

**CPH, Inc.**

**Bid Contact**    **Nik Jindal**  
**njindal@cphcorp.com**  
**Ph 407-322-6841**

**Address**   **500 West Fulton Street**  
**Sanford, FL 32771**

**Supplier Code**   276855

Item #	Line Item	Notes	Unit Price	Qty/Unit	Attch.	Docs
PSEN-18-02-04--01-01	Please upload & submit all required documents here.	<b>Supplier</b> <b>Product Code:</b> <b>Supplier</b> <b>Notes:</b> CPH, Inc. Submittal for CCNA # PSEN-18-02-04.	First Offer -	1 / each	Y	
Supplier Total						\$0.00

CPH, Inc.

Item: **Please upload & submit all required documents here.**

Attachments

CCNA PSEN-18-02-04\_CPH, Inc..pdf





CCNA # PSEN-18-02-04

"DESIGN & POST SERVICES - PINES VILLAGE  
WATER MAIN IMPROVEMENTS - PHASE II"

MARCH 8, 2019



CPH, Inc.

1992 SW 1st Street  
Miami, FL 33135  
Phone: 305.274.4805  
info@cphcorp.com





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1992 SW 1st Street  
Miami, FL 33135  
Phone: 305.274.4805  
Fax: 305.274.4807  
info@cphcorp.com

March 8, 2019

City of Pembroke Pines  
Public Services Department  
Utilities Division  
8300 South Palm Drive  
Pembroke Pines, FL 33025

Re: CCNA # PSEN-18-02-04 | Pines Village Water Main Improvements Phase II

Dear Selection Committee Members:

CPH, Inc. (CPH), which has been located in South Florida for over 9 years, and in Florida for more than 38 years, has extensive experience with public infrastructure improvements. Our team has successfully implemented these types of projects throughout Florida for over 40 years for small to large size utility service areas. The team has designed and permitted utility infrastructure projects with pipe sizes ranging from 4" to 84" and has provided services for over 500 miles of pipeline projects, including several projects in South Florida.

CPH has a reputation for successful completion of similar projects throughout Florida. CPH recently finished design and CEI services for the City of Casselberry Water Quality Improvement Project, which included over 35 miles of asbestos cement water mains replacement utilizing pipe bursting. The largest project of its kind on the Country. This project was through an urbanized residential area and included heavy public notification and involvement. This project was received favorably by the City, and also by the residents. Other successful similar projects include the Moselle Avenue and Corinne Terrace Utility Replacements project, and the Orange County R/R Utility System Improvements and Replacement Package 1 Project. We have provided links below for our website to the construction plans for these projects to demonstrate our proficiency and the quality of our plans. These projects had many similar components, including switching meter locations for individual properties and densely populated urban residential neighborhoods.

#### **Moselle Ave. & Corinne Terrace**

<http://www.cphcorp.com/Proposal Management\Moselle Ave. & Corinne Terr\O28206 Complete Set Revised 3-19-10.pdf>

#### **Orange County Gravity Package**

<http://www.cphcorp.com/Proposal Management\Orange County Gravity Package 1\O28521 Conformed Drawings - reduced.pdf>



Our team has extensive experience in hydraulic modeling and the development of water main looping projects. We have completed projects that utilize traditional open cut, as well as alternative methods such as directional drilling, pipe bursting, tunneling, etc. Further, our in house team includes qualified MOT / pavement design engineers as well as surveyors. Our team stands ready to deliver this project to the City. We have visited the site, and have provided a detailed approach in Section 8.

We appreciate the opportunity to submit our qualifications and look forward to working with the City of Pembroke Pines.

Sincerely,  
CPH, Inc.

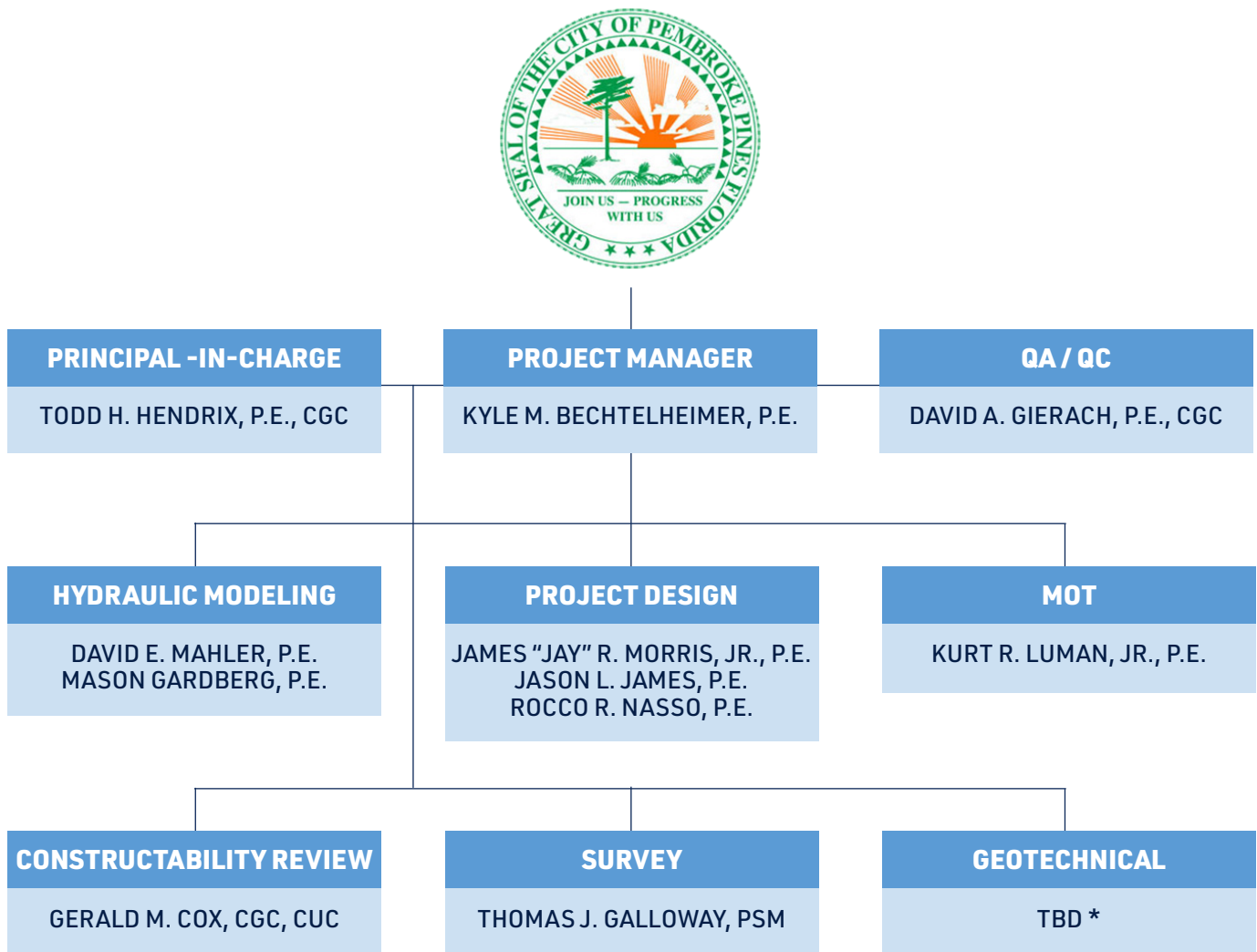
A handwritten signature in blue ink, appearing to read 'Todd H. Hendrix', is written over a light blue horizontal line.

Todd H. Hendrix, P.E., CGC  
Sr. Vice President

## 2. ABILITY OF PROFESSIONAL PERSONNEL

### ORGANIZATIONAL CHART

CPH has assembled a vastly diverse and highly qualified team with extensive experience in all discipline areas requested by the City of Pembroke Pines. Our team has the capabilities and expertise to complete the Pines Village Water Main Improvements Phase II project successfully. The CPH Team Organizational Chart (provided below) depicts the overall reporting and communication hierarchy as well as project roles and responsibilities in relation to the City scope of services.



\* CPH will utilize a Geotechnical Engineering firm from the City's existing continuing contracts.





## TODD H. HENDRIX, P.E., CGC

### Principal-in-Charge

**19 Total Years of Experience · 19 Years with CPH**

### Similar Project Experience

Mr. Hendrix serves CPH as Branch Manager for the Miami Office. He is responsible for overseeing a diverse staff that manages site development for commercial, residential, and municipal projects. Mr. Hendrix joined CPH in 1998. His municipal experience includes project coordination, design, and permitting of various potable water systems, wastewater systems, and stormwater management systems. He has experience in the areas of design and permitting of water supply wells, ground storage and treatment facilities, and high service pumping and distribution systems.

### Education

M.S. in Environmental Engineering,  
Florida International University  
B.S. in Biological Science, Florida  
International University

### Licenses / Certifications

Professional Engineer - FL  
(No. 66794)  
General Contractor License – FL  
(No. 1518490)

### Key Strengths

- Project Management
- Permitting
- Small to Large Diameter Conveyance Systems
- Water and Wastewater Planning and Design
- Stormwater Management and Design
- Environmental Permitting and Compliance
- Project Budgeting, Scheduling, and Quality Control

#### Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)/Islamorada

- Areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.
- Combined the project consists of 37,410 LF of HDPE pipe ranging in size from 1 1/4-6". The team provided a complete system design including plan and profile drawings of each pipe run. The team conducted system hydraulics calculations using Sewercad. The team provided limited CEI services for this portion of the project.

#### City of Miramar – Huntington Wellfield and Raw Water Main

- CPH completed preliminary design and plan for re-developing the well at 4,500 gpm for approximately 60 hours to ensure it will meet the needs of the City's Water Treatment Plant (WTP).
- Based on CPH's Preliminary Design Report, the City was able to select the appropriate route to meet their needs.
- The route included 60% design of approximately 1.6 miles of 16" Raw Water Main, installed through open trench. The design also included a 400 linear-feet, 18-inch HDPE directional drill, and subaqueous canal crossing under South Broward Drainage District's Canal 4. During Phase 2 (100% Design), CPH will complete the design for the well site and raw water main, assist in bidding services, and coordinate construction administration efforts.

#### Village of Islamorada – LPFM Hydraulic Model Evaluations

- Evaluated and determined if the design capacity of the existing low pressure force main (LPFM) is adequate for the proposed additional connections and estimated flow rates (AADF & PHF) required by the village
- Determined if the existing service connections are of sufficient capacity for the proposed development
- Evaluated if any LPFM improvements downstream of the proposed connection locations are required
- Provided a written recommendation of proposed engineering improvements required on the Village's low pressure wastewater collection system
- Will perform periodic updates to the hydraulic model based on approved, permitted connections

#### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

- Responsible for the engineering, design, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new Low Pressure Sewer System in the Central Business District of Miami Shores Village with discharge to a new regional Pump Station, as well as the associated grinder stations, water main
- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.

#### Miami-Dade Water & Sewer Department ACP Force Main Pipe Replacements

- CPH was awarded three (3) separate contracts by the Miami-Dade County Water & Sewer Department (WASD) to replace approximately 10,736 lf of asbestos cement pipe (ACP) in the areas of Kendall, Homestead Air Reserve Base, and the City of Miami Gardens.
- The ACP that was replaced served as the sanitary sewer force main distribution system for the listed areas, but had to be replaced with ductile iron pipe (DIP) to better serve its customers.
- The Kendall replacement project routed through primarily residential roadways, and included a series of aerial canal crossings and connections. The existing 10 -inch and 12 -inch ACP force mains were abandoned in-place, and relaced by 10 -inch and 12 -inch DIP force mains as per WASD Standards. The project replaced 6,623 lf of ACP.
- The Homestead Air Reserve Base project is within a Federally secured property and featured an existing 8 -inch ACP which routed from WASD pump station PS1132 to a gravity manhole located NE of the project vicinity. The 8 -inch DIP replacement pipe was routed along the private roadway of Bikini Blvd to an alternate gravity sewer manhole.





Mr. Bechtelheimer serves CPH as a project engineer with over 5 years of experience specializing in land development, project management and utilities engineering.

## Education

B.S. in Environmental Engineering,  
University of Central Florida

## Licenses / Certifications

Professional Engineer - FL (No. 86673)

## Key Strengths

- Permitting
- Asbestos Cement
- Pipe Replacement
- Water Mains
- Project Management
- Utilities Engineering
- AutoCAD
- ArcGis
- InfoWater & H2OMAP

# KYLE M. BECHTELHEIMER, P.E.

## Project Manager

**5 Total Years of Experience · 2 Years with CPH**

## Similar Project Experience

### City of Miramar – Huntington Wellfield and Raw Water Main

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- Will perform periodic updates to the hydraulic model based on approved, permitted connections





## DAVID A. GIERACH, P.E., CGC

QA / QC

**34 Total Years of Experience · 30 Years with CPH**

### Similar Project Experience

#### SR 46 Utility Relocations

- Project included 10,100-ft of new 12" water main, 675-ft of new 6"-10" water main, 4,200-ft directional drill 12" water main, 8,100-ft of new 6"-8" force main, 900-ft directional drill 6"-8" force main, 1,590-ft of new 10" sanitary sewer and manholes, 2,350-ft of new 20" reclaimed water main, one new Master Meter Assembly, and the removal of approximately 26,900-ft of existing water main, force main, sanitary sewer, and reclaimed water main.

#### SR 429 (Wekiva Parkway Section 7A) Utility Relocations

- CPH provided design, permitting, and limited CEI services for the relocation of existing Seminole Co. utilities along a 2.6 mile stretch of SR 46 between Longwood-Markham Rd. to Orange Blvd., and along a 1200-ft long section of Orange Ave. and Wayside Dr. from Capri Cove Pl. to Orange Blvd. from Wayside Dr. to SR 46.
- Construction included open cut construction consisting of 11,300-ft of new 12" water main, 1400-ft of new 16" reclaimed water main, 6440-ft of new 20" reclaimed water main, 13,900-ft of new 24" force main, 1680-ft of new 24" reclaimed water main, 3800-ft of new 30" reclaimed water main, and 16,800-ft of new conduit, pull boxes and splice boxes for the new fiber optic system. Directional drill construction included 1690-ft of new HDPE pipeline ranging in size from 12" to 36".

#### Midway Utilities Replacement – Phase 1, Seminole County

- The project included construction of approximately 10,665-ft of new 4-inch -10-inch water main, water services, and fire hydrants within Midway, and the abandonment in place (via grouting) of existing 6 -inch water main.
- The design included preliminary layout of the new lines and coordination with the County on the proposed construction, permitting requirements, known future plans of other utilities and agencies for the project area.

#### State Road 16 Water System Interconnect

- CPH teamed with Masci Construction to prepare the final construction documents and construct the proposed State Road 16 Water System Interconnect.
- The design/build project consisted of design and construction of approximately 18,038 lf of new water main from just east of Verona Way to the Turning Point Church for the St Johns County Utility Department.
- Segment 1 - approximately 4,313 lf of 20 -inch new water main from the east side of Verona Way to the existing 20 -inch DI water main located at the backside of the Sevilla Subdivision.
- Approximately 3,325 lf was proposed within a 15ft Utility Easement along the north property line of the Mura Bella Subdivision and approximately 988 lf was to be installed within the FDOT right of way.

#### Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)/Islamorada

- Areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.
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#### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

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- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.

Mr. Gierach serves CPH as President and has over 34 years of experience in engineering and construction for projects that include trails, parks, roadways, treatment facilities, pump/lift stations, drainage, pipelines, and vertical construction projects. He has managed the planning, design, permitting, and construction of projects that range from \$1 Million to projects over \$200 Million in value. Mr. Gierach has provided services to clients including the Cities of Palm Coast, Sanford, Lake Mary, Casselberry, Winter Springs, Orlando, the U.S. Navy and Volusia County among numerous others.

### Education

B.S. in Environmental Engineering,  
University of Florida

### Licenses / Certifications

Professional Engineer – FL  
(No. 38642)  
General Contractor License – FL  
(No. 060789)

### Key Strengths

- Project Management
- Trail/Sidewalk Design
- Roadway / Transportation
- Construction Administration
- Stormwater Management
- Planning, Design and Engineering Services during construction for water, wastewater, and reclaimed water type projects
- Process Design / Analysis
- Master Water / Wastewater / Reclaimed Water Plans







# JAMES "JAY" R. MORRIS, JR., P.E.

## Project Engineer

**17 Total Years of Experience · 12 Years with CPH**

## Similar Project Experience

Mr. Morris serves CPH as a Sr. Project Manager in our Environmental Engineering Department, and has experience with water and wastewater transmission systems, wastewater collection systems, and pumping systems in both design and construction administration. His areas of expertise also includes preparation of water and wastewater master plans, writing and organizing technical specifications and project manuals, client management, and utility coordination. Mr. Morris has also assisted clients with obtaining loans and grants.

## Education

B.S. in Environmental Engineering,  
University of Central Florida

## Licenses / Certifications

Professional Engineer - FL  
(No. 62384)

## Key Strengths

- Project Manager and Engineer for Multiple Large Diameter Pressurized Pipelines in Urban Areas
- Utility Relocations
- Water, Reclaimed Water, and Wastewater Transmission Systems Design
- Construction Administration
- Utility Coordination
- Pumping Facilities
- Plan and Specification Preparation
- Design on Aerial Crossings, Jack and Bores, and Directional Drills

### Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)/Islamorada

- Areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.
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### Moselle Avenue and Corrine Terrace Pump Stations and Force Main Replacements

- CPH was responsible for the construction of approximately 7,470 LF of 8 and 10-inch PVC gravity sewer, 28 sanitary manholes, reconnection of 99 service laterals, 5,165 LF of 6-inch force main, two new duplex pump stations and site plans, two existing pump stations abandonments, existing sewer removal or abandonments, and easement acquisitions. The project work involved working within a residential neighborhood within the Rights-Of-Way of Orange County.

### Simpson Road 30" Water Main Project

- TWA needed to extend a 30" water main from their Parkway Water Treatment Plant north along Simpson Road to just south of Boggy Creek Road. The water main route had significant crossings of both US Highway 192 and the Florida Turnpike.
- This phase of the Project consisted of approximately 5,300 l.f. of conventionally installed Ductile Iron 30" water main Right of way, 1,080 l.f. of 30" fusible PVC installed within 1,060 l.f. of directionally drilled 36" fusible PVC casing pipe across the Florida Turnpike.

### SR-50 Utility Relocation Project (FDOT JPA)

- CPH has provided improvements to over 13 miles of the water distribution system and wastewater collection and transmission system within the SR-50 Corridor.
- The project included the installation of approximately 5.5 miles of 8, 12, 16, 20 and 24-inch diameter water main and 7.7 miles of 4, 8, 12, 16, 20 and 30-inch diameter force main along SR-50 from West SR-436 to Old Cheney Road (the project). Connection of existing services and lateral mains were required while maintaining service to customers.
- Also included the design of 15,000 LF of gravity collection lines ranging in size from 8-inch to 24-inch in diameter; installation of approximately 83 manholes with depths to 20-ft. deep; installation a triplex pump master pump station; removal of certain sections of force main, connection of other force main systems to the gravity collection system, and a new lateral connection to the gravity sewer service on SR 50.

### SSA-ESA 36" Water Main and 24" Reclaimed Water Main Project

- Orange County Utilities (County) recently selected CPH for design, bidding, and construction services for seven miles of both a 36-inch Potable Water Main and a 20-inch Reclaimed Water Main.
- The project includes the installation of approximately 7 miles of parallel 36-inch potable water main and 24-inch reclaimed water main from J. Lawson Blvd. to Moss Park Rd via a combination of directional drill, jack and bore, and open-cut installation.

### SR 15 Utility Relocation Project (FDOT JPA)

- The completed utility project involved the relocation of utilities along approximately 3.9 miles of the densely developed roadway of SR 15
- The overall project included the installation of 870 LF of 4-inch force main, 8130 LF of 6-inch force main, and 9,000 LF of 8-inch force main as well as 200 LF of 6-inch water main, 1,000 LF of 8-inch water main, 1,000 LF of 12-inch water main, 10,400 LF of 16-inch water main, and 3,700 LF of 24-inch water main. This project included a 600 LF 8" HDD under a major roadway.





## JASON L. JAMES, P.E

### Project Engineer

**11 Total Years of Experience · 11 Years with CPH**

### Similar Project Experience

Mr. James serves CPH as Project Engineer. He is responsible for design and engineering infrastructure, grading, drainage, potable water, sanitary sewer systems, as well as the preparation and processing of permits through various regulatory agencies.

### Education

B.S. in Civil Engineering, University of Central Florida, 2005

### Licenses / Certifications

Professional Engineer – FL (No. 76936)

### Key Strengths

- Commercial Land Development
- General Site Planning
- Utilities Design
- Permitting

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#### City of Miramar – Huntington Wellfield and Raw Water Main

- CPH completed preliminary design and plan for re-developing the well at 4,500 gpm for approximately 60 hours to ensure it will meet the needs of the City's Water Treatment Plant (WTP).
- Based on CPH's Preliminary Design Report, the City was able to select the appropriate route to meet their needs.
- The route included 60% design of approximately 1.6 miles of 16" Raw Water Main, installed through open trench. The design also included a 400 linear-feet, 18-inch HDPE directional drill, and subaqueous canal crossing under South Broward Drainage District's Canal 4. During Phase 2 (100% Design), CPH will complete the design for the well site and raw water main, assist in bidding services, and coordinate construction administration efforts.

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## ROCCO R. NASSO, P.E.

### Project Engineer

**17 Total Years of Experience · 17 Years with CPH**

### Similar Project Experience

Mr. Nasso serves CPH as a Project Manager and Engineer. His design experience includes extensive utility design and permitting, wastewater collection/transmission systems, stormwater calculations and modeling (ICPR and Hydraflow), water transmission main design and modeling (WaterCAD), pump sizing, and lift station design. His other duties include the Construction Engineering and Inspection (CEI) over numerous utility projects, water and wastewater treatment facilities and roadway projects.

### Education

B.S. in Civil Engineering, University of Central Florida, 2001

### Licenses / Certifications

Professional Engineer - FL (No. 64727), Qualified Stormwater Management Inspector (FDEP), Advanced Maintenance of Traffic Certification, OSHA Construction Safety and Health Certification

### Key Strengths

- Extensive Utility Design and Permitting Experience
- Extensive Construction Engineering and Inspection Experience
- Wastewater Collection/Transmission Systems
- Utility Distribution Systems
- Stormwater calculations and modeling of large drainage basins
- Expert in Conveyance systems
- Stormwater Management Systems
- Roadway Design
- Construction Documents and Administration

#### City of Miramar – Huntington Wellfield and Raw Water Main

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#### SR 46 Utility Relocations

- The project consisted of the construction of approximately 10,100-ft of new 12" water main, 675-ft of new 6"-10" water main, 4,200-ft directional drill 12" water main, 8,100-ft of new 6"-8" force main, 900-ft directional drill 6"-8" force main, 1,590-ft of new 10" sanitary sewer and manholes, 2,350-ft of new 20" reclaimed water main, relocation and modification of an existing Master Meter Assembly, and the removal of approximately 26,900-ft of existing water main, force main, sanitary sewer, and reclaimed water main.

#### SR 429 (Wekiva Pkwy Section 7A) Utility Relocations

- CPH provided design, permitting, and limited CEI services for the relocation of existing Seminole Co. Utilities along a 2.6 mile stretch of SR 46 between Longwood-Markham Rd. to Orange Blvd., and along a 1200-ft long section of Orange Ave. and Wayside Dr. from Capri Cove Pl. to Orange Blvd. from Wayside Dr. to SR 46.
- Construction included open cut construction consisting of 11,300-ft of new 12" water main, 1400-ft of new 16" reclaimed water main, 6440-ft of new 20" reclaimed water main, 13,900-ft of new 24" force main, 1680-ft of new 24" reclaimed water main, 3800-ft of new 30" reclaimed water main, and 16,800-ft of new conduit, pull boxes and splice boxes for the new fiber optic system.
- Directional drill construction included 1690-ft of new HDPE pipeline ranging in size from 12" to 36".

#### Midway Utilities Replacement, Phase I

- Performed limited inspection services, shop drawing review, post design services, attendance at progress meetings, as-built drawings, clearance letter, certification of completion of construction, substantial completion and final inspections, review of change orders, and negotiation assistance for changes in the work.
- Construction of approximately 9,600 l.f. of 4-inch to 10-inch water lines to replace the existing substandard and undersized water mains, water services, and fire hydrants

#### Old Kings Road North & South Reclaimed Water Mains

- The Old Kings Road North project improvements consisted of a 30-inch reclaimed water main that extended westerly from WWTP No. 1 to the FPL easement at the intersection of Oak Trails and Old Kings Road.
- The 30-inch reclaimed water main then connected to a 16-inch reclaimed water main to the North and to a 20-inch reclaimed water main to the South.
- The Old Kings Road South project improvements consisted of a 20-inch reclaimed water main that extended from the 30-inch reclaimed water main at Oak Trails and Old Kings Road southerly along the FPL easement to Cigar Lake.

#### Fox Hollow Force Main Improvements

- Construction included approximately 3,080 l.f. of new 6 -inch force main constructed from the existing Fox Hollow Pump Station to the existing Kings Point Lift Station located in an existing residential neighborhood near Casselberry.
- Construction included three jack and bore street crossings, the removal and replacement of over 480-ft of existing sidewalk and abandoning in place over 1,600-ft of existing 4 -inch force main.

#### WWTP No. 2 Reclaimed Water Wetland Discharge

- The Project consists of the construction of approximately 7,865-ft of new 18" reclaimed water main, 160-ft of new 16" reclaimed water main, 1,760-ft of new 20" force main, and 1,900-ft of new 10" reclaimed water main.
- The construction also includes installation of a precast structure (wetland discharge), an above grade meter assembly, and the construction of a dechlorination facility.







## DAVID E. MAHLER, P.E.

### Project Engineer / Hydraulic Modeling

**27 Total Years of Experience · 18 Years with CPH**

### Similar Project Experience

Mr. Mahler serves CPH as Senior Vice President and Branch Manager of the Orlando Office. He is a Project Manager/Project Engineer for municipal and private clients. Mr. Mahler has been involved with numerous utility system installation, rehabilitation and relocation projects for both municipal and private clients. He has also been involved with the evaluation of utility systems from small service lines to major collection and transmission systems. In addition, he specializes in relocation of existing utilities associated with roadway projects. He has also been involved with land development and roadway design and permitting for private clients.

### Education

B.S. in Environmental Engineering,  
University of Central Florida

### Licenses / Certifications

Professional Engineer - FL  
(No. 56875)

### Key Strengths

- Large Diameter Pressurized Pipeline Design in Urbanized Areas
- Utility System Relocations, including several projects due to FDOT roadway widening
- Water Supply, Treatment, Pumping, Storage and Distribution
- Wastewater Collection, Treatment and Pumping
- Reclaimed Water Storage, Pumping and Distribution
- Utility Systems Hydraulic Modeling

#### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

- Responsible for the engineering, design, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new Low Pressure Sewer System in the Central Business District of Miami Shores Village with discharge to a new regional Pump Station, as well as the associated grinder stations, water main
- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.

#### Simpson Road 30" Water Main Project

- TWA needed to extend a 30" water main from their Parkway Water Treatment Plant north along Simpson Road to just south of Boggy Creek Road. The water main route had significant crossings of both US Highway 192 and the Florida Turnpike.
- This phase of the Project consisted of approximately 5,300 l.f. of conventionally installed Ductile Iron 30" water main Right of way, 1,080 l.f. of 30" fusible PVC installed within 1,060 l.f. of directionally drilled 36" fusible PVC casing pipe across the Florida Turnpike.

#### SSA-ESA 36" Water Main and 24" Reclaimed Water Main Project

- Orange County Utilities (County) recently selected CPH for design, bidding, and construction services for seven miles of both a 36-inch Potable Water Main and a 20-inch Reclaimed Water Main. The new pipelines will interconnect Orange County's South Service Area (SSA) to their East Service Area
- The project includes the installation of approximately 7 miles of parallel 36-inch potable water main and 24-inch reclaimed water main from J. Lawson Blvd. to Moss Park Rd via a combination of directional drill, jack and bore, and open-cut installation.
- A segment of the transmission mains will be installed with the City of Orlando's JPA project for the Narcoossee Road Widening. This segment includes approximately 4,000 LF of 36-inch potable water main and 24-inch reclaimed water main.

#### Moselle Avenue and Corrine Terrace Pump Stations and Force Main Replacements

- CPH was responsible for the construction of approximately 7,470 LF of 8 and 10-inch PVC gravity sewer, 28 sanitary manholes, reconnection of 99 service laterals, 5,165 LF of 6-inch force main, two new duplex pump stations and site plans, two existing pump stations abandonments, existing sewer removal or abandonments, and easement acquisitions. The project work involved working within a residential neighborhood within the Rights-Of-Way of Orange County.

#### SR-50 Utility Relocation Project (FDOT JPA)

- CPH has provided improvements to over 13 miles of the water distribution system and wastewater collection and transmission system within the SR-50 Corridor
- The project included the installation of approximately 5.5 miles of 8, 12, 16, 20 and 24-inch diameter water main and 7.7 miles of 4, 8, 12, 16, 20 and 30-inch diameter force main along SR-50 from West SR-436 to Old Cheney Road (the project).
- The project also included the design of 15,000 LF of gravity collection lines ranging in size from 8-inch to 24-inch in diameter; installation of approximately 83 manholes with depths to 20-ft. deep; installation a triplex pump master pump station; removal of certain sections of force main, connection of other force main systems to the gravity collection system, and a new lateral connection to the gravity sewer service on SR 50.

#### Orange County – R/R Gravity Wastewater System Improvements and Replacement Package 1

- This project consists of Gravity Repair and Rehabilitation of gravity systems located in ten (10) subareas as determined by the County. CPH, Inc. performed the design for this project that consists of the replacement of + 2,275 LF of 8-inch, and + 62 LF of 12-inch gravity main, sealing and coating four manholes, removal and replacement of eight manholes, removal of one manhole, grout and abandonment of three manholes, installation of nine new manholes, and installation of seventeen sewer laterals and twenty-two sewer laterals on private property.





## MASON GARDBERG, P.E.

### Project Engineer / Hydraulic Modeling

**6 Total Years of Experience · 6 Years with CPH**

### Similar Project Experience

Ms. Gardberg serves CPH as a Project Engineer for both public and private civil projects. She has directly worked on all types of utility engineering projects. These projects have involved water, wastewater, and reclaimed water design, planning, analysis, permitting, inspections and construction engineering/administration services. Her primary role includes developing and preparing engineering plans, reports and studies, engineering inspections, reviews and prepares permits, and conducts engineering research to provide technical assistance to the design team.

### Education

B.S. in Environmental Engineering and Civil Engineering (Double Major), University of Central Florida

### Licenses / Certifications

Professional Engineer – FL (No. 86595)  
Florida Water Environmental Association (FWEA)

### Key Strengths

- Water main, Reclaim water main, and Force Main Design
- Utility Relocations Within Roadway ROW
- Construction Administration
- Pumping Facilities
- Plan and Specification Preparation
- Hydraulic Modeling
- Permitting
- Site Design

#### SR-50 Utility Relocation Project (FDOT JPA)

- CPH has provided improvements to over 13 miles of the water distribution system and wastewater collection and transmission system within the SR-50 Corridor.
- The project included the installation of approximately 5.5 miles of 8, 12, 16, 20 and 24-inch diameter water main and 7.7 miles of 4, 8, 12, 16, 20 and 30-inch diameter force main along SR-50 from West SR-436 to Old Cheney Road (the project). Connection of existing services and lateral mains were required while maintaining service to customers.
- Also included the design of 15,000 LF of gravity collection lines ranging in size from 8-inch to 24-inch in diameter; installation of approximately 83 manholes with depths to 20-ft. deep; installation a triplex pump master pump station; removal of certain sections of force main, connection of other force main systems to the gravity collection system, and a new lateral connection to the gravity sewer service on SR 50.

#### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.

#### Simpson Road 30" Water Main Project

- TWA needed to extend a 30" water main from their Parkway Water Treatment Plant north along Simpson Road to just south of Boggy Creek Road. The water main route had significant crossings of both US Highway 192 and the Florida Turnpike.
- This phase of the Project consisted of approximately 5,300 l.f. of conventionally installed Ductile Iron 30" water main Right of way, 1,080 l.f. of 30" fusible PVC installed within 1,060 l.f. of directionally drilled 36" fusible PVC casing pipe across the Florida Turnpike.

#### SR 482 Utility Relocations (-4 and -5 segments) (FDOT JPA)

- This project is currently under construction and involves the relocation of utilities along approximately 2.4 miles of existing roadway from International Drive to just east of Shingle Creek. This project also includes the relocation of an existing duplex lift station on International Drive.
- The west segment includes the installation of 60 LF of 4-inch force main, 420 LF of 8-inch force main, 1,200 LF of 16-inch force main, 1,350 LF of 24-inch force main, 500 LF of 15" CIPP lining, and a duplex lift station including 18-inch gravity sewer.
- The east segment includes the installation of 310 LF of 12-inch force main, 6,700 LF of 24-inch force main, 2,650 LF of 36-inch reclaim water main, 1,400 LF of 36-inch force main via directional drill, and 630 LF of 42-inch force main.

#### Highland Avenue Gravity Sewer and Water Main Replacement Project

- Replacement of approximately 9,500 ft. each of aged gravity sewer and small diameter water main
- Also included a sewer and roadway repair
- Over 240 service connections within the projects residential streets that required both new water and sewer connections
- Responsible for the reconstruction of existing streets, including construction of stormwater inlets and storm sewers, replacement of sanitary sewers and laterals, installation of new water mains, construction of new concrete curb, and roadway reconstruction.

#### SR 15 Utility Relocation Project (FDOT JPA)

- The completed utility project involved the relocation of utilities along approximately 3.9 miles of the densely developed roadway of SR 15
- The overall project included the installation of 870 LF of 4-inch force main, 8130 LF of 6-inch force main, and 9,000 LF of 8-inch force main as well as 200 LF of 6-inch water main, 1,000 LF of 8-inch water main, 1,000 LF of 12-inch water main, 10,400 LF of 16-inch water main, and 3,700 LF of 24-inch water main. This project included a 600 LF 8" HDD under a major roadway.





## KURT R. LUMAN, JR., P.E.

### Project Engineer (MOT)

**19 Total Years of Experience · 18 Years with CPH**

### Similar Project Experience

Mr. Luman serves the firm of CPH in the capacity of Vice President of our Transportation Services. He is responsible for managing, engineering, and designing roadway, traffic, and trail projects, including geometric design, stormwater management systems, traffic intersections, and traffic control plans. Mr. Luman is also responsible for the preparation and processing of permits through various regulatory agencies including FDOT Local Agency Program (LAP) projects. In addition to highway and traffic design he has experience in preparing stormwater pollution prevention plans, construction estimates and site inspections.

### Education

B.S. in Civil Engineering, University of Central Florida

### Licenses / Certifications

Professional Engineer - FL  
(No. 65036)  
Advanced Maintenance of Traffic

### Key Strengths

- Roadway paving, widening, extensions, new roads; as well as turn lane additions and traffic upgrades
- FDOT guidelines and FDOT LAP
- Trails and Shared-Use Paths
- Signing and Pavement Parking
- Maintenance of Traffic Plans
- Streetscapes
- Public Involvement
- Permitting
- Drainage/Flood Plain

#### S.R. 50 Utility Relocation Project (Phase 1, 2, and 3) (Performance Period: 2007 - 2015)

- Improvements to over 13 miles of the water distribution system and wastewater collection and transmission system within the SR-50 Corridor, which is being expanded from 4-lanes to 6-lanes, including building new facilities and the removal of facilities in conflict with the FDOT roadway design
- Installation of 5.5 miles of 8, 12, 16, 20 and 24-inch diameter water main and 7.7 miles of 4, 8, 12, 16, 20 and 30-inch diameter force main along SR-50 from West SR-436 to Old Cheney Road.

#### SSA-ESA 36" Water Main and 24" Reclaimed Water Main Project (Performance Period: 2012 - 2017)

- The project includes the installation of approximately 7 miles of parallel 36-inch potable water main and 24-inch reclaimed water main from J. Lawson Blvd. to Moss Park Rd via a combination of directional drill, jack and bore, and open-cut installation. A segment of the transmission mains will be installed with the City of Orlando's JPA project for the Narcoossee Road Widening. This segment includes approximately 4,000 LF of 36-inch potable water main and 24-inch reclaimed water main. A potable re-pump station has also been included with this project with the ability to pump to the southern or eastern service area. The re-pump station includes general piping, a building, pumps, electrical equipment, controls and future chlorination feed equipment, stand-by generator and above ground fuel tank, general site grading and improvements.

#### W. Central Blvd. Sanitary Sewer Replacement and Streetscape Design/Build (Performance Period: 2015 - 2017)

- Garney Construction along with CPH was selected by the City of Orlando for the \$6.5 million dollar Design/Build project in downtown Orlando. The 0.55 mile project included upsizing the existing gravity sewer line on Central Blvd. between Glenn Ln. and Garland Ave. from an 8" sanitary sewer to a 18" & 21" sewer system.
- Additional improvements include complete roadway reconstruction including removal of the underlying brick, addition of left turn lanes at the existing intersections, a new traffic signal with a BRT (Bus Rapid Transit) phase, additional right-of-way and easement coordination, placing all overhead utility lines underground (including the duct bank design), complete Maintenance of Traffic Plans, and incorporating landscape/hardscape features including street lighting, trees, decorative crosswalks, and street furniture.

#### JEA – Otter Run Water Treatment Plant Renewal & Replacement (Performance Period: 2014 - 2017)

- CPH is providing engineering services to JEA for the Otter Run Water Treatment Plant Renewal and Replacement. This work includes evaluating the existing water treatment facility and recommendations for upgrading the existing plant to include a removal and replacement of the high service pumps, above ground storage tanks, aerator, sodium hypochlorite system and the electrical equipment.
- CPH will review the site constraints, available plans, record drawing, operation manuals and research existing permits to determine the existing facility characteristics and further facility needs, CPH will be responsible for preparing a report to summarize the findings and recommendations as well as preparing a scope of work to be used in project specifications. CPH will also be responsible for preparing an Opinion of Probable Cost for the recommended upgrades.

#### Simpson Road 30" Water Main Project (Performance Period: 2012 - 2016)

- TWA needed to extend a 30" water main from their Parkway Water Treatment Plant north along Simpson Road to just south of Boggy Creek Road. The water main route had significant crossings of both US Highway 192 and the Florida Turnpike.
- Approximately 5,300 l.f. of conventionally installed Ductile Iron 30" water main Right of way, 1,080 l.f. of 30" fusible PVC installed within 1,060 l.f. of directionally drilled 36" fusible PVC casing pipe across the Florida Turnpike.







Jerry serves CPH as a lead in construction inspection/observation services and quality control. He is a licensed utility and general contractor with over 42 years of experience in the design and construction of industrial, commercial and utility projects. With his extensive construction experience, Jerry assists CPH in development of design strategies and value engineering. He also serves as a quality control manager to ensure proposed designs are correct and constructable. Jerry is proficient at estimating, scheduling, construction means & methods and construction management.

## Education

B.S. in Building Construction,  
University of Florida

## Licenses / Certifications

Certified General Contractor – FL (No. 010771)

Certified Utility Contractor – FL (No. 051667)

## Key Strengths

- Licensed General and Underground Utility Contractor
- Expert in conveyance systems and treatment plants
- Extensive scheduling and cost estimation expertise
- Expertise in: Commercial, Industrial, Infrastructure, Construction Management, Utility Systems, and Value Engineering

# GERALD M. COX, CGC, CUC

## Constructability Review

**42 Total Years of Experience · 16 Years with CPH**

## Similar Project Experience

### Northern Forcemain and Southern Forcemain Project- Key Largo Wastewater Treatment District

- Project Engineer for an abandoned 30-inch water main existed within the US-1 corridor, KLWTD was able to obtain the rights to utilize this pipe as their corridor for the forcemain
- 4,503 l.f. of 4-inch PVC, 4,156 l.f. of 6-inch PVC, 19,846 l.f. of 8-inch PVC, 11,750 l.f. of 10" PVC, 573 l.f. of 10-inch HDPE (slipline), 13,198 l.f. of 12-inch HDPE (slipline), 6,231 l.f. of 14-inch HDPE (slipline), 9,825 l.f. of 16" PVC, and 11,085 l.f. of 18-inch HDPE (slipline) forcemain
- Project included work within FDOT right of way, an aerial pipe crossing on a bridge, and directional drill of the force main/water main

### Key Largo Wastewater Treatment District, Vacuum Pump Station Serving Basin A and B

- Design of the vacuum pump station (VPS) for Basins A and B.
- The VPS consists of a 2600 sq. ft. architecturally designed building that blends in with the residential nature of the area.
- Building is constructed to withstand hurricane force winds of 150 mph and storm surge.
- It includes an architectural metal roof with concrete block construction and precast concrete roof panels under the architectural roof to tie the walls, slab and ceiling into one cohesive structure.

### Analysis and Redesign / Phase I Collection System - Islamorada, Village of Islands

- Engineering services for an analysis and subsequent redesign of three specific vacuum collection mains that are not performing to specification in the Phase I Vacuum Collection System in Islamorada.
- The three areas of concern are South Coconut Palm Avenue, Woods Avenue, and North Bougainvillea St. within the North Plantation Key Subdivision.

### Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)/Islamorada

- Areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.
- Combined the project consists of 37,410 LF of HDPE pipe ranging in size from 1 1/4-6". The team provided a complete system design including plan and profile drawings of each pipe run. The team conducted system hydraulics calculations using Sewercad. The team provided limited CEI services for this portion of the project.

### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

- Responsible for the engineering, design, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new Low Pressure Sewer System in the Central Business District of Miami Shores Village with discharge to a new regional Pump Station, as well as the associated grinder stations, water main
- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.

### St. Johns Parkway

- St. Johns Parkway, Phase 1 - Sanford, Florida – Phase 1 of this project consisted of widening existing Jewett Lane (renamed St. Johns Parkway) from the Smith Canal to approximately 400-ft west of Meisch Road, resulting in 1,650 LF of a new three lane road.
- Major construction items included construction of a 28-ft span x 7-ft rise x 72-ft long concrete arch culvert and wingwalls at the canal, curb and gutter, sidewalk, guardrail, aluminum handrail, and storm sewer (ranging in size from 15" to 48"x72").
- Utilities construction will consist of approximately 1,750 l.f. of new 12" water main and 1,900 l.f. of new 8" reclaimed water main.





## THOMAS J. GALLOWAY, PSM

### Project Surveyor

**27 Total Years of Experience · 16 Years with CPH**

### Similar Project Experience

Mr. Galloway has over 27 years of experience in the surveying and mapping profession, and has a Bachelor of Science of Surveying and Mapping from the University of Florida. His experience ranges from working in the field and office on small to large development projects, to serving as Party Chief/Survey CADD Technician, Project Manager and Survey Manager. Mr. Galloway has served as Principal and Director of the Surveying Division of the firm since its establishment in 2001. He has overseen the department's growth from two survey crews to managing the current seven survey crews. Additionally he has been personally involved in over 2,500 surveys while at CPH.

### Education

B.S. in Surveying and Mapping,  
University of Florida

### Licenses / Certifications

Professional Surveyor & Mapper - FL  
(No. LS6549)  
NCEES Council #1291)

### Key Strengths

- Surveying and Management
- Highway Projects
- Land Development
- Commercial and Private Projects
- Municipal Projects

#### Apple Valley Interconnect - Phase 3

- CPH performed surveying, design, permitting, bidding and construction phase services for the Apple Valley Interconnect - Phase 3 project.
- Construction included approximately 2000-ft of new 6 -inch -10 -inch water main including valves, hydrants, and new water services lines between the new water main and existing meters in an existing residential neighborhood near Altamonte Springs.
- The project also included construction of a new above grade water main interconnect consisting of valves, meter, double check valve assembly, bypass pipeline and accessories at the east side of Nelson Ave. adjacent to the Rolling Hills Golf Course and the modification of two existing above grade water main interconnects.

#### Key Largo Wastewater Treatment District, Vacuum Pump Station Serving Basin A and B

- This project consisted of the design of the vacuum pump station (VPS) for Basins A and B.
- The VPS consists of a 2,600 sq. ft. architecturally designed building that blends in with the residential nature of the area.
- Housed inside the building are the vacuum tank, five 25-Hp vacuum pumps and two 75-Hp discharge pumps and all related equipment.
- CPH provided a preliminary report which compared the use of gravity collection, low pressure systems and vacuum systems.

#### Key Largo Wastewater Treatment District, Vacuum Pump Station Serving Basin C and D

- This project consisted of the design of the vacuum pump station (VPS) for Basins C and D.
- The VPS consists of a 2,600 sq. ft. architecturally designed building that blends in with the residential nature of the area.
- The building is constructed to withstand hurricane force winds of 150 mph and storm surge

#### Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)/Islamorada

- Areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.
- Combined the project consists of 37,410 LF of HDPE pipe ranging in size from 1 1/4-6". The team provided a complete system design including plan and profile drawings of each pipe run. The team conducted system hydraulics calculations using Sewercad. The team provided limited CEI services for this portion of the project.

#### Area IV Well Outfitting and Raw Water Transmission Main- Phase 1 and 2

- Phase 1- The City of Titusville Area IV Well Outfitting and Raw Water Transmission Main project Phase 1 included the drilling of 5 water supply production wells, 3 saline water monitoring wells, outfitting of 6 production wells, and construction of approximately 72,000 l.f. of new raw water transmission main (16-20-inch diameter pipeline) from the City's Mourning Dove Water Treatment Plant to the Area IV well field.
- Phase 2- This phase included well drilling of 8 production wells and 1 saline water monitoring well, conversion of 1 test well to a production well, and well outfitting of 9 production wells. Additionally, the project included the construction of approximately 18,975 lf of raw water transmission main from the north end of the existing Area IV Phase 1 Wellfield (near well 408) to each of the Area IV Phase 2 production wells

#### Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements

- Responsible for the engineering, design, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new Low Pressure Sewer System in the Central Business District of Miami Shores Village with discharge to a new regional Pump Station, as well as the associated grinder stations, water main
- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.



# 3. MINORITY BUSINESS ENTERPRISE

## MINORITY BUSINESS ENTERPRISE

CPH is committed to meeting or exceeding the M/WBE participation goals for this project. CPH has established working relationships with many minority firms in the area.

## COMMITMENT TO DIVERSITY AMONG THE FIRM

CPH has a culturally and ethnically diverse workplace from its owners to its employees. CPH employs a workforce that is reflective of many nationalities and cultures. We have established programs and policies for recruiting and retaining minority and women engineers and staff, and strongly encourage all of our employees to become involved in our communities. It is the policy of CPH to provide equal employment opportunity at all times in all actions related to employment without regard to race, color, religion, gender, citizenship status, age, national origin, disability, veteran status, sexual orientation, or any other status protected by state or federal law. This policy applies to recruiting, hiring, training, promotion, evaluation, termination, compensation, benefits eligibility, working conditions and all other aspects of employment. The Firm supports a policy of actively recruiting and retaining a diverse workforce to support both our Equal Employment Opportunity Policy and our business objective to provide the highest quality service possible. CPH is committed to fostering an inclusive atmosphere that seeks actively to employ people of diverse backgrounds at all levels of the Company including top management and ownership.





## 4. PAST PERFORMANCE

Water Main (WM) Projects	Diameter	Length (l.f.)	Dir. Drill or Jack & Bore	Open-Cut	FDOT ROW
City of Miramar - Huntington Wellfield and Raw Water Main	16"	8,448			
ARRA-Funded Water System Improvements Projects (Phases I-III)	6" to 12"	217,606			
Area IV Well Outfitting and Raw Water Transmission Main	16" to 20"	72,000	✓		
Pipe Bursting of Potable Water Mains Using Pre-Chlorinated Pipe	4" and 6"	40,500			
S.R. 50 Utility Relocation Project, Ph I	12" and 16"	12,000	✓		✓
S.R. 50 Utility Relocation Project, Ph II	6-12", and 20"	8,200	✓		✓
S.R. 50 Utility Relocation Project, Ph III	8", 12", and 16"	20,025	✓		✓
Belle Terre Utility Relocation	20"	21,120	✓		
State Road 16 Water System Interconnect Design-Build	20"	18,038	✓		✓
Water Main Looping Construction	8" to 12"	11,900	✓	✓	✓
Osceola Parkway Phase II Utility Relocations & Improvements	24"	10,900	✓		
Osceola Parkway	24"	10,900			
Midway Utilities Replacement, Phase I	4" to 10"	10,665	✓		✓
CR 557 Water Main	12"	10,105			
Enterprise Road Utility Relocation	12"	8,202	✓		
Lake Conway East Water and Wastewater System Improvements	4", 6", 8"	7,600			
Lake Conway Park Water Distribution System	6" and 8"	6,710			
S.R. 426 Utility Relocation Project	10" and 16"	4,000	✓		✓
International Parkway Water Main & RWM Extensions	16" and 20"	6,100			
Lake Harriet Water Transmission Main	8"	6,100	✓		



## PAST PERFORMANCE

Water Main (WM) Projects	Diameter	Length (L.f.)	Dir. Drill or Jack & Bore	Open-Cut	FDOT ROW
Tanglewood Water Main Replacements	4" and 6"	5,270	✓		
Apple Valley Phase 3 Interconnects	6" to 10"	2,000	✓	✓	
Secret Lake Road 12" Water Main	8", 10", 12"	2,600	✓		✓
SR 434 Utility Relocations; I-4 to Rangeline Road	8"	475			✓
Poinciana Blvd and US-17/92 Water Main	24"	21,648	✓		✓
Oviedo Reclaimed Water Main Phase II	10" and 16"	7,400	✓		✓
Grant Line Road and Wayside Drive Utilities Construction	8-16"	16,600			
Country Club Road Utilities Relocation	24"	Relocated			
East Lake Mary Boulevard Utility Relocations	8" and 12"	20,000			
Bear Gully Road and Lake Mary Boulevard Water Main Construction	16"	9,305			
Greenwood Lakes/Heathrow Water and Reclaimed Water Transmission Mains	16"	5,500	✓		✓
Lake Standish Heights/Plymouth Dells Water Distribution System Improvements	6" and 8"	5,000			✓
US-17/92 Water Main Upgrade	12"	4,800			✓
Panama City Water Line Extension	12"	1,000			✓
North Orlando First Addition Water Line Improvements	8"	8,780			
South Shire Subdivision Water System Improvements	8"	3,700			
S.R. 50 Station 737+37.82 to Station 903+50 Utilities Relocation Project, Ocoee	4"-12"	7,500			✓
Chickasaw Trail Utility Relocations	16"	1,500			
Powell Adams Road Rural to Urban Final Design	8" and 16"	1,365			
Chickasaw Woods Residential Development Utility Evaluations	4"-8"	10,920			
Lake Underhill Utility Relocations	8" and 12"	1,790			
ESA SSA Pipeline Project	36"	39,960			
Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements	12"	4,100			

## PAST PERFORMANCE

## CITY OF MIRAMAR – HUNTINGTON WELLFIELD AND RAW WATER MAIN MIRAMAR, FL

### PROJECT DESCRIPTION

The City of Miramar contracted CPH to assist in the re-development of a potable water well capped in 2003. CPH completed preliminary design and plan for re-developing the well at 4,500 gpm for approximately 60 hours to ensure it will meet the needs of the City's Water Treatment Plant (WTP). CPH performed an alternative route study to present the best options for conveying the well's raw water to the City's West WTP. The study included an in depth look at the permitting and cost associated with construction of the proposed raw water main. Based on CPH's Preliminary Design Report, the City was able to select the appropriate route to meet their needs. The route included 60% design of approximately 1.6 miles of 16" Raw Water Main, installed through open trench. The design also included a 400 linear-feet, 18-inch HDPE directional drill, and subaqueous canal crossing under South Broward Drainage District's Canal 4. During Phase 2 (100% Design), CPH will complete the design for the well site and raw water main, assist in bidding services, and coordinate construction administration efforts.



### CLIENT CONTACT:

City of Miramar  
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Utility Engineer  
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Miramar, FL 33025  
Phone: 954.883.5012  
ervalerio@miramarfl.gov

## POINCIANA BLVD AND US-17/92 WATER MAIN KISSIMMEE, FL

### PROJECT DESCRIPTION

CPH provided planning, design, permitting, bid services, and full time CEI services for approximately 4.1 miles of 24-inch diameter water main along FDOT and Osceola County rights-of-way. The project had 6-30-inch HDPE directional drills for a total 3,600 lf throughout the project. Additionally 2-42-inch jack and bores were designed for a total of 380 lf which occurred within FDOT and CSX right-of-way. CPH collected data from the TWA, Osceola, County, FDEP, CSX, FDOT, other utility companies, and performed site visits to evaluate existing site conditions that affected the placement of the new lines. Based upon the gathered information, CPH prepared a route study, preliminary layout of the new main and a cost estimate. CPH also researched planned roadway improvements and designed the project to avoid future line relocations well into the future.



### CLIENT CONTACT:

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EMATOS@tohowater.org

**PAST PERFORMANCE**

## **HIGHLANDS GRAVITY SEWER AND WATER MAIN REPLACEMENT**

### **KISSIMMEE, FL**

#### **PROJECT DESCRIPTION**

This project included engineering and permitting services needed to replace approximately 8,300 feet each of aged gravity sewer (8") and small diameter water main [6,650 (6") and 1,750 (8")] along Coral Avenue, North Beaumont Avenue, Highland Avenue, Martina Avenue, Milton Avenue, and West Jackson Street between West Carroll Street and West Donegan Avenue. The project also included a sewer and roadway repair located in Kissimmee, FL. This project had over 240 service connections within the projects residential streets that required both new water and sewer connections. CPH provided all design services including survey and geotechnical coordination, preplanning and coordination with Osceola County, project design, permitting, bidding services, and assisted with public meetings. CPH was responsible for the reconstruction design of existing streets, including construction of stormwater inlets and storm sewers, replacement of sanitary sewers and laterals, and installation of new water mains. CPH also provided part time CEI services for sewer and water main work and full-time services for roadway restoration as required by the County.



#### **CLIENT CONTACT:**

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## **SIMPSON ROAD 30" WATER MAIN PROJECT**

### **KISSIMMEE, FL**

#### **PROJECT DESCRIPTION**

TWA needed to extend a 30" water main from their Parkway Water Treatment Plant north along Simpson Road to just south of Boggy Creek Road. The water main route had significant crossings of both US Highway 192 and the Florida Turnpike. The route had very limited County right-of-way along portions of Simpson Road, so it required close coordination between TOHO, Osceola County, FDOT/Turnpike Authority and the property owners along the route.

This phase of the Project consisted of approximately 5,300 l.f of conventionally installed Ductile Iron 30" water main Right of way, 1,080 l.f. of 30" fusible PVC installed within 1,060 l.f of directionally drilled 36" fusible PVC casing pipe across the Florida Turnpike. All work was performed in and along the rights of way of Osceola County and the FDOT.

This project was similar to the currently advertised project in that it involved working with multiple roadway jurisdictions, requires crossing of a limited access highway and included large diameter mains with connections to existing active mains.



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## PAST PERFORMANCE

## WATER MAIN LOOPING CONSTRUCTION SANFORD, FL

### PROJECT DESCRIPTION

CPH provided survey, design, permitting (including environmental and FDOT), bidding, and construction phase services for the project for the City of Sanford. The Project consisted of construction of new potable water transmission main at six locations throughout the City in order to complete looping of the water distribution system. The construction included over 9,800 lf open cut construction of new water main (8 -inch -12 -inch) and approximately 2,100 lf of directional drill construction of 8 -inch and 10 -inch mains.



CITY OF  
**SANFORD**  
FLORIDA

### CLIENT CONTACT:

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## JE A YELLOW BLUFF – MARSHLAND DR TO TISONS BLUFF RD – 16” WATER MAIN JACKSONVILLE, FL

### PROJECT DESCRIPTION

The Yellow Bluff 16-inch Water Main (WM) project spans from Tisons Bluff Road to Marshland Drive approximately 16,100 linear feet (LF). The primary purpose of this project is to increase the water pressure at the Victorian Lakes subdivision.

The project is located in north Duval County east of I-95. The route of the new main will be located in the City of Jacksonville right-of-way (ROW). The project will include the design of approximately 16,100 LF of new 16-inch ductile iron potable water transmission main. The proposed construction method is open cut along the entire corridor; no trenchless methods are anticipated.

The new 16-inch water main connects to an existing 12-inch WM south of Tisons Bluff Road on the west side of Yellow Bluff Road. The main continues south along the west side of Yellow Bluff approximately 910 LF then crosses Yellow Bluff Road south of Eagle Bend Boulevard. The main then extends south along the east side of Yellow Bluff Road for the remainder of the corridor. The new WM connects to an existing 16-inch stub just north of Marshland Drive.

This project will involve coordination with multiple jurisdictions and permitting agencies, not only for the installation of the 16-inch WM but also for crossings of wetlands.



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**PAST PERFORMANCE**

## **ORANGE COUNTY UTILITIES - SSA-ESA 36" WATER MAIN AND 24" RECLAIMED WATER MAIN PROJECT**

**ORANGE COUNTY, FL**

### **PROJECT DESCRIPTION**

This project included engineering and permitting services needed to replace approximately 8,300 feet each of aged gravity sewer (8") and small diameter water main [6,650 (6") and 1,750 (8")] along Coral Avenue, North Beaumont Avenue, Highland Avenue, Martina Avenue, Milton Avenue, and West Jackson Street between West Carroll Street and West Donegan Avenue. The project also included a sewer and roadway repair located in Kissimmee, FL. This project had over 240 service connections within the projects residential streets that required both new water and sewer connections. CPH provided all design services including survey and geotechnical coordination, preplanning and coordination with Osceola County, project design, permitting, bidding services, and assisted with public meetings. CPH was responsible for the reconstruction design of existing streets, including construction of stormwater inlets and storm sewers, replacement of sanitary sewers and laterals, and installation of new water mains. CPH also provided part time CEI services for sewer and water main work and full-time services for roadway restoration as required by the County.



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## **SR-50 UTILITY RELOCATION PROJECT (FDOT JPA)**

**ORANGE COUNTY, FL**

### **PROJECT DESCRIPTION**

CPH has provided improvements to over 13 miles of the water distribution system and wastewater collection and transmission system within the SR-50 Corridor, one of the busiest roads in Central Florida – which is being expanded from 4-lanes to 6-lanes. The utility improvements include building new facilities as well as the removal of facilities in conflict with the FDOT roadway design.

The utility improvements were constructed as part of the construction of the FDOT SR-50 projects under a joint agreement between Orange County and FDOT. The construction documents meet FDOT plan preparation standards, FDOT roadway design schedule and were coordinated with the FDOT road design and other utilities. The project included the installation of approximately 5.5 miles of 8, 12, 16, 20 and 24-inch diameter water main and 7.7 miles of 4, 8, 12, 16, 20 and 30-inch diameter force main along SR-50 from West SR-436 to Old Cheney Road (the project). Connection of existing services and lateral mains were required while maintaining service to customers.

The project also included the design of 15,000 LF of gravity collection lines ranging in size from 8-inch to 24-inch in diameter; installation of approximately 83 manholes with depths to 20-ft. deep; installation a triplex pump master pump station; removal of certain sections of force main, connection of other force main systems to the gravity collection system, and a new lateral connection to the gravity sewer service on SR 50. The project included a wastewater aerial crossing of a stream, multiple HDD drills across wetlands and major roadways, multiple jack and bore crossings of major and minor roadways, addressed work within a contaminated site, required significant private utility relocations to maintain existing services impacted by the roadway project, and as noted, included significant large pressure and non-pressure pipe exceeding 16". All three phases were designed and permitted in accordance with hard deadline milestones mandated by the client and by FDOT.



### **CLIENT CONTACT:**

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**PAST PERFORMANCE**

## **PIPE BURSTING OF POTABLE WATER MAINS USING PRE-CHLORINATED PIPE SANFORD, FL**

### **PROJECT DESCRIPTION**

CPH provided construction phase services to the City of Sanford for the Pipe Bursting of Potable Water Mains Using Pre-Chlorinated Pipe project. The project consisted of bursting approximately 17,500 LF of 4-inch water main and approximately 23,000 LF of 6-inch water main within 4 different residential neighborhoods in Sanford. The project was a federal economic stimulus project funded under the State Revolving Fund Loan program administered through the Florida Department of Environmental Protection (FDEP) using American Recovery and Reinvestment Act (ARRA) fund. The construction phase services included inspections, conducting labor standards interviews during construction for documentation of compliance with Davis Bacon prevailing wage requirements, preparing monthly Davis Bacon compliance certifications, and review of the weekly certified payrolls for compliance with prevailing wage requirements based on classifications of the workers, hours worked on the project, overtime pay, and other fringe benefits as applicable. Additionally, CPH reviewed payment applications, prepared change orders, and prepared disbursement requests for the SRF funding.



CITY OF  
**SANFORD**  
FLORIDA

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## **JE A BEAVER STREET – LANE AVE TO CARNEGIE ST – 20" WATER MAIN JACKSONVILLE, FL**

### **PROJECT DESCRIPTION**

The existing directionally drilled 24-inch HDPE water main has failed under the Cedar River at State Road 10 / U.S. Highway 90 (West Beaver Street). A previous repair attempt by JEA was not successful due to location and depth of the failure. The crossing has been isolated from the existing 20-inch ductile iron main by an existing valve approximately 1,200-feet East of the creek, and a plug approximately 900 feet West of the creek.

Per the original 1970 design plans for the main, the Cedar River crossing was accomplished by installing a 20-inch cast iron Clow long span pipe. There is evidence of pipe hangers being attached to the bridge culverts.

Based upon the situation, the existing directional drill will be replaced with a 20-inch ductile iron long span pipe supported by JEA standard bridge pipe hangers. The pipe will be connected to the existing valve to the East by open cut and a new valve will be provided at the West connection point.



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**PAST PERFORMANCE**

## **SR 15 UTILITY RELOCATIONS (FDOT JPA)**

### **ORANGE COUNTY, FL**

#### **PROJECT DESCRIPTION**

The completed utility project involved the relocation of utilities along approximately 3.9 miles of the densely developed roadway of SR 15 from Conway Rd to Lee Vista Blvd. The utility relocations and replacements were necessary to accommodate roadway widening and storm improvements by the DOT. This project included two plans sets that were bid and built in conjunction with the FDOT roadway plans. This project was completed within the hard deadline needed by the client to meet FDOT's rigid schedule. Given the build-out of the surrounding area, this project included crossings of major and minor roadways. The overall project included the installation of 870 LF of 4-inch force main, 8130 LF of 6-inch force main, and 9,000 LF of 8-inch force main as well as 200 LF of 6-inch water main, 1,000 LF of 8-inch water main, 1,000 LF of 12-inch water main, 10,400 LF of 16-inch water main, and 3,700 LF of 24-inch water main. This project included a 600 LF 8" HDD under a major roadway. The design was predicated on the need to maintain customer services, relocate existing mains while keeping existing mains in service and the need to be phased in conjunction with DOT maintenance of traffic phasing. In addition to the main relocation there were several residential and commercial water and sewer services along the route that required relocation and phasing considerations with roadway construction to minimize service interruptions. This project did have an area of groundwater contamination and was addressed with the design. Our CPH team provided all preliminary investigations, plan preparation, required FDEP and FDOT permits, bidding assistance as well as provided part-time construction observation services.



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## **R/R GRAVITY WASTEWATER SYSTEM**

### **IMPROVEMENTS AND REPLACEMENT PACKAGE 1**

### **ORANGE COUNTY, FL**

#### **PROJECT DESCRIPTION**

This project consists of Gravity Repair and Rehabilitation of gravity systems located in ten (10) subareas as determined by the County. CPH, Inc. performed the design for this project that consists of the replacement of + 2,275 LF of 8-inch, and + 62 LF of 12-inch gravity main, sealing and coating four manholes, removal and replacement of eight manholes, removal of one manhole, grout and abandonment of three manholes, installation of nine new manholes, and installation of seventeen sewer laterals and twenty-two sewer laterals on private property. This project includes the removal and replacement of a wooden deck, asphalt pavement, curbing, and sidewalk. It also includes landscape restoration.



#### **CLIENT CONTACT:**

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## ARRA-FUNDED WATER SYSTEM IMPROVEMENTS PROJECTS

### CASSELBERRY, FL

#### PROJECT DESCRIPTION

In early 2009, in response to the passage of the American Recovery and Revitalization Act of 2009 (ARRA, or Stimulus Act), the City of Casselberry requested that CPH assist with preparation of the necessary documentation to receive ARRA funds from the Florida Department of Environmental Protection, administered through the FDEP State Revolving Fund (SRF) Loan Program.

The projected construction was for pipe bursting of existing 2-inch diameter galvanized through 12-inch asbestos cement (AC) pipe using high density polyethylene pipe (HDPE). The 6-inch and above AC pipe was to be replaced due to frequent fracturing resulting in lost water and time. Pipes less than 6-inches in diameter were replaced in order to provide fire protection.

CPH prepared the necessary planning documentation to secure the funding with the City. Following award of funds and of the construction contract, CPH performed construction engineering inspection (CEI) and administration as well as assuring SRF and Davis-Bacon Act conformance and reporting.

In late 2009, the City was awarded a \$2,255,000 grant along with a \$450,000 low interest loan to replace approximately 43,300-ft of asbestos cement (AC) pipe in six project areas (Phase 1). The following year, the City was awarded \$2,000,000 in grants and \$1,076,923 in an SRF loan for an additional 117,300-ft of AC pipe replacement for six additional project areas (Phase 2). In 2011, the FDEP issued a change order to the current loan agreement to the City for an additional \$6,709,296 in low-interest loans for pipe bursting with 57,006-ft of AC pipe in ten additional project areas (Phase 3).

CPH had an additional Supplemental Agreement with Casselberry to prepare planning documentation to apply for AC main replacement in an additional 38 project areas (Phase 4).



#### CLIENT CONTACT:

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## MOSELLE AVENUE AND CORRINE TERRACE PUMP STATIONS AND FORCE MAIN REPLACEMENTS

### ORANGE COUNTY, FL

#### PROJECT DESCRIPTION

CPH was responsible for the construction of approximately 7,470 LF of 8 and 10-inch PVC gravity sewer, 28 sanitary manholes, reconnection of 99 service laterals, 5,165 LF of 6-inch force main, two new duplex pump stations and site plans, two existing pump stations abandonments, existing sewer removal or abandonments, and easement acquisitions. The project work involved working within a residential neighborhood within the Rights-Of-Way of Orange County.

CPH collected and reviewed available data from the County and other jurisdictional agencies that had a bearing on the project. CPH had a closed circuit television (CCTV) inspection performed on the gravity collection system. Based upon the gathered information CPH prepared a preliminary layout of the proposed alignment of the new gravity sewer and presented the repair and replacement methods for the sanitary sewer system as well as any other pertinent information for the County's evaluation. A preliminary estimate of probable construction costs was prepared and included in the Design Memorandum. The preliminary design included locating potential sites for two new pump stations and coordinating future utility easements.

CPH coordinated the survey, geotechnical and CCTV investigations which were used for the final design of the project. CPH provided specifications and plans for bidding of the project. Beyond general design issues, CPH prepared a general phasing of work as needed to take into consideration maintaining service to all customers in the work area and minimizing impacts. To assist the County with public awareness, CPH assisted County staff at a public meeting and reviewed the scope of the work with residents impacted by the project.

CPH was responsible for completing applications and obtaining a wastewater collection system permit. Additionally, CPH also obtained the Orange County Building permits for the pump station sites. CPH also coordinated with the Orange County Public Works to facilitate the successful completion of needed project easements.

During construction, CPH provided part time project observations, attended monthly meetings, reviewed shop drawings, replied to requests for information, and reviewed change orders as needed. During construction CPH maintained a close relationship with the County's inspectors and we were able to quickly assist with construction issues as they arose which helped the construction team maintain the schedule for the project.



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## MIAMI-DADE WATER & SEWER DEPARTMENT ACP FORCE MAIN PIPE REPLACEMENTS MIAMI-DADE COUNTY, FL

### PROJECT DESCRIPTION

CPH was awarded three (3) separate contracts by the Miami-Dade County Water & Sewer Department (WASD) to replace approximately 10,736 lf of asbestos cement pipe (ACP) in the areas of Kendall, Homestead Air Reserve Base, and the City of Miami Gardens. The ACP that was replaced served as the sanitary sewer force main distribution system for the listed areas, but had to be replaced with ductile iron pipe (DIP) to better serve its customers.

The Kendall replacement project routed through primarily residential roadways, and included a series of aerial canal crossings and connections. The existing 10 -inch and 12-inch ACP force mains were abandoned in-place, and replaced by 10 -inch and 12 -inch DIP force mains as per WASD Standards. The project replaced 6,623 lf of ACP.

The Homestead Air Reserve Base project is within a Federally secured property and featured an existing 8 -inch ACP which routed from WASD pump station PS1132 to a gravity manhole located NE of the project vicinity. The 8-inch DIP replacement pipe was routed along the private roadway of Bikini Blvd to an alternate gravity sewer manhole.

This manhole is located due east, just outside the secured limits of the Base. The ACP force main was abandoned in-place, and replaced by an 8 -inch DIP force main as per WASD Standards. This project replaced 2,700 lf of ACP.

The replacement project located within the City of Miami Gardens is within a residential area which features a school and city park. The replacement of the existing 4 -inch, 6 -inch and 8 -inch ACP and CI force mains connected WASD pump stations PS44 and PS45. The ACP force mains were abandoned in-place, and replaced by 6 -inch, 8 -inch, and 12 -inch DIP force mains as per WASD Standards. The route fell within the public roadway of NW 207th Street between NW 22nd Ave and NW 17th Ave. The project replaced 1,773 lf of ACP.



### CLIENT CONTACT:

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## PAST PERFORMANCE

## MIAMI SHORES VILLAGE CENTRAL BUSINESS DISTRICT LOW PRESSURE SEWER SYSTEM (LPSS) AND WATER MAIN IMPROVEMENTS

MIAMI SHORES, FL

### PROJECT DESCRIPTION

The CPH/Layne team was selected for this Design Build project for Miami Shores Village. CPH is excited to add another new client! CPH was responsible for the engineering, design, permitting and inspection to support the construction, installation, testing and commissioning activities associated with the construction of a new Low Pressure Sewer System in the Central Business District of Miami Shores Village with discharge to a new regional Pump Station, as well as the associated grinder stations, water main upgrade, and new force mains. The design included the following elements:

- Approximately 3,112 lf of 8-inch internal diameter DIP Force Main.
- New Regional Pump Station that will consist of a wet well application with centrifugal pumps and standby generator and generator building.
- Approximately 4,300 lf of 3 -inch -4 -inch HDPE low pressure sanitary (LPS) force mains to collect the effluent from the Low Pressure Grinder Stations and convey them to the new regional pump station.
- New low pressure grinder pump stations to replace existing septic systems at the existing properties.
- Approximately 4,100 lf of upgraded 12 -inch water mains will replace the existing undersized mains.
- All associated pavement restoration in the alleys and along the roadways.



### CLIENT CONTACT:

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## CITY OF LAKE ALFRED - CR-557 WATER MAIN

LAKE ALFRED, FL

### PROJECT DESCRIPTION

This project consisted of engineering design, bidding and limited construction services for the installation of the City of Lake Alfred CR-557 water main extension. The project consisted of 10,105 lf 12-inch PVC water main within the public right-of-way of CR-557 in Polk County.

CPH worked directly on the SRF facility planning documents and provided the capital financing plan. CPH worked together with the City to plan and establish the most practical route for the utilities. The route layout involved coordination with landowners and Polk County. CPH provided drawings and technical specifications for the construction of this project and associated items. Drawings were prepared based on topographical surveys of the route. The alignment followed along existing roadway rights-of-way within Polk County and was within an area with roadway conflicts and traffic maintenance issues.

CPH was responsible for permitting including water permitting for FDEP as administered by Polk County Health Department. CPH assisted the City in the preparation of the permit applications and was instrumental in responding to the request for additional information. CPH also assisted the City in obtaining the Polk County right-of-way utilization permits.



### CLIENT CONTACT:

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## ISLAMORADA VILLAGE WIDE WASTEWATER SYSTEM, DESIGN, BUILD, OPERATE (DBO) ISLAMORADA, FL

### PROJECT DESCRIPTION

CPH's areas of responsibility included the design and permitting of the vacuum collection system for the Island of Upper Matecumbe Key; vacuum pumping stations for the Islands of South Plantation Key, Upper Matecumbe Key and Lower Matecumbe Key; and low pressure force main collection systems for the Island of Windley Key and portions of Upper Matecumbe Key.

CPH provided input data and documentation associated with areas of responsibility incorporated into the Preliminary Design Report for the overall project. This work included an analysis of flow data that incorporated FKEC water consumption information, review of existing package wastewater plants, and survey/analysis provided within the project solicitation documents in order to properly project anticipated wastewater flows for system design.

Vacuum pump station designs were based on vacuum equipment provided by AirVac. CPH provided design for two general use vacuum pumping stations and one vacuum pumping station that also incorporated a force main re-pumping station within the structure. Architectural design of the buildings incorporated aspects of the respective individual site locations in order to blend within the neighborhood. All buildings were designed to withstand hurricane force winds of 150 mph and associated storm surge. Individual pumping stations included AirVac vacuum equipment sized for the specific basins being collected. The vacuum collection system for Upper Matecumbe Key incorporated connections for approximately 986 equivalent dwelling units (EDU).

The system provides service along both sides of Overseas Highway in Upper Matecumbe using a conventional saw-tooth profile as generally recommended by AirVac. The project consisted of 43,957 lf of PVC pipe ranging in size from 4-10 -inch. The low pressure force main collection systems for Upper Matecumbe Key and Windley Key incorporated connections for approximately 1,755 (UMK) and 678 (WK) equivalent dwelling units (EDU). The systems provide service along both sides of Overseas Highway using a combination of conventional and trenchless technology. Combined the project consists of 37,410 lf of HDPE pipe ranging in size from 1 1/4-6 -inch. CPH provided a complete system design including plan and profile drawings of each pipe run. CPH conducted system hydraulics calculations using Sewercad. CPH provided limited CEI services for this portion of the project.



### CLIENT CONTACT:

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## 5. WILLINGNESS TO MEET TIME & BUDGET REQUIREMENTS

### TIME, BUDGET AND QA/QC

CPH has ample staff available to perform projects on time and within budget for the City of Pembroke Pines. The team has extensive in-house capabilities to take on this project, and we are committed to providing the services as outlined in our attached schedule.

### Methods and Controls to be Utilized to Balance and Maintain Quality, Schedule and Budget

The team will be led by Todd H. Hendrix, P.E., CGC, and Kyle M. Bechtelheimer, P.E. They will serve as the City's immediate contacts, and will coordinate all projects and activities as the primary liaisons for the City and CPH.

The team, located at our Miami office, includes engineers, designers, surveyors, environmental scientists and administrative personnel. CPH is currently finishing design services for other clients, but is actively seeking work for our Miami Office staff. As a result, our staff is available and has the capacity to perform projects as they are assigned, and CPH is committed to meeting budget and schedule requirements. Keys to the success of projects include:

- Open lines of Communication
- Knowledgeable Team Members
- Local and Available Staff
- Monthly Project Meetings
- Weekly Internal Meetings with Project Manager and Design Teams.
- Technical Review Committee that will assist in quality assurance and control

CPH's design services are carefully budgeted at the beginning of the project. We attempt to divide the job into its various tasks and estimate amounts of labor and expenses needed for each. We have an in-house computerized cost control system capable of providing the Project Manager with current job costs, as obtained through entry of weekly time sheets. The original budget is used as a guide to determine progress and efficiency by checking hours expended versus hours budgeted. The budget is also used to plan the needed level of manpower to complete the job on time.

In addition to engineers and construction personnel, the team has the added value of having on-staff licensed general and utility contractors that can review projects from various perspectives. With experienced personnel that have provided construction services for over 30 years, this enables us to review the project from a constructability and/or mean and methods view point. In addition, the licensed on staff contractors review projects and provide "real-time" cost estimates throughout the duration of the project. This construction experience allows the team to view these projects through the eyes of a contractor with the ability to identify intangible cost factors/elements such as restricted site conditions, specialized equipment requirements, excessive material and labor costs, impacts on schedules, etc. that may not be apparent to the design engineer.

[illegible]

## Project Schedule - Survey, Design and Permitting

[illegible]

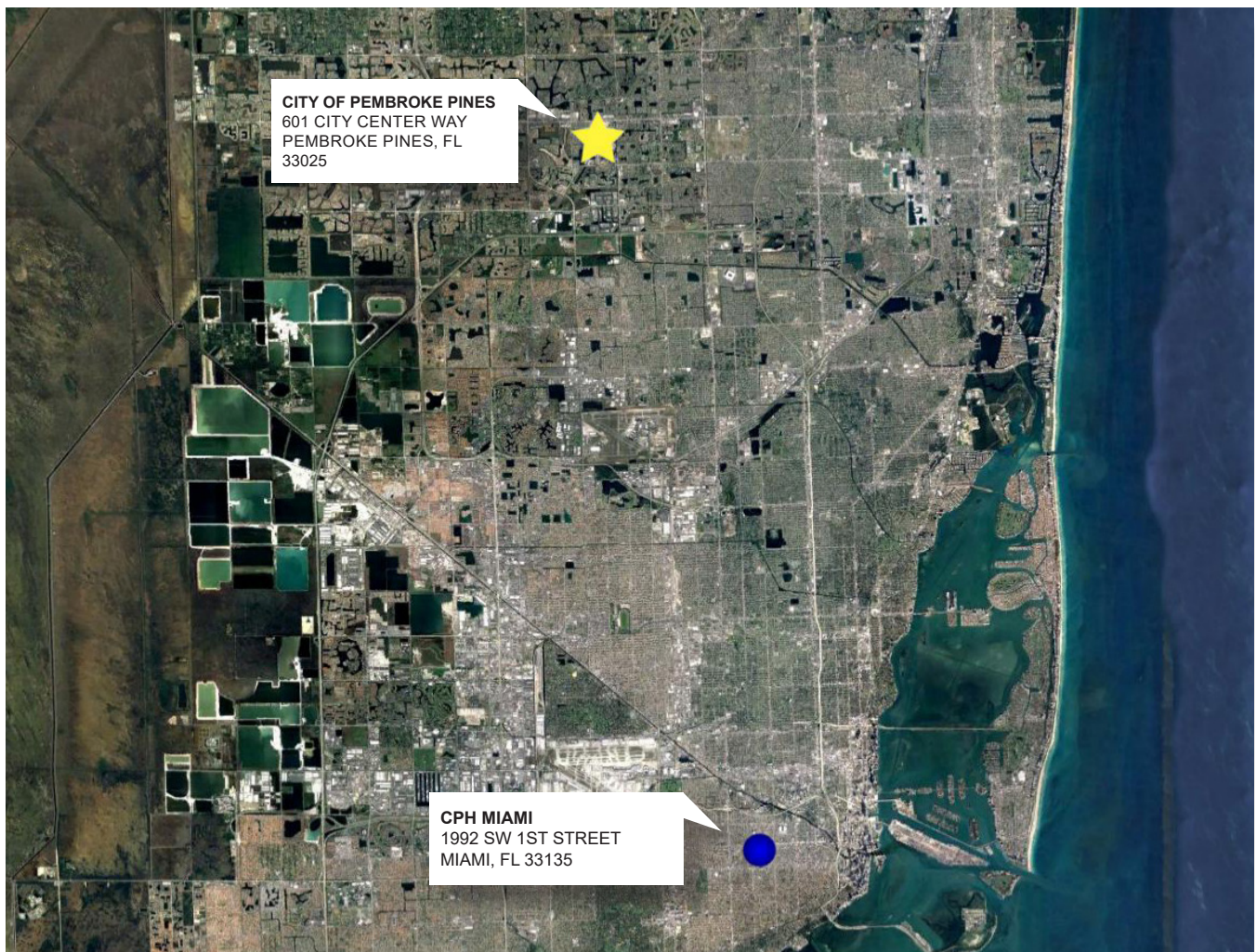
NOTE: Timing shown on this schedule is approximate and is for planning purposes only (survey start is approx. 2 weeks after NTP, assumed to be issued by 4/1/19). The timing of a number of the items is outside the control of CPH, and as such, the timing shown is not guaranteed.

Mar 5, 2019



## 6. LOCATION

CPH has ten (10) offices in the State of Florida with support of approximately 240 personnel throughout the company to assist in the projects for the City of Pembroke Pines. ***The City will have the direct commitment of the CPH Miami Office, located at 1992 SW 1st Street, Miami, FL 33135.*** The CPH Miami office is staffed with employees that include registered personnel, administrative staff, and owners of the firm to accomplish the projects on time and within budget.



OFFICE LOCATION	APPROXIMATE DISTANCE FROM CITY OFFICES
CPH Miami	21.2 Miles (28 Minutes)

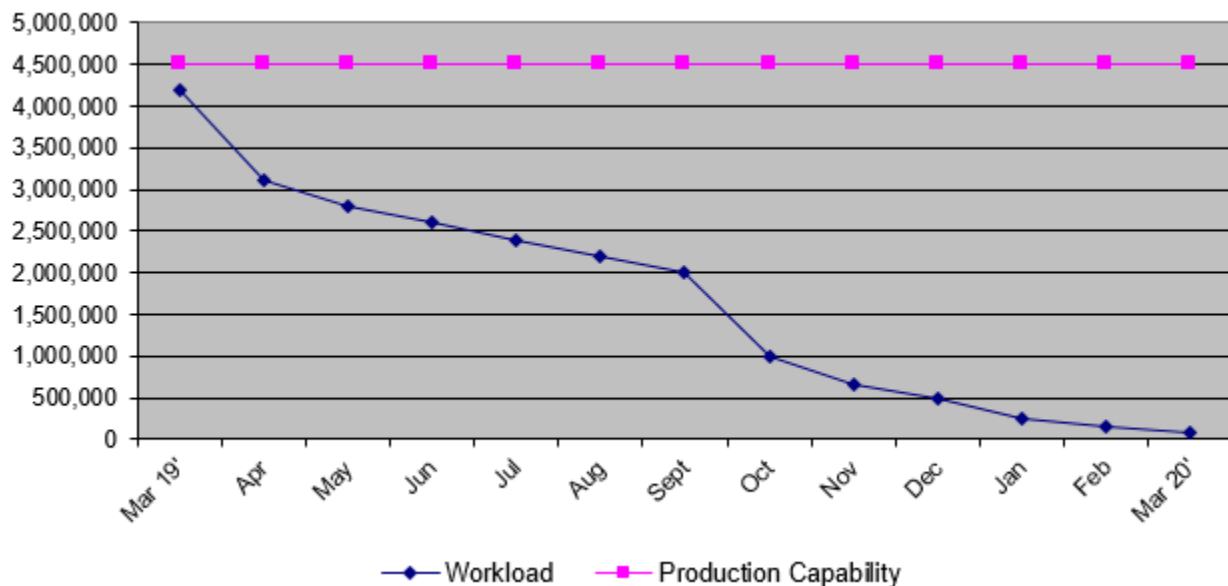
# 7. RECENT, CURRENT, & PROJECTED WORKLOAD

## CURRENT WORKLOAD AND DAILY AVAILABILITY TO HANDLE SCOPE OF SERVICES

CPH has reviewed the scope of services and has developed ideas for staffing the projects. Based on our recent experience, and our project manager's experience, we feel comfortable in meeting the scope requirements. The Miami staff is available to complete the Pines Village Water Main Improvements Phase II project as outlined in the scope of work. CPH has the personnel and resources immediately available to carry the Pines Village Water Main Improvements Phase II project to successful completion. The firm's Miami office can provide approximately 1,120 manhours per month and CPH's corporate monthly availability is approximately 56,000 manhours a month. The CPH Miami office has more than adequate personnel and availability to provide the services to the City of Pembroke Pines.

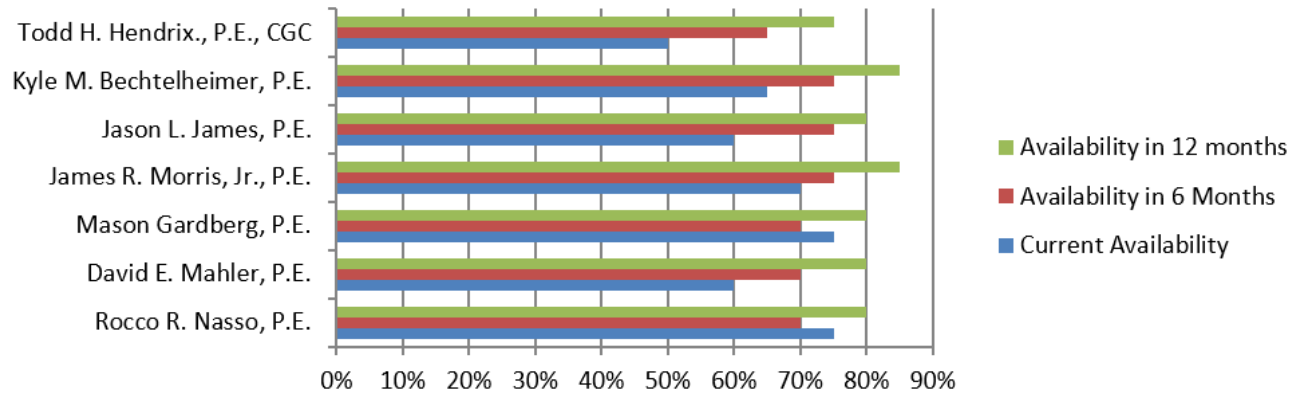
### Corporate Workload / Availability

The current and projected workload of our team is such that we can provide responsive service to the City of Pembroke Pines. We are well-staffed, equipped with our nearby location, and believe that we and our team members can provide a high quality, professional service to the City that is completely responsive and cost effective. The graph below depicts our current contracted backlog with no consideration for any additional work. The current workload will spread over 13 months. Our current production capability is \$4,500,000 per month. With that capacity, there are more than adequate personnel hours to cover the workload.



**RECENT, CURRENT, & PROJECTED WORKLOAD****Staffing Availability Matrix**

The team proposed to provide services to the City of Pembroke Pines has adequate time available to dedicate to the successful completion of the Pines Village Water Main Improvements Phase II Project.



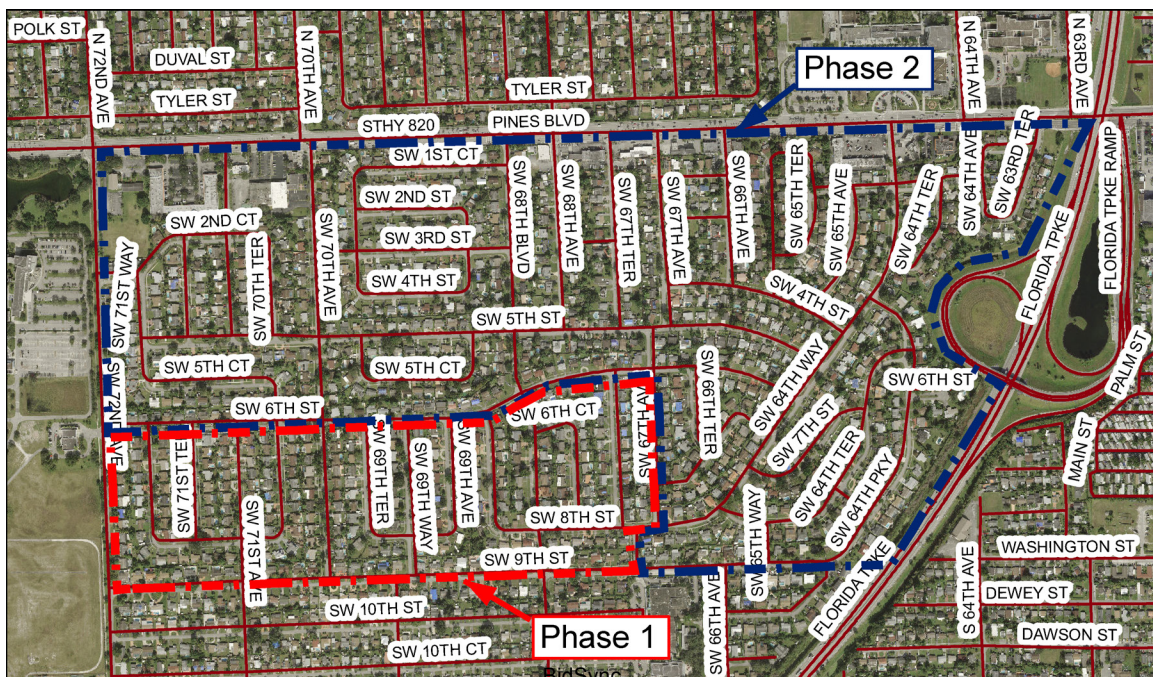


## 8. UNDERSTANDING & APPROACH TO THE WORK

CPH has developed a proven and successful approach to implementing projects such as the one requested by the City of Pembroke Pines. We have provided design, permit, and complete post design for water distribution projects identical to the Pines Village Phase II area. This includes creating looped water main systems, and working with private residences in moving meters from the back of houses to the front, and replacement of old asbestos cement pipe (ACP). CPH has some of the most in depth expertise related to pipeline projects in the State of Florida, and in fact recently completed over 11,000 linear feet of utility ductile iron pipeline improvements and ACP replacement project for Miami Dade County. CPH offers an unprecedented amount of recent Potable Water System design experience, especially working within established urban areas. CPH has performed services similar to those expected on the Pines Village Phase II project for our utility clients for over three decades. Details of some of these projects are provided in Section 4.

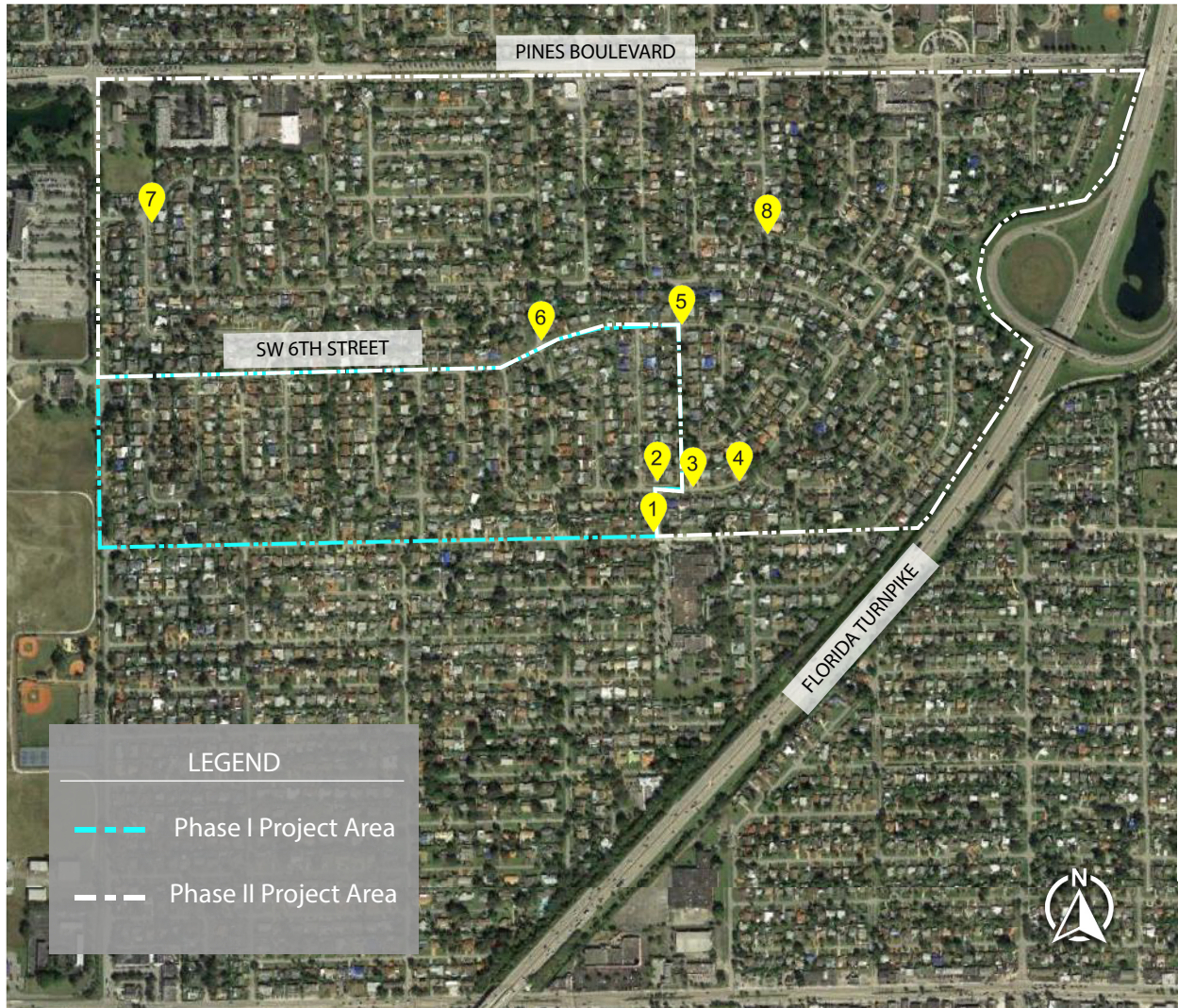
We understand the City's objective very clearly and can provide timely services to abandon the old ACP pipe and small diameter galvanized steel (GS) water mains, design and permit new PVC potable water mains, and to convert back of house water meters to typical front of house or right of way (ROW) meters. The exhibit on the following page demonstrates our understanding of the specific area for the City of Pembroke Pines' Pines Village Water Main Improvements Phase II project. This area is approximately 240 acres composed of primarily residential zoning (R-1C) with some small business zoning along Pines Blvd.

The area within the limits of Exhibit 1 currently has aged potable water infrastructure consisting of small diameter ACP and small diameter GS pipe. The City of Pembroke Pines has identified this area for potable water main improvements in the City's Utility Capital Improvement Plan (2018-2019), and has already completed Phase I of the Pines Village Water Main Improvements project, with approximately 20,000 linear-feet of potable water main installed. Phase II of the Pines Village project will build off the Phase I project; connecting to the provided stub-outs and continuing the efforts of the City to update the infrastructure within this community. Phase II will consist of approximately 44,000 linear-feet of 6-inch, 8-inch, and 12-inch PVC Water Main. Based on our review of the LOI, the Pines Village Phase I plans, our team's field visit, and past history working within the City; we have developed an in depth understanding of this area. CPH has a complete understanding of the project's intent, key project issues, and most importantly, the expertise to complete this project.





Pines Village Water Main Improvements Phase II



12-Inch Stub Out



8-Inch Stub Out



8-Inch Stub Out



Existing ACP Location



Proposed Pipe Route



8-Inch Stub Out



Proposed Pipe Route



8-Inch Stub Out



Proposed Pipe Route



## UNDERSTANDING & APPROACH TO THE WORK

### DESIGN CONSIDERATIONS

**Water Distribution Design** – CPH will design the proposed potable water distribution system to fit the needs of the City and the Pines Village Community. Based on our site visit, it is easy to see how much this community cares for their properties and local neighborhoods. The beautification elements along the ROW and on the edge of the homes in this area display this care by the residents and needs to be considered during design of the water system. The design will take into consideration the City's existing water model and master plan. The model will be reviewed for accuracy and be updated within this area based on current pressure data from the City's nearby Water Treatment Plant (WTP). CPH's staff has significant experience in water modeling and utilizing WTP data to create extremely accurate models. If no model is available, CPH will create a small model in Bentley WaterCAD to check the system demand flows and determine best pipe sizing. The modeling efforts will be quick and precise to expedite the project's design while accurately determining the best method for distributing water to the Pines Village community. CPH will evaluate pressures in the area and specify the required pressure reducing devices to for each home. CPH will focus on maintaining a minimum 8-inch looped water main system to be contiguous throughout the project. The 12-inch main recently designed along SW 9th St. will be evaluated to determine if it needs to come further into the community in order to provide adequate water supply to the looped 8-inch system. This will ensure the required fire flow is available for the proposed fire hydrants. Fire hydrants will be spaced per Broward County and City of Pembroke Pines standards, with location, distance between hydrants, and accessibility in mind. The large 50-foot ROWs within this community will be utilized to place new water mains to limit conflicts with existing and future utilities, as well as reduce restoration efforts and impact to residents.

Exhibit 2 shows a preliminary design of the 8-inch looped water main system to serve the residents in Phase II of the project and a typical detail for converting back of house to ROW metered connections. CPH will determine if any pipe sizes can be reduced to 6-inch to save on cost to the City. There are many streets along the northern portion of the project which intersect with SR 820 which may require up to nine 8-inch taps to the existing water main. CPH will evaluate these connections to determine if up to three can be removed to save on cost while limiting dead-end water mains. This will also reduce the work to be completed within FDOT ROW. CPH will thoroughly review existing GIS and as-built data to verify if any stub-outs along SR 820 may be utilized to further reduce construction costs and work within the FDOT ROW. The abandonment procedures and options for the existing water mains will be provided in the PDR with associated costs so the City can provide direction to either abandon in place, grout fill, or demo and remove the existing mains.

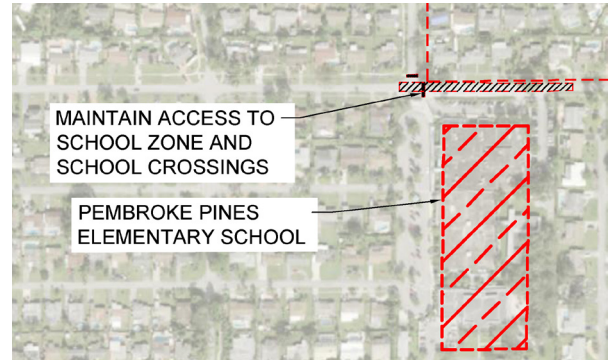
**Value Engineering** – CPH will prepare Preliminary Opinion of Construction Costs (OPCC) during 30% design phase to include in the PDR. This estimate will update the City on the proposed construction costs based on the most recent cost data from FDOT and CPH's recent construction projects in South Florida. The OPCC will be updated at every submittal to the City. CPH will review methods of construction and propose open cut along with the best alternative construction method for the City to review with the PDR.

**ACP Disposal** – CPH will evaluate each Asbestos Cement pipe (ACP) and minimize the connections to reduce the required ACP pipe to be removed. CPH will provide limits of ACP removal required to complete the project, and costs associated with either abandoning in place or grout filling the remaining portions, during the 30% design phase within the PDR. Asbestos Cement pipe (ACP) must be removed, handled and disposed of in a manner that keeps the material in predominately whole pieces to be considered non-friable. Cutting with the use of power tools or breaking shall be limited and only done with the approval of the Engineer and required safety precautions. The pipe must be kept wet during removal. Wetting minimizes asbestos fibers from being released to the atmosphere. The ACP shall be removed and disposed of by a State of Florida Licensed Asbestos Contractor. The Contractor shall comply with all EPA and OSHA regulations for handling and disposal of ACP.

## UNDERSTANDING & APPROACH TO THE WORK

**Dewatering** – The Pines Village area is not within any Broward County Drainage Districts. Based on the geotechnical report completed during Phase I, there should be minimal dewatering required for installing the proposed water main by open cut methods or other construction methods. If needed, CPH has the experience in assisting contractors in permitting any dewatering or discharge permits through SFWMD, Broward County, and FDOT.

**Maintenance of Traffic** – Maintenance of Traffic (MOT) will be a very important design element that will require extra attention to maintain residential access throughout the life of the project. Access to each road and driveway will need to be maintained at all times during construction. CPH will ensure the communities residents are minimally impacted by the required MOT. Special detail will be required if any wet taps are needed within the FDOT ROW. CPH's transportation division includes four licensed Professional Engineers who maintain the FDOT Advanced MOT certification. Detailed MOT plans, with specific public notification and property owner coordination requirements will be critical to administer prior to and during construction to prevent any grievances with the residents. The MOT plan will be phased accordingly with construction plans and will be updated throughout construction of the phases to ensure no residential concerns arise.



**Restoration** – A critical aspect of any construction project within a residential neighborhood is to minimize damage during construction to driveways, vegetation, and the roadway. It is easy to see the level of care the residents apply to their properties within this area. As part of design, CPH will incorporate these components into design to minimize impacts, as well as include notations on plan to restore the landscape/hardscape of the neighborhood to like/better conditions. CPH is available to attend public outreach meetings to determine and address neighborhood concerns. CPH's in-house landscape architects are available, if needed, to create landscape restoration plans to meet the needs of the project. During the PDR review meeting with the City, CPH will discuss the different methods of repaving and restoration to include in the 100% design.

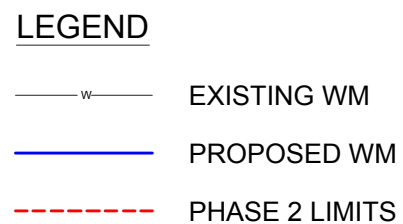


Designed by:	K.B.	△
Drawn by:	K.B./R.G.	△
Checked by:	T.H.H.	△
Approved by:	T.H.H.	△
Scale:	1" = 10'	△
Date:	02/27/19	△
Job No.:		
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No.	Date	By
	Revision	

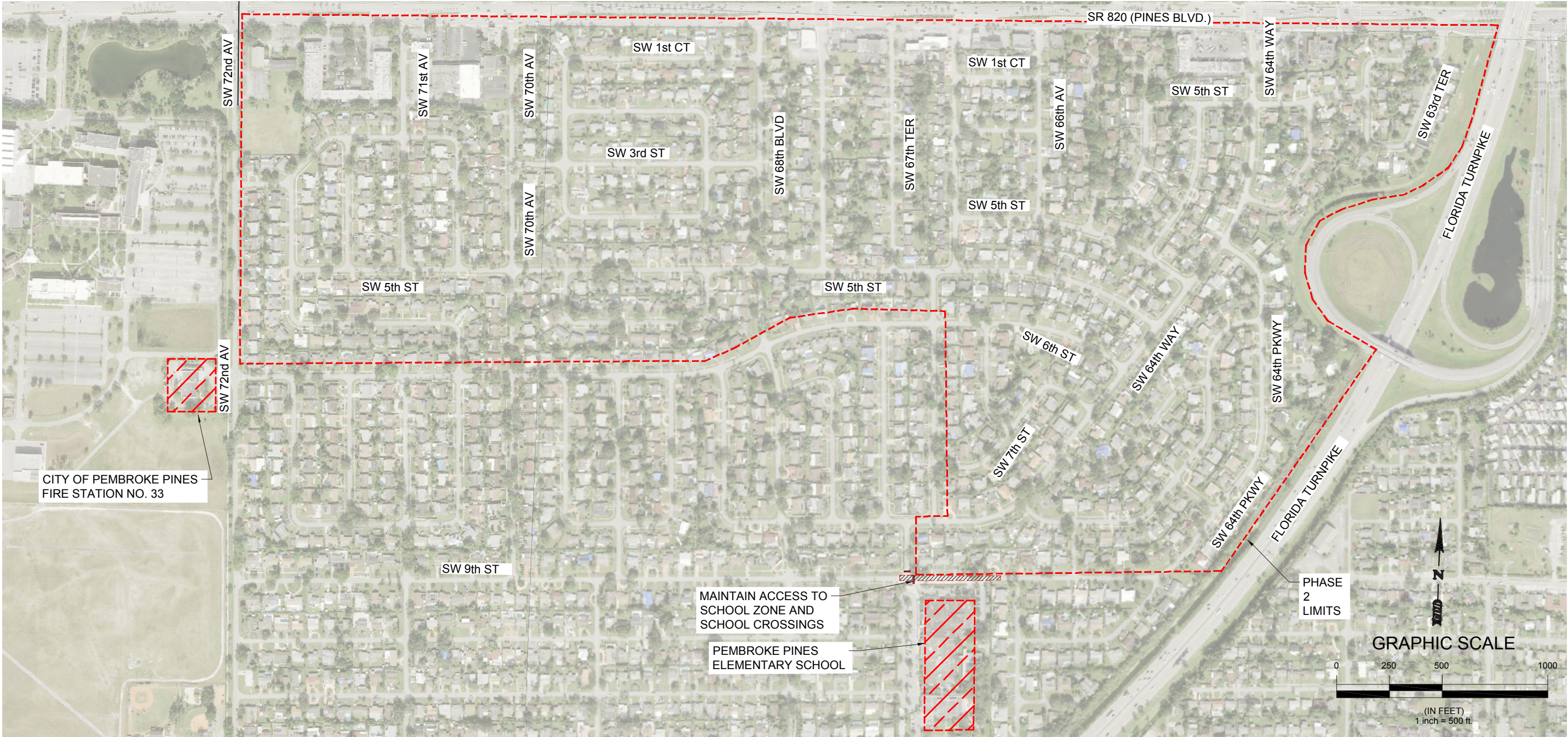
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Lndscp. Lic. No. LC0000298

**PROPOSED WATER MAIN  
PINES VILLAGE WATER MAIN  
IMPROVEMENTS - PHASE 2  
PEMBROKE PINES, FL**

Sheet No.  
**EX-2**







TRAFFIC CONTROL NOTES:

- IF THE TRAFFIC CONTROL PLAN USED IS DIFFERENT THAN THE TRAFFIC CONTROL PLAN AS SHOWN IN THESE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A TRAFFIC CONTROL PLAN WHICH CONFORMS TO ALL THE REQUIREMENTS IDENTIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)(LATEST EDITON), THE FDOT STANDARD PLANS, 102-600 SERIES (LATEST EDITON) & THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 102 (LATEST EDITION). THIS TRAFFIC CONTROL PLAN MUST BE REVIEWED AND APPROVED BY THE CITY OF PEMBROKE PINES.
- THE CONTRACTOR SHALL PROVIDE AT LEAST TWO (2) WEEKS NOTICE TO THE CITY OF PEMBROKE PINES PRIOR TO THE IMPLEMENTATION OF THE MOT PLAN.
- THE CONTRACTOR SHALL ADHERE TO ALL THE REQUIREMENTS AS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)(LATEST EDITON), THE FDOT STANDARD PLANS, 102-600 SERIES (LATEST EDITION) & FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 102 (LATEST EDITION), AS FOLLOWS:  
  
USE STANDARD PLANS INDEX 102-602 FOR SHOULDER CLOSURES  
USE STANDARD PLANS INDEX 102-603 FOR WOR WITHIN THE TRAVEL WAY  
USE STANDARD PLANS INDEX 102-604 FOR WORK IN INTERSECTIONS  
USE STANDARD PLANS INDEX 102-605 FOR WORK NEAR INTERSECTIONS  
USE STANDARD PLANS INDEX 102-660 FOR PEDESTRIAN CONTROL
- TRAFFIC CONDITIONS (ACCIDENTS AND OTHER UNFORESEEN CONDITIONS) MAY REQUIRE THE CITY OF PEMBROKE PINES TO RESTRICT OR REMOVE TRAFFIC CONTROL MEASURES OR REVISE THE IMPLEMENTED TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL RESPOND AND PROVIDE ADJUSTMENTS AS DIRECTED BY THE CITY WITHOUT DELAY UNDER THESE CONDITIONS. THE CONTRACTOR SHALL ALSO RESPOND WITHIN 30 MINUTES UPON NOTIFICATION BY THE CITY TO ANY REQUESTS FOR CORRECTION, IMPROVEMENT OR CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES. WHEN DRIVEWAY CLOSURES ARE NECESSARY, THE CONTRACTOR SHALL COORDINATE ALL DRIVEWAY CLOSURES WITH PROPERTY OWNERS.
- THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA. MINIMUM LANE WIDTH FOR LANES USED FOR TEMPORARY TRAFFIC CONTROL SHALL BE 10 FEET.
- THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. ALL WORK ZONE SIGNS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL REMOVE, RELOCATE OR COVER ANY EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. WHEN THE CONFLICT NO LONGER EXISTS, THE CONTRACTOR SHALL RESTORE THE SIGNS TO THEIR ORIGINAL POSITION. SHOULD ANY SUCH SIGNS BE DAMAGED DURING THIS PROCESS, THEY SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- IF THE CONTRACTOR CHOOSES TO UTILIZES A FULL ROAD CLOSURE DURING THIS PROJECT, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR A ROAD CLOSURE FROM THE CITY OF PEMBROKE PINES. SHOULD A ROAD CLOSURE BE PERMITTED, THE CONTRACTOR SHALL GIVE ALL RESIDENTS WITHIN THE PROJECT LIMITS A MINIMUM OF ONE (1) WEEKS NOTICE OF THE ROAD CLOSURE PRIOR TO IMPLEMENTATION. THE ROAD CLOSURE PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF TRAFFIC CONTROL GENERAL NOTE NO. 1.
- DUE TO THE RESIDENTIAL NATURE OF THE AREA, NO PERMANENT LANE CLOSURES ARE ALLOWED ON THIS PROJECT, UNLESS EXPRESSLY PERMITTED BY THE CITY OF PEMBROKE PINES. AS SUCH, ANY AND ALL DROP-OFF CONDITIONS WHICH ARE CREATED DURING A WORK PERIOD SHALL BE RESTORED BY THE END OF THAT SAME WORK PERIOD, PER THE DROP OFF CONDITION NOTES OF FDOT INDEX 102-600, SHEET 9 OF 12.
- MODIFICATION TO THE TRAFFIC CONTROL PLAN AND/OR DEVICES.



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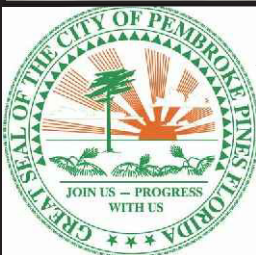
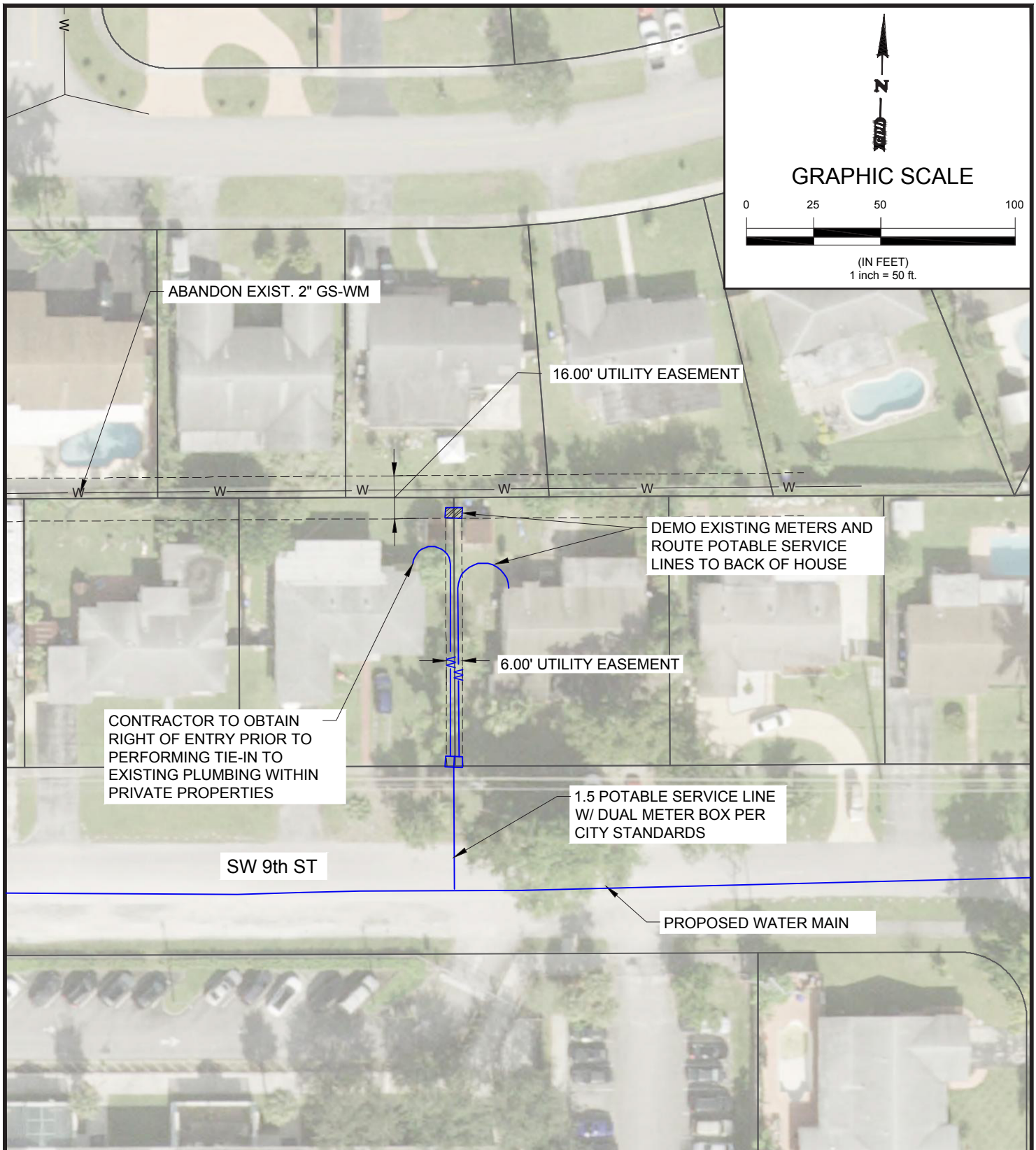
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K.B.	K.B./R.G.	T.H.H.	T.H.H.	1" = 10'	02/27/19					

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Survey L.B. No. 7143  
Arch. Lic. No. AA2600926  
Landscape Lic. No. LC0000298

**MAINTENANCE OF TRAFFIC**  
**PINES VILLAGE WATER MAIN**  
**IMPROVEMENTS - PHASE 2**  
**PEMBROKE PINES, FL**

Sheet No.  
**EX- 3**





### TYPICAL BACK OF HOUSE SERVICE CONVERSION

PINES VILLAGE WATER MAIN  
IMPROVEMENTS - PHASE 2  
PEMBROKE PINES, FL

Sheet No.

**EX-4**

## UNDERSTANDING & APPROACH TO THE WORK

### PROJECT WORK PLAN

Based on our preliminary site visit and data collection we recognize there are several key challenges our team is ready to address to help this project be successful. These include:

- Correct sizing of Potable Water Main
- Piping Layout to maximize Right of Way (ROW) use for future pipeline work
- Maintaining and Restoring ROW during and post-construction
- Maintenance of Traffic
- Overall Construction Cost and Budget
- Proper Abandonment/Disposal of ACP
- Converting Back-of-House Services

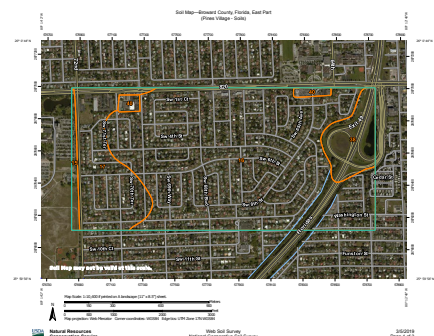
The key project challenges identified above are typical of many potable water main projects, especially in residential neighborhoods. This project will demand special consideration for proper Maintenance of Traffic throughout the neighborhood to limit impacts to the residents. **We have put together a proven work plan on the following pages that outlines our design process and our plan to address these challenges.**

**Preliminary Design Phase** – CPH starts the design process by meeting with City staff prior to start of work for a kick-off meeting. After the meeting, CPH will perform another detailed walk-through of the project to investigate all aspects of the area. Once the foundation is established, CPH will prepare a conceptual potable distribution plan for the project. The preliminary plan will evaluate the best methods of design, construction, and potential cost saving measures. In the preliminary phase, CPH will complete all due diligence, site investigation, and data collection to expedite design and permitting. Pre-application meetings with each permitting agency will be held to decrease review times and number of RFIs. CPH will compile a Preliminary Design Report (PDR) specific to the project's needs to supply to the City of Pembroke Pines for review. This report will give an in depth look of the evolving project and allow the City to provide guidance on the any design considerations during the Preliminary Design review meeting.

**Survey** – Based on the information shown in the Phase I plans, CPH may be able to utilize existing survey to complete the preliminary design. CPH will review the as-builts of the Phase I construction, the existing survey, and complete thorough site visits to determine if any aspects from the existing survey needs to be brought up to date. Upon completion of this review and conversation with City staff, the CPH Project Manager will provide direction to our in-house Surveying.

**The CPH survey department has the unique, cost-saving capability to provide "High-Definition Laser Surveying".** The laser scanner not only collects ground data, but also collects all aerial information, including overhead utilities, mast arms, signs, etc., which is very important when considering methods of construction and potential issues which could arise in the field. The laser scan procedure is supplemented with conventional survey for the underground data collection, and compiled into a standard AutoCAD drawing meeting the horizontal, vertical, and state plane requirements for this project. Since the scan picks up the entirety of the area, if more information on a specific area is required during design or construction, the scan will typically contain the needed information already. Further, since this method of survey can be performed from the sidewalks, without the need to interrupt traffic, it is less of an impact to the residents.

**Geotechnical Engineering** – CPH will coordinate and utilize sub-consultant Universal Engineering Sciences, Inc. to perform the necessary Geotechnical work. Universal will review the Geotechnical report from Phase I, obtain strategic core bores based on CPH's guidance, in order to determine Seasonal High Water Level (SHWL), hydraulic conductivity, and to assess the permeability of the soils at several points along the proposed project area. Universal will prepare a report to include in CPH's 30% Design Submittal, which will include this data along with recommendations for backfill and asphalt repair.



## UNDERSTANDING & APPROACH TO THE WORK

**Design/Permitting Phase** – The Design/Permitting Phase main tasks are to prepare the contract documents, including plans and specifications, cost estimates, value engineering, QA/QC, utility coordination, and perform various levels of public involvement. CPH's approach to this project will include draft document submittal at the 30%, 60%, 90%, and 100% stages. We will meet with the City's Project Manager after each submittal to provide an update on the work as well as answer any questions or concerns. The plans will be prepared in accordance with the City of Pembroke Pines, Broward County, and FDOT green book Standards. Where applicable, precedence will be given to any City standards that are more stringent than other agencies. Foreseen permitting agencies to submit and obtain permits from are listed below:

- City of Pembroke Pines
- Broward County ROW
- Broward County Development and Environmental Review
- South Florida Water Management District (SFWMD)
- Florida Department of Environmental Protection (FDEP)
- Florida Department of Health (FDOH)
- Florida Department of Transportation (FDOT)



**QA/QC** – All projects are reviewed throughout the design phase and prior to each submittal to the City. QA/QC will be led by Gerald M. Cox, CGC, CUC who has over 38 years of experience. After the design team is assembled, an internal meeting will be held with Mr. Cox and one of CPH's licensed general and utility contractors. The design team presents the project to QA/QC team members prior to their evaluation. The project will be reviewed in terms of constructability, conflict resolution, level of detail, and compliance with local codes. Following the review, a follow-up meeting with the design team is set to discuss any project concerns, design questions, and subsequent redlines outlining required edits. These edits are incorporated into the design set and submitted to the City as a quality submittal. CPH has the added benefit of having over 4 licensed general contractors on staff. This real world construction experience is invaluable not only for design, but review of the opinion of probable cost.

**Cost Estimating** – CPH has considerable experience in planning, engineering and construction administration to provide both cost effective engineering services and construction projects. Our experience in design, bidding and construction administration in the State keeps us up to date on current construction activities, methods and costs. CPH's design services are carefully budgeted at the beginning of the project. We have an in-house job computerized cost control system capable of providing the Project Manager with current job costs as obtained through entry of weekly time sheets. The original budget is used as a guide to determine progress and efficiency by checking hours expended versus hours budgeted. The budget is also used to plan the needed level of manpower to complete the job on time.

The construction cost estimate for the project is monitored regularly. An "early" cost estimate is prepared utilizing our experience with similar projects, estimates from equipment suppliers, and cost curves. We include in our early estimates, proper allowances for incidental items and also for major items which cannot be exactly quantified at the time of the initial estimate. Internal value engineering procedures help to guide the project team to the most cost effective construction solutions. Value engineering is also utilized to evaluate the project and whether or not the overall construction costs are within the targeted budget. Constructability reviews and Value Engineering services will be provided as a method of minimizing errors and omissions while minimizing overall project cost. Means and Methods of construction will also be reviewed which can in turn minimize construction times and expense also resulting in cost savings to the City of Pembroke Pines. We have outlined some of recent similar projects and provided a detailed comparison demonstrating our ability to provide projects that are within budget.



## UNDERSTANDING & APPROACH TO THE WORK

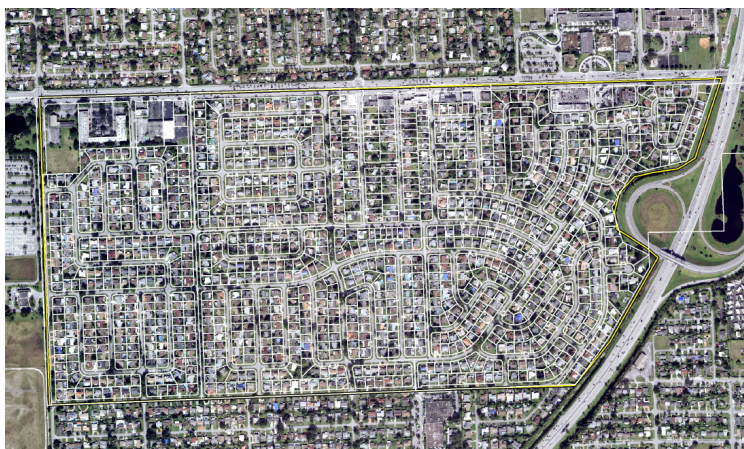
PROJECT NAME / CLIENT	ORIGINAL COST	FINAL COST
<b>Moselle Avenue and Corrine Terrace Pump Stations and Forcemain Replacements</b> <i>Orange County</i>	\$275,268 (Design) \$2,017,000 (Construction)	\$275,268 (Design) \$2,017,000 (Construction)
<b>ISR 482 Utility Relocations (FDOT JPA)</b> <i>Orange County</i>	\$524,000 (Design) \$10.376 Million (Construction)	\$524,000 (Design) \$10.376 Million (Construction)
<b>SR-426 Utility Relocation Project (FDOT JPA)</b> <i>City of Oviedo</i>	\$59,164 (Design) \$1.9 Million (Construction)	\$59,164 (Design) \$1.9 Million (Construction)
<b>SR 46 Utility Relocations</b> <i>City of Sanford</i>	\$95,025 (Design) \$2,190,637 (Construction)	\$95,025 (Design) \$2,190,637 (Construction)
<b>Miami Shores Village Central Business District Low Pressure Sewer System (LPSS) and Water Main Improvements</b> <i>Miami Shores Village</i>	\$376,000 (Design) \$3,534,783 (Construction)	\$376,000 (Design) \$3,534,783 (Construction)
<b>Islamorada Village Wide Wastewater System, Design, Build, Operate (DBO)</b> <i>Village of Islamorada</i>	\$1.735 Million (Design) \$98 million (Construction)	\$1.735 Million (Design) \$98 million (Construction)

## PUBLIC OUTREACH PROGRAM

CPH understands that public involvement is critical to every project. CPH has been providing public involvement and information meetings throughout Florida for over two decades. Our public involvement capabilities and experience on a variety of pipe infrastructure and streetscape projects have proven to deliver positive opinions about pipeline projects by:

- Communicating clearly and concisely with City staff and, more importantly, the general public.
- Developing a proactive public outreach program so that property owners are not surprised and have information about the project, who to contact, and any potential concerns are mitigated.
- Understanding maintenance of traffic issues, options and producing innovative and proactive approaches to public involvement that takes the information directly to the people via newsletters, public meetings, the Web, and social media.

During this project, CPH will continually maintain coordination with all local or regional partners, such as City of Pembroke Pines, Broward County Public Works, Broward County MOT, FDOT, and the local businesses and residents along SR 820. The CPH team has learned that establishing an open dialogue, as well as obtaining and maintaining the "buy-in" from all stakeholders maximizes the support for a project by the local community and ensures a design that meets as many of their needs as possible. CPH is able to assist in obtaining and managing the right of entry forms with the help of the selected General Contractor (GC), to ensure the GC will be able to gain access to private property to re-route the plumbing from back of house to the new meters within the ROW.



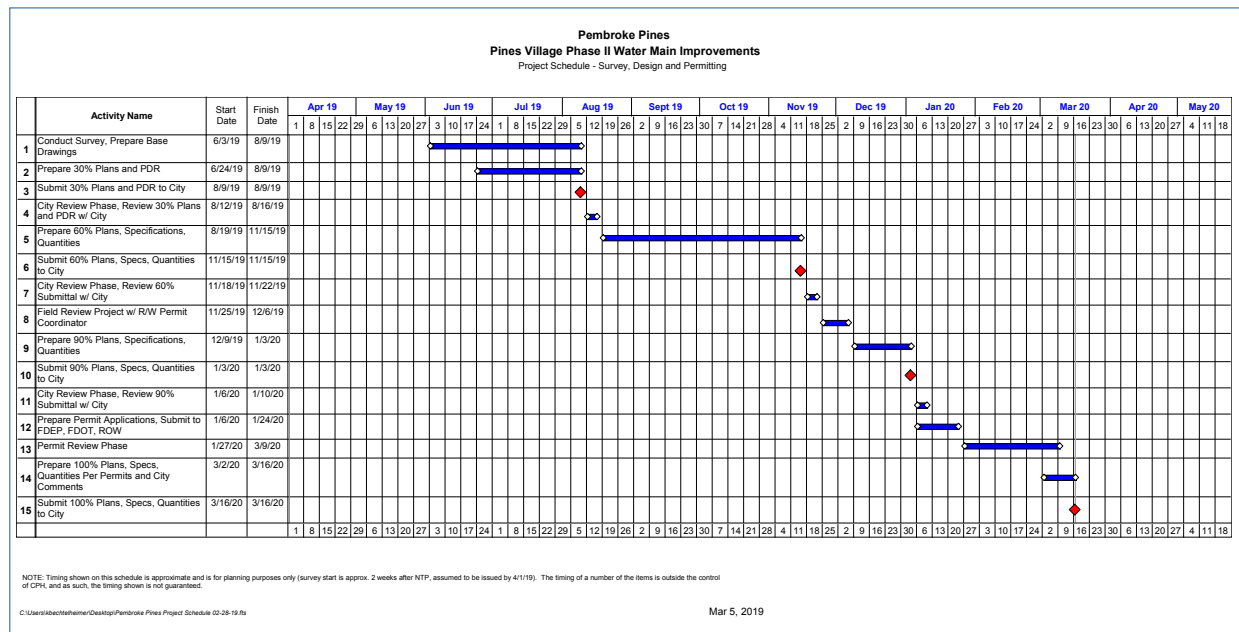
**COMMUNICATION IS KEY.**

**OVER 930 AFFECTED  
PROPERTY OWNERS**

## UNDERSTANDING & APPROACH TO THE WORK

### PROJECT SCHEDULE

We are committed to meeting any timelines the City has for this project. We have provided a preliminary schedule to start the discussion with the City in Section 5. This schedule will be further refined during our kick-off meeting with the City, and can be further expedited if the City so desires. CPH currently estimates a design schedule of 8 months for data collection, minor survey, 100% design and permitting. We envision this schedule being reduced by making early contact with the permitting agencies to review concerns and if required, early submittal of the FDEP permit application at the 60% completion stage in order to start the permitting as soon as possible. CPH will evaluate the project after the 60% design meeting with the City to determine if permitting can be further expedited by submitting the ROW permits as soon as possible. How we ensure the schedule is met is to develop a schedule at the start of the project, containing specific submittal dates to the City, permitting agencies, and a commitment of CPH personnel working on the project in order to ensure the submittal dates are met. The schedule with dates would be provided to the City, and we would communicate status to the City throughout the project to keep the Project Manager apprised of upcoming submittal dates and our status. With over 220 employees in our local offices, we have the manpower available to meet the submittal dates that we commit to in our schedule.



### WHY IS CPH THE RIGHT CHOICE?

As a multi-disciplined engineering, surveying, and architectural firm, CPH has the experience to complete the potable water distribution design to meet and exceed the City's expectations and needs, all with budget and long-term maintenance in mind. Our in-house Civil, Environmental, and Transportation engineers and landscape architects have been working together for over 15 years and have an unsurpassed amount of experience with similar projects. CPH's approach is the most effective and beneficial to the City of Pembroke Pine due to the CPH's detailed experience in potable water infrastructure design while minimizing construction costs. CPH will perform the proposed design work with the City's goals as well as the needs of the community in mind, all while staying within budget and on schedule. Our team's proven approach is based on the following success factors:

- Extensive knowledge of water main hydraulic modeling and proper sizing
- Hundreds of miles of completed water main construction projects
- Thorough expertise related to removal or replacement of asbestos cement pipe
- Long history of working in established residential neighborhoods
- Proven Client satisfaction as demonstrated by our attached reference letters in Section 9
- Thorough understanding of construction costs
- Experience with various installation methods, including open cut, directional drill, jack and bore, etc.
- Established relationships with permitting agencies

## 9. ADDITIONAL INFORMATION



### City of Casselberry Public Works Director

95 Triplet Lake Drive, Casselberry, Florida 32707 • Telephone (407) 262-7725, Ext. 1234  
Fax (407) 262-7767 • Email [mgisclar@casselberry.org](mailto:mgisclar@casselberry.org)

December 9, 2013

David A. Gierach, PE, CGC  
President  
CPH Engineers, Inc.  
500 West Fulton Street  
Sanford, FL 33807

Dear David,

The City of Casselberry is nearing completion of the largest potable water distribution pipe replacement projects it has ever undertaken, the Casselberry Water Quality Improvement Project. This project is the largest asbestos cement (AC) pipe bursting project of its kind in the country, replacing thirty five (35) miles of AC pipe with HDPE pipe through pipe bursting. The City initially approached this project with the concept of minimizing the design work at the beginning of the project and maximizing the use of construction engineering inspection during actual construction of the project. The trenchless technology, pipe bursting, allows the project concept to be accomplished successfully but someone even more integral to the success of the project has been one of your staff, Lawrence Pultz.

CPH Engineers started its involvement in the Casselberry Water Quality Improvement Project as a sub-contractor to another engineering firm that performed the majority of the project. Lawrence's initial role was to perform short duration services when the primary inspector could not perform the services. Lawrence inherited complete ownership of the Casselberry Water Quality Improvement projects in the middle of the project and has fully embraced overseeing every aspect of the project.

Lawrence is one of the most dedicated individuals I have had the pleasure of working with. On many occasions, the contractors work forces were unable to perform the work required for the project during normal working hours and the crews were stuck on the job site well into the late evening and early mornings. On every occasion, Lawrence worked directly with the crews to ensure the highest level of construction quality and safety on the project. This dedication establishes a working relationship with everyone on the project that is genuine and directly leads to considerable project success.

[www.casselberry.org](http://www.casselberry.org)

## ADDITIONAL INFORMATION



Since Lawrence is fluent in Spanish as well as English, his direct communication with the construction crew far supersedes the contractor's foreman and superintendents. This communication ensures every member of the construction team performs the highest quality work possible on the project and no short cuts are taken by any individuals on the construction team. It also enables Lawrence to have a direct influence on every detail of the project, from minute construction details to overall project management and performance.

Lawrence has so successfully managed construction of the Casselberry Water Quality Improvement Projects that the City realized an incredible opportunity of having Lawrence provide construction oversight for several other projects with similar scope being performed by the same contractor during the same schedule and approximate location of the Casselberry Water Quality Improvement Project. Lawrence easily juggled the additional projects with the same dedication he maintains with all his work.

The characteristics Lawrence has displayed while working for the City of Casselberry speaks directly to his character, integrity and person. Not only has Lawrence been successful at performing his engineering and inspection duties, he has done so with a personal touch that makes a direct connection with everyone on the project. These traits clearly outline why Lawrence has been integral in the success of the Casselberry Water Quality Improvement Project.

The City truly appreciates working with CPH Engineers and Lawrence Pultz on a very successful unique project and look forward to continued success on many more projects in the future.

Sincerely,

Mark D. Gisclar  
Public Works Director

Cc: Randy Newlon, City Manager  
Edward Alan Ambler, P.E., Water Resources Manager  
Dave Lankford, Utility Infrastructure Superintendent  
Lawrence Pultz, P.E.



## ADDITIONAL INFORMATION

21 West Church Street  
Jacksonville, Florida 32202-3139

January 20, 2017

Re: CPH, Inc.

To Whom-It-May-Concern:



E L E C T R I C

W A T E R

S E W E R

It is my pleasure to provide CPH, Inc. (CPH) with this letter of recommendation. CPH provided engineering services to JEA for the Ponce de Leon Water Treatment Plant (WTP) Pump Building and Reservoir Replacement project, which was constructed in 2016.

The Ponce De Leon WTP is located near the Atlantic Ocean in St. Johns County; its above-grade metallic tank, equipment and piping had subsequently corroded due to the marine environment. The facility had a permitted capacity of 0.865 MGD and the project included replacement of a 500,000 gallon ground storage tank with aerator, three high service pumps and a new sodium hypochlorite system along with a new building and associated piping and electrical equipment. The new equipment was specified with materials suitable for the marine environment.

CPH has also developed a Project Definition, which included the background, justification, scope, cost, and schedule for upgrading the existing Otter Run Water Treatment Plant in Nassau County. CPH is currently designing the plant's upgrades, including removal and replacement of the high service pumps, above-ground storage tanks, aerator, sodium hypochlorite system, building and electrical equipment.

The CPH team is professional, innovative, resourceful, and responsive. Their designs have been efficient, effective and delivered on-time. JEA welcomes the opportunity to work with CPH on future projects.

Please feel free to contact me at (904) 665-4028 or [vuhx@jea.com](mailto:vuhx@jea.com) if you would like to discuss any of the above information.

Sincerely,

A handwritten signature in blue ink that reads "Hai X. Vu".

JEA  
Hai X. Vu, P.E.  
Manager, Water Plants Engineering and Construction

## ADDITIONAL INFORMATION



January 13, 2017

RE: CPH, Inc.

To Whom It May Concern:

The City of Palm Coast has used the services of CPH, Inc. (CPH) since before our incorporation in 1981, and can attest to the firm's high standards for innovative and functional designs, responsive services and a steadfast commitment to quality projects. They have designed both water and wastewater facilities throughout the City and they have provided exceptional project management services for the majority of the City's large-scale utility projects.

CPH completed the design in 2015 for the City of Palm Coast WWTP No. 2. The WWTP No. 2 provides advanced treatment of wastewater (AWT) using the Membrane Bioreactor (MBR) technology. The process includes pre-treatment, flow equalization basins, anaerobic basins, pre-anoxic basins, aeration basins, post anoxic basins, MBR basins, disinfection basins, and sludge dewatering. The plant is rated at an initial capacity of 2.0 MGD expandable to 6.0 MGD. **CPH assisted the City in obtaining a SRF loan of \$30.1 Million at an interest rate of 0.67% for the construction of the WWTF No. 2, the associated sewage force main/pump station, and the reclaimed water backup discharge system.** CPH designed and permitted a wetlands discharge system for backup and wet weather disposal along with a regional reclaimed water system serving throughout the City.

In addition to the WWTP No. 2 improvements, CPH recently completed the Water Treatment Plant No. 2 Nanofiltration Concentrate Discharge AO Compliance Study. FDEP issued an AO requesting the Palm Coast devise alternative disposal methods replacing and terminating the existing discharge to the Royal Palm Canal. CPH assisted the City and evaluated 12 options to develop the Zero Liquid Discharge (ZLD) process.

Through our extensive working relationship with CPH, we have found that they have given us excellent, prompt and timely services with sensitivity to construction budgets and schedules. The City has been pleased with the efforts of CPH in all the projects they have undertaken. I have complete confidence that our experience with CPH is reflective of the level of service and satisfaction others can expect.

Should you like to discuss any of the information above please do not hesitate to contact me.

Sincerely,

Richard Adams  
Utility Director

2 Utility Drive • Palm Coast, FL 32137 • TEL: (386) 986.2350 • FAX: (386) 986.2391

## ADDITIONAL INFORMATION

January 13, 2017

City of Sanford/City Hall  
300 North Park Avenue  
Sanford, FL 32771-1244

To Whom It May Concern:

It is my pleasure to provide CPH, Inc. (CPH) with this letter of recommendation. CPH has worked with the City of Sanford since 1958 and has retained the distinction of being the City's consulting utility engineer. The staff is innovative, professional, reliable, resourceful, and responsive. CPH has worked alongside the City in anticipating future growth and building the utility infrastructure to accommodate that growth. They have designed both water and wastewater facilities throughout the City and they have provided exceptional project management services for the majority of the City's large-scale utility projects. In addition, CPH has provided us with extensive consulting and engineering services for projects that include landscape architecture, roadway, streetscape design, drainage, recreational facility projects and many other projects involving our municipal buildings and facilities.

CPH completed the design in 2016 of the Sanford North WRF - Biological Nutrient Removal Expansion (BNR) project. The Sanford North WRF IFAS BNR improvements consisted of the following infrastructure: (1) new RAS/WAS pumping systems; (2) primary anoxic basins (2-stage); (3) wastewater step-feed process; (4) aerobic basins; (5) deoxygenation basins; (6) secondary anoxic basins; (7) reaeration basins; (8) turbo blowers (5 units); (9) chemical and supplemental carbon storage/handling facilities; (10) aerobic digestion system improvements; (11) internal recycle systems; and (12) various buildings. The facility meets all TN and TP mandated effluent limitations.

CPH also recently provided design improvements to the City of Sanford's Water Treatment Plant No. 2. The improvements were designed to remove the organics from the raw water, which were identified as precursors of disinfection by-products (TTHM's). The project was constructed in 2014. The improvements were part of an overall project being funded through FDEP # DW590120, to comply with the stage 2 of the Disinfection By-Products Rule.

CPH provided master planning and design services for the City of Sanford's regional water/wastewater/reclaimed master plan. CPH was pivotal in forming the business model for the regional reclaimed system, and drafting the agreements and reaching consensus among the parties.

In addition, CPH upgraded biosolids treatment to include thermally system followed by solar dryer to produce a marketable product. This is a new cost-effective biosolids disposal method that reduces cost and potentially increases revenue.

City officials and staff members have been pleased with the cost, quality, timeliness and responsiveness from the principals and staff members of CPH. The City of Sanford has a strong commitment to CPH and will continue to rely on the firm as the City continues to grow. We highly recommend CPH for any engineering services you might require.

Should have any specific questions about the information above please do not hesitate to contact me.

Sincerely,



Bilal Iftikhar, P.E./Public Works Director

## ADDITIONAL INFORMATION



Michael Parker  
Public Works Director  
220 North Tubb Street  
P.O. Box 98

Oakland, Florida 34760-0098

T > 407.427.8835 F > 407.656.2940 E > [publicworks@oaktownusa.com](mailto:publicworks@oaktownusa.com)

January 9, 2014

Re: Oakland Water System Improvements

To Whom It May Concern:

It is my pleasure to provide CPH, Inc. (CPH) with this letter of recommendation. The staff is innovative, professional, reliable, resourceful, and responsive. We can attest to the firm's high standards for functional designs and a steadfast commitment to quality projects.

The Town of Oakland retained the services of CPH for the design of the Town's Water System Improvements Project. The improvements include installing a 0.500 million gallon ground storage tank and high service pumps to increase the water pressure in the distribution system and provide additional storage for fire flow needs. The project also includes replacement of the raw water main from the off-site well, on-site piping, a 350 square-foot electrical/pump building, and SCADA upgrade and improvements. CPH was able to obtain a FDEP SRF loan for \$1.973 Million to install the water system improvements.

In addition, because the project was located at an existing Town park, public involvement was an important part to the success of the project. In a public meeting, CPH was able to present park renderings that showed extensive landscape architecture around the tank to help screen it from the public as much as possible, and showed the existing passive park as an active park, including a future splash pad. The Town Commission approved the concept that night with public input, and CPH has since designed, permitted, and bid the project for the Town. The project is currently in the construction phase.

I am confident that our favorable experience with CPH is reflective of the level of service and satisfaction that others can expect, and I highly recommend them to fulfill your project needs. If you have any questions please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Mike Parker".

Mike Parker  
Public Works Director