



# Qualifications

City of Key West



## City of Key West Request for Qualifications No. 12-005: General Engineering Services

August 2012



**CDM  
Smith**



1715 North Westshore Boulevard, Suite 875  
Tampa, Florida 33607  
tel: 813 281-2900  
fax: 813 288-8787

August 1, 2012

City Clerk  
City of Key West  
3126 Flagler Ave  
Key West, Florida 33040

**Subject: RFQ #12-005: General Engineering Services**

Dear Selection Committee Members:

CDM Smith Inc. has been fortunate to work with the City of Key West (City) and throughout the Florida Keys. We look forward to continuing our relationship and assisting the City in moving its operations forward. We have demonstrated our ability to provide cost-effective professional engineering services on a variety of City projects, including the replacement of surface aerators with diffused aeration and a hydraulic profile analysis at the Richard A. Heyman Environmental Protection Facility, the design of stormwater gravity wells, a reuse feasibility study, the replacement of the Stock Island seawall, and our current contract for solid waste rate studies. We also have current contracts for airport consulting services at the Key West International and Florida Keys Marathon Airports and with the Florida Keys Aqueduct Authority. This local work experience provides us with the experience necessary to execute projects efficiently in this unique geography with its logistical challenges. We look forward to continuing to provide the City with sound engineering solutions. **We are able to offer the City civil, utility, solid waste, coastal, and environmental engineering services as demonstrated by the following unique key benefits.**

**We Understand the Value of Local Presence and Stand Committed to the City**

All work assigned under this contract will flow through our Tampa office, under the management and leadership of officer-in-charge Daniel E. Strobridge, QEP, with assistance from our local coordinator John L. Mafera Jr. and discipline-specific project managers. Mr. Mafera is a full-time CDM Smith employee and resides in the City of Key West. He will serve as a daily point of contact and provide the “boots-on-the ground” observations and communications that are so important to the City and to providing superior client service. In addition, our project management team will be supported by the expertise and readily available resources from the entire CDM Smith organization.

**The City Will Benefit from Our Substantial Resources and Experience**

CDM Smith established a presence in Florida more than 38 years ago. Now, with nearly 450 professionals in 11 offices throughout Florida, we are well equipped to address the various design and regulatory/permitting issues that are unique to Florida and the Florida Keys. We also offer the City the benefits of our Southeastern U.S. design and production center in Orlando, which blends state-of-the-art 3D/4D design capabilities with a fully equipped conference and communications center to streamline the design process and minimize production costs to the City. Three-dimensional representation of a project design allows for better visualization of the end product’s form and function, resulting in better bids and facilities that more closely meet the City’s needs. This superior-quality design work results in fewer construction conflicts and issues, which reduces change orders and lowers the City’s risk. For CDM Smith, the fourth dimension (4D) is the extensive database that includes equipment data sheets and operations and maintenance manuals, providing an effective management tool for use long after our team is done.





Selection Committee Members

August 1, 2012

Page 2

**The City Can Count on the Responsiveness of the CDM Smith Team**

We understand the importance of responsiveness to the City in selecting a consultant for this contract. Our local coordinator is located just over a mile from the City's offices, and we offer a multitude of technical experts within an hour flight or two-hour drive of the City. The inclusion of Sandra Walters Consultants, Inc. and Perez Engineering & Development, Inc.—both of whom have offices in Key West and existing business relationships with the City—on our proposed project team supplements our in-house capabilities and enhances our local presence and project delivery. In addition, we are prepared to meet every commitment to project scope, schedule, budget, and quality that may arise during the progress of assignments under this contract. Our reputation with clients is for thorough, technically sound work; applied, innovative thinking leading to practical solutions; consistent and competent project managers and key staff; schedule flexibility; and budget control. CDM Smith prides itself on providing superior client service, which is based on delivering the desired product that fully meets the client's needs.

The relevant work experience outlined in our submittal and our track record of service provided to the City, combined with our local understanding and our experienced staff, will truly benefit the City. We appreciate your consideration of our qualifications and for the opportunity to again serve the City with the professionalism that defines CDM Smith.

I personally take a great deal of pride in delivering the services and products promised at the price and scope of work established. Doing so takes a good deal of thought in preparing the proper scope of work to meet the goals and objectives of the client. CDM Smith looks forward to continuing to work with the City of Key West. If you have any questions, I can be reached at [strobriedge@cdmsmith.com](mailto:strobriedge@cdmsmith.com) or at 813.281.2900.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Daniel E. Strobriedge".

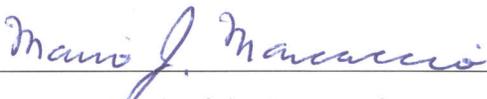
Daniel E. Strobriedge, QEP  
Vice President  
CDM Smith Inc.

## CERTIFICATE

I, Mario J. Marcaccio, Assistant Clerk of CDM Smith Inc., a Massachusetts corporation, hereby certify that Daniel E. Strobridge, holds the position of Client Service Manager which entitles Mr. Strobridge to execute, and deliver proposals, contracts and agreements for the performance of professional services in the name and on behalf of CDM Smith Inc. with a value up to \$1 million. Furthermore, Mr. Strobridge may be delegated authority to execute proposals, contracts and agreements for the performance of professional services in the name and on behalf of CDM Smith Inc. in excess of \$1 million.

I further certify that the foregoing is consistent with the Contract Signing Authority Policy and with the By-laws of the said corporation.

IN WITNESS WHEREOF, I have executed this certificate and have caused the corporate seal of CDM Smith Inc. to be hereunder affixed on this 16th day of July 2012.

  
Assistant Clerk of the Corporation



## THE CITY OF KEY WEST

3140 Flagler Ave  
Key West, FL 33040

### ADDENDUM NO. 1 RFQ NO. 12-005: GENERAL ENGINEERING SERVICES July 19, 2012

This addendum is issued as supplemental information to the RFQ package for clarification of certain matters of both a general and a technical nature. The referenced RFQ package is hereby added in accordance with the following items:

1. Page 4 lists that a firm may submit for 1 or more of 5 the categories. Please confirm that we can submit for all 5 categories in one submittal package (2 copies + cds, etc), and we do not need to submit one package for each category (ie 5 sets of packages).

*Only one proposal package is to be submitted which identifies any one of, or all of the various disciplines listed in the RFQ that the Proposer is proposing services for.*

2. Is submittal of an SF330 sufficient?

*Use of SF330 form is not required. Proposer shall submit a complete qualifications package in a format that contains all required elements.*

3. Does the city have an MBE goal?

*No.*

4. Are we to include subcontractors in our RFQ or can we add them based on the particular task order?

*Proposers shall identify each subconsultant that they are proposing using as part of this contract. City approval would be required if Proposer wishes to make changes or adds to the list of subconsultants once contract is issued. The qualifications of all members of a Proposer's team will be considered in the selection process.*

5. On page 6 of the RFQ, License Requirements, it states that the winning respondent will also be required to obtain and maintain a City of Key West Business Tax Receipt. Could you please clarify if this means that the winning firm must have an office location in Key West?

*Firms selected as part of this contract are not required to maintain an office in Key West.*

6. Public Entity Crimes Certification was identified as being three (3) pages in length.

*Public Entity Crimes Certification is two (2) pages in length*

7. Under the Submission Details section on page 5 reference is made to “Architect firms should submit a complete qualifications package that includes:”

*This should read “Engineering firms should submit a complete qualifications package that includes:”*

8. Is a page limit for the submission information listed on page 5?

*No. However firms should limit their proposals to a reasonable number of pages.*

9. Who are the current contract holders?

*The City does not track this information. Proposer can contact DemandStar by Onvia at [www.demandstar.com/supplier](http://www.demandstar.com/supplier) or call toll-free 1-800-711-1712.*

10. How much was spent under the current contract, and on what kind of projects?

*This information is unavailable. Proposers are reminded that no minimum amount of service or compensation will be assured to the retained firm(s).*

11. The existing language under Qualifications Criteria:

*“Other certifications including LEED and LAP (Federal DOT) certified staff professionals”*

*Shall be modified to read:*

*“Other certifications including LEED and FDOT certified staff professionals”*

12. Please clarify the submittal requirements for “Past five (5) years of specific relevant experience” under the Submission Detail section.

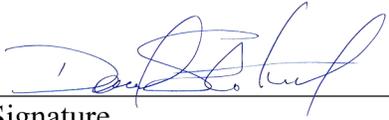
*The existing language*

*Past five (5) years of specific relevant experience. The examples should include the name of client, client’s representative, client’s address and telephone number, key personnel involved in design phase services, design services fee, estimate of construction cost, name of contractor awarded project contract award amount, contractor’s representative, contractor’s address and telephone number.*

*Shall be modified to read:*

*Past five (5) years of specific relevant experience. The examples should include the project description, name of client, client's contact and telephone number, design services fee, identify if project was constructed or not and project cost, name of contractor awarded project, and contractor's representative and telephone number.*

All Proposers shall acknowledge receipt and acceptance of this Addendum No. 1 by submitting the addendum with their proposal. Proposals submitted without acknowledgement or without this Addendum may be considered non-responsive.

  
\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Business



**SWORN STATEMENT UNDER SECTION 287.133(3)(a)  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

**THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICE AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted with Bid, Bid or Contract No. \_\_\_\_\_ for  
\_\_\_\_\_

2. This sworn statement is submitted by \_\_\_\_\_  
(Name of entity submitting sworn statement)

whose business address is \_\_\_\_\_  
\_\_\_\_\_ and (if applicable) its Federal  
Employer Identification Number (FEIN) is \_\_\_\_\_ (If the entity has no FEIN,  
include the Social Security Number of the individual signing this sworn statement.)

3. My name is \_\_\_\_\_ and my relationship to  
(Please print name of individual signing)

the entity named above is \_\_\_\_\_.

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

1. A predecessor or successor of a person convicted of a public entity crime: or

2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural

person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)



(Signature)  
July 30, 2012

(Date)

STATE OF Florida

COUNTY OF Hillsborough

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Daniel E. Strobridge, QEP who, after first being sworn by me, affixed his/her signature in the  
(Name of individual signing)

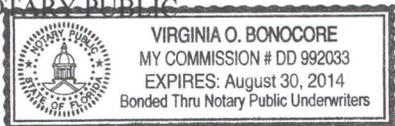
space provided above on this 30th day of July, 2012.



My commission expires:

August 30, 2014

NOTARY PUBLIC





ANTI-KICKBACK AFFIDAVIT

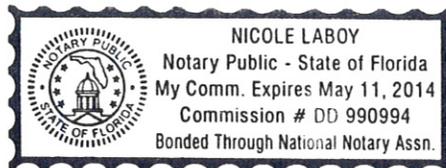
STATE OF FLORIDA                    )  
  : SS  
COUNTY OF MONROE                    )

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: *[Signature]*

Sworn and subscribed before me this

23<sup>rd</sup> day of July, 2012.  
*[Signature]*  
NOTARY PUBLIC, State of Florida at Large



My Commission Expires: 5-11-14

**SWORN STATEMENT UNDER SECTION 287.133(3)(a)  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

**THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICE AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted with Bid, Bid or Contract No. RFQ No. 12-0005 for  
General Engineering Services
  
2. This sworn statement is submitted by SWC (Sandra Walters Consultants, Inc.)  
(Name of entity submitting sworn statement)  
whose business address is 6410 Fifth St., Suite 3, Key West, FL 33040  
\_\_\_\_\_ and (if applicable) its Federal  
Employer Identification Number (FEIN) is 65-0975585 (If the entity has no FEIN,  
include the Social Security Number of the individual signing this sworn statement.)
  
3. My name is Sandra Walters and my relationship to  
(Please print name of individual signing)  
the entity named above is President.
  
4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.
  
5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
  
6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means
  1. A predecessor or successor of a person convicted of a public entity crime: or
  2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
  
7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural

person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

Sandra Walters  
(Signature)  
7-23-12  
(Date)

STATE OF FLORIDA

COUNTY OF MONROE

Sandra Walters

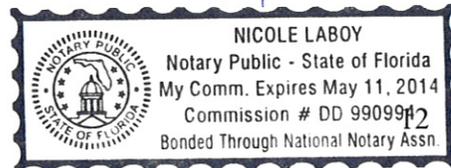
PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Sandra Walters who, after first being sworn by me, affixed his/her signature in the  
(Name of individual signing)

space provided above on this 23 day of July, 2012.

My commission expires: 5-11-14  
NOTARY PUBLIC

Nicole Laboy







**SWORN STATEMENT UNDER SECTION 287.133(3)(a)  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

**THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICE AUTHORIZED TO ADMINISTER OATHS.**

1. This sworn statement is submitted with Bid, Bid or Contract No. RFQ 12-005 for GENERAL ENGINEERING SERVICES

2. This sworn statement is submitted by PEREZ ENGINEERING & DEVELOPMENT, INC.  
(Name of entity submitting sworn statement)

whose business address is 1010 KENNEDY DRIVE, SUITE 400  
KEY WEST, FL, 33040 and (if applicable) its Federal  
Employer Identification Number (FEIN) is 65-0903931 (If the entity has no FEIN,  
include the Social Security Number of the individual signing this sworn statement.)

3. My name is ALLEN E. PEREZ and my relationship to  
(Please print name of individual signing)

the entity named above is PRESIDENT.

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any Bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

1. A predecessor or successor of a person convicted of a public entity crime: or

2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural

person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which Bids or applies to Bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

7/27/12

STATE OF FLORIDA

COUNTY OF MONROE

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

ALLEN E PEREZ  
(Name of individual signing)

who, after first being sworn by me, affixed his/her signature in the

space provided above on this 27th day of July, 2012.

My commission expires:  
NOTARY PUBLIC

\_\_\_\_\_  
Sheryl A. Berman







# Table of Contents

# Table of Contents



## Cover Letter

Table of Contents..... i

## Section 1 – Specialized Expertise and Technical Competence..... 1-1

1.1 Company Profile ..... 1-1  
1.2 Qualifications ..... 1-1  
1.3 Project Management – Philosophy and Methodologies ..... 1-16

## Section 2 – Professional Qualifications of Staff..... 2-1

2.1 Team and Project Management Structure..... 2-1  
2.2 Subconsultants ..... 2-12

## Section 3 – Past Work Experience..... 3-1

## Section 4 – Ability to Perform Services Expeditiously..... 4-1

4.1 Project Team is Organized to Provide the Highest Quality Service ..... 4-1  
4.2 Responsiveness and Availability of Staff ..... 4-2  
4.3 Electronic Meeting Tools ..... 4-3  
4.4 Meeting Cost and Timeliness of Completion Requirements..... 4-4

## Section 5 – Other Certifications..... 5-1

5.1 LEED® Certification ..... 5-1  
5.2 FDOT Pre-Qualifications..... 5-1

# Section 1 – Specialized Expertise and Technical Competence



# Section 1 – Specialized Expertise and Technical Competence



## 1.1 Company Profile

CDM Smith is a consulting, engineering, construction, and operations firm delivering exceptional service to public and private clients worldwide. With headquarters in Cambridge, Massachusetts—located at 50 Hampshire Street, Cambridge, MA 02139—CDM Smith offers a full range of services in water, environment, transportation, energy, and facilities. We are successfully employing innovative technologies and approaches to develop customized, sustainable solutions that meet clients' needs.

We have been successfully assisting clients nationally for 65 years—and locally in Florida for 38—and are among the country's premier consulting engineering firms. Of all the environmental firms in the country, CDM Smith was ranked 4<sup>th</sup> in sewer/wastewater, 7<sup>th</sup> in sewerage and solid waste, 8<sup>th</sup> in water, 19<sup>th</sup> in transportation, and, of the Top 500 Design Firms, we were ranked 22<sup>nd</sup> by Engineering News Record 2012.

CDM Smith has unparalleled experience in Florida. Our complete suite of services spans from master planning, program management, management consulting, and architectural and geotechnical engineering, to design-build, construction management, and operations. Beyond the traditional services, we are also employing innovative technologies and approaches (e.g., 3D/4D design, sustainable development concepts, and complex alternative delivery mechanisms) to help our clients meet their challenging goals. More than one-stop shopping, client service at CDM Smith means exceeding expectations by listening carefully to each unique concern, understanding project demands, and delivering a tailored solution. Our hand-picked team is backed by *our 11 Florida offices, as well as a satellite office in Key West*, which boast nearly 450 staff with a variety of disciplines and covering all of the engineering disciplines required for this contract.

An employee-owned corporation with over \$1.25 billion in annual revenues and a multi-disciplinary staff of over 5,000 in more than 120 offices around the world, CDM Smith maintains the size, stability, and resources to successfully undertake a diverse range of projects.



## 1.2 Qualifications

CDM Smith understands that the City is seeking to establish a pool of qualified consultants to provide a wide range of professional engineering services. Having previously served as the City's general wastewater and utilities consultant, we have unique knowledge of your goals, systems, and preferences. We have existing knowledge of your infrastructure and facilities—in particular, the Richard A. Heyman Environmental Protection Facility—which



# CDM Smith's Relevant Capabilities

*A leading consulting engineering firm with expertise in civil, utility, coastal, solid waste, and environmental engineering.*



Civil Engineering

*Leader in civil and site engineering, and the related fields of transportation and structural engineering, including capital improvements, wetlands mitigation, geotechnical services, and electrical engineering.*



Utility Engineering

*Site layout and utility infrastructure support, including the design, development, construction, and/or relocation of sewer systems, pipelines, electric, telecommunications, and fiber optics.*



Solid Waste Engineering

*Comprehensive solid waste services with in-house expertise in landfill management, transfer stations, recycling, composting, and energy recovery, as well as master planning, rate studies, and site evaluations.*



Coastal Engineering

*Full complement of services, including flood hazard analysis and mitigation, marine hydraulic evaluation, and waterfront structural investigation and design.*

**CDM Smith has maintained several hundred different continuing services contracts with 130 government entities throughout Florida, including the City of Key West, the Florida Keys Aqueduct Authority, and Monroe County. For over 65 years, we have listened to our clients and delivered innovative, lasting solutions. We have a proven track record of success in providing comprehensive consulting, engineering, construction, and operations services for continuing service contracts, and we have achieved this record by using dedicated, experienced project personnel with proven technical and project management capabilities.**



Environmental Engineering

*Solid and hazardous waste assistance, including management, disposal, reuse, or remediation of solid and hazardous waste for long-range public health and environmental protection.*

makes us the right firm to continue to team with as you implement future capital improvements. Our array of services closely aligns with the projects the City is planning to implement—from increasing recycling participation and transfer station modifications, to wastewater transmission system expansion and a comprehensive repaving program—and the qualifications presented in the following pages testify to the depth and breadth of our services. CDM Smith is truly a “one-stop” shop for all the services anticipated under this contract.

### 1.2.1 WASTEWATER PRACTICE

Nationwide and overseas, CDM Smith has evaluated and designed wastewater collection and transmission systems, pumping stations, and large- and small-scale treatment facilities. We have performed odor and corrosion control studies, infiltration/inflow (I/I) analyses, sewer system evaluation studies, and sewer rehabilitation projects. Our extensive experience in the design of WWTPs includes treatment capacity and performance analyses, biosolids management plans, plant operations and control facilities, and energy management systems.

Our extensive experience in the design of more than 1,500 wastewater pollution control and treatment plants—ranging in capacity from less than 1 mgd to more than 1 billion gallons per day—includes the complete array of wastewater treatment processes, plant operation and control facilities, and energy management systems. Our design and construction experience encompasses a wide variety of treatment process types and facilities for primary, secondary, and advanced levels of treatment for completely new construction, as well as for rehabilitation, expansion, and upgrade of existing facilities. In addition, we have prepared wastewater facilities plans and designs, and provided construction management services, rate studies, institutional management, and operation consulting for major wastewater collection and treatment facilities throughout the United States and around the world.

We know that the City’s wastewater systems have been recognized with numerous awards, including First Place in the Advanced Secondary Treatment category and the 2012 Operational Performance Excellence Award. To continue this excellence, it is important to work with a consultant who is widely regarded as “best in class.” CDM Smith is highly ranked in the wastewater industry and will guide the City in making the right choices. Combined with our working knowledge of the Richard A. Heyman Environmental Protection Facility, our industry-leading expertise will ensure the City maintains its world-Class reputation.



A “best in class” partnership between the City of Key West and CDM Smith will ensure that the City maintains its leadership position in the wastewater industry.

#### Wastewater Master Planning

The planning, investigation, and design of wastewater collection and treatment systems has represented a cornerstone of CDM Smith’s engineering consulting services since the firm’s founding in 1947. In the past ten years, we have completed well over 200 wastewater facilities planning projects and associated environmental impact assessments, in addition to numerous engineering evaluations and specific analyses. Our experience is distinguished by our proven ability to address technical issues within the context of a community’s unique

**CDM Smith**  
Florida Representative  
**Wastewater Master  
Planning Experience**

- Bay County – 201 Facilities Plan
- Boca Raton – 201 Facilities Plan
- Callaway – Wastewater Master Plan
- Cape Coral – 201 Facilities Plan
- Charlotte County – 201 Facilities Plan
- Collier County – WWMP Update and 201 Facilities Plan
- Daytona Beach – Sanitary Sewer Master Plan
- Fort Lauderdale – Wastewater Master Plan
- Lee County – Wastewater Facilities Plan Update
- Manatee County – Wastewater Facilities Plan
- Ormond Beach – Wastewater Master Plan
- Oakland Park – Sanitary Sewer Master Plan
- Orange County – 201 Facilities Plan and Countywide Master Plan
- Palm Beach County – 201 Facilities Plan
- Pinellas County – Reclaimed Water Master Plan
- St. Johns County – Water and Wastewater System Master Plan
- St. Petersburg – 201 Facilities Plan
- St. Pete Beach – 201 Facilities Plan
- Sarasota – 201 Facilities Plan
- Venice – Integrated Water and Wastewater
- West Palm Beach – 201 Facilities Plan

character and environmental, economic, and institutional framework. We have prepared effective wastewater master plans for numerous Florida municipal agencies and for communities around the world. Our wastewater master plans have included developing unit flow rates, verifying existing flows, projecting future flows, developing and calibrating hydraulic models, identifying hydraulic deficiencies, collection systems, alternatives evaluation, evaluating wastewater treatment alternatives, hydraulic analyses, and captive improvement program development. **Most recently, CDM Smith completed the wastewater master plan for the City of Fort Lauderdale, which identified substantial improvements to the collection and transmission systems and the plant, which will reduce energy costs and provide for the growth needs and regulatory concerns for the next decade.**

### Odor Control

The control of odors in wastewater systems has been an area of active research and development for CDM Smith. We have extensive experience in both conventional and state-of-the-art odor control technologies. The sources of odors at WWTPs are consistent, only the intensity varies due to a number of local conditions (e.g., collection facilities system characteristics, wastewater temperature, acceptance of on-site wastes, grease and oil loadings, etc.). In developing odor assessments and studies, we take into account the types of odors generated on a process-by-process basis. To the greatest extent possible, CDM Smith uses specialized field instruments, which are reliable and relatively inexpensive to use. We complement these measurements with laboratory analyses for the more complex (multiple compound) sources. Since 1995, we have conducted over 200 projects. In Florida, CDM Smith conducted an **odor emissions assessment for the City of St. Petersburg's Southwest Water Reclamation Facility** that consisted of a data acquisition and sampling program, atmospheric dispersion modeling, and short-term improvements recommendations. Also, for Collier County, FL, **we performed physical assessments on over 600 pumping stations, studied 120 problem stations in detail, developed a prescriptive approach to odor control technology selection**, and assisted the client in design-build projects at the most problematic stations. Nationally, our client list includes large municipalities such as Washington, D.C.; Los Angeles, CA; Chicago, IL; Pittsburgh, PA; and New York, NY.

### Wastewater Pump Stations

Since 1947, CDM Smith has provided specialized engineering design and consulting services on hundreds of projects specifically involving wastewater pumping facilities, many of them pump stations of major size. Our services have included technical investigations, hydraulic analyses, preliminary and final design, rehabilitation, modification, services during construction, repair, and O&M consulting for pumping stations of up to 6 billion gallons per day. Our use of standardized designs and details tailored for individual project requirements allows us to focus on the real issues at each pumping facility while applying tried and true solutions to the project. Because we have done hundreds of pumping station designs, we are able to use electronically saved information to quickly prepare final design drawings. Since our designs have been reviewed many times by multiple experts in similar applications, the City will get a proven product that will function properly with minimal design-related changes. As specialists in the wastewater field, our services are tailored directly to the requirements of wastewater pumping, whether it is the architectural design of the superstructure, the analysis of surge and water hammer problems, or instrumentation for automatic control.



**The planning, design, permitting, and construction administration of pump station projects has always been a core of CDM Smith's business.** In fact, we have designed hundreds of pump stations, many of which have complex pump station hydraulics and force mains, and have worked on pump stations ranging in size from 1 mgd to 6 billion gallons a day.

As the City intends to implement a pump station rehabilitation program that includes Pump Stations B, C, DA, F, J, K, L, M, N, O, P, U, and W, it should be noted that CDM Smith's recent experience with numerous pump station projects, including **a new booster pump station located on MacArthur Causeway in Miami Beach**, will prove invaluable. Because it is highly visible to commuters, the station was designed as a two-story structure enclosed on three sides by a glass structure. As part of the design phase, the pump station was approved by the City's Architectural Review Board. **On Las Olas Boulevard in Fort Lauderdale**, we combined the functionality of stormwater pump station control panels and electrical connections with architectural details that made the project acceptable to the community. We also designed a **new wastewater master pump station for the City of St. Pete Beach**, which was modeled after a beach house to blend with the adjacent beachfront vernacular, and the repair and replacement of 14 master pump stations for Orange County.

### 1.2.2 WATER RECLAMATION AND REUSE

Water reclamation and reuse have become increasingly attractive options for conserving water and disposing of effluent. Reclamation and reuse can eliminate surface water discharges, improve water quality, and reduce irrigation demand on potable water supplies. We understand that the City intends to work in partnership with the Florida Keys Aqueduct Authority (FKAA) to prepare the Richard A. Heyman Environmental Protection Facility for reuse in order to provide additional reuse options, such as irrigation. We can work with you to ensure that your program is effective, economical, and meets your specific water resources needs. We can also help gain broad public acceptance of water management strategies.

Sometimes, we develop overall water resources management plans in which reuse is an important element. In other cases, we design and install small systems that solve very local problems. For both large and small systems, CDM Smith offers the range of services that can be required by reuse and effluent disposal programs. We provide master planning; site specific studies; hydraulic modeling and design of transmission and distribution pipeline systems; construction coordination; O&M services; financing assistance; public awareness programs; regulatory liaison; and negotiation of reuse agreements.

Our diverse staff of agricultural, civil, and environmental engineers and wetlands scientists has worked on reuse projects ranging from spray irrigation to wetlands treatment and indirect potable reuse. CDM Smith has also worked with numerous clients to develop reclaimed water ordinances and user agreements. We have been successful in obtaining SRF and grant funding for the evaluation and construction of reclamation programs.

CDM Smith has long been a leader in the Florida effluent reuse field (**Figure 1.2.2-1**). The extent of our water reuse experience is highlighted by the fact that, in 1980, CDM Smith prepared the first edition of the Guidelines for Water Reuse for the EPA. Published when reuse was a relatively new practice in the United States, these early guidelines presented a planning approach for communities to evaluate the potential for water reuse. By 1990, water reuse

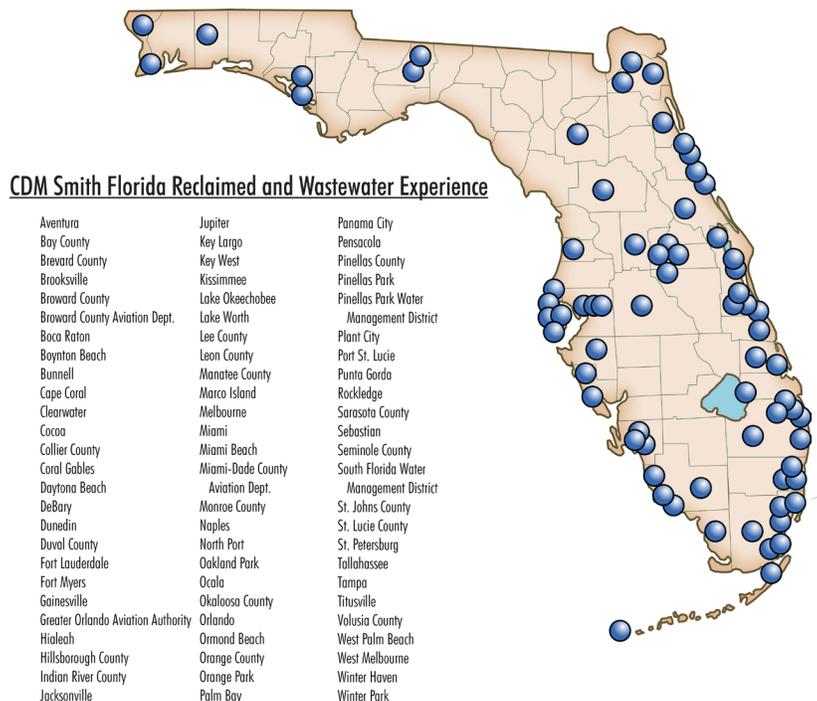


Figure 1.2.2-1: CDM Smith has been a leader in the effluent reuse field, as evidenced by the depth of our experience throughout Florida.

had become more widely practiced, particularly in water-short regions of the country, and the EPA again turned to CDM Smith for an expanded and updated edition to cover all the technical advances in reuse over the previous decade. In 2004, CDM Smith authored the EPA’s current Guidelines for Wastewater Reuse. This document outlines the steps in planning a recovered water system—including technical considerations, siting, economics, legal issues, institutional issues, and public involvement. **Currently, we are developing a comprehensive update to the 2004 guidelines. The resulting document is intended for wide distribution so that water reuse becomes a more implementable component of any water resources planning program.**

### 1.2.3 WATER AND WASTEWATER PIPELINE DESIGN EXPERIENCE

We have extensive experience with the assessment, planning, design, bidding, and construction of complex collection system and water transmission improvements throughout the United States and worldwide. These projects include major construction in highly developed residential and urban areas with pipes ranging from 6 inches to 106 inches in diameter, tunnels up to 126 inches in diameter, and excavation up to 45 feet deep. Of importance to the City is the fact that CDM Smith has significant, directly applicable wastewater collection and water transmission assessment, design, and construction experience with many projects of the same or greater level of service and order of magnitude as many of the City of Key West’s projects. For example, **we assisted the City of Fort Lauderdale in laying out and sizing gravity sewer mains for various neighborhoods** throughout the City, including approximately over 20,000 linear feet (lf) of force main, 185,000 lf of sewer, and 89,000 lf of water main. Also, as part of the **City of St. Augustine Beach’s sewer system improvements programs**, CDM Smith has installed over 30,000 lf of gravity sewer and over 11,700 lf of force main. This project also included lift station improvements, manhole rehabilitations, and force main installation, some of which was installed utilizing horizontal directional drilling.

Specifically for wastewater, our services include wastewater collection, pumping, and transmission system design; I/I evaluations and hydraulic systems modeling; combined sewer overflows (CSOs); sanitary sewer overflows (SSOs); capacity management, operations and maintenance (CMOM); trenchless rehabilitation; real-time controls; design and construction; and O&M.

Table 1.2.3-1 provides a partial listing of CDM Smith’s experience with similar wastewater collection and water transmission systems.

TABLE 1.2.3-1: REPRESENTATIVE CDM SMITH FLORIDA PIPELINE EXPERIENCE				
Project Location and Title	Water Pipeline	Wastewater Pipeline	Reuse Pipeline	Wellfield Pipeline
Atlantic Beach – Assessment and Maintenance of Floridan Aquifer Production Wells	✓			✓
Bay County, Tyndall AFB – Construction of Storage Tank, Booster Pump Station and Water Line	✓			
Boca Raton – Replacement Wells and Raw Water Main	✓			✓
Cape Coral – Wastewater Collection and Reuse System Improvements		✓		
Charlotte County – Wastewater System Expansion Program		✓	✓	
Clearwater – Clearwater Harbor Directional Drill Force Main Installation		✓		
Clearwater – Marshall Street South Interceptor Sewer and Reclaimed Water Supply		✓	✓	
Cocoa – Wewahootee WTP Upgrade and Expansion	✓			✓
Cocoa – Dyal WTP High-Service Pumping Improvements	✓			
Collier County – Wellfield/Water Supply Development, Deep Injection Well, and ASR	✓	✓	✓	✓
Daytona Beach – South Nova Road Utility Relocation Design	✓	✓		

**TABLE 1.2.3-1: REPRESENTATIVE CDM SMITH FLORIDA PIPELINE EXPERIENCE**

Project Location and Title	Water Pipeline	Wastewater Pipeline	Reuse Pipeline	Wellfield Pipeline
Daytona Beach – Halifax and Mason Avenues Water and Sewer Utilities Relocation	✓	✓		
Daytona Beach – Seabreeze Boulevard Water and Sewer Utilities Relocation	✓	✓		
Fort Lauderdale – City-Wide Wastewater System Improvements	✓	✓		
Indian River County – South County WTP Well Rehabilitation/Reaming	✓			✓
Jacksonville – Scott Mill Hill Wastewater Collection/ Stormwater Management System Improvements		✓		
Jacksonville – Ponte Vedra MSD Vacuum Sewer System Improvements DB Procurement Services		✓		
Jacksonville – San Souci East Water and Sewer Rehabilitation	✓			
Miami Beach – MacArthur Causeway Transmission Main	✓			
National Parks Services – Water and Wastewater DB at Four National Parks	✓	✓	✓	✓
Orlando (OUC) – Conway WTP Upgrade	✓			✓
Orlando (OUC) – Navy WTP Upgrade and Expansion	✓			✓
Ormond Beach – Division Avenue Wellfield Replacement	✓			✓
Panama City – Subaqueous Pipeline Repair		✓		
Seminole County – Yankee Lake Reclaimed Water Main Extension			✓	
Seminole County – Long Pond Road Water Main	✓			
St. Augustine Beach – Gravity Sewer Design		✓		

### 1.2.4 DESIGN AND CONSTRUCTION OF LIFT STATIONS AND FORCE MAINS

Knowing that the City is in the process of rehabilitating several lift stations, CDM Smith offers our extensive experience in wastewater force main design and rehabilitation. Our staff has experience in large pipeline design, hydraulic analysis, permitting and right-of-way acquisition, structural, O&M, and construction administration. We have performed a full range of services associated with the design and implementation of force main projects. Services have included preliminary consultation and analysis, database and hydraulic models, field surveys, geotechnical investigations, conceptual design, preliminary design, and final design. We have also provided alternative analysis of pipeline replacement technologies and material; trenchless technologies such as HDD, pipe ramming, pipe bursting, and microtunneling; FDOT and County roadway coordination; preparation of permitting documents; construction administration services; preparation of construction plans and specifications; and bidding services. ***For the City of St. Augustine Beach, we designed over 11,700 lf of force main*** and upgraded numerous lift stations in several subdivisions located throughout the City. Also, ***as part of the City of Cape Coral’s gravity sewer system expansion, we designed more than 70 lift stations*** and over 130 miles of gravity collection lines.

## 1.2.5 STORMWATER SERVICES

The City may require the design of stormwater improvements to improve stormwater drainage throughout the City. With the selection of CDM Smith as your consultant, the City will have at its disposal one of the leading firms in the development of comprehensive stormwater and watershed management planning; stormwater modeling and data collection for urban and rural stormwater management evaluations; the permitting, design, and construction management of stormwater management systems, including preparation and review of solicitations, cost estimating, and bid assistance; and the assessment of institutional, regulatory, and financial needs for stormwater management. Our extensive experience is highlighted in **Figure 1.2.5-1**.

CDM Smith has served as a leader in providing stormwater management services to Florida clients for more than 30 years and has long been involved in all aspects of stormwater management. Our technical experts are well versed in the current issues impacting communities like the City. Our project team combines previous working knowledge along with the latest technical tools and hands-on experience to develop stormwater basin inventories and management plans for communities in Florida. We have created stormwater master plans and phased capital improvements programs; designed and constructed public stormwater utility components; and coordinated design and construction with public water and wastewater utility components for clients in the Cities of Key West, Largo, Miami Beach, North Miami, Miami, Coral Gables, Fort Lauderdale, Boynton Beach, and West Palm Beach, and Miami, as well as the Counties of Monroe, Miami-Dade, Broward, Collier, Seminole, Orange, and Volusia.

### Stormwater Design

Our project team members offer the City a wealth of stormwater design experience in Florida, including the design of regional stormwater ponds, culverts, storm sewer systems, stormwater pump stations, gravity wells, baffle box systems, wetland treatment systems, wetland restoration systems, and exfiltration trenches. In fact, CDM Smith has designed stormwater projects totaling more than \$600M in construction over the past five years. The project work will be done in the Tampa office supplemented by our local Key West subconsultants and our complete design center in Orlando. Design center services include civil design (stormwater), structural engineering design, architectural design services, mechanical engineering design services, electrical engineering design services, and instrumentation design services.

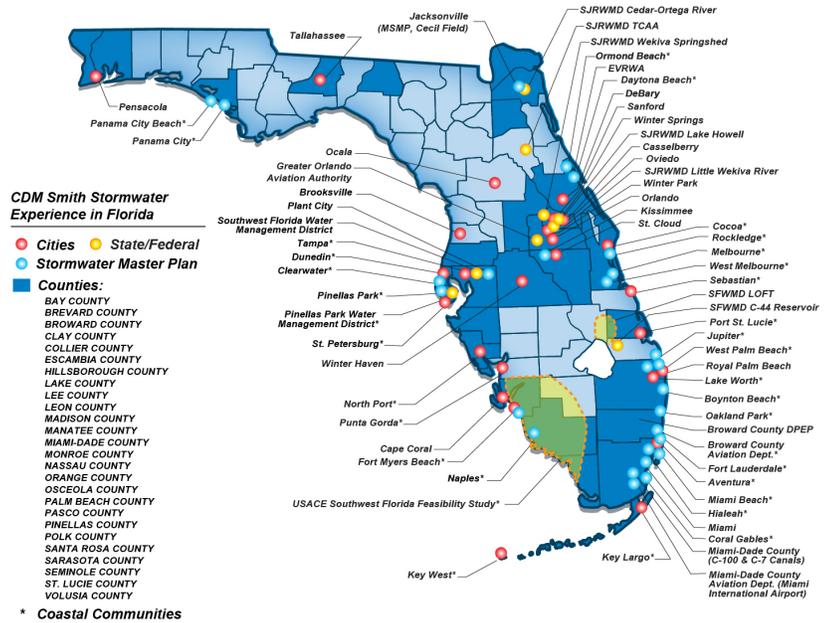


Figure 1.2.5-1: CDM Smith's representative Florida stormwater experience.

As one of the largest environmental engineering firms, CDM Smith's integrated resources encompass the full range of services required for this project:

- Geographical information systems, NPDES permitting and development, TMDL program assistance
- Public education, involvement, and outreach
- Stormwater master planning, quantity and quality modeling, program management, and construction services
- Program and construction management services, integrated resource planning
- Wetlands management • Environmental resource permits • Water quality assessments and retrofit
- Watershed planning • Program funding (grants and loans) • Stormwater management

Of importance to the City is CDM Smith's experience with the design of gravity wells. We understand that the City intends to design and construct 15 gravity wells to alleviate stormwater flow to the East Front Street Basin, and *we have previously assisted the City with the analysis, design, permitting, bidding, and construction administration to provide retrofitted water quality treatment and flood protection at 30 gravity injection wells*. The purpose of the wells was to lessen flooding in areas identified by the City. To assist in removing pollutants from the stormwater, the injection wells were placed with a chambered baffle box to trap sediments and oils.

### Hydrologic and Hydraulic Modeling, Including SWMM, HEC RAS, and Other Models

Virtually all of our stormwater management plan studies have involved basin-wide modeling. CDM Smith is a co-author of EPA SWMM, the most widely used model for urban watershed studies, and has extensive experience in applications of ICPR, HEC-HMS, HEC RAS, HSPF, HEC-STORM, RUNQUAL, ILLUDAS, TR20, TR55, HEC-1 and HEC-2, and other commonly used stormwater analysis computer models. We use these models to evaluate problems observed in the stormwater system, define types of problems that will occur during rain events with an infrequent recurrence interval (expected to occur only once in 5, 10, 25, or 100 years, in some cases), and evaluation of the impacts of proposed solutions being placed in the system with the rain event occurring. For most stormwater management plan studies, we prepare conceptual and/or preliminary designs of solutions to the stormwater problem using our stormwater modeling capabilities. We have applied U.S. EPA SWMM for the *C-100 Basin Plan for the Miami-Dade Department of Environmental Resource Management (DERM)* and for the *Drainage Basin No. III Stormwater Master Plan for the City of Naples*.

### Capital Improvements Programs for Stormwater

Utilizing a problem assessment approach that identifies facilities improvements that meet the defined level of service (LOS), CDM Smith prioritizes capital improvements determined to fix flooding problems. We draw from a variety of methodologies applied in different cities to ensure that our clients have a measurable and objective way to identify necessary projects and promote them within the budgeting process. The implementation of such projects will reduce flooding, ditch maintenance, and debris and trash accumulations through stream restoration, stormwater treatment device installation, wetlands protection, and erosion control. Relevant experience includes developing *a five-year CIP for the City of Boynton Beach*; developing *a SWMP for the City of Miami Beach* that also recommended CIP projections; and preparing a CIP to provide solutions to existing flooding problems in *the City of West Palm Beach*. Additional relevant experience includes developing alternatives and recommendations for the City of Jacksonville's CIP and developing a ten-year CIP for the City of Atlantic Beach that prioritized stormwater system infrastructure improvements required to meet the City's LOS. Overall, CDM Smith has assisted federal, state, and local clients with over \$400M of cost-effective project solutions with over \$200M in stormwater savings.



**CDM Smith has designed stormwater projects totaling more than \$400 million in construction over the past 20 years.**



*CDM Smith has been incorporating sustainable, green elements into our projects for decades, and stormwater projects are no exception.*

## Sustainable Stormwater Infrastructure

CDM Smith is committed to sustainability and has been incorporating sustainable, green elements into our projects for decades. We consistently seek out areas for smart energy, water conservation, and stormwater management solutions. Our architects and engineers work closely to determine sustainable, reliable, and sensible designs, such as planning, designing, and implementing green roofs, rain barrels, and permeable materials. Our experience in incorporating these green elements provides a solid background for the analysis of vegetated surfaces throughout this contract. Members of our project team have been involved in the development of *sustainable practices and solutions, such as elements of the Lake Concord Stormwater Park in Casselberry*, for which we designed 0.1 acres of parking spaces made of pervious materials, including pervious concrete, pavers, and recycled tire materials. These practices have significantly reduced runoff. The project also incorporated environmental swales and stormwater reuse practices.

### 1.2.6 SOLID WASTE SERVICES

CDM Smith is experienced in all aspects of solid waste management and has long served the waste management needs of municipal and industrial clients. We offer in-house expertise in solid waste master planning, landfill management, design and permitting, water quality monitoring and reporting, waste transfer and collection, recycling, composting, landfill gas management, and energy recovery. For 65 years, CDM Smith has provided services to more than 1,000 solid waste management projects for some of the nation's largest municipalities, utilities, and private waste management firms. In Florida alone, our resume includes over 250 solid waste projects (Figure 1.2.6-1).

Our Florida solid waste clients include some of the largest counties, including Orange, St. Lucie, Martin, Palm Beach, Pinellas, Hillsborough, Pasco, and Miami-Dade. We have served Orange County since the late 1980s, St. Lucie County since the late 1980s, Martin County since the mid-1990s, the Solid Waste Authority of Palm Beach County since 1993, and Miami-Dade County since 1991. These long-standing relationships demonstrate CDM Smith's commitment to our clients and our clients' satisfaction with our solid waste professional services. While no data is available, we are confident that CDM Smith has completed more solid waste engineering/consulting projects in Florida over the past ten years than any other firm.

### Specific Knowledge of and Experience in Landfill Design and Permitting

We have provided planning and design services at more than 150 landfills nationwide, ranging in capacity from less than 50 to more than 3,000 tons per day, and ranging in size from under 10 to over 3,000 acres. This work has included conceptual and final design of municipal solid waste landfills, bioreactor landfills, ashfills/monofills, construction and demolition debris landfills, and industrial sludge landfills. We have designed and specified alternative liner systems with leachate collection/leak detection and methane control for new landfill sites, as well as expansions of existing facilities. Our landfill designs incorporate stormwater runoff and erosion control measures, maximize site life, and consider end uses.

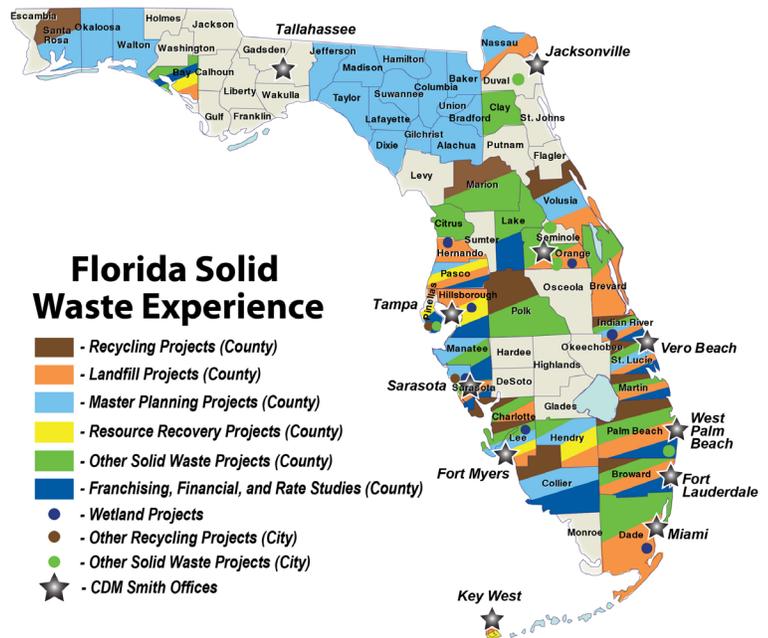


Figure 1.2.6-1: CDM Smith's solid waste experience is extensive, with over 250 projects in Florida alone.

---

## Landfill Closure Plans for New Landfill Capacity

CDM Smith has designed and implemented closure plans for clients throughout Florida and the United States for facilities ranging from municipal landfills to underground storage tanks. These projects have included estimating leachate at sites to evaluate closure cap alternatives; determining the extent of methane gas production at sites, as well as the potential for gas migration; studying area geology and soils; and performing hydrogeological investigations. CDM Smith has designed leachate collection/treatment and gas collection/monitoring/control systems, and developed landscaping and final use plans. This work has included developing construction drawings and bid documents, providing bid review and recommendations, supervising construction activities, and developing manuals for post-closure monitoring. CDM Smith designers and solid waste professionals have worked with landscape architects on staff to turn former landfill sites into various recreational areas such as multi-use parks and golf courses. ***Of note is the fact that CDM Smith previously provided construction observation services during the Stock Island Landfill closure, which gave us insight into the requirements of landfill closure plans in this unique island environment.***

## Solid Waste Recycling Facilities

Recycling continues to be an important component of solid waste management plans, and CDM Smith understands that the City has an immediate need to increase its recycling. As counties, cities, and states continue to implement and enact sustainability or “green” initiatives, recycling programs become essential for success. CDM Smith has helped numerous clients incorporate recycling into their overall solid waste management strategies. We offer the technical expertise and full range of services required to develop and implement effective, fully integrated recycling programs. These services include program planning and development, processing, waste composition analyses, materials market studies, financial planning, siting, equipment selection, grant applications preparation, facility design, procurement, and public education.

## Solid Waste Transfer Stations

Transfer stations can often reduce hauling costs and increase the efficiency of solid waste management systems. CDM Smith works with small communities, large municipalities, and private-sector clients to analyze waste streams, assess needs, and determine whether a transfer station would increase system efficiency. In addition to these planning functions, CDM Smith can perform detailed design, cost estimating, construction related services, and, if desired, full design-build (DB) construction of these facilities as well. We implement creative, cost-effective solutions from simple transfer stations to complex facilities incorporating advanced design and processing technologies, such as recycling, composting, bio-fuels, energy recovery, LEED® new construction designs, and other sustainable solutions. In addition, in keeping with the City’s goal of increasing recycling throughout its system, CDM Smith can design construction and demolition (C&D) debris processing a facility that greatly increases recycling rates. ***The CDM Smith-designed C&D Debris Processing Facility in St. Lucie County helped to increase recycling rates over 80 percent.***



*C&D debris processing facilities greatly increase recycling rates; for example, the CDM Smith-designed C&D Debris Processing Facility in St. Lucie County helped to increase recycling rates over 80 percent.*

## Composting

One of the City’s goals is to begin the composting of yard waste, commercial food waste, and biosolids. CDM Smith has planned, designed, and constructed effective compost facilities for clients across the country. Our experts are continually developing innovative approaches to the application of compost technology. As one of the nation’s leading solid waste consultants, we know how to create hybrid compost facilities that combine yard and kitchen waste

with sludge from wastewater treatment plants, thus creating savings by sharing infrastructure costs across departments. We recently assisted ***the Reedy Creek Improvement District in Orlando with the design of an in-vessel composting facility***. When the District proposed the purchase of three in-vessel composting reactors for food waste, livestock manure, and biosolids, CDM Smith conducted a peer review of the technology selection, examined operations at two similar facilities, and designed a facility that incorporated the best aspects of these facilities.

### 1.2.7 COASTAL ENGINEERING

We will apply our direct experience with the objectives and complexities of dynamic coastal engineering projects to your projects. We have successfully delivered a number of feasibility level and design projects for local, state, and federal agencies. Our full complement of coastal engineering services includes the following:

- Coastal flood hazard analysis and mitigation
- Marine hydraulic evaluation
- Systems hydraulics and operations
- Waterfront structural investigation and design
- Subsurface explorations
- Hydrographic data collection
- Preparation of geotechnical design reports.



*CDM Smith's recent design of the Stock Island seawall replacement demonstrates our ability to perform the full complement of coastal engineering services.*

Project goals often include overall ecosystem restoration, natural hydrologic restoration, shoreline erosion abatement, water quality enhancement, flood control, tidal effects on the existing system and proposed project conditions, and habitat creation. Our additional waterfront related capabilities include underwater inspections, construction administration and observation, project site evaluation, and environmental permitting. Recent coastal engineering projects performed include the ***Stock Island bulkhead replacement for the Florida Keys Aqueduct Authority***, the Sunset Island 2 and 3 subaqueous force main project for the City of Miami Beach, and levee repairs in Ascension Parish, Louisiana.

### 1.2.8 SUSTAINABILITY

From consulting and initial energy audits to the delivery of alternative sources of energy, CDM Smith helps implement intelligent energy investment and operational strategies. We have the resources and experience to maximize facilities' energy savings and leverage energy management strategies. A full-service consulting, engineering, construction, and operations firm, we have a uniquely comprehensive perspective on energy management projects, with services encompassing energy audits, efficiency analyses, facility studies, rates studies, process improvement design and construction, power generation, reliability studies, power conditioning, efficiency planning, operations optimization, and troubleshooting. Our staff is experienced from planning through construction for a wide range of applicable engineering and environmental services. With CDM Smith, the City can build upon its existing green initiatives to continue to identify and implement new approaches for reducing energy costs while maintaining reliability. We have the resources and experience to integrate energy management strategies that will control environmental impacts and maximize energy savings. We have provided energy services to more than 30 clients nationwide and have performed more than 200 energy projects in the United States. The energy savings on these projects is greater than \$6M per year.

By strategizing and prioritizing cost-effective energy reduction measures, CDM Smith assists clients in evaluating and implementing the steps needed to make fiscally sound decisions and realize long-term cost savings.

## Sustainable Design

With a 65-year tradition of leadership in environmental protection, CDM Smith is a strong advocate of “sustainable design.” Sustainable design is a broad term encompassing all aspects of design, from the location of new construction and how it affects the environment, to the selection of finish materials and how they were manufactured.

CDM Smith incorporates sustainable design concepts in all of our work. This ranges from correct siting of a building, to selection of building materials and systems (HVAC, controls, plumbing, and electrical). Common elements of our sustainable designs include:

- Strong preference for renovations that reuse/recycle existing facilities
- Re-use of materials, especially doors, windows, and trim, as well as exterior elements such as masonry or stone work
- Automatic occupant sensitive lighting control systems that conserve energy by only using lights when needed
- Specifying odorless paints that do not emit VOCs and indoor air quality filtering systems
- Electronic control systems for energy-efficient operation of HVAC systems
- Use of reconditioned or processed concrete instead of stone as beds for asphalt/concrete slabs, thereby avoiding the depletion of natural resources
- Re-use and upgrade or revitalization of existing duct work, motors, and controls for HVAC systems versus replacement with new equipment
- Automatic flushometers for water conservation
- Energy-efficient windows, including dual-pane with interior shades or solar glass.

Furthermore, more than 200 CDM Smith architects and engineers have been certified as Leadership in Energy and Environmental Design (LEED®) Accredited Professionals, including proposed project team member Spencer J. Perry Jr., P.E., LEED® AP. Additional information on our LEED® certification and capabilities is included in **Section 5**.

### 1.2.9 PERMITTING

Through our ongoing water supply, water and wastewater treatment, sanitary sewer, water main, stormwater drainage, and reuse system designs locally for the City of Key West, Monroe County, the Florida Keys Aqueduct Authority, Miami-Dade County, and others, CDM Smith has maintained excellent working relationships with the local offices of all the regulatory agencies applicable for projects under this contract, including the FDEP, the SFWMD, the Department of Health, and the FDOT.

### CDM Smith's Sustainability Services Include:

- Alternative energy assessment
- Energy audits
- Energy demand assessment
- Green power
- Biofuels assessment
- Feasibility studies
- Facility improvements design and construction
- Optimization
- Energy management planning
- Power source purchasing assistance
- Power generator system evaluations, design, and construction
- Co-generation system utilities design
- Utilities design
- Instrumentation and control.

CDM Smith recognizes that close coordination and follow-up with regulatory agencies expedites the permitting process, and we will leverage our long-standing relationships with the local regulators to the benefit of the City.



We have a thorough understanding of regulations, the people, and the procedures involved in obtaining permits. Our extensive experience in permitting South Florida water supply projects, water treatment plants, wastewater treatment plants, and associated pipelines and equipment provides valuable insight into the necessary design elements and relations with the regulatory agencies. Further, CDM Smith actively participates in regulatory task forces and rule making committees with the FDEP and the EPA, which provides additional understanding into permit needs and requirements.

CDM Smith has long understood the benefits of positive and professional relationships with the regulatory agencies. Our previous successful experience, team knowledge base, and continuous permit tracking and communications are key elements to future permitting successes. Our proactive project approach to permitting includes pre-application meetings where defining elements are brought to the forefront, and we foster interaction with the regulators and interested public.

### 1.2.10 ENVIRONMENTAL SERVICES

Environmental services are critical for long-range public health and environmental protection. We combine our broad knowledge of regulations, permitting requirements, and compliance strategies with our technical expertise in innovative technologies and approaches for preventing or reducing environmental degradation. We plan, design, build, and operate site and groundwater remediation solutions; redevelop environmental liabilities and brownfields into community assets; and apply leading-edge processes—physical, chemical, and biological—for cost-effective site clean-up and environment preservation. We also provide individualized environmental site assessment strategies, with long-term goals and project-specific needs in mind and perform a full range of biological studies, including wetland and threatened and endangered species. Equally important, we help clients manage their facilities and processes to achieve and maintain compliance, minimize wastes, and conserve resources.

#### Environmental Site Assessments

We have conducted Phase I Environmental Site Assessments (ESAs) for local municipalities, agencies, organizations, private industries, and individuals. Phase I ESAs completed by our team will allow the City to evaluate potential environmental risks related to subsurface and surface conditions, neighboring properties, site structures, and existing site materials. CDM Smith professionals will utilize the latest ASTM Standard (ASTM E1527-05) to conduct site reconnaissance, regulatory file reviews, and relevant personnel interviews, and to prepare the Phase I ESAs reports. Phase II ESAs are typically performed to confirm the presence of suspected contaminants and to develop preliminary estimates for remediating contaminated sites. Phase II activities will be completed in accordance with the ASTM E1527-05 Standard. Proposed environmental project manager **William T. Beeson, P.G.** has overseen numerous ESAs, including site-specific Phase I ESAs for 135 parcels and 95 Phase II ESAs as part of the Hillsborough County Aviation Authority's redevelopment of the Drew Park area for expansion of the Tampa International Airport.

CDM Smith has been providing environmental engineering services to clients locally, nationally, and internationally for over 60 years. Our range of services includes:



- Remediation and restoration
- Brownfields
- Remedial design
- Remedial emergency response
- Remedial investigations and feasibility studies
- Environmental site assessments
- Wetlands/biological services
- Regulatory permitting
- Solid waste and hazardous waste management
- Site remediation/cleanup
- Risk assessment
- Remediation system construction
- O&M assistance and pollution prevention
- Fuel storage tank management

## Site Remediation/Groundwater Remediation

We provide a full range of services to restore contaminated environments—from scoping and initial assessment through remedial design, construction, demolition, and operations. Our project teams focus each environmental investigation to develop only that information needed to identify, design, and implement cost-effective remedial actions that work. Because each client has different needs and each project has unique requirements, we develop each remediation strategy with the project- and client-specific needs at the forefront of the design. CDM Smith offers local remedial construction services, on-site engineering during construction, operations and maintenance, and turnkey contracting to provide full in-house service for all site and groundwater remediation projects. As a local full-service provider, we can expedite site remediation and lower costs by offering alternative delivery solutions to meet the City's needs. As a firm, CDM Smith's remediation projects encompass significant remedial activities at more than 700 sites nationwide, including many award-winning projects such as the *site assessment and remediation of the former PEC Industries site in Orlando*, which was on the Groundwater Remediation Project of the Year award from the National Ground Water Association. Local staff, combined with national technology experts, will combine to provide unique remedial solutions for any project that may arise for the City of Key West.

## Wetland Studies and Threatened and Endangered Species Studies

We work to determine the type and condition of wetlands and their jurisdictional boundaries (SFWMD and USACE) with a focus on areas that could be impacted and mitigation requirements for unavoidable impacts, if necessary. CDM Smith also evaluate land uses and vegetation community types to identify habitats that could support endangered and threatened species, as well as species of special concern, such as the key deer and sea turtles. In addition, we can evaluate site-specific information from the Florida Natural Areas Inventory (FNAI) to determine which listed species could occur on a project site followed by pedestrian surveys to determine which listed species do occur on a project site.

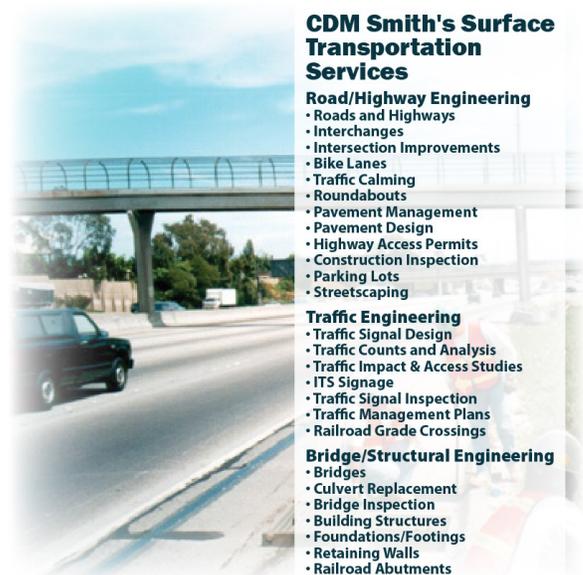


For each project, CDM Smith will consider and mitigate the impacts on threatened and endangered species.

## 1.2.11 ROADWAY

Roadway clients today must navigate increasingly more complex regulatory, environmental, and operational challenges. With extensive experience in providing complete design services for projects ranging from local roads to major interstates, we help city, county, state, federal, and private sector clients meet these challenges. Our roadway design staff consists of highly-qualified professionals who provide logical, practical, creative, and context-sensitive solutions for a broad range of roadway infrastructure projects. With design offices strategically located in Florida, the United States, and throughout the world, we are positioned to provide clients with world-Class service at the local, grass roots level.

From project conception through project implementation, we provide a complete spectrum of transportation-related services, of which roadway design is an important component.

A photograph of a highway with a bridge and a car driving on the road.

### CDM Smith's Surface Transportation Services

#### Road/Highway Engineering

- Roads and Highways
- Interchanges
- Intersection Improvements
- Bike Lanes
- Traffic Calming
- Roundabouts
- Pavement Management
- Pavement Design
- Highway Access Permits
- Construction Inspection
- Parking Lots
- Streetscaping

#### Traffic Engineering

- Traffic Signal Design
- Traffic Counts and Analysis
- Traffic Impact & Access Studies
- ITS Signage
- Traffic Signal Inspection
- Traffic Management Plans
- Railroad Grade Crossings

#### Bridge/Structural Engineering

- Bridges
- Culvert Replacement
- Bridge Inspection
- Building Structures
- Foundations/Footings
- Retaining Walls
- Railroad Abutments

This broad expertise enables project teams to draw on in-house resources as needed to complete projects efficiently and meet schedule requirements. Design requirements vary widely depending upon the functional classification of the roadway and the urban or rural character of the service area. CDM Smith has significant design experience for all functional classifications, including expressways, principal arterials, minor arterials, collectors, and local roads, both rural and urban. Especially critical in today's economy, our project managers have experience with alternative delivery systems, including design-build and public-private partnerships, to help clients overcome budget challenges and get critical infrastructure built.

Our recent and relevant project experience includes design of a connector between the Edgewater/Collingswood Boulevard intersection and the SR 776/Flamingo Boulevard Intersection in Charlotte County, preliminary engineering and final design of Fruitville Road in Sarasota County, completion of a districtwide miscellaneous design contract for FDOT District 5, and numerous other roadway design and design-build assignments.

### Traffic

Clients have relied on CDM Smith for unique and customized approaches to complicated transportation mobility challenges. We are known for technical expertise, practical project orientation, and responsiveness to client needs. Our traffic engineers are proficient in studies and designs ranging from simple traffic impact and feasibility studies to complex intelligent transportation systems for major freeways. They understand that each traffic and transportation improvement project has important implications for those who use the facility every day. Therefore, project managers and other staff focus special attention on technical and community constraints and opportunities. We have successfully completed projects and developed strong working relationships with national and state departments of transportation, county governments, local jurisdictions, metropolitan planning organizations, and private developers.

We maintain a core group of traffic engineers specializing in operational analysis, traffic control design, transportation improvement prioritization, and safety studies. They have the expertise—developed through hands-on experience both in the office and in the field—to investigate, evaluate, and implement effective transportation improvements. The team has substantial experience in traffic planning, operational analysis, traffic circulation, parking studies, traffic safety studies, signals system design, freeway management, and traffic impact assessment. As a pioneer in traffic engineering, we continue to lead the way in developing cutting-edge solutions to transportation challenges throughout the world.

## 1.3 Project Management – Philosophy and Methodologies

This section briefly describes CDM Smith's approach to planning, engineering, and assisting the City during initiation and development of any project that may be assigned to us as part of this contract. A key element to our project management approach is to provide the City with responsiveness from our local, on-site coordinator, experienced project managers, and reliability from the entire project team.



### CDM Smith's Traffic Engineering Services Capabilities Include:

- Data collection and traffic surveys
- Traffic safety and accident analyses
- Traffic control plans
- Traffic impact analyses
- Traffic operational analyses
- Roadway capacity analyses
- Traffic modeling and simulations
- Interchange studies
- Intersection optimization studies
- Traffic circulation studies
- Parking studies
- Traffic calming studies
- Roundabout analyses
- Congestion management studies
- Safety studies
- Freeway operations analyses
- Traffic signal optimization
- Signal systems analysis and design
- Access management plans
- Traffic signal warrants and timing
- Corridor studies
- Crash analysis and safety studies
- Intelligent transportation system planning and design.

### 1.3.1 OVERALL PROJECT MANAGEMENT PHILOSOPHY

We recognize that we are an extension of City staff in developing studies and designs to enhance the efficiency of City operations. On a typical project, CDM Smith would take the lead in project management during the planning and design phases of the project and, if required, during the construction of the project as well. Clear, complete, and consistent communication through all phases of the project is the key to getting all of the stakeholders to agree that the project is a success. In order to facilitate this goal, we propose to implement a structured, proven system of project management for the City's projects. No one element is any more important than any other, and all must be applied consistently to be effective.

### 1.3.2 PROJECT MANAGERS

The selection of an experienced project manager is the first major step toward a successful project. CDM Smith is proposing seven very strong project managers—including **Vipin Pangasa, P.E., BCEE**, who is well known to the City through his work at the Richard A. Heyman Environmental Protection Facility—who are experienced in the management of projects within their respective disciplines and who are all knowledgeable of CDM Smith's project management and quality management procedures.

**Project Management Team**



Our team of committed project managers offers extensive experience in their respective disciplines, and each excels at engaging and listening to clients throughout a project's life cycle. This aptitude, combined with their ability to coordinate project stakeholders, has led our project management team to the successful delivery of projects on time and on budget.

### 1.3.3 PROJECT INITIATION

Once a project work order is identified, the first thing the local coordinator will do is communicate with the officer-in-charge to decide which project manager, based upon the discipline(s) required, will be best suited for the assignment. Following that, communications (either face-to-face or via conference call) will be held with appropriate City staff to fully identify the scope, goals, and objectives of the project assignment. Next, CDM Smith will prepare a detailed proposal. The proposal will include a detailed scope of services, a list of deliverables, terms of compensation, and a time of completion for the work order. Of course, all four of these components of the proposal will be negotiated with the City. Once successfully negotiated and approved by the City, the proposal will become a work order under the master services agreement.

As part of a work order proposal, we will prepare a detailed spreadsheet showing the number of hours per labor category per task item. This will be used to establish the total upper limit of the work order. In addition, this list of work items will be used for invoicing and budget control during the design phase of the work order. Once approved by the City, the project manager will develop a project management plan and enroll it in our computerized accounting system, and costs will be tracked per agreed upon task items. Monthly invoices showing charges incurred to date will be prepared and presented to the City's project manager, along with an updated project schedule at the monthly progress meeting. The project management plan is part of CDM Smith's overall all quality management procedures

and establishes the work breakdown structure and associated budgets, schedule of work, quality check, and review points during the course of the work and the individuals responsible for the various activities. The project management plan detail is commensurate with the complexity and size of the work assignment.

### 1.3.4 PROJECT KICK-OFF MEETING

The CDM Smith team will conduct a project kick-off meeting for every assigned project under this contract. This meeting will be conducted prior to the initiation of the project and will include all project team members and the appropriate City staff. Execution of this task plays a critical role in the project, as it establishes lines of communication for the project and identifies and clarifies City goals from day one. This ultimately helps project team members to develop the most effective project possible.



*A project kick-off meeting will play a critical role in each and every project, helping to ensure that the City's goals are clear from day one.*

### 1.3.5 DATA COLLECTION

Following the project kick-off meeting, data collection efforts for the project will be initiated. Depending on the type of project assigned, this may include efforts ranging from the collection of field survey data and/or geotechnical data (for final design) to the collection of previous studies and reports (for compliance monitoring or engineering studies). A thorough review of available information and documentation will play a critical role in the completion of a project in a cost effective and efficient manner.

### 1.3.6 CONSTRUCTION DOCUMENT PREPARATION

This task includes the preparation of construction plans, technical specifications, and contract documents for design-related projects. The preparation of these documents is usually based upon an approved preliminary design that was prepared either as a separate design report or as a portion of a master plan. The use of this concept allows for a more efficient, timely, and economical design.

During the preparation of these documents, the City plays an integral role through scheduled review meetings at various milestones (usually the 30, 60, and 90% project completion milestones). Reviews at these various milestones are conducted to maintain the lines of communication on the project (between the CDM Smith project team and the City) and to assist with meeting the goals of the City for the project. Experience shows that the success of a project is dependent on execution of the reviews of the contract documents at these various milestones.

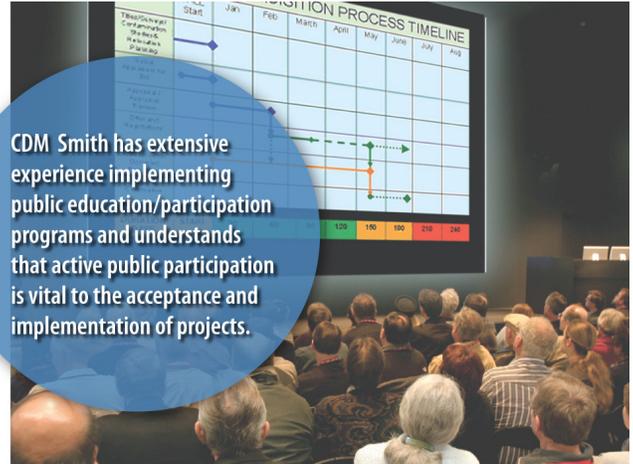
During this phase, CDM Smith conducts value engineering and constructability reviews to provide further value to the project from our nationally recognized experts and construction experts. We also offer the advantage of being a fully integrated DB firm. This means that, when we provide an engineer's cost estimate, our in-house cost estimator prepares the estimate from our bid projects database so the City can be confident that it was put together from a contractor's point of view.

### 1.3.7 PERMITTING

We will work with the City and regulatory agencies to expedite any permitting requirements. Resolving permitting issues may be the most critical element of any design-related project included under this contract. Our project team has guided numerous utility, civil, environmental, and solid waste projects through complicated permitting processes and has a strong working relationship with local, state, and federal permitting authorities. Work included under this task will include preparation of the permit application and the associated documentation in addition to representing the City with various regulatory agencies. The experience of our project team and the relationships that have been built with these regulatory agencies will assist with ensuring that these efforts are completed in a timely and cost-efficient manner, with the interests of the City being represented throughout.

### 1.3.8 PUBLIC PARTICIPATION

CDM Smith places a strong emphasis on the importance of public involvement, whether this includes a formal public workshop or open house on the project, or simply meeting face-to-face with a concerned citizen. These public meetings play an integral role in having a quality finished product that the local community will be pleased with in the end. For example, *as part of the South Central Hillsborough Intertie project for Tampa Bay Water*, we coordinated with local stakeholder groups and citizens throughout the design phase. We held numerous public and neighborhood meetings, which allowed each entity a forum to voice their concerns and goals for the projects. Also, as part of *Lee County's recycling public education program*, we developed a video for presentation at civic meetings and a 30-second public service announcement for radio and television media.



### 1.3.9 BIDDING ASSISTANCE

Following the completion of a design for the project, the CDM Smith project team will provide bidding assistance to the City. These services include preparation of a sample advertisement for the project, conducting a pre-bid meeting with prospective bidders, providing responses to requests for additional information or clarification, review of submitted bids, preparation of a bid tabulation, and a recommendation of award.

### 1.3.10 ENGINEERING SERVICES DURING CONSTRUCTION

Following the award of the construction contract to the successful bidder, our project team will provide engineering services during construction to ensure that the project is built in conformance with the construction documents. These services will include items such as conducting a pre-construction conference, shop drawing review, responding to requests for additional information or clarification, review of monthly pay requests, and preparation of daily field reports for construction activities.

### 1.3.11 PROJECT CLOSE-OUT

Following the completion of each project's execution, the CDM Smith project team will follow the close-out activity requirements of QMP-1 and QMP-2. In addition, these activities will also include the submittal of as-built drawings for all construction-related projects. Each of these activities is an extremely important part of the process, as maintenance of accurate records for projects will help ensure that future projects will proceed smoothly, with limited efforts required when the data collection task is started again at a later date.

### 1.3.12 ACHIEVING QUALITY EXPECTATIONS

Quality has been the cornerstone of CDM Smith's reputation for more than half a century. From the smallest study or environmental assessment to the most complex design and construction, quality management is fully integrated into every CDM Smith project task. Project quality management, or PQM, is the umbrella process by which we impose the most stringent quality controls on our projects, and it can be implemented to various degrees, depending on the nature and magnitude of a given project. PQM can be defined as all activities undertaken to ensure that the services provided by CDM Smith meet client expectations and contract requirements. These activities are further subdivided into two categories—the first being specific quality control procedures undertaken by staff engaged in a particular project and the second being timely overview by quality management staff to ensure that such control procedures are being followed to the extent appropriate.

To guide these efforts, we have developed Quality Management Process manuals to provide procedures and guidelines to be followed in the execution of all CDM Smith projects. Quality Management Process Manual No. 1 (QMP-1) covers all services except construction, and QMP-2 is for construction. The processes outlined in these documents apply to all project-related activities—from proposal preparation to the storage of project records. Areas include:

- **Project Startup Activities** – Project management plan preparation, work breakdown structure, project quality management, budget and cost allocations, project planning and scope review, health and safety programs
- **Project Execution Activities** – Computations, construction drawings, project records, utilization of CDM Smith technical standards and master specifications, review procedures, communication
- **Project Closeout Activities** – Closeout forms, storage of project records
- **Construction Activities** – Bid documents, bid evaluations, communications, dispute prevention, construction site safety, contractor submittals, progress schedules, change orders, record drawings.



Quality has been, and remains, the cornerstone of CDM Smith's business for more than six decades. Achieving quality requires vigilance and scrupulous attention to the standards set forth by clients, professional associations, regulators, and CDM Smith. To codify this commitment to quality, CDM Smith has developed Quality Management Process Manuals to address project needs and specific phases. By initially implementing a quality process, CDM Smith is able to create projects within desired timeframes and on or under budget.

Central to the success of this rigorous quality management program are three main elements: client participation, standardization, and independent technical reviews.

For larger projects, these procedures require that a PQM meeting be conducted prior to any work being completed on the project. These meetings serve as a group consensus process that expedites the melding of individuals into teams and forges the alignment of individual interests into a shared mission with measurable goals and actions. Attendees at these meetings include the client as well as the internal CDM Smith project team.

During project execution, numerous quality management procedures are required, independent of the size of the overall project. These procedures include items such as monthly project status reviews with the project team, formation of a technical review committee (TRC), which is made up of technical specialists that are not involved in the execution of the project for the project, completion of TRC meetings at least twice throughout the duration of project execution, and documentation of all comments received during the TRC meetings, and how each comment is addressed. For smaller projects, appropriate reviews are required by qualified technical specialists.

### 1.3.13 SCHEDULE AND BUDGET CONTROLS

Project managers and key task leaders are provided with weekly current period charge reports (CPR) to provide project leaders with up-to-date financial information on each component of the work breakdown structure so that costs may be correlated to earned value curves to assess project and budget status.

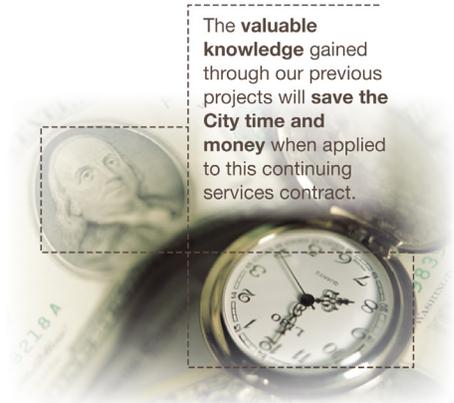
Monthly project status review meetings are held with the project manager, officer-in-charge, and contract financial manager. At these meetings, the project manager presents the Project Status Report (PSR) and identifies any variance to the planned project progress and budget. If variances are significant, a corrective action plan is developed to return the project to planned progress and budget. The PSR is a computerized and standard reporting form that enables a rapid review of key project status elements. A PSR is generated monthly for every project enrolled.

### 1.3.14 COMMUNICATIONS/PROJECT DELIVERY

We propose regular project status meetings with the City's project manager and CDM Smith's project manager and any other key staff that may be necessary. The purpose of the meetings will be to identify any issues that may affect the project's schedule and/or budget as early as possible and communicate them to the City. Prior to the meeting, we will prepare an updated schedule, an invoice, and a project status report and submit it to the City's project manager a couple of days before the status meeting. The status report format will be approved ahead of time by the City, and it will allow the City's project manager to see, at a glance, the following crucial information:

- Percent complete (based on the schedule)
- Percent spent
- Original authorized budget
- Spent this period
- Spent to date
- Actual work accomplished this period
- Look ahead to work to be completed next period
- Major problems or issues that may affect the schedule and plan to resolve.

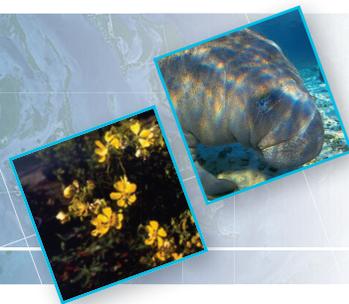
Also, any other contract and work order requirements will be identified as part of the status report and tracked. Comparing the actual percent spent versus budget versus actual work performed is needed to ensure that the project is on time and under budget. Any deviations can be noted early and steps taken to resolve so that the project can be delivered on time and under budget.





# Section 2 – Professional Qualifications of Staff

# Section 2 – Professional Qualifications of Staff



Our team's commitment to technical excellence, innovation, continual improvement, and environmental and fiscal considerations makes us an ideal partner for the City. Because of our local roots and the fact that we are a local firm that lives and works in your community, we have a vested interest in our collective success and a strong desire to exceed your expectations at every turn.

Our team's multidisciplinary skills in design, engineering, planning, architectural, advisory services, financial consulting, environmental, and sustainable development can support the most pressing issues facing the City. CDM Smith and our team members have developed solid reputations locally, statewide, and nationally as premier engineering consultants.

## 2.1 Team and Project Management Structure

CDM Smith will lead a local team that has a proven track record of success in working with municipalities like the City in Florida and across the country. We will partner with the City's management to form a single team with a single shared mission: successfully implementing your projects. This type of partnership starts with the right people. We will provide the City with a core project management team, as well as any specialists that will be needed during the contract for specific technical elements.

Our project management team will build upon the trusting partnership we have already established with the City by taking initiative, by being responsive and supportive of the City, and by being there when you need us. This relationship will be strengthened by the addition of technical experts to our team who are committed to providing the very best strategies, direction, lessons learned, and technical insights from other civil, utility, solid waste, coastal, and environmental engineering projects and continuing contracts held around the state and the U.S. Based on our past work for the City and other consulting and engineer-of-record contracts, we understand the specific best practices needed for the City's projects.

With the depth and breadth of our local, statewide, and national experience, our team knows how to deliver professional consulting services to cities like Key West.

Our project team is presented in

**Proven approach** that will provide efficient and feasible solutions to advance the City's goals

**Thorough knowledge** of the City's policies, procedures, and staff

**Qualified professionals** with availability to meet scheduling and budgeting needs

**Key West-based project coordinator** to better serve the City and accomplish your goals



**Figure 2.1-1.** Our key project team members were selected for their expertise, their proximity to the City, and their ability to commit the time necessary to complete project tasks. Qualifications and unique knowledge of staff are presented in the following pages and in the resumes included at the end of this section.

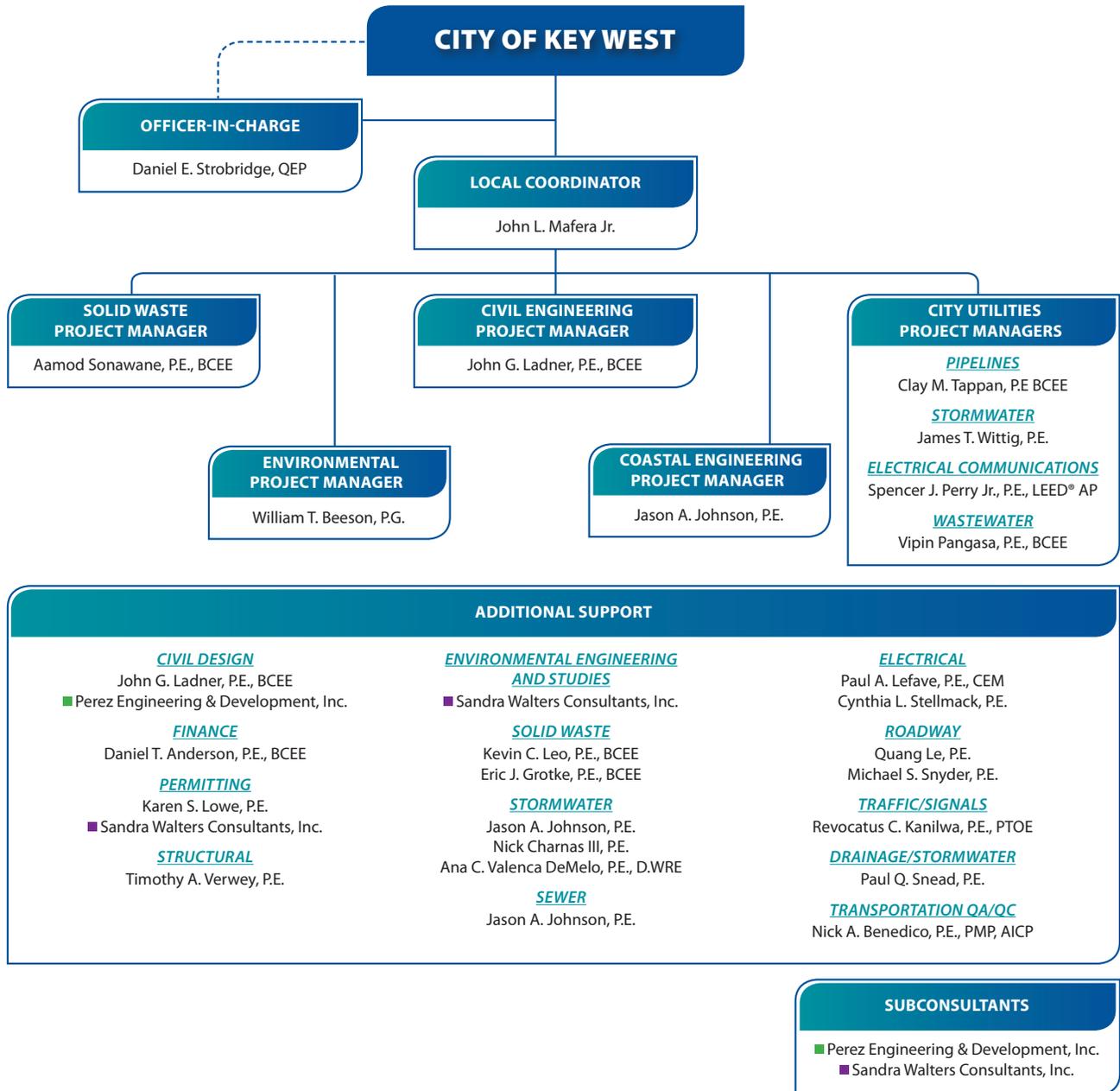
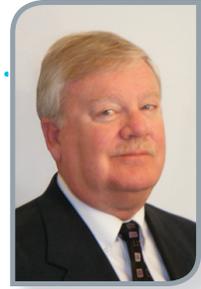


Figure 2.1-1: In order to provide the City with the optimum technical expertise coupled with effective project coordination and cost control, we will manage and perform the majority of the project tasks with Tampa-based staff, with the support of a local coordinator and local subconsultants.

## DANIEL E. STROBRIDGE, QEP

### *Officer-in-Charge*

Mr. Strobridge, a Vice President with CDM Smith, has been providing environmental and engineering consulting services to west coast Florida clients for over 25 years. He is a manager in the CDM Smith Tampa office and is currently officer-in-charge for a wide variety of solid waste, water, wastewater, and water resource projects for west coast cities and counties. With over 37 years of experience in the environmental engineering field, and more than 26 years of experience with CDM Smith, Mr. Strobridge applies his diverse and extensive experience to the planning, design, permitting, and construction of solid waste, water, wastewater, stormwater, and related infrastructure and utilities. He is also experienced in developing alternative procurements for public infrastructure projects and the financing for those projects. Since 1994, Mr. Strobridge has been working with the City of Key West, where he has familiarized himself with your staff, policies, and preferences. As part of assisting the City with a permit renewal for its wastewater treatment plant, Mr. Strobridge oversaw the performance of a reclaimed water feasibility study that considered a range of alternatives. He has also served as officer-in-charge for several projects at the Richard A. Heyman Environmental Protection Facility, including a hydraulic profile for additional flow and the replacement of surface aerators with diffused aeration, and oversees the development of the annual solid waste rate study that CDM Smith performs.



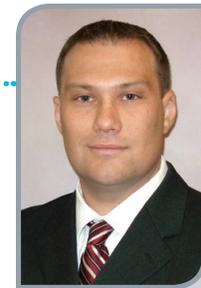
As officer-in-charge, Mr. Strobridge is able to commit the firm's resources and to provide technical as well as administrative oversight to projects. He has extensive experience helping clients implement complex projects throughout Florida, including in Key West, and is committed to implementing a collaborative approach for your projects.

## JOHN L. MAFERA JR.

### *Local Coordinator*

In support of this important contract, we have included a local coordinator on our team.

Mr. Mafera is located in the heart of the City of Key West and is thoroughly familiar with City requirements, policies, and procedures, as well as state requirements. An experienced professional with over 12 years of planning and management expertise, Mr. Mafera's knowledge of master planning, environmental assessments, site selection/feasibility studies, and land use and development studies can be applied to a variety of engineering projects. Currently, with his base in Key West, Mr. Mafera is serving as the project manager for CDM Smith's general airport consulting services contract with Monroe County for the performance of various planning, engineering, and architectural projects at the Key West International and Marathon Airports. He recently completed a project to address tenant sewer laterals at the Marathon Airport, which entailed site visits, data collection, stakeholder coordination, and development of budget and schedule, as well as the design, permitting, bidding, and construction administration for connection of 12 airport tenant sewer systems to the existing central sewer in the area.



## AAMOD SONAWANE, P.E., BCEE

### *Solid Waste Project Manager*

Mr. Sonawane offers over 13 years of experience specifically related to landfill engineering and solid waste management practices. Throughout his career, Mr. Sonawane has been involved in the design, permitting, and construction of lined landfills, transfer stations, landfill closures, landfill expansions, groundwater contamination assessments, drainage systems, gas collection systems, and leachate collection and treatment systems. Currently, Mr. Sonawane is serving as project manager for CDM Smith's five-year Independent Consulting Services contract for solid waste and landfill-related activities in Pinellas County. Specific tasks under this project include preparation of a Florida Department of Environmental Protection (FDEP) Operations Permit Renewal Application for the Bridgewater Acres



Class I Landfill, reviewing biennial water quality monitoring plan evaluation reports for the Bridgeway Acres and Toytown Landfills, preparation of Cell 5 certifications and construction completion, revised grading plans, and operations drawings. He is also working with Pasco County for a closure design project that encompasses landfill grading, a closure liner cap, a gas management system, a stormwater management system, drawings and specifications development, and preparation of the permit documents. Mr. Sonawane has also directed numerous geotechnical investigations, including an evaluation of slope stability and settlement, global slope stability analyses, and veneer stability analyses.

### **JOHN G. LADNER, P.E., BCEE**

#### *Civil Engineering Project Manager; Civil Design*

A civil engineer highly experienced in the management and supervision of general environmental and civil design and construction projects, Mr. Ladner offers over 30 years of experience in civil site work, including stormwater box culvert and canal design; arterial roadway design; transportation; paving, grading, and drainage work; and stormwater improvements. Mr. Ladner previously served as lead practitioner and senior environmental engineer for the conceptual and final design of an 1,800-acre stormwater treatment area in South Florida. This component of the Lake Okeechobee fast-track project included conceptual layout of several alternatives, including earthwork estimates; detailed hydraulic analysis; and calculation of hydraulic and nutrient loading rates. Recently, Mr. Ladner served as the project manager for the rehabilitation of the Dakin Avenue box culvert for the City of Kissimmee, for which CDM Smith also designed utility improvements and developed traffic calming measures. Currently, Mr. Ladner is providing support to the CDM Smith team designing various stormwater improvements for Seminole County. Responsibilities include providing input during design, performing constructability reviews, design review, and providing comments and recommendations to overcome constructability issues.



### **CLAY M. TAPPAN, P.E., BCEE**

#### *City Utilities Project Manager – Pipelines*

Mr. Tappan is an environmental engineer with 25 years of experience in the design of water and reclaimed water distribution facilities and stormwater drainage facilities. He is also experienced in regulatory permitting and approval necessary for funding and construction of these projects. He is a recognized pipeline expert, having designed hundreds of miles of pressure and gravity pipelines during his career, under various subsurface conditions. Recently, Mr. Tappan served as lead practitioner and reviewer in the design of over 30,000 lf of gravity sewer and over 11,700 lf of force main for the City of St. Augustine. In Cape Coral, he was a key team member on one of the largest public works projects in Florida and was responsible for the design, value engineering, easement acquisition, and permitting for 205 miles of gravity sewers, 45 miles of force mains, 95 pump stations, and 110 miles of irrigation pipe lines. Mr. Tappan also performed a hydraulic analysis and design of 30 miles of gravity sewers, sewer pump stations, and five miles of force main in support of Manatee County's wastewater collection and transmission systems improvements. Additionally, Mr. Tappan was the lead design engineer for the City of Fort Lauderdale's WaterWorks 2011 initiative involving East Las Olas and Davie Boulevard utility improvements, which 25,000 lf of 12-, 16-, and 24-inch water main; 24,000 lf of gravity sewer; and 10,000 lf of force main. Mr. Tappan also served as project manager for the South Central Hillsborough Intertie for Tampa Bay Water, which involved the design and permitting of a 14-mile long, 72- to 84-inch diameter raw water transmission main.



**JAMES T. WITTIG, P.E.*****City Utilities Project Manager – Stormwater***

A water resources engineer specializing in the design, evaluation, and permitting of projects related to water resources and stormwater applications, Mr. Wittig has almost 25 years of experience in site design and layout, alternatives analysis, and numerous surface water and stormwater models and applications. In his current role, Mr. Wittig is often responsible for stormwater project implementation, technical direction, and quality control, and frequently serves as a lead practitioner on stormwater projects throughout Florida. He has been involved in notable, innovative stormwater management projects, including the City of Casselberry's award-winning Anniversary Park and the City of Orlando's Little Lake Fairview Restoration and Dubsdread Golf Course Renovation project. The design of the stormwater park for Casselberry included an amphitheater, park facilities, and a boardwalk along Lake Concord. The project required innovative approaches to treat and convey existing stormwater flows within the park. For the Dubsdread golf course, Mr. Wittig assisted in renovations of the entire golf course, including several new water features to provide water quality retrofit for stormwater runoff from on-site and off-site areas. Additional experience includes serving as lead practitioner and project engineer for stormwater improvements to Orange Blossom Trail in Orlando, drainage improvements in Seminole County's Lincoln Heights, drainage improvements for Orlando's Mariposa Street, and emergency drainage system repairs for a failing drainage system in Clay County.

**SPENCER J. PERRY JR., P.E., LEED® AP*****City Utilities Project Manager – Electrical Communications***

An electrical engineer and LEED® Accredited Professional, Mr. Perry has over 12 years of experience in power distribution design and construction services. His knowledge includes LEED® building certification and design services, and energy and efficiency assessments and studies. For clients throughout Florida, Georgia, and North Carolina, Mr. Perry has LEED® low and medium voltage distribution design, lighting system design, power system studies, and LEED® certification, design, and coordination. His experience includes water treatment plants, wastewater treatment plants, solid waste facilities, water and wastewater pump stations, industrial and chemical facilities, and commercial facilities design. Mr. Perry has aided in the design of the South District Water Reclamation Facility in Miami-Dade County, the Eastern Water Reclamation Facility Phase IVB Improvements for Orange County, chlorination/dechlorination system improvements for the City of Fort Myers South and Central Advanced Wastewater Treatment Facilities, as well as the Boca Raton Glades Road Membrane Facility, the Tampa Bay Water surface WTP, the Lake Region Water Treatment Plant for Palm Beach County, the North County RO Plant for Indian River County, and the Valdosta Water Treatment Plant located in Valdosta, GA. Notably, Mr. Perry participated in the design of the Solid Waste Authority of Palm Beach County's Operations Building, which received a LEED® Silver Certified designation.

**VIPIN PANGASA, P.E., BCEE*****City Utilities Project Manager – Wastewater***

Mr. Pangasa brings to this project over 21 years of experience, including wastewater process and treatment, collection/distribution and transmission system, and pump station and pipeline design and construction, as well as water, reclaimed water, stormwater, and solid waste management. Mr. Pangasa previously assisted the City of Key West with improvements at the Richard A. Heyman Environmental Protection Facility. He served as project manager for the replacement of surface aerators with diffused aeration, which involved preliminary design, final design, permitting, bid assistance, and construction, and for the hydraulic profile/analysis for the facility, which was conducted to determine what peak flow the plant could sustain. Currently, he is directing the design and construction of the Northwest Regional Water Reclamation Facility (WRF) expansion in Hillsborough County. Design responsibilities



have included directing the Facility Assessment Report, process modeling, conducting a study of ultraviolet (UV) disinfection options and design, preparing conceptual and preliminary engineering reports, and effluent modeling. Mr. Pangasa also worked with Hillsborough County to implement numerous improvements at the Van Dyke Wastewater Treatment Plant, including aeration equipment replacement, the design of reclaimed water storage tank and pump station improvements, and piping modifications to incorporate an automatic backwash disk filter.

### **WILLIAM T. BEESON, P.G.**

#### ***Environmental Project Manager***

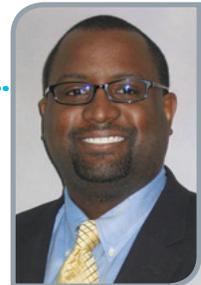
Mr. Beeson has 27 years of technical and management experience, including 22 years of experience in managing and directing major contamination assessment and remediation projects; environmental permitting at the local, state, and federal levels; hazardous waste management; and hazardous waste site closures. He has participated in hundreds of environmental projects ranging from Phase I Environmental Site Assessments to response actions at Superfund sites. Mr. Beeson is currently supporting the Hillsborough County Aviation Authority in conducting site-specific Phase I Environmental Site Assessments and Phase II Environmental Site Assessments as they acquire land for the expansion of the Tampa International Airport. Mr. Beeson has served as the project director/contract manager for Interim Source Removal actions and the submission of Interim Source Removal Reports. Also, for Martin County, Mr. Beeson was the senior project manager for the performance of Phase I and Phase II environmental assessments—conducted in accordance with South Florida Water Management District and U.S. Fish and Wildlife Service—of a 12,000-acre citrus grove. Mr. Beeson was in responsible charge of soil and groundwater sampling and analysis, as well as a Screening Level Ecological Risk Assessment.



### **JASON A. JOHNSON, P.E.**

#### ***Coastal Engineering Project Manager; Stormwater; Sewer***

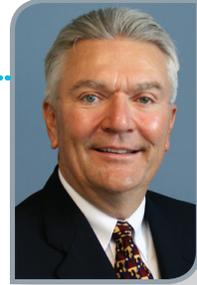
Mr. Johnson is a professional engineer with 15 years of experience in stormwater and water resources engineering, stormwater master planning, storm drainage system design, and stormwater utility development. Throughout his career, he has provided various services to clients throughout Florida, North Carolina, Kansas, Missouri, Wisconsin, and Barbados. A native of Barbados, Mr. Johnson is familiar with the unique needs of island locales, especially as they pertain to location, ecology, hydrology, topography, and geology. Mr. Johnson offers local experience, having served as project manager for the Big Coppit Key Prado Circle Stormwater Well Improvements in Monroe County—for which he oversaw design and bidding assistance for the construction of stormwater drainage improvements—and the Stock Island seawall replacement for the Florida Keys Aqueduct Authority. For the seawall replacement, Mr. Johnson was responsible for the planning, design, and construction of approximately 1,200 linear feet of seawall. Previously, Mr. Johnson served as project manager for the City of Miami Beach's sanitary sewer evaluation survey (SSES), for which he was responsible for sewer cleaning and inspection, flow monitoring, and engineering design services associated with the physical rehabilitation of sanitary sewer in seven basins. He is also currently assisting the City of North Miami with compliance services associated with Phase I and Phase II report requirements for the SSES program.



## DANIEL T. ANDERSON, P.E., BCEE

### *Finance*

Mr. Anderson is a principal engineer and senior financial specialist with more than 33 years of experience providing public utilities and governmental agencies with financial advisory and support services. Mr. Anderson has managed and performed the following types of financial consulting services projects for our clients: water, wastewater, reclaimed water, stormwater, and solid waste cost of service and rate studies; water, wastewater, and reclaimed water capital cost recovery charge/impact fee studies; annual engineering reports required by bond covenants, including reviews of rate covenant compliance and sufficiency of the renewal and replacement program; feasibility reports in support of revenue bond issues; preparation of financial forecasts to meet covenant requirements for issuance of additional parity or subordinated debt; acquisition feasibility studies for private utilities by local governments; and special assessment districts and bonds for water, wastewater, reclaimed water, and other types of infrastructure improvements. For the City of Key West, Mr. Anderson performs annual updates to the solid waste rate model, which is run to evaluate the rate impacts of the proposed annual operating budget in conjunction with long-term projections of capital expenditures and renewals and replacements. He also performed a fast-track rate study for the City of Miami Beach to implement rates that will generate revenues sufficient to meet the coverage requirements in anticipation of the City's need to issue revenue bonds to finance additional capital improvements.



## KAREN S. LOWE, P.E.

### *Permitting*

Ms. Lowe is an environmental engineer experienced in wastewater and water treatment facility expansion design, hydraulic analysis, and pump station upgrades, as well as reclaimed water feasibility studies and stormwater management review. She is familiar with the local regulatory environment—in addition to state and federal agencies—through her involvement in the replacement of existing surface aerators with a diffused aeration system at the City of Key West's Richard A. Heyman Environmental Protection Facility. Responsibilities included project design, permitting, drawing preparation and review, and specifications preparation. Ms. Lowe recently served as project engineer for Hillsborough County's South County Advanced Wastewater Treatment Plant expansion, which expanded the existing facility from 4.5 mgd to 10 mgd. Ms. Lowe led the permitting effort, which included permitting through multiple agencies for the rerating of the current facility. She also assisted with the design of the deep bed filters, a new UV disinfection system, and a review of effluent management for the Hillsborough County South Central reclaimed water distribution system. Also, for Tampa Bay Water, Ms. Lowe assisted with permitting through multiple agencies for the Off-Stream Reservoir and South Central Hillsborough Intertie Booster Pump Stations. Additional tasks included site evaluations, drawing review, specifications development, and stormwater evaluation.



## TIMOTHY A. VERWEY, P.E.

### *Structural*

Mr. Verwey specializes in computer applications of both structural engineering design and engineering analyses, including finite element analysis of plate and shell structures, and 3-dimensional structural analysis. His design capabilities include cast-in-place concrete structures, as well as masonry, timber, structural steel, and precast concrete structures. He has led the structural engineering of several multi-million dollar projects and is also qualified in preparing material takeoffs and construction cost estimates. His experience includes serving as structural engineer for the Stock Island seawall replacement for the Florida Keys Aqueduct Authority, which involved the use of steel sheet piles coated with a corrosion protection layer and a primary bulkhead wall supported by an anchorage system.

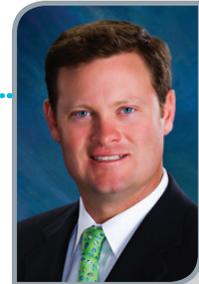


Mr. Verwey also completed the inspection, structural evaluation, and redesign of two precast reinforced concrete piers for the City of Clearwater, FL. For the Garfield Ladner Memorial Pier Replacement Project in Waveland, MS, Mr. Verwey designed the replacement timber pier, which was destroyed by Hurricane Katrina. In addition, he is well versed in structural design services for pump station replacement and rehabilitation projects, water and wastewater treatment plant upgrades, drainage improvements and water control structures, storage tanks, and transportation projects.

### **KEVIN C. LEO, P.E., BCEE**

#### *Solid Waste*

Mr. Leo's 15 years of experience includes design, construction, budgetary development and control, and planning and coordination of a variety of solid waste, civil, and environmental engineering projects in the Florida counties of Palm Beach, Broward, Miami-Dade, St. Lucie, Martin, Charlotte, and others. He has designed, managed, and performed technical reviews of over 200 solid waste projects and has prepared plans and specifications for more than 315 acres of liner and capping materials for solid waste landfills. He also oversaw the design-build of an award-winning conversion of an 180-acre landfill site into a public 18-hole golf course project for Palm Beach County. Mr. Leo routinely provides consulting, design, permitting and construction services for all aspects of solid waste projects, including management plans, landfill expansions and closures, transfer stations and recycling facilities improvements, and landfill gas projects. Currently, Mr. Leo is overseeing the design and permitting of a 10-acre Class I ash monofill at the Miami-Dade Resource Recovery Facility and Ash Monofill Cells 23 and 25 at the Solid Waste Authority of Palm Beach County's North County Resource Recovery Facility and the design-build-operate of a new 3,000-tpd mass burn WTE for the Solid Waste Authority of Palm Beach County. The design for the mass burn facility includes the tipping floor building, air pollution control building, ash handling building, maintenance/warehouse, and all services and utilities therein, as well as on-site roadways, drainage utilities, landscaping, grading, and fencing.



### **ERIC J. GROTKE, P.E., BCEE**

#### *Solid Waste*

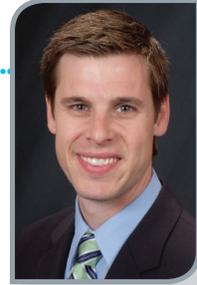
Mr. Grotke has over 20 years of experience in solid waste management and facility design and has been involved in various solid waste management projects encompassing design, permitting, bidding, and construction. For over ten years, he has worked in partnership with St. Lucie County to deliver several award-winning projects, including the Solid Waste Baling and Recycling Facility, the Construction & Demolition (C&D) Debris Processing Facility, and the landfill gas-to-energy project. He has also assisted St. Lucie County with design, permitting, bidding, and construction of landfill expansion, solid waste master planning, waste composition analyses, landfill expansions, and leachate treatment facilities. Currently, he is serving as officer-in-charge for a proposed waste-to-ethanol project in Indian River County and is assisting St. Lucie County with a 660-ton-per-day plasma arc gasification facility. He has also worked extensively with the Solid Waste Authority of Palm Beach County, providing assistance with the Western Landfill, the Central County Transfer Station, and the expansion of Class I and III landfills at the North County Resource Recovery Facility. In addition, Mr. Grotke has served as officer-in-charge for numerous Martin County projects, including the C&D debris and yard waste processing building, the Palm City II transfer station, and routine permit compliance.



## NICK CHARNAS III, P.E.

### *Stormwater*

Mr. Charnas, a water resources engineer with over nine years of experience, is qualified in the evaluation, design, permitting, and construction management of projects related to water resources and utilities. He has extensive knowledge of surface water modeling, alternatives analyses, civil site design, and permitting requirements, and has worked on projects involving stormwater drainage systems, channel improvements and repairs, Total Maximum Daily Loads (TMDLs), Basin Management Action Plans (BMAPs), stormwater quality and level of service, master planning, Flood Insurance Studies, and National Pollutant Discharge Elimination System (NPDES) permits. Through his work on the Florida Keys Reasonable Assurance Documentation (FKRAD) update, Mr. Charnas gained familiarity with the management activities currently ongoing in the Keys, as well as impaired waterbodies. He is currently working with the Pinellas Park Water Management District on numerous stormwater improvement projects, including the Long-Range Facilities Plan, which provided prioritization and future planning for repair and replacement of the District's assets; the Channel 4, 4A, and 4E drainage improvements; Channel 3 scour repair; and Channel 1C erosion/scour repair. Mr. Charnas was also instrumental in obtaining \$530,000 in Cooperative Funding from the Southwest Florida Water Management District (SWFWMD) for the Channel 4 and 4E drainage improvements project.



## ANA C. VALENCA DEMELO, P.E., D.WRE

### *Stormwater*

Ms. DeMelo has more than 20 years of experience in civil engineering, water resources engineering, and project management. For the last 15 years, Ms. DeMelo has managed a variety of civil and water resources projects, including stormwater management master planning; stormwater drainage design; roadway design; pump station design; drainage improvements; and environmental resource permitting. Additional experience includes hydrologic/hydraulic computer modeling and analysis, watershed water quantity and quality analysis, surface water sampling, and laboratory analysis for watershed pollutant sources identification and retrofit. Ms. DeMelo worked with the City of Lake Worth to develop a city-wide stormwater master plan, which includes performing stormwater infrastructure inventory, drainage investigations, modeling, and drainage retrofit alternatives. She is also the project manager for the Lakeside Ranch Stormwater Treatment Area in Okeechobee, FL. This project includes over 21 miles of earthen embankments and levees, multiple hydraulic control structures, and extensive seepage management systems. In addition, Ms. DeMelo previously served as project manager for several drainage and neighborhood improvement projects for the City of Boynton Beach. She oversaw the design, bidding, and construction administration for stormwater management systems, water and sewer main replacements, and roadway construction projects.



## PAUL A. LEFAVE, P.E., CEM

### *Electrical*

Mr. Lefave is a senior electrical engineer and certified energy manager with over 21 years of experience providing preliminary and final design services for electrical power, lighting, and control systems for a wide variety of projects, including pump stations, water treatment plants, and wastewater treatment plants. His knowledge includes but is not limited to generator controls, substation transformers, switchgears, and variable frequency drives. He recently performed the electrical design of the George T. Lohmeyer Regional Wastewater Treatment Plant in Fort Lauderdale, which features the replacement of the standby emergency generator, new generator controls, new 5kV-480 volt unit substation transformers, and integrating generator modifications into the existing 5kV switchgear. For the City of Cape Coral, Mr. Lefave assisted with an energy inventory study of the City's water treatment plant and



water reclamation facility with the goal of identifying value-added energy inventory, non-value added energy inventory, and energy productivity improvement opportunities. In addition, Mr. Lefave has completed several commercial facility energy audits throughout his career, including efforts for the Cities of Fort Myers and Ormond Beach; Okaloosa County, FL; and Cobb County, GA. The Fort Myers project included an energy audit of ten buildings and a citywide comprehensive energy efficiency strategy master plan.

## **CYNTHIA L. STELLMACK, P.E.**

### *Electrical*

Ms. Stellmack provides electrical engineering services for environmental facilities in Florida and throughout the Southeast. Capabilities include master planning; preliminary design reports; technical reviews; preparation of design documents, including drawings, schedules, and specifications; review of shop drawings; response to contractor's requests for information (RFI); and engineer's field inspections. Recently, Ms. Stellmack provided the electrical design for the fast-track design-build of the City of Dania Beach's nanofiltration water treatment plant expansion. The design consolidates the two existing 480-volt utility services into a new 2,000-amp, 480-volt service at a new membrane process building. The existing lime process motor control center were replaced along with the existing two diesel generators. One new 750-kW generator serves the entire plant. Beginning in 2005, the City of Marco Island has relied upon Ms. Stellmack to provide planning, design, and construction support for the reclaimed water production facility's electrical systems. She has been involved in numerous phases of the plant's expansion, including the Phase I improvements, the Phase II master plan and improvements, the Phase III improvements, and Phase IV improvements. Currently, Ms. Stellmack is providing electrical design for the Golden Gate Canal Intake and Transmission Main for the City of Naples, which has included owner purchase specifications for the two 160-hp submersible pumps and associated VFDs.



## **QUANG LE, P.E.**

### *Roadway*

Mr. Le began his career in 2004 as a roadway designer, assisting with roadway geometry design, computation and quantities documentation, cost estimates, and pavement design. In 2005, he joined CDM Smith as a roadway engineer assisting with roadway design, traffic engineering, and roadway drainage design. Since joining the firm, Mr. Le has contributed to and gained comprehensive experience in highway and roadway design projects, which include rural and urban streets, arterials, expressways, and interchanges. Experience includes serving as a roadway designer for a \$38M design-build project for the SR 46/Lake Jesup Bridge, for which he assisted with maintenance of traffic and horizontal and vertical alignment of side streets. For Sarasota County, Mr. Le was responsible for designing a 3.8-mile, 4-lane divided urban roadway. Additional tasks included maintenance of traffic design, quantity documentation, and cost estimates. Mr. Le also served as roadway designer for a three-mile section of new construction for a six-lane divided freeway in Iraq, assisting with roadway geometry design, computation and quantities documentation, cost estimates, pavement design, maintenance of traffic, and interchange design in accordance with AASHTO standards. As a result of Mr. Le's experience throughout Florida and abroad, he is intensely familiar with FDOT and AASHTO standards.



## MICHAEL S. SNYDER, P.E.

### *Roadway*

Mr. Snyder is a senior transportation engineer with over 18 years of experience related to roadway and highway design, drainage hydraulics and hydrology. Currently, Mr. Snyder is part of the project team for the design of Burnt Store Road in Charlotte County and is responsible for 30 and 60 percent roadway design and plan preparation for a 4.6-mile, four-lane divided suburban roadway. As part of the effort to bring high-speed rail to Florida, Mr. Snyder served as the lead engineer and final design of a 33.1-mile track alignment and designed roadway solutions to improve the rail alignments while minimizing roadways impacts. In addition, Mr. Snyder is a member of the project team for the Orlando-Orange County Expressway Authority (OOCEA) system-wide production management consultant contract, which involves reviews of plans, reports, and calculations. Mr. Snyder has been responsible for reviewing the roadway, MOT, and utility plans. He also been involved in projects encompassing environmental assessments, right-of-way plans, interchange layout and design, wetland delineation, corridor studies, light rail transit, intersection improvements, bridge replacement, layout of sanitary sewer and water lines, and identification and resolution of utilities conflicts.



## REVOCATUS C. KANILWA, P.E., PTOE

### *Traffic/Signals*

Mr. Kanilwa has more than 13 years of experience as a transportation engineer and offers substantial experience in various aspects of traffic engineering design and studies, as well as roadway design. His responsibilities at CDM Smith have included traffic signal system design; signing and pavement marking design for all types of roadway facilities; designing associated traffic management plans (TMPs), also known as MOT, for highway and street work zones; and conducting various traffic studies and analyses, including traffic impact studies, capacity and level of service analyses, parking studies, project development and environmental (PD&E) studies, and development of regional impact (DRI) studies. Mr. Kanilwa is currently serving as task manager for the Central Boulevard Signalization Plans design-build project at the Miami International Airport. As lead engineer for the signalization efforts, Mr. Kanilwa is responsible for the preparation of signalization plans for the installation of new traffic signals at three locations. For the Burnt Store Road project in Charlotte County, he served as engineer-of-record for the signing and pavement marking and signalization plans, and ensured that the design met applicable FDOT and county standards.



## PAUL Q. SNEAD, P.E.

### *Drainage/Stormwater*

A lead senior drainage engineer, Mr. Snead is responsible for overseeing the drainage design, plans production, and permitting coordination for a wide variety of projects in Florida and the Caribbean. His responsibilities include design of hydraulic conveyance systems, ponds, ditches, canals, and basin models. He also provides design services for pond siting studies, floodplain compensation analysis, FEMA No-Impact Studies, bridge scour analysis, river modeling, and erosion control design. Mr. Snead has extensive experience in water resources/stormwater management and is proficient in river modeling specific to FEMA flood mapping and Conditional Letter of Map Conditional Letter of Map Revision (CLOMR) studies. Mr. Snead is also well-versed in permitting preparation and coordination, and he maintains strong relationships with public and private clients, permitting authorities, and subconsultants. For the SR 500/Indian River Relief Bridges Replacement Project in Brevard County, which involved the replacement of three low-level relief bridges on the SR 500 crossing of the environmentally sensitive Indian River, Mr. Snead was responsible for the stormwater management design and permit coordination. Mr. Snead also served as the lead drainage engineer for the rehabilitation of Runway 11L-29R for the Vero Beach Municipal Airport.



Responsible for the drainage design and permitting, Mr. Snead’s innovative stormwater management approach helped eliminate the need for ponds on the airport property.

## **NICK A. BENEDICO, P.E., PMP, AICP**

### *Transportation QA/QC*

Mr. Benedico has more than 22 years of extensive transportation engineering experience, including serving on limited expressway projects for clients such as the Orlando-Orange County Expressway Authority, Florida’s Turnpike Enterprise, and FDOT Districts 1 and 5. With experience in urban and rural roadway design such as new alignments, reconstruction, and widening, Mr. Benedico offers a unique perspective to any roadway or highway design project. He also brings a proven track record of meeting limited budgets and compressed schedules, and a reputation for being consistently accessible and responsive. Mr. Benedico’s projects often contain value engineering and context-sensitive design techniques, including aesthetic features on expressways such as decorative walls, planters, and unique signing and lighting. The flexibility and diversity of his capabilities and technical skills come from years of design and management of all types of roadway projects. Mr. Benedico is currently serving as the project manager during the post-design phase of the Burnt Store Road improvements in Charlotte County, which includes widening a 2.5-mile segment from two lanes to four lanes. He is the point of contact for the design team and coordinates any requests and responses to the County regarding construction questions or issues. In addition, Mr. Benedico has performed work throughout Lee, Collier, Marion, Broward, Orange, Seminole, Hillsborough, Hernando, and Brevard Counties and served as a general consultant to three Florida tolling agencies.



## **2.2 Subconsultants**

For this important contract, we have added the highly qualified local firms of Sandra Walters Consultants, Inc. and Perez Engineering, Inc. to our team. Qualifications for these subconsultants are included below.

### **SANDRA WALTERS CONSULTANTS, INC.**

#### *Permitting; Environmental Engineering and Studies*

Sandra Walters Consultants, Inc. (SWC) provides services in all areas of ecological and environmental consulting and land use and public facilities planning and permitting, including habitat assessments, wetland permitting and mitigation design, environmental impact statements, compliance monitoring, development agreements, and submerged land issues. SWC has extensive experience working with agencies to develop project designs that minimize impacts and meet permitting requirements, and that bring clients into compliance with regulatory standards. The firm has conducted data collection and analysis, and written environmental and planning sections of NEPA documents for the FDOT, the FAA, the South Florida Water Management District, and the U.S. Army Corps of Engineers, and also provides construction environmental compliance monitoring services. Headquartered in Key West and with branch offices in Miami-Dade, Broward, and Lee Counties, SWC provides services throughout the South Florida peninsula, including the City of Key West—with whom SWC has held a general environmental services contract—the Florida Keys Aqueduct Authority, Monroe County, and the City of Marathon.



## PEREZ ENGINEERING & DEVELOPMENT, INC.

### *Civil Design*

Based in Key West, Perez Engineering & Development, Inc. (PE&D) is a professional engineering consulting firm with a proven record of successfully managing and completing multi-discipline projects throughout the State of Florida and the Caribbean. Capabilities include engineering, regulatory approvals and coordination, and construction services. PE&D's experience is diversified and encompasses the design and preparation of construction documents, permitting, and construction services for a variety of projects, including hydraulic and hydrologic computer modeling of stormwater management systems; the design of potable and sanitary utility systems, and pump stations; paving and grading design; roadway design, site plan development; and site characterization and remediation. Notably, PE&D has previously served the City of Key West as the general stormwater and wastewater engineering, and has provided professional engineering consulting services. They have also worked locally with Monroe County as the general airport consultant and have provided architectural/engineering services for small projects: the Florida Keys Aqueduct Authority, the Monroe County Housing Authority providing general engineering services, the Key West Housing Authority providing general engineering services,; and the Monroe County School Board.

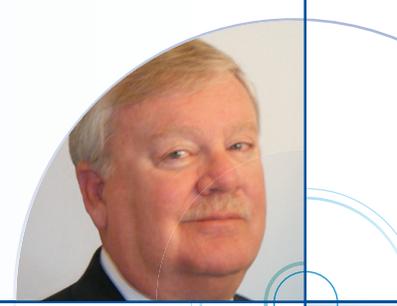


**PEREZ ENGINEERING**  
& DEVELOPMENT, INC.

# DANIEL E. STROBRIDGE, QEP

OFFICER-IN-CHARGE/VICE PRESIDENT

**Education:** *B.S. – Environmental Sciences; Registration: Qualified Environmental Professional, Institute of Professional Environmental Practice (#02980007)*



Mr. Strobridge, a Vice President with CDM Smith, has been providing environmental and engineering consulting services to west coast Florida clients for over 26 years. He is a manager in the CDM Smith Tampa office and is currently officer-in-charge for a wide variety of solid waste, water, wastewater, and water resource projects for west coast cities and counties. With over 37 years of experience in the environmental engineering field, and more than 27 years of experience with CDM Smith, Mr. Strobridge applies his diverse and extensive experience to the planning, design, permitting, and construction of solid waste, water, wastewater, stormwater, and related infrastructure and utilities. He is also experienced in developing alternative procurements for public infrastructure projects and the financing for those projects.

**Officer-in-Charge, Reclaimed Water Feasibility Study, Key West, FL.** As part of assisting the City with securing a permit renewal for its wastewater treatment plant, CDM Smith performed a reclaimed water feasibility study that considered a range of alternatives, from minimal reuse to 100 percent reuse, blending membrane treated reclaimed water with the potable water supply.

**Officer-in-Charge, Hydraulic Profile for Additional Flow at Richard A. Heyman Environmental Protection Facility, Key West, FL.** For this project involving the performance of a hydraulic profile and analysis for the City's existing wastewater treatment plant, Mr. Strobridge oversaw all aspects of the project as officer-in-charge. The goal of the project was to ascertain what peak flows could be sustained through the plant.

**Officer-in-Charge, Stormwater Gravity Recharge Wells, Key West, FL.** Mr. Strobridge was responsible for overseeing the design and permitting of three gravity injection wells. The purpose of the wells is to lessen flooding in areas identified by the City. To assist in removing pollutants from the stormwater, the injection wells are placed with a chambered baffle box to trap sediments and oils.

**Officer-in-Charge, Replacement of Surface Aerators with Diffused Aeration, Key West, FL.** Mr. Strobridge was the officer-in-charge of the preliminary design, final design, permitting, bid assistance, and construction for the replacement of the City of Key West's existing surface aerators with a diffused aeration system at the Richard A. Heyman Environmental Protection Facility.

**Officer-in-Charge, Solid Waste Rate System Model Update, Key West, FL.** CDM Smith has performed annual updates to the City's solid waste rate model for the past ten years. Mr. Strobridge has served as officer-in-charge, overseeing the project team in evaluating the rate impacts of the proposed annual operating budget in conjunction with long-term projections of capital expenditures and renewals and replacements. After approval by City staff, a presentation is made to the City Commission during budget hearings prior to budget adoption each year.

**Officer-in-Charge, Town of Belleair Wastewater System Acquisition, Pinellas County, FL.** In an effort to assist the Town of Belleair in meeting a consent agreement to close its wastewater treatment plant (WWTP), Pinellas County acquired Belleair's wastewater system, including all treatment, collection, and pumping facilities. The County selected CDM Smith to develop the plan for integrating Belleair's wastewater system into the County's wastewater system.

**Officer-in-Charge, City of Tarpon Springs Alternative Water Supply System, Pinellas County, FL.** The City is seeking to provide itself with an alternative water supply system using brackish groundwater as a raw water supply source. The project involves siting supply wells and the treatment plant; securing a groundwater use permit; development of the design basis for the membrane treatment facility; design of raw water, finished water, and reject water lines; and development of the procurement documents for design-build of the membrane treatment facility.

**Project Engineer, Miscellaneous Engineering Services Contract, Tampa, FL.** Mr. Strobridge provided professional engineering services, assisted the City in resolution of engineering problems, and helped the City accomplish its objectives as they relate to water, wastewater, and stormwater infrastructure and public works facilities. The professional engineering services performed under this services contract included engineering studies of sanitary sewers, including hydraulic modeling of sanitary pipelines



# DANIEL E. STROBRIDGE, QEP

## OFFICER-IN-CHARGE/VICE PRESIDENT

and wastewater pumping stations; field testing of odor control system; reclaimed water system financial strategies evaluation; stormwater drainage system hydraulic modeling; study of new potential reclaimed water customers; solid waste assistance; and permit renewal and engineering report.

**Project Manager/Officer-in-Charge, Continuing Engineering Services, Pinellas County, FL.** Mr. Strobridge manages ongoing professional engineering services for Pinellas County Utilities (PCU) water, wastewater, and reclaimed water utilities. This is an as-needed, task assignment contract.

**Officer-in-Charge, Independent Consulting Engineer, Pinellas County, Pasco County and Hillsborough County Solid Waste Departments, Pasco and Hillsborough Counties, FL.** Mr. Strobridge oversees CDM Smith's project teams serving as the Independent Consulting Engineer for Pinellas County, Pasco County, and Hillsborough County Solid Waste Departments for their WTE projects. CDM Smith monitors operations of the three WTE facilities, prepares applicable permit applications, reviews environmental compliance documents from the operating contractors, conducts boiler and major equipment inspections during scheduled maintenance periods, conducts periodic facility wide inspections, and maintains a punch list of all observed deficiencies and their repair. CDM Smith also prepares monthly and annual reports for the three counties documenting the condition of the three facilities and all equipment within; listing numerous operational statistics, following major maintenance activities, tracking contractual guarantees the contractors must meet, environmental compliance, and the general state of the three facilities and their operations.

**Officer-in-Charge, Consulting Engineering Services for Operator Re-Procurement Assistance, Pinellas County, FL.** CDM Smith was tasked with developing RFQs, developing a qualified bidder's list, and developing an RFP for the procurement of the new operator of the Pinellas County Waste-to-Energy Facility. The facility went into commercial operation in 1983, processes 3,000 tpd of municipal solid waste, and generates 75 megawatts of electrical energy, which is sold to Florida Progress Energy. The current operations and maintenance contract expired in May 2007. The new contract will run from May 2007 to 2024. As part of the RFP, CDM Smith has also been tasked with developing a list of capital improvement projects that will ensure that the facility will run smoothly and efficiently through 2024. The bidders will include pricing for implementation of these capital improvement projects in their proposals. CDM Smith has developed an engineer's estimate for these capital improvement projects.

**Program Manager, Air Pollution Control Retrofit, 1,050 tpd Waste-to-Energy Plant, Pasco County, FL.** Mr. Strobridge managed the contract negotiations, construction administration, and permitting for this project that involved retrofitting the existing continuous emissions monitoring system and installing a NOx reduction system. This \$90M project included the replacement of furnaces, boilers, and APC systems. Mr. Strobridge managed the permitting, environmental compliance, and construction monitoring work performed by CDM Smith on this project.

**Officer-in-Charge, Waste-to-Energy Facility Expansion Construction, Hillsborough County, FL.** After assisting the County with negotiations for the construction of a 600-tpd expansion and 20-year extension of the service agreement, CDM Smith was selected to provide construction monitoring services for the plant expansion, which consisted of adding a 600-tpd mass burn combustion train, a 17-MW turbine generator, and ancillary equipment.

**Program Manager, Air Pollution Control Retrofit, 1,200-tpd Waste-to-Energy Plant, Hillsborough County, FL.** This \$36M project included the replacement of the facility's three electrostatic precipitators (ESPs) with spray dryer absorber/fabric filter (SDA/FF), carbon and aqueous ammonia injection systems, and a new continuous emissions monitoring system. Mr. Strobridge managed the contract negotiations, construction administration, and permitting for this project.

**Technical Director, McKay Bay Refuse-to-Energy Facility, Tampa, FL.** Mr. Strobridge provided services to the City of Tampa to assist in the development of a procurement approach for retrofit of the McKay Bay refuse-to-energy facility and to prepare architectural, foundation, and civil/site evaluations. Previously operated as a municipal solid waste incinerator, the facility was retrofitted with waste-to-energy and air pollution control technology in 1984 to become one of the area's first energy recovery facilities. The McKay Bay refuse-to-energy facility processes 1,000 tpd of solid waste.

**JOHN L. MAFERA JR.**  
LOCAL COORDINATOR/SENIOR PLANNER  
Education: *B.S. – Aviation Management*



Mr. Mafera is an experienced aviation professional with over 12 years of planning and management experience. He has performed assignments at a variety of airports throughout the United States and Caribbean and has gained extensive experience in the management and preparation of airport master plans, environmental assessments, airport layout plans, site selection/feasibility studies, land use and site development studies, airfield and operational analyses and modeling, airport facility planning, and noise analyses and airspace and obstruction evaluations.

**Project Manager, General Airport Consulting Services Contract for Monroe County Airports, Monroe County, FL.**

As project manager, Mr. Mafera is responsible for coordinating and managing all planning, engineering, and architectural projects performed at the Key West International and Florida Keys Marathon Airports under the general consulting (GC) contract for professional aviation consulting services. Additional responsibilities include assisting the client with development of the airport capital improvement programs, submittal of state and federal grant applications, project implementation (bidding, award, and construction), and technical work tasks associated with airport planning projects. Mr. Mafera coordinates service/project needs and internal staff requirements for each project completed under the GC contract and provides local service and responsiveness for all contract needs.

**Project Manager, Marathon Airport Tenant Sewer Design Project, Monroe County, FL.** Mr. Mafera served as project manager for this effort to address tenant sewer laterals at the Marathon Airport. Tasks included a site visit, data collection, stakeholder coordination, and development of budget and schedule for engineering design and construction services. Subsequent tasks include the engineering design, permitting, bidding, and construction administration for connection of 12 airport tenant sewer systems to the existing central sewer in the area. Mr. Mafera oversaw the CDM Smith project team in coordinating with local utility companies for water, sanitary sewer, electric, and communications utilities.

**Project Manager, Martin County Airport Master Plan Update, Martin County, FL.** Mr. Mafera was responsible for the development and coordination of project tasks, schedule, and overall production of the airport master plan update for Witham Field/Martin County Airport. He coordinated and performed tasks including data inventory, forecasting, demand capacity analysis and facility requirements review, development alternatives and facilities site review (i.e., runways, taxiways, windsocks, beacon, PAPI, REIL and airfield lighting, hangars, etc.), financial feasibility analysis, public participation, and client and agency coordination with FAA and FDOT.

**Project Manager, Martin County Strategic Airport Business Plan, Martin County, FL.** Mr. Mafera was responsible for the development and coordination of project tasks, schedule, and overall production of the Strategic Airport Business Development Plan. The intent of this project was to develop a strategic airport business plan that will identify forecast aviation and aviation related demand, evaluate potential target markets, provide land use and future development recommendations, review existing facility management documents and guidelines, and help facilitate feasible aviation and non-aviation related real estate and land use development through financial implementation analyses. The ultimate goal was to create a unified business plan for the airport that provided a framework for future development opportunities and evaluated various financial indicators and scenarios.

**Project Manager, Martin County Preliminary Airport Business Development Plan, Martin County, FL.** Mr. Mafera was responsible for the development and coordination of project tasks, schedule, and overall production of the Airport Business Development Plan. The intent of this project was to identify preliminary aviation and non-aviation real estate relationships, determine which types of development are appropriate for and desired by Martin County and the Martin County Airport, and develop a preliminary development plan that would help guide and facilitate desired aviation-induced real estate and land use development. The project included a review and update of existing land uses, development of cost estimates for each subject development site, and development of an initial financial model to evaluate the feasibility of the proposed development.



# JOHN L. MAFERA JR.

## LOCAL COORDINATOR/SENIOR PLANNER

**Project Manager, Heliport Planning, Design, and Construction, Viera Community Hospital, Melbourne, FL.** Mr. Mafera was responsible for the management and of a new ground-based hospital heliport as part of the Viera Community Hospital project. Project tasks included helipad site analysis and layout planning; airspace analysis and FAA coordination; full engineering design of the facility, including helipad, beacon, lighted windsock, pavement markings, fire safety and pilot communication and lighting control equipment; and construction review and supervision.

**Project Manager, Airport Site Selection/Runway Extension Feasibility Study, Fernando Luis Dominici Airport, San Juan, Puerto Rico.** Mr. Mafera was the project manager responsible for Phase 1 of the study, which was the evaluation of potential sites/layouts and determination of a feasible airport relocation site based on applicable FAA guidelines. Mr. Mafera also coordinated and performed the planning tasks of Phase 2 of the study, which analyzed existing airspace and approach configurations (including FAR Part 77 surfaces and terminal approach procedures) and identified typical traffic patterns (including visual and instrument approach and departure tracks) for various runway extension alternatives at the existing airport. This project was completed while Mr. Mafera was employed by a previous firm.

**Project Manager, Greenville-Spartanburg International Airport Land Use Planning and Development Study, Greenville, SC.** Mr. Mafera is responsible for the development and completion of a comprehensive airport-wide land use and development planning study that includes a marketing campaign to recruit potential tenants and preliminary engineering for two Phase 1 parcels to be constructed at completion of the project. The project includes a real estate and development market analysis that evaluated aviation/real estate relationships similar to Greenville on a local, regional, and national level; determination of which types of development were appropriate for and desired by the airport through a “highest and best use” and SWOT analysis; development of a unified master land use and development plan for the entire 3,500 acres of airport property; development of site development concepts for six specific parcels; financial feasibility and business case analysis; preliminary engineering and cost estimating for the short-term development parcels; and development of a web, print media, and trade show booth based marketing campaign to take the final development vision and available parcels to the market and recruit new business and airport tenants.

**Project Manager, Airport Master Plan Update, Okaloosa Regional Airport, Okaloosa County, FL.** Prior to joining CDM Smith, Mr. Mafera was responsible for the development of the master plan update. Key tasks included updating the forecasts of commercial operations and enplanements to evaluate the need for further expansion of the terminal building, identification, and development of a long-term development plan for expansion of the terminal area and additional air cargo facilities, and review and identification of necessary airfield improvements and/or expansion to ensure compliance with FAA requirements for the civilian airport operation.

**Lead Planner, Building Obstruction and TERPS/Airspace Analysis, Olympic Towers, Swerdlow Group, Fort Lauderdale, FL.** Mr. Mafera was responsible for the development and coordination of project tasks, schedule, and overall production. He performed obstacle assessments that evaluated the potential for obstruction, VFR airspace, and TERPS conflicts (including FAR Part 77 surfaces) with existing airports and/or air traffic routes and patterns in the vicinity of the proposed development sites. Mr. Mafera also recommended modifications to the proposed development to mitigate the potential impact on surrounding airspace and air traffic.

**Client/Project Manager, General Aviation Consulting Contract for Peter Prince Airport, Santa Rosa, FL.** Mr. Mafera coordinated and managed projects performed at the Peter Prince Airport under a previous employer’s general consulting (GC) contract for professional aviation consulting services. He was responsible for assisting the client with development of the airport’s capital improvement program, submittal of state and federal grant applications, and overall project implementation (bidding, award, and construction). Mr. Mafera coordinated service/project needs and internal staff requirements for each project completed under the GC contract, including the airport master plan update, airfield improvements design and construction administration services, SW T-hangar development area design, and Runway 18-36 lighting and marking (windsock, PAPI and REIL relocation and pavement marking upgrade) design and construction administration services.

# AAMOD SONAWANE, P.E., BCEE

SOLID WASTE PROJECT MANAGER/SENIOR ENVIRONMENTAL ENGINEER

Education: *M.S. – Environmental Engineering, B.S. – Civil Engineering;*

Registration: *P.E. – FL # 62526 (2004)*



Mr. Sonawane is an environmental engineer specializing in landfill engineering and other solid waste management practices. He has assisted in the design and permitting of various solid waste projects, including lined landfills, liner design, transfer stations, landfill closures, landfill expansions, groundwater contamination assessments, drainage systems, gas collection systems, and leachate collection and treatment systems. He has more than 13 years of consulting experience, which also includes construction services for pump station and pipeline projects, surface water treatment plant expansion, drainage improvement projects, standard operating procedure and operation and maintenance (O&M) manuals for pump stations, water/wastewater pump station designs, and drawings and specifications development.

## **Project Manager/Construction Manager, Ash Cell A-4 (Class I) Landfill Expansion Project, Pasco County, FL.**

Mr. Sonawane's duties for this ash landfill expansion project included the design of the landfill expansion, bottom grading, Subtitle D liner design, leachate collection system design, leachate pumping station design, HELP model runs for leachate volume generation, stormwater collection system design, drainage/grading plans, drawing and specification development, preparation of bid documents, answering technical questions from the potential bidders, and day-to-day project management activities. His duties also included periodic meetings with the FDEP to secure the construction approval. As a construction manager, Mr. Sonawane's duties include overseeing construction of the cell expansion, liner QA/QC, conducting monthly progress meetings, reviewing shop drawings and pay requests, answering RFIs, reviewing conformance test results for liners, and preparation of certification of construction completion.

**Project Manager, East Pasco Infill Area Closure, Pasco County, FL.** Mr. Sonawane's duties for this closure design project includes the design of the landfill grading, closure liner cap, gas management system, stormwater management system, drawing and specifications development, and preparation of the permit documents. Mr. Sonawane is the project manager responsible for providing closure liner cap design for the infill area located in the Karst Environment. Geotechnical investigations performed under Mr. Sonawane's direction included an evaluation of slope stability and settlement of the infill area under final closure conditions; developing design parameters for subsurface soil layers and major landfill components; performing global slope stability analyses of the proposed landfill after final closure under static conditions; performing veneer stability analyses; and estimating remaining settlement of waste.

**Project Manager, Independent Consulting Services for Solid Waste Landfill and Landfill Related Activities, Pinellas County, FL.** Pinellas County has entered into a five-year contract with CDM Smith for Independent Consulting Engineering Services associated with regulatory assistance and operation of Pinellas County's municipal solid waste landfills and related programs. Mr. Sonawane's responsibilities include preparing monthly invoices, status reports, and schedule updates; preparing drawings and specifications; securing permits; conducting monthly project coordination meetings; coordination meetings with the FDEP; resource management; and day-to-day project management activities. Mr. Sonawane's specific duties include preparation of FDEP's Operations Permit Renewal Application for Bridgeway Acres (BWA) Class I Landfill, reviewing biennial water quality monitoring plan evaluation reports for the BWA and Toytown Landfills, preparation of Cell 5 certification of construction completion (dewatering plan and fill sequence plan), revised grading plan, and operations drawings for BWA Landfill.

**Project Manager, Landfill Permit Renewal Applications, Pasco County, FL.** Mr. Sonawane has managed projects involving Class I, Class III, Solid Waste Transfer Station, and Waste Tire Permit Renewals for Pasco County. His duties included meeting with the FDEP and the client for data collection, upgrading the landfill operations plan, collecting and tabulating data, performing volume calculations, and writing reports.

**Project Manager, Solid Waste Projects, Pasco County, FL.** Mr. Sonawane is managing solid waste projects for Pasco County, which include waste-to-energy operation and maintenance, groundwater and leachate monitoring, leachate treatment plant equipment bidding, and other miscellaneous, as-needed tasks. His duties also include preparation of annual inspection



# AAMOD SONAWANE, P.E., BCEE

## SOLID WASTE PROJECT MANAGER/SENIOR ENVIRONMENTAL ENGINEER

reports for the County's waste-to-energy facilities, transfer station inspections and reports, annual emissions, and Title V fee determination for WTE facilities.

**Project Engineer, MSW Landfill Permit Renewal, Jefferson Parish, LA.** Mr. Sonawane assisted in the preliminary design of the landfill expansion. He was also responsible for bottom grading, liner design, leachate collection system design, HELP model runs for leachate volume generation, groundwater monitoring plans, closure plans, cap design and drainage/grading plans, and drawing development.

**Project Engineer, Landfill Projects, Berkeley County, SC.** For Class I and C&D landfill design projects, Mr. Sonawane was responsible for assisting in the design of landfill expansions, drainage systems, leachate collection systems, and gas collection systems; scalehouse improvements; and developing drawings and specifications.

**Project Engineer, Facilities Annual Inspection Report, Hillsborough County, FL.** Mr. Sonawane participated in the inspection of water treatment plants, wastewater treatment plants, and wastewater lift stations for Hillsborough County. He was responsible for compiling the findings into a final report with the list of replacement and renewal projects and operations and maintenance projects for each facility.

**Assistant Project Manager, Tampa Bay Regional Surface Water Treatment Plant – Facility Modification Work, Tampa, FL.** Tampa Bay Water entered into a design-build-operate (DBO) contract with Veolia Water of North America (VWNA) to expand the surface water treatment plant (SWTP) from 66 mgd to 120 mgd. Mr. Sonawane's responsibilities included preparing monthly invoices, status reports, and schedule updates; preparing drawings and specifications; securing permits; conducting bi-weekly project coordination meetings; and managing procurement packages, as well as resource management and day-to-day project management activities.

**Project Engineer, Tampa Bypass Canal Control Structures Hydraulics Report, Tampa, FL.** Mr. Sonawane participated in an evaluation of the Tampa Bypass Canal control structures hydraulics. His duties included a literature review of weir equations for open channel flow, development of a report summarizing methodology and results of calculations, and composition of a list of recommendations to improve flow monitoring accuracy.

**Project Engineer, Pump Station Construction Services, Tampa, FL.** Mr. Sonawane provided construction services for Tampa Bay Water pump station projects. His duties included reviewing the shop drawings to comply with drawings and specifications and preparing standard operating procedure and O&M manuals for three pump stations.

**Project Engineer, Master Pump Station Improvements, St. Pete Beach, FL.** Mr. Sonawane participated in the preliminary engineering report, pump selection, pump station design, cost estimates, permitting, and drawing and specification development. His duties also included conforming drawings and specifications, assisting in the bidding process, reviewing shop drawings, participating in construction progress meetings, and providing technical support during construction.

**Project Manager, Pump Station 054, Pinellas County, FL.** The existing pump station is being replaced by a new pump station that will meet the requirements of current regulations. Mr. Sonawane prepared a Basis of Design Report that evaluated various alternatives for modifying or replacing the pump station, and led the design of the new pump station. The design included a wetwell system with two 130-hp variable-speed submersible pumps and a separate electrical/generator building. Because of floodplain issues, the floor of the electrical/generator building will be elevated above the finished grade. Mr. Sonawane's duties included preparation of design drawings, specifications, and securing all applicable permits.

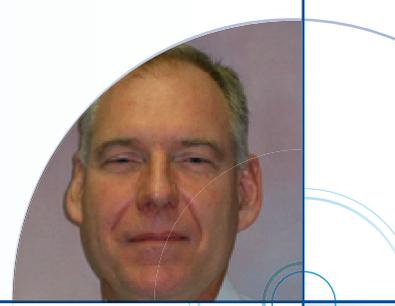
**Project Engineer, Town of Belleair Wastewater Acquisition Project, Pinellas County, FL.** Mr. Sonawane assisted in a wastewater pipeline and pump station project for Pinellas County. His responsibilities included assistance with the preliminary engineering report, pump selection, pump station design, cost estimates, permitting, field visits for pipeline route selection, and drawing and specification development. His duties also included conforming drawings and specifications, assisting in the bidding process, reviewing shop drawings, conducting construction progress meetings, and providing technical support during construction.

# JOHN G. LADNER, P.E., BCEE

CIVIL ENGINEERING PROJECT MANAGER; CIVIL DESIGN/PRINCIPAL

Education: *B.S. – Civil Engineering;*

Registration: *P.E. – FL # 37969 (1987)*



Mr. Ladner is experienced in the management and supervision of various solid waste, general environmental, and civil design and construction projects. He is one of CDM Smith's lead practitioners in solid waste, a senior technical engineer for quality assurance reviews, and senior project manager. His civil experience includes stormwater box culvert and canal design; design of arterial roadways; transportation; paving, grading, and drainage work; stormwater improvements; rapid infiltration basins (RIBs); and wastewater treatment facilities, including plant layouts, equipment selection, hydraulic and drainage features, building details, transmission facilities, cost estimating, and specification preparation. He also has construction management, inspection, survey, and drafting experience.

## **Project Manager, Dakin Avenue Box Culvert Design/Tohopekaliga Water Authority Utility Improvements, Kissimmee, FL.**

As part of the City of Kissimmee's downtown revitalization/redevelopment initiative, Mr. Ladner managed the project team tasked with designing the rehabilitation of the Dakin Avenue box culvert that serves as the primary stormwater conveyance system for the downtown area. In conjunction with the box culvert rehabilitation, CDM Smith also provided design and permitting for utility improvements for the Tohopekaliga Water Authority. Additionally, CDM Smith developed some traffic calming concepts for the downtown area.

**Engineer-of-Record, Central Access Road Waste Disposal Complex, Sarasota County, FL.** Mr. Ladner served as engineer-of-record for a three-mile arterial access road to the Sarasota County Central access road solid waste disposal complex. The design included road layout, which emphasized minimal wetlands impacts through an environmentally sensitive area. In addition, he was part of the design team for the preparation of contract plans and specifications for Class I and Class III disposal areas, a sludge composting area, and other facilities.

**Project Manager, Stormwater Downtown Redevelopment Project, Boynton Beach, FL.** Mr. Ladner was project manager for a stormwater downtown redevelopment project for the City of Boynton Beach. This project included preparation of design drawings and specifications for 5500 lf of 24- to 72-inch diameter stormwater pipe and a regional stormwater wet detention pond. The purpose of the project was to provide water quality treatment for runoff from the downtown area of the City of Boynton Beach to encourage redevelopment. The system includes best management practices and landscaping of the pond to enhance the redevelopment of the downtown area. The project also included close coordination with both existing and proposed utilities in downtown FDOT arterial roads.

**Senior Technical Engineer, Seminole County Stormwater Projects, Seminole County, FL.** Mr. Ladner supports the design efforts for various Seminole County stormwater projects by providing input during design and performing constructability reviews for these projects. When the plans and specifications are approximately 70 to 90 percent complete, Mr. Ladner reviews the design and provides comments and suggested alternatives for items that present constructability issues for the project.

**Lead Practitioner and Senior Environmental Engineer, Stormwater Treatment Area (STA) for the Lake Okeechobee Fast-Track (LOFT) Project, Florida.** Mr. Ladner served as the lead practitioner and senior environmental engineer for the LOFT project team in the conceptual design through the final design of an 1,800-acre STA. The STA is designed for a peak design flow of 250 cfs. The project included conceptual layout of several alternatives, including earthwork estimates. Detailed hydraulic analysis was performed for the recommended conceptual layout. In addition, hydraulic and nutrient loading rates were calculated for each alternative. This project has progressed through conceptual, preliminary, and final design with the preparation of bid documents.

**Engineer-of-Record, Lantana Landfill Park Ridge Golf Course Design, Permitting, and Construction Management, Palm Beach County, FL.** Mr. Ladner served as the engineer-of-record for the design of the golf course facilities on the Park Ridge Golf Course. This golf course is part of a landfill reuse project by the Solid Waste Authority of Palm Beach County for the Lantana Landfill. The project included an 18-hole golf course, clubhouse, cart barn, parking lot, and entrance road to the golf course. This was an innovative project in which a closed landfill was designed for use by the public as a golf course. The



# JOHN G. LADNER, P.E., BCEE

## CIVIL ENGINEERING PROJECT MANAGER; CIVIL DESIGN/PRINCIPAL

American Public Works Association's (APWA's) Florida Chapter honored the project with Project of the Year in the environment category and recognized CDM Smith as Consultant of the Year in the building and grounds category for work on this project. The Florida Institute of Consulting Engineers (FICE) – a member organization of the American Council of Engineering Companies (ACEC) – presented the project with a 2009 Grand Award. The project was also awarded the Gold Award in the Landfill Reuse category from SWANA.

**Project Engineer, Design of Stormwater Improvements, Private Client, Central Florida.** Mr. Ladner assisted with the design of stormwater improvements for a private client in Central Florida. The stormwater improvements included design of box culverts, utility conflict structures, and canal improvements, which convey up to 800 cubic feet per second of stormwater flow.

**Project Director, City of Jacksonville Trail Ridge Landfill Permitting and Design, Jacksonville, FL.** Mr. Ladner is working as the project director on the CDM Smith project team, which is assisting the City of Jacksonville Solid Waste Division with the design and permitting of a new Class 1 landfill cell at the Trail Ridge site. The first step in this process is the development of a master plan for the build out of the Trail Ridge Landfill. The existing Phase 1 cell area has developed via several stages of cell construction over 20 years and is within five to seven years of completion. We will evaluate the options for a Phase 2 expansion, including a stand-alone landfill cell, as well as a lateral expansion of the existing Phase 1 cell area.

**Project Manager, Solid Waste Permitting, Apopka, FL.** Mr. Ladner is project manager for providing solid waste permit review and support services for the City of Apopka. These activities include review of all solid waste permit applications for compliance with the City's solid waste ordinance. As part of this review, he has supervised the installation of both clay bottom liner and 60-mil HDPE bottom liner for a Class III landfill. Construction QA/QC documentation summarizing all the testing, both destructive and non destructive, was submitted to the City. He has assisted the City in asking for additional information regarding permit application submittals for issues ranging from groundwater and surface water to required setback and operational items.

**Project Manager, Northern Expansion Property Conceptual Environmental Resource Permit (ERP) Services, Indian River County, FL.** The project consisted of an evaluation of the most effective way to expand the Indian River County (IRC) landfill to the north to maximize the airspace and the life of the landfill. This was a planning evaluation that considered the best landfill configuration in which the most additional airspace could be obtained without significant impacts to existing wetlands, threatened and endangered (T&E) species, and the existing Indian River Farms District stormwater system while maintaining a buffer from Oslo Road—a local through street. Wetlands jurisdictions were performed for both the FDEP and the U.S. Army Corps of Engineers (USACE) wetlands. A conceptual stormwater plan was developed that minimized impacts and continued to plan drainage critical to the IR Farms District.

**Lead Solid Waste Practitioner and Senior Environmental Engineer, Solid Waste Authority of Palm Beach County Cells 7 through 10 Closure, Palm Beach County, FL.** Mr. Ladner assisted the project team as the lead practitioner (LP) and quality assurance/quality control (QA/QC) reviewer for the SWA Cells 7 through 10 landfill closure project. This closure included 40 acres of a CDM Smith design-build closure, including a landfill gas (LFG) system.

**Lead Solid Waste Practitioner and Senior Environmental Engineer, Solid Waste Authority of Palm Beach County Cells 15 and 16 Expansion Design, Palm Beach County, FL.** Mr. Ladner assisted the project team as the LP and QA/QC reviewer for the design of two new landfill cells—15 and 16. The design consisted of a double bottom liner design with leachate collection system modifications for these cells.

**Project Manager, Orange County Pine Hills RCRA Landfill Post Closure Services, Orange County, FL.** Mr. Ladner is project manager for ongoing services related to an RCRA landfill in Orange County. These services include semi-annual groundwater sampling analysis and reporting. CDM Smith has developed an environmental database of groundwater analytical results for use in performing statistical analyses of groundwater trends at the Pine Hills Landfill. The results of this analysis are currently being used to support permitting being performed for the FDEP and the EPA regarding environmental indicators at the site.

# CLAY M. TAPPAN, P.E., BCEE

CITY UTILITIES PROJECT MANAGER – PIPELINES/PRINCIPAL

Education: *M.S. – Engineering Management; B.S. – Environmental Engineering;*

Registration: *P.E. – FL # 42772 (1990)*



Mr. Tappan is an environmental engineer qualified in the design of water and reclaimed distribution facilities; wastewater separation, collection, treatment, and, transmission facilities; roadway design; and stormwater drainage facilities. He is also experienced in regulatory permitting and approval necessary for funding and construction of these projects. Through his commitment to quality in the design and construction of projects he managed, Mr. Tappan has earned the respect of his peers and has served as Area Quality Manager, responsible for CDM Smith's Quality Management program in CDM Smith's several Florida West Coast offices.

**Lead Design Engineer, Davie Boulevard Water and Wastewater Pipelines, Fort Lauderdale, FL.** As lead design engineer, Mr. Tappan was responsible for overseeing the evaluation of alternative routes for the replacement of a 40- to 50-year-old cast iron water transmission main and a new wastewater force main. Both pipelines range in size from 18 to 48 inches in diameter and pass through densely populated areas of Fort Lauderdale, Florida. Davie Boulevard is a major hurricane evacuation route and maintenance of traffic on this state road was a major consideration.

**Project Manager, Tampa Bay Water South Central Hillsborough Intertie, Hillsborough County, FL.** In this role, Mr. Tappan developed the Basis of Design Report and completed the design and permitting of a 14-mile long, 72- to 84-inch diameter raw water transmission main in Hillsborough County. Mr. Tappan also finalized route selection and provided expert testimony in the acquisition of 120 parcels/easements required for the pipeline. Additionally, Mr. Tappan completed field engineering services during the construction of the pipelines.

**Technical Reviewer, River Oaks Sanitary Sewer, Water Main, and Stormwater Improvements, Fort Lauderdale, FL.** CDM Smith completed the design, bidding, and construction of the retrofitting with gravity sewers of five large areas of old Fort Lauderdale currently on septic systems. Project challenges included mixed use residential and industrial neighborhoods, unfavorable soil conditions, early completion for portions of the project to meet the City's commitment to developers, multiple contractors on site, and MOT issues for major County roadways. Mr. Tappan served as a technical reviewer for this project.

**Assistant Project Manager, Design and Construction Services, Cape Coral, FL.** Mr. Tappan completed design and construction services on one of the largest public works projects on Florida's West Coast. As assistant project manager, he was responsible for the preliminary design, value engineering, easement acquisition, permitting and final design, and preparation of contract documents for 205 miles of gravity sewers, 45 miles of force mains, 95 pump stations, and 110 miles of irrigation pipelines located in the City of Cape Coral.

**Lead Design Engineer, Design Services, Fort Lauderdale, FL.** Mr. Tappan was the lead design engineer for the City's Waterworks 2011 initiative involving East Las Olas-Finger Isles Utility improvements. This project consisted of converting ten pneumatic-controlled dry-well lift stations to electric-powered submersible pump wet-well lift stations. Force main replacement of 4-, 6-, and 8-inch pipe, and water main replacement of 8-, 10-, 12-, and 14-inch pipe were included in the project.

**Project Manager, Major Wastewater System Expansion Program, Charlotte County, FL.** Mr. Tappan served as project manager for a major wastewater system expansion program for Charlotte County. This program involves implementing the County's 25-year Water and Sewer Master Plan. The first five-year element planned the expansion of the existing WWTP from 3 mgd to 10 mgd, the construction of a new 3-mgd water reclamation facility, and the construction of over 300 miles of central wastewater collection systems. As project manager, Mr. Tappan was responsible for overseeing all phases, from facilities planning, financing, permitting, and design, to construction and startup services. The management of tasks included maintaining program continuity and functional efficiency as the scale of the program changed. His duties also included the coordination and management of over ten local subconsultants involved in all aspects of the program.

**Lead Practitioner and Reviewer, St. Augustine Beach Gravity Sewer Design, St. Johns County, FL.** As lead practitioner and reviewer, Mr. Tappan assisted the project team in developing the design criteria and performed technical reviews of the design at all phases of development. Mr. Tappan worked closely with the client and designers to ensure that special project constraints



# CLAY M. TAPPAN, P.E., BCEE

## CITY UTILITIES PROJECT MANAGER – PIPELINES/PRINCIPAL

and issues were resolved to the client's satisfaction where their existing standards were not applicable and needed to be modified. CDM Smith is assisting the City of St. Augustine Beach in the final design and engineering services, including permitting, funding support, grant administration, and bidding services for sewer system improvements in seven local subdivisions.

**Technical Reviewer, Lanier Street Sewer Replacement, Gretna, FL.** For this sewer replacement project, Mr. Tappan assisted the project team in developing the design criteria and performed technical reviews of the design. The City contracted CDM Smith to design, permit, bid, and perform limited engineering services during construction of the replacement of 8-inch clay sewer pipe with PVC pipe, the installation of new PVC services, and installation of copper tubing.

**Lead Practitioner, Scott Mill Hill Sewer Services, Jacksonville, FL.** The purpose of this project was to assist JEA in the design and construction of wastewater collection system improvements in the Scott Mill Hill area. CDM Smith provided design, permitting, and services during construction. Mr. Tappan assisted the project team in developing the design criteria and performed technical reviews of the design at all phases of development. He also prepared the maintenance of traffic (MOT) plans for the project.

**Lead Practitioner, Final Design for Bayou Marcus Southern Wetland Application System, Pensacola, FL.** Mr. Tappan served as lead practitioner for the design and construction of approximately 8,000 lf of reclaimed water main that runs from a connection at the Bayou Marcus Water Reclamation Facility to Blue Angel Parkway. As part of this project, CDM Smith designed for 1,000 lf of 30-inch HDPE directional drill under Bayou Marcus Creek. Mr. Tappan's role as lead practitioner included providing technical guidance to the team and support during key activities such as scoping and budgeting meetings, kick-off meetings, and technical review committees.

**Project Manager, Belleair Wastewater System Acquisition Program, Belleair, FL.** This project involved the design and construction of a pump station at the site of the Town of Belleair's existing wastewater treatment plant (WWTP) that intercepts the wastewater flow prior to entering the plant and pumping it into a point of connection with the Pinellas County wastewater collection system. The equivalent quantity of reclaimed water needed to be returned to the Town for distribution to their reclaimed water users. As project manager, Mr. Tappan directed the route evaluation and siting study for the pump station and the pipelines. In addition, he oversaw the design of the pump station and 15 miles of force main and reclaimed water main. All of the pipelines were designed for and were installed via HDD.

**Project Manager, Sarasota County Bee Ridge Water Reclamation Facility, Sarasota County, FL.** Mr. Tappan served as project manager for the design of the Sarasota County Bee Ridge water reclamation facility and the transmission systems linking it to the Bent Tree WWTP. In this capacity, he oversaw the development of the design criteria for the wastewater treatment process, the data collection and hydraulic analysis of the extensive force main system serving the Bent Tree facility, the 201 Facilities Plan, and State Revolving Fund (SRF) financing for the Bee Ridge facility, as well as the civil site work design. Mr. Tappan was responsible for coordinating the various design elements and subconsultants leading up to the successful completion of the first regional wastewater treatment facility in Sarasota County.

**Project Engineer, South Tampa Area Reclaimed Program (STAR), Tampa, FL.** Mr. Tappan provided preliminary design quality assurance and project quality management services to the City of Tampa in connection with the STAR. The project includes general project management, strategic implementation, and financial analysis. Other tasks consist of identification and evaluation of potential new customers, transmission main routing and distribution system layout, construction cost estimate, and business case and financial strategies.

**Technical Reviewer, North Regional Wastewater Treatment Plant Outfall Line, Shreveport, LA.** For the City of Shreveport, Mr. Tappan is providing technical review services related to the design of a new outfall line to Twelve Mile Bayou. The design consists of approximately 1,200 lf of force main and associated equipment to allow use of this outfall only during peak flow events. Due to soil conditions in the bayou adjacent to the discharge, alternative pipeline and trenching methods were evaluated, resulting in the selection of a 30-inch HDPE crossing of the bayou.

# JAMES T. WITTIG, P.E.

CITY UTILITIES PROJECT MANAGER – STORMWATER/PRINCIPAL

**Education: M.E. – Environmental Engineering, M.E. – Industrial and Systems Engineering; Registration: P.E. – FL # 48261 (1994)**



Mr. Wittig is qualified in the design, evaluation, and permitting of projects related to water resources and stormwater applications. Mr. Wittig has experience in project management and supervisory roles. He is skilled in site design and layout, alternatives analyses, and numerous surface water and stormwater models and applications. Mr. Wittig oversees water resources project implementation, technical direction, and quality control. Mr. Wittig is responsible for evaluating existing and proposed projects, including site layouts, surface water, stormwater quality and quantity, wetland systems, and best management practices (BMPs). Project evaluations typically consider topography, hydrology, hydraulics, geologic conditions, wetlands, floodplains, water quality, permitting, constructability, and cost factors.

**Lead Practitioner and Project Engineer, Orange Blossom Trail Stormwater Improvements, Orlando, FL.** The City of Orlando contracted with CDM Smith to provide permitting and design services to modify and construct a drainage system to serve City businesses that are subject to chronic structural flooding. The project required extensive modeling of the existing and proposed system to confirm the source of the flooding and evaluate appropriate alternatives to eliminate the flooding.

**Project Engineer, Mariposa Street Drainage Improvements, Orlando, FL.** The City of Orlando contracted with CDM Smith to design and permit drainage improvements within a 15-acre urban residential area. Bidding services and construction management were also included in the contract. Mr. Wittig was involved in developing a stormwater model of the drainage area and designed drainage improvements along the residential streets. The drainage improvements included approximately 2,400 linear feet of concrete stormwater pipe, 24 curb inlets, 14 stormwater manhole structures, and two pond outfall structures.

**Lead Practitioner, Emergency Drainage System Repair, Clay County, FL.** Clay County contracted with CDM Smith to provide emergency design-build services to repair an existing, failing, drainage system. The drainage system was located within a parking lot and directly adjacent to existing commercial businesses. The collapsing pipe system threatened to damage several existing structures and endanger public safety. Mr. Wittig facilitated the multiple, expedited efforts of the CDM Smith team to analyze, design, repair, and construct the \$2.4M drainage system. The repair was needed during the Florida wet season and required detailed planning and phasing of the construction effort.

**Lead Practitioner, Anniversary Stormwater Park at Lake Concord, Casselberry, FL.** The City of Casselberry contracted with CDM Smith to provide permitting and design services for this retrofit project on City property adjacent to Lake Concord. The project included an amphitheater, park facilities, and a boardwalk along Lake Concord. The project required innovative approaches to treat and convey existing stormwater flows within the stormwater park. The project construction schedule was expedited in order to ensure project funding.

**Project Manager, Little Lake Fairview Restoration and Dubsdread Golf Course Renovation, Orlando, FL.** The City of Orlando retained CDM Smith to design, permit, and oversee construction of the Little Lake Fairview Restoration and Dubsdread Golf Course Renovation Project. Constructed improvements included renovations of the entire golf course with several new water features to be used to provide water quality retrofit for stormwater runoff from on-site and off-site areas that flow through the project area. Furthermore, the project provides rehydration of onsite wetland areas that were degraded in part by direct connection to an existing onsite drainage well. The project also included retrofitting the golf course irrigation system to use stormwater reuse from the constructed ponds rather than the groundwater well previously used. Mr. Wittig led the CDM Smith team in modeling existing and proposed conditions and performing final design for the construction of ten new wet detention ponds and expansion of five existing ponds. The golf course reopened for play in June 2008.

**Lead Practitioner and Project Engineer, Lincoln Heights Stormwater Improvements, Seminole County, FL.** Seminole County contracted with CDM Smith to provide analysis, permitting, and design services to significantly modify the drainage system serving two residential communities in the County. Significant analysis, including field verification during Tropical Storm Fay, was needed to confirm the source of the flooding and to evaluate appropriate alternatives to eliminate the flooding.



# JAMES T. WITTIG, P.E.

## CITY UTILITIES PROJECT MANAGER – STORMWATER/PRINCIPAL

Due to elevated tailwater elevations in the downstream receiving waters, the proposed stormwater improvements include two large pump stations and stormwater ponds.

**Project Manager, North College Park Flood Study, Orlando, FL.** To establish the base flood elevations in areas classified as being in Flood Zone A by the Federal Emergency Management Agency (FEMA), the City of Orlando contracted with CDM Smith to establish base flood elevations for Little Lake Fairview, Lake Sarah, Lake Daniel, and Lake Silver, collectively known as the North College Park Study Area (NCPSA). Mr. Wittig led the CDM Smith team in performing data collection and analysis of the existing stormwater management system in the NCPSA. A stormwater model was also developed to estimate the base flood elevations associated with the 100-year/24-hour design storm event within the effective floodplain areas.

**Project Manager, Southport Flood Study, Orlando, FL.** The City of Orlando contracted with CDM Smith to establish base flood elevations for three depressional areas located northeast of Boggy Creek Road, south of the BeeLine Expressway, and west of the Orlando International Airport, collectively referred to as the Southport Study Area. These areas had been classified as being in Flood Zone A by FEMA. Mr. Wittig coordinated the data collection and analysis of the existing stormwater management system in the study area. He also developed a stormwater model to estimate the base flood elevations associated with the 100-year/24-hour design storm event within the effective floodplain areas.

**Project Engineer, Lake Worth Park of Commerce Infrastructure Needs Assessment and Preliminary Engineering Study, Lake Worth, FL.** Mr. Wittig served as project engineer for the completion of an infrastructure needs assessment for the re-development of the Park of Commerce, an area anticipated to be a hub for light industry in Palm Beach County. The CDM Smith team was tasked with evaluating the existing water, wastewater, stormwater, roadway, electric, and telecommunications network and then determining the future land use for the area and infrastructure needs to support that land use. Mr. Wittig led the civil, stormwater, and roadway portion of this assessment, identifying any infrastructure improvements needed.

**Project Engineer, Gator Slough Modeling and Design, Cape Coral, FL.** As project engineer, Mr. Wittig worked with the project team to investigate options to increase seasonal storage capacity in the City's freshwater canal system by raising several outfall weirs. CDM Smith prepared a hydraulic model and designed a new 3.2-mgd canal pumping station. Mr. Wittig's tasks included permitting and quality control.

**Project Engineer, Design and Permitting of Ybor City Drainage Improvements, Tampa, FL.** Mr. Wittig was a member of the project team that designed and permitted 350 feet of culvert replacement along 6<sup>th</sup> Avenue in the Ybor City area. Other minor drainage improvements were also included in order to reduce flooding in this area and to improve the level of service. Responsibilities included field inspection, project management assistance, modeling, and data collection.

**Project Engineer, Implementation of Best Management Practices for Homeland Basin, Pinellas Park, FL.** This project includes the design, permitting, and limited construction services for improvements to stormwater quality and level of service within the Homeland Basin. Project funding is shared between the City of Pinellas Park and the Southwest Florida Water Management District (SWFWMD). The project interfaces with a proposed lead remediation and wetland restoration project called Sawgrass Lake Restoration Project. As project engineer, Mr. Wittig's tasks included final design, alternative workshop participation, permitting, and technical review.

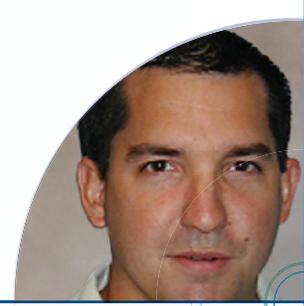
**Lead Practitioner, Immokalee Stormwater Master Plan, Collier County, FL.** Mr. Wittig is currently serving as lead practitioner for the Immokalee stormwater master plan implementation, for which CDM Smith is updating the stormwater master plan and providing 100 design improvements in the downtown area. Project elements include the review, update, and prioritization of the conceptual plans; design and construction drawings; permitting; and bidding assistance. As lead practitioner, Mr. Wittig is working with the project team to update the master plan and conduct hydraulic modeling.

**Project Engineer, Twin Ditches Stormwater Retrofit Project, Sebastian, FL.** CDM Smith designed a stormwater control structure for the Twin Ditches, which is the primary canal that drains a portion of the City's airport, as well as the area adjacent to Main Street. The control structure regulates discharges to the receiving water bodies and provides water quality treatment. Mr. Wittig participated in project design and the quality review process.

# SPENCER J. PERRY JR., P.E., LEED® AP

CITY UTILITIES PROJECT MANAGER – ELECTRICAL  
COMMUNICATIONS/ELECTRICAL ENGINEER

Education: *B.S. – Electrical and Computer Engineering; Registration: P.E. – FL # 62587 (2004)*



Mr. Perry has over 12 years of experience in power distribution design and construction services for environmental, industrial, and commercial facilities. He provides all aspects of power distribution design and construction services, including medium and low voltage distribution design, short circuit/arc flash study and equipment evaluation, protective device coordination study, LEED® building certification and design services, and energy and efficiency assessments and studies. His experience includes water treatment plants, wastewater treatment plants, solid waste facilities, water and wastewater pump stations, industrial and chemical facilities, and commercial buildings and facilities design.

**Electrical Engineer, Operations and Maintenance Building, Solid Waste Authority of Palm Beach County, Palm Beach County, FL.** Mr. Perry provided electrical engineering and construction services for the design of the operations building, including LEED® Silver certification, lighting design and specification, power distribution, and emergency power system design. The owner owned and maintained a 4,160V overhead distribution system, and design included load and short circuit analysis of the existing distribution system and specification and design of service entrance equipment into the building.

**Electrical Engineer, Advanced Water Treatment Project, Miami-Dade, South District Water Reclamation Facility, Miami, FL.** Mr. Perry provided electrical design, including low and medium voltage distribution design, emergency systems design, lighting, specification and design of 15kv and 5kv Arc-Resistant equipment, LEED® project certification and coordination, and power system studies.

**Electrical Engineer, Pinellas County Pump Station No. 54, Pinellas County, FL.** Mr. Perry performed design services during construction related to emergency power systems, 480-volt power distribution system, lighting, controls, and specifications for this new pump station in Pinellas County. He coordinated with County staff for procurement and inspection of pre-purchased electrical equipment. Services he provided during construction included RFIs, submittal review, and inspection.

**Electrical Engineer, Lake Okeechobee Fast-Track Projects, South Florida Water Management District, Okeechobee, FL.** Mr. Perry has served as electrical engineer for the following projects associated with the Lake Okeechobee Fast-Track (LOFT) project STA-North, STA-South, S-650 Pump Station, and the S-191A Pump Station. Mr. Perry's responsibilities include all aspects of electrical design, including water level control structures, water sampling equipment and structures, and pump station design, including critical flood control pump stations, emergency power systems, lighting, and PV design for remotely located systems.

**Electrical Engineer-of-Record, Jerry Sellers WRF Power System Studies, Cocoa, FL.** The electrical design includes several power system studies to be performed at the 4.5-mgd WRF. The services consist of a report and recommendations for the grounding and surge protection of all electrical equipment at the facility, a lighting protection system report and recommendations for modifications and improvements, and assistance with completing comprehensive power system analysis. The power system analysis includes a short circuit study, protective device coordination study, and an arc flash hazard analysis. Tasks included data collection for all equipment from 480v to 120v level, QA/QC of the short circuit study, protective device coordination study and arc flash analysis, review of the analysis results and recommendations and field oversight of the equipment labeling and protective device settings adjustments. The study includes multiple motor control centers, panelboards, transformers, and stand-by generator.

**Electrical Engineer, New Chlorination/Dechlorination Facilities at the Central and South Water Reclamation Facilities, Fort Myers, FL.** This project included the design of new chlorination basins, chemical storage and pumping facilities, and a high service pump station for two 11-mgd wastewater treatment facilities. Mr. Perry assisted in the electrical portion of the design of the new chlorination facilities.

**Electrical Engineer, Eastern Water Reclamation Facility Phase IV B Improvements, Orange County, FL.** For this 19-mgd advanced wastewater treatment plant, Mr. Perry provided electrical engineering services for the final design related to various



# SPENCER J. PERRY JR., P.E., LEED® AP

CITY UTILITIES PROJECT MANAGER – ELECTRICAL  
COMMUNICATIONS/ELECTRICAL ENGINEER

high-priority improvements, including supplemental aeration facilities, reuse facilities, internal recycle pump modifications, and effluent pump station modifications.

**Electrical Engineer-of-Record, SJCUD Northwest WWTP, St. Johns County, FL.** Mr. Perry provided electrical design, including low voltage distribution design, emergency systems design, lighting, specification coordination, and preliminary power system studies for the new 3-mgd plant. The electrical system consists of multiple motor control centers served from 480v switchgear with 1500kw diesel engine generator backup.

**Electrical Engineer-of-Record, JEA Arlington East WRF UV Conversion Project, Jacksonville, FL.** The electrical design included specification and design of new motor control centers and electrical distribution system to serve new UV and filter equipment. Design services included variable frequency drives, lighting, controls, a utility service upgrade, service entrance equipment, and a new 400kw diesel engine driven generator in a sound-attenuated weatherproof enclosure.

**Electrical Engineer, Tram Road Reuse Facility, Tallahassee, FL.** Mr. Perry provided electrical engineering services for the design of a new off-site reuse facility for the City of Tallahassee. This facility was designed to treat secondary effluent from the City's T.P. Smith WWTF to meet public access reuse standards as defined by the FDEP. The facility includes filtration, high level disinfection with sodium hypochlorite, and high service pumping. The facility is unique in that the reuse treatment facility is located several miles from the WWTF and is designed to be generally unmanned.

**Electrical Engineer, WSSC Rocky Gorge Pump Station Upgrades, Baltimore, MD.** Mr. Perry provided electrical engineering and design services for the design of a raw water pump station. The design included replacement of primary voltage substation transformers, new 5kV medium voltage switchgear and motor controllers, new 480V switchgear and VFDs and control improvements. The project included short circuit analysis, protective device coordination study and arc flash hazard analysis for all major electrical system equipment. Equipment analyzed includes substation switchgear down to 480v level panels. SKM was used to model the distribution system which was made up of 5MVA substation transformers, 5kV Switchgear, 5kv motor control centers, unit substations, 480 volt motor control centers and 480v panelboards.

**Electrical Engineer, CMUD Sugar Creek WWTP Pump Station, Charlotte, NC.** Mr. Perry performed design services during construction related to medium and low voltage power systems, variable frequency drives, power distribution system, lighting, controls, and specifications for this new pump station. He coordinated with CMUD staff for procurement and inspection of pre-purchased electrical equipment. The design included specification and coordination of medium and low voltage protective relaying and motor protection. The project included short circuit analysis, protective device coordination study, and load flow study for all major electrical system equipment in the WWTP and pump station. Equipment analysis included preliminary arc flash analysis with emphasis on reducing the arc flash hazard potential in power distribution equipment for the electrical system.

**Electrical Engineer, Wastewater Treatment Projects, Various Locations.** Mr. Perry's wastewater treatment plant (WWTP) experience includes South and Central Advanced Wastewater Treatment Facility, Chlorination/Dechlorination System Improvements, City of Fort Myers, Florida; Eastern Water Reclamation Facility Phase IV B Improvements, Orange County, Florida; Tram Road Reuse Facility, City of Tallahassee, Florida; and Sugar Creek WWTP and Pump Station, Charlotte, North Carolina. Mr. Perry's design experience includes all aspects of low and medium voltage distribution design, lighting system design, LEED® project certification and design, power system studies, and construction services.

**Electrical Engineer, Pump Stations, Various Locations.** Mr. Perry's pump station design experience includes Potomac Wastewater Pumping Station, District of Columbia Water and Sewer Authority; Kill Devil Hills Wellfield Expansion, Dare County, North Carolina; Skyco Well No. 9 Relocation, Dare County North Carolina; Master Pump Station Replacement, City of St. Pete Beach, Florida; Gillies Creek Sewage Pumping Station, Henrico County, Virginia; Water Supply Well No. 225, Cape Coral, Florida; Van Dyke Raw Water Storage, Hillsborough County, Florida; Rocky Gorge Pump Station, Laurel, Maryland; Upper Occoquan Sewer Authority Pump Stations, Manassas Virginia; and City of Callaway, Ground Storage Tank and Booster Pump Station, Callaway, Florida. Mr. Perry's design experience includes all aspects of low and medium voltage distribution design, lighting system design, LEED® project certification and design, power system studies, and construction services.

# VIPIN PANGASA, P.E., BCEE

CITY UTILITIES PROJECT MANAGER – WASTEWATER/PRINCIPAL

Education: *M.S. – Civil (Environmental) Engineering, M.S. – Chemistry;*

Registration: *P.E. – FL # 52737 (1998)*



Mr. Pangasa has over 21 years of environmental engineering experience focusing on the areas of water, wastewater, reclaimed water, stormwater, and solid waste management. He has been involved in projects dealing with water resources, water treatment plants, wastewater processes, wastewater treatment plants, aquifer storage and recovery (ASR), supervisory control and data acquisition (SCADA), water and wastewater collection/distribution and transmission systems, hydraulic modeling, odor control, pumps and pipelines, master plans, landfill CQA, and leachate management, as well as various types of permitting activities.

**Project Manager, Replacement of Surface Aerators with Diffused Aeration, Key West, FL.** Mr. Pangasa oversaw the preliminary design, final design, permitting, bid assistance, and construction for the replacement of the City of Key West's existing surface aerators with a diffused aeration system.

**Project Manager, Hydraulic Profile/Analysis for Richard A. Heyman Environmental Protection Facility, Key West, FL.** Mr. Pangasa is managing the performance of a hydraulic profile and analysis for the City of Key West's existing wastewater treatment plant. The goal of this project is to ascertain what peak flow can be sustained through the plant.

**Project Manager, Northwest Regional Water Reclamation Facility Expansion, Hillsborough County, FL.** Mr. Pangasa, as a senior project manager, is directing the design and construction of this project, a collaborative effort with another consultant. Design responsibilities include directing the Facility Assessment Report, prepared in accordance with an FDEP consent order; all process modeling, including alternatives comparisons such as the five-stage modified Bardenpho® process and the simultaneous nitrification/denitrification and sidestream treatment options for flow from the adjacent residuals management facility; conducting a study of ultraviolet (UV) disinfection options and design; preparing a conceptual engineering report; preparing a preliminary engineering report, effluent modeling, and management options; and all, architectural, structural (pile foundations), instrumentation, and electrical design. Site observation is included in the construction phase along with preparation of the operation and maintenance (O&M) manuals, clarifications on requests for information (RFIs), submittals reviews, change orders, training, post-construction start-up and monitoring, permit modifications and protocol development for UV disinfection, etc.

**Project Manager, Northwest Regional Water Reclamation Facility Sludge Pump Station Upgrade, Hillsborough County, FL.** For the design of a new delivered sludge pump station at the Northwest Regional Water Reclamation Facility (NWRWRF), Mr. Pangasa oversaw all project activities while adhering to schedule and budget constraints. He was also responsible for meeting deliverable deadlines and coordinating and setting review meetings. The new pump station will unload the trucked sludge from Van Dyke to the waste sludge holding tank at NWRWRF.

**Project Manager, Van Dyke Aeration Equipment Replacement, Hillsborough County, FL.** Mr. Pangasa oversaw the engineering services performed for the evaluation of the existing brush rotors at Hillsborough County's Van Dyke facility. He also provided internal and external coordination and project administration, including meeting schedule and budget constraints, meeting deliverable deadlines, and coordinating and setting review meetings.

**Project Manager, Northwest Service Area Regional Plant Evaluation, Hillsborough County, FL.** Mr. Pangasa directed the performance of a cost-based present worth analysis that compared the option of consolidating all four of the wastewater plants in the Northwest Service Area (NSWA) into one facility with that of the current operations. Mr. Pangasa's responsibilities included internal and external coordination, as well as project administration.

**Project Manager, Wastewater Lift Stations Supervisory Control and Data Acquisition System, Largo, FL.** Mr. Pangasa led a team of engineers to assess, update, and finalize the design documents for a SCADA system to replace the existing system.

**Project Manager, Supplementary Aeration Design Northwest Regional Water Reclamation Facility, Hillsborough County, FL.** Mr. Pangasa coordinated with MWH, County staff, and CDM Smith internal staff for the evaluation, design, permitting assistance, bidding, and construction assistance services for the design and installation of supplementary floating aerators in compliance with the requirements of the Facility Assessment Report (per the FDEP administrative order by consent).



# VIPIN PANGASA, P.E., BCEE

## CITY UTILITIES PROJECT MANAGER – WASTEWATER/PRINCIPAL

### **Project Manager, Van Dyke Reclaimed Water Storage Tank and Pump Station Improvements, Hillsborough County, FL.**

For the Van Dyke Wastewater Treatment Plant (WWTP), Mr. Pangasa managed the design, including alternative analysis, of a new 6-mgd pre-stressed concrete ground storage tank to store the reclaimed water along with ancillary improvements for the effluent transfer pump station and reclaimed water pump station SCADA. As part of another project for the Hillsborough County Van Dyke WWTP, Mr. Pangasa designed piping modifications to incorporate an automatic backwash disk filter and supervised its installation by the County line maintenance staff as interim means of improving the quality of the reclaimed water stored in on-site ponds before its supply to reclaimed water customers. This project was completed as a “quick fix” for the water department that was receiving customer complaints regarding snails clogging up the latter’s irrigation sprinklers.

**Project Manager, Tropicana Products Inc. WWTP, Bradenton, FL.** Mr. Pangasa has directed and managed multiple projects for Tropicana Products Inc. For the WWTP, a preliminary engineering study was completed to support the Capital Approval Requests (CARs) for final design and construction. The preliminary engineering study focused on ways to improve the treatment efficiency and capacity at the WWTP. On another project, a National Pollutant Elimination Discharge System (NPDES) permit application was prepared and submitted to the FDEP for permitted discharges of the final treated wastewater into the Manatee River using an existing outfall. The project included mixing zone modeling to support variances for certain parameters. An underwater survey was conducted to map the location of the effluent outfall in the Manatee River.

**Project Manager, Reclaimed Water Aquifer Storage and Recovery (ASR) Programs, Hillsborough County, FL.** Mr. Pangasa managed Hillsborough County’s reclaimed water ASR programs for both the South Central and the Northwest service areas. For both service areas, Mr. Pangasa performed a Disinfection Alternatives Study for the County WWTPs to recommend a county-wide disinfection strategy that is commensurate with the regulations governing ASR usage. On the County’s Northwest ASR program, Mr. Pangasa assisted in the management and coordination of various activities and events leading to implementing cycle testing of the test production well. On the County’s South Central area, Mr. Pangasa managed the design of wellhead piping for the new ASR well in the Big Bend Area and provided guidance in the design of the chlorination facilities at the Falkenburg plant. Additionally, his work focused on establishing program and project goals, schedules and costs, performing siting studies for the future ASR sites, including land acquisitions, and preparing operation protocols for reclaimed water operations and W/W operations staff as it relates to ASR activities. He also assisted in developing a permitting strategy for the reclaimed water ASR program.

**Project Manager, Miscellaneous Hillsborough County Projects, Hillsborough County, FL.** Mr. Pangasa has managed several projects for Hillsborough County under the miscellaneous water/wastewater/reclaimed water contract. In addition to providing project management and administration, he was intimately involved in the development/evaluation related to the following major projects:

- **Northwest Regional Water Reclamation Facility Capacity Analysis Study** – A capacity analysis was performed for NWRWRF in order to ascertain the need for facility expansion versus rerating to meet increasing flows.
- **Digester Feed Sludge Pumps and Variable Frequency Drives Design and Construction** – Evaluation of the existing pumps was performed followed by design and installation of replacements in order to resolve the problem of constant breakdown of the pumps.
- **Evaluation of Van Dyke Wastewater Treatment Plant** – A study was performed to compare the alternatives of plant upgrade to advanced wastewater treatment (AWT) standards versus its disposition with flows redirected to NWRWRF and reclaimed water returned to Van Dyke’s service area.
- **Grit Source Study for the Northwest Regional Residuals Management Facility** – A grit source study was performed that included all facilities in the County’s northwest area that transmit their sludge to the regional residuals management facility.
- **Evaluation of the Eagles Wastewater Treatment Plant** – An evaluation was performed to compare the alternatives of plant upgrade versus disposition with flows redirected to the NWRWRF and reclaimed water returned to Eagles’ service area.

# WILLIAM T. BEESON, P.G.

ENVIRONMENTAL PROJECT MANAGER/SENIOR GEOLOGIST

Education: *B.S. – Geology; Registration: P.G. – FL # 1214 (1991)*



Mr. Beeson has 27 years of technical and management experience, including 22 years of experience in managing and directing major contamination assessment and remediation projects; environmental permitting at the local, state, and federal levels; hazardous waste management; and hazardous waste site closures. He has participated in hundreds of environmental projects ranging from Phase I Environmental Site Assessments to response actions at Superfund sites. He has been responsible for the technical quality of many projects involving the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations.

## **Senior Review – Landfill Design and Construction Services for Cell Expansion – Ash Cell A-4, Pasco County, FL.**

Mr. Beeson provided senior review and hydrogeologic consulting services in support of the design and construction of the Cell A-4. He provided hydrogeologic interpretations and senior review of submittals to address the potential development of sinkholes and assisted in the development of specifications for the installation of the groundwater monitoring system.

**Project Manager, Assessment and Remediation of Abandoned Woodtreating Site, Miami, FL.** In anticipation of cost recovery actions, Operable Unit 1, remediation of contaminated soil and hazardous waste, was performed in accordance with CERCLA requirements specified in the NCP. Operable Unit 2, remediation of groundwater, included an addendum to the Remedial Investigation/Feasibility Study, pilot studies and design and implementation of a Remedial Action Plan.

**Senior Scientist, Closure and Assessment of Fuel Storage Tank Site, Miamarina, Miami, FL.** Mr. Beeson was the senior scientist for the preparation of a tank closure assessment and limited contamination assessment of an abandoned fuel storage facility at the City of Miami Miamarina. The work was performed in accordance with Chapter 62-770, F.A.C. Reports were submitted to PERA.

## **Project Director/Contract Manager, Property Acquisition Program, Hillsborough County Aviation Authority, Tampa, FL.**

As part of the redevelopment of the Drew Park area for expansion of Tampa International Airport facilities, CDM Smith has conducted site-specific Phase I Environmental Site Assessments (ESAs) for 135 parcels, and Phase II ESAs have been conducted for 95 parcels. Pursuant to the Voluntary Cleanup Agreement between the Hillsborough County Aviation Authority and the FDEP, non-petroleum sites have been assessed and remediated in accordance with the requirements of Chapter 62-780, F.A.C. In addition, CDM Smith has overseen Interim Source Removal actions at seven sites and submitted Interim Source Removal Reports. Since June 1994, CDM Smith has prepared and submitted over 370 reports to the Authority. No further action proposals for several sites have been approved by the FDEP. As project manager, Mr. Beeson was responsible for the overall performance of the CDM Smith project team. He has been responsible for coordination and communication with the Hillsborough County Aviation Authority, the development of project direction and strategy, the assignment of personnel, quality assurance, tracking project schedules and budgets, and coordinating administrative requirements. Mr. Beeson has been responsible for the development and maintenance of scopes, schedules, and budgets and for overall technical direction since 2004.

**Project Manager, Assessment and Remediation of Miami Riverside Center, Miami, FL.** Mr. Beeson managed the assessment and remediation of the Miami Riverside Center prior to the acquisition of the property by the City of Miami. Soil contaminated with PCBs was assessed and removed, and groundwater contaminated with ammonia was remediated in accordance with plans approved by PERA. A risk assessment to evaluate the potential risks of the ammonia on marine life was also performed.

**Project Manager, Assessment and Remediation of Former Drum Recycling Facility, Auburndale, FL.** Mr. Beeson assisted in negotiations with the EPA and managed the assessment and remediation of a former drum recycling facility. Contaminants included semi-volatile hydrocarbons and volatile organic compounds. The extents of soil and groundwater contamination were assessed. Remedial actions included excavation and removal of contaminated soil and in-situ treatment of contaminated groundwater.



# WILLIAM T. BEESON, P.G.

## ENVIRONMENTAL PROJECT MANAGER/SENIOR GEOLOGIST

**Project Manager, Assessment and Remediation of Former Ready Mix Facility, North Miami Beach, FL.** Mr. Beeson was the project manager for the assessment and remediation of contamination at a closed concrete ready mix facility. Widespread soil contamination associated with the application of used oil for dust control was assessed and remediated. A no further action determination was obtained from PERA.

**Project Director/Contract Manager, University of Florida Former Landfill Assessment and Corrective Measures Study, Gainesville, FL.** CDM Smith was retained by the University of Florida (UF) to prepare a Site Assessment Plan (SAP), perform assessment investigations, prepare a Site Assessment Report (SAR), and evaluate remedial action alternatives for a former landfill site in Gainesville, Florida, pursuant to a Consent Order and the RCRA Facility Investigation requirements of the HSWA permit for the University's hazardous waste storage facility. To date, the cost for CDM Smith's services have been approximately \$900,000. Mr. Beeson has been responsible for the development and maintenance of scopes, schedules, and budgets and for overall technical direction.

**Senior Technical Advisor/Reviewer, Site Assessment and Remediation, Former PEC Industries, Orlando, FL.** Mr. Beeson supervised aquifer performance tests in support of the pilot study design and has provided senior technical input regarding technical and regulatory issues. CDM Smith is performing active bioremediation of the groundwater and operating a groundwater treatment system to remove volatile organic compounds from two different aquifer systems at the site.

**Senior Project Manager, Assessment and Interim Remedial Action, West Palm Beach, FL.** Mr. Beeson assisted the client in addressing pesticide contamination at a former mosquito control facility. He assisted in negotiating the consent order between the Florida Department of Environmental Protection and the client, planned and supervised the assessment, and managed the design and construction of the interim remedial action. Upon completion of construction, a groundwater monitoring program was approved and implemented.

**Senior Scientist, Western Landfill Alternative Site Assessment, Palm Beach County, FL.** Mr. Beeson provided senior technical input and review with respect to the environmental due diligence and potential environmental concerns associated with possible landfill sites. Concerns included residual contamination with agricultural land uses and supporting operations.

**Senior Scientist, Resource Conservation and Recovery Act Permitting, Monitoring and Compliance, Orange County, FL.** Mr. Beeson assisted the client in negotiating a new RCRA permit for a closed landfill. He also assisted in developing and reviewing monitoring plans and reports, and in preparing an Engineering Feasibility Study report of potential corrective action alternatives.

**Senior Project Manager, Phase I and Phase II Environmental Assessment, Martin County, FL.** Mr. Beeson supervised the performance of Phase I and Phase II environmental assessments of a 12,000-acre citrus grove. The assessments were performed in accordance with requirements of the South Florida Water Management District and the U.S. Fish and Wildlife Service. Over 1,500 samples of soil and groundwater were collected and analyzed, and a Screening Level Ecological Risk Assessment was performed.

**Technical Review, Glades Road Landfill – Class I, Phase IIIB, St. Lucie County, FL.** Mr. Beeson was responsible for negotiating the groundwater monitoring program, developing the strategy for the contamination assessment of the closed cells, and negotiating the completion of the assessment with the FDEP. He also acted as senior reviewer of the semi-annual and biennial groundwater monitoring reports.

**Senior Scientist, Compliance Assistance and Quarterly Groundwater and Surface Water Quality Monitoring, Zemel Road Municipal Solid Waste Management Facility, Charlotte County, FL.** Mr. Beeson assisted Charlotte County in negotiations with the FDEP regarding exceedances of groundwater quality criteria associated with the Zemel Road facility. He also prepared the monitoring plan and was responsible for its implementation.

**Technical Review, Palm City II Landfill: Cell 2 Closure and Gas Collection System Services During Construction, Martin County, FL.** Mr. Beeson was responsible for the senior review of the biennial monitoring reports and assessment activities associated with the closed landfill.

# JASON A. JOHNSON, P.E.

COASTAL ENGINEERING PROJECT MANAGER; STORMWATER; SEWER/PRINCIPAL

Education: B.S. – Civil Engineering; Registration: P.E. – KS  
(2002), NC, SC, TN, FL # 64201, Barbados



Mr. Johnson has 15 years of experience as a senior project manager and water resources engineer. He has served as project manager and/or engineer on a number of engineering international and domestic projects, including water, sewer, and stormwater system master planning; water distribution, sewer collection and storm drainage system design; GIS and information management system development; and utility rate and procurement analysis.

**Project Manager, Big Coppitt Key Prado Circle Stormwater Well Improvements, Monroe County, FL.** Monroe County was required by their Comprehensive 2010 Growth Management Plan to prepare a Stormwater Management Master Plan (SMMP). Located in Big Coppitt Key, the Prado Circle area was identified due to chronic flooding. Mr. Johnson managed the completion of the design and bidding assistance for the construction of the stormwater drainage improvements.

**Project Manager, Stock Island RO Plant Bulkhead Replacement Project, Florida Keys Aqueduct Authority, Florida.** The Florida Keys Aqueduct Authority (FKAA) owns and operates the Kermit H. Lewin Reverse Osmosis Facility on Stock Island. The plant has a perimeter bulkhead seawall that is approximately 30 years old and in poor condition. Recent hurricanes and storm events have resulted in excessive scouring, erosion, and cracking along the seawall in several locations. Through a project supported by grant funding from the Federal Emergency Management Authority (FEMA), Mr. Johnson served as project manager for the planning, design, and construction of approximately 1,200 linear feet of replacement seawall.

**Project Manager, Citywide Stormwater Master Plan, North Miami, FL.** Mr. Johnson serves as project manager for the update of the City's stormwater master plan. Project activities include conversion of the previous master plan model from XP-SWMM to EPA SWMM5, operations and maintenance (O&M) evaluation of current stormwater management practices, community rating system (CRS) rating assistance, development of a floodplain management plan, and the development of recommendations to address flooding and water quality conditions.

**Project Manager, Stormwater Master Plan Update, Miami Beach, FL.** The City of Miami Beach selected CDM Smith to update the stormwater master plan to meet flooding conditions that are becoming more frequent and noticeable to the community. The technical component of this project requires a multi-disciplinary team to address geotechnical, structural, electrical, and civil aspects of a series of projects to control flooding in a tight urban environment. The current alternatives include a 55-acre feet (17.8 million gallon) stormwater vault and 13 different pump stations for more than 150-cfs peak capacity, as well as other outfall improvements with tide flex valves, pump stations, and gravity pipe system upgrades. Mr. Johnson is the primary point of contact.

**Project Manager, National Pollutant Discharge Elimination System (NPDES) Event Mean Concentration (EMC) Analysis, North Miami Beach, FL.** Mr. Johnson served as project manager for the reporting of estimates of EMCs and seasonal pollutant loads for all major outfalls in the City of North Miami Beach. Project activities included delineating the drainage basins associated with outfalls for which pollutant loads must be estimated and calculating estimates of the pollutant reduction fraction by each best management practice (BMP) drainage type in each basin.

**Project Manager, Stormwater Utility Development, Concord, NC.** Mr. Johnson managed the development and implementation of the City's stormwater utility. Responsibilities included the facilitation of a stormwater stakeholder group, development of a stormwater policy and procedures manual, and credit and adjustment policies. Activities included surveying neighbor utilities; budget estimates for operation and maintenance, capital improvement projects, and NPDES permit management; evaluation of levels of service; and the development of a feasibility study.

**Project Engineer, Stormwater Utility Development, Raleigh, NC.** Mr. Johnson assisted with developing the City's stormwater design standards, stormwater policy and procedures manual, and credit and adjustment policies. Activities included surveying neighbor utilities, budget estimates for operation and maintenance, and evaluation of levels of service.



# JASON A. JOHNSON, P.E.

COASTAL ENGINEERING PROJECT MANAGER; STORMWATER; SEWER/PRINCIPAL

**Project Manager, Eastburn Storm Drainage Improvement Project, Charlotte, NC.** Mr. Johnson served as the project manager for the Eastburn Stormwater Improvements Project for the City of Charlotte Storm Water Services. The project involved hydrologic and hydraulic analysis to evaluate over 31,000 linear feet of storm drainage network within a 410-acre urbanized drainage basin. The project involved detailed surveying, aerial mapping, hydrologic modeling, open-channel and closed conduit hydraulic modeling, geomorphic condition assessments, flood management, alternative analysis, and public presentations.

**Project Manager, Sanitary Sewer Evaluation Survey (SSES) Phase III Compliance Services, Miami Beach, FL.** For the City of Miami Beach, Mr. Johnson managed all the fieldwork consisting of sewer cleaning and inspection, flow monitoring, and engineering design services associated with the physical rehabilitation of sanitary sewer in seven basins. The project was conducted to determine the locations and causes of inflow and infiltration (I/I) to pinpoint problem areas and recommend cost-effective corrective actions, including how to mitigate or prevent infiltration from entering the system. Over 72,000 feet of sanitary sewers and 500 manholes were cleaned and inspected as part of this project. The I/I investigations will utilize smoke testing and CCTV inspections of mainlines and laterals to determine the precise locations of I/I within the system. To manage and evaluate this vast amount of sewer inspection data, CDM Smith used specialized software and hardware to view and query the NASSCO PACP defect code database and link photos and video to a GIS.

**Project Manager, Volume Sewer Customer Ordinance Compliance Services, North Miami, FL.** The City of North Miami is a Volume Sewer Customer (VSC) of the Miami-Dade County Water and Sewer Department (WASD) and must comply with the requirements set forth in VSC Ordinance 96-166 of the Miami-Dade County Code. The ordinance stipulates that all publicly and privately owned or operated sanitary sewer collection and transmission systems need to complete the Sanitary Sewer Evaluation Survey components and requirements. Mr. Johnson serves as project manager in assisting the City with compliance services associated with Phase I and Phase II report requirements for the sanitary sewer evaluation survey (SSES) program.

**Task Leader, Kings Grant Rocky River Interceptor Project, Water and Sewer Authority of Cabarrus County, NC.**

Mr. Johnson served as project engineer for the hydraulic modeling of the Kings Grant Rocky River wastewater interceptor. The Kings Grant Rocky River interceptor consists of approximately 24,000 linear feet of 66- through 72-inch pipe. The interceptors replace the existing sewers, which are experiencing surcharged conditions under wet weather flows. They also provide needed future capacity for the rapidly growing county.

**Task Leader, Back Creek Relief Interceptor Project, Water and Sewer Authority of Cabarrus County, NC.** Mr. Johnson served as project engineer for the design of the Back Creek wastewater relief interceptor. The Back Creek relief interceptors consist of approximately 24,000 linear feet of 18- through 36-inch pipe. The interceptors will provide relief for the existing sewers, which are experiencing surcharged conditions under wet weather flows. They will also provide needed future capacity for the rapidly growing county.

**Task Leader, Briar Creek Sewer System Improvements Project, Charlotte, NC.** Mr. Johnson served as project engineer and task manager for the Charlotte-Mecklenburg Utility District hydraulic modeling study of Briar Creek sanitary sewer interceptor system. Flow meter data was applied to calibrate U.S. EPA SWMM-EXTRAN models of the interceptor systems and to identify sanitary sewer improvement projects. The models were then used to evaluate specific improvement designs.

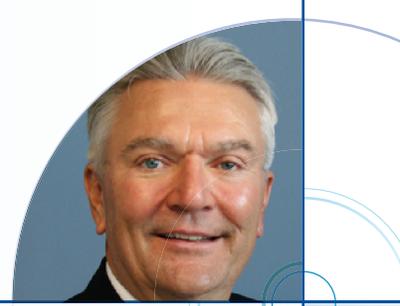
**Task Leader, Central Business District (CBD) Sanitary Sewer System Model, Charlotte, NC.** Mr. Johnson was project engineer and task manager for the wet-weather flow management study for the Central Business District of Charlotte, North Carolina. Flow meter data were used to determine I/I flow characteristics and calibrate SWMM-EXTRAN models of the sewer system. The models were used to evaluate the capacity of the existing system and to evaluate operational improvements and capital improvement projects.

**Technical Advisor, Sanitary Sewer Collection System Master Plan, Manhattan, KS.** Mr. Johnson served as technical advisor on this planning project. He participated in the model selection process for the modeling approach to be used for the entire sewershed planning in the City of Manhattan. He assisted in selection of flow monitoring locations and the development of the SewerCad model of the sewer system.

# DANIEL T. ANDERSON, P.E., BCEE

FINANCE/PRINCIPAL

Education: *M.B.A. – Finance; Registration: P.E. – FL # 34173 (1983)*



Mr. Anderson is a principal engineer and senior financial specialist with more than 33 years of experience providing public utilities and governmental agencies with financial advisory and support services. He is a recognized expert within the firm for performing life cycle cost analyses. He has over three decades of experience preparing cost-effectiveness analyses employing Net Present Value and related techniques. Successful incorporation of these analyses is critical to determining the economically optimal solution to a variety of environmental challenges.

**Senior Rate Specialist, Annual Solid Waste Rate Study Update, Key West, FL.** For the past decade, Mr. Anderson has performed annual updates to the solid waste rate model for the City of Key West. The model is run to evaluate the rate impacts of the proposed annual operating budget in conjunction with long-term projections of capital expenditures and renewals and replacements. After approval by City staff, a presentation is made to the City Commission during budget hearings prior to budget adoption each year.

**Project Manager, Water and Wastewater Rate Study, Miami Beach, FL.** Mr. Anderson performed a “fast-track” rate study for the City of Miami Beach to implement rates that will generate revenues sufficient to meet the coverage requirements in anticipation of the City’s need to issue revenue bonds to finance additional capital improvements.

**Project Manager, Stormwater Utility Rate Study, Miami Beach, FL.** Mr. Anderson prepared a stormwater utility rate study for the City of Miami Beach to provide for continued revenue adequacy in anticipation of the issuance of future debt.

**Senior Financial Analyst, Plasma Arc Technology Feasibility Analysis, St. Lucie County, FL.** Mr. Anderson prepared a 20-year pro forma projection of the financial feasibility of implementing plasma arc technology at the St. Lucie County landfill by a private entity for the beneficial conversion of solid waste to energy. Analyses were undertaken to determine the sensitivity to various factors, including growth rates of delivery tonnages, processing fees, and inflation.

**Project Manager, Solid Waste Financial and Rate Analyses, St. Lucie County, FL.** For almost two decades, CDM Smith has performed financial and rate analysis with respect to the St. Lucie County solid waste system. The studies and analyses have encompassed a wide variety of assignments.

**Senior Financial Analyst and Project Manager, Southern Regional Wastewater System Financial Analysis Study, Hollywood, FL.** On behalf of the large users of the Broward County Southern Regional Wastewater System, Mr. Anderson analyzed methodology for recovering costs to each of the large users of the system. Both capital and operating costs were evaluated, and recommendations for enhancements to cost allocation were developed.

**Senior Financial Analyst, Water and Sewer Utility Bonds Series 2008, Broward County, FL.** Mr. Anderson prepared a Consulting Engineer’s Report, required as part of the due diligence activities for issuance of \$180M in revenue bonds for improvements to Broward County’s water and wastewater systems.

**Project Manager, Water and Wastewater Rate and Fee Study, Royal Palm Beach, FL.** CDM Smith was awarded a contract to perform a comprehensive study of water and wastewater rates and fees for the Village of Royal Palm Beach. The purpose of this effort was to update the client’s utility rates to provide sufficient revenue and to eliminate the subsidy of the water system by the wastewater system. The entire evaluation was completed within eight weeks to meet the client’s deadline for adopting a new rate structure. Mr. Anderson’s tasks included reviewing existing rates and fee data, reviewing the costs of utility system operations, reviewing projected growth rates, developing a method for the indirect allocation of costs incurred by the general fund, projecting annual revenue requirements for five years, and developing base facilities charges that consisted of customer costs and capacity costs. He also considered the impact of a utility purchasing agreement and assisted in developing volume charges, high-strength wastewater surcharges, fire protection charges, connection charges (impact fees), and ancillary charges. Reports were prepared and submitted, and CDM Smith assisted with implementation including drafting a rate resolution.



# DANIEL T. ANDERSON, P.E., BCEE

FINANCE/PRINCIPAL

**Project Manager, Reclaimed Water Rate Study Update, Vero Beach, FL.** After performing the reclaimed water rate study for the City of Vero Beach in 2004, Mr. Anderson prepared a reclaimed water rate study update to provide adequate revenues for capitalizing and operating the reclaimed water systems. Tasks included projecting customers and demands by class, performing a cost of service analysis, and developing rates to recover revenue requirements.

**Senior Rate Specialist and Project Manager, Potable Water, Wastewater and Reclaimed Water Connection Fee Study, St. Lucie County, FL.** Mr. Anderson prepared the connection fee study to update the charges so that “growth pays for growth, in this rapidly growing County. Unit costs of capacity of recent or planned expansion projects were used in conjunction with the levels of service to develop connection fees for each customer class.

**Senior Rate Specialist and Project Manager, Water and Wastewater Rate Study, Highland Beach, FL.** Mr. Anderson was the rate specialist that prepared this rate study focusing on revenue sufficiency and potable water conservation rates. The existing two-block volume charges were expanded to three blocks, with very significant increases for the highest block rate. As an August 2007 update to the original September 2005 study, Mr. Anderson revised the levels of the block rates to again provide for revenue sufficiency and enhanced acceptability from the local policy perspective.

**Senior Rate Specialist and Project Manager, Utility Comprehensive Financial Planning and Rate Study, Ormond Beach, FL.** Mr. Anderson prepared this water and wastewater system study for the City. The potable water rates were re-structured to incorporate a third tier over 6,000 gallons per month. Water and wastewater impact fees were updated in a standalone document, with reclaimed water considered as effluent disposal for capital cost recovery.

**Senior Financial Analyst and Project Manager, Wastewater System Divestiture Feasibility Study, Jupiter Island, FL.** Mr. Anderson assisted the Town in analyzing the financial proposal from Martin County to purchase the mainland potable water system and the wastewater system from the Town. Discounting net operating revenues, capital facilities charges, and defeasance of outstanding revenue indebtedness were considered in the study.

**Project Manager, Water, Wastewater, and Reclaimed Water Rate and Connection Fee Study, St. Lucie County, FL.** St. Lucie County owns and operates utility systems in four water and wastewater service areas. Because it has been several years since a detailed rate study had been performed, and because inflationary pressures in the recent past have significantly affected operating and capital costs, the County directed CDM Smith to prepare this comprehensive study. Mr. Anderson designed rates for full recovery of the cost of operations and updated connection fees to recover the capital investment required to meet demands imposed by growth.

**Senior Rate Specialist, South Hutchinson Island Wastewater System User Charge Study, St. Lucie County, FL.** Mr. Anderson prepared the user charge study to update the monthly rates for wastewater service for this service district. Rates were developed to recover operating expenses plus renewal and replacement needs.

**Project Manager, Water and Wastewater Bond Feasibility Report, Cocoa, FL.** CDM Smith was retained by the City of Cocoa to prepare an engineer’s bond feasibility report to support a \$40M bond issue. CDM Smith reviewed the City’s existing capital improvements program (CIP) relating to the water and wastewater systems, as well as the projects to be financed with the proceeds from these new revenue bonds. In addition, the City’s renewal and replacement program, historical customer data, and prevailing user charges were also investigated. CDM Smith personnel then reviewed utility demand projections provided by the City and formulated conclusions as to 1) the adequacy of the operation and management of the water and wastewater systems, 2) the reasonableness and need for the proposed improvement projects, and 3) the ability of the utility customers to meet the financial needs of the systems. Draft and final reports were prepared and submitted to the City.

**Project Manager and Senior Management Consultant, Comprehensive Water, Wastewater, and Reclaimed Water Rate Study, Winter Park, FL.** As part of the ongoing comprehensive study for the City, Mr. Anderson has developed the cost of service for providing reclaimed water service. Because the current bulk agreements for reclaimed water service do not include a provision for charging, the cost for reclaimed water must continue to be subsidized by wastewater service charges. Phasing in of reclaimed water rates for both bulk and retail service is considered to be a viable opportunity.

# TIMOTHY A. VERWEY, P.E.

STRUCTURAL/ASSOCIATE

Education: *B.S. – Civil Engineering;*

Registration: *P.E. – FL # 50947 (1996), GA, KY, MS, NC, TN, TX, VA*



Mr. Verwey has over 23 years of experience as a structural engineer with an emphasis on analysis and design of environmental engineering structures. He has developed design criteria, project specifications, provided analyses, prepared and reviewed contract documents, performed structural condition surveys and evaluations, carried out value engineering studies, provided peer reviews, and performed engineering services during construction for water, wastewater, and hazardous waste facilities in the public and industrial sectors. He specializes in computer applications of both structural engineering design and engineering analyses, including finite element analysis of plate and shell structures, and 3-dimensional structural analysis.

He has managed all aspects of structural engineering on numerous projects of diverse sizes. He is experienced in designing, planning, modifying, and repairing existing structures; designing deep and shallow foundation systems; designing new structures; designing unusual structures; and performing design-build.

**Structural Engineer, Stock Island Seawall Replacement, Florida Keys Aqueduct Authority, Florida.** The Florida Keys Aqueduct Authority (FKAA) owns and operates the Kermit H. Lewin Reverse Osmosis Facility on Stock Island. The plant has a perimeter bulkhead seawall that is approximately 30 years old and in poor condition. Recent hurricanes and storm events have resulted in excessive scouring, erosion, and cracking along the seawall in several locations. Through a project supported by grant funding from the Federal Emergency Management Authority (FEMA), Mr. Johnson served as structural engineer for the planning, design, and construction of approximately 1,200 linear feet of replacement seawall.

**Structural Engineer-of-Record, Water and Wastewater Pump Station Upgrades, Miami Beach, FL.** Mr. Verwey was the structural engineer-of-record for the City of Miami Beach's water and wastewater system improvements program consisting of the construction of two 4-MG ground storage water tanks, upgrades and modifications to 23 wastewater pump stations and five water pump stations, and the construction of one new water booster pump station and one new wastewater booster pump station.

**Structural Engineer, Pump Station Rehabilitation, Fort Lauderdale, FL.** This project consisted of the rehabilitation of five wastewater pump stations, including the replacement of existing piping, valves, and ventilation system; installation of new pumps with variable frequency drives; an above-grade service entrance rated electrical equipment; and bypass pumping during construction. Mr. Verwey was responsible for the structural design component of this project.

**Project Structural Engineer, Wastewater Treatment Plant Expansion, Ormond Beach, FL.** Mr. Verwey was the project structural engineer for this wastewater treatment plant expansion. The first stage of this project consisted of priority improvement modifications to the failing influent pump station and centrifuges. The second stage expanded the plant from 6 to 8 mgd and included an additional clarifier and filter unit along with replacement of pumps in four plant pump stations, installation of a diffused aeration system, and replacement of aging equipment at the facility's headworks, 5-stage Bardenpho™ tanks, clarifiers, and filters.

**Project Structural Engineer, Arbennie Pritchett WRF, Okaloosa County, FL.** CDM Smith was selected to design, construct, outfit, start up, performance test, and obtain permits for the new Arbennie Pritchett WRF, which has been designed to initially treat 10 mgd with flexibility for future expansion. Mr. Verwey is serving as the project structural engineer for this \$49M DB project. His services included design of cast-in-place concrete structures, as well as several CMU buildings.

**Engineer-of-Record, Anastasia Island Wastewater Treatment Plant Expansion, St. Johns County, FL.** For this WWTP expansion project, Mr. Verwey served as the engineer-of-record. Project components included modifications to existing structures (influent pump station, chlorine contact tank, and clarifier head house), headworks structure, aeration basins, secondary clarifiers, new chlorine contact basins, masonry buildings (blower/electrical/generator, dewatering), splitter boxes, and chemical containment structures.



# TIMOTHY A. VERWEY, P.E.

STRUCTURAL/ASSOCIATE

**Project Structural Engineer, Master Pump Stations Replacement and Rehabilitation, Final Design and Construction, Orange County, FL.** Orange County identified 14 master pump stations within the County's three wastewater service areas that required evaluation and upgrades as necessary to maintain reliable service and meet changes to the conditions of service. Subsequently, Orange County wished to implement rehabilitation of eight of the 14 pump stations. The master pump station replacement/rehabilitation project included an additional hydraulic analysis, final design, and bidding and construction services related to the eight pump stations. The final design was based on constructing new submersible pump stations at four pump stations. Total pumping capacity of the new submersible stations ranged from 560 gpm to 6,900 gpm. Mr. Verwey provided structural design services and construction services for this project.

**Engineer-of-Record, Marco Island Wastewater Treatment Plant Expansion, Marco Island, FL.** Mr. Verwey was the engineer-of-record for this WWTP Phase I and Phase II upgrade and expansion project. Structural engineering components of this project included modifications to existing structures, new prestressed circular structures, and new concrete masonry unit buildings.

**Project Structural Engineer, Water and Wastewater Systems for Babcock Ranch Community Charlotte and Lee Counties, FL.** Mr. Verwey served as the project structural engineer for the design of this LEED®-certified design-build (DB) project. The structural design included a 5,500-square-foot operations building, housing both the water plant process area and an operations area, including control room, laboratory, office, breakroom, toilet/locker/shower areas, and the necessary electrical and mechanical spaces. The building walls were designed using insulated concrete forms (ICF) to enhance the energy efficiency. This project was produced using 3D/4D technology. This approach allows the design team to progress simultaneously, to identify conflicts in "real time" and produce a superior deliverable by reducing redundancy and minimizing drafting inconsistencies.

**Structural Engineer, Lake Okeechobee Fast-Track (LOFT) Basis of Design Report and Reservoir Test Cell Project, Okeechobee, FL.** This \$230M, fast-track project includes the design of approximately 7,000 acres of storage and stormwater treatment reservoirs, three 500-cubic feet per second (cfs) pump stations, multiple hydraulic control structures, and over four miles of canal conveyance improvements. Mr. Verwey prepared the structural basis of design criteria. The criteria included the governing codes, loading requirements, load combinations, construction materials, and material properties to be used in the final design.

**Project Structural Engineer, Pinellas County Water Management District Channel 1, Channel 1B5, Channel 2, Channel 3, Channel 4, Channel 4A, Channel 4E, and Channel 5 improvements, Pinellas County, FL.** Mr. Verwey served as the project structural engineer-of-record for the design and construction for all eight projects. The structural improvements included concrete lining of the side slopes, concrete bottoms, concrete struts across the bottom, weir walls, steel sheet pile cut off walls, and box culverts.

**Project Structural Engineer, National Park Service, Flamingo Water Treatment Plant and Pine Island Wastewater Treatment Plant Everglades National Park, Florida.** Mr. Verwey served as the project structural engineer-of-record for the design and construction for both projects. The projects included the foundation design for new MBR units at each plant, foundation design for new precast electrical buildings and a timber canopy with insect screens.

**Structural Engineer, Transportation Projects, Various Locations.** Mr. Verwey completed the inspection, structural evaluation, and redesign of two precast reinforced concrete piers for the City of Clearwater, Florida, and the inspection and structural evaluation of Cow Pen Slough Bridge at Walton Track in Sarasota County, Florida.

**Structural Engineer, FEMA Projects.** Mr. Verwey served as lead structural engineer for Nashville Metro Water Services' Omohundro WTP emergency repair to pedestrian elevated walkways. The project involved the design of two elevated walkways at the WTP. He also served as structural engineer for the Garfield Ladner Memorial Pier in Waveland, Mississippi, and design of concrete fishing pier to replace a timber pier destroyed by Hurricane Katrina.

# KEVIN C. LEO, P.E., BCEE

SOLID WASTE/ASSOCIATE

Education: *M.E. – Environmental Engineering; Registration: P.E. – FL # 57520 (2001)*



Mr. Leo has over 15 years of professional experience in the environmental engineering industry with extensive experience in planning, design, permitting, and construction of solid waste, stormwater, wastewater, and hazardous waste systems. He has served as the client service manager and project manager on a broad spectrum of engineering projects in Florida. Mr. Leo is proficient in coordinating and executing multiple and alternative delivery projects, and implementing creative and viable solutions to problems. He has also completed feasibility studies, system evaluations, engineering design reports, preliminary and final design drawings, construction cost estimates, and contract negotiations, and he has performed services related to design, permitting, modeling, bidding, and construction management.

**Client Service Manager, Solid Waste Authority of Palm Beach County Design-Build-Operation of a Mass Burn Waste-to-Energy Facility, West Palm Beach, FL.** For the Solid Waste Authority of Palm Beach County's (SWA) new 3,000-tpd mass burn WTE facility, Mr. Leo is serving as the client service manager for our work, which includes the design and construction of the on-site roadways, drainage, utilities, landscaping, grading, and fencing. CDM Smith will also design and construct the tipping floor building, as well as the building for air pollution control, ash handling, maintenance/warehouse, and all services and utilities therein. Additionally, we will construct the siding and roofing on the refuse pit, boiler water treatment, and turbine generator buildings. The scope also includes the design and construction of a Platinum LEED®-certified administration/visitors center. CDM Smith will oversee subcontractors conducting geotechnical investigations, topographic surveys, and tree surveys, and will prepare final dewatering modeling and engineering of the recharge trenches for the installation foundations and facilities below the groundwater table. We will provide services during construction, which includes submittal review, request for information (RFI) assistance, site visits, and punch list resolution. This project is currently under design and is scheduled to be complete in 2015.

**Client Service Manager, Class I Ash Monofill Cell 20 Design and Permitting, Miami-Dade County, FL.** Mr. Leo is serving as the client service manager for the 10-acre Class I ash monofill Cell 20 expansion at the Miami-Dade County Resource Recovery Facility (RRF). The project will be the final lateral expansion at this site and required extensive analysis of the foundation, leachate collection system conveyance, and the tie-in of the new liner system to the much older systems.

**Client Service Manager, Wheelabrator South Broward, Ash Monofill Leachate Collection System Cleaning Demonstration, Fort Lauderdale, FL.** Mr. Leo is the client service manager for the Phase I and Phase II work on the clogged leachate collection system at Wheelabrator South Broward. This project entailed performing a condition assessment, developing a cleaning protocol, and coordinating field activities to restore the system to be fully functional.

**Project Manager, Engineer of Record, and Client Service Manager, Class I Landfill Expansion Cells 9 through 16 and Ash Monofill Cells 23 and 25, Solid Waste Authority of Palm Beach County, Palm Beach County, FL.** Mr. Leo was the project manager and engineer-of-record for the design, permitting, bidding, and construction services of the lateral expansion of Cells 9 and 10 at the NCRRE. Mr. Leo was the project manager for the design and permitting of the lateral expansion of Cells 23 and 25 at the NCRRE. These landfill cells are permitted and ready for construction when SWA is ready to expand. It is currently being evaluated whether to optimize the Class III Landfill area next to Cell 25. Mr. Leo was the client service manager for Cells 11 and 12 (20 acres), Cells 13 and 14 (13 acres), and Cells 15 and 16 (26 acres) at the NCRRE. The recent designs included a white HDPE double liner system with a bottom composite, leachate collection system with HDPE piping, leachate detection system, a high transmissivity geonet, and stormwater management. AutoCAD Civil 3D was used for this project. He was responsible for the overall quality and successful delivery to the client.

**Project Manager, Regional Biosolids Pelletization Facility, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo was the project manager for the SWA's Regional Biosolids Pelletization Facility. The facility will process up to 600 wet tons per day of wastewater biosolids. The biosolids will be dried in a rotary kiln, using landfill gas as a heat source, and converted into a marketable fertilizer product. Mr. Leo's tasks included performing Power Plant Siting Act (PPSA) permitting, reviewing the bidders' proposals, and providing services during construction on this design-build-operate contract.



# KEVIN C. LEO, P.E., BCEE

## SOLID WASTE/ASSOCIATE

**Principal-in-Charge, Class I Landfill Expansion 13 and 14, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo is the principal-in-charge for the design, permitting, bidding, and construction services of Cells 13 and 14 at the North County Resource Recovery Facility (NCRRF). He is responsible for the overall quality and successful delivery to the client. The design includes a 20-acre footprint, HDPE liner and piping, and stormwater management.

**Principal-in-Charge, Class I Landfill Closure Cells 5 and 6 Design-Build, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo was the principal-in-charge for the design, permitting, bidding, inspection, and construction management of the Cells 5 and 6 closure at NCRRF. The design included a 20-acre footprint, linear low-density polyethylene (LLDPE) geomembrane cap, landfill gas system, and stormwater management. This project was constructed by CDM Smith.

**Project Manager, Ethanol Production Facility Feasibility Study, Palm Beach County, FL.** Mr. Leo was the project manager for the feasibility study for a cellulosic ethanol production facility. CDM Smith was scoped to perform an evaluation of the various technologies available in the market, the financial pro forma, permitting requirements, grant funding opportunities, site locations options, County fuel usage calculations, site visits, and meeting with solid waste management officials as necessary.

**Project Manager, Lantana Road/Park Ridge Landfill Golf Course Design-Build, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo served in various job capacities during the six-year conversion of the 180-acre landfill site into a beautiful public 18-hole golf course. In 2001, Mr. Leo was a project engineer for the decommissioning of the gas collection system, golf course design, and environmental permitting. In 2005, Mr. Leo served as the project manager for the construction management phase, which included local zoning, stormwater design modifications, building department permitting, and engineering services during construction. The golf course opened to the public in 2007 and is a showcase solid waste project. APWA's Florida Chapter honored the project with Project of the Year in the environmental category and recognized CDM Smith as Consultant of the Year in the building and grounds category for work on this project. The Florida Institute of Consulting Engineers (FICE) – a member organization of the American Council of Engineering Companies (ACEC) – presented the project with a 2009 Grand Award. The project was also awarded the Gold Award in the Landfill Reuse category from SWANA. This project was constructed by CDM Smith.

**Project Manager, Landfill Odor Management Program, Solid Waste Authority (SWA) of Palm Beach County, West Palm Beach, FL.** Mr. Leo performed a 30-day field assessment of odors, an evaluation of vapor phase odor control agents, and a site-wide dispersion model to rank odor sources. Sources that were evaluated included the Class I and Class III landfills, the materials recovery facility (MRF), the waste-to-energy (WTE) facility, the compost facility, and the yard waste processing area. Mr. Leo prepared reports for each of the studies and made recommendations.

**Project Manager, Beneficial Use Demonstration for the Reuse of Incinerator Ash, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo was the project manager for the beneficial reuse program of incinerator ash at NCRRF. This program was implemented by the FDEP in 2001 to encourage the reuse of ash and to save Class I landfill airspace. Mr. Leo has performed preliminary studies, sampling, and laboratory analysis, and submitted the report to the FDEP to demonstrate that ash could be reused in an environmentally friendly manner.

**Principal-in-Charge and Project Manager, Western Landfill Site Planning and Permitting, Solid Waste Authority (SWA) of Palm Beach County, Palm Beach County, FL.** Mr. Leo was the client service manager for the planning and permitting effort for the Western Landfill site. This was the first Greenfield landfill to be sited and permitted in the Southeast FDEP District office in many years. This project entailed assisting SWA with alternative site evaluations, access road right-of-way negotiations, master planning, public outreach, zoning, land use designation change, development review order, preliminary design, and permitting. Permitting included environmental resource, solid waste, air quality, dredge and fill, water use, water treatment, wastewater treatment, underground injection control, and others. Between 2003 and 2006, Mr. Leo was the project manager for the conceptual layout project, which included an order-of-magnitude cost estimate, schedule, and site layout alternatives, and the preliminary geotechnical investigation, which included a foundation analysis, soil classification testing, and a muck investigation to determine if soils at this site would be a fatal flaw. This project was put on hold indefinitely.

# ERIC J. GROTKE, P.E., BCEE

SOLID WASTE/ASSOCIATE

Education: *B.S. – Civil Engineering*; Registration: *P.E. – FL # 47635 (1994)*



Mr. Grotke is an environmental engineer and client officer experienced in water and wastewater treatment; water, wastewater, and reclaimed water pipelines pumping stations; stormwater management; aviation; and solid waste facilities. He has over 20 years of experience in solid waste management and facility design. Projects have encompassed including the design, permitting, bidding, and construction of modifications to landfills; solid waste composition analyses; landfill expansions; the design and permitting of leachate treatment facilities, transfer stations, and construction and demolition debris facilities; and recycling.

**Officer-in-Charge, St. Lucie County Plasma Arc Gasification Facility, Fort Pierce, FL.** Mr. Grotke serves as officer-in-charge for assistance to St. Lucie County with contract negotiation efforts, financial analysis and evaluation, and emission review for the proposed 660 ton per day (tpd) facility. The facility will receive and gasify all incoming waste and accommodate mined waste from the existing site. CDM Smith is currently assisting with preparation of environmental permit modifications to support the facility.

**Officer-in-Charge, Phase II and IIIA Closure, St. Lucie County, FL.** Mr. Grotke has been involved with design, permitting, bidding, and construction services associated with closure of the Phase II and IIIA landfill cells at the Glades Road landfill site. Work includes landfill gas system improvements, liner system placement, stormwater improvements, and earthmoving for the \$8M project to close approximately 40 acres.

**Project Manager/Officer-in-Charge, Fairwinds Golf Course Improvements, Fort Pierce, FL.** Mr. Grotke assisted St. Lucie County with design-build services to excavate and install liners under all of the golf course's greens in order to relieve the impacts from hydrogen sulfide from the underlying closed landfill. CDM Smith procured specialty subcontractors to place liners, greens mix, and seeding for the project.

**Project Manager, Transfer Station Design, Permitting, Bidding, and Construction Services, Martin County, FL.** Mr. Grotke managed the preliminary design, final design, permitting, and construction services for a solid waste transfer station at the Palm City II Landfill site for Martin County. The County planned to close the landfill site and transfer waste to a nearby facility in lieu of continuing operations adjacent to a growing residential community. The facility design features include a two-story transfer station building with two drop chutes, an adjacent two-story administration building, emergency power supply system, and an isolated residential customer waste disposal area. Traffic flow in, out, and around the facility was designed for customer, County staff, emergency vehicle, and transfer trailer maneuverability.

**Officer-in-Charge, C&D Debris and Yard Waste Processing Building, Martin County, FL.** Mr. Grotke assisted with preparation of design criteria for design-build procurement for a building to house construction and demolition debris recycling and yard waste mulching activities at the landfill site. CDM Smith also provided construction inspection and permitting services associated with the facility.

**Officer-in-Charge, INEOS New Planet Bio-Energy Ethanol Project, Vero Beach, FL.** Mr. Grotke has served as officer-in-charge for the proposed waste-to-ethanol project in Indian River County on property adjacent to the County's landfill site. CDM Smith has assisted with site plan development, environmental permit application preparation, and DOE and USDA grant application preparation to support the facility.

**Officer-in-Charge, Glades Road Landfill – Class I, Phase IIIB, St. Lucie County, FL.** Mr. Grotke managed a team that provided design, permitting, bidding, and services during construction of the Glades Cut-Off Road Baling and Recycling Facility Class I, Phase IIIB lateral expansion. Under this task, he also managed the general engineering services, special engineering services, and resident services during construction. This also included the following components: cell subbase, Geosynthetic Clay Liner (GCL), HDPE liner, geocomposite drainage net, HDPE liner, geocomposite drainage net, in-cell leachate collection pipe system, and a lining system protective layer.



# ERIC J. GROTKE, P.E., BCEE

## SOLID WASTE/ASSOCIATE

**Project Manager, Central County Transfer Station, Palm Beach County, FL.** Mr. Grotke managed the CDM Smith team members assisting with preliminary and final design of the Central County (Lantana Road) transfer station for the Solid Waste Authority of Palm Beach County (SWA). Working with RCT Engineering, Inc. CDM Smith attended the design preference workshop for the facility and was responsible for HVAC, fire protection, plumbing, and civil/stormwater and grading design activities, along with permitting assistance services associated with state and local requirements. CDM Smith also provided technical review assistance at the 30, 60, and 90 percent design plan development stages for structural, architectural, electrical, and civil disciplines. CDM Smith provided construction services for the project, including shop drawing review, response to contractor questions, and periodic site visits in assistance to RCT. Currently, CDM Smith is assisting with design services for conversion of the previous transfer station to a recyclable processing facility. CDM Smith is also performing quarterly construction audits for the project.

**Officer-in-Charge, Oslo Convenience Center Improvements, Indian River County, FL.** Mr. Grotke is currently officer-in-charge for various services for the Indian River County Solid Waste Disposal District, including annual financial assurance services and design, permitting, and construction of the new Oslo Convenience Center facility.

**Officer-in-Charge, Routine Permit Compliance, Martin County, FL.** Mr. Grotke has served as officer-in-charge for annual permit compliance activities, including landfill gas system balancing, testing, and reporting; financial assurance; and groundwater monitoring reports. In addition, he has been involved with the development of cost estimates for a recyclable processing facility at the Palm City II site and the development of the Request for Proposal (RFP) documents to solicit for beneficial utilization of the site's landfill gas.

**Officer -in-Charge, Design/Permitting/Shop Drawing Review, Landfill Maintenance, and Administration Building Construction, St. Lucie County, FL.** Mr. Grotke was also part of the design, permitting, and shop drawing review during construction of leachate storage impoundments and a new landfill maintenance and administration building at the St. Lucie County landfill. He was involved in the landfill gas emissions study, which determined existing and future test gas production at the site as required by the U.S. EPA. He completed design of an on-site leachate pump station and on-site force main. His work also included developing design plans and specifications for landfill liners and leachate collection, stormwater management systems, leachate production estimates, landfill gas collection, and permit application preparation. Recent experience includes the addition of a landfill gas compression system for beneficial use at an adjacent citrus processing facility. This project received the Grand Award from FICE for Engineering Excellence in 2006.

**Project Manager, Baling and Recycling Facility, Design, Permitting, Bidding, and Construction Services for the Class I Landfill, Phase IIIA, St. Lucie County, FL.** Mr. Grotke managed a team that provided design, permitting, bidding, services during construction, and startup assistance for a baling and recycling facility in St. Lucie County. The facility, which was intended to help extend the life of the landfill, was the first of its kind in the State of Florida and incorporates enhanced recycling program elements. The facility is also designed to serve as a transfer station in the future, once the existing site reaches build out capacity. The project received the Honorable Mention Award from the FICE for Engineering Excellence in 2002.

**Design/Permitting Team, Expansion of Class I and III Landfills, North County Resource Recovery Facility, Solid Waste Authority of Palm Beach County, FL.** Mr. Grotke was a member of the design/permitting team for the expansion of Class I and III landfills at the Solid Waste Authority of Palm Beach County's North County Resource Recovery Facility (NCRRF). He was involved with the design, permitting, bidding, and construction of the Class I landfill expansion, Cell Nos. 6, 7, and 8, at the Site 7 facility. He was also involved in the design, permitting, bidding, and construction of a new leachate submersible pump station at the Dyer Landfill and the renovation of existing leachate pump stations at the NCRRF. He has performed detailed cost estimates for utility relocation and landfill expansion for the landfill site. Mr. Grotke was also involved in the mechanical integrity testing of the landfill's two leachate deep injection wells and a landfill gas emissions study for the site. He also performed design and permitting of the Class I and III landfill gas collection/transmission system.

# NICK CHARNAS III, P.E.

STORMWATER/WATER RESOURCES ENGINEER

Education: *B.S. – Civil Engineering, B.S. – Land Surveying Engineering;*

Registration: *P.E. – FL # 69136 (2009), IN – Surveyor-in-Training*



Mr. Charnas, an experienced project manager, is qualified in the evaluation, design, permitting, and construction management of projects related to water resources and utilities. Mr. Charnas also has experience in surface water modeling, alternatives analyses, construction cost estimating, and civil site design; has led permitting activities for several projects; and has extensive knowledge in stormwater permitting requirements of multiple regulatory agencies in central and south Florida.

**Project Manager, Florida Keys Reasonable Assurance Document Update, Florida Department of Environmental Protection, Florida Keys, Florida.** Mr. Charnas provided reporting on the Florida Keys Reasonable Assurance Documentation (FKRAD) Update. The original FKRAD was approved by the FDEP for Nutrients in 2008. The update was created for two major reasons to provide the status of the management activities defined in the original RAD and to address dissolved oxygen (DO) impairments for some segments (WBIDs). The FKRAD update was designed to provide reasonable assurance that the nutrient-related restoration goals would be achieved by ensuring that all of the plan's management activities would be implemented by 2015 and to support placement of the DO impaired segments in category 4e (i.e., impaired but recently completed or ongoing management activities are underway to restore the waterbody). The FKRAD update was accepted by the FDEP in February 2012.

**Project Manager, Pinellas Park Water Management District (PPWMD) Projects, Pinellas Park, FL.** The PPWMD is a Special District that is tasked with managing the primary stormwater drainage system for a portion of central Pinellas County. Mr. Charnas reports to the executive director of the PPWMD and is responsible for long-range capital planning, project management, and review of stormwater projects within the PPWMD. Notable projects that are completed or underway include the Long-Range Facilities Plan (LRFP), Channel 4 and 4E Improvements and Channel 4A, Phase III. The LRFP was finalized in November 2010 and includes valuation and evaluation of the PPWMD's assets. This project also provides prioritization and future planning for repair and replacement of PPWMD channels. The Channel 4 and 4E Improvements project, which is in the final stages of design and permitting, includes drainage improvements in the main reach and tributary of Channel 4. The project included modeling approximately 11 square miles to tie into the existing PPWMD Channel 4 and Channel 5 model for demonstration of negligible impact by proposed improvements. Mr. Charnas was instrumental in obtaining Cooperative Funding from the Southwest Florida Water Management District (SWFWMD) for the Channel 4 and 4E project. The Channel 4A, Phase III project was constructed in 2009 and includes concrete lining approximately 300 linear feet of a failed grass-lined reach near the headwater of Channel 4A. Mr. Charnas provided design, technical specification preparation, project management, and resident project representative (RPR) services on the Channel 4A, Phase III project.

**Deputy Project Manager, Homeland Basin Improvements, Pinellas Park, FL.** This project includes the design, permitting, and limited construction services for improvements to stormwater quality and level of service within the Homeland Basin. Project funding is shared between the City of Pinellas Park and the Southwest Florida Water Management District (SWFWMD). The project interfaces with a proposed lead remediation and wetland restoration project called Sawgrass Lake Restoration Project. Mr. Charnas served as project manager and worked closely with the City, the SWFWMD, a consultant team for the SWFWMD, the Florida Department of Transportation, Pinellas County, local utilities, land surveyors, geotechnical engineers, and the CDM Smith design team to develop scope, schedule, and budget, and to coordinate design for the project. Design and permitting for the project is complete, and the City is placing the project out for bids to construct.

**Project Manager, Caloosahatchee River Estuary TMDL and BMAP, Florida Department of Environmental Protection, Florida.** To assist the project team during the TMDL development, Mr. Charnas attended monthly stakeholder meetings to note salient discussion points and distributed information to stakeholders. The project is currently in the BMAP phase. Mr. Charnas is currently working on the BMAP report for the Department.

**Project Engineer, Stormwater Master Plan, Fort Myers Beach, FL.** CDM Smith was retained by the Town of Fort Myers Beach to examine existing stormwater infrastructure and conditions. Mr. Charnas collected and evaluated existing reports, including the Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS), Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System (NPDES) permit, related Total Maximum Daily Load



# NICK CHARNAS III, P.E.

## STORMWATER/WATER RESOURCES ENGINEER

(TMDL) documents, and other documentation. Mr. Charnas was part of a team of stormwater engineers involved in developing an alternatives analysis for the client.

**Project Analyst, South Walton Utility Company Stormwater Model, Walton County, FL.** For modeling the discharge of treated effluent (reuse water) to wetlands and stormwater ponds, Mr. Charnas assisted in permit research and design of a stormwater model to understand the impact that the reuse water discharge flows had on wetland and locally connected stormwater ponds. He authored a technical memorandum to the client presenting his understanding of the project, findings, and recommendations. Additionally, he assisted in permitting through the Florida Department of Transportation for a Right-of-Way Utilization permit.

**Project Analyst, Lake Concord Stormwater Park, Casselberry, FL.** This award-winning project included design and permitting of a stormwater park (Anniversary Park) for the City of Casselberry that connected to Lake Concord. To obtain a modification to an existing Environmental Resource Permit (ERP), apply for an Individual ERP, and obtain a Nationwide Permit, Mr. Charnas employed electronic permitting (e Permitting) through the St. Johns River Water Management District (SJRWMD) to expedite review and response time. Mr. Charnas was involved in all aspects of the permit application, stormwater calculations, and construction documents. Additionally, he assisted with integration of new-technology best management practices (BMPs).

**Project Engineer, Stormwater Improvements for Metro Water Services (FY 2010), Nashville, TN.** For the Metropolitan Government of Nashville and Davidson County, Stormwater Department, Mr. Charnas served as a project engineer for the design of 40 small stormwater projects to address drainage concerns. The scope of work included site investigations, surveying, preparation of easements, modeling, and design. The projects were completed on an accelerated schedule of approximately five weeks in order to meet the client's schedule to have these projects under construction by the beginning of fiscal year 2010.

**Project Engineer, Vulcan Materials at Port Manatee, Bradenton, FL.** Mr. Charnas was initially tasked by the client with determining the correct Standard Industrial Classification code, researching the monitoring requirements, and preparing and certifying a Stormwater Pollution Prevention Plan for the site. Mr. Charnas was able to simplify the scope and save the client time and money by recommending that the client file a "No Exposure Certification" with the Florida Department of Environmental Protection (FDEP).

**Project Analyst, Tampa Bay Water Reservoir Booster Pump Station, Hillsborough County, FL.** Under the direction of the project manager, Mr. Charnas performed a stormwater analysis on a dry pond for the site. Subsequently, he provided a technical memorandum with supporting documentation for permit application submittal to the FDEP and Hillsborough County Planning and Growth Management (PGM).

**Project Analyst, Big Bend Master Pump Station, Hillsborough County, FL.** This project included construction of a new master pump station at an existing public works site. Mr. Charnas designed and permitted associated paving, grading, and drainage through the Southwest Florida Water Management District (SWFWMD) and Hillsborough County Planning and Growth Management. He optimized the stormwater design due to site property restrictions. Additionally, he provided design input on the driveway connection to the existing roadway to satisfy Hillsborough County requirements. The project is currently under construction.

**Project Engineer, Reverse Osmosis Plant #1 Expansion, Clearwater, FL.** This project is currently under preliminary design and includes final design, bidding, permitting, and construction services for the expansion of the City of Clearwater's Reverse Osmosis Plant #1 a 1.0 mgd in membrane capacity with an overall increase of 1.5 mgd of finished water capacity and an increase of one million gallons of finished water storage. Additionally, the project involves routing analysis and construction of a concentrate disposal pipeline from the plant to a future injection well. Mr. Charnas is responsible for on-site design and permitting of proposed improvements. To date, Mr. Charnas has conducted pre-application meetings with regulatory agencies and the City to discuss permitting approaches. Design and permitting by Mr. Charnas are forthcoming.

# ANA C. VALENCA DE MELO, P.E., D.WRE

STORMWATER/SENIOR ENVIRONMENTAL ENGINEER

Education: *M.S. – Civil and Environmental Engineering;*

Registration: *P.E. – FL # 57420 (2001)*



Ms. DeMelo is a civil and water resources engineer with more than 20 years of experience in water resources, solid waste, and project management. Her experience and background include stormwater management master planning; stormwater drainage design; commercial, industrial, and residential site plan development; environmental resource permitting; construction administration and design-build projects; landfill planning and design; and solid waste transfer stations. Additional experience includes hydrologic/hydraulic computer modeling and analysis; watershed water quantity and quality analysis; surface water sampling; and laboratorial analysis for watershed pollutant sources identification and retrofit.

**Project Manager, Village of Royal Palm Beach Stormwater Utility Development and Implementation Plan, Palm Beach County, FL.** Ms. DeMelo is responsible for managing the development of a stormwater utility and an implementation plan. The stormwater utility plan provides the necessary funding mechanism for billing the costs for operating and maintaining the Village's stormwater management system to maintain adequate levels-of-service for the Village's stormwater management program.

**Project Manager, City of Lake Worth Stormwater Master Plan, Palm Beach County, FL.** Ms. DeMelo is responsible for managing a team of engineers and scientists in developing a city-wide Stormwater Master Plan, including performing stormwater infrastructure inventory, drainage investigation, hydrologic and hydraulic modeling, estimate of pollutant mass loading, drainage retrofit alternatives and cost estimates for capital projects to be included in the stormwater management program.

**Project Manager, City of Lake Worth Stormwater Utility Methodology Update, Palm Beach County, FL.** Ms. DeMelo is managing the project team responsible for re-evaluating the existing stormwater utility for the City of Lake Worth and developing a stormwater stakeholder involvement plan to provide recommendations to the City Commissioners to develop appropriate modifications to the billing system.

**Project Manager, South Florida Water Management District Lakeside Ranch Stormwater Treatment Area, Okeechobee, FL.** Ms. DeMelo is responsible for managing the engineering during construction contract for a 2,400-acre stormwater treatment impoundment project. The project includes over 21 miles of earthen embankments and levees, multiple remotely operated hydraulic control structures, and extensive seepage management systems. Construction challenges included seepage control, slope stability reinforcement, levee compaction, and extensive canal dredging.

**Project Manager and Construction Manager, Drainage Retrofit Projects, Sebastian, FL.** Ms. DeMelo was the project manager responsible for implementing three projects identified in the recommendations of the stormwater master plan. The drainage retrofit and rehabilitation projects encompass design alternatives analysis, selection of final design, permitting, preparation of construction drawings, technical specifications, and providing bidding services construction administration services.

**Project Engineer, Recreational Pavilion and Stormwater Pond, Boynton Beach, FL.** Ms. DeMelo was part of the engineering team that transformed a vacant lot adjoining protected wetlands along the intercoastal waterway into a recreational area with a dual, yet primary, purpose as a stormwater pond. CDM Smith worked closely with the City and collectively saw an opportunity to blend the necessary engineering solutions with design features that would enhance the property, which falls within the boundaries of a City master plan to redevelop the area and to revive nearby businesses.

**Project Manager and Construction Manager, Drainage Retrofit Projects, Boynton Beach, FL.** Ms. DeMelo was responsible for design, bidding, and construction administration for several drainage and neighborhood improvement projects, including stormwater management systems, water and sewer main replacement, and roadway construction projects.

**Project Manager, Lemkin Creek Urban Stormwater Storage & Treatment Facility, Okeechobee, FL.** Ms. DeMelo was responsible for managing a multi-disciplined team of engineers consisting of CDM Smith technical experts and subconsultant



# ANA C. VALENCA DeMELO, P.E., D.WRE

## STORMWATER/SENIOR ENVIRONMENTAL ENGINEER

design professionals. The disciplines involved included hydraulic, hydrologic, water quality and system operation modeling, geotechnical, hydrogeologic and subsurface investigations, structural engineering, and construction cost estimates. The preliminary design consists of two reservoirs combined at approximately 550 ac-ft of stormwater storage, a 250-cfs pump station, and control structures.

**Project Manager, SFWMD Estero Bay and Caloosahatchee River Watershed Nutrient Load Assessment, West Florida Counties, Florida.** Ms. DeMelo was responsible for managing the water quality computer simulation efforts for identifying areas of high nutrient loading, evaluating alternative scenarios and Best Management Practices for current and future land uses, and reporting to the SFWMD.

**Project Manager, Stormwater Utility and Billing Methodology Study, West Palm Beach, FL.** Ms. DeMelo managed the project team responsible for re-evaluating the existing stormwater utility for the City of West Palm Beach and developing a stormwater stakeholder involvement plan to provide recommendations to the City Commissioners to develop appropriate modifications to the billing system.

**Project Manager, Water Catchment Area Hydrologic and Hydraulic Modeling, West Palm Beach, FL.** Ms. DeMelo was responsible for managing the Water Catchment Area modeling efforts. The computer model was designed to simulate different hydrologic conditions and to identify and recommend flow improvements to the downstream system that meets City and South Florida Water Management District (SFWMD) goals.

**Project Manager, Stormwater Master Plan, Flagler Beach, FL.** As project manager, Ms. DeMelo was responsible for developing a city-wide stormwater master plan, including performing stormwater infrastructure inventory, drainage investigation, estimate of pollutant mass loading, drainage retrofit design, construction funding alternatives, and preparation of the stormwater master plan for adoption by the City Commissioners.

**Project Manager, NPDES MS4 Annual Report, Bonita Springs, FL.** Ms. DeMelo served as the project manager responsible for preparing the NPDES MS4 Year 4 Annual Report and Application.

**Task Manager, City of Lake Worth Park of Commerce Infrastructure Needs Assessment and Preliminary Engineering Study, Palm Beach County, FL.** Ms. DeMelo is responsible for managing specific components of the project that include stormwater management, roadway, drainage, and neighborhood improvement tasks and participating in public meeting presentations for components related to these tasks in support to the overall infrastructure project.

**Project Manager, Stormwater Retrofit Projects, Live Oak, FL.** Ms. DeMelo was the project manager responsible for implementing stormwater retrofit projects as previously identified in the stormwater master plan. It included final design, permitting, and construction administration.

**Project Manager, Stormwater Master Plan, Live Oak, FL.** Ms. DeMelo was the project manager responsible for performing comprehensive drainage investigation, stormwater modeling, FDOT drainage well analysis, watershed drainage alternative and retrofit analysis, engineering conceptual design for selected capital improvement projects (CIP), and final report writing.

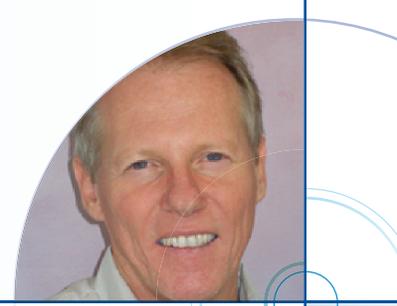
**Project Manager, 100-year Floodplain Analysis, Live Oak, FL.** Ms. DeMelo was the project manager responsible for hydrologic and hydraulic modeling to determine the 100-year floodplain zones for the City of Live Oak and neighboring counties under the Suwannee River Water Management District (SRWMD) areas and submitting to FEMA for a Letter of Map Revision.

**Project Manager, Stormwater Master Plan, Fernandina Beach, FL.** Ms. DeMelo worked as the project manager responsible for watershed pollutant loading estimate and data analysis based upon island-wide land uses, development of a stormwater infrastructure inventory, identifying criteria for the establishment of level of service (LOS) for the City's infrastructure, performing drainage retrofit alternative analysis, and the final stormwater master plan report.

# PAUL A. LEFAVE, P.E., CEM

ELECTRICAL/PRINCIPAL

Education: *B.S. – Electrical Engineering; Registration: P.E. – FL # 48907 (1995)*



Mr. Lefave is a senior electrical engineer and project manager qualified in the design of environmental facilities. He provides preliminary and detailed design services for electrical power, lighting, and control systems associated with pump stations, water treatment plants (WTPs), wastewater treatment plants (WWTPs), and other related environmental facilities. His capabilities include power distribution system planning, load flow and coordination studies, the development of conceptual designs, preparation of preliminary design reports, preparation of construction plans and specifications, project cost estimating, production supervision and coordination of project requirements with other engineering disciplines, and computer-aided design analysis.

**Electrical Design Engineer, Town of Belleair Wastewater System Acquisition, Pinellas County, FL.** Mr. Lefave served as the electrical design engineer to assist Pinellas County in acquiring the Town of Belleair's wastewater system. The electrical design included a 480-volt power distribution for the pump station, backup generator, and electrical power coordination with process mechanical and building mechanical/HVAC systems. The project also included integrated electrical power monitoring and control with a tie to a county-wide supervisory control and data acquisition (SCADA) system.

**Technical Review, Pump Station Rehabilitation, Fort Lauderdale, FL.** This project consisted of the rehabilitation of various wastewater pump stations, including the replacement of existing piping, valves, and ventilation systems; installation of new pumps with variable frequency drives; an above-grade service entrance rated electrical equipment; and bypass pumping during construction. For the design of Pump Stations A, B, and E rehabilitation, Mr. Lefave was tasked with the electrical design, quality management, and review of electrical shop drawings.

**Electrical Design Engineer, Marco Island Reclaimed Water Production Facility, Marco Island, FL.** Mr. Lefave has been the lead electrical engineer for multiple phases of capacity and control system expansion at the City's wastewater treatment facility. This project provides a main electric building for new main and generator paralleling switchgear, new motor control centers (MCCs), and space for future motor control centers when the existing MCCs need replacement. Mechanical improvements include additional equipment at headworks, new influent pump station, new MBR skid and air compressor, new MLE process tank, and a bridge crane. Design challenges include an aggressive schedule, a congested site, and detailed construction phasing in order to keep the plant operational.

**Project Electrical Engineer/Engineer-of-Record, George T. Lohmeyer (GTL) Regional Wastewater Treatment Plant (WWTP), Fort Lauderdale, FL.** Mr. Lefave is the project electrical engineer for the GTL Regional WWTP various improvements. The project electrical design includes replacement of the standby emergency generator, new generator controls, new 5kV-480 volt unit substation transformers, and improvement to the pre-treatment, sludge dewatering, and plant water facilities. Generator modifications include integration into the existing 5kV switchgear.

**Project Electrical Engineer/Engineer-of-Record, Palm Beach County Water Utilities Department, Lake Region Water Treatment Plant, Belle Glade, FL.** Mr. Lefave was the project electrical engineer for the Lake Region membrane softening water treatment plant located in Belle Glade, Florida. The project electrical design included 480-volt distribution and emergency back-up power from diesel engine driven generators. The electrical distribution criteria focused on a cost-effective and efficient use of space, electrical distribution equipment, and back-up power needs. The project also focused on combining the new WTP production capacity with the existing water resources and water distribution needs of several municipalities in the area, including the Towns of Belle Glade, South Bay, and Pahokee.

**Project Electrical Engineer, Engineer-of-Record, Eastern Water Reclamation Facility Phase IV Expansion, Orange County Utilities, Orange County, FL.** Mr. Lefave was the project electrical engineer for the Orange County Utilities Eastern Water Reclamation Facility (EWRF) Phase IV expansion project. The Phase IV project included a complete upgrade of the existing 5kV secondary selective electrical distribution system. The electrical design included conversion to a looped primary and secondary selective secondary for the new and existing equipment. New and existing standby emergency generators were utilized for the



# PAUL A. LEFAVE, P.E., CEM

## ELECTRICAL/PRINCIPAL

upgrades and plant expansion. The project design included a new generator-electrical building and new 5kV primary service from the local power utility.

**Lead Electrical Design Engineer, Arbennie Pritchett Water Reclamation Facility, Okaloosa County, FL.** Mr. Lefave developed the conceptual design for the power distribution on the site. Conceptual planning for the electrical design focused on efficient and cost-effective design considerations due to the need for a fast-track construction. To meet those goals, the electrical design team worked closely with the contractor to develop a practical electrical distribution system that could be procured and constructed in a timely manner. The design included extensive use of 3D CAD techniques to limit conflicts and ensure accurate placement of electrical components.

**Electrical Engineer, Anastasia Island Wastewater Treatment Facility, St. Johns County, FL.** CDM Smith was retained by St. Johns County to perform engineering services related to the preliminary and final design, regulatory permitting, and general services during bidding and construction for the expansion and upgrade of the St. Johns County Utility Department's (SJCUD) Anastasia Island Wastewater Treatment Facility (AIWWTF) to a 5-mgd average-day treatment capacity. Mr. Lefave provided his electrical engineering expertise during the project implementation.

**Electrical Engineer, Wastewater Treatment Plant Expansion, Ormond Beach, FL.** Mr. Lefave provided electrical engineering services for the Ormond Beach Wastewater Treatment Plant Expansion. For this project, CDM Smith was retained by the City of Ormond Beach to provide engineering services to upgrade and expand the City's wastewater treatment plant (WWTP) from an annual average daily flow (AADF) capacity of 6 mgd to 8 mgd.

**Electrical Engineer-of-Record, St. Pete Beach Master Pump Station, St. Pete Beach, FL.** The electrical design for the new wastewater pumping station included provisions for four 125-hp submersible pumps powered and controlled through VFDs. The electrical design also included emergency standby power from an on-site 350-kW diesel engine driven generator. The electrical equipment and generator was designed for installation in a two-story building built to resemble a residential Florida style beach house and blend in with the existing community.

**Electrical Engineer, Process and Energy Productivity Studies for the Southwest Reverse Osmosis Water Treatment Plant and Southwest Water Reclamation Facility, Cape Coral, FL.** CDM Smith performed an energy inventory study of the City's 18-mgd Southwest Reverse Osmosis Water Treatment Plant and 15-mgd Southwest Water Reclamation Facility. We identified value-added energy inventory, non-value added energy inventory, and energy productivity improvement opportunities where the City can become more energy efficient either through the use of a different or improved technology. The process capacity utilized industry-accepted criteria to evaluate both the treatment processes in order to determine a capacity of each unit process. This work was funded through a DOE grant appropriated by the American Recovery and Reinvestment Act of 2009 (ARRA). Work also included a walk-through inspection of the plants.

**Lead Electrical Design Engineer, South Central Hillsborough Intertie Booster Pump Station, Tampa, FL.** Mr. Lefave developed the conceptual design for the power distribution that included 15kV switchgear and 3,000-horsepower (hp) raw water booster pumps. Power to the site was not readily available due to a conflict with a 230kV transmission line. Close coordination with the local power utility (TECO) was needed to route power under and across TECO's existing easements. Analysis of the transmission line sag was also needed to protect construction worker during the construction phase of the project.

**Electrical Engineer, Energy Efficiency and Conservation Block Grant Project Implementation Assistance and Comprehensive Energy Efficiency Strategy, Fort Myers, FL.** Mr. Lefave was the electrical engineer for the City of Fort Myers' energy efficiency and conservation block grant implementation assistance and comprehensive energy efficiency strategy project. The project included an energy audit of ten buildings, one water treatment plant, and two wastewater treatment plants. This project also included a citywide comprehensive energy efficiency strategy master plan to reduce energy usage within City government buildings, utilities, and transportation fleet, as well as plan for improvements across the community.

# CYNTHIA L. STELLMACK, P.E.

ELECTRICAL/SENIOR ELECTRICAL ENGINEER

Education: *B.S. – Electrical Engineering*; Registration: *P.E. – FL # 37972 (1987)*



Ms. Stellmack provides electrical engineering services for environmental facilities. With more than 30 years of industrial electrical engineering experience, Ms. Stellmack is uniquely qualified to assist clients with the design, installation, operation, and maintenance of power systems. Her capabilities include master planning, preliminary design reports, technical reviews, design, construction support, and maintenance training.

Electrical design includes coordination with electric utilities and other engineering disciplines, calculations, and the preparation of design documents, which include drawings, schedules, and specifications. Electrical construction support includes the review of shop drawings, response to contractor's requests for information (RFI), review of contractor change order pricing, periodic engineer's field inspections, and observation reports.

**Electrical Engineer, Town of Belleair Wastewater Pumping Station, Belleair, FL.** Ms. Stellmack provided the electrical design for this new pumping station for Pinellas County, which included three 100-hp submersible pumps in a wet well, an air conditioned electrical building to contain power distribution equipment with 18-pulse VFDs for the pumps, and a 300kW standby diesel generator. Ms. Stellmack also provided the construction electrical support.

**Electrical Engineer, Nanofiltration Water Treatment Plant, Dania Beach, FL.** Ms. Stellmack provided the electrical design and partial construction support for this fast-track design-build project. The plant is constructed on an existing site and includes a lime softening process plant and high service pump station. The design consolidated the two existing 480-volt utility services into a new 2,000-amp, 480-volt service at a new membrane process building. The existing lime process motor control center were replaced along with the existing two diesel generators. One new 750-kW generator serves the entire plant. Electrical construction support was limited to submittal reviews and RFI responses.

**Electrical Design Engineer, South Key Pump Station, Longboat Key, FL.** Ms. Stellmack designed the electrical modifications to the existing pump station, which included a new electrical/generator building to serve three new 100-hp submersible turbine pumps on VFDs and backfeed the existing pump and operations building.

**Electrical Engineer, Off-Stream Reservoir Pump Station, Tampa Bay Water, Lithia, FL.** This project complemented the Tampa Bay Water South Central Hillsborough Intertie (SCHI) Booster Pump Station project and provided a pumping station at a water reservoir with four 400-hp vertical turbine pumps all controlled by VFDs. Ms. Stellmack's electrical design included a new electrical building to house new 480-volt switchgear and VFDs along with tie-in of a small diesel generator to the existing reservoir electrical system. Ms. Stellmack provided the electrical support during construction.

**Electrical Design Engineer, Babcock Ranch Community Water and Wastewater Facilities Project, Charlotte and Lee Counties, FL.** Ninety-one thousand privately owned acres in Southwest Florida will develop into an environmentally sensitive community of approximately 18,000 acres with the remaining land being preserved. This project will develop in phases, the first being the water and wastewater facilities. Ms. Stellmack provided the electrical sections of the preliminary design report and a 100% submittal electrical design. The project was shelved due to economic conditions.

**Electrical Review Engineer, St. Pete Beach Master Pump Station, St. Pete Beach, FL.** This new wastewater pumping station has four 125-hp submersible pumps and a two-story building to contain the power distribution and a 350-kW standby generator. Because this project had the same contractor and construction schedule as the Belleair Pumping Station, Ms. Stellmack provided shop drawing reviews and field inspection to provide a consistent review between the two projects.

**Electrical Engineer, Eastern Water Reclamation Facility, Orange County, FL.** Ms. Stellmack is currently providing the electrical design for this plant expansion. Highlights of the design include a new pretreatment structure, upgrades of biological treatment mixers, additional process blowers, new disk filters and chlorine contact structure, additional pumping for effluent, reuse and reject water, and a new west electric building.



# CYNTHIA L. STELLMACK, P.E.

## ELECTRICAL/SENIOR ELECTRICAL ENGINEER

**Electrical Engineer, South Central Hillsborough Intertie (SCHI) Booster Pump Station, Tampa Bay Water, Riverview, FL.** Ms. Stellmack provided the electrical design associated with a new electrical building, pump building, and ground storage tank. The key electrical design components included new 13.2 kV switchgear and two 4160-volt output VFDs rated for 3,000-hp pumps. Ms. Stellmack provided the electrical support during construction.

**Electrical Design Engineer, Marco Island Water Reclamation Facility, Marco Island, FL.** From 2005 onward, the City of Marco Island has relied upon Ms. Stellmack to provide planning, design, construction support, and advice for their wastewater treatment facility electrical systems. She is currently involved in the Phase IV improvements, which continues the process improvements. Key electrical design challenges included an aggressive schedule, multiple scope changes, and design modifications to Phase III design work, which was under construction. Ms. Stellmack provided the design and is currently providing construction support.

**Electrical Engineer, JEA Buckman Residual Management Facility Anaerobic Digester Improvement Project, Jacksonville, FL.** Ms. Stellmack provided the electrical section of the preliminary design report along with the electrical design for the addition of a new digester, gas storage unit, hot water boiler, and electrical support building. Construction is currently underway, and Ms. Stellmack is providing electrical construction support.

**Electrical Engineer, Mid Key Pump Station, Longboat Key, FL.** Ms. Stellmack designed and provided construction support for the electrical modifications to the existing water pump station, which included a replacement of existing electrical distribution equipment, new 150-kW diesel generator, and two new 100-hp submersible turbine pumps on VFDs.

**Electrical Engineer, Wastewater Treatment Plant Expansion Project, Ormond Beach, FL.** In the preliminary phases of this design, Ms. Stellmack provided a reliability study and energy audit to provide the electrical design direction. Ms. Stellmack provided senior level guidance and overview to a mid-level electrical engineer who was the primary design engineer for this project. This project provides new 480-volt 3,200-amp switchgear, a new outdoor 1500-kW diesel generator, and replaced the majority of existing motor control centers on this site. Ms. Stellmack is continuing her involvement during the construction phase by providing senior oversight and review of key electrical submittals.

**Electrical Engineer, Golden Gate Canal Intake and Transmission Main, Naples, FL.** Ms. Stellmack provided the electrical section of the preliminary design report along with the electrical design for the canal intake pump station. Design included owner purchase specifications for the two 160-hp submersible pumps and associated VFDs. Once construction commences, Ms. Stellmack will provide electrical construction support.

**Electrical Design Engineer, Florida Governmental Utility Authority (FGUA)/Lee County Utilities Waterway Estates Interconnect, North Fort Myers, FL.** Ms. Stellmack provided the electrical design for the two wastewater lift stations associated with this project. Project challenges included multiple stakeholder utilities, changed construction contractual methods, scope changes, budget constraints, and a tight design schedule.

**Electrical Engineer, Northwest Regional Water Reclamation Facility Upgrade from 5 mgd to 10 mgd, Hillsborough County, FL.** This \$50M+ plant expansion included new headworks, replacement of existing motors in the biological process with an upgrade to 200-hp VFD aerators, new clarifiers, new deep bed filters, a change from chlorine to ultraviolet (UV) disinfection, and the addition of three 350-hp reclaimed water pumps at a reclaimed water pumping station adjacent to the main plant. Electrical design highlights include all new 4000A, 480V double-ended switchgear, addition of two 1,500-kW standby generators, new motor control centers, two 225kVA uninterruptible power supply (UPS) systems for UV system power disturbance ride-through, multiple new electrical buildings, and 18-pulse VFDs. Ms. Stellmack provided the electrical engineering services from “cradle to grave” on this project. Ms. Stellmack’s work included the conceptual design report, preliminary design report, contract design documents, shop drawing reviews, RFI responses, change order cost reviews, periodic engineer’s field inspection and observation reports, final punch list, review of contractor’s as-built drawings, and oversight in preparation of the final record drawings. In addition, Ms. Stellmack wrote the electrical portion of the plant operation and maintenance manual, and taught classroom and field instruction of the electrical system for the plant personnel.

# QUANG LE, P.E.

ROADWAY/CIVIL ENGINEER

Education: *B.S. – Civil Engineering*; Registration: *P.E. – FL # 69964 (2009)*



Mr. Le serves as a roadway engineer for CDM Smith in the highway division. He has six years of experience in roadway design, traffic engineering, and roadway drainage design.

**Roadway Designer, Burnt Store Road Segment I and II, Charlotte County Public Works, Charlotte County, FL.** The project included widening and reconstruction of a 7-mile major arterial roadway that is designated as a hurricane evacuation route. Segment I was a 2.4-mile four-lane divided urban section. Segment II was a 4.6-mile divided rural section. For this project, Mr. Le's responsibilities included roadway design, pavement design, signing and pavement markings, and maintenance of traffic.

**Roadway Designer, Honore Avenue, Sarasota County Public Works, Sarasota County, FL.** Mr. Le served as a roadway designer responsible for designing 3.8 miles of a new construction of a four-lane divided major arterial urban roadway.

**Roadway Designer, SR 46/Lake Jesup Bridge Replacement Design-Build, FDOT District 5, Seminole and Volusia Counties, FL.** Mr. Le served as the roadway designer for this \$38M design-build project that was approximately 1.5 miles in length, half of which was a bridge. The project involved the replacement of a 500-foot-long obsolete bridge with a 3,740-foot structure in the environmentally sensitive region where the St. Johns River intersects with Lake Jesup. This project was unique because, in addition to removing the deficient bridge, the existing causeway was removed within the limits of the new bridge. This will remove the pollutant load currently draining from the roadway into the lake and allow better flow between the St. Johns River and Lake Jesup.

**Lead Roadway Designer, SR 500/Indian River Relief Bridges Replacement Project Design-Build, Johnson Brothers. LLC, Florida Department of Transportation District 5, Brevard County, FL.** CDM Smith served as the lead design firm on this \$9.3M design-build project. The project involved the replacement of three low-level "relief" bridges on the SR 500 crossing of the environmentally sensitive Indian River. The three bridges were functionally deficient and required replacement, with the additional requirement of maintaining four lanes of traffic throughout construction on this hurricane evacuation route from the Town of Indian River to the Florida mainland. Mr. Le's responsibilities included roadway and pavement design, temporary traffic control design, and quality control/quality assurance reviews for the project.

**Roadway Engineer, Interstate 4 Improvements for Florida High Speed Rail, Florida Department of Transportation, Florida.** As part of the general engineering consultant team for the Florida Rail Enterprise, CDM Smith designed improvements to a 35-mile section of I-4 in Hillsborough and Polk Counties. The improvements included realignment to flatten horizontal curves, widening, reconstruction, resurfacing, modifications to the CR 557 interchange, replacement of bridges at Williams Road and CR 557, realignment of side streets, relocation of FDOT's fiber optic network, relocation of overhead transmission lines and other utilities, and roadside safety features. As part of the HNTB/CDM Smith team, Mr. Le was involved in I-4 realignments for alternative rail stations in Lakeland, realignments of the 33.1-mile corridor to improve rail alignment and functionality, and realignment of Williams Road. The realignments included horizontal and vertical adjustments, as well as addressing safety and constructability issues.

**Roadway Designer, Kirkuk Ring Road, Segment 2, Iraq.** As a subconsultant to Lamar Dunn and Associates, CDM Smith provided roadway design services for a new bypass in Kirkuk, Iraq, as well as scour analysis for major river crossings, traffic engineering, pavement design, and signing plans. As a roadway designer for a 3-mile section of new construction of a six-lane divided limited access freeway, Mr. Le assisted with roadway geometry design, performed maintenance of traffic, and prepared computation and quantities documentation, cost estimates, pavement design, and interchange design in accordance with AASHTO standards

**Project Designer, SR 15/600 (US 17/92), Florida Department of Transportation District 5, Seminole County, FL.** Mr. Le was responsible for pavement design, cross slope correction, and preparation of computation and quantities documentation and cost estimates. CDM Smith provided design services for the milling and resurfacing and other associated items of 3.0-miles of SR 15 (US 17/92) from MP 10.471 to MP 13.500 in Seminole County. The project involved improvements to SR 15, including



# QUANG LE, P.E.

## ROADWAY/CIVIL ENGINEER

modifying or adding 90 curb cut ramps to comply with Americans with Disabilities Act (ADA) standards. Bike lanes were striped in the resurfaced pavement, and coordination with the City of Sanford was done for lighting in the median. This task work order was part of the Districtwide Miscellaneous Design Contract #85.

**Project Designer, SR 111/McClendon Street Intersection, Florida Department of Transportation District 2, Nassau County, Jacksonville, FL.** Mr. Le served as project designer for this project that involved the analysis and evaluation of alternatives for improvements at the intersection of SR 111 and McClendon Street.

**Project Designer, SR 5 (US 1), Florida Department of Transportation District 5, Florida.** Mr. Le served as project designer for this project that included 6.9 miles of two-lane resurfacing and roadside safety improvements.

**Project Designer, SR 91 (Florida's Turnpike) Milling and Resurfacing, Florida's Turnpike Enterprise, St. Lucie County and Martin County, FL.** Mr. Le served as a project designer. He prepared design documents for the milling and resurfacing, design criteria upgrades, and design variations and exceptions for the Turnpike mainline from MP 138.2 to MP 153.2 in St. Lucie County and from MP 125.4 to MP 138.2 in Martin County.

**Roadway Engineer, SR 429/SR 414 Maitland Boulevard Extension, Contract 201, OOCEA, Orlando, FL.** Mr. Lee assisted the project manager with the design of the SR 429/Connector Road interchange and prepared design documentation.

**Roadway Engineer, SR 408 Improvements Contract 253C, OOCEA, Orlando, FL.** Mr. Le assisted the project manager with the design and preparing computation book and cost estimate.

**Roadway Engineer, Western Beltway Part C, Section 2A, Florida's Turnpike Enterprise, Orange and Osceola County, FL.** Mr. Le assisted the project manager with the design and preparing computation book and cost estimate.

**Roadway Engineer, SR 528 – Beeline Expressway Widening, Florida's Turnpike Enterprise, Florida.** Mr. Le assisted the project manager with the design and preparing computation book and cost estimate.

**Project Roadway Designer, Oak Leaf Lane Drainage Improvements, Kissimmee, FL.** Mr. Le served as project roadway designer responsible for design of proposed roadway profile adjustments, plans production, quantities, and cost estimates. The project involved raising Oak Leaf Lane to mitigate flooding from the adjacent Mill Slough.

**Project Designer, Sand Run Road Drainage Improvements, Kissimmee, FL.** Mr. Le served as the project designer responsible for the plans productions, quantities, and cost estimates. The project involved expanding the existing retention pond to mitigate flooding from adjacent Mill Slough.

**Roadway Engineer, Systemwide Production Management Consultant (SPMC), Orlando-Orange County Expressway Authority (OOCEA), Orlando, FL.** For this project, Mr. Le served as the roadway engineer responsible for performing technical reviews of roadway plans, maintenance of traffic (MOT) plans, computation books, and design documentation for the following projects:

- SR 417 Widening from SR 528 to Curry Ford Road (Contract No. 417-107)
- SR 429/SR 414 Systems Interchange (Contract No. 429-200)
- SR 414 EMS (Contract No. 414-510)
- SR 408/SR 50 Exit Ramp Improvements and SR 408 Realignment (Contract No. 408-113)
- SR 429/SR 414 from CR 437 to US 441 (Contract No. 429-201)
- SR 429 from CR 535 to US 441 (Contract No. 429-709)
- SR 417/Boggy Creek Road Interchange (Contract No. 417-301)
- SR 528 Airport Toll Plaza Improvements (Contract No. 528-405)
- Systemwide Traffic Monitoring Stations (Contract No. 599-511)
- SR 408 Milling and Resurfacing (Contract No. 408-720).

# MICHAEL S. SNYDER, P.E.

ROADWAY/SENIOR TRANSPORTATION ENGINEER

Education: *B.S. – Civil Engineering*; Registration: *P.E. – FL # 72542, SC, NV, UT (1998)*



Mr. Snyder has more than 18 years of experience as a roadway project manager and engineer responsible for various aspects of highway design. In addition to serving on the projects below, he has technical knowledge in roadway geometric design of roadways; drainage – hydraulics/hydrology; and computer hardware/software related to CAD, i.e., MicroStation, GEOPAK, Interplot, and Microsoft Project.

**Project Engineer, Burnt Store Road Segment II, Charlotte County, FL.** As part of the CDM Smith project team, Mr. Snyder was responsible for 30 and 60 percent roadway design and plan preparation for this 4.6-mile four-lane divided suburban roadway. The Burnt Store Road corridor is a hurricane evacuation route that begins at the Charlotte/Lee County line and ends north of US 41 a distance of approximately 8.9 miles.

**Project Manager, Robert Edge Parkway (North Myrtle Beach Connector), North Myrtle Beach, SC.** This project was for a 2.7-mile corridor from US 17/Main Street to SC 90, including an interchange with Carolina Bays Parkway. Mr. Snyder also served as the project design engineer for this four-lane divided facility, including horizontal alignments, profiles, interchange design, and preliminary and final construction cost estimates for the right-of-way and construction portion of this project. The project was open to traffic in September 2009 and won the 2010 ACEC of South Carolina Palmetto Award for Engineering Excellence.

**Roadway Engineer, Central Parkway Crossover, Myrtle Beach, SC.** Mr. Snyder prepared preliminary and right-of-way plans for this 2-mile, four-lane expressway that connects Carolina Bays Parkway to the existing Robert Grissom Parkway at the intersection with US 17 and 48<sup>th</sup> Avenue North in Myrtle Beach. Tasks included alignment and profile design, roadway layout, cross sections, plan production, and preliminary and right-of-way construction cost estimates. These plans included the intersection with US 17 Bypass and a bridge over the Intracoastal Waterway.

**Roadway Engineer, Grissom Parkway, Myrtle Beach, SC.** As part of the CDM Smith design team, Mr. Snyder assisted in the design of this 4.7-mile (4 sections) four-lane divided highway through the City of Myrtle Beach. This included development of conceptual plans through final construction plans, including alignments, profiles, drainage, public hearing maps, and attending public hearings. Responsibilities included plan preparation and layout of sanitary sewer and water lines along the corridor, including identification and resolution of conflicts with existing utilities and existing and proposed drainage. This project also included utility coordination.

**Project Manager and Engineer, Clemson Rail Crossing, Clemson, SC.** This new road will connect US 76 to SC 133 providing a second crossing of the Norfolk Southern Railroad. Mr. Snyder was responsible for the alignments and profiles during the environmental phase of the project. Phase 2 of this project consisted of final construction plans of the chosen alternative. Work included project management and serving as lead engineer for final construction plans, including roadway design, rail detour and final alignment plan and profile, plan production, and preliminary and final construction cost estimates.

**Project Engineer, Carolina Bays Parkway, Myrtle Beach, SC.** Mr. Snyder prepared conceptual, preliminary, and right-of-way plans for this proposed 40-mile, six-lane, \$625M freeway (including crossovers) extending from SC Route 9 on the north to US 17 on the south. Work included assisting with project geometry, interchange layouts, graphically delineating wetlands, preliminary property layouts, preliminary right-of-way requirements, and preliminary cost estimates for 22 miles (of the 40 miles) from SC Route 9 to US 501. Right-of-way plans for this section were prepared on an accelerated schedule of nine months.

**Roadway Project Engineer, US 17/SC 61 Improvements, Charleston County, SC.** As roadway project engineer for this roadway intersection improvement study and design, Mr. Snyder was responsible for conceptual layouts and cost estimates of a new intersection or intersection improvements to be studied for traffic flow improvements, including traditional improvements such as widening and non-traditional improvements like roundabouts. Upon completion of the conceptual improvements, Mr. Snyder will be responsible for developing final design plans for chosen improvements to the project area.



# MICHAEL S. SNYDER, P.E.

## ROADWAY/SENIOR TRANSPORTATION ENGINEER

**Roadway Task Manager, SC 32, Anderson County, SC.** Mr. Snyder served as the roadway manager for this 1-mile project that included approaches to four bridge replacements. He was responsible for managing the roadway design staff and providing quality control/quality assurance on the four separate bridge replacement projects. Work also included assisting design staff with horizontal and vertical geometry, right-of-way, and plan production for the roadway portion of this project.

**Project Engineer, I-73, Various Counties in South Carolina.** Mr. Snyder was responsible for developing centerline geometrics and graphics as part of a feasibility study for a 186-mile roadway corridor extending from the North Carolina line, south of Rockingham, southerly and easterly along US Route 1, SC Route 9, SC Route 38, US Route 501, and US Route 17 to Charleston, South Carolina.

**Roadway Engineer, SC 802, Beaufort County, SC.** Mr. Snyder prepared preliminary right-of-way plans for a facility upgrade. The existing SC 802 is a two-lane roadway from US 21 to Road S-112 (approximately 2.5 miles). The new facility will be a five-lane roadway with bike paths and sidewalks.

**Project Engineer, Mini Market Road, Horry County, SC.** Mr. Snyder was responsible for full design and final construction plans of this two-lane secondary road. The existing facility was a two-lane dirt road. The new roadway will be a two-lane paved road. Design of the construction plans included alignments, profiles, drainage, and final cost estimates.

**Project Engineer, Ogden-WSU Transit Corridors, Ogden, UT.** This project was for an approximately five-mile transit corridor study and environmental document. The project is proposed to link UTA's intermodal hub in Ogden to Weber State University and McKay Dee Hospital with the use of Streetcar or bus rapid transit (BRT). The project involves preliminary design of all alignments for dedicated and mix flow of use for Streetcar and BRT. The design included horizontal and vertical transit alignments and roadway improvements for the new corridor. The study included development of preliminary cost estimates, right-of-way impacts, and extensive public involvement meetings.

**Senior Design Engineer, Mountain View Corridor Transit Project, Salt Lake City, UT.** Mr. Snyder served as the senior design engineer for the civil plans of this 5-mile dedicated guideway BRT design project. Duties for Phase 1 included preliminary design of three park and ride lots and layout and design of six BRT stations (12 platforms). Phase 2 will include final design of the park and ride lots, platforms, and roadway drainage for the new dedicated guideway and areas of roadway improvements.

**Engineering Reviewer, System-wide Production Management Consultant for OOCEA, Orlando, FL.** This project involves reviews of plans, reports, and calculations submitted by OOCEA's design consultants at the preliminary engineering, 30 percent, 60 percent, 90 percent, 100 percent, pre-bid, and bid phases of the project. Mr. Snyder has been involved with reviewing the Roadway, Maintenance of Traffic, and Utility Plans.

**Project Rail Engineer, General Engineering Consultant Services to the Florida Rail Enterprise, Tampa to Lakeland, Florida.** As part of the effort to bring high speed rail to Florida, the HNTB/CDM Smith team provided general engineering consultant (GEC) services to the Florida Rail Enterprise branch of the state Department of Transportation. Services included overall project management; preparation and review of an Environmental Impact Statement; project management and service development planning; public outreach; ridership assessments; preliminary design and plans preparation for the Tampa-Orlando HSR corridor; station site planning; and various other services. Florida's high-speed rail efforts were put on hold in February 2011. Mr. Snyder served as the lead engineer and final designer of the 33.1-mile track alignment and profile from Tampa to Lakeland. He was involved with the development of the design criteria and worked with HSR experts from abroad to correctly implement design criteria. He designed roadway solutions to improve the rail alignments while minimizing roadway impacts.

**Senior Design Engineer, I-15 Core, Utah County, UT.** The Utah DOT has identified 43 miles of I-15 in southern Utah County that must be reconstructed and/or have additional capacity added to meet the significant growth that has occurred in Utah. UDOT anticipates developing and delivering the project in phases using design-build. CDM Smith was selected by HNTB to supply design support services during the first phase of the project. CDM Smith is involved in the design and delivery of Segment 1. The services that CDM Smith is supplying to HNTB include design management, consultation on design elements, and preliminary engineering.

# REVOCATUS C. KANILWA, P.E., PTOE

TRAFFIC/SIGNALS/CIVIL ENGINEER

**Education:** *M.S. – Transportation; B.S. - Civil Engineering;*

**Registration:** *P.E. – FL # 68543, OH (2004); Professional Traffic Operations Engineer*



Mr. Kanilwa began his career as a transportation engineer in his native Tanzania in 1997 and currently serves as the lead traffic engineer in CDM Smith's Miami office. His primary role involves preparing signing and pavement marking plans and signalization plans, and managing traffic studies. His experience also includes roadway design and the design of temporary traffic management plans (TMPs) for construction activities.

**Task Manager, Central Boulevard Signalization Plans, Miami International Airport, Florida.** For this design-build project, CDM Smith is a subconsultant to BCC Engineering and is responsible for the preparation of signalization plans for the installation of new traffic signals at three locations. This project is part of the widening and realignment of Central Boulevard, the main road leading into the Miami International Airport. Other services to date have included post-construction service and shop drawing reviews. Mr. Kanilwa was the lead designer for the signalization efforts.

**Lead Traffic Engineer, Burnt Store Road Engineering Design and CEI Services, Charlotte County, FL.** CDM Smith provided engineering and construction engineering and inspection services for the Burnt Store Road corridor, a hurricane evacuation route. An alternative alignment study was prepared, and CDM Smith was approved to begin the design phase as well. Mr. Kanilwa was the engineer-of-record for the signing and pavement marking and signalization plans. He ensured that the design met the applicable FDOT and county standards, and that the client and stakeholders received timely responses to any questions.

**Lead Traffic Engineer, Winchester Boulevard, Phase 3, Charlotte County, FL.** This project, which had been signed and sealed before Mr. Kanilwa joined CDM Smith, had to be resubmitted due to a client request. He was the engineer-of-record for the updated signing and pavement marking and signalization plans. He ensured that the design met the current applicable FDOT and county standards, and that the client and stakeholders received timely responses to any questions.

**Lead Traffic Engineer, FDOT District 5 (C-8G55) (SR 15 – TWO #4), Seminole County, FL.** Mr. Kanilwa was the engineer-of-record for the signing and pavement marking plans for a portion of SR 15 in Seminole County. The successful design of the project was contributed directly to his familiarity with District 5 guidelines and FDOT design standards.

**Lead Traffic Engineer, Piper Road, Punta Gorda, FL.** Mr. Kanilwa was the engineer-of-record for the signing and pavement marking and signalization plans. He ensured that the design met the applicable FDOT and county standards, and that the client and stakeholders received timely responses to any questions.

**Traffic Engineer, I-75 South Corridor Sketch Interstate Plan (SIP) from SR 951 in Collier County to CR 476 B in Sumter County, Florida.** The purpose of the study was to evaluate operational conditions within the existing right-of-way (ROW) of the I-75 Strategic Intermodal System/Florida Intrastate Highway System (SIS/FIHS) interstate limited access facility for both existing conditions and the future year 2035. Mr. Kanilwa participated in reviewing the existing and projected traffic data and assessed the existing traffic operations through the corridor based on available data and previous studies.

**Traffic Engineer, I-95 Transportation Alternative Study, Florida.** The Department of Transportation was required, as part of recently passed legislation, to conduct a transportation alternatives study of the Interstate 95 (I-95) corridor by June 30, 2010. HB 1021 was signed by the Governor on May 27, 2009, adding Section 26, Chapter 2009-85, Laws of Florida. The purpose of the study was to assess the travel demand and freight moving along the I-95 corridor in the State of Florida against four measures transportation, emergency management, homeland security, and economic development. Additionally, the study identified cost-effective strategies to alleviate congestion, facilitate emergency and security response, and foster economic development in the State of Florida. Mr. Kanilwa was closely involved in researching and drafting the sections on Short Sea Shipping, Parallel Freight Rail Corridor Improvements, and Commuter Service Programs.

**Traffic Engineer, Districtwide Plans Review, FDOT District 6, Florida.** This project involves providing assistance to the district in reviewing plans prepared by outside consultants and also by the district's internal design group. Mr. Kanilwa has been



# REVOCATUS C. KANILWA, P.E., PTOE

## TRAFFIC/SIGNALS/CIVIL ENGINEER

providing reviews in the following disciplines roadway, signing and pavement marking, signalization plans, and safety reports. Responsibilities also include attending review meetings with department staff and the engineer-of-record to review comments and resolve outstanding design issues.

**Plans Reviewer, SPMC-SR 417(SR 528 to Curry Ford), Orlando-Orange County, FL.** As the traffic engineer, Mr. Kanilwa reviewed the signing and pavement marking plans. The successful accomplishment of this review depended greatly on Mr. Kanilwa's familiarity with the Orlando-Orange County Expressway Authority's guidelines.

**Plans Reviewer, SPMC 417-301 (SR 417/Boggy Creek), Orlando-Orange County, FL.** Mr. Kanilwa was responsible for the review of signalization and signing and pavement marking plans at 60% and 90%, as well as PSE submittals prepared by the project consultant.

**Plans Reviewer, SPMC 429-200A (SR 429/CR437A Interchange), Orlando-Orange County, FL.** Mr. Kanilwa was responsible for the review of signalization and signing and pavement marking plans at 60% and 90%, as well as PSE submittals.

**Plans Reviewer, SPMC 408-113 (SR 408/SR 50 Exit Ramp), Orlando-Orange County, FL.** Mr. Kanilwa was responsible for the review of signalization and signing and pavement marking plans at 60% and 90%, as well as PSE submittals.

**Plans Reviewer, FDOT-6 Plans Review TWO-01, Florida.** Project services involve the review of construction plans, permits, traffic studies, scoping reports, and other documents for compliance with FDOT requirements. Other duties include attending joint field reviews and review meetings with the design project manager, consultant design team, and district staff. Mr. Kanilwa regularly reviews roadway plans, signalization plans, maintenance of traffic plans, signing and pavement marking plans, and safety study reports, as well as the resurfacing, restoration, and rehabilitation scoping reports.

**Lead Traffic Engineer, Carbon Emission Reduction Study for Colonial Boulevard, Lee County, FL.** This study was performed to analyze how improvements to the signal systems in the corridor could contribute to the reduction of carbon emissions. Mr. Kanilwa oversaw the analysis effort that was done using SYNCHRO for the existing year (2008), Build, and No-Build Future Years (2010 and 2030).

**Lead Traffic Engineer, Intersection Qualitative Assessment at Several Signalized Intersections, FDOT District 6, Miami, FL.** This project involved the evaluation of existing operational conditions at several signalized on-ramp intersections to I-95 northbound as part of the department's readiness to deploy ramp-metering on I-95. Prior to joining CDM Smith, Mr. Kanilwa served as the lead traffic engineer coordinating the field reviews, data collection and evaluation, and preparing the traffic technical memorandum. A total of eight intersections were evaluated.

**Traffic Engineer, Broad Causeway Toll Plaza, Bay Harbor Islands, FL.** Mr. Kanilwa served as traffic engineer helping the City of Bay Harbor Island to evaluate different alternatives to improve the operation of the toll plaza on Broad Causeway. He conducted the field reviews, coordinated the data collection efforts with a subconsultant, performed analysis of the operating conditions at the toll plaza, evaluated different alternatives for improvements, and prepared the report for the study.

**Project Engineer, Intersection Qualitative Assessment at Several Signalized Intersections, FDOT District 6, Florida.** This project involved the evaluation of existing operational conditions at several signalized on-ramp intersections to I-95 NB as part of the Department's readiness to deploy ramp-metering on I-95. Mr. Kanilwa was the lead traffic engineer coordinating the field reviews, data collection and evaluation, and preparing the Traffic Technical Memorandum. A total of eight intersections were evaluated.

**Project Engineer, Districtwide Miscellaneous Plans Review and Services, FDOT District 6, Florida.** This project involved providing plans review as well as design support to FDOT staff through task work orders. Mr. Kanilwa worked at the district offices providing design support to the District Traffic Design Team. Assignments included preparing signalization plans, as well as signing and pavement marking plans on several projects being done by the FDOT in-house staff for different state roadways in Miami-Dade and Monroe Counties. He also helped with providing responses to design comments in the district's ERC system.

## PAUL Q. SNEAD, P.E.

DRAINAGE/STORMWATER/LEAD SENIOR DRAINAGE ENGINEER

Education: *M.S. – Civil Engineering, B.S. – Environmental Engineering;*

Registration: *P.E. – FL # 56982 (2001)*



Mr. Snead serves as a project manager and the lead senior drainage engineer for CDM Smith. He has 15 years of experience in water resources/stormwater management engineering, including the analysis and design of channel improvements, erosion and sediment control measures, open and closed drainage conveyance systems, hydrologic and hydraulic computer modeling of watersheds, and stormwater permitting. His permitting expertise includes Management and Storage of Surface Water (MSSW), U.S. Army Corps of Engineers (USACE) dredge and fill, and National Pollutant Discharge Elimination System (NPDES) permits. Additionally, Mr. Snead is proficient in river modeling with respect to Federal Emergency Management Agency (FEMA) flood mapping and Certified Letter of Map Revision (CLOMR) studies.

**Project Manager and Engineer-of-Record, Kissimmee Community Development Block Grant (CDBG) Drainage Projects, Kissimmee, FL.** This project was for the design of drainage and roadway improvements for three locations in the City of Kissimmee. Mr. Snead's responsibilities included design of stormwater collection systems, roadway profile adjustments, and permitting with the South Florida Water Management District (SFWMD). Construction plans and bid documents were developed and construction administrative services were provided. The project schedule was so that construction could begin before the grant funding deadline.

**Drainage Engineer-of-Record, Burnt Store Road Alignment Study, Charlotte County, FL.** This project involved developing pond siting alternatives for 15 basins along eight miles of Burnt Store Road from the Lee County line to north of US 41 at North Jones Loop Road. Mr. Snead was responsible for developing the pond siting criteria and determining the minimum pond size requirements for 15 basins along the roadway alignment.

**Lead Drainage Engineer, SR 500/Indian River Relief Bridges Replacement Project Design-Build, Johnson Bros. LLC, Florida Department of Transportation District 5, Brevard County, FL.** CDM Smith served as the lead design firm on this \$9.3M design-build project for FDOT District 5 that involved the replacement of three low-level "relief" bridges on the SR 500 crossing of the environmentally sensitive Indian River. The three bridges were functionally deficient and required replacement, with the additional requirement of maintaining four lanes of traffic throughout construction on this hurricane evacuation route from the Town of Indialantic to the Florida mainland. Mr. Snead was responsible for the stormwater management design and coordination of permitting the project.

**Drainage/Permitting and Scour Analysis Lead Engineer, SR 46 Lake Jesup Bridge Replacement Design-Build Project, Florida Department of Transportation District 5, Seminole and Volusia Counties, FL.** This \$38M design-build project involved the replacement of a 500-foot-long obsolete bridge with a 3,740-foot structure in the environmentally sensitive region where the St. Johns River intersects with Lake Jesup. In addition to removing the deficient bridge, the existing causeway was removed to reduce the pollutant load draining from the roadway into the lake and to allow better flow between the St. Johns River and Lake Jesup.

**Engineer-of-Record for Drainage, Fruitville Road Improvements, Sarasota County, FL.** This 4.5-mile fast-track improvement project included ditch improvements to compensate for floodplain impacts and the design of seven cross drains to prevent future road overtopping and also to meet strict no-impact requirements for the Southwest Florida Water Management District. Extensive basin modeling, including updating existing models, was also required to meet Sarasota County Stormwater permitting requirements. The plans are complete.

**Project Manager and Lead Senior Drainage Engineer, SR 25/500 Drainage Improvements, Florida Department of Transportation District 5, Florida.** This project involved the design and permitting of a new stormwater management pond. Mr. Snead's responsibilities included project management tasks, coordination with the FDOT project manager, and oversight of plans production and electronic deliverables.

**Drainage/Environmental Permitting Task Leader, General Engineering Consultant Services to the Florida Department of Transportation, Florida Rail Enterprise, Orlando to Tampa, Florida.** As part of the effort to bring high-speed rail (HSR) to



# PAUL Q. SNEAD, P.E.

## DRAINAGE/STORMWATER/LEAD SENIOR DRAINAGE ENGINEER

Florida, CDM Smith served on the team providing general engineering consultant (GEC) services to the Florida Rail Enterprise branch of the state DOT. Services included overall project management; preparation and review of an Environmental Impact Statement (EIS); project management and service development planning; public outreach; ridership assessments; preliminary design and plans preparation for the Tampa-Orlando HSR corridor; station site planning; and various other services. Florida's HSR efforts were put on hold in February 2011. Mr. Snead led the drainage and environmental permitting coordination efforts for the overall 85-mile project and was the drainage engineer-of-record for the firm's design of the 35-mile segment from Tampa to Lakeland.

**Project Manager, Highland Ridge Bike Park, North Port, FL.** Mr. Snead provided stormwater management design services for the new Highland Ridge Bike Park. This project was a site civil design project for the City of North Port, which included layout and design of a new 2.5-acre BMX bike park facility on an existing eight-acre park owned by the City. The stormwater management design included a dry retention pond with sidedrain filters, which were permitted through the Southwest Florida Water Management District.

**Project Manager and Lead Senior Drainage Engineer, SR 25/500 Drainage Improvements, Florida Department of Transportation District 5, Florida.** This project involved the design and permitting of a new stormwater management pond. Mr. Snead's responsibilities included project management tasks, coordination with the FDOT project manager, and oversight of plans production and electronic deliverables.

**Drainage Engineer of Record, Taft-Vineland Culverts, Orange County, FL.** This project was for the design of the minimum culvert cross sectional area requirements for a proposed crossing over the C-11 Canal located within the Valencia Community Water Control District (VCWCD). Design tasks included updating the existing AdICPR regional basin model for analyzing resulting flood stages for the proposed structures. Results were coordinated with VCECD in developing the minimum cross sectional requirements for the proposed structures.

**Senior Drainage Engineer, Systemwide Production Management Consultant, Orlando-Orange County Expressway Authority (OOCEA), Orlando, FL.** This contract involves coordinating and conducting reviews of plans, reports, and calculations submitted by OOCEA's design consultant at the preliminary engineering, 30 percent, 60 percent, 90 percent, 100 percent, pre-bid, and bid phases of the project. Mr. Snead is responsible for reviewing plans related to drainage systems and stormwater ponds.

**Project Manager, South Entrance Road, Flagler County Airport, Palm Coast, FL.** Mr. Snead was responsible for development of construction plans for a two-lane roadway to provide access from Belle Terre Boulevard to Phase B of the proposed Flagler Airpark. Mr. Snead has overseen the roadway, traffic, and utilities aspects of the project and is intimately involved with the drainage design, which includes updating the existing airport AdICPR basin model, design of ditches, wet retention ponds and on-site mitigation for wetland impacts. HEC-RAS was also used to develop back water profiles for analyzing the proposed crossing over the Iroquois Canal. Coordinated directly with Dr. Chou Fang (SJRWMD – Palatka) on this project and has represented Flagler County in coordination on sensitive issues with adjacent property owners.

**Lead Drainage Engineer, Vero Beach Municipal Airport, Rehabilitation of Runway 11L-29R, Vero Beach, FL.** CDM Smith was responsible for a runway rehabilitation design, taxiway modifications, safety area stabilization, and associated work. Mr. Snead managed the drainage design and permitting. His innovative stormwater management approach helped eliminate the need for ponds on the airport premises.

**Drainage Engineer, Statewide Airport Stormwater Study, Florida Department of Transportation, Tallahassee, FL.** Mr. Snead provided oversight for the firm's involvement in providing XP-SWMM modeling for implementation of best management practices for providing water quality treatment for Florida airport airside developments. The study was based on water quality data obtained at a number of Florida airports. The firm assisted with development of a continuous simulation model of the hydrological, hydraulic, and water quality parameters using the XP-SWMM software. This study also involved coordination with the state water management districts and the Florida Department of Environmental Protection in assessing new water quality treatment standards for airport airside developments.

# NICK A. BENEDICO, P.E., PMP, AICP

TRANSPORTATION QA/QC/VICE PRESIDENT

**Education:** *MBA – Business Administration, B.S. – Civil Engineering;*

**Registration:** *P.E. – FL # 48110 (1994), Project Management Professional (2007), American Institute of Certified Planners (2001)*



Mr. Benedico joined CDM Smith in 2006 as Florida Director of Transportation Design. He now serves as a technical services manager and a vice president for CDM Smith. His experience includes program management, project management, limited access expressway design, open-road tolling design, interchange design, and complex roadway design. He has managed or designed more than 38 miles of expressways, including 14 interchanges and 20 toll plazas. He has also performed the preliminary engineering on project development and environment (PD&E) studies, and managed PD&E projects. Mr. Benedico serves as the CDM Smith Florida director of transportation design. He has more than 22 years of extensive transportation engineering experience, including serving in senior management positions on roadway/expressway projects for clients such as Florida's Turnpike Enterprise, the Orlando-Orange County Expressway Authority (OOCEA), and Districts 1 and 5 of the Florida Department of Transportation (FDOT).

**Lead Roadway Designer, SR 500/Indian River Relief Bridges Replacement Project Design-Build, Johnson Bros. LLC, FDOT District 5, Brevard County, FL.** CDM Smith was the lead design firm on this \$9.3M design-build project. The project involved the replacement of three low-level "relief" bridges on the SR 500 crossing of the environmentally sensitive Indian River. The three bridges were functionally deficient and required replacement, with the additional requirement of maintaining four lanes of traffic throughout construction on this hurricane evacuation route from the Town of Indialantic to the Florida mainland. Mr. Benedico was the lead roadway designer on the project and also provided quality control/quality assurance reviews of the project.

**Project Manager, Honore Avenue/Pinebrook Road Extension, Sarasota County, FL.** Mr. Benedico was project manager for the design of a new, 3.7-mile, four-lane, urban arterial to extend Honore Avenue from Laurel Road to SR 681. It included four bridges over existing creeks, a multi-use path, and a new intersection at SR 681. A unique aspect of the project was utilizing the existing southbound lanes of Interstate 75, which the FDOT was relocating to the I-75 median, as the northbound lanes for Honore Avenue. The existing I 75 bridges over Salt Creek and Cow Pen Slough were also salvaged. Since the entire project was not funded, an interim, two-lane, suburban design was developed.

**Project Manager (Post-Design), Burnt Store Road Improvements, Charlotte County, FL.** CDM Smith is providing construction phase services for a 2.5-mile segment being widened from a two-lane rural to a four-lane urban section of this critical hurricane evacuation route. CDM Smith performed a corridor study for an 8.5-mile section of Burnt Store Road, as well as final design for this shorter segment. Mr. Benedico is currently serving as project manager during the post-design phase. He is the point of contact for the design team and coordinates any requests and responses to Charlotte County regarding construction questions or issues.

**Quality Control/Quality Assurance Manager, SR 46/Lake Jesup Bridge Replacement Design-Build, FDOT District 5, Seminole and Volusia Counties, FL.** Mr. Benedico was the quality control/quality assurance manager for the roadway and maintenance of traffic (MOT) plans on this \$38M design-build project. This project included realignment of the roadway intersections at Old Geneva Road and Osceola Road and incidental roadway construction. The project also involved the replacement of a 500-foot-long obsolete bridge with a 3,740-foot structure in the environmentally sensitive region where the St. Johns River intersects with Lake Jesup. In addition to removing the deficient bridge, the existing causeway was also removed to increase the flow of water between the river and Lake Jesup.

**Project Manager, SR 15, FDOT District 5, Seminole County, FL.** CDM Smith provided design services for the milling and resurfacing and other associated items of 3.0 miles of SR 15 (US-17/92) from MP 10.471 to MP 13.500 in Seminole County. The project involved improvements to SR 15, including modifying or adding 90 curb cut ramps to comply with Americans with Disabilities Act (ADA) standards. Bike lanes were striped in the resurfaced pavement and coordination with the City of Sanford was done for lighting in the median. This task work order was part of the Districtwide Miscellaneous Design Contract #85.



# NICK A. BENEDICO, P.E., PMP, AICP

## TRANSPORTATION QA/QC/VICE PRESIDENT

**Project Manager, SR 408 Widening from Hiwassee Road to Tampa Avenue, OOCEA, Orange County, FL.** Mr. Benedico served as project manager and oversaw all elements of this project. He managed the schedule and budget and coordinated with all team members. This project involved the widening of a four-lane divided, limited-access toll road to six lanes by widening to the median. Work included demolition of the existing barrier toll plaza west of Tampa Avenue and construction of a new express toll plaza east of Pine Hills Road. Modifications were designed to the interchanges at Pine Hills Road, Old Winter Garden Road, and SR 423/John Young Parkway.

**Project Manager, I-4 Improvements for Florida High Speed Rail, Hillsborough and Polk Counties, FL.** As part of the general engineering consultant team for the Florida Rail Enterprise, Mr. Benedico oversaw the designed improvements to a 35-mile section of I-4 in Hillsborough and Polk Counties. The improvements included realignment to flatten horizontal curves, widening, reconstruction, resurfacing, modifications to the CR 557 interchange, replacement of bridges at Williams Road and CR 557, realignment of side streets, relocation of FDOT's fiber optic network, relocation of overhead transmission lines and other utilities, and roadside safety features.

**Project Manager, Systemwide Production Management Consultant for Orlando Orange County Expressway Authority (OOCEA), Orlando, FL.** Mr. Benedico is the project manager for this contract, which involves coordinating and conducting reviews of plans, reports, and calculations submitted by OOCEA's design consultant at the preliminary engineering; 30, 60, 90, and 100 percent; pre-bid; and bid phases of the project.

**Project Manager, General Engineering Consultant Services to the Florida Rail Enterprise, FDOT, Florida.** As part of the effort to bring high speed rail (HSR) to Florida, the HNTB/CDM Smith team provided general engineering consultant (GEC) services to the Florida Rail Enterprise branch of the state DOT. Services included overall project management; preparation and review of an Environmental Impact Statement; project management and service development planning; public outreach; ridership assessments; preliminary design and plans preparation for the Tampa-Orlando HSR corridor; station site planning; and various other services. Florida's HSR efforts were put on hold in February 2011. Mr. Benedico served as CDM Smith's project manager, overseeing all elements of the project, including railroad geometry, station layout, roadway improvements, utility coordination, environmental studies, economic analysis, and preparation of the procurement documents. He managed more than 200 staff members from 15 CDM Smith offices to apply rail criteria within severe constraints and prepare preliminary engineering plans within nine months.

**Senior Project Manager, General Engineering Consultant for Florida's Turnpike Enterprise, Florida.** Prior to joining CDM Smith, Mr. Benedico served as a senior project manager for the Turnpike's GEC and was responsible for managing the work of the Turnpike's design consultants on the following projects:

- **Okeechobee Toll Plaza and NW 74<sup>th</sup> Street Interchange Along the Homestead Extension of Florida's Turnpike (HEFT), Miami-Dade County, FL** – This project involved the conversion of the existing Okeechobee Mainline Toll Plaza to an express toll plaza and the addition of an interchange at NW 74<sup>th</sup> Street.
- **NW 74<sup>th</sup> Street Interchange with Homestead Extension of Florida's Turnpike (HEFT), Miami-Dade County, FL** – The addition of a new trumpet interchange at NW 74<sup>th</sup> Street.
- **Sawgrass Expressway Widening Design-Build, Broward County, FL** – Widening of the Sawgrass Expressway from four to six lanes from Atlantic Boulevard to Coral Ridge Drive.
- **Sawgrass Expressway Widening Design-Build, Broward County, FL** – Widening of the Sawgrass Expressway from four to six lanes from Coral Ridge Drive to the Turnpike.
- **Sawgrass Expressway Sunrise Toll Plaza Conversion Design-Build, Broward County, FL** – Conversion of the existing Sunrise Mainline Toll Plaza to an express toll plaza.
- **Sawgrass Expressway Deerfield Toll Plaza Conversion Design-Build, Broward County, FL** – Conversion of the existing Deerfield Mainline Toll Plaza to an express toll plaza.



# Section 3 – Past Work Experience

# Section 3 – Past Work Experience



Serving as an on-call consultant requires the successful integration of many technical competencies and disciplines, including planning, designing, permitting, building, and operating a variety of systems. Our experience is distinguished by our proven ability to address technical issues within the context of a community’s unique character and environmental, economic, and institutional framework. We have held continuing services contracts with multiple municipalities throughout Florida (including the City of Key West and the Florida Keys Aqueduct Authority) and have maintained several hundred different continuing services contracts with 130 government entities throughout Florida over the last five years. **Table 3-1** highlights our relevant continuing contract experience, and descriptions of our recent, similar contracts are included in the following pages. For ease of reference, we have included graphic icons to denote which service area(s) our project descriptions highlight. A legend of these icons is provided below.

## LEGEND



**TABLE 3-1: REPRESENTATIVE LIST OF CONTINUING SERVICES CONTRACTS PERFORMED BY CDM SMITH IN FLORIDA IN THE LAST FIVE YEARS**

CLIENT NAME	TYPE OF SERVICE	DATES
Altamonte Springs, City of	Civil & Stormwater/Potable, Waste & Reclaimed Waters Engineering Services	2011-Ongoing
Bay County	Wastewater, Water, and Solid Waste	2010-Ongoing
Boca Raton, City of	Water General Consultant	1976-Ongoing
Boca Raton, City of	Water, Wastewater, and Reclaimed Water Facilities and Infrastructure Improvements	2010-Ongoing
Boynton Beach, City of	General Engineering Services	2005-Ongoing
Brevard County	Water and Wastewater/Underground Injection Control	2006-2009
Brevard County	Civil Engineering (Stormwater) Continuing Services	2008-2013
Brevard County	Continuing Engineering Services – Solid Waste	2012-2015
Broward County	Engineering Library Contract	2007-2010
Broward County	Water/Wastewater Engineering Services	2001-Ongoing
Callaway, City of	Civil & Environmental Engineering	2002-2008
Callaway, City of	Water, Wastewater, & Stormwater	2001-Ongoing
Cape Coral, City of	Miscellaneous Professional Services	2005-2006, 2010-Ongoing
Carrabelle, City of	Engineering Services	2010-Ongoing
Charlotte County	Department of Environmental and Extension Services – Solid Waste	2008-Ongoing
Citrus County	Professional Services	2010-Ongoing
Clay County	Stormwater Engineering Services	2006-Ongoing
Cocoa, City of	Consulting Services for Wastewater and Disposal Systems	2008-Ongoing
Coconut Creek, City of	General Professional Engineering Services	2011-Ongoing
Collier County	Transit Consulting Services	2009-2013

**TABLE 3-1: REPRESENTATIVE LIST OF CONTINUING SERVICES CONTRACTS PERFORMED BY CDM SMITH IN FLORIDA IN THE LAST FIVE YEARS**

CLIENT NAME	TYPE OF SERVICE	DATES
Coral Gables, City of	General Consulting Services	1999-Ongoing
Coral Gables, City of	General Civil Engineering Consultant	2012-Ongoing
Dania Beach, City of	Water/Wastewater/Stormwater General Consultant	2004-Ongoing
Daytona Beach, City of	Continuing Professional Engineering Services for Potable Water and Wastewater Design	2008-2011
Deerfield Beach, City of	Water/Wastewater General Consultant	1990-Ongoing
FDOT Aviation Office	General Planning Consultant	2003-2012
FDOT Central Office	Strategic Intermodal Systems (SIS) On-Call Contract	2005-2012
FDOT Central Office	On-Call Services to the Office of Policy Planning	2010-Ongoing
FDOT District 3	Systems Planning Services	2010-Ongoing
FDOT District 6	Districtwide Plans Review	2008-2012
Florida Keys Aqueduct Authority	General Consulting Services	2000-2006, Ongoing
Fort Lauderdale, City of	General Wastewater Consultant	2001-2011, 2010-Ongoing
Fort Myers, City of	Engineer-of-Record for Wastewater Systems	2012-Ongoing
Fort Myers, City of	Transportation Planning	2010-2013
Fort Pierce Utilities Authority	Professional Design-Build Services	2007-Ongoing
Fort Pierce Utilities Authority	Professional Engineering Services	2007-Ongoing
Gretna, City of	Consultant Engineering Services – Water and Wastewater	2006-Ongoing
Hillsborough County	Miscellaneous Water, Wastewater, and Reclaimed Water	Ongoing
Homestead, City of	Continuing Engineering Services Contract	2004-Ongoing
Indian Creek, Village of	Water Resources Services Consultant Services	1998-Ongoing
Indian River County	Water/Wastewater General Consultant	2001-Ongoing
Indian River County	Solid Waste Management	2004-2011
JEA	Biosolids Consulting Services	2005-Ongoing
JEA	Environmental Consulting Services	2006-Ongoing
JEA	Water and Sewer Project Design and Engineering Services	2007-Ongoing
Key West, City of	General Wastewater and Utilities	2007-2010
Kissimmee, City of	Continuing Engineering Services	2005-Ongoing
Lake-Sumter MPO	General Planning Consultant	2008-Ongoing
Largo, City of	Utility Services	Ongoing
Lauderhill, City of	General Engineering Services	2011-Ongoing
Leon County	Civil Engineering Services	2011-Ongoing
Lee County	Miscellaneous Utility Engineering Design	2007-2010
Lee County	Utilities Water and Sewer Engineer of Record	2007-2010
Lee County	Grant Consulting Services	2010-2012
Lee County	Miscellaneous Professional Services	2010-2012
Lee County	Public Outreach	2010-2012
Lee County	Structural Engineering Services	2011-Ongoing
Lee County	Traffic & Revenue Consulting	2007-2012
Longboat Key, City of	Engineer-of-Record	2002-Ongoing
Marco Island, City of	Water Treatment Consulting Services	2010-Ongoing
Marco Island, City of	Wastewater Engineering Services Contract	2005-2008, 2011-Ongoing

**TABLE 3-1: REPRESENTATIVE LIST OF CONTINUING SERVICES CONTRACTS PERFORMED BY CDM SMITH IN FLORIDA IN THE LAST FIVE YEARS**

CLIENT NAME	TYPE OF SERVICE	DATES
Miami, City of	Storm Water Sewer/Road Improvement	2004-Ongoing
Miami-Dade County	Solid Waste General Consultant	2000-2007
Miami-Dade County	Water/Wastewater General Consultant Services	2001-Ongoing
Miami-Dade County Aviation Department	Miscellaneous Environmental and Civil Engineering	1993, 1997, 2000, Ongoing
Miami-Dade Expressway Authority	Traffic and Revenue Consulting Services	2007-Ongoing
Miami-Dade Seaport Department	Environmental Services Consultant	2011- Ongoing
Miami Beach, City of	Wastewater General Consultant	1990-Ongoing
Miami-Dade County	Environmental and Civil General Consultant	1992-Ongoing
Monroe County Aviation Department	General Consultant Services	2011-Ongoing
North Miami, City of	Continuing Civil Engineering/Environmental Engineer	2010-Ongoing
North Port, City of	Professional Services Library	2010-Ongoing
Ocoee, City of	Transportation Planning and Design Services	2011-Ongoing
Ormond Beach, City of	Water, Wastewater, and Stormwater General Consultant	1995-Ongoing
Ormond Beach, City of	Continuing Utility and Wastewater Services	2010-Ongoing
Palm Beach County	Water Plant& Water Resources Engineering	2005-Ongoing
Pasco County	General Utility Service Agreement	2004-2009
Polk County	Utilities Design Services	2010-Ongoing
Pompano Beach, City of	Water Treatment Plant Disinfection System Improvement	2004-Ongoing
Pompano Beach, City of	Civil Engineering Services	2010-Ongoing
Sanford, City of	Agreement for Engineering Services with CDM Smith	2007-Ongoing
Seminole County	Continuing NPDES Services	2000-Ongoing
St. Cloud, City of	Water/Wastewater, Civil/Stormwater/Streets, Solid Waste	2006-Ongoing
St. Johns County	Continuing Consulting Services – Utility Engineering Services	2001-Ongoing
St. Johns County Utility Department	Water and Wastewater	2001-Ongoing
St. Lucie County	Utilities Professional Services	2005-Ongoing
St. Johns River Water Management District	Hydrology/Hydraulics/Hydrodynamics Continuing Services	2000-Ongoing
Tampa Bay Water	As-Needed Services – Environmental Engineering	2006-2009
Tampa, City of	General Consulting	Ongoing
Venice, City of	Grant Writing, Grant Management, and Program Management Support	2011-Ongoing
Vero Beach, City of	Water and Sewer Continuing Services	2004-Ongoing
Village of Royal Palm Beach	Water and Wastewater Consulting Services	2003-Ongoing
West Palm Beach, City of	Water Resource Engineering and Consultation Services	2002-Ongoing
Winter Garden, City of	Engineering Services	2010-Ongoing
Winter Park, City of	Water and Wastewater Systems	2010-Ongoing

## Replacement of Surface Aerators with Diffused Aeration, Key West, FL

The City of Key West (City) wanted to replace its existing surface aerators and aeration and overflow tanks at the Richard A. Heyman Environmental Protection Facility (RHEPF) with a fine bubble diffused air system. This would enable the facility to meet higher air requirements for the maximum monthly flow conditions while reducing the operational and maintenance cost associated with the aging surface aerators.

In addition, the City also wanted a complete overhaul of the existing HVAC system in its three-story solids building, along with the demolition and removal of the old/abandoned incinerator and scrubber equipment located in this building. Areas for HVAC improvement in the solids building included the sludge processing area (sludge belt), offices, electrical and controls room, and general storage/maintenance areas.

The City contracted CDM Smith to provide several engineering services associated with this project, including preliminary design, final design, permitting, assistance during the bid phase, and assistance during the project's construction phase. The design disciplines included civil/mechanical, process, structural, architectural, electrical, instrumentation and controls, and HVAC. Geotechnical services were also provided through a subcontractor.

During the design portion, CDM Smith prepared and submitted a preliminary technical memorandum to the City. The cost opinion related to the changes that the City wanted was significantly higher than the budgeted amount. CDM Smith, at no additional cost to the City, suggested a change in the design concept that would allow significant cost reduction. The City approved this recommendation, and we used the new concept to develop the design. In order to allow the work to take place in accordance with the City's priorities, the overall work was modified to include additive alternates in the bid documents. When the final bids came in, it became possible for the City to include all of the additive alternates in this project.

With CDM Smith's assistance, the City applied for U.S. Army Corps of Engineers (USACE) funding under the American Recovery and Reinvestment Act (ARRA) and was able to obtain it.

### Client

City of Key West  
Jay Gewin, Utilities Manager  
Tel: 305.809.3902

### Key Personnel Involved

Dan Strobridge, Vipin Pangasa

### Cost Information

Design Services Fee: \$625,156  
Project Constructed? Yes  
Project Cost: \$3.9M

### Contractor

Wharton-Smith, Inc.  
Asif Shaikh  
Tel: 772.283.2944 ext. 301



## Hydraulic Profile for Additional Flow at Richard A. Heyman Environmental Protection Facility, Key West, FL

The City of Key West (City) experiences frequent storm events and heavy rains during the hurricane season. As a result, the City enhanced its wastewater collection and transmission system (including pump stations) to handle higher capacities of flow.

Heavy rains may impact the inflow into the City's wastewater collection and transmission system, causing higher peaks to arrive at the Richard A. Heyman Environmental Protection Facility (RHEPF).

To determine the facility's ability to handle this additional flow, the City requested that CDM Smith perform a hydraulic profile/analysis for the treatment components at the RHEPF.

Using as-built and record drawings; current wastewater (influent) flows, including annual average daily flow, maximum day flow, maximum month flow, and peak hourly flow; projected (influent) wastewater flows; and previous facility survey information, CDM Smith performed multiple hydraulic analyses for this facility.

All hydraulic modeling was performed using Microsoft Excel™ spreadsheets. The profile calculation began with the most downstream control point, setting water surface elevation in the effluent wet well, and adding all hydraulic losses one-by-one back to the head works, while incorporating intermediate hydraulic controls and devices. Intermediate hydraulic boundaries in the analysis included weirs, set wet well levels, and Parshall flumes. Friction losses in piping and conduits were obtained using the explicit formula developed by Swamee and Jain relating  $f$ ,  $hf$ ,  $Q$  and  $D$ , (to determine the friction factor), and the Darcy Weisbach equation (to calculate the head loss). Friction losses in open channels were obtained from Manning's equation. Minor head losses at all fittings, transitions, openings, gates, valves, and open channel bends were computed by multiplying the appropriate coefficient by the velocity head. Head loss in Parshall flumes were calculated through head loss data published by the United States Bureau of Reclamation. Equations for head losses in equipment such as bar screens relied upon manufacturer-provided head loss data and equations.

The results of these analyses allowed the City to ascertain whether the hydraulic capacity of the RHEPF can assimilate higher peak flows during storm events without causing overflows at the plant.

### Client

City of Key West  
Jay Gewin, Utilities Manager  
Tel: 305.809.3902

### Key Personnel Involved

Dan Strobridge, Vipin Pangasa

### Cost Information

Design Services Fee: \$51,000  
Project Constructed? Implemented  
Project Cost: N/A

### Contractor

N/A



## Davie Boulevard Force Main and Water Main Improvements and Services During Construction, Fort Lauderdale, FL

An aging, unlined, cast iron water main, which was experiencing frequent breaks, located along a five-mile right-of-way stretch of five-lane SR 736 (Davie Boulevard) required replacement by a new 24-inch ductile iron water main. CDM Smith provided design, permitting, and services during construction for approximately 25,000 lf of 12-, 16-, and 24-inch water main, including roadway restoration.

We worked closely with the Florida Department of Transportation (FDOT) District 4 during the design phase to coordinate with FDOT's proposed roadway improvements and streetscape occurring concurrently following pipe installation and roadway restoration and resurfacing.

Our team also coordinated and developed a maintenance of traffic (MOT) plan for the major roadway during construction, and a traffic striping and signage upgrade and restoration.

The right-of-way project involved a phasing/sequencing plan for five major intersection crossings, including night work, two directional drills (80 feet below the New River and another under seven lanes of US 1/ Federal Highway), two jack-and-bores for the FEC and SCL Railroads, and service connections to open businesses and residences along the route, with secondary access routes.

### Client

City of Fort Lauderdale  
Mark Darmanin, Utilities Distribution  
and Collections Manager  
Tel: 954.828.7809

### Key Personnel Involved

Clay Tappan

### Cost Information

Design Services Fee: \$293,000  
Project Constructed? Yes  
Project Cost: \$12,000,000

### Contractor

Danella Companies, Inc.  
Curt Landry  
Tel: 561.327.5320



## Construction Engineering and Inspection Services for West Canal Streetscape and Drainage Improvements, New Smyrna Beach, FL

For the City of New Smyrna Beach, CDM Smith provided construction engineering and inspection (CEI) services for the design-build of the West Canal Streetscape and canal lining projects. These were Local Agency Program (LAP) projects funded through the FDOT that also involved federal funding and requirements related to Equal Employment Opportunities (EEO), Disadvantaged Business Enterprises (DBE), and wages in accordance with FHWA-1273 and Executive Order 11246.

The project was designed to complement the existing streetscape features on East Canal Street from US 1 to Riverside Drive.

Our responsibilities for this project included inspection of roadway reconstruction; new curb; new sidewalks; utility work (storm drainage, sewer, and water); underground utilities; and street amenities, including landscaping, benches, lighting, signage, and other street furniture.

The design-build team was also required to complete design and construction of canal-lining in the historic Turnbull Canal.

### Client

City of New Smyrna  
Michelle Martin, CRA, Project Manager  
Tel: 386.424.2135

### Key Personnel Involved

Nick Benedico

### Cost Information

Design Services Fee: \$258,000  
Project Constructed? Yes  
Project Cost: \$2,921,400

### Contractor

Thad Construction  
Trey Sizemore  
Tel: 386.527.0223



## Water and Wastewater Pump Stations Upgrades, Miami Beach, FL

CDM Smith designed upgrades to the City's existing five water booster stations and 23 wastewater pump stations. We provided services during construction for the water and wastewater pump station upgrades project. In addition, we designed a new water booster station located on Terminal Island. The addition of the new Terminal Island water booster pump station improved pressures and fire flow capabilities in the southern end of the City, providing support for redevelopment activities in that area. Our expertise also extended to services during construction.

The work for the existing water booster pump stations included pumps, as well as new electrical equipment and controls located in above ground buildings (above the 100-year flood elevation); a change in system voltage from 4,160 to 480; installation of high efficiency motors and variable frequency drives; all stations included new emergency generators; and general building renovations.

The seven electrical/generator buildings, while not large structures, were highly visible; therefore, special architectural designs were included for these buildings.

A new telemetry system monitors operation of all the water and wastewater pump stations in the system.

Completion of this work has greatly improved the operational integrity of the existing water and wastewater stations.

### Client

City of Miami Beach  
Michael Alvarez, Infrastructure  
(Operations) Director  
Tel: 305.673.7000 ext. 6629

### Key Personnel Involved

Jason Johnson

### Cost Information

Design Services Fee: \$2,898,000  
Project Constructed? Yes  
Project Cost: \$23,010,000

### Contractor

Cardinal Contractors, Inc.  
Lou Beck (no longer with the firm)  
Tel: 941.377.8555



## City-Wide GIS Data Conversion Services, Miami Beach, FL

CDM Smith assisted the City of Miami Beach Department of Public Works by creating an Infrastructure Management System (IMS). The IMS encompassed infrastructure asset management, service request management, and work order management. Highlights of our service to the City included:

- Implemented an ArcGIS-based AZTECA Cityworks® Computerized Maintenance Management System (CMMS).
- Performed data conversion utilizing City field surveyed AutoCAD files containing the neighborhood existing condition data the City obtained under separate contract. We performed data conversion for the water distribution, sanitary sewer collection, stormwater conveyance, streets, and street lighting systems.
- Created and refined the design of the geodatabase for each individual network based on the Esri data model templates.

Once the data conversion effort was complete, we worked with the City to implement a data maintenance environment for the City staff. CDM Smith is available, upon request of the City, to assist in expanding the uses of GIS through implementation of new applications, data, and technologies.

We worked with the City to establish their positional and data accuracy standards for this project. In addition to the positional accuracy requirement, we worked with the City to establish data conversion accuracy standards and built those standards in the overall data conversion process and subsequent final quality assurance (QA) acceptance testing.

### Client

City of Miami Beach  
Bert Dorrestyn, GIS Manager  
Tel: 305.673.7000 ext. 6347

### Key Personnel Involved

Jason Johnson

### Cost Information

Design Services Fee: \$850,000  
Project Constructed? Implemented  
Project Cost: N/A

### Contractor

N/A



## Infrastructure Asset Evaluation Operation and Maintenance Services, Daytona Beach, FL

The purpose of this project was to review all significant infrastructure components, processes, and procedures and to make recommendations that supported sustainable, safe, reliable, and cost-effective operation, maintenance, and management of the City's water, wastewater, and reuse water facilities. This project supported efforts to develop a long-term strategy and plan for asset renewal and replacement to maintain a high level of service with minimal disruption to customers of the utility. CDM Smith performed the following tasks as part of this project.

### REVIEW OF INFRASTRUCTURE ASSETS

The focus of this task was to review the City's infrastructure assets and make recommendations for a repair and replacement schedule and budget. Approximately 5,000 to 9,000 assets were identified for inventory and some level of condition assessment. Our project team completed this task over a period of five months. A condition assessment database application was used during this task and was delivered to the City at the conclusion of the project. The following assets were inventoried:

- Elevated tanks
- Marion Street water storage tanks
- Chlorine booster stations
- Water distribution booster stations
- Wells
- Wastewater lift stations
- Sludge handling facilities
- Reuse water pumping stations and storage
- Laboratory building
- Administration building
- Plan storage building
- Bethune Point Wastewater Treatment Plant (WWTP)
- Westside Regional WWTP
- Brennan Water Treatment Plant.

A portion of the assets at these locations were physically inspected, while others were excluded from the physical inspection. Project management activities for this phase included coordination, quality management, meetings, staff management, invoicing, and status reporting. We also performed the following support activities:

**Condition Assessment Database** – We provided a condition assessment database application that was used for the condition assessment portion of this project. The condition assessment database was used to collect and store condition assessment data and reports on that data. Additional asset attributes were also included, such as type, value, criticality, condition, or other data needed to complete the condition assessment task.

**Data Collection and Validation** – The asset inventory was the foundation to this task. We collected and compiled asset data available from records prior to the field condition assessment activities. The validation of asset

#### Client

City of Daytona Beach  
Mitt Tidwell, Utilities Director  
Tel: 386.671.8802

#### Key Personnel Involved

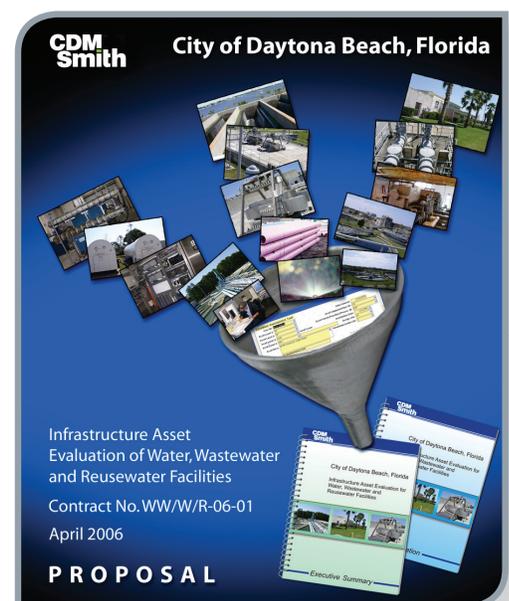
Clay Tappan

#### Cost Information

Design Services Fee: \$458,000  
Project Constructed? Implemented  
Project Cost: N/A

#### Contractor

N/A



data collected from City records occurred before and during the condition assessment site visits.

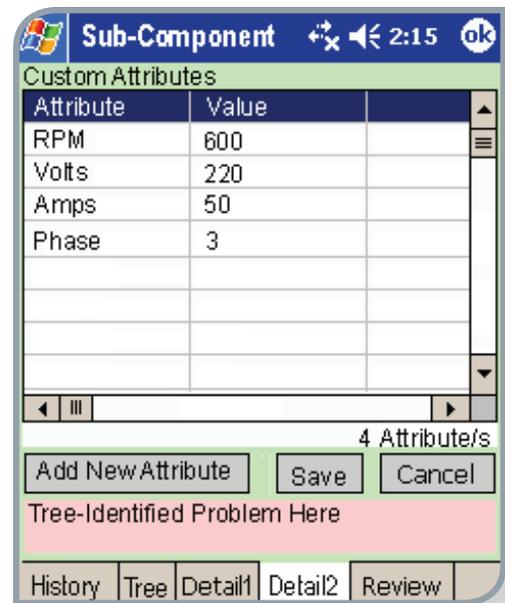
**Populate Database** – The database created supported the condition assessment process. Prior to the field assessment efforts, the condition assessment database was populated with data compiled during the data collection process. Ultimately, asset data, condition assessment data, and cost data resided in the database and was available for use during condition assessment activities.

### Condition Assessment

We performed condition assessments over a five-month period. Site visits were conducted with the goal of visually inspecting selected assets. Other assets were evaluated using a desktop approach in lieu of site visits. The desktop approach was used on assets that had a low criticality level and a low replacement cost. After the inventory database was populated, we used condition assessment techniques and rating definitions to assign condition codes and make recommendations for each of the major assets in the system. The collection of asset data focused on major assets. This included buildings, structures, and their appurtenant equipment components, such as large rotating equipment (i.e., pumps and blowers), collector drives, chemicals storage and handling equipment, fuel storage and handling equipment, engine generator sets, electrical gear, control panels, tanks and process basins, and elevated storage tanks.

### REPAIR AND REPLACEMENT COST ESTIMATION

Based on the preceding activities, our team developed budget-level cost estimates for major assets that, as identified by the condition assessment, were recommended for repair and/or replacement within five years or less. Major assets refers to level of the asset hierarchy that is defined as a major piece of equipment (parent) such as an entire pump assembly comprised of its sub-components (child) such as the motor on a pump assembly.



*Prior to the field assessment efforts, the condition assessment database was populated with data compiled during the data collection process.*

## Engineering Services CDBG Drainage Improvements, Kissimmee, FL

CDM Smith was selected by the City of Kissimmee to prepare sealed plans and specifications for the design of drainage improvements to alleviate localized flooding issues in three residential neighborhoods. We also provided construction management services during the construction phase of each project. These projects are described below.

**Oak Leaf Lane Reconstruction** – Oak Leaf Lane, located in the Heather Oaks subdivision, experienced flooding from Mill Slough. Typically, this flooding would inundate the roadway, making it impassable for drivers. The funding for this project was provided through a federal Community Development Block Grant (CDBG). CDM Smith analyzed several alternatives for raising the profile of Oak Leaf Lane and presented the results, including level of flood service and cost for each alternative, to the City in a Preliminary Design Report. Based on our analysis, it was determined that raising the roadway from one to one and one half feet would provide a passable roadway for a 10-year storm event and would fit within the budget requirements. We secured a South Florida Water Management District (SFWMD) permit. The project also included minor stormsewer revisions, utility relocation design, cost estimating, specifications development, and public involvement.

**Osceola Park Estates Drainage System** – The Osceola Park Estates subdivision experienced ongoing flooding from high-intensity storm events. In the preliminary design phase, CDM Smith analyzed several alternatives to alleviate the flooding. Based on the analysis, it was determined that upsizing the existing outfalls and portions of the upstream system would provide significant flood relief and that the improvements could be constructed within the limited budget. Minimizing utility and roadway impacts were key issues in the design of this project. We secured a SFWMD permit and a USACE permit for this project. Project tasks also included utility relocation design, cost estimating, specifications, and public involvement.

**Sand Lake Road Reconstruction** – The profile elevation of Sand Lake Road was raised between Agate Street and Bolder Drive to minimize localized flooding associated with Mill Slough. We prepared design plans and specifications and secured the necessary permits to construct the recommended improvements.

### Client

City of Kissimmee  
James Arsenault, P.E., City Engineer  
Tel: 407.518.2177

### Key Personnel Involved

Paul Snead, Quang Le

### Cost Information

Design Services Fee: \$170,000  
Project Constructed? Yes  
Project Cost: Sand Run Road – \$47,919;  
Oak Leaf Lane – \$467,802; Osceola Park Estates – \$557,385

### Contractor

This contract consisted of several individual task orders, each with their own construction cost and contractor.



## Honore Avenue/Pinebrook Road Extension, Sarasota County, FL

CDM Smith was selected by Sarasota County to provide professional engineering services for the design of the Honore Avenue/Pinebrook Road Extension. The project included the design of a new alignment for 3.8 miles of a 4-lane divided roadway from Laurel Road to SR 681. The design also included sidewalks, closed drainage, street lighting, landscaping, and bike lanes. An at-grade intersection with SR 681—a limited-access roadway—required signalization and improvement of traffic signals, and lane geometry at the Laurel Road intersection. The project also included the design of three bridge crossings over Salt Creek, Fox Creek, and Cow Pen Slough. Additional engineering services included permitting, bidding, and limited construction phase services.

The County will use a 1.5-mile segment of the existing I-75 southbound lanes and the limited-access right-of-way in the area north of the Laurel Road Interchange to Cow Pen Slough. Close coordination with FDOT District 1 was necessary during roadway design and will be necessary in the areas of transfer of the limited-access right-of-way to the County, construction costs, construction schedule, cost sharing, funding, and public involvement.

Using value engineering principles to evaluate the approved PD&E preferred alignment, CDM Smith determined that constructing twin bridges at the Fox Creek and Cow Pen Slough crossings would save the County more than \$1.5 million. In addition, we modified the alignment at Cow Pen Slough and secured approval from the County and the FDOT to use the existing bridge and roadway fill for an additional savings of \$1 million. The County adopted both changes.

### Client

Sarasota County  
 Vinod Sancheti, P.E., Project Manager  
 Tel: 941.861.0803

### Key Personnel Involved

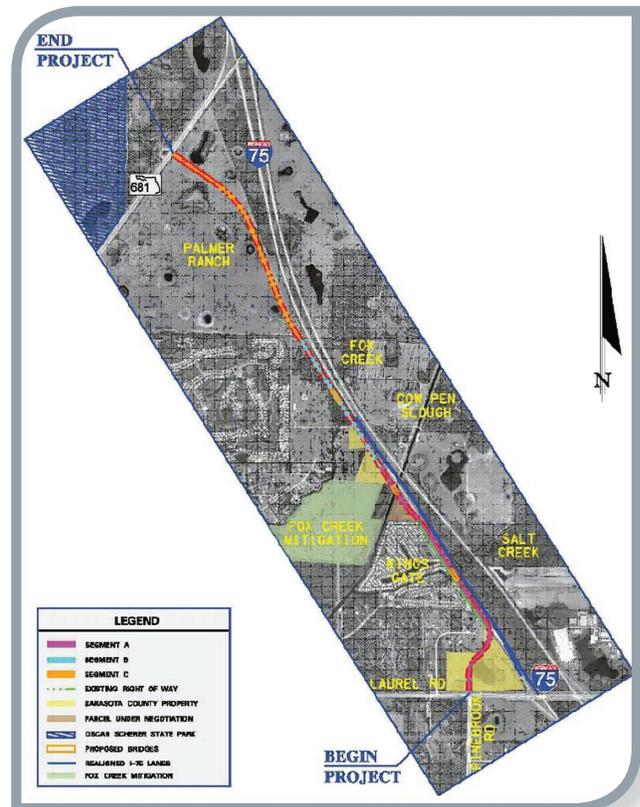
Nick Benedico, Quang Le, Revo Kanilwa

### Cost Information

Design Services Fee: \$3,064,661  
 Project Constructed? Has not gone to construction as of July 2012  
 Project Cost: TBD

### Contractor

N/A



## Districtwide Miscellaneous Design #85, FDOT District 5

CDM Smith was awarded the Districtwide Miscellaneous Design Contract #85 to provide task work orders (TWO) on a continual basis for a five-year term.

Projects completed under this contract to date include the following.

**TWO #1: SR 5 (US 1) Design:** CDM Smith provided design services for the milling and resurfacing of SR 5 (US 1) from MP 5.868 to MP 12.803 in Volusia County. This 6.9 miles of roadway improvements was performed on the southbound lanes of SR 5 (US 1). Other associated tasks included cross slope corrections, signing and pavement marking design, and design of ADA compliant curb ramps.

**TWO #2: SR 25 Design:** CDM Smith performed design services for the milling and resurfacing for 2.7 miles of SR 25. The limit of this project was from MP 0.000 to MP 2.699 in Marion County. Other associated tasks included cross slope corrections, signing and pavement marking design, and design of ADA compliant curb ramps.

**TWO #3: SR 5 Post-Design Services:** After completing the final design of SR 5 from MP 5.868 to MP 12.803, CDM Smith was tasked with providing post-design services.

**TWO #4: SR 15 (US 17/92) Design:** CDM Smith was tasked with providing design services for the milling and resurfacing of SR 15 (US 17/92). The limits of the project included of 3.0 miles of roadway from MP 10.471 to MP 13.500 in Seminole County. Improvements to SR 15 (US 17/92) included the modification/addition of 90 curb-cut ramps to comply with Americans with Disabilities Act (ADA) standards. After the final pavement resurfacing, bike lanes were striped. Close coordination with the City of Sanford was required for median lighting, and extensive utility coordination was also performed.

### Client

FDOT District 5  
Chris Dabson, Project Manager  
Tel: 386.943.5321

### Key Personnel Involved

Nick Benedico, Quang Le, Paul Snead

### Cost Information

Design Services Fee: \$423,000  
Project Constructed? Yes  
Project Cost: Varies

### Contractor

This contract consisted of several individual task orders, each with their own construction cost and contractor.



## Airport Drive Road Raising and Curb and Gutter Improvements, Charlotte, NC

For Charlotte-Douglas International Airport (CLT), CDM Smith provided design engineering services for pavement and drainage improvements on Airport Drive, as well as the raising of Airport Drive approximately 20 vertical feet at its lowest point to accommodate future CLT expansion projects, including relocation of existing water, sewer, power, and telephone utilities.

The pavement and drainage improvements on Airport Drive project work included construction of curb and gutter, driveway improvements, asphalt pavement replacement, and storm drainage improvements along Airport Drive between the Jackson Park Ministries and Morris Field Drive. The project was implemented to improve the collection of stormwater and to alleviate long-term flooding issues at the Jackson Park Ministries.

The water and sewer improvement designs were completed in accordance with Charlotte-Mecklenburg Utilities design standards. The improvements were permitted by the City of Charlotte's Land Development Department and included reviews by City Engineering, CDOT, and City Stormwater Services, Urban Forestry. The road raising site was located in the southwestern portion of Mecklenburg County, adjacent to the CLT, as well as existing residential areas. The project consisted of the design of approximately 1,300 linear feet of collector roadway adjacent to CLT, including design of the stormwater collection system for the roadway and integration of this system with existing stormwater features that collect stormwater from adjacent offsite locations, including one of three existing CLT runways. The design also included removal of an existing large diameter stormwater culvert and replacement with an open channel section to improve conveyance and water quality in the area.

Additional design services provided by CDM Smith included geotechnical investigations to assess the impacts of the extensive amount of fill material; surveying work necessary for right-of-way procurement; and design and coordination of utility relocations, including water, sewer, natural gas, overhead electric, and telephone; and traffic control design necessary for implementation of the new roadway.

CDM Smith was also responsible for acquiring permits necessary to construct the project, including coordination with CDOT, City of Charlotte Storm Water Services, NC Department of Environment and Natural Resources, and the U.S. Army Corps of Engineers.

### Client

Charlotte-Douglas International Airport  
Rachel Bingham, Aviation Construction  
Tel: 980.721.4232

### Key Personnel Involved

Jim Wittig

### Cost Information

Design Services Fee: \$136,545  
Project Constructed? Yes  
Project Cost: \$418,180

### Contractor

Harco Development  
N/A  
Tel: 704.455.6872



## SR 46/Lake Jesup Bridge Replacement Design-Build Project, Seminole and Volusia Counties, FL

CDM Smith served as the prime designer on this \$37M design-build project. The project was 1.5-miles long and included a new SR 46 bridge in the environmentally sensitive region where the St. Johns River intersects with Lake Jesup. The project involved the replacement of the existing 500-foot bridge, which was functionally obsolete, with a 3,740-foot structure. In addition to removing the deficient bridge, the existing causeway was removed within the limits of the new bridge. This eliminated the pollutant load that had been draining from the roadway directly into the lake and greatly improved the natural flow of water between the river and lake.

A temporary workbench was utilized to facilitate the construction of the new bridge. The workbench traversed the southern side of the existing roadway and was supported by rows of temporary steel sheet piling. The outer row of this wall supported crane and construction surcharge loads in excess of 800 pounds per square foot. More than 4,000 linear feet of sheeting was used on this project.

The project also included realignment of the roadway intersections at Old Geneva Road and Osceola Road and incidental roadway construction. Traffic analyses were performed to project the need for a potential widening of the four-lane divided section of SR 46.

CDM Smith managed the maintenance of traffic and the development of a traffic control plan to satisfy the goals of providing a safe environment for the traveling public and the construction workers, minimizing traffic delays, allowing the contractor to perform efficiently, and controlling construction costs. We also provided the utility coordination, contractor quality control, and public involvement for this project.

*The SR 46/Lake Jesup Bridge was ranked No. 6 among the Top 10 Bridges of 2009 by Roads and Bridges magazine.*

### Client

FDOT District 5  
Todd Long, P.E., Design Project Manager  
Tel: 386.943.5558

### Key Personnel Involved

Nick Benedico, Quang Le, Paul Snead

### Cost Information

Design Services Fee: \$2,775,000  
Project Constructed? Yes  
Project Cost: \$37,000,000

### Contractor

Johnson Bros.  
Charlie Humphries  
Tel: 407.466.6593



## Pasco County Landfill Expansion – Cell A-4 Design, Permitting, Bidding, and Construction Services, Pasco County, FL

Pasco County retained CDM Smith to provide design, permitting, bidding, and construction services for the expansion of its Resource Recovery Facility Landfill to provide additional capacity for ash residue (Cell A-4). Cell A-4 will be approximately 20 acres in size.

**Engineering Services** – CDM Smith provided conceptual and final design services. The project addressed the following issues:

- Liner system configuration
- Groundwater elevation and its influence on the cell elevation
- The cell layouts
- The leachate collection system configuration
- FDEP permitting
- Stormwater management system
- Design and construction schedule.

**Conceptual Design** – CDM Smith developed a conceptual design for Cell A-4, establishing bottom elevations; berm elevations; overall leachate collection and conveyance system locations; and inverts and necessary stub-outs for future tie-ins, access roads, and a stormwater management system. We employed an alternate liner design featuring the use of a GCL layer in lieu of 10-5 soils to significantly shorten the construction period and reduce construction costs.

**Stormwater Management System** – The drainage from Cell A-4 is routed via a new drainage system to convey stormwater to an existing retention pond along the south side of the landfill. The design required evaluation and sizing of the stormwater drainage ditches.

**Geotechnical Investigation and Services** – CDM Smith, through a subconsultant, obtained a sufficient number of soil borings to support the design and permitting process.

**Surveying Services** – We obtained an existing topographic survey for the site, as well as horizontal location of soil borings, supplemental topographic survey of the proposed cell areas, and access routes.

**Final Design** – Following the County's review and concurrence with the conceptual design, we proceeded with the final design. Engineering drawings and specifications were prepared and used to obtain approval from the FDEP in accordance with the Condition of Site Certification, to obtain competitive bids, and to construct the new cell.

**FDEP Plan Approval** – CDM Smith filed and supported an application for the required permits from the FDEP.

### Client

Pasco County  
John Power, Solid Waste  
Facility Manager  
Tel: 727.856.0119

### Key Personnel Involved

Aamod Sonawane, Dan Strobridge

### Cost Information

Design Services Fee: \$676,000  
Project Constructed? Yes  
Project Cost: \$6,000,000

### Contractor

RIPA & Associates  
Alan Taylor  
Tel: 813.623.6777



**Bid Administration** – We assisted the County in obtaining bids for the construction of the project and will provide the following specific services:

- Assist with bid review and provide recommendations
- Sell and distribute contract documents
- Conform contract documents
- Issue addenda as required
- Maintain an updated plan-holder list
- Field/respond to all questions from bidders.
- Schedule, manage, and attend a pre-bid meeting

**Services During Construction** – CDM Smith coordinated the project construction phase by advising, making change order recommendations, providing overall program management, and observing, monitoring, and reporting on related activities during construction, including the following.

**General Engineering Service During Construction** – We reviewed shop drawings, pay requests, change order requests, and issued plan interpretations, and technically supported the construction effort.

**Resident Services During Construction** – CDM Smith provided a full-time project representative during project construction to observe the performance of the work of the contractor relative to the contract requirements. The project representative prepared daily reports describing the general working conditions, areas of construction activity, tests performed, and special and unusual events.

**Liner System Installation Quality Assurance/Quality Control** – CDM Smith also provided QA/QC field representation during the liner system construction. The liner system QA/QC representative was responsible for observing and documenting activities related to the quality assurance of the production; handling, storage, and installation of the geosynthetic liner system and for implementation of the CQA manual, approved by the FDEP as part of the permit to construct the landfill expansion; and for coordination with the QA laboratory.

## Construction and Demolition Debris Recycling Facility, Martin County, FL

Martin County (County) owns and operates a solid waste transfer station at the Palm City II Landfill site. Class I waste collected in the County is brought to the site and transferred to larger vehicles and hauled away. Construction and demolition (C&D) debris and yard waste were similarly received and transferred in an open area at the Palm City II site. The purpose of this project was to design and permit a 36,000-square-foot stand-alone facility to better manage the C&D debris and yard waste material and minimize dust from operations. CDM Smith provided geotechnical investigation, design, permitting, and assistance during construction for this project.

CDM Smith prepared conceptual site plan drawings and color renderings showing the proposed building placement, site access, building setbacks, and truck routes to be presented to County officials and citizen groups. After receiving approval on the conceptual site plan, we developed permit drawings and the supporting documents required to obtain the necessary permits. These permits included a modification to the Solid Waste Facility Permit, a modification to the Environmental Resource Permit, and Martin County Site Plan Approval. We also developed final plans, including the necessary details and specifications to enable the contractors to bid and ultimately construct the proposed improvements. CDM Smith provided design-build performance criteria for the proposed 36,000-square-foot metal building, including foundation recommendations based on the geotechnical investigation we performed.

CDM Smith worked with the County to review the technical responses to the County's bid and assisted the County in answering questions from bidders during the bidding process. We also provided assistance during construction, responding to information requests from the contractor and the City on an as-needed basis.

### Client

Martin County  
Patrick Yancey, Solid Waste  
Administrator  
Tel: 772.288.5772

### Key Personnel Involved

Eric Grotke

### Cost Information

Design Services Fee: \$152,000  
Project Constructed? Yes  
Project Cost: \$1,400,000 +/-

### Contractor

West Construction, Inc.  
Robert Binford (no longer with firm)  
Tel: 561.588.2027



## Recyclable Material Facility Alternatives Evaluation, Martin County, FL

Martin County owns and operates a solid waste transfer station at the Palm City II Landfill site. Class I waste and construction and demolition (C&D) debris are collected at the site. The County had recently taken over the receipt and transfer of recyclable materials through the existing Class I facility and wanted a separate area/facility to better manage the recyclable materials and maintain the designed capacity of the existing station for Class I waste transfer.

The County subsequently retained CDM Smith to perform a site alternatives evaluation for the Palm City II Recyclable Materials Transfer Facility. The study evaluated three alternatives to add a covered recyclable materials storage area and transfer facility. The alternatives were evaluated for estimated cost of construction, constructability, interruption to existing operations, and other considerations.

The three alternative locations were as follows:

- Location A – Add onto the south side of the existing transfer station
- Location B – Construct a standalone recycling facility east of the existing waste transfer facility
- Location C – In the same location as Location B, rotated 90 degrees.

The County is currently contemplating an expansion/addition to the existing transfer station based on the conceptual cost estimates computed from the study. Maintenance of traffic and operations at the transfer station during construction of the expansion/addition are to be considered during the next phase of design.

### Client

Martin County  
Patrick Yancey, Solid Waste  
Administrator  
Tel: 772.288.5772

### Key Personnel Involved

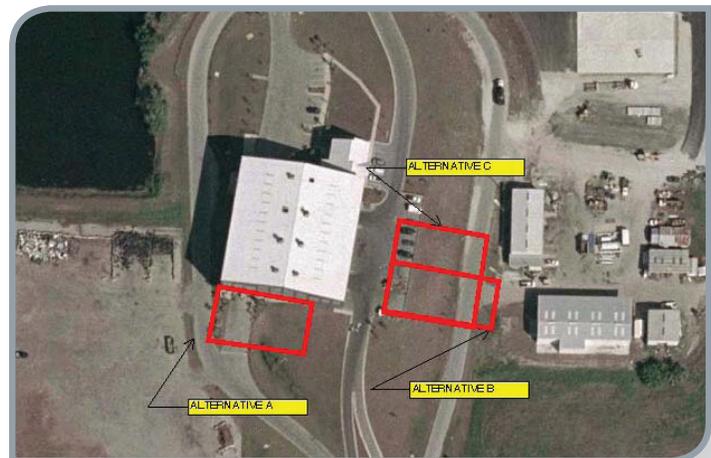
Eric Grotke

### Cost Information

Design Services Fee: \$9,860  
Project Constructed? Implemented  
Project Cost: N/A

### Contractor

N/A



## Stock Island Seawall Project, Stock Island, FL

CDM Smith was retained by the Florida Keys Aqueduct Authority (FKAA) to conduct subsurface explorations, prepare a geotechnical design report and contract documents for construction, and provide bidding and engineer-of-record services for a new bulkhead seawall along the Atlantic Ocean. The constructed seawall is approximately 1,200 linear feet (lf) long and 18-feet high in some locations. The seawall provides protection to the existing Stock Island Reverse Osmosis Water Treatment Plant.

The existing seawall was heavily damaged during the 2004 hurricane season. The existing wall was damaged by several different mechanisms. The first mechanism occurred from scouring and undermining the soft coral limestone. Secondly, during hurricane events, the wall was overtopped and material was washed away from behind the wall. The loss of soil on the landside of the wall caused failure of the existing deadman anchors used as a secondary support system. Finally, the existing wall lacked sufficient embedment to resist lateral earth pressures on the wall. This mechanism was potentially due to years of scouring the foundation limestone. Funding for the construction of the seawall was provided by the Federal Emergency Management Agency (FEMA) funding allocated to FKAA associated with storm damage from the 2004 hurricane season.

CDM Smith performed two phases of geotechnical investigation along the proposed seawall alignment. As a result of the investigation, we produced a geotechnical engineering design report and final design drawings. The design report recommended constructing a new seawall, with a maximum height of 18 feet. The recommendation added an additional three feet of unsupported length on the design height to account for future scouring of the limestone. Additionally, we recommended placing rip rap or scour protection in front of the existing seawall. The presence of the existing seawall meant that the construction sequence would be complicated.

However, we recommended a construction sequence that allowed for the dismantling of the existing wall and tie-backs in a coordinated effort with the new seawall. Additionally, the existing seawall was proposed to be processed and re-used as rip rap or scour protection material in front of the new wall system.

The new seawall was designed to allow the use of steel sheet piles coated with a corrosion protection layer. The design included a primary bulkhead wall supported by an anchorage system. The anchorage system is comprised of a series of tie-backs connected to a secondary sheet pile wall. The top 18 inches of soil behind the seawall are stabilized with cement wrapped in a filter fabric to limit the loss of material during future overtopping storm events.

After award of the construction contract, CDM Smith coordinated with the contractor to revise the design to accelerate the construction schedule by enabling the contractor to amend our tie-back design to a cantilever design constructed to a deeper depth than our original design. We were responsible for engineer-of-record services during construction, which included support of the client-furnished construction administrator, responding to requests for information, shop drawing review, and construction inspection services.

### Client

Florida Keys Aqueduct Authority  
Tom Walker, P.E., BCEE, Director of Engineering  
Tel: 305.296.2454

### Key Personnel Involved

Jason Johnson, Tim Verwey

### Cost Information

Design Services Fee: \$409,280  
Project Constructed? Yes  
Project Cost: \$7,662,553

### Contractor

GLF Construction Corporation  
Joseph M. Beaird  
Tel: 305.371.5228





# Section 4 – Ability to Perform Services Expeditiously

# Section 4 – Ability to Perform Services Expeditiously



The core of CDM Smith's project team is located in our Tampa office, which is led by officer-in-charge Daniel E. Strobridge, QEP, who has a long history of working corroboratively with the City on solid waste, stormwater, and wastewater issues. A key component of our team is our Key West-based local coordinator, John L. Mafera Jr., who is located in the heart of the City at 1009 Eaton Street, Key West, Florida 33040. This location allows us to provide unmatched responsiveness and client service to the City. Mr. Mafera is linked into the CDM Smith technology network and has full access to all available resources and production capabilities. All project requests and work will be handled by our local coordinator through our Key West location and supported by our 11 other full-service Florida offices. We are able to draw upon the resources of our in-state offices to complete project assignments, if necessary, including the closest office geographically to the City, our Miami office. Further support will be provided by our local subconsultants with offices in Key West.

Regardless of where the work is physically performed, or by whom, all assignments will flow through our Tampa office, which will review, manage, and provide oversight for all tasks. Additionally, staff from other offices will travel to Key West to perform services that must be provided locally or at the project site. We are fortunate to be backed by the resources of all of our Florida operations, as well as the corporate structure of one of the largest engineering firms in the world. In fact, our Florida offices routinely work together as a team to provide needed services and skills to client when and where they are needed, and our local and wide-area networks facilitate this seamless coordination of work tasks.

## 4.1 Project Team is Organized to Provide the Highest Quality Service

To effectively address the projects that will arise in all the technical areas outlined in the RFQ, our organizational structure is specifically divided into the categories outlined in the City's RFQ. We are proposing qualified and focused discipline-specific project managers supported by a Tampa-based officer-in-charge and a team of technically qualified Florida and national staff and subconsultants to perform the wide range of projects that may arise.

Even though we are committed to providing you with the most responsive and proactive service by coordinating all projects through our local coordinator, we are supported by specialty subconsultants available locally in Key West and a multitude of technical experts within an hour flight or two-hour drive of the City. This is particularly important when it comes to supporting you during situations that might threaten public safety, level of service, or regulatory compliance. To further ensure that we are available to you as needed, we have implemented innovative communication protocols and technology to help make certain you can always reach a team member familiar with your project.



Figure 4.1-1: CDM Smith's team is composed of a local coordination, locally-based subconsultants, and a multitude of subject matter experts within an hour flight or two-hour drive of the City.

## 4.2 Responsiveness and Availability of Staff

The CDM Smith team has prepared extensively for the opportunity to serve the City, and our commitment to the City and to this contract will be demonstrated in our ability to mobilize quickly when called upon. The presented key team members and technical professionals have been selected for their unparalleled qualifications and for their insight into the City’s needs and issues.

Availability and accessibility were key attributes in team member selection, both in terms of partner firms on the CDM Smith team and key task leader assignments. Understanding that critical information may be needed at very short notice, the CDM Smith project manager, officer-in-charge, and local coordinator will be available to the City at all times. *We pride ourselves on this open and accessible project management style*, and our consistently high client evaluations document the success of this approach. Analysis of our team’s current and projected workload indicates that all team members can accommodate this contract comfortably with available resources. Our current backlog of work and need for additional work is represented in **Figure 4.2-1**. The Tampa office does not have a large pipeline of work lined up for the coming months and is readily available to the City immediately and in the future.

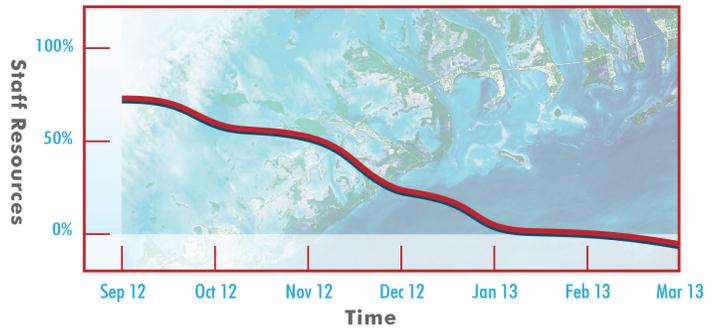


Figure 4.2-1: With a declining backlog of project work, CDM Smith will be totally responsive to the City on all assignments and truly place you as a priority client.

### 4.2.1 COMMITMENT OF STAFF

CDM Smith has processes in place that can systematically identify minimum and maximum essential manpower requirements for the most effective and economical accomplishment of each assigned task. Our management approach is structured to ensure cooperative and responsive client/consultant working relationships with clear lines of communication and authority throughout the entire project. **Table 4.2.1-1** identifies the estimated availability and response time for key members of the CDM Smith team. We are committed to making this a successful contract with the City, as we have done on our previous contract with the City. We have professionals available to begin work immediately. As each work assignment is initiated, staff will be selected based on technical qualifications and assigned to the project for the duration. We have been effective in maintaining a high level of continuity of staff to ensure project success, including on projects completed for the City.

TABLE 4.2.1-1: TEAM MEMBER AVAILABILITY				
TEAM MEMBER	ROLE	OFFICE LOCATION	RESPONSE TIME	AVAILABILITY
Daniel E. Strobbridge, QEP	Officer-in-Charge	Tampa	30-minute flight	40%
John L. Mafera Jr.	Local Coordinator	Key West	3-minute drive	50%
Aamod Sonawane, P.E., BCEE	Solid Waste Project Manager	Tampa	30-minute flight	35%
John G. Ladner, P.E., BCEE	Civil Engineering Project Manager; Civil Design	Orlando	35-minute flight	40%
Clay M. Tappan, P.E., BCEE	City Utilities Project Manager – Pipelines	Tampa	30-minute flight	35%
James T. Wittig, P.E.	City Utilities Project Manager – Stormwater	Orlando	35-minute flight	30%
Spencer J. Perry Jr., P.E., LEED® AP	City Utilities Project Manager – Electrical Communications	Orlando	35-minute flight	25%

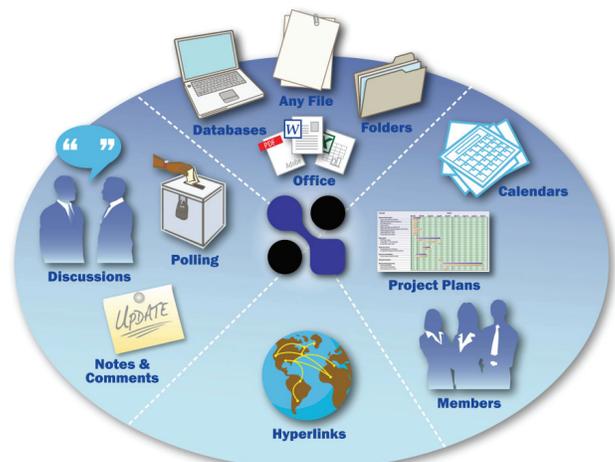
**TABLE 4.2.1-1: TEAM MEMBER AVAILABILITY**

TEAM MEMBER	ROLE	OFFICE LOCATION	RESPONSE TIME	AVAILABILITY
Vipin Pangasa, P.E., BCEE	City Utilities Project Manager – Wastewater	Tampa	30-minute flight	30%
William T. Beeson, P.G.	Environmental Project Manager	Tampa	30-minute flight	30%
Jason A. Johnson, P.E.	Coastal Engineering Project Manager; Stormwater; Sewer	Miami	15-minute flight or 3.5-hour drive	30%
Daniel T. Anderson, P.E., BCEE	Finance	West Palm Beach	25-minute flight	30%
Timothy A. Verwey, P.E.	Structural	Orlando	35-minute flight	20%
Kevin C. Leo, P.E., BCEE	Solid Waste	West Palm Beach	25-minute flight	25%
Eric J. Grotke, P.E., BCEE	Solid Waste	Vero Beach	30-minute flight	25%
Nick Charnas III, P.E.	Stormwater	Tampa	30-minute flight	40%
Ana C. Valenca DeMelo, P.E., D.WRE	Stormwater	West Palm Beach	25-minute flight	25%
Paul A. Lefave, P.E., CEM	Electrical	Orlando	35-minute flight	15%
Cynthia L. Stellmack, P.E.	Electrical	Orlando	35-minute flight	20%
Quang Le, P.E.	Roadway	Orlando	35-minute flight	35%
Michael S. Snyder, P.E.	Roadway	Orlando	35-minute flight	35%
Revocatus C. Kanilwa, P.E., PTOE	Traffic/Signals	Miami	15-minute flight or 3.5-hour drive	25%
Paul Q. Snead, P.E.	Drainage/Stormwater	Orlando	35-minute flight	30%
Nick A. Benedico, P.E., PMP, AICP	QA/QC	Orlando	35-minute flight	20%

### 4.3 Electronic Meeting Tools

CDM Smith offers innovative methods to conduct meetings via the internet, intranet, teleconferencing, NetMeeting, and eRooms. The use of these innovative methods has enabled us to reduce travel costs and fast-track a number of projects that might otherwise have been slow to progress due to scheduling conflicts, thus increasing the overall efficiency of project delivery. Following are brief descriptions of the technology available and various meeting capabilities.

- **Audio Conferencing** – A conference call for three or more people, by itself or with any of the other meeting tools listed for invited participants, within or outside CDM Smith.
- **NetMeeting** – A presentation or meeting to collaborate on a project, within our network; small groups within CDM Smith.
- **Worldcom Net Conferencing Presentation Tool** – A presentation within or outside our network, for invited participants, within or outside CDM Smith.
- **Worldcom Instant Net Conferencing Collaboration Tool** – A meeting to collaborate on a project by sharing an application or file within or outside our network, for invited participants, within or outside CDM Smith.
- **eRoom** – A collaborative web-based shared space for projects. CDM Smith maintains two eRoom servers, one accessible over our network, the other available through the internet. Project team members within, or using the external web server outside CDM Smith, can access the eRoom.



An eRoom streamlines project collaboration by creating a virtual space where staff can create, edit, manage, and discuss all things related to a project.

- Video Conferencing** – CDM Smith uses high-definition video conferencing systems for face-to-face interoffice meetings, collaborative work, presentations, divisional meetings, design reviews, 3D model reviews, and remote job interviews. We currently have 30 offices using video over our private, secure high-speed network with more offices getting the capabilities all the time. We also have the ability to connect with non-CDM Smith video conferencing systems, clients, and partners around the world over the internet through our video conferencing bridge. Video conferencing enables us to save travel time and costs, reduces our carbon footprint, improves project performance, reduces stress, results in less downtime, and provides a previously unfeasible new level of partnership between partners and clients.



## 4.4 Meeting Cost and Timeliness of Completion Requirements

CDM Smith has in place effective project control systems to provide a routine method of producing and controlling information for progress reporting, scheduling, budgeting, accounting, and all other project functions. We will use these existing project controls throughout our involvement with the City’s projects. In addition to the standard quality manuals and project technical reviews, we have made continuous quality monitoring integral to our company culture. These include the PMP system, client audits, client satisfaction surveys, and regular project meetings. Our PMP system requires project managers to conduct a quality review of each project they are managing on a monthly basis. We believe that the following key factors, when diligently applied, will fulfill our responsibilities to deliver a successful project:

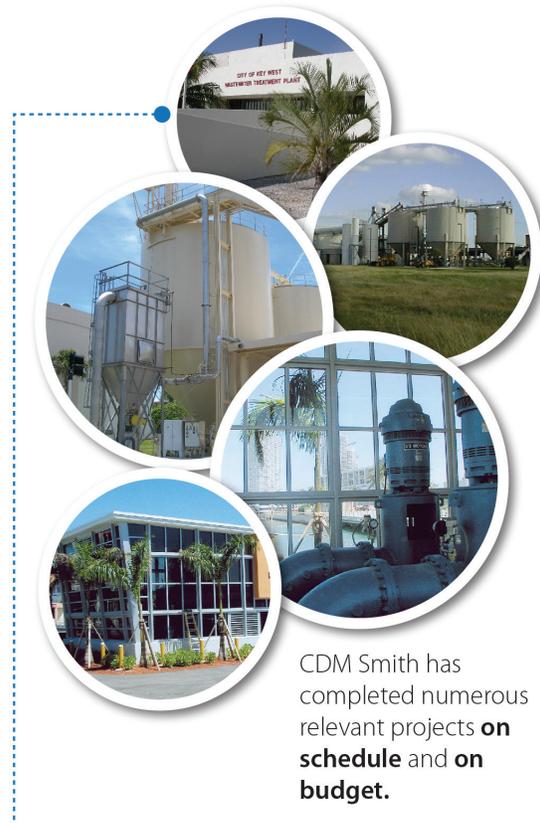
- Strategic Management** – Provide careful planning of all assignments and diligently monitor the progress of each task
- Schedule Control** – Ensure that all deliverables meet or exceed schedule requirements by completing our work in time for effective integration into other projects as appropriate
- Budget Management and Control** – Manage projects to meet budget expectations by utilizing the right mix of expertise and staff resources to provide cost-effective solutions
- Quality Management** – Ensure that deliverables meet the City’s and CDM Smith’s quality expectations
- Resources** – Provide the best available people, experienced in each of the disciplines relevant to the task at hand, to execute the project
- Project Communication** – Establish effective working relationships with the City and project stakeholders to ensure open and effective communication
- Responsiveness** – Be there when you need us. We believe that responsiveness goes hand-in-hand with quality and will place communication at the core of our strategy for the City.



#### 4.4.1 NUMBER OF PROJECTS SUCCESSFULLY COMPLETED ON SCHEDULE AND WITHIN BUDGET

Our clients—and the City—are familiar with our commitment to maintaining schedule and budget. We have consistently delivered projects for our Florida clients that meet schedule expectations, which is largely the result of our project approach and our unrelenting attention to client service. Project examples that illustrate our team’s ability to closely and successfully monitor project costs and schedule include:

- CDM Smith designed a 3.0-mgd low pressure reverse osmosis (LPRO) **water treatment plant for the City of Clewiston**. The project schedule was very tight and required the project to be completely designed, permitted, and bid within 12 months. We performed pilot testing, design, permitting, and bidding services within the allocated time frame. The project construction was completed on time and 4 percent under budget with less than 1 percent change orders.
- The **Arbennie Pritchett WRF in Okaloosa County**, for which CDM Smith provided design, construction, outfit, start up, performance testing, and permitting services, was completed on schedule and on budget with zero unsolicited change orders. We completed the design in five months using a 3D/4D design process and partnering sessions, which allowed the owner to see each integrated design feature. We also used early start packages to allow long-lead time items to be procured once approved.
- We designed the Lakeside Ranch Stormwater Treatment Area (STA) North project consisting of a 1,000-acre 3-cell STA and a 250-cfs pump station for the **South Florida Water Management District**. The project was delivered at roughly 40 percent less than the original budget, which resulted in a savings of approximately \$16M.
- As part of the **Tampa Bay Water Regional Surface WTP Expansion**, CDM Smith provided design, permitting, engineering services during construction, and start-up assistance. Through a collaborative process with the DBO team leader Veolia Water North America-South LLC, the general contractor, and the client, the project achieved final completion for the expansion ahead of the contractual date and significantly under budget.
- CDM Smith controlled project costs on the **City of Deerfield Beach’s Concentrate Pump Station** by negotiating with the contractor on the City’s behalf, reducing the original proposed construction fee from \$7.2M to \$5.7M, a savings of \$1.5M for the City. Additionally, even with a project of this magnitude, change orders totaled only 2 percent, mostly due to unforeseen conditions below ground.
- Project schedule and control measures on the **Dakin Avenue Box Culvert Improvements projects in Kissimmee** were important because of grant funding requirements. The project had to be designed and constructed within 36 months. To track schedule and costs, CDM Smith used Microsoft Project and its financial tracking system to monitor both schedule and costs incurred versus earned value. This information was used to adjust project resources and keep the City informed on progress.



CDM Smith has completed numerous relevant projects **on schedule and on budget**.

We have also completed a number of significant environmental engineering projects throughout Florida within budget and schedule constraints, including:

**Client Name:** Miami-Dade County

**Description of Work:** South District Water Reclamation Plant

**Cost and Timeliness of Completion:** Total project cost of \$300M; on schedule and on budget



**Client Name:** City of Largo

**Description of Work:** Biosolids Facility Improvements

**Cost and Timeliness of Completion:** Total project cost of \$2.1M; on schedule and on budget



**Client Name:** Tampa Bay Water

**Description of Work:** Regional Surface WTP Expansion

**Cost and Timeliness of Completion:** Total project cost of \$105M; on schedule and under budget



**Client Name:** Seminole County

**Description of Work:** Long Pond Road Water Main

**Cost and Timeliness of Completion:** Total project cost of \$166K; on schedule and on budget



**Client Name:** Florida Governmental Utility Authority

**Description of Work:** Golden Gate Canal Intake and Transmission Main

**Cost and Timeliness of Completion:** Total project cost estimated at \$6M; design completed two months ahead of schedule with construction pending



**Client Name:** City of St. Pete Beach

**Description of Work:** Master Wastewater Pump Station

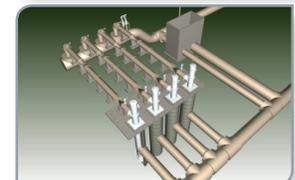
**Cost and Timeliness of Completion:** Total project budget of \$275,000 for design and \$3.7M for construction; completed on schedule and on a revised budget



**Client Name:** Tampa Bay Water

**Description of Work:** Off-Stream Reservoir Pump Station

**Cost and Timeliness of Completion:** Total project budget of \$17M; engineering services for permitting and design were more than \$770,000 below contract value and construction was completed on schedule and within budget



**Client Name:** City of Tampa

**Description of Work:** Reclaimed Water Program Expansion

**Cost and Timeliness of Completion:** Total project cost of \$910K; completed work orders were performed on schedule and ahead of budget

**Client Name:** City of Miami Beach

**Description of Work:** Sunset Island 2 and 3 Subaqueous Force Main

**Cost and Timeliness of Completion:** Total project cost of \$42; project completed on schedule and on budget



## Section 5 – Other Certifications

# Section 5 – Other Certifications

CDM Smith brings almost decades of engineering experience in Florida. Through this experience, we have developed the depth, breadth, and diversity of multidisciplinary resources required to deliver high-quality, responsive engineering services to the City. Evidence of our credentials and licenses are attached. To demonstrate our staff's credentials to perform engineering services, we have included license numbers on the resumes included in Section 2. In addition, we have attached a sample insurance certificate and Key West business tax receipt to further demonstrate our qualifications for this contract.

## 5.1 LEED® Certification

More than 200 CDM Smith architects and engineers have been certified as Leadership in Energy and Environmental Design (LEED®) Accredited Professionals, including proposed team member Spencer J. Perry Jr., P.E., LEED® AP. Our LEED®-accredited staff have proven capabilities in designing and certifying facilities that meet the U.S. Green Building Council established sustainable design criteria, and we will work with the City to promote your goals of a sustainable and environmentally friendly community.

As stewards of the environment, we seek solutions that enhance quality of life and preserve the environment for future generations. Our design solutions and construction practices achieve an optimum balance of direct and indirect environmental impact, energy conservation and efficiency, indoor environmental quality, and resource conservation. **Table 5.1-1** presents representative CDM Smith LEED® experience in the Southeast.

## 5.2 FDOT Pre-Qualifications

CDM Smith is prequalified by the FDOT in 11 major work groups, including a total of 31 categories, and we have consistently earned better than average grades for our performance of FDOT assignments. In fact, we have earned an average score of 3.9 on a scale of 1 to 5 for our performance in terms of quality of work, adherence to schedule, and overall project management. These scores place us above most of our competitors, and we are proud of this achievement.

In addition, staff from across the state hold a wide variety of FDOT certifications, including, but not limited to, Geopak Roadway Training; Advanced Work Zone Traffic Control; Electronic Specification

### State of Florida Department of State

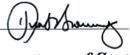
I certify from the records of this office that CDM SMITH INC. is a corporation organized under the laws of Massachusetts, authorized to transact business in the State of Florida, qualified on April 23, 1974.

The document number of this corporation is 832235.

I further certify that said corporation has paid all fees due this office through December 31, 2011, that its most recent annual report was filed on January 31, 2011, and its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of Florida, at Tallahassee, the Capital, this the Sixteenth day of December, 2011

  
Secretary of State



Authentication ID: 200215264292-121611-832235  
To authenticate this certificate, visit the following site, enter this ID, and then follow the instructions displayed:  
<https://efile.sunbiz.org/certauthver.html>

### State of Florida Board of Professional Engineers



Is authorized under the provisions of Section 471.023, Florida Statutes, to offer engineering services to the public through a Professional Engineer, duly licensed under Chapter 471, Florida Statutes.

EXPIRATION: 2/28/2013

Certificate of Authorization

CA. Lic. No:

AUDIT No: 228201305170

20

### FDOT PRE-QUALIFICATIONS

- GROUP 2 – **PD&E Studies**
- GROUP 3 – **Highway Design – Roadway**
- GROUP 4 – **Highway Design – Bridges**
- GROUP 5 – **Bridge Inspection**
- GROUP 6 – **Traffic Engineering and Operations Studies**
- GROUP 7 – **Traffic Operations Design**
- GROUP 9 – **Soil Exploration, Material Testing and Foundations**
- GROUP 10 – **Construction Engineering Inspection**
- GROUP 11 – **Engineering Contract Administration and Management**
- GROUP 13 – **Planning**
- GROUP 14 – **Architect**

**CDM  
Smith**

Package Training; Project Manager Training; SureTrak Scheduling Training; LRE Training; Transport Training; Storm Drain Design; Intersection Design Training; Intermediate and Advanced MOT; Earthwork Density Record System; Florida Stormwater, Erosion and Sedimentation Control Training; Asphalt Inspection Consultant Series; Traffic Signals, Utilities, Environment, Signing and Marking Consultant Series; Contract Administration Course; Traffic Control; and Concrete Field Inspector.

Proposed team member **Revocatus C. Kanilwa, P.E., PTOE** is certified in Advanced MOT, and **Quang Le, P.E.** is certified in MOT, Intersection Design, Pavement Design, and Specification Package Preparation.

**TABLE 5.1-1: CDM SMITH'S PORTFOLIO OF LEED® CERTIFICATION PROJECT EFFORTS IN THE SOUTHEAST**

PROJECT NAME	PROJECT HIGHLIGHTS
Water and Wastewater Systems, Private Client, Lee and Charlotte Counties, FL	<ul style="list-style-type: none"> <li>• LEED® New Construction Silver Design</li> <li>• Recycled content, green roof technology, innovative structural system, and potential photovoltaic array</li> <li>• USGBC registered</li> </ul>
SWA of Palm Beach County's North County Resource Recovery Operations Building, Palm Beach County, FL	<ul style="list-style-type: none"> <li>• LEED® New Construction Silver Design</li> <li>• USGBC registered</li> <li>• Recycled content, regional materials, energy efficient HVAC systems, low VOC materials</li> </ul>
Dania Beach Nanofiltration Water Treatment Plant Addition Design-Build, Dania Beach, FL	<ul style="list-style-type: none"> <li>• LEED® Gold Certified</li> <li>• Energy optimizing performance equipment, construction materials with high recycled content, xeriscaping, low-flow fixtures</li> </ul>
SWA of Palm Beach County Waste-to-Energy Facility – Administration/Visitors Building, Palm Beach County, FL	<ul style="list-style-type: none"> <li>• Being designed for LEED® Platinum Certification</li> <li>• Photovoltaics, green roofs, recycled and regional materials, rain harvesting, reduced energy consumption, efficient glazing, and ultra low-flow fixtures</li> </ul>
Wastewater Treatment Plant Operations Building, Florence, SC	<ul style="list-style-type: none"> <li>• LEED® New Construction Silver Certified</li> </ul>
Biodiesel Research Facility, Catawba County, NC	<ul style="list-style-type: none"> <li>• LEED® New Construction Silver Certified</li> <li>• USGBC registered</li> <li>• Recycled content, regional materials, energy efficient HVAC systems, low VOC materials</li> </ul>
Greensboro Transit Authority Maintenance/Operations Transit Facilities and Administrative Offices, Greensboro, NC	<ul style="list-style-type: none"> <li>• Pursuing LEED® Gold Certification</li> </ul>
United States Coast Guard Sector Command Center, New Orleans, LA	<ul style="list-style-type: none"> <li>• LEED® New Construction Silver Certified</li> <li>• USGBC registered</li> <li>• Sustainable wall systems, natural lighting, energy efficiency HVAC systems</li> </ul>
University of Tennessee Min Kao Electrical and Computer Engineering Facility, Knoxville, TN	<ul style="list-style-type: none"> <li>• LEED® Certified</li> <li>• Environmentally sound materials, natural lighting, cost- and energy-efficient indoor lighting</li> </ul>

# CITY OF KEY WEST, FLORIDA

## Business Tax Receipt

This Document is a business tax receipt  
 Holder must meet all City zoning and use provisions.  
 P.O. Box 1409, Key West, Florida 33040 (305) 809-3955

Business Name: CAMP DRESSER & MCKEE INC CtlNbr:0019096  
 Location Addr: 1715 N WESTSHORE BLVD  
 Lic NBR/Class: 12-00023480 SERVICE - GENERAL  
 Issue Date: September 30, 2011 Expiration Date: September 30, 2012  
 License Fee: \$98.70  
 Add. Charges: \$0.00  
 Penalty: \$0.00  
 Total: \$98.70  
 Comments: CONSULTANT

This document must be prominently displayed.

CAMP DRESSER & MCKEE INC  
 ONE CAMBRIDGE PLACE  
 50 HAMPSHIRE ST  
 CAMBRIDGE MA 02139

CAMP DRESSER & MCKEE INC  
 Oper: CWLKER Type: OC Drawers: 1  
 Date: 9/30/11 55 Receipt no: 182595  
 01 2112 23480  
 01 LIC OCCUPATIO 1 498.78  
 Trans numbers: 2684718  
 DL CHECK: 947515 498.78  
 Trans date: 9/30/11 Time: 14:01:00



### CERTIFICATE OF LIABILITY INSURANCE

DATE(MMDD/YYYY)  
01/10/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Aon Risk Services Northeast, Inc. Boston MA Office One Federal Street Boston MA 02110 USA	<b>CONTACT NAME</b> PHONE (AC No. Ext): (866) 283-7122 FAX (AC No.): (847) 953-5390 <b>E-MAIL ADDRESS:</b>
<b>INSURED</b> CDM Smith Inc. ONE CAMBRIDGE PLACE 50 HAMPSHIRE STREET CAMBRIDGE MA 021390000 USA	<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: Zurich American Ins Co 16535 INSURER B: ACE Property & Casualty Insurance Co. 20699 INSURER C: Lloyd's of London 0005FT INSURER D: INSURER E: INSURER F:

**COVERAGES** **CERTIFICATE NUMBER:** 570045029513 **REVISION NUMBER:**  
 THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

TRK#	LTR	TYPE OF INSURANCE	ADDR	SUBR	INSR	WVD	POLICY NUMBER	POLICY EFF (MMDD/YYYY)	POLICY EXP (MMDD/YYYY)	LIMITS
A		<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC					GL0837663216	01/01/2012	01/01/2013	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$300,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$4,000,000 PRODUCTS - COM/OP AGG \$4,000,000
A		<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS					BAP 8376631-16	01/01/2012	01/01/2013	COMBINED SINGLE LIMIT (Ea accident) \$2,000,000 BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)
B	X	<b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> RETENTION \$25,000					X00C2591546A SIR applies per policy terms & conditions	01/01/2012	01/01/2013	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000
A		<b>WORKERS COMPENSATION AND EMPLOYERS LIABILITY</b> ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below Y/N N/A					wc837663317	01/01/2012	01/01/2013	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE-EA EMPLOYEE \$1,000,000 E.L. DISEASE-POLICY LIMIT \$1,000,000
C		<b>Env Prof (E&amp;O)</b>					QC1201367 SIR applies per policy terms & conditions	01/01/2012	01/01/2013	Occurrence USD \$5,000,000 Aggregate USD \$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)  
 For Proposal Purposes

<b>CERTIFICATE HOLDER</b> CDM Smith Inc One Cambridge Place, 50 Hampshire Street Cambridge MA 02139 USA	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. <b>AUTHORIZED REPRESENTATIVE</b> <i>Aon Risk Services Northeast Inc</i>
--	---

ACORD 25 (2010/05)

©1988-2010 ACORD CORPORATION. All rights reserved. The ACORD name and logo are registered marks of ACORD.

Holder Identifier :

Certificate No : 570045029513

CITY OF KEY WEST  
WASTEWATER TREATMENT PLANT

**CDM  
Smith**  
cdmsmith.com