida Grant Program, this project is focused on protecting Sunny Isles Beach's critical infrastructure from the growing threats of sea level rise, storm surge, tidal flooding, and compound climate events.

DC Alexander Park, Fort Lauderdale, FL: Client Services Manager. The Ardurra Team assisted the Client in a Ardurra Play project that includes the visioning and redevelopment of an oceanfront park. Ardurra provided survey/SUE, planning, civil and traffic engineering, landscape architecture, and construction observation services. The Ardurra Team assisted with public engagement, sea turtle-compliant lighting, shoreline habitat analysis, and practical and creative applications of stormwater mitigation practices and infrastructure that reflects and embraces needs of the community.

SILVIA BELTRE, PE
PUBLIC OUTREACH

EDUCATION
- BS, Civil Engineering, University of Miami
- BS, Architectural Engineering, University of Miami
- Training, Public Involvement & Socio-cultural Effects Evaluation
- Involvement On-Line Training, selected by District Five for program testing
- PD&E Process Overview Training
- FHWA Audit, Training
- FHWA Legal Sufficiency, Training

CERTIFICATIONS
- PE Florida #51295

YEARS OF EXPERIENCE
Total: 27
With Firm: 4

PERCENT OF TIME ASSIGNED TO PROJECT: 80%

OVERVIEW

Silvia has more than 29 years of experience and has been a project manager, engineer of record, and public outreach officer for multiple roadway and transportation projects in South Florida. She develops and implements effective communication strategies to educate stakeholders about projects, fostering community understanding and support. She organizes public meetings, workshops, and informational campaigns to address concerns and provide transparent updates on project progress, Silvia collaborates with project teams to translate technical information into accessible content for diverse audiences, enhancing public trust and engagement and responds to community feedback and concerns promptly, ensuring a positive relationship between the project team and stakeholders.

PROJECT EXPERIENCE

Lead & Copper Rule Revisions Compliance Assistance – Public Involvement Lead – Seminole Tribe of Florid, FL. The Lead and Copper Rule (LCR), established in 1991, requires utilities to monitor and control lead and copper levels in drinking water. The LCR Revisions were promulgated in January 2021 significantly impact how utilities implement corrosion control treatment, conduct compliance sampling, manage lead service lines, and communicate with customers. Ms. Beltre developed the public education strategy including customer notices, website development, School and Daycare Facility sampling information, we-based private service line verification survey, among others.

Easement Acquisition Services for New Outfalls and Stormwater Pump Stations – Public Outreach Lead – North Bay Village, FL. Due to its location within Biscayne Bay, the Village is vulnerable to rising sea levels, rising groundwater and increased rainfall, hurricanes, and storm surges. To address these concerns and plan for the future, the Village has developed a strategic Stormwater Master Plan (SWMP) to protect the Village's critical infrastructure. This project involved supporting the Village with Easement Acquisition & Coordination Services for the implementation and execution of projects identified in the SWMP specifically involving stormwater pump stations and new/upsized outfalls. Ms. Beltre developed a strategic communications plan, developed communication collaterals, detailed project fact sheets, personalized letters, FAQ documents, and one-on-one meetings with property owners, among others.

Study for the Widening of the Sawgrass Expressway from South of Sunrise Boulevard to South of US-441, Florida's Turnpike Enterprise Broward County, FL: QA/QC officer for the preparation of a SEIR document for the widening of SR 869, also known as the Sawgrass Expressway, from the junction of Interstate 75 (SR 93) just south of Sunrise Boulevard (SR 838) to South of US-441/SR 7, a distance of approximately 18 miles in Broward County, Florida. The improvements under consideration will address capacity needs along the Sawgrass Expressway mainline through the incorporation of tolled express lanes in both the northbound and southbound directions and improvements at eight interchanges. This project uses the FDOT Statewide Acceleration and Transformation (SWAT) process, which aims to streamline the delivery of projects in Florida. This will be achieved by overlapping the pre-construction activities, such as the PD&E and final design phases, and the development of an RFP packager for a future Design/Build project.

PD&E Study for the Widening of the Homestead Extension of the Florida Turnpike (HEFT) from SR 836 to East of NW 57th Avenue, Florida's Turnpike Enterprise Miami-Dade and Broward Counties, FL: Project Manager and Engineer of Record for the PD&E Study of a 19-mile HEFT section from SR 836 to east of NW 57th Avenue. Coordinated with Districts Six and Four, MDX, and Flagler Development Group. Conducted an extensive public involvement program with over 4,000 stakeholders. A comprehensive Public Involvement Plan (PIP) was carried out to involve concerned stakeholders. The PIP included the following techniques: 1) Environmental Forum (agencies and environmental groups), 2) Citizens Advisory Committee, 3) Cultural Resource Committee, 4) Scoping meeting, 5) Corridor Workshop, 6) bi-lingual (Spanish) collaterals and 7) website updates.

ANN SPRINGSTON, PE
LEAD CIP PROGRAM PLANNING

EDUCATION
- BS, Civil Engineering, West Virginia University

CERTIFICATIONS
- Professional Engineer – Civil, FL #87261
- Professional Engineer - Civil & Environmental, LA #0024644
- Professional Engineer - Civil, TX #101897
- Professional Engineer, NY #095549

YEARS OF EXPERIENCE
Total: 41
With Firm: 33

PERCENT OF TIME ASSIGNED TO PROJECT: *75%*

OVERVIEW

Mrs. Springston has 41 years of experience in assessment, planning, design, construction and program management for drainage, water, and wastewater drainage facilities. Her design experience includes drainage, open channel hydraulics, pipeline hydraulics, pump station design, hydrologic and hydraulic analysis and computer modeling. She has been involved with numerous projects that integrated utilities (drainage, water, sewer) into roadway projects while also incorporating green infrastructure and beautification to meet neighborhood quality of life and livability goals. Mrs. Springston has also led several stormwater master plans developed for small to large communities to direct or redirect their stormwater drainage to appropriate outfalls.

PROJECT EXPERIENCE

Flood Protection Level of Service (FPLOS) Staff Augmentation, South Florida Water Management District (SFWMD), West Palm Beach, FL: Project Manager. The FPLOS Program has been initiated by the district to determine existing FPLOS for all watersheds in the region using a phased approach. FPLOS quantifies the protection provided by/for specific features within a watershed, generally expressed in terms of the return frequency of events that cause significant flooding. Information from the FPLOS studies provides input to infrastructure modifications, operations, drainage, and design criteria at regional and local levels.

Southeast Louisiana Urban Flood Control Project, Sewerage and Water Board (S&WB) of New Orleans, LA: Program Manager. Ann's responsibilities included coordinating all funding, design, and construction efforts of a $1.2B capital improvement program with USACE. Her duties include overseeing and reviewing designs of components performed by engineering firms contracted; resolving design conflicts between USACE standards and S&WB standards; communicating with all stakeholders; property acquisition for the technical requirements of the design; submitting budget figures to the S&WB; providing revised forecasts as necessary; completing grant applications for matching State monies; tracking funding and grant monies, assuring timely disbursements and receipts.

South Florida Water Management District Engineering and Construction Management Services for Various Projects, West Palm Beach, FL: Ann served as Project Manager for the following projects:

- **L-28 Levee Culvert Structures S229A, S229B, S229C Construction Management Services, SFWMD, West Palm Beach, FL**
- **L-28 Levee Power Conduit Installation Construction Management Services, SFWMD, West Palm Beach, FL**
- **Coastal Control Structures Resiliency Study, SFWMD, Miami-Dade County, FL**
- **LD-1 Canal Bank Stabilization Construction Management Services, SFWMD, Miami, FL**

Sewerage & Water Board of New Orleans Master Drainage Plan, New Orleans, LA: Project Manager. Ardurra was awarded this $1.4 million contract to perform a Master Drainage Study for the entire City of New Orleans. The master drainage area is served by the Sewerage and Water Board of New Orleans (S&WB). This study evaluated the existing drainage system to determine its current capacity to drain Orleans Parish, flagged all deficiencies, developed plans of improvements to a 10-year design level, and made budgetary estimates of costs and projected these costs over a period of 50 years.

KENNEDY SIMMONDS, PE
IDENTIFICATION/PROJECT PRIORITIZATION

EDUCATION
- BS, Civil Engineering, University of South Florida

CERTIFICATIONS
- Professional Engineer – Civil, FL #66357
- Certification,k FDOT, Temporary Traffic Control Advanced Course

YEARS OF EXPERIENCE
Total: 24
With Firm: 5

PERCENT OF TIME ASSIGNED TO PROJECT: *75%*

OVERVIEW

Mr. Simmonds has 24 years of experience in the areas of stormwater management systems, drainage, permitting, wastewater treatment, utilities, multi-use trail design, and land development projects. Kennedy has led numerous projects for FDOT and Municipal Clients in South Florida. He is also Ardurra's Group Leader for Transportation projects in South Florida, managing a Group of over 30 Staff members. He has been involved on many Design Build Projects as well as Value Engineering Tasks providing effective cost and time reduction on complex projects. He is also very familiar with State Funding and Grant Administration. Kennedy is also very proficient in H&H Modeling, and is fully acquainted on HEC-RAS, ICPR, XPSWWM, among many others.

PROJECT EXPERIENCE

SR 821/HEFT Interchange at NW 170 Street, Florida's Turnpike Enterprise, Miami-Dade County, FL: Drainage Engineer who produced the Pond Siting Report and the Location Hydraulics Report. Major issues included maintaining existing drainage flow patterns and reducing right of way impacts to property owners.

HEFT Widening PD&E from SW 312th St (Campbell Drive) to US-1, Florida's Turnpike Enterprise, Miami-Dade County, FL: Drainage Engineer who produced the Pond Siting Report and assisted in the production of the Location Hydraulics Report. Major issues included maintaining existing drainage flow patterns and reducing right-of-way impacts to property owners.

Kennedy Road Drainage Improvements, City of Daytona Beach, FL: Drainage Engineer for a project improving stormwater systems along Kennedy Road, 3rd, 4th, and 6th Streets, based on a Master Stormwater Plan. Addressed severe flooding with construction plans for large diameter pipes and drainage improvements. Key challenges included constructability, minimizing right-of-way impacts, erosion and sediment control, water quality, utility conflicts, and impacts to jurisdictional lands and wildlife.

Seminole Expressway/SR 417 PD&E Study (Orange/Seminole County Line to Reinhart Road), Florida's Turnpike Enterprise, Seminole County, FL: Drainage Engineer that assisted with the production of the LHR and PSR for this study to widen from four to eight lanes. Addressed differing criteria from original permits and the current FDEP adopted SJRWMD standards. Project issues included significant environmental interest at Lake Jesup and safety improvements for the Aloma Avenue interchange.

SR 821/Homestead Extension of Florida's Turnpike (HEFT) Widening from NW 106 Street to I-75, Florida's Turnpike Enterprise, Miami-Dade County, FL: Drainage Engineer of Record (EOR) for this $368 million capacity project along the HEFT. The project involves the addition of managed lanes, reconstruction of the Okeechobee Road interchange, and construction of a new diverging diamond interchange at NW 170 Street in Miami-Dade County. Drainage responsibilities included temporary drainage design, coordinating project drainage improvements, including temporary drainage and coordination with Miami Dade Department of Regulatory and Economic Resources on maintenance of flow for the Golden Glades Canal during the construction of the new NW 170 Street interchange.

Public Realm Plan, City of Fort Lauderdale, FL: Project Engineer that assisted Planning Department with conceptual design and site layout of the various phases of the public realm plan. Design considerations include needed facilities and park locations; opportunities for new parks, park expansions, and park redesigns; conceptual park and greenway designs; as well as other recommended improvements for the park system.

BENJAMIN J. PERNEZNY, PE, PMP

LEAD DESIGN & CONSTRUCTION DOCUMENT DEVELOPMENT

EDUCATION
- BS, Environmental Engineering, University of Central Florida, 2005

CERTIFICATIONS
- Professional Engineer, FL #73977
- Project Management Professional (PMP)

YEARS OF EXPERIENCE
Total: 19
With Firm: 4

PERCENT OF TIME ASSIGNED TO PROJECT: 85%

OVERVIEW

Mr. Pernezny is a water resources engineer with a focus on stormwater modeling, condition assessment, and design. His experience includes regional model development in SWMM5 and ICPR3, design of stormwater conveyance and treatment systems, roadway and transportation drainage design, modeling and calculation support for stormwater design projects and permitting, stormwater utility development, GIS support and data collection, analysis and summarization. His field experience includes surface water sampling, soil sampling and maintaining pilot and prototype projects.

PROJECT EXPERIENCE

Stormwater Master Plan, City of Miami, FL: Project Engineer. Assisted in the development of a City-wide EPA SWMM 5 H/H model. Responsible for review and analysis of previous modeling and master planning efforts in the City and primary outfalls in order to establish model domains, boundary inflows and stages in the major canals traversing the City, and development of model methodologies for simulation of BMPs such as exfiltration trenches and drainage wells.

Julington Creek Asset Inspection and Ranking, St. Johns County, FL: Lead Engineer. St John's County had been experiencing ongoing issues with failing underdrains due to age and conditions of construction. Ardurra was engaged to develop a systematic program to inventory all underdrains in the Julington Creek basin. In addition, to further supplement this inventory effort, Ardurra staff also collected asset data on all other stormwater assets within the drainage basin.

Salt Creek Restoration, Treatment System, and Culvert Improvements, Seminole County, FL: Lead Engineer. With a previous employer, Mr. Pernezny provided conceptual and final design, stormwater modeling, and permitting services for an innovative flood control and water quality improvement project implemented as part of the Lake Jesup Basin Management Action Plan. This project had two primary goals: a) Identify opportunities to reduce pollutant loading from Black Hammock to Lake Jesup, and b) Improve flood protection level-of-service for the local roads.

Harbor Palms Infrastructure Improvements, Oldsmar, FL: Stormwater Engineer for design of stormwater improvements as part of construction of ~4,050 LF of 8-inch and 2,800 LF of 6-inch replacement water mains, including roadway and sidewalk improvements in an existing neighborhood.

Stormwater Master Plan, Miami Beach, FL: Lead Engineer. Mr. Pernezny served as a SWMM5 modeler for the development of alternatives for flood control in the City of Miami Beach. He was given a lead role in the formulation and modeling of flood control improvements in several high-profile, flood-prone areas of Miami Beach. His tasks included data collection and updating of existing conditions analysis where necessary to provide appropriate detail, performing iterative analyses to develop a set of project components to improve flood control level-of-service and the preparation of materials for meetings and reports.

Project Engineer, Stormwater Master Plan, Lake Worth, FL: Project Engineer. Mr. Pernezny was a member of the modeling team for the alternatives analysis phase of the stormwater master plan for the City of Lake Worth. He was responsible for modeling improvements to correct identified flood control level-of-service deficiencies throughout the city, as well as developing cost estimates for the proposed improvements and providing GIS support for meetings and report development.

Stormwater Master Plan Update, Project Engineer, North Miami, FL: Lead Engineer. Mr. Pernezny served as a SWMM5 modeler for the development of alternatives for flood control in the City of North Miami. He was the lead modeler for the alternatives analysis phase of the project and was responsible for modeling improvements to correct over 20 identified level-of-service deficiencies throughout the city. Mr. Pernezny was also responsible for the development of conceptual cost estimates for the proposed alternatives.

RICARDO ESCOBAR, PE, CGC
LEAD CONSTRUCTION ENGINEERING INSPECTION

EDUCATION
- BS, Civil Engineering, University of Miami, Coral Gables, Florida
- BS, Architectural Engineering, University of Miami, Coral Gables, Florida

CERTIFICATIONS
- PE Florida #74877
- General Contractor Florida #CGC1520811

YEARS OF EXPERIENCE
Total: 31
With Firm: 3

PERCENT OF TIME ASSIGNED TO PROJECT: 85%

OVERVIEW

Senior Project Engineer/General Contractor Mr. Escobar is a bilingual Certified Professional Engineer and General Contractor with over 30 years of experience at all levels of Construction Management for multi-million-dollar projects in the South Florida area with various government agencies including FDOT D1, D6, Florida Turnpike Enterprise, Miami-Dade Expressway authority, City of Miami, and City of Miami Beach. Mr. Escobar experience spans through the day-to-day managing of construction operations, including quality control measures. His expertise includes stormwater construction management, surveying and roadway construction, utilities installation, relocation of water and sewer systems, relocation of electrical systems, segment erection, concrete and steel structures, and testing materials. Perform/oversee the review of daily inspection reports and quantity computations. Experienced in the maintenance of construction project records in accordance with FDOT procedures, interface with the Owner, Contractor, and all staff on various facets of the project including contract change orders, item payments, and material testing.

PROJECT EXPERIENCE

ITB 202-34 – West Lakes Gardens Drainage Improvement Project, Town of Miami-Lakes, FL: Construction Manager and Town Representative for the drainage and road improvements in the West Lakes Gardens neighborhood of the Town of Miami Lakes. The project included the installation of nearly 6,200 LF of drainage piping, which involved over 4,500 LF of exfiltration trench. In addition, 43 drainage structures were provided along with over 1,400 tons of superpave asphaltic concrete. Almost 1,500 LF of replaced dropped concrete curb and 340 SY of sidewalks, aprons, and driveways were installed. Other improvements included detectable warnings, new fiberglass speed bumps, and signing and pavement markings.

ITB 2022-39–NW 83rd Place Drainage Improvement Project, Town of Miami-Lakes, FL: Construction Manager and Town Representative for the drainage and road improvements in the Royal Oaks neighborhood of the Town of Miami Lakes. The project included the installation of nearly 950 LF of drainage piping, which involved over 250 LF of exfiltration trench. In addition, 7 drainage structures were provided along with over 1,300 SY of superpave asphaltic concrete. Over 1,900 LF of replaced dropped concrete curb and 610 SY of sidewalks, aprons, and driveways were installed. Other improvements included detectable warnings, sodding, and new signing and pavement markings.

ITB 2023-12 – Royal Oaks 6th Addition Drainage Improvement Project, Town of Miami-Lakes, FL: Construction Manager and Town Representative for the drainage and road improvements in the Royal Oaks neighborhood of the Town of Miami Lakes. The project included the installation of nearly 4,000 LF of drainage piping, which involved over 1,850 LF of exfiltration trench. In addition, 49 drainage structures were provided along with over 720 tons of superpave asphaltic concrete. Almost 5,700 LF of replaced dropped concrete curb and 830 SY of sidewalks, aprons, and driveways were installed. Other improvements included detectable warnings, sodding, and new signing and pavement markings.

ITB 2023-26 – Royal Oaks 1st Addition Drainage Improvement Project, Town of Miami-Lakes, FL: Construction Manager and Town Representative for the drainage and road improvements in the Royal Oaks neighborhood of the Town of Miami Lakes. The project includes the installation of nearly 4,700 LF of drainage piping, which involves over 2,130 LF of exfiltration trench. In addition, 88 drainage structures are provided along with over 250 tons of superpave asphaltic concrete. Almost 2,200 LF of replaced dropped concrete curb and 400 SY of sidewalks, aprons, and driveways were installed.

HECTOR GOMEZ
CONSTRUCTION MANGER

EDUCATION
- MA, Disaster and Emergency Management, Florida Int'l University
- BS, Construction Management, Florida Int'l University

CERTIFICATIONS
- NASSCO (PACP, LACP & MACP), P0050888-112024
- FEMA Emergency Management Institute's Professional Development Series, 2020
- FEMA National Incident Management Systems (NIMS) Core Curriculum, 2020

YEARS OF EXPERIENCE
Total: 15
With Firm: 1

PERCENT OF TIME ASSIGNED TO PROJECT: 80%

OVERVIEW

Mr. Gomez is a seasoned construction and project management professional with more than 15 years of experience in water distribution systems, stormwater management, wastewater, and conveyance. He also specializes in municipal capital improvement projects, hazard mitigation, infrastructure, and emergency management. Mr. Gomez takes a hands-on approach, successfully achieving objectives through teamwork, accountability, and strong leadership. As a performance-driven manager, he leads by example, with a focus on work ethic and results. In his roles as Town Manager, Public Works Director, and Assistant Public Works Director for the Town of Surfside, Mr. Gomez gained extensive experience in planning, organizing, and developing capital improvement plan (CIP) budgets. He managed town-wide operations, overseeing the design, maintenance, and construction of infrastructure projects, as well as contract management.

PROJECT EXPERIENCE

Town-wide Town of Surfside Utilities Undergrounding Project, Surfside, FL: Program Manager for a town-wide initiative to underground all electrical and communication facilities within the Town of Surfside while simultaneously fulfilling his role as Town Manager. This turnkey project, divided into three phases, required coordination with all residents to ensure the satisfactory installation of new underground facilities—not only within the right-of-way but also on private properties. The work involved collaboration with the Engineer of Record and various agencies, procurement management, and oversight of existing site assessments. Additionally, Mr Gomez coordinated easement agreements, construction contracts, and agency agreements to facilitate project execution.

Town of Surfside 96th Street Park Construction Management and Owner Representation Services, Town of Surfside, FL: Town Project Manager and Owner representative for the $17M construction of a new park with two-story structure, sports fields, custom playground, kayak launch and other amenities. The project included the demolition of the existing facilities and reconstruction of a new 2-story pavilion building. The pavilion building included park offices, restrooms, a large community events room with kitchen, large wrapped-around terraces for both the first and second floors, and a new elevator. The exterior finishes include modular veneer stone, glass handrails, coral stone veneer, glass storefront windows and terrazzo flooring. The park's amenities included new age-appropriate children's word class playgrounds, a basketball court, 45,000 SF multi-purpose field, sports lighting, and fencing. The intracoastal frontage includes the installation of a 70 LF kayak launching floating dock, on coral sensitive environment. The project involves the relocation of several large trees and new landscaping throughout. Extensive modular drainage for the park and the multi-purpose field was provided. The project also includes the new service point relocation from FP&L, including twin 600 LF directional horizontal bores for two 6-inch conduits. Project also included off-site improvements such as utilities undergrounding and streetscape beautification.

Town-wide Stormwater Improvements within the Town of Surfside, Surfside, FL: Project Manager and Owner representative for the design and construction of two new stormwater pump stations, upgrades to the existing aging stormwater infrastructure (pipe upsizing and new control structures) and various upgrades to the Town's stormwater system. Additionally, the project included new stormwater force mains.

The Surf Club - Four Seasons Hotel and Residence, Surfside, FL: Superintendent. The Project consisted of the structural preservation of a historical building known as the Surf Club and the new construction of both residential and hotel towers as well as amenity areas. Project included beach renourishment and offsite improvement components such as 1200 linear feet of water main replacement and over one mile of milling and resurfacing. The project also included two private lift stations and a substantial stormwater system for the 10-acreage site. A keynote project deliverable was the mass excavation of a 10-acre site to install a two-story parking garage basement while maintaining a historical building elevated in the middle. The project involved elaborate shoring and complex dewatering systems. The current facilities are operated by the Four Seasons.

ASHISH KUMAR, PHD, PE, PMP
PROGRAM CONTROLS LEAD

EDUCATION
- Ph.D., Construction Management, University of Florida
- MS, Building Engineering Management, School of Planning, New Delhi, India
- BS, Civil Engineering, Indian Institute of Technology, Kanpur

CERTIFICATIONS
- Professional Engineer, Florida #50029
- Project Management Professional #1935759
- Certified Cost Engineer, AACEI #1793
- Advanced Primavera (P6v7) Certification
- E-Builder Administrator Certification

YEARS OF EXPERIENCE
Total: 29
With Firm: 20

PERCENT OF TIME ASSIGNED TO PROJECT: 75%

OVERVIEW

Ashish Kumar has over 29 years of experience in program controls and management of large and complex stormwater, environmental, aviation, and heavy construction projects and programs. Mr. Kumar has a broad range of expertise and strengths in program/construction management, program controls, engineering design and financial management areas including planning and need assessment for programs; engineering analysis, reports, and review of design; scheduling, earned value and variance analysis; claims avoidance, evaluation, and risk analysis; estimating and value analysis; cost engineering, budgeting, cash flow projections, and change control procedures and systems.

PROJECT EXPERIENCE

Prospect Lake Clean Water Center (Fiveash Water Treatment Plant Replacement), City of Ft. Lauderdale, FL: Technical Advisor. Responsible for overall development of the program baseline schedule; including all updating, monitoring, tracking, and reporting. The new water treatment plant is envisioned to produce up to 54 MGD as maximum daily demand utilizing a water treatment process consisting of a combination of nanofiltration and ion exchange to produce potable water meeting the finished water quality goals.

Comprehensive Utility Master Plan Projects, City of Ft. Lauderdale, Ft. Lauderdale, FL: Estimating Manager. Conceptual estimates for 35 priority projects in the Wastewater Collection System and Plant Improvement Projects for Comprehensive Utility Strategic Master Plan managed by the Ft. Lauderdale Public Works Department. The projects were funded by the Water & Sewer Revenue Bond for the City.

Consent Decree (CD) Program, Miami-Dade Water and Sewer Department, Miami, FL: Principal and Technical Advisor. The $2 billion CD Program is an expansion of the Water & Sewer Department Collection, Transmission and Treatment systems as required by the Consent Decree with the EPA. Responsibilities include managing all aspects of program controls, establishing program management manual, controls procedures and systems, contract administration and coordination of program reporting. Also, helping implement the document controls and the Program Management Information System (PMIS).

Capital Improvement Program, Miami Dade Water and Sewer Department, Miami, FL: Project Executive/Technical Advisor. Provide oversight as part of PMO Team for the implementation of the PMO and Project Controls for WASD managed $5 Billion Capital Improvement Program. Responsibilities include development of PMO framework, various processes and procedures, conduct workshops and training and implementation of the Management Information System. Also, includes overseeing the functions of scheduling, cost engineering, estimating and controls group for this program.

Stormwater Management Program, City of Charleston, SC. Controls Principal and Technical Advisor. The $2 billion Stormwater Capital Improvement Program includes programming, prioritizing, design and construction management of capital projects including updating master drainage and floodplain management plan and inventory of storm drainage infrastructure. Establish the Cost Control system including tracking budget, commitments, actual cost and earned value. Responsibilities include developing cost models for various project types and evaluating life-cycle costs of different alternatives including TBL (triple bottom line) approach. Developing project estimates and program costs to establish program budget. Analyze and prepare monthly reports, cash flow and management reports for the Program.