



CITY OF DELRAY BEACH
100 NW 1st AVENUE, DELRAY BEACH, FL 33444

AGREEMENT FOR PROFESSIONAL SERVICES
RFQ 2017-048 (918-42, 918-89, 906-56)

CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

**AGREEMENT
FOR
PROFESSIONAL SERVICES (CCNA)**

AGREEMENT NO. RFQ 2017-048 (918-42, 918-89, 906-56)

THIS AGREEMENT is made and entered into this 31st day of August, 2017 (the "effective date"), by and between the **City of Delray Beach**, a Florida municipal corporation (hereinafter referred to as "City"), whose address is 100 NW 1st Avenue, Delray Beach, Florida, 33444, and **CB&I Environmental Infrastructure, Inc.**, a Louisiana corporation (hereinafter referred to as "Consultant"), whose principal address is 4171 Essen Lane, Baton Rouge, Louisiana 70809.

WHEREAS, the City desires to retain the services of the Consultant to provide certain Professional Services in accordance with the City's Request for Qualifications RFQ 2017-048, Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services (918-42, 918-89, 906-56), and the Consultant's response thereto, which are attached hereto and incorporated herein as Exhibit "A".

NOW, THEREFORE, in consideration of the mutual covenants and promises hereafter set forth, the Consultant and the City agree as follows:

ARTICLE 1. INCORPORATION OF REQUEST FOR QUALIFICATIONS

The terms and conditions of this Agreement shall include and incorporate the terms, conditions, and scope of services set forth in the City's Request for Qualifications, RFQ 2017-048, and the Consultant's response to the Request for Qualifications, including all addenda and documentation required thereunder.

ARTICLE 2. SCOPE OF SERVICES

The Consultant shall provide Professional Services to the City, under the following categories of work as defined in the Request for Qualifications:

- a. Category(s)
 - i. Engineering Services
 - ii. Surveying/Mapping Services
 - iii. Landscape Architectural Services

The Consultant shall provide the services on an as-needed and project-by-project basis, based on work requests from City departments through the issuance of Service Authorizations.

ARTICLE 3. COMPENSATION

The City shall pay the Consultant for performing the Services based on the Prices and Rates shown in Exhibit "B", which is attached hereto and incorporated herein.

ARTICLE 4. TERM

The term of this Agreement shall be from the effective date until August 30 2022, unless terminated beforehand as provided for in Article 5. Nothing contained in the Request for Qualifications or this Agreement shall be construed by the Consultant as a guarantee of work from the City. The City reserves the right to extend the Agreement for one, two-year term, providing all terms conditions and specifications remain the same, both parties agree to the extension, and such extension is approved by the City.

At the City's request, the Consultant shall continue services beyond the final expiration date. This extension period shall not extend for more than one year beyond the final expiration date of the Agreement. The Consultant shall be compensated at the rate in effect when this extension period is invoked by the City.

ARTICLE 5. TERMINATION

a. This Agreement may be terminated by the City, with or without cause, upon providing written notice to the Consultant. This Agreement may be terminated by the Consultant upon thirty (30) days' prior written notice to the City. Upon any such termination, the Consultant waives any claims for damages from such termination, including, but not limited to, loss of anticipated profits. Unless the Consultant is in breach of this Agreement, the City shall pay the Consultant for services rendered through the date of termination in accordance with the terms of this Agreement.

b. The continuation of this Agreement beyond the end of any fiscal year shall be subject to both the appropriation and the availability of funds in accordance with Florida law.

ARTICLE 6. LAW, JURISDICTION, VENUE, WAIVER OF JURY TRIAL

This Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All Parties agree and accept that jurisdiction of any controversies or legal problems arising out of this Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be

exclusively in the state courts of the Fifteenth Judicial Circuit in Palm Beach County, Florida, and venue for litigation arising out of this Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS AGREEMENT, SECOND PARTY AND CITY HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT IN ADJUDICATING THE MOTION.**

ARTICLE 7. ATTORNEY'S FEES

Any costs or expense (including reasonable attorney's fees) associated with the enforcement of the terms and for conditions of this Agreement shall be borne by the respective Parties, however, this clause pertains only to the Parties to this Agreement.

ARTICLE 8. MISCELLANEOUS PROVISIONS

a. Notice Format. All notices or other written communications required, contemplated, or permitted under this Agreement shall be in writing and shall sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the Parties designate the following:

As to the City:

City of Delray Beach
100 NW 1st Avenue
Delray Beach, FL 33444
Attn: City Manager

With a copy to:

City of Delray Beach
200 NW 1st Avenue
Delray Beach, Florida 33444
Attn: City Attorney

As to the Consultant:

CB&I Environmental & Infrastructure, Inc.
2481 NW Boca Raton Blvd.
Boca Raton, Florida 33431
Attn: Thomas P. Pierro, Director of
Operations

b. Headings. The headings contained in this Agreement are for convenience of reference only and shall not limit or otherwise affect in any way the meaning or interpretation of this Agreement.

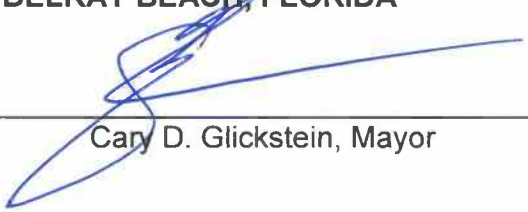
c. The documents listed below are a part of this Agreement and are hereby incorporated by reference. In the event of inconsistency between the documents, unless otherwise provided herein, the terms of the following documents will govern in the following order of precedence:

- i. Terms and conditions as contained in this Agreement.
- ii. Terms and conditions of RFQ 2017-048.
- iii. Consultant's response to RFQ 2017-048 and any subsequent information submitted by Consultant during the evaluation and negotiation process.

(The remainder of this page intentionally left blank)

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date hereinabove first written.

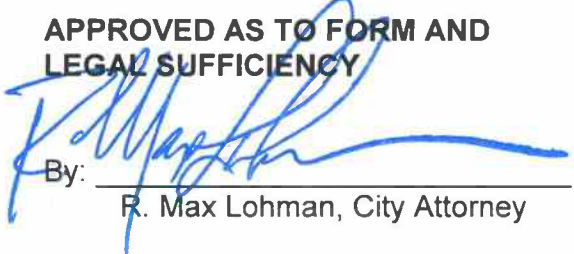
CITY OF DELRAY BEACH, FLORIDA

By: 
Cary D. Glickstein, Mayor

ATTEST:

By: 
Katerri Johnson, City Clerk

**APPROVED AS TO FORM AND
LEGAL SUFFICIENCY**

By: 
R. Max Lohman, City Attorney

CONSULTANT

By: 

Title: Thomas Pierro, Director of Operations

WITNESSES:

By: 

Print Name: Tara Brenner

By: 

Print Name: Tracee McCauley



CERTIFICATE OF LIABILITY INSURANCE

6/30/2018

DATE (MM/DD/YYYY)

7/28/2017

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 have ADDITIONAL INSURED provisions or 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).

PRODUCER LOCKTON COMPANIES 444 W. 47TH STREET, SUITE 900 KANSAS CITY MO 64112-1906 (816) 960-9000	CONTACT NAME:		
	PHONE (A/C, No, Ext):	FAX (A/C, No):	
INSURED 1430625 CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. APTIM ENVIRONMENTAL & INFRASTRUCTURE, INC. A SUBSIDIARY OF APTIM HOLDING CORPORATION 4171 ESSEN LANE BATON ROUGE LA 70809	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Greenwich Insurance Company		22322
	INSURER B: XL Specialty Insurance Company		37885
	INSURER C:		
	INSURER D:		
	INSURER E:		
INSURER F:			

COVERAGES 7 **CERTIFICATE NUMBER:** 14866508 **REVISION NUMBER:** XXXXXXXX

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ BROAD FORM PD ☒ CONT.LIAB & XCU GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☐ LOC OTHER:	Y	Y	CGD7409602	6/30/2017	6/30/2018	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ONLY ☒ NON-OWNED AUTOS ONLY	Y	Y	CAD7409603	6/30/2017	6/30/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
	☐ UMBRELLA LIAB ☐ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
B B B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	Y N/A	CWD7409600 (AOS) CWR7409601 (WI) INCLUDES STOP GAP	6/30/2017 6/30/2017 6/30/2017	6/30/2018 6/30/2018 6/30/2018	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: CUSTOMER REFERENCE NO.: CITY OF DELRAY BEACH RFQ NO. 2017-048 / CITY OF DELRAY BEACH IS INCLUDED AS ADDITIONAL INSUREDS AS RESPECTS GENERAL LIABILITY AND AUTO LIABILITY COVERAGES, THESE COVERAGES ARE PRIMARY AND NON-CONTRIBUTORY AS REQUIRED BY WRITTEN CONTRACT. 30 DAYS NOTICE OF CANCELLATION BY PAID CLAIMS (EXCEPT FOR NON-PAY).

CERTIFICATE HOLDER

14866508
CITY OF DELRAY BEACH
100 NW 1ST AVENUE
DELRAY BEACH FL 33444

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.



CERTIFICATE OF LIABILITY INSURANCE

6/30/2018

DATE (MM/DD/YYYY)

7/28/2017

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 have **ADDITIONAL INSURED** provisions or 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).

PRODUCER LOCKTON COMPANIES 444 W. 47TH STREET, SUITE 900 KANSAS CITY MO 64112-1906 (816) 960-9000	CONTACT NAME:	FAX (A/C, No):	
	PHONE (A/C, No, Ext):	E-MAIL ADDRESS:	
INSURED 1429034 CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. APTIM ENVIRONMENTAL & INFRASTRUCTURE, INC. A SUBSIDIARY OF APTIM HOLDING CORPORATION 4171 ESSEN LANE BATON ROUGE LA 70809	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A: Indian Harbor Insurance Company		36940
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
INSURER F:			

COVERAGES 7 **CERTIFICATE NUMBER:** 14866511 **REVISION NUMBER:** XXXXXXXX

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.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:		NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX DAMAGE TO RENTED PREMISES (Ea occurrence) \$ XXXXXXXX MED EXP (Any one person) \$ XXXXXXXX PERSONAL & ADV INJURY \$ XXXXXXXX GENERAL AGGREGATE \$ XXXXXXXX PRODUCTS - COMP/OP AGG \$ XXXXXXXX \$
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY		NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident) \$ XXXXXXXX BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
	UMBRELLA LIAB ☐ OCCUR EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$		NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y ☐ N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	NOT APPLICABLE			PER STATUTE ☐ OTH-ER ☐ E.L. EACH ACCIDENT \$ XXXXXXXX E.L. DISEASE - EA EMPLOYEE \$ XXXXXXXX E.L. DISEASE - POLICY LIMIT \$ XXXXXXXX
A	PROFESSIONAL LIABILITY	N N	CEO7446423	6/30/2017	6/30/2018	\$1,000,000 PER OCCURRENCE; \$1,000,000 AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: CUSTOMER REFERENCE NO.: CITY OF DELRAY BEACH RFQ NO. 2017-048 / 30 DAYS NOTICE OF CANCELLATION APPLIES (EXCEPT FOR NON-PAY).

CERTIFICATE HOLDER

14866511
CITY OF DELRAY BEACH
100 NW 1ST AVENUE
DELRAY BEACH FL 33444

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

EXHIBIT A

City of Delray Beach
**Continuing Engineering,
Surveying, & Landscaping
Architectural Consulting Services**
(918-42, 918-89, 906-56)



RFQ No. 2017-048

May 2017



CB&I Environmental & Infrastructure, Inc.



Proposal for:

Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services

RFQ No. 2017-048 May 30, 2017

Submitted to:

City of Delray Beach

Submitted by:

CB&I Environmental & Infrastructure, Inc.

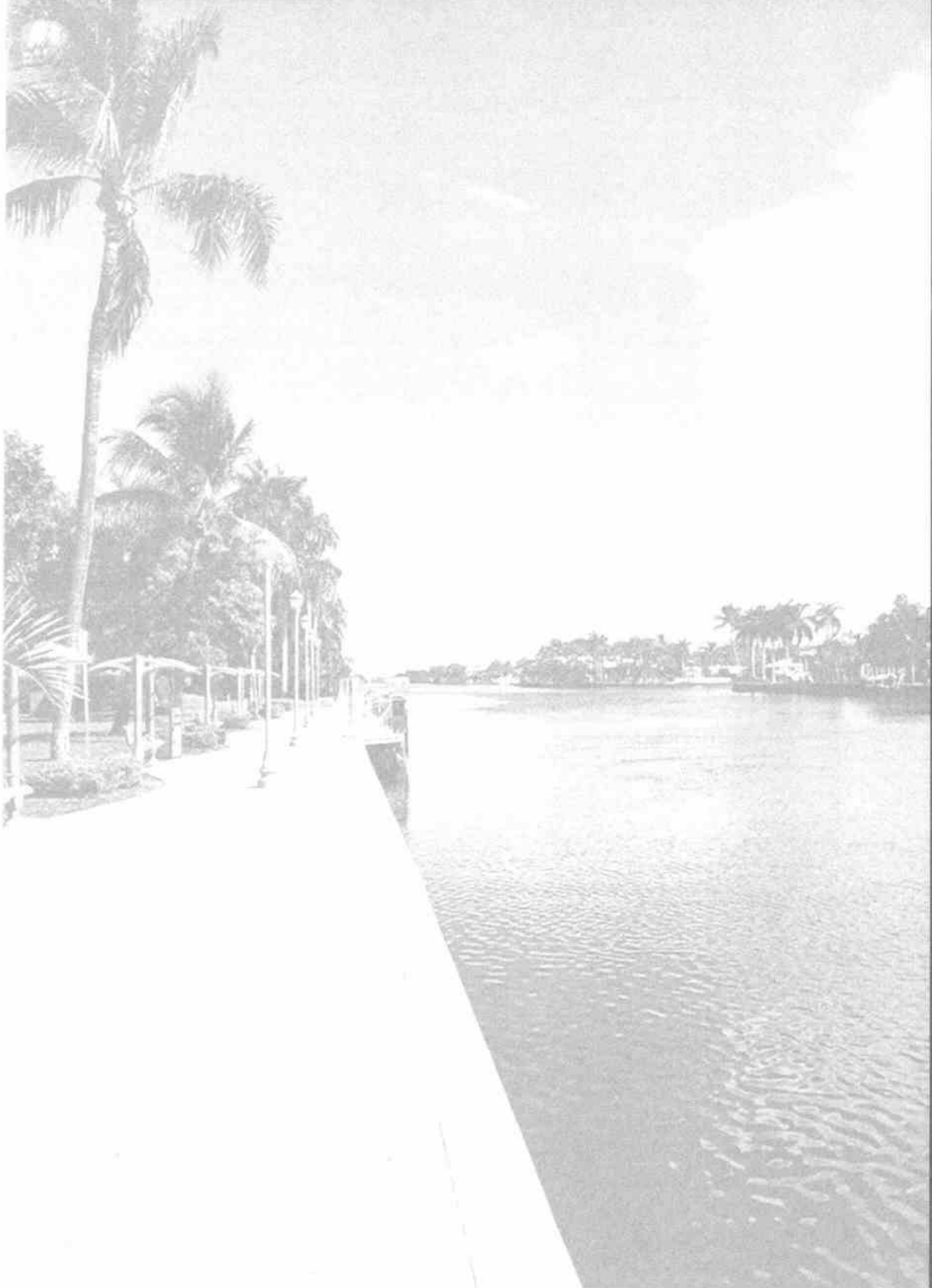
TABLE OF CONTENTS

1. Letter of Intent.....	1
2. Statement of Organization	2-1
2.A Legal Contracting Name	2-1
2.B State of Organization or Incorporation.....	2-1
2.C Ownership Structure	2-1
2.D W-9	2-1
2.E Contact Information for Corporate Headquarters	2-1
2.F Contact Information for Local Office	2-1
2.G Contact Information for Primary Representative During this RFQ Process	2-1
2.H Contact information for Secondary Representative.....	2-1
2.I Officers of CB&I Environmental & Infrastructure, Inc.	2-1
2.J Litigation	2-1
2.K Ownership Changes	2-2
3. Minimum Qualifications Documentation	3-1
4. Proposal Response Requirements Information	4-1
4.A Experience, Background, Reference Feedback	4-1
4.A.a Qualifications in Professional Services Categories	4-1
4.A.b Other Related Services	4-14
4.A.c Recognition for Services	4-20
4.A.d Client References	4-22
4.A.e Qualifications of Key Personnel.....	4-22
4.B Approach to Project Management.....	4-38
4.B.a Program Delivery and Interaction with the City.....	4-38
4.B.b Approach to the Design of Projects.....	4-39
4.B.c Work Location.....	4-39
4.C Projects for Similar Services	4-41
4.D Organizational Structure	4-58
4.D.a Staffing Resources.....	4-58
4.D.b CB&I Team Organization	4-58
4.D.c Roles and Responsibilities.....	4-59
4.D.d Availability and Personnel Commitment	4-59
4.D.e Workloads and Availability of Key Personnel	4-60

5. Required Forms	5-1
6. Evidence of Insurances	6-1

Exhibits

Exhibit 2-1. List of Ongoing Litigation	2-2
Exhibit 4-1. Typical Phase I Investigation Project Flow.....	4-5
Exhibit 4-2. Typical Phase II ESA Project Flow	4-6
Exhibit 4-3. Overview of Integrated Services To Assist in Sustainability Program Development.....	4-16
Exhibit 4-4. Remedial Alternatives Evaluations Table	4-17
Exhibit 4-5. CB&I Responds to Disasters World Wide.....	4-18
Exhibit 4-6. Client References	4-21
Exhibit 4-7. Project Delivery System	4-39
Exhibit 4-8. Project Management and Oversight of Work Plans.....	4-40
Exhibit 4-9. Boca Raton Staffing	4-58
Exhibit 4-10. CB&I Team Organization.....	4-58
Exhibit 4-11. Roles and Responsibilities of Key Personnel	4-59
Exhibit 4-12. Availability of Key Personnel	4-60



1.0 Letter of Intent



CB&I Environmental & Infrastructure, Inc.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
Tel: 561.391.8102
Fax: 561.391.9116
www.CBI.com

May 30, 2017

City of Delray Beach
100 NW 1st Avenue
Delray Beach, FL 33444
ATTN: Purchasing Department
via BidSync

Re: Continuing Engineering, Surveying, and Landscaping Architectural Consulting Services, RFQ No. 2017-048

Dear Selection Committee:

CB&I Environmental & Infrastructure, Inc. (CB&I) welcomes this opportunity to submit our qualifications to provide services as a vendor for the City of Delray Beach. We believe our firm is ideally suited to provide professional services in the fields of coastal and marine engineering, survey and mapping, and environmental/natural resources.

Our team takes pride in being at the forefront of coastal and marine engineering solutions. We routinely provide expert coastal engineering services to our clients through the development and implementation of innovative and cost-effective shore protection solutions. Being multidisciplinary, we also have the expertise to provide environmental services and have a demonstrated experience throughout the state in preserving and protecting property and natural resources. In fact, the staff of CB&I has been honored to provide the City with expert engineering services for over 40 years. We are your current coastal consultants, recently re-selected under competitive solicitation RFQ No. 2015-01 Project No. 14-096, and perform continual services to assist in monitoring and management of the City's beach program. Members of our staff have performed all the engineering, survey and environmental services for the City's periodic and emergency beach nourishments for decades. Over the years, we have also assisted the City in a variety of marine engineering tasks such as bulkhead improvements at Veterans Park and reconstruction of docks in the City marina.

CB&I already has an experienced team in place committed to continuing to provide the highest quality service to the City. This team of coastal and marine engineers, environmental scientists, biologists, geologists, surveyors, and CAD/GIS professionals has worked together to successfully permit, design, construct and monitor numerous projects for the City in the past.

By working together over the years, CB&I has acquired significant experience and knowledge of your programs and natural environment. CB&I is one of the leading marine focused firms in the Country. Our multi-disciplinary engineering and scientific staff has designed, permitted, surveyed, administered construction, and conducted monitoring for clients throughout Florida.

We are located just a few miles south of Delray Beach in Boca Raton and are available to respond to the City at a moment's notice. Some advantages of working with CB&I include:

- Extensive experience performing professional services for marine projects throughout Palm Beach County and the State of Florida
- Local Contract Manager that lives in Delray Beach
- Comprehensive team that understands the local, state, and federal regulatory environment
- Unmatched history with permitting, design, and construction management of the City's beach renourishment projects since the 1970s

- Performance of the annual topographic and bathymetric surveys for the City's beaches
- Participation in City stakeholder meetings and familiarity with the local challenges and interests
- A well-established understanding of the City's natural resources
- Ability to provide multi-disciplinary functions in-house to respond quickly to the City's needs, saving both time and money

Our professional staff has performed engineering, environmental, and surveying and mapping services for other South Florida clients including Palm Beach County, the City of Deerfield Beach, and the Town of Palm Beach. This experience has provided us with a comprehensive understanding of the processes and environment of the Atlantic coastal communities and has demonstrated our expertise in engineering, natural resource work, and surveying and mapping.

In addition to our coastal expertise, CB&I has expanded services that we are proud to present to the City to benefit your projects under this contract. Our survey and mapping department remains on the cutting edge of technology with laser scanning survey techniques and multiple trained drone operators. Our environmental teams across the state help clients to stay compliant with environmental regulations/permits, reclaim contaminated or derelict lands, and expand their infrastructure while protecting their natural resources.

In order to support the City, our staff of professionals will provide complete in-house engineering services, survey services, field investigation and monitoring services, GIS/CAD drafting services, and agency coordination. We find that maintaining diverse in-house expertise greatly promotes and enhances the professional collaboration needed to support a proactive and successful project. Maintaining a team of experts in key disciplines required for such services provides a unique advantage to our clients, as we do not have to rely upon sub-consultants who have no direct stake in projects and goals.

CB&I's response is respectfully submitted subject to mutually acceptable contract terms and conditions similar to those previously agreed to. By my signature, we commit our key personnel and other resources for the City's projects. We will not change key personnel without the express permission of the City. We are excited about the prospect of working with the City on this new contract and continuing our working relationship with your staff. Please let me know if I can answer any questions for you, or feel free to contact our Contract Manager, Tara Brenner.

Sincerely,

CB&I Environmental & Infrastructure, Inc.



Thomas P. Pierro, PE, D.CE

Director of Operations

Authorized Contact Person:

Tara Brenner, Project Manager

561-361-3169 Tara.Brenner@CBI.com

Attachment: Proposal Submittal Signature Page

Form A - Proposal Submittal Signature Page

By signing this Proposal, the Proposer certifies that it satisfies all legal requirements as an entity to do business with the City, including all Conflict of Interest and Code of Ethics provisions.

Firm Name: CB&I Environmental & Infrastructure, Inc.

Street Address: 2481 NW Boca Raton Blvd. Boca Raton, FL 33431

Mailing Address (if different from Street Address):

Telephone Number(s): 561-391-8102

Fax Number(s): 561-391-9116

Email Address: thomas.pierro@cbi.com

Federal Identification Number: 77-0589932

Acknowledged by:

CB&I Environmental & Infrastructure, Inc.

Firm Name



May 8, 2017

Signature

Date

Thomas Pierro, PE, DCE, Director of Operations

Printed Name and Title

By signing this document, the Proposer agrees to all terms and conditions of this RFQ which includes the Sample Agreement.

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE PROPOSAL NON-RESPONSIVE. THE CITY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY PROPOSAL THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE PROPOSER TO THE TERMS OF ITS PROPOSAL.

(Remainder of page intentionally left blank)

Form A - Signature Authority

Indicate below Proposer's type of organization and provide the required documentation as applicable to demonstrate that the executor of Proposer's Proposal is duly authorized to execute on behalf of, and as the official act of, Proposer.

Select	Type of Organization	Officer Who Signed Proposal Submittal Signature Page	Required Authorizing Documentation
☐	Corporation	President, Vice President, or Chief Executive Officer	None
☒	Corporation	Director, Manager, or other title	Corporate resolution
☐	Limited Liability Company (LLC) – Member-Managed	Member	Articles of Organization or Operating Agreement
☐	Limited Liability Company (LLC) – Manager-Managed	Manager	Articles of Organization or Operating Agreement
☐	Limited Partnership	General Partner	Document demonstrating the legal authority to bind the Limited Partnership
☐	Partnership	Partner	None
		CEO, Director, Manager or other title	Authorizing documentation
☐	Individual	Individual	None

☐ Documentation is not required.

☒ The required authorizing documentation is included with Proposal.

CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

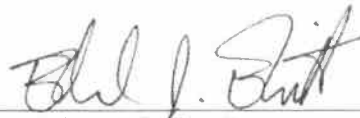
**OPINION AND CERTIFICATE OF THE CORPORATE SECRETARY
OF CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.
REGARDING CONTRACTING AUTHORITY**

I, **EDWARD J. EVERITT**, do hereby declare and certify that I am duly elected, qualified and acting Secretary of CB&I Environmental & Infrastructure, Inc., (the "Company"), a corporation duly organized and validly existing under the laws of the State of Louisiana, and that in such capacity, I do hereby declare and certify the following:

In accordance with the authority granted by the Company's Board of Directors and governing documents (and associated approved delegations thereof), **Thomas Pierro** has the authority to and is empowered to act for and on behalf of the Company in executing in the name of the Company, any and all types of proposals, bids, contracts, agreements, documents and instruments of whatever nature or kind necessary (not to exceed cumulative fixed price contract value of \$250,000.00 or cost reimbursable/time & materials contract value of \$2,000,000.00) to complete the contracting process relating to the City of Delray Beach, Florida, RFQ No. 2017-048, for the Continuing Engineering, Survey, and Landscaping Architectural Consulting Services.

IN WITNESS WHEREOF, I have herewith signed my name and affixed the seal of CB&I Environmental & Infrastructure, Inc. on this 17th day of May, 2017.

CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

By: 
Edward J. Everitt
Secretary

Corporate Seal:



2.0 Statement of Organization

2. STATEMENT OF ORGANIZATION

2.A Legal Contracting Name

CB&I Environmental & Infrastructure, Inc.

2.B State of Organization or Incorporation

CB&I Environmental & Infrastructure, Inc. was incorporated in Louisiana in 2002.

2.C Ownership Structure

CB&I Environmental & Infrastructure, Inc. is a publically traded corporation.

2.D W-9

A signed W-9 for CB&I Environmental & Infrastructure, Inc. is attached.

2.E Contact Information for Corporate Headquarters

Contact: Tyson Hackenberg, Vice President

Address: 4171 Essen Lane
Baton Rouge, LA 70809

Phone: 832-513-1830

Email: tyson.hackenberg@cbi.com

2.F Contact Information for Local Office

Contact: Thomas Pierro, Director of Operations

Address: 2481 NW Boca Raton Blvd.
Boca Raton, FL 33431

Phone: 561-361-3150

Email: thomas.pierro@cbi.com

2.G Contact Information for Primary Representative During this RFQ Process

Contact: Thomas Pierro, Director of Operations

Address: 2481 NW Boca Raton Blvd.
Boca Raton, FL 33431

Phone: 561-361-3150

Email: thomas.pierro@cbi.com

2.H Contact information for Secondary Representative

Contact: Tara Brenner, Contract Manager

Address: 2481 NW Boca Raton Blvd.
Boca Raton, FL 33431

Phone: 561-361-3169

Email: tara.brenner@cbi.com

2.I Officers of CB&I Environmental & Infrastructure, Inc.

Name	Title	Address	Phone
Robert Bridges	Vice President	2103 Research Forest Drive The Woodlands, TX	832-513-1958
Joseph Chopek	Vice President	2103 Research Forest Drive The Woodlands, TX	832-513-1838
Edward Everitt	Secretary	2370 Towne Center Baton Rouge, LA	225-987-6898
Tyson Hackenberg	Vice President	4171 Essen Lane Baton Rouge, LA	832-513-1830
William Lamb	Vice President	2103 Research Forest Drive The Woodlands, TX	832-513-2917
Bradley Lowe	CFO, Exec Vice President, Treasurer	4171 Essen Lane Baton Rouge, LA	225-932-5884
Steve Martin	Vice President	4171 Essen Lane Baton Rouge, LA	225-987-7133
Chip Ray	President	2103 Research Forest Drive The Woodlands, TX	832-513-1972
Thomas Pierro, PE	Vice President, Limited to Licensure Purposes	2481 NW Boca Raton Blvd. Boca Raton, FL	561-391-8102
Jeffrey Andrews, PSM	Vice President, Limited to Licensure Purposes	2481 NW Boca Raton Blvd. Boca Raton, FL	561-391-8102

2.J Litigation

As a major international construction and engineering company with operations around the world, CB&I, as a normal course of business, is engaged in legal actions in connection with engineering and construction projects, technology licenses and other matters. These claims, include

employment-related claims and contractual disputes or claims for personal injury or property damage which occur in connection with services performed relating to project or construction sites.

CB&I does not currently believe that pending contractual, employment-related personal injury or property damage claims will have a material adverse effect on our earnings or liquidity or ability to execute your project.

Exhibit 2-1 shows ongoing litigations in the past 5 years in which CB&I Environmental & Infrastructure, Inc. was involved.

2.K Ownership Changes

On February 27, 2017, Chicago Bridge & Iron Company N.V. ("CB&I") entered into a Purchase

Exhibit 2-1. List of Ongoing Litigation

Agreement with Veritas Capital ("Buyer"), pursuant to which Buyer will acquire CB&I's Capital Services business segment (the "Transaction"). CB&I's Capital Services business segment includes CB&I's business related to providing services in the areas of: (a) operations and maintenance support services; (b) environmental engineering and remediation; (c) infrastructure engineering; (d) procurement, construction, and decommissioning; (e) program management for disaster response; and (f) emergency response and disaster recovery for private-sector customers and governments. CB&I Environmental & Infrastructure, Inc. is part of CB&I's Capital Services business segment that will ultimately transfer to the Buyer in the Transaction. The Transaction is expected to close in the second quarter of 2017.

Matter Name	Type of Incident	Date of Incident	Initial Circumstance for Action	Venue
Case Medical v. Earthmark NJ Kane Mitigation	Property	2012	Companion case to EnviroFinance Group and Williams Towne matters. Neighboring landowner alleges damage to property caused by runoff from the Kane Mitigation property following Hurricane Sandy.	New Jersey
WilliamsTowne Manor, LLC, et al. vs. Earthmark NJ Kane Mitigation, LLC et al.	Alleged Negligence	2012	Property owners allege property damages caused by runoff from the Kane Mitigation property following Hurricane Sandy.	New Jersey
Southern Star Automotive, Inc. v. BellSouth Telecommunications, LLC	Alleged Negligence	2014	Bellsouth seeks indemnity from CB&I Environmental's alleged negligent cleanup of 6 gallon hydraulic fluid spill.	Georgia
EnviroFinance Group, LLC vs. The Louis Berger Group, Inc., et al.	Alleged Negligence	2014	CB&I Environmental, Inc. named in a third party complaint by Environmental Barrier Company, LLC for contribution and indemnity for alleged damages arising out of CB&I's work on the Kane Mitigation project.	New Jersey
Evan J. Lightner v. CB&I Environmental & Infrastructure, Inc., et al	Allegation of Retaliation	2014	Plaintiff alleges wrongful termination on the basis of retaliation.	Ohio
CB&I Environmental & Infrastructure, Inc. and CB&I Coastal, Inc. v. O'Neil Malbrough, Jr.	Breach of Contract	2015	Action brought arising out of the breach of non-competition, non-solicitation and non-raiding agreement.	Louisiana
Don Bihm Equipment Co., Inc. v. CB&I Environmental & Infrastructure, Inc.	Alleged Negligence	2015	Plaintiff alleges that CB&I is indebted to plaintiff as a result of two separate equipment fires which rendered plaintiff's equipment a loss. Plaintiff also alleges unpaid balances for payment of rental equipment.	Louisiana
Louisiana Machinery Company LLC v. CB&I Environmental, Inc., et al n/k/a CB&I Environmental & Infrastructure, Inc.	Alleged Negligence	2015	Companion case to the Don Bihm Equipment Co. above. Plaintiff alleges that it rented to Don Bihm Equipment two pieces of equipment and that Don Bihm Equipment subleased these two pieces of equipment to CB&I.	Louisiana

W-9
Rev. December 2014
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

1 Name (as shown on your income tax return). Name is requested on this line; do not leave this line blank.
CB&I Environmental & Infrastructure, Inc. (aka Shaw Environmental, Inc.)

2 Business name (registered entity name). If different from above:

3 Check appropriate box to indicate tax classification. Check only one of the following seven boxes:
☐ Individual proprietor or single-member LLC
☒ C Corporation
☐ S Corporation
☐ Partnership
☐ Trust/Trustee
☐ Limited liability company. Enter the tax classification (C=S corporation, S=S corporation, P=partnership) ▶
 Note: For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 If corporation, check the applicable box for foreign status (not individuals). See instructions on page 4.
 Exempt payee code (if any):
 Exemption from FATCA reporting code (if any):
 (Report if amount exceeds \$10,000)

5 Address (number, street, and apt. or suite no.)
2103 Research Forest Dr

6 City, state, and ZIP code
The Woodlands, TX 77380

7 Tax account number(s) (see instructions)

8 Requester's name and address (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see How to get a TIN on page 3.

Write, if this account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number:

--	--	--	--	--	--	--	--	--	--

 or
 Employer identification number:

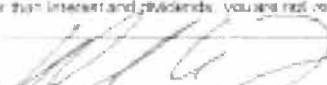
7	7		0	5	8	9	1	2
---	---	--	---	---	---	---	---	---

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA checkbox entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must check out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, accumulation or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign this certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here: Signature of U.S. person:  Date: **1/6/17**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.
Future developments. Information about developments affecting Form W-9 is at www.irs.gov/w9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN), which may be your social security number (SSN), individual taxpayer identification number (ITIN), adopter taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-BIT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third-party network transactions)

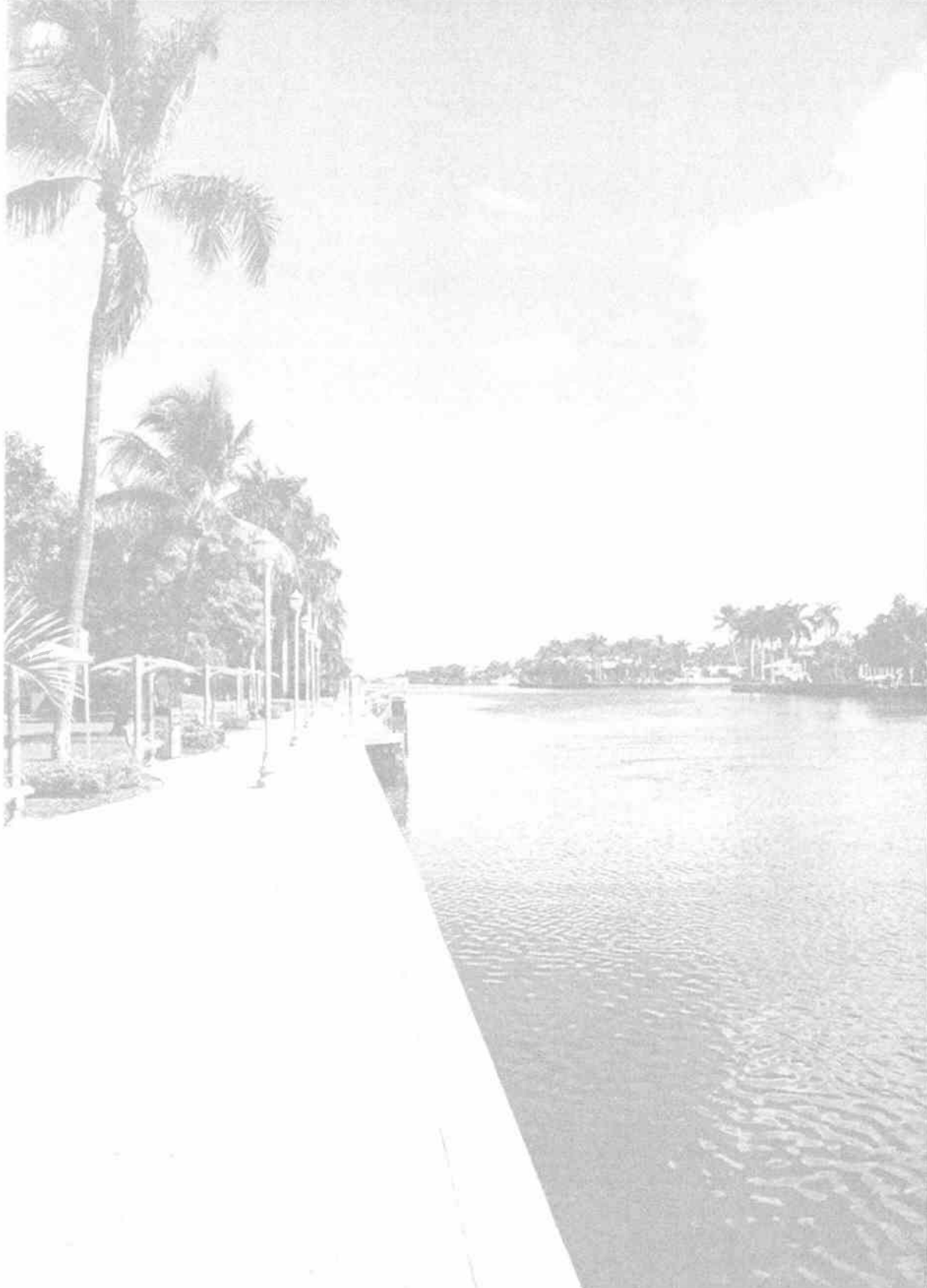
- Form 1099-C (credit mortgage interest, 1099-C student loan interest, 1099-C tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filed and dated form, you:

1. Certify that the TIN you are giving is correct for you are waiting for a number to be issued.
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding. If you are a U.S. exempt payee (if applicable, you are also certifying that as a U.S. person, your allowable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign countries' share of effectively connected income), and
4. Certify that FATCA checkbox entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See What is FATCA reporting? on page 3 for further information.



3.0 Minimum Qualifications Documentation

3. MINIMUM QUALIFICATIONS DOCUMENTATION

CB&I Environmental & Infrastructure, Inc. (CB&I) is registered with the State of Florida, Divisions of Corporations to do business in Florida.

We have attached documentation to confirm that CB&I meets the following requirements:

- In business for a minimum of 24 months prior to the due date and time - please see Application by Foreign Profit Corporation to File Amendment to Application for Authorization to Transact Business in Florida, dated 1/7/2014
- Holds a current, valid license to provide engineering, surveying and/or landscaping architectural services in the State of Florida satisfied as:
 - Engineering, Florida Department of Business & Professional Regulation – please see license no. 9317
 - Surveying – Florida Board of Professional Surveyors and Mappers - please see license no. LB 8051

In addition, we hold other relevant licenses, such as Geology, Asbestos Consultant, etc.

- Employee a minimum of two individuals who hold a current, valid Florida license in categories sought, satisfied as:
 - Engineering, Florida Board of Professional Engineers – please see licenses of: T. Pierro (64683); T. Brenner (82305); D. Mann (44046)
 - Surveying, Florida Department of Agriculture and Consumer Services – please see licenses of J. Andrews (LS 5805); M. Lowiec (LS 6846)
- Others on our team hold such relevant licenses as Professional Geologist, Certified Hazardous Materials Manager, and Geographic Information Systems Professional.
- Has no reported conflict of interests in relation to this Request for Qualifications (RFQ) – please see Form D, Conflict of Interest Disclosure provided in Chapter 5. CB&I has no knowledge of any conflicts of interest in relation to this RFQ.

Proof of Licensure

January 31, 2014  FLORIDA DEPARTMENT OF STATE Division of Corporations CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. 4171 EASEN LANE ATTN: TERRA J. ROBERSON BATON ROUGE, LA 70809 Re: Document Number F02000092878 The Amendment to the Application of a Foreign Corporation for SEAW ENVIRONMENTAL, INC. which changed its name to CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC., a Louisiana corporation authorized to transact business in Florida, was filed on January 13, 2014. This document was electronically received and filed under FAX audit number B14000008913. Should you have any questions regarding this matter, please telephone (850) 245-6050, the Amendment Filing Section. Darkana Connell Regulatory Specialist II Division of Corporations Letter Number: 214AD0002213 P.O. BOX 6327 - Tallahassee, Florida 32314	State of Florida Board of Professional Engineers Attests that CB&I Environmental & Infrastructure, Inc.  Is authorized under the provisions of Section 471, Florida Statutes, to offer engineering services to the public through a Professional Engineer, duly licensed under Chapter 471, Florida Statutes. Expiration: 2/28/2019 Audit No: 228201902580 R CA Lic. No: 9317
 Florida Department of Agriculture and Consumer Services Division of Consumer Services Board of Professional Surveyors and Mappers 2005 Apalachee Pkwy Tallahassee, Florida 32399-6500 License No.: LU8051 Expiration Date: February 28, 2019 Professional Surveyor and Mapper Business License Under the provisions of Chapter 472, Florida Statutes CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. 4171 EASEN LN A/TN AVANAGINN BATON ROUGE, LA 70809-2157  ADAM H. PUTNAM COMMISSIONER OF AGRICULTURE This is to certify that the person named and licensed herein is duly and lawfully licensed as required by Chapter 472, Florida Statutes.	State of Florida Board of Professional Engineers Attests that Thomas P. Pierro, P.E.  Is licensed as a Professional Engineer under Chapter 471, Florida Statutes Expiration: 2/28/2019 Audit No: 228201920498 R P.E. Lic. No: 64683
State of Florida Board of Professional Engineers Attests that Tara Devine Brenner, P.E.  Is licensed as a Professional Engineer under Chapter 471, Florida Statutes Expiration: 2/28/2019 Audit No: 228201908900 I P.E. Lic. No: 82305	STATE OF FLORIDA DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION BOARD OF PROFESSIONAL GEOLOGISTS LICENSE NUMBER PG2878 The PROFESSIONAL GEOLOGIST Named below IS LICENSED Under the provisions of Chapter 492 FS Expiration date: JUL 31, 2018 BRENNER, TARA DEVINE 3655 MAJESTIC PALM WAY DELRAY BEACH FL 33445  

State of Florida

Board of Professional Engineers

Attests that

Douglas W. Mann, P.E.



Is licensed as a Professional Engineer under Chapter 471, Florida Statutes
 Expiration: 2/28/2019 P.E. Lic. No: 44048
 Audit No: 228201905670 R

State of Florida

Board of Professional Engineers

Attests that

Jordan Philip Cheifet, P.E.



Is licensed as a Professional Engineer under Chapter 471, Florida Statutes
 Expiration: 2/28/2019 P.E. Lic. No: 72876
 Audit No: 228201905670 R



Florida Department of Agriculture and Consumer Services
 Division of Consumer Services
 Board of Professional Surveyors and Mappers
 2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No: LS5805

Expiration Date February 28, 2019

Professional Surveyor and Mapper License

Under the provisions of Chapter 472, Florida Statutes

JEFFREY LEE ANDREWS
 2481 NW 2ND AVE
 BOCA RATON, FL 33431-6745

ADAM H. PUTNAM
 COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.



Florida Department of Agriculture and Consumer Services
 Division of Consumer Services
 Board of Professional Surveyors and Mappers
 2005 Apalachee Pkwy Tallahassee, Florida 32399-6500

License No: LS6846

Expiration Date February 28, 2019

Professional Surveyor and Mapper License

Under the provisions of Chapter 472, Florida Statutes

MICHAEL LOWIEC
 400 N RIVERSIDE DR APT 508
 POMPANO BEACH, FL 33062-5049

ADAM H. PUTNAM
 COMMISSIONER OF AGRICULTURE

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF PROFESSIONAL GEOLOGISTS

LICENSE NUMBER

PQ2378

The PROFESSIONAL GEOLOGIST
 Named below IS LICENSED
 Under the provisions of Chapter 492 FS
 Expiration date: JUL 31, 2018

WHITMAN, JASON LANE
 1832 NW 112 TERRACE
 CORAL SPRINGS FL 33071



153010 10/27/2016

DISPLAY AS REQUIRED BY LAW

SED # L150620001574

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF PROFESSIONAL GEOLOGISTS

LICENSE NUMBER

PQ2615

The PROFESSIONAL GEOLOGIST
 Named below IS LICENSED
 Under the provisions of Chapter 492 FS
 Expiration date: JUL 31, 2018

SUTHARD, BEAU CHRISTIAN
 807 MARCO DRIVE NE
 ST PETERSBURG FL 33702





4.0 Proposal Response Requirements Information

4. PROPOSAL RESPONSE REQUIREMENTS INFORMATION

4.A Experience, Background, Reference Feedback

CB&I wishes to apply to perform the following services for the City of Delray Beach (City):

- Surveying and Mapping
- Environmental and Natural Resources
- Coastal and Marine Engineering

As a full service environmental and infrastructure firm, CB&I employs engineers in many disciplines, geologists, surveyors, marine scientists, GIS/CAD operators, industrial hygienists, hazardous waste materials managers, health and safety professionals, and many more. Our multi-disciplinary background allows us to provide a wide range of services efficiently and cost effectively.

4.A.a Qualifications in Professional Services Categories

4.A.a.1 *Surveying and Mapping Experience Background*

CB&I has highly experienced surveyors to provide the comprehensive survey services to the City as needed. Our staff routinely performs surveys across a variety of environments from upland urban areas to the low lying coastal zone and beaches. CB&I has provided survey services in support of coastal and terrestrial projects across the state including numerous projects overseen or regulated by the Florida Department of Environmental Protection (FDEP). We are very familiar with state regulations and statutes and we are committed to serve the City with excellence.

We have performed topographic and hydrographic surveys, established geodetic control, conducted geophysical and environmental mapping and provided the survey data used to design a number of beach nourishment, coastal structures, and inlet improvement projects.

The CB&I Team has a history of excellent service in the surveying industry, with strong emphasis on coastal environments. Our commitment to provide high quality products is achieved with efficient field



Mean High Water Line Survey, Long Key State Park, FL

and office practices that provide all of our clients with timely, accurate, and affordable survey services. Our accuracy and efficiency is made possible through the use of state-of-the-art technology and modern survey practices incorporating the use of Real Time Kinematics Global Positioning System (RTK GPS), Reflectorless Total Stations, Terrestrial Laser Scanners, and Unmanned Aerial Systems (drones). The emphasis on technology reduces field time and personnel resulting in safer and more cost-effective survey solutions for all survey projects. CB&I is also highly versed with the establishment and verification of high precision geodetic control. CB&I uses hand processing of GPS baselines with Trimble Business Center as well as utilizing the National Geodetic Survey's (NGS) Online Positioning User Service-Projects (OPUS-Projects). We have an NGS trained and certified OPUS projects manager (Michael Lowiec, PSM) in-house that utilizes the service for fast and efficient baseline processing and



CB&I's fleet of drones includes DJI's Phantom III, IV, and Inspire 1 Pro (pictured above).



Topographic Survey in Miami-Dade County, FL

adjustments. Mr. Lowiec was recently invited to participate in an NGS webinar for the top OPUS-Projects users in the nation.

CB&I has performed boundary and land surveys, topographic surveys, and mean high water (MHW) surveys across the State. We have worked with Lamar Evers, PSM from the Department of State Lands numerous times to survey MHW and establish Erosion Control Lines, (ECL) in accordance with state statutes. Our crews have performed permit-required topographic and boundary surveys in support of coastal restoration projects as well as remediation efforts.

CB&I has also developed mapping tools designed to share and distribute data through interactive online databases. We are equipped with ArcGIS 10.4 SDE servers and have the capability to host a web mapping application for project support purposes. Interactive web maps are built utilizing ESRI's JavaScript API that become an open and freely accessible map interface for the public and our clients.

We perform high-precision geodetic control GPS surveys, site surveys, right-of-way (ROW) verifications, boundary and other land-based survey tasks with a focus on accuracy and efficiency. In addition, CB&I has collected thousands of miles of beach and marsh profiles and topographic cross-sections in varying upland environments. In an effort to increase our efficiency and reduce our cost per survey point for as-built and structural surveys, CB&I has invested

in Topographic Laser Scanning technology. We have performed laser scanning across the country, from Hawaii to Florida and many states in between. The resulting 3D point clouds provide highly accurate and dense data sets very well suited for engineering design, structural inspection, and other topographic data modeling.

We have extensive experience surveying in remote areas and establishing high order control in order to maintain precision and accuracy of the survey data. Online Positioning User Service (OPUS) Projects allows our field surveyors to upload static observations from remote locations for immediate access in the office. This means our team can process data on the fly, making statistical adjustments and analyzing the accuracy of the GPS data before our team returns to our base office. This saves time and money for our clients, eliminating the need for redeployment.

CB&I also has demonstrable experience setting and establishing benchmarks, reference points, and monuments in all environments. With multiple GPS receivers, we can set new monuments, run static observations while concurrently performing RTK GPS surveys in other locations, minimizing deployment costs and time in the field.

Our hydrographic surveying work is expansive, and includes operations offshore, nearshore, and in lake and riverine environments. Our clients include local and state governments and agencies in addition to the federal government. We have the equipment necessary to correlate position data from GPS with digital soundings, utilizing dynamic motion sensors and inertial measurement units to compensate and adjust our datasets for vessel motion and water levels with accuracy and precision. We are also well versed in post-processing of GPS baselines, which allows for highly accurate vessel positioning, motion compensation, and water level corrections outside the range of RTK GPS base stations. This information is streamed in real-time on vessel, and our hydrographic team can quickly process the resulting data sets.

Our high level of confidence in hydrographic survey is bolstered with our use of a RTK GPS for all phases of data collection. CB&I spearheaded the use of RTK



Topographic and Hydrographic Surveying - Lido Key, FL

GPS rover data collection in water depths up to 10 feet. This innovative data collection method surpasses traditional rod and level methods allowing for true horizontal positing within the surf and nearshore zone, the most dynamic section of the profile where survey errors and/or the complete lack of data is typical. RTK also provides fast and accurate collection relative to the datum used for data collection on the vessel and uplands.

The use of RTK GPS on land and sea allows for seamless profiles that transition smoothly from the offshore segments through the upland beach. The smooth transitions allow for higher levels of confidence and capture important changes in the dynamic littoral system of the beach. Our survey vessels are equipped with survey grade digital sounders with hull-mounted transducers, dynamic motion compensation to correct for heave, pitch and roll of the survey vessel, vector GPS systems, and RTK GPS system. The use of RTK GPS onboard the survey vessel provides centimeter-accurate positioning as well as real time water level (tide) corrections to every sounding collected. RTK tides eliminate the problems associated with static tide gauges including wind driven water levels, dynamic sea surface height, and inlet influences. The use of dynamic motion (heave, pitch and roll) compensation and instantaneous RTK GPS tide corrections on the survey vessel supports the seamless transition to the beach and nearshore rover data.

CB&I takes pride in being a leader in industry technology. We use the latest GPS receivers, and recently acquired Trimble R10 units. These receivers work seamlessly with our existing R8 units, and allow

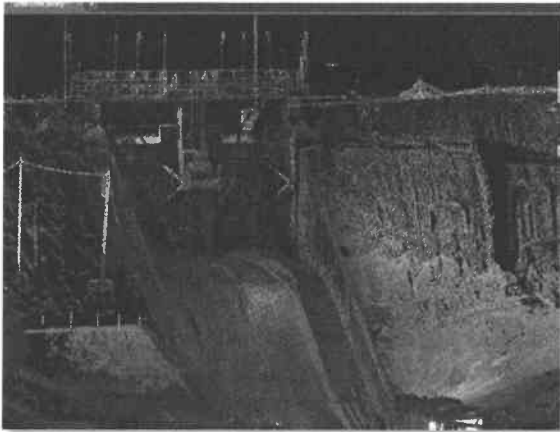
for more rapid acquisition of fixed position. In addition, the receivers also contain a number of built in quality assurance/quality control (QA/QC) protocols, ensuring that data is not only collected rapidly with reduced time in the field, but also with the level of quality that's required by the State.

Our field crews deploy site-specific RTK GPS base stations, allowing the flexibility to survey in a variety of coordinate systems and datums. CB&I also utilizes radio repeaters, effectively extending distance and range between base and rover setups. Using our experience establishing monuments in all coastal environments, including beach, marsh, and urban settings we are able to extend RTK GPS capabilities, greatly reducing cost and time and improving time series accuracy. Our staff is well versed in the use of reflectorless total stations for more precise surveys. We have deployed field crews with total stations for topographic, right-of-way, boundary, and site surveys. Our equipment has the capacity to fully integrate data collection into our survey controllers, allowing for the use of a universal code library that streamlines our field to office processes.

These codes allows our surveyors to collect data in the field that are seamlessly integrated to existing survey drawing templates. This results in auto generation of point and label styles, reducing the time necessary for data processing. Furthermore, the wide variety of programs we employ enables CB&I to provide data in an ample variety of formats, adaptable specifically to our clients' needs.



CB&I laser scan of the Port Charleston



CB&I laser scan of Lewis Creek Dam with FaroX330

CB&I owns and operates Faro X330 terrestrial laser scanners. CB&I has deployed this system in a wide variety of environments for the scanning of existing topographic and as-built conditions. This system allows for the rapid collection of millions of data points, at a resolution of up to one point every 0.055 inches at 30-foot scan distance. The scanner also contains an internal camera, which allows for photographs in real color red-green-blue values to be transposed onto the 3D point cloud. With the use of RTK GPS and a reflectorless total station, scan data can be tied to local controls, which assists our clients in repeating surveys in the future.

We have the capacity to collect 3D data in areas that were previously inaccessible to conventional survey methods. With the use of specialized tripods and accessories, the laser can be inverted or elevated allowing for the collection of data on subterranean and elevated infrastructure. The use of scanning systems results in decreased time spent in the field and the ability to acquire data in inaccessible or hazardous locations, which decreases costs and increases safety for our field personnel.

CB&I's small unmanned aerial systems (drone) service is a full end-to-end solution where CB&I's in-house FAA licensed sUAV pilots conduct the flights/surveys, process all the data in-house, and deliver actionable data and media to its customers. Our sUAS solutions allow for use of drone data in a way that applies to each specific business case. Drone imagery on an external hard drive doesn't answer many questions. A drone solution that generates

mapping and 3D modeling data, when coupled with the analysis calibrated to answer a project manager's problem, is extremely powerful.

Using drones, data acquisition has been made faster and more comprehensive, saving you time while still improving the visualization of your project. Small unmanned aerial systems allow safe, accurate, cost-effective data collection in areas that are inaccessible to conventional surveying methods. When compared with manned flights, sUAS are less limited by project size, more cost-effective, and less affected by weather conditions, yet unmanned flights can achieve the same 5-cm data accuracy

Our drone surveys capture specific areas of interest with images and we then process the data in-house to produce our unique 3D modeling solutions. Our 3D models are not only being used for assessing areas that are difficult and dangerous to access, but they can also be used for planning, decision-making, and design across many different industry sectors.



3d model created from photos captured with CB&I's Inspire 1 drone using in-house photogrammetry software.

4.A.a.2 Environmental/Natural Resources Experience Background

Environmental services have been our core business for over a century. Our clients in Florida have included FDEP (ongoing, consecutive contracts), Florida Departments of Transportation (repeat contamination assessment and remediation contracts in every FDOT district); county and city governments.

Our teams across the state help clients to stay compliant with environmental regulations/permits, to buy and sell sites with the comfort of due diligence review, to reclaim contaminated or derelict lands, and to expand their infrastructure while protecting their natural resources.

We are able to apply multiple disciplines to solve our clients' environmental issues. We have the resources and experience in all facets of environmental services.

Phase I and II Environmental Site Assessments

Members of our staff serve on the American Society for Testing and Materials (ASTM) Subcommittee E50-02 for Real Estate Assessment and Management, which provides updates to the ASTM Standard E1527 as well as develops training programs and standard guides related to site assessment and real estate transaction.

The Environmental Protection Agency (EPA) published 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries; Final Rule" to establish the federal standards and regulatory requirements for conducting All Appropriate Inquiries (AAI) into the previous ownership and uses of a property to allow a landowner to qualify for certain landowner liability protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CB&I staff worked to provide input on the writing of this Rule.

The standards established in this Final Rule were incorporated into the updated ASTM Practice E1527-05 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." The ASTM standard, based on the 40 CFR 312, is recognized as the industry standard for conducting Phase I site assessments using AAI protocol.

Phase I Assessment Activities

While AAI was being developed by the EPA, we worked internally to actively incorporate the EPA AAI rule into our Due Diligence National Practice Program.

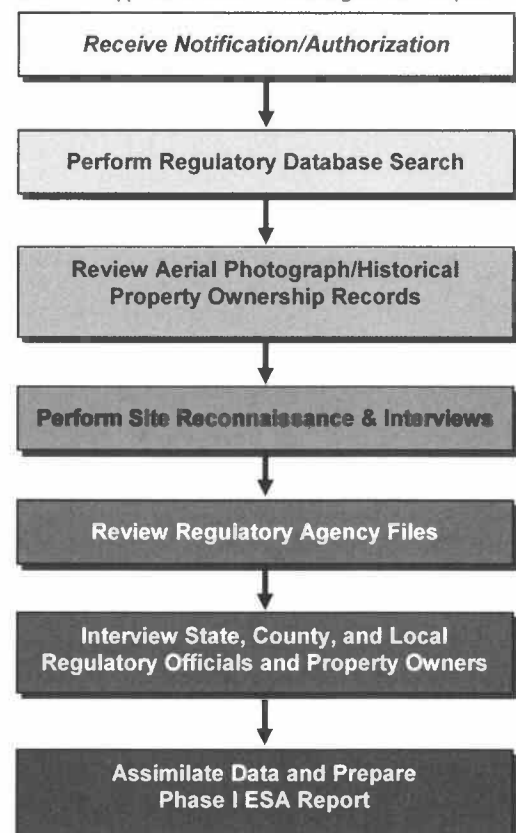
All of our assessors and environmental professionals receive comprehensive training that provides them with a high level of technical understanding, which

provides consistent service from all offices. CB&I has conducted over 1,000 Phase I investigations following the updated ASTM Standard E1527-05.

Exhibit 4-1 depicts CB&I's approach to a typical Phase I investigation. In general, a Phase I investigation involves a record search using electronic database searches, chain-of-title reviews, historical reviews, aerial photograph reviews, and review of files at a local regulatory/municipal offices. The record search is ultimately supported by a site reconnaissance and interviews to establish the history of the property use (operational details). The purpose of these investigations is to identify recognized environmental conditions (RECs) where contamination of soil and/or groundwater by hazardous materials or petroleum may have occurred in the past, may presently exist, or potentially exists.

Components of a CB&I Phase I Environmental Site Assessment (ESA) report include:

Exhibit 4-1. Typical Phase I Investigation Project Flow

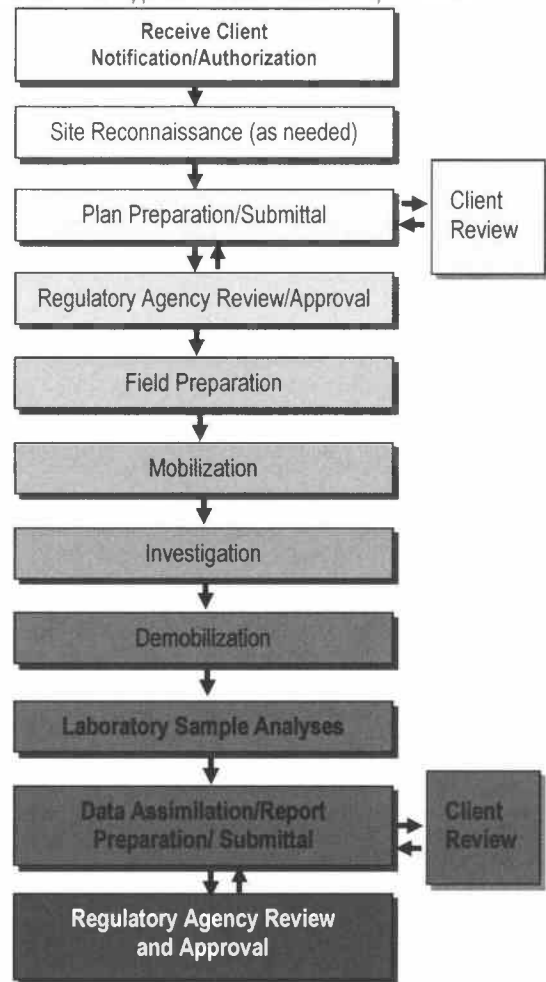


- **Introduction:** Provides background information including the site location and a brief description of the property
- **Site History:** Provides the property history determined through interviews and the historical research
- **Property Characteristics:** Provides topographic, geologic, hydrogeological, and other physical characteristics regarding the property and immediate area
- **Phase I Site Inspection and Review of Hazards:** Provides a description of the areas of the site investigated and the RECs identified during the site reconnaissance
- **Regulatory Review:** Provides a summary of various regulatory and municipal databases reviewed detailing the information of facilities surrounding the subject property that may have affected the environment through their course of business. Regulatory review will also include site-related documents available through local and state agencies, and interviews with agency contacts
- **Conclusions and Recommendations:** Identifies RECs associated with the site, summarizes conclusions of the Phase I Environmental Assessment, and details CB&I's recommendations for the property and opinions regarding additional investigation

The Phase I ESA report includes a United States Geological Survey (USGS) topographic quadrangle map clearly identifying the property's location and a site plan illustrating major features on the property, such as underground storage tanks, buildings, parking areas, and adjacent properties. The qualifications and signatures of the Environmental Professional involved with the report are included. CB&I has 12 AAI Rule qualified Environmental Professionals in the state.

CB&I can also perform evaluation of non-scope considerations including asbestos, mold, and lead-based paint surveys, radon surveys, and regulatory compliance determinations. Non-scope issues also include indoor air quality for which ASTM is developing a vapor intrusion standard practice to evaluate the impact of evaporating chemicals from polluted soil or groundwater. CB&I's Senior Transactional Services team provides assessment

Exhibit 4-2. Typical Phase II ESA Project Flow



services in response to the upcoming ASTM standard on Vapor Intrusion Assessment, Standard Practice E2600, and training to assessors to address this emerging issue.

Phase II Assessment Activities

If RECs are identified in the Phase I assessment or if a Phase II assessment is warranted, we will perform physical sample collection to determine if contaminants have impacted the environment. **Exhibit 4-2** shows the flow of a typical Phase II ESA. The protocol for the investigation will be dependent on the regulatory requirements, but will be compliant with ASTM Standard E1903 Standard Practice for Environmental Site Assessments or as a Site Assessment under FDEP protocol in compliance with Chapter 62-780 of the Florida Administrative Code and applicable local code of ordinances.

We have completed hundreds of Phase II site assessments. These assessments typically involve the collection and analysis of sediment, soil, surface water, and groundwater for potential chemicals of concern. The soil investigation will include collection of samples using hand auger, direct push, or split spoon methods. The soils will be logged by a geologist and field screened using an OVA-PID or FID in accordance with the FDEP Standard Operating Procedures (SOPs). Groundwater samples can be collected from permanent/temporary wells installed by our personnel, experienced in the installation of permanent/temporary wells using a hand auger or drill rig or from a direct push rig. Collected samples are analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory. The Phase II investigation may be supplemented using less intrusive assessment tools such as a magnetometer, ground penetrating radar, and electromagnetic surveys to detect buried objects (drums, vaults, tanks and lines). Laboratory samples can also be supplemented by use of field screening kits for petroleum hydrocarbons, solvents, metals, PCBs, pesticides, and other contaminants to provide on-site immediate indicators for placement of soil borings and monitor wells.

Data generated during the site assessment will be compiled into an Assessment Report, which will summarize the history and background of the site, field investigation, and data collected and provide recommendations and conclusions of the investigation. CB&I has conducted field investigations and prepared assessment reports for hundreds of projects throughout Florida. Our qualified technical staff of scientists, hydrogeologists, and engineers will evaluate the field data and document the contamination extent and impacts to soil and groundwater.

The report will contain appropriate detail to support review or compliance with the FDEP and/or local regulations.

Proper sampling techniques and protocol are key to a successful environmental program. Just as the information generated from a Phase I assessment follows an ASTM Standard so it can be relied upon for finding recognized environmental conditions, proper sampling field procedures and documentation must also be followed to ensure that the sampling data in



CB&I personnel are trained and experienced in the Phase I and Phase II processes. Here, a staff member collects surface water samples in a Phase II assessment to evaluate possible impacts to surface water quality.

the Phase II assessment can be relied upon to be representative of the actual site conditions. CB&I personnel have vast experience and training in sampling and sampling protocol to ensure that the collected data and the resultant report are reliable.

CB&I field investigation methods comply with the FDEP SOPs for Field Activities (DEP-SOP-001/01) for field decontamination, soil, and water sampling protocols, sample preservation, field parameter measurement, documentation, field calibration procedures and quality control/quality assurance practices.

CB&I offers exceptional capabilities and experienced staff for conducting multimedia sampling. Our in-house field sampling personnel include professionally trained chemists, biologists, geologists, engineers, and sampling technicians with specialized skills in sampling program design, and field sampling protocols. They work in concert with engineering, remediation, and laboratory personnel to ensure the integrity of sample collection and the usefulness of the resulting data.

Our sampling teams have the technical expertise and equipment to sample a variety of media including soil, surface water, sediment, groundwater, air, tissue, and waste material. Chip, wipe, and other specialized sampling techniques are also employed where appropriate, and our personnel are experienced with asbestos, PCBs, and lead-based paint sampling. Our sampling personnel have extensive training and experience in procedures for scoping, collection, identification, preservation, packaging, handling, chain-of-custody, shipping, and storage of samples in accordance with FDEP SOPs,



CB&I technical and field professionals are experienced with surface water, sediment, and other sampling procedures that require specialized equipment and techniques.

ensuring that all samples can be readily identified and that they will retain the site's sample characteristics.

CB&I also has experience in the installation of temporary and permanent monitoring wells by several methods including hollow-stem augers, rotary mud, and rotosonic. We can also install pre-packaged monitoring wells using direct push methods to collect discrete interval soil samples and install straw wells (a stainless steel 6- to 21-inch screen with attached Teflon® tubing) in order to obtain inexpensive groundwater samples for screening purposes. In addition, CB&I has used direct-push technology to collect groundwater samples from varying depths in one borehole. These techniques allow us to collect a large number of delineation samples in a short amount of time.

CB&I personnel have the experience and knowledge to ensure compliance with the FDEP and industry protocols and to perform these tasks efficiently. The City can rely on our know-how to design a well-organized sample collection plan to maximize the usefulness of the data generated while maintaining the project budget. When possible, CB&I will design and implement composite sampling to cover large areas, while minimizing the number of required samples.

We use our in-house Trimble ProXRS GPS/Beacon Receiver with a Trimble Survey Controller (TSC-1) hand held data collector for mapping each sample site to identify the location in the future and to produce accurate site figures displaying the sampling results.

Biological Services

CB&I offers wetlands services, threatened and endangered (T&E) species services and other biological services. Capabilities include:

- Wetland ecosystems assessment, management, permitting and mitigation banking
- Marine and coastal ecology
- Lacustrine and riverine ecology
- Watershed management plans and assessments
- Hydrologic resource analysis and modeling
- Water quality and aquatic toxicity
- Aquatic systems evaluations and impact analyses
- Fisheries biology: marine, estuarine, and freshwater
- Terrestrial biology including avian resources
- Ecological risk assessment

We have an environmental staff that includes marine biologists who are highly experienced in environmental permitting [including Endangered Species Act, and National Environmental Policy Act (NEPA) documentation], mapping and monitoring natural resources and determining mitigation requirements for coastal construction projects in Florida. The approach we take starts with early coordination with our clients and agencies to provide baseline data and environmental documents to facilitate and often expedite the permitting process. We routinely design and implement biological monitoring programs to detect potential project-



related impacts to natural resources using historic data when available, firsthand knowledge of the resources and statistically robust sampling designs. Through collaboration with FDEP, we developed a quadrat-based benthic assessment technique (BEAMR method), which is the state-preferred monitoring protocol to collect biological data used to assess impacts to reef and nearshore habitats. Our biologists are also trained in applying the Uniform Mitigation Assessment Method (UMAM) evaluations for quantifying mitigation requirements due to anticipated impacts to natural resources, including reef, hardbottom, and seagrass habitats. We have developed multiple mitigation programs based on project and location-specific needs, and monitored these efforts to determine functional success of the mitigation once in place.

Our scientists do a thorough review of available natural resource data when a project begins, typically followed by an on-site field investigation to assess the current environmental conditions. As part of the planning and permitting process, CB&I biologists often survey and delineate seagrass, oyster, hardbottom, and wetland habitats. Our biologists undergo training in industry-established data collection and monitoring methodologies in order to accurately identify and classify biota and habitat types. Our biologists have also been trained in the

application of the UMAM to determine appropriate mitigation when projects result in unavoidable impacts.

We routinely design and implement biological monitoring programs to detect potential project-related impacts to natural resources and to monitor the success of mitigation. Our firm is certified as an American Academy of Underwater Sciences (AAUS) organization, committed to always implementing the highest level of safe-diving practices.

Our biologists undergo training in industry-established data collection and monitoring methodologies in order to accurately identify and classify biota and habitat types. In addition to program design and implementation, our biologists conduct statistical analyses on the data collected in order to report results in a clear and concise manner to our clients and regulatory agencies. Our team of divers (biologists, engineers, geologists and surveyors) is highly skilled and specifically trained in scientific data collection.

Wetland Services

CB&I has been providing wetland services, including delineations, mitigation designs and construction, remediation and FDEP Environmental Resource Permit applications for more than 30 years. Our staff has been formally trained in wetland delineation techniques, including the post-Rapanos and regional supplemental techniques, with all of our wetland



CB&I biologists routinely conduct benthic surveys throughout Florida.

work being supervised by a Society of Wetland Scientists Certified Professional Wetland Scientist.

We have a large portfolio of successfully completed wetland projects in Florida, including delineation of the entire MacDill Air Force Base, delineation and mitigation design for the Miami-Dade County Landfill Expansion, and wetland remediation along the SR 20 construction project for the Florida Department of Transportation (FDOT) in Hawthorne, Florida. CB&I has also recently successfully completed wetlands permitting, including design and construction of a wetland mitigation system at the Reliant Keystone coal fired plant in western Pennsylvania.

We have designed, permitted, constructed, and performed long-term monitoring on large acreage wetland mitigation projects throughout the country. We have also designed, permitted, constructed, and maintained two wetland banks. In addition, the latest US Army Corps of Engineers (USACE) guidance document concerning wetland mitigation has elevated wetland banking as the preferred form of mitigation. Therefore, if impacts are unavoidable, the City can rest assured that CB&I will prepare the most cost-effective mitigation solutions.

Threatened and Endangered Species Studies

CB&I has extensive experience in performing T&E surveys along linear projects. In Florida, for instance, we have performed red-cockaded woodpecker surveys on extensive parcels of mature pines. In addition, we have assisted United States Fish and Wildlife Service (USFWS) in creating red-cockaded woodpecker habitat as part of a Natural Resources Damage Assessment in central Louisiana. CB&I personnel have also permitted and led the effort to locate and relocate or release gopher tortoises on multiple large water resources projects located in central Florida as well as on the Cape Canaveral Air Force Station.

Our staff of biologists and certified ornithologists have also completed surveys along the western coast of Florida for scrub jay and wood stork, with confirmed sightings of both species. Confirmed sightings of a T&E species do not necessarily mean a significant setback to the project. We work with the USFWS and State Commissions throughout the US in preparing Conservation Plans that will either

eliminate species contact or minimize contact to a negligible level.

CB&I has a keen understanding of the role of T&E species clearance in state and federal permitting. CB&I's experience in addressing T&E species issues will ensure that the commenting agencies have the information they need so that a permit issuance is not delayed.

CB&I recently completed all multi-media permitting for a 400+ mile natural gas pipeline crossing through Oklahoma and Texas. The project included almost entirely new right of way. CB&I performed all the wetland delineations including GPS surveying of all boundaries on this 300 foot wide proposed ROW. We also completed habitat surveys for T&E species including the golden cheek warbler. CB&I gathered the required data using the latest regional criteria to prepare an administratively complete jurisdictional request. In addition, we coordinated the USFWS review and consultation, attended several multi-agency meetings and presented at the public hearings. CB&I successfully permitted this project ahead of the planned schedule.



Regulatory Compliance

CB&I's hallmark of success is demonstrated in our ability to understand, anticipate changes in, and effectively implement solutions to meet all regulations and regulatory guidelines at the federal, state, and local levels. We operate a national network of regulatory specialists across the country who monitor changes in regulations, as well as changes in policies and interpretations adopted by EPA and other regulatory agencies. These regulatory specialists have monthly conference calls and more frequent informal exchanges of information on critical regulatory developments. In addition, CB&I's

Washington, DC offices are led by a former high-level EPA headquarters manager. He is involved in project regulatory interpretations for CB&I's clients on a regular basis. CB&I also provides environmental advocacy through its DC-based subsidiary.

CB&I brings knowledge, experience, and demonstrated effectiveness in supporting negotiations with the regulatory community, obtaining permits, and maintaining environmental compliance. In the course of executing more than \$10 billion of environmental remediation work in the past 10 years, our staff has had significant interaction with regulatory agencies at all levels.

CB&I's overall approach to achieving successful regulatory results for our client is based upon:

- Providing periodic presentations to regulators in technical areas
- Providing the best technical analysis concerning the site
- Preparing the groundwork for cordial, professional, and constructive dialog with the agencies through informal communications
- Ensuring that our client is fully briefed and aware of the latest changes and precedents in cleanup and regulatory guidelines
- Presenting objective, state-of-the-art data analysis in supporting a position to regulators.

Compliance Permitting

Our staff is knowledgeable and experienced in multi-media compliance including the Clean Water Act, Clean Air Act, Endangered Species Act, and National Environmental Policy Act.

CB&I works with clients to meet NEPA compliance and to perform NEPA-required Environmental Assessments (EA) or Environmental Impact Statements (EIS) to assist decision-makers on proposed actions. As is often the case, the lead federal permitting agency may require some form of NEPA documentation to support the permitting decision.

Our natural resource specialists are well versed in the language and requirements of U.S. environmental laws. We hold large contracts with state and federal agencies to support their multi-media and NEPA compliance responsibilities. Under our contract with the National Guard Bureau, we are providing

environmental support for National Guard bases and sites in a 10-state region, including preparation of EISs and EAs related to National Guard activities. We have a national contract with the US General Services Administration to perform natural resource permitting and to prepare NEPA documentation.

CB&I has performed all the tasks involved in permitting and producing EISs and EAs. Each step of the NEPA process is closely coordinated with the project managers of the client agency to achieve regulatory, budgetary, scheduling, and project objects and requirements.

CB&I also has experience in complying with the Fish and Wildlife Coordination Act, Section 106 of the National Historical Preservation Act, Section 7 consultation under the Endangered Species Act, Section 401 and 404 of the Clean Water Act, consistency with the Coastal Zone Management Act and other regulatory requirements. Throughout the process, we have the experience and ability to carry out extensive consultations with the resource agencies in order to fully address environmental resource concerns and project objectives.

Frequently, a state or local agency will take the lead on a project in order to comply with state or, sometimes, local environmental review regulations. Typically, these regulations involve compliance with a state-driven NEPA document.

Our environmental staff is familiar with Florida requirements and has direct project experience in performing such analyses and permitting.

4.A.a.3 Coastal and Marine Engineering Experience Background

Marine Engineering

Our Coastal and Maritime Services group has its antecedents as Coastal Planning & Engineering, Inc. (CPE) and became part of CB&I in 2011. Since 1984, our staff has provided professional coastal and marine engineering, hydrographic and geophysical surveys and environmental services to our clients. We have earned an excellent reputation with local, state, and federal agencies responsible for permitting and overseeing marine and coastal programs. We have designed more than 75 beach nourishment projects and over 30 coastal structure projects for

municipal, state, and federal clients throughout Florida, the Gulf coast and up the Atlantic seaboard.

This makes CB&I one of the most experienced coastal and marine consulting engineering firms in the nation. We are also one of the few coastal firms that has roots in south Florida. We have extensive knowledge of the area's coast including erosion problems, sensitive marine ecosystems, offshore sand resources and coastal inlets. We have surveyed Florida's beaches, mapped its offshore areas, performed sand investigations along the coastline, and designed numerous beach nourishments, coastal structures, and inlet improvement projects.

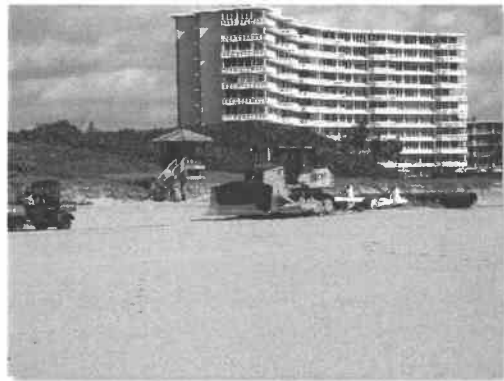
Unlike many coastal consultants, we have in-house staff experts for comprehensive coastal and marine engineering. This multi-disciplinary staff enables us to self-perform almost every coastal engineering project without the need to subcontract to other firms. This unique advantage brings us an efficiency and cost-effectiveness that serves our clients well, often saving time and money.

The combined experience of CB&I's in-house engineers is unmatched in the field of coastal engineering. Our projects are developed by a team of coastal engineers and physical oceanographers who are strongly grounded in coastal process theory and applications. They are responsible for the study, planning and design of beach and bayside projects that include beach nourishment, shoreline stabilization with coastal structures (groins, breakwaters, etc.), habitat restoration, artificial reef construction, inlet/canal management and coastal armoring (seawalls, revetments, etc.). Our success in providing engineering solutions is driven by



Bulkhead at Veterans Park in Delray Beach.

application of proven methodologies combined with innovative design. Our engineers work closely with our biologists to provide timely, cost-effective solutions that meet our client's project goals while protecting the natural resources of the coastal ecosystem.



Beach fill operations at Delray Beach.

Our experience with design and implementation of coastal construction projects, along with bidding, construction management and permit compliance, contributes to our comprehensive knowledge of the entire process from pre-permitting through post-construction monitoring. In locations where nearshore hardbottom resources are known to exist, a project may require advanced design techniques with numerical models. In such cases, our engineers work with our biologists and have been very successful in designing modified projects to provide shoreline protection with minimal or no impacts to hardbottom. We review our designs in the context of overall project objectives, and incorporate numerical modeling analysis as a tool to improve performance

and longevity of projects. Over the years, we have upgraded our coastal modeling capabilities to include DELFT3D, SBEACH, Mike21 and the complete suite of USACE Numerical Models, including BOUSS-2D. CB&I has emerged as the industry leader in coastal applications of DELFT3D, the most advanced process based model in the world developed by Delft Hydraulics in the Netherlands. Our approach to providing coastal engineering solutions and inlet management is a prioritized, logical fashion, taking into consideration not only design alternatives but also cumulative effects, funding options, and the potential for cost savings through coordination between multiple clients.

CB&I has successfully represented numerous Florida counties and cities to facilitate beach restoration projects. These projects range from complete design and implementation, to assistance in storm repairs. For example, we have assisted our clients in expediting federal shore protection projects, such as Manatee County, Panama City Beach, and Sarasota County.

CB&I staff also works with many communities in post-storm situations by documenting storm damages, designing subsequent repairs to the beach and dune, and helping to secure funding for the projects. For example, we have assisted our clients in post-storm situations, such as Indian River, Manatee, Sarasota, and recently selected to assist St. Johns County.

CB&I provided professional services to the City of Delray Beach for reconstruction of docks at the city marina. CB&I has designed docking facilities for many municipalities around the state of Florida. These



Dock reconstruction at City of Delray Beach marina.

projects have ranged from 150 feet of timber dock at Curtis Park in Miami (Miami-Dade County) to replacement of docks at a 77 slip marina at Founders Park in Islamorada (Monroe County). CB&I's dock designs incorporate marine-grade products to provide durable, long-lasting projects. CB&I also designs docks that can be easily built by qualified marine contractors to minimize project delays and change orders.

CB&I engineers also design, permit, and assist with construction administration of bulkheads and seawalls. These projects ranged from a 600-foot long Intracoastal Waterway bulkhead in Delray Beach to the seawall replacement design at the Ringling Museum in Sarasota. We designed and assisted with construction contract administration of the Seawinds Condominium (Singer Island, Palm Beach County) where a 900-foot long oceanfront seawall was constructed of steel sheet piles with a drilled tie back anchor system.

CB&I has provided inspection and repair designs applying our thorough knowledge and experience in coastal and structural engineering. CB&I can perform feasibility studies to evaluate expansion of the existing structures and can obtain any required environmental permits required.

CB&I has the capability to conduct any permit-required surveys including water quality testing, marine resource surveys, and structural inspections of mooring hardware.

CB&I has experience in designing and evaluating cost-effective dredge and fill projects. This includes dredging and dredge material disposal alternatives to achieve both navigational and environmental improvements in canal and river settings. Beach nourishment and dune restoration projects are a specialty of CB&I's engineers. We understand the entire process to design, permit and monitor these projects. We routinely develop borrow area designs for beach nourishment and navigation channel projects where the sand quality must meet strict state-required compatibility criteria for placement on shore. Dredge designs consider sediment characteristics and contaminants, cultural resources, environmentally sensitive areas, and hazards. CB&I has an in-house geotechnical laboratory for sediment

characterization, and uses an outside source for chemical testing.



Dock and bulkhead construction at Curtis Park, Miami.

Numerical Modeling

The behavior of beaches, inlets, and intracoastal shorelines can be complex and dynamic. In order to overcome these complexities and test a wide range of solutions, CB&I bases each project design on proven engineering principles with the added benefit of state-of-the-art numerical models.

CB&I is on the forefront of coastal engineering numerical modeling. CB&I has emerged as the industry leader in coastal applications of DELFT3D, the most advanced process based beach morphology model in the world. We review our model results in the context of overall project objectives and cost reduction and incorporate them into designs and analyses as a tool to improve performance and longevity of projects.



Hydrodynamic Modeling with Delft3D



Vibracore logging in the field

4.A.b Other Related Services

4.A.b.1 Geology

Our geology department leads the industry in identifying beach compatible sand sources. We have located sand sources in Florida, Alabama, New York, Louisiana, Georgia, Virginia, North Carolina, Massachusetts, and Texas. Our geophysicists and geologists are experts in the use of remote sensing techniques, marine geophysical data collection, processing and interpretation, combining geomorphological mapping with geotechnical measurements to locate and define sand deposits accurately and effectively. Our techniques are proven and efficient as we are able to modify field operations on the fly as data is collected and immediately analyzed.

Our success in identifying beach compatible material is rooted in the systematic approach to marine sand searches developed over the years by our team of professionals. In a comprehensive marine sediment search, we organize the investigation into three sequential phases that FDEP has applied to offshore sand search requirements. Our regional sand search approach is so successful that it has also been incorporated into Louisiana's Office of Coastal Protection and Restoration (OCPD) "General Guidelines: Exploration for Offshore Sand Sources."

4.A.b.2 Sustainability/Energy Efficiency Services

CB&I has assisted Florida clients to become good stewards of their land and to develop a legacy of efficiency and energy conservation. Clients have included Lake County, Palm Beach County, City of Winter Park, Publix Supermarkets, Wal-Mart, Home

Depot, City of Jacksonville, and CSX Transportation for example.

CB&I is a leader in the design and implementation of energy efficiency programs for utilities, municipalities, states, counties, and other clients. Recent projects include the design, implementation, and management of energy efficiency programs funded under by the federal government. The American Recovery and Reinvestment Act required the rapid development and deployment of energy efficiency and renewable energy strategies and imposes unprecedented transparency requirements on grantees and sub-grantees. CB&I designed and implemented Energy Efficiency and Conservation Block Grants (EECBGs) for numerous Florida municipalities and State Energy Programs for the States of Missouri, Louisiana, and Illinois and developing EECBG strategies for cities and Native American Tribes in Florida, Georgia, Oregon, California, and Louisiana.

On the commercial side, CB&I developed a “Best Price Energy Efficiency” reverse auction in which pre-qualified bidders—energy efficiency service providers, equipment installers and other commercial entities—submitted price-per-kWh bids to guarantee delivery of a specified amount of energy savings within a given time period. Bid prices went lower and lower until no entity would bid further, guaranteeing the State of Missouri the most efficient use of its energy efficiency dollars.

In Florida, our personnel have brought energy efficiency program innovations to government and commercial clients. For example, **The City of Palm Bay** retained CB&I to develop a sustainability master plan and energy strategy. As part of their Energy Block Grant program, we performed a greenhouse gas (GHG) inventory and an energy-savings and life cycle cost analysis for various energy cost reduction measures applied to six prototypical facilities located throughout Palm Bay. CB&I performed six onsite walkthrough energy audits. Prior to the audits, we collected the annual electricity consumption for the City of Palm Bay and utility data was collected for each facility. We compared energy consumption for the 230 Palm Bay municipality accounts to the annual energy consumption of the six Palm Bay facilities included in the energy audits. During each onsite

visit, CB&I interviewed personnel and reviewed mechanical equipment. From interviews, onsite activities, and review of information, a list of reduction measures was created. This list identified low and no-cost energy cost reduction measures, capital investment opportunities, and recommendations involving operational changes.

CB&I supported the **US Immigration and Customs Enforcement (ICE)**, a component of the Department of Homeland Security (DHS) located at the Krome Service Processing Center in Miami, in complying with various laws, regulations and Executive Orders for Energy and Water Efficiency. The comprehensive professional services executed by CB&I to support ICE in its energy and water efficiency objectives included:

- Energy audits and recommendations for improving energy efficiency at ICE owned facilities
- Water usage audits for improving water efficiency at ICE owned facilities
- Utility audits and analysis for improving cost effectiveness
- Metering and advanced metering audits and plans for compliance of Energy Independence Act (EISA) and Energy Policy Act
- Resource energy efficiency support for the energy and water program at ICE headquarters

In addition, CB&I performed an energy baseline and utility bill analysis of the Krome site. Information was collected from ICE provided electric and water utility bills. ICE provided summary data of annual consumption for these utilities from October 2009 through January 2011. The collected energy usage and rate information was used to define the facility's current baseline energy performance and to identify what energy rate structures are in place. The data allowed the team to identify high energy users, determine the cost impacts of specific energy reduction measures and project the client's energy reduction potential to achieve the organizations long term energy, water efficiency, and energy independence objectives.

CB&I provided program management support services to Florida based **Darden Restaurants** for two separate LED re-lamp pilot installation programs. CB&I installed continuous data loggers at each location (39 restaurants). Following the installation, each logger was “launched” to initiate data collection at five-minute intervals. Over the course of the next several months, the electrical utilization data (measured in amperes) was collected at regular monthly intervals. As part of the re-lamp pilot phase, Darden hired contractors to replace existing bulb types with energy efficient light emitting diode (LED) type bulbs at all pilot restaurants. The study was therefore divided into two phases: “pre re-lamp, phase,” which consisted of equipment installation and monitoring beginning in January 2011; and “post re-lamp phase,” which consisted of continued monitoring and equipment removal in April or May 2011. The data gathered during the course of this study indicated a trend of less energy consumption including significant cost savings after each location had been re-lamped.

CB&I continues to assist Darden with the program management tasks associated with the full-scale roll out of the FY12 re-lamp program to as many as 850 restaurant locations.

CB&I assisted the City of Palm Bay in developing its Sustainability Master Plan.



A summary of other sustainability services is provided in **Exhibit 4-3**.

Exhibit 4-3. Overview of Integrated Services To Assist in Sustainability Program Development

Sustainable Program Development and Management	- Sustainability Assessments/Gap & Business Process Analysis/Benchmarking - Program Design, Supply Chain Metrics & Reporting	- Strategy Development - Internal Training - Sustainability Management Systems	Technical Project Selection and Implementation
Energy Efficiency	- Alternative Fuels - Fleet Management - Bid Specification and Procurement support	- Energy Audits, ECMs, and Modeling - Renewable Energy	- Code Analysis and Training - Building Retrofits/Commissioning
Waste Management	- Solid Waste Reduction - Waste Audits	Waste Conservation and Reuse	LEAN/Six Sigma
Design and Development	- LEED® and Green Building Design - Low Impact Development	Green Infrastructure/Asset Management	Sustainable Redevelopment
Program Monitoring and Compliance	- ARRA Reporting and Compliance - Resource Identification (Grants / Incentives) - Measurement and Verification	- Grants Management - Economic Impact Calculations	Transparency and Public information
Climate Change/GHG Reduction	Greenhouse Gas Inventory & Footprint Analysis	- Reduction Strategies - Performance Reporting	Beneficial Reuse of Landfill Gas
Environmental Markets	- Carbon Trading - Wetlands Banking	Land Conservation Tax Incentives	Nutrient Trading
Natural Resource Management	- Land Conservation Tax Incentives - Land Use (Beneficial Redevelopment)	- Sustainable Redevelopment - Restoration	- Stormwater Conservation Fee and Utility Analysis - Water Conservation

4.A.b.3 Site Remediation and Groundwater Remediation

CB&I has direct experience in the design, construction, and operation of remedial technologies employed for addressing properties contaminated by various contaminant sources. For many sites with limited impacts, excavation or localized treatment may be the most cost-effective approach for site restoration. For larger impacts, CB&I's team is experienced in designing treatment technologies as air sparge/vapor extraction, chemical oxidant, enhanced bioaugmentation or biostimulation, dual phase extraction, groundwater recovery, natural attenuation monitoring, impermeable barrier walls and capping. Institutional and/or engineering controls can be used in accordance with the closure options within the applicable Florida regulations to reduce life-cycle costs and risk.

With the completion of over 800 remedial designs, CB&I's services have proven effective on numerous remedial efforts, including geotechnical, civil, mechanical, thermal, chemical, hydrological, and hazardous waste storage and treatment projects.

The objective of the remedial design is to provide correlating plans and specifications to accomplish the recommended remedial actions. The rationale for determining the level of detail in design deliverables is to allow flexibility in certain areas to promote innovation and cost savings. CB&I uses an integrated team of engineers and applied scientists to develop and implement remedial design.

The first step in establishing an effective remedial design is technology screening. The purpose of technology screening is to identify a limited number of the most appropriate remedial alternatives for further evaluation. The initial screening effort is based on various criteria including contaminant removal applicability, overall cost, and cleanup time. Following technology screening, selected remediation alternatives are further evaluated on the basis of implementability, reliability, adverse impacts, operation and monitoring requirements, cleanup time, and costs. Each technology is then ranked using a weighted technology rating score based on site-specific input formulated from the screening criteria mentioned above. The results of this focused technology evaluation are typically

presented to the client on an easy to understand Remedial Alternatives Evaluation table. (See **Exhibit 4-4** for an example.)

If an active remedial system is required, CB&I may perform a pilot test to evaluate the effectiveness of the selected remedial technology at the site. Performance of pilot tests allows collection of operational parameters, which will allow optimization of the remedial design, thus saving time and money. CB&I has several trailer-mounted mobile pilot testing systems that can be used for pilot testing or short-term remediation scenarios.

CB&I's treatability laboratory allows several remedial strategies to be bench scale tested before implementing the technology, if necessary. This prevents implementing a remedial strategy that may appear appropriate, but due to unknown site conditions or geochemistry could reduce site cleanup effectiveness. Regardless of the remedial technology selected, CB&I will confer with the City to ensure the selected remedial strategy matches the site conditions with respect to constructability and project goals.

4.A.b.4 Emergency Planning/Emergency Management

CB&I, along with its affiliates, is one of the largest and most experienced emergency management and

TABLE 4-1
Technology Screening and Evaluation Matrix
Residue Removal, Nassau County, FL
SPR-01-01-000001-02

Remediation Technology	Technology Description	Technology Rating Score = (see Appendix C)	(A) applicability	(B) implementability	(C) Reliability	(D) adverse impacts
1001	Excavation and removal of contaminated soil	32	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.
1002	Excavation and removal of contaminated soil	106	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.
1003	Excavation and removal of contaminated soil	0	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.
1004	Excavation and removal of contaminated soil	0	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.	EXCAVATION OF CONTAMINATED SOIL IS THE MOST EFFECTIVE REMEDIAL ACTION FOR REMOVAL OF CONTAMINANTS FROM THE SITE. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT. IT IS A PROVEN TECHNOLOGY AND IS EASY TO IMPLEMENT.

Exhibit 4-4. Remedial Alternatives Evaluations Table
CB&I's engineers evaluate the practicality of various remedial alternatives and assign ratings so that client and others may understand the logic behind our remedial recommendations.

reconstruction firms in the U.S., with over 40 years of disaster expertise.

Businesses and governments face several challenges following natural disasters, such as damage to property, environmental damage, economic disruption and potential loss of life. CB&I provides comprehensive disaster/emergency management planning services that bring order to what can be chaotic situations when natural or man-made disaster strikes a community. Besides planning for possible emergency events, CB&I provides cost-effective debris monitoring, emergency management and disaster services. Our performance is backed by experience, technology, innovation, and solid in-house capabilities. With thousands of employees in strategic locations worldwide, we have established a

strong reputation for providing the extensive resources and expertise needed to assist our clients in preparedness, response, recovery, and mitigation from all hazards.

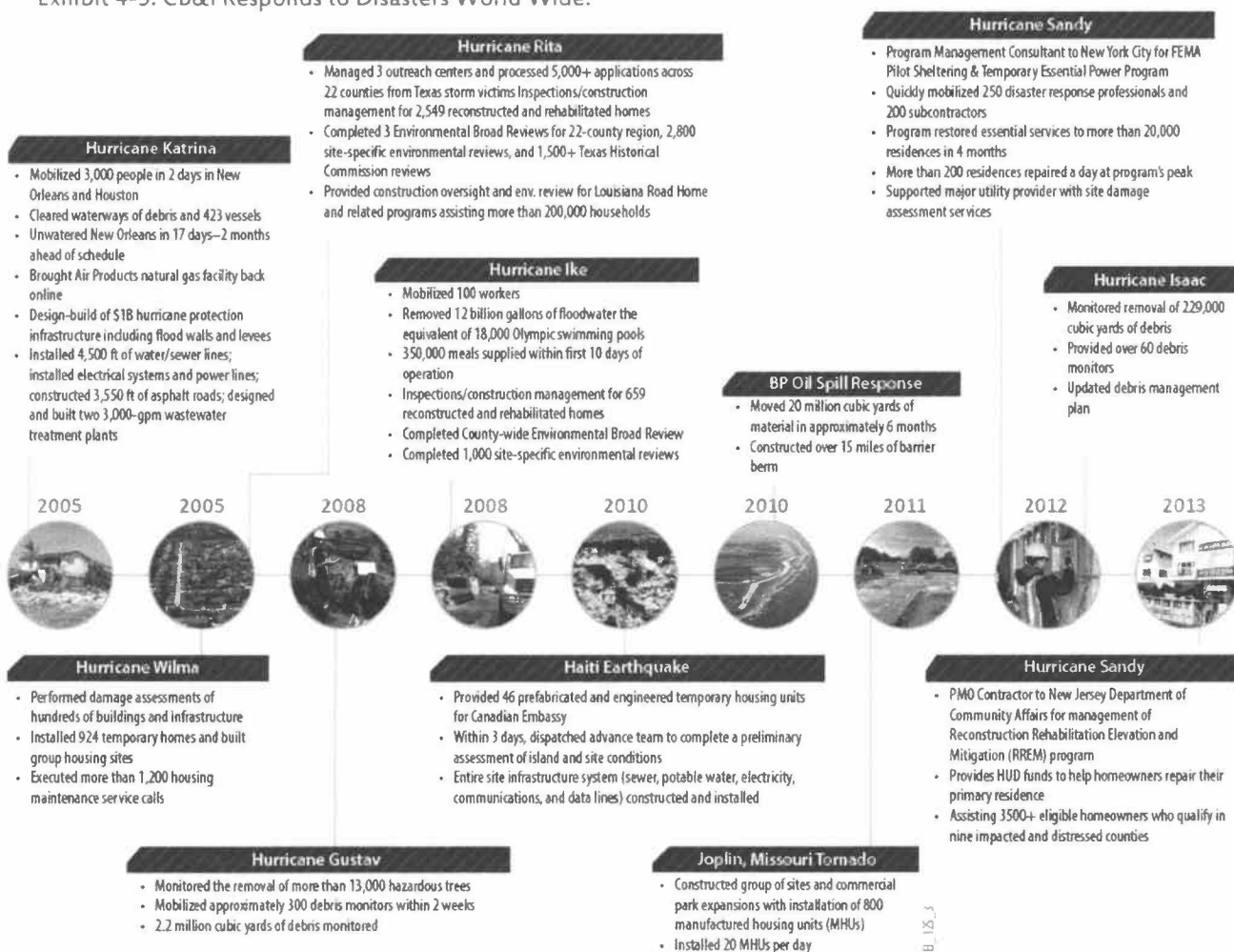
Our disaster response and recovery experience spans some of the largest disasters in recent history (**Exhibit 4-5**). We are experts in providing disaster recovery services and in the last 10 years alone, we have managed 35 programs worth \$16.4 billion in total grants serving more than 244,000 families in similar communities.

4.A.6.5 Industrial Hygiene Services

Indoor Air Quality and Mold Services

Productivity and long-term health can be adversely affected by the presence of mold or poor indoor air

Exhibit 4-5. CB&I Responds to Disasters World Wide.



quality (IAQ). Heightened public awareness of indoor air quality necessitates building owners to maintain a comfortable environment with acceptable air quality.

Also, given the long-term health effects of many chemicals used in the workplace and expanded OSHA regulations, industrial hygiene has become a highly specialized field focused on reducing potential

worker exposures to chemicals, development and implementation of safe job procedures and physical routines, and the education and training of all employees on potential hazards facing them in their jobs.

Our personnel are experienced in mold assessments and IAQ investigations. These are normally prompted by issues raised by employees and building occupants, and, under federal law, employers must provide a safe working environment, free of hazards, for employees.

Concerns that may require IAQ investigations are building humidity and temperature. Contaminants of concern may include bioaerosols such as fungi, bacteria, viruses and protozoans, biological contaminants such as dust mites and bird and bat droppings and insect infestations, chemical contaminants such as carbon monoxide, carbon dioxide, ozone, formaldehyde, volatile organic compounds, pesticides, asbestos, lead dust and respirable particulates. Employee/occupant health concerns may also be associated with manmade mineral fibers such as fiberglass, glass wool and rock wool used as insulation within the work area.

Our personnel have developed an investigative methodology based on the 1991 EPA publication entitled Building Air Quality - A Guide for Building Owners and Facility Managers. The utilization of a standardized methodology improves the effectiveness of the investigative process since indoor air quality investigations have the potential to absorb large quantities of resources without certainty of outcome.

Occupational Health and Safety

CB&I health and safety personnel are extremely qualified to provide occupational health and safety audits and training. Many of CB&I's clients have come to rely on us for the provision of compliance training on an annual basis as a fundamental element of their

ongoing health and safety programs. Training topics typically provided include: hazard communication; control of hazardous energy; confined space entry; chemical handling and storage; emergency action planning; hazardous waste operations; respiratory protection; personal protective equipment; laboratory safety; inorganic lead management; asbestos management; construction safety; record keeping; risk assessment; and industrial hygiene fundamentals.



CB&I trainers teach client staff how to handle emergency equipment.

Asbestos Services

CB&I provides management services to help facility owners locate, identify, and properly manage asbestos-containing materials. Our experienced asbestos specialists are certified under EPA and Asbestos Hazard Emergency Response Act (AHERA) regulations, and they have a working knowledge of the latest practices and equipment. All data is collected in accordance with statistically valid exposure assessment protocols. Quality assurance, an integral part of all study methodologies, is achieved by experienced and trained personnel, use of validated sampling methods, utilization of AIHA-accredited laboratories, and statistical data analysis.

CB&I uses the results of building inspections and risk assessments to produce operations and maintenance (O&M) plans specific to the facility. These O&M plans

provide a detailed management plan to mitigate the risk of asbestos-containing building materials. CB&I develops cost-effective strategies to maintain a functional and healthy building environment and to provide for asbestos removal activities when truly warranted. CB&I also provides the necessary training to building staff and occupants to ensure the successful implementation of the O&M program.

CB&I maintains a full complement of qualified personnel to develop asbestos abatement specifications to help building owners comply with applicable regulations during abatement activities. In states with asbestos regulations that are more stringent than federal requirements, CB&I maintains on-staff personnel meeting the additional requirements for project design.

Lead Services

CB&I personnel are extensively qualified to provide inorganic lead management services. We have provided these services in residential, industrial, and governmental facilities. CB&I field personnel execute facility surveys for lead-based paint utilizing XRF technology in accordance with guidelines of the Department of Housing and Urban Development, where applicable, or industrial-based survey methodologies.

Based on facility survey results, CB&I develops management plans to implement scientifically-valid strategies for the mitigation of risk from lead-containing paints. CB&I personnel have proven experience on cost-effective management strategies in the industrial setting.

CB&I has provided inorganic lead management services for FDOT, the American Petroleum Institute, the Chemical Manufacturers Association, the American Industrial Hygiene Association, the US Postal Service, and several housing authorities, among others.

4.A.c Recognition for Services

CB&I has been honored with a number of awards. By far the most rewarding are the recognitions coming from our highly satisfied clients. We have included below a few samples of our various commendations and awards.

Recognized by Clients for Exemplary Services



"CB&I's engineering and biological staff are always extremely knowledgeable and professional. The CB&I Team has been a great addition to Indian River County's Beach Management Program."

James Gray
Indian River County
Public Works - Coastal Engineering Division
1801 27th St, Building A
Vero Beach, FL 32960



DEAR MR. KOLBERT:

It is my pleasure to provide this letter of reference for CB&I Environmental & Infrastructure's environmental site assessment, remediation and compliance work performed for Florida East Coast Railway, LLC at locations across our system. As Manager of Environmental Compliance, I am pleased to acknowledge your firm's responsiveness, quality of work, and professionalism in the conduct of the numerous environmental site assessments, source removals, emergency response assistance and compliance management projects performed for our company. CB&I has successfully completed project assignments for even the most challenging projects, whether it be a remote site and logistically challenging, or a site surrounded by commercial and industrial development.

We look forward to working with you in the future knowing that we will receive the same excellent services delivered with professionalism from your firm.

Letter of reference from FEC in appreciation for responsive and comprehensive services.



Rate Overall Performance:

Exceptional Above Standard Acceptable Needed Improvement

Please circle one and make any applicable comments below.

CB&I does a very good job at managing our risk and environmental exposure. In addition to accomplishing the reactive tasks of our business, they are also proactive. Each time they visit our stores, they report back anything that might have been observed to be of interest to our environmental or operations teams.

CB&I provides a full range of environmental services at convenience stores in a four-state area (includes Florida). Services provided include due diligence for new store construction and large scale property acquisitions, environmental assessments, waste characterization/disposal, UST removal and replacement, and engineered remediation.

CB&I's 7-Eleven project team includes engineers, geologists, site managers, environmental scientists, and other support personnel.


Triumph Group, Inc.

Rate the Company's Response to Potential Problems:
Exceptional Above Standard Acceptable Needed Improvement
Please circle one and make any applicable comments below.

Exceptional – they assist in identifying potential problems but then provide suggested solutions (no problem is ever presented without a well thought out, timely and cost effective solution).

Rate Overall Performance:
Exceptional Above Standard Acceptable Needed Improvement
Please circle one and make any applicable comments below.

The technical staff of CB&I are outstanding professionals. They provide auditing services but take the time (each time) to ensure plant personnel understand complex regulatory requirements. I receive many compliments for the work and services they provide within my company.

CB&I provides environmental, safety, and health services at facilities through the US. Comments were taken from an evaluation form completed by the client.

Our Clients Recognized Through CB&I Project Service



CB&I nominated and presented the FSBPA Local Government Award to Gary McAlpin, Coastal Zone Manager of Collier County in September 2016.



Manatee County's Anna Maria Island Beach Nourishment Project won ASBPA's Robert L. Wiegel Coastal Project Award in 2015.

Safety

These awards demonstrate that CB&I's uncompromising focus on safety not only translates into a strong on-site safety culture, but also results in recognition and appreciation from our clients. CB&I continues to lead the way with its successful programs underpinning its core value: upholding the highest attainable degree of safety.

The Golden Nugget Award
ExxonMobil recently awarded CB&I's dedication to on-site safety by presenting the prestigious ExxonMobil Development Company President's safety award in recognition of service for over a year without a single recordable incident.



Green Cross for Safety Award



The National Safety Council awards this medal to organizations that demonstrate a steadfast commitment to improving safety and health in the workplace and beyond. The NSC has selected CB&I for this award in recognition of our pursuit of the goal "Nobody gets hurt."

4.A.d Client References

Exhibit 4-6 lists some of the clients with whom we have worked in the past 5 years in service categories applied for in this submittal.

4.A.e Qualifications of Key Personnel

The key personnel of our team are listed below with their roles in the team.

- Thomas Pierro, PE, DCE – Principal in Charge
- Tara Brenner, PG, PE – Contract Manager/Coastal Engineering Lead
- Doug Mann, PE – Program Advisor
- William Robertson, Ph.D. – QA/QC
- Jordon Cheifet – Marine Engineering
- Jason Whitman, PG, CHMM – Environmental Lead
- Stacy Buck, MS – Natural Resources Lead
- Jeff Andrews, PSM, CH – Survey Lead
- Beau Suthard, PG – Geophysical/Geotechnical Lead
- Angela Belden - GIS/CAD Lead

Resumes are attached after Section 4.A.e.

Exhibit 4-6. Client References

Client Contact Information	Dates	Project Name	Scope/Description
Indian River County Indian River County Public Works James Gray, County Coastal Engineer 1801 27th Street Vero Beach, FL 32960 Phone: 772-226-1344 Fax: 772-778-9391	Project Start (BPP) Date: 11/2013 Project End (BPP) Date: 4/2015	Indian River County Beach Preservation Plan	Coastal & Marine Engineering CB&I provided: • Beach Management Plan • Economic Analysis • Numerical Modeling • Public Outreach • Sea Level Rise Analysis • Coastal Engineering • Storm Impact Analysis • Beach Nourishment Design • Geotechnical Investigation • Physical Monitoring • Agency Coordination • State and Federal Permitting • Permit Compliance • Hardbottom Biological Monitoring Review
City of Deerfield Beach Patrick Bardes, Coastal & Waterway Coordinator 401 SW 4th Street Deerfield Beach, FL 33441 Phone: 954-480-1426 Fax: 954-480-4393	Project Start Date: 9/2016 Project End Date: Ongoing	Deerfield Beach Artificial Reef Deerfield Beach Storm Berm Nourishment Deerfield Beach Hurricane Matthew FEMA Coordination Deerfield Beach	Coastal & Marine Engineering Environmental/Natural Resources Surveying and Mapping CB&I provided: • Artificial Reef Design • State and Federal Permitting • Field Investigations • Agency Coordination • Beach Nourishment Design • Topographic/Bathymetric Surveying
Collier County Gary McAlpin, Director Coastal Zone Management 2685 S. Horseshoe Drive, Unit 103 Naples, FL 34104 Phone: 239-252-5342 Fax: 239-252-2950	Project Start Date: 2003 Project End Date: Ongoing	Collier County Coastal Zone Management Program	Coastal & Marine Engineering Environmental/Natural Resources Surveying and Mapping CB&I provided: • Hardbottom Biological Monitoring • Coastal Engineering • Beach Nourishment Design • Inlet Dredging Design • Geotechnical Investigations • Agency Coordination • State and Federal Permitting • State Funding Assistance • Numerical Modeling • Geographic Information System (GIS) • Surveying & Mapping

Client Contact Information	Dates	Project Name	Scope/Description
Manatee County Charlie Hunsicker, Director Manatee County 5502 33 rd Avenue Drive West Bradenton, FL 34209 Phone: 941-742-5923 x 6001 Fax: 941-742-5972	Project Start Date: 1989 Project End Date: Ongoing	Coastal Management Program	Coastal & Marine Engineering Environmental/Natural Resources Surveying and Mapping • Feasibility Studies • Numerical Modeling • Beach Nourishment and Structures Design • Geotechnical and Geophysical Investigations • Borrow Area Design • Plans and Specifications • Construction Administration • Biological Monitoring and Mitigation Planning • Artificial Reef Design and Monitoring • Hardbottom Monitoring • Geographical Information System (GIS) • Surveying & Mapping • Physical Monitoring • Agency Coordination • State and Federal Permitting • Permit Compliance • In-Kind Services for Federally Authorized Project • Funding Assistance
Fisher Island Community Association Gary Snider, President and Chief Executive Officer One Fisher Island Drive Fisher Island, FL 33109 Phone: 305-938-2944	Project Start Date: 12/2009 Project End Date: ongoing	Environmental Assessment, Monitoring, Former Sun Terminal/Jones Boatyard, 120 MacArthur Causeway, Miami, Florida	Environmental Services CB&I provided: • Phase I and Phase II Environmental Site Assessment • Natural attenuation monitoring • Remediation planning • Environmental Consulting
St. Johns River Water Management District Carol Brown, Sr. Professional Engineer 4049 Reid Street Palatka, FL 32178 Phone: 386-329-4816 Fax: None	Project Start Date: 1/2017 Project End Date: 4/2017	Environmental Services, Coastal Oaks Preserve, Vero Beach, Indian River County	Environmental Services CB&I provided: • Phase I Environmental Site Assessment of 43-acre contiguous parcels for expansion of the Coastal Oaks Preserve • Phase 2 ESA for evaluation of former citrus operations and WWTP • Asbestos Containing Materials Survey for demolition permit
Louisiana Coastal Protection and Restoration Authority Syed Khalil, Geologist Asst. Administrator 150 Terrace Avenue Baton Rouge, LA 70802 Phone: 225-342-1641 Fax: 225-242-3760	Project Start Date: 2013 Project End Date: 2015	Borrow Area Management and Monitoring (BAMM)	Survey and Mapping Environmental/Natural Services The purpose of BAMM is to determine how best to manage a borrow area for optimum usage with the least environmental impact. CB&I provided: • Project inventory and literature search • Bathymetric and geophysical data collection and analysis • Hypoxia monitoring • Model development • Push core investigation • Collected over 327 line miles of bathymetric and geophysical data

	City of Delray Beach
CB&I Environmental & Infrastructure, Inc.	Continuing Engineering, Surveying and Landscaping Architecture Consulting Services

Client Contact Information	Dates	Project Name	Scope/Description
Panama City Beach Lisa Armbruster, Bay County TDC 254 Stately Shoals Trail Ponte Vedra, FL 32081 Phone: 850-510-8004 Fax: none	Project Start Date: 1997 Project End Date: ongoing	Panama City Beaches Renourishment Program	Coastal Engineering CB&I provided: • State and Federal Permitting • Coastal Zone Planning, Study and Design • Environmental Planning, Study and Design • Geographical Information System (GIS) • Modeling and Simulation • Surveying and Mapping • Truck Haul Project
South Florida Transportation Authority Brandy Creed, PE, D. WRE, Director of Engineering and Construction 801 NW 33 rd Street Pompano Beach, FL 33064 Phone: 954-559-7927 Fax: 954-942-3321	Project Start Date: 2015 Project End Date: 2019	Environmental Services and Emergency Response	Environmental Services CB&I provides: • Environmental Consulting • Assessment and Remediation • Compliance Auditing • Environmental Permitting • Asbestos Inspections • Waste Water Treatment Plant Operation & Maintenance • Emergency Response Services
City of Long Beach Joe Febrizio, Deputy Commissioner One West Chester Street Long Beach, NY 11561 Phone: 516-431-1011 Fax: 516-431-5008	Project Start Date: 2013 Project End Date: 2014	Long Beach Dune Walkovers	Coastal Engineering CB&I assisted the City with a dune repair and walkover project following Hurricane Sandy damages. CB&I designed 19 walkovers and coordinated with FEMA, USACE, and the City to make the dune and structures eligible for funding if future damage occurred.
City of Miami, FL Andre Bryan, Capital Projects, Public Works 444 SW 2nd Avenue-8th Floor Miami, FL 33130 Phone: 305-416-1211	Project Start Date: 2013 Project End Date: 2017	Curtis Park Boat Ramp Improvements	Marine Engineering CB&I provided: • Topographic and Bathymetric Survey • Civil Engineering Design • Marine Engineering Design • Agency Coordination • County, FDEP and USACE Permitting Service

Resumes of Key Personnel

**Thomas Pierro, PE,
D.CE**
Director of Operations

Education

- Master of Science, Ocean Engineering, Florida Atlantic University, Boca Raton, Florida
- Bachelor of Science, Ocean Engineering, Florida Atlantic University, Boca Raton, Florida

Registrations/Certifications

- Professional Engineer, Civil, Florida, No. 64683; New York
- Diplomate, Coastal Engineering (ACOPNE), ASCE, Active, Nationwide

Qualifications Overview

Thomas Pierro serves as the Director of Operations for CB&I's Coastal Restoration group, with broad experience in project management, planning, design and permitting, engineering and modeling, plans and specifications, field investigation, construction oversight, and feasibility studies of coastal engineering projects. Since 2001, Mr. Pierro has worked on many shore protection, beach nourishment and marine structure projects, with particular focus on Florida's coast. In 2011, Mr. Pierro was awarded the Jim Purpura/T.Y. Chiu Award from the FSBPA for outstanding contribution to coastal engineering in Florida.

Sample Projects

Sr. Project Manager, Panama City Beach Erosion Control and Storm Damage Reduction Project, Bay County, Florida

Mr. Pierro is the Senior Project Manager for this project. This was a 17-mile \$30M Federal beach nourishment project. Since initial construction, CB&I has continued to provide services that protect the shoreline of Panama City Beach, including recently obtaining 15-year multi use permits from the FDEP and USACE. The 2017 Interim Beach Renourishment Project was recently completed.

Sr. Project Manager, Redfish Pass Inlet Management Study, Captiva Erosion Prevention District

Mr. Pierro is the Senior Project Manager for the modeling study. The goal of the study is for State adoption as a plan. The study utilizes the Delft3D numerical modeling package to evaluate dredging designs and comparing them to a no action scenario to analyze the potential impacts of the conceptual designs.

Sr. Project Manager / Principal Engineer, Lido Key Beach Nourishment Projects and Hurricane and Storm Damage Reduction Project, City of Sarasota, Florida

Mr. Pierro served as Project Manager and Senior Engineer for the FEMA supported repair of the 2009 Lido Key Beach Nourishment Project. He developed an extensive 3D numerical model (Delft3D) study centered on the project area to evaluate the effects of dredging the New Pass ebb shoal on the surrounding coastal system.

Sr. Project Manager and Principal Engineer, Manatee County Coastal Management Program, Manatee County, Florida

Mr. Pierro directed a comprehensive feasibility study for Manatee County in 2007 to evaluate the cost and need for shore protection in areas outside the Federal (USACE) project area on Anna Maria Island. Based on the recommendations of the report, the County has constructed the Coquina Beach Nourishment Project, and a 5-acre artificial reef in 2011, designed and permitted by Mr. Pierro. He designed and managed the installation of geotextile tubes to sand tighten the Longboat Pass Jetty to improve the performance of the beach nourishment project and recently completed a comprehensive modeling study of Longboat Pass resulting in an updated inlet management plan. He is now working with the County to repair an existing groin field to remove three derelict groins along Cortez Beach and replace them with permeable adjustable groins; this project was designed using the Delft3D numerical model.

Tara Brenner, PG, PE Contract Manager

Education

- Master of Science, Civil Engineering, Florida Atlantic University, Boca Raton, Florida
- Bachelor of Science, Environmental Geosciences, University of Notre Dame, Notre Dame, Indiana

Other Training

- American Red Cross Instructor
- CPR/AED for the Professional Rescuer
- First Aid for the Professional Rescuer
- Emergency O₂ Administration Blood Borne Pathogens Trained

Registrations/Certifications

- Professional Engineer, Florida, License No. 82305
- Professional Geologist, Florida, License No. PG2828
- BOEM Certified Protected Species Observer
- NMFS Approved Endangered Species Observer
- PADI Open Water Diver, 2008
- PADI Enriched Air Nitrox Diver, 2009
- Divers Alert Network (DAN) Member, 2010

Qualifications Overview

Tara Brenner joined CB&I in 2007. In her role as project manager, Ms. Brenner works with clients to ensure project objectives and timelines are met, and that CB&I work products are of the highest quality. She performs a variety of engineering services including permitting, engineering analysis, development of construction plans and specifications, construction observations, post-construction monitoring calculations and report preparation. Ms. Brenner also has extensive experience with the incorporation of remote sensing and GIS tools into the geotechnical and environmental aspects of projects.

Ms. Brenner has assisted with vibrocore collection, hydrographic surveying, seismic data interpretation, and environmental monitoring for CB&I projects. Ms. Brenner has been responsible for data analysis, incorporating geotechnical requirements for state and federal permitting, and supporting borrow area design and project construction for a number of projects.

Sample Projects

Coastal Engineer, FCCE Shore Protection Project, City of Delray Beach, Florida

For the 2014 FCCE Shore Protection Project, Ms. Brenner coordinated with the USACE on the design and planning phases and ensured that City-specific specifications were incorporated into construction specifications. Ms. Brenner served as the City's representative throughout construction and conducted daily observations, sediment QA/QC, and participated in weekly meetings.

On behalf of the City, Ms. Brenner ensures that permit conditions are met during and post-construction. Ms. Brenner performs engineering monitoring calculations computing MHW and volumetric changes and evaluating long-term project performance. Ms. Brenner also assisted in the preparation of Post-Construction Monitoring Reports and Sediment Testing Results Reports.

Coastal Engineer, 2013 North End Dune Reconstruction, City of Delray Beach, Florida

Delray Beach's 2013 North End Dune Reconstruction was constructed by truck haul. Ms. Brenner was on-site during construction, collecting truck tickets and verifying fill placement met the engineered design. During Delray's 2013 Beach Renourishment, Ms. Brenner performed daily observations, sediment QA/QC, documented construction activities, and participated in weekly meetings.

Project Manager and Coastal Engineer, Various Beach Projects, Collier County, Florida

Ms. Brenner has recently supported the County during the 2016 truck haul beach renourishments of Vanderbilt, Pelican Bay, Park Shore and South Marco beaches and the inlet dredging projects at Wiggins Pass (2015) and Collier Creek (2016). As well as coordinated with agencies to secure the County's 15-year beach renourishment permits and subsequent permit modifications. Ms. Brenner has compiled upland sand data and

assisted in the successful permitting of multiple upland sediment sources for Collier's projects. For all projects she has assisted with design, construction plans, technical specification preparation, bidding, and during construction services.

During construction, she performs engineering calculations generating refined design templates to meet design needs and the County's desired fill distributions. She continually monitors construction progress and sediment quality. She has calculated post-placement volumes and verified compliance with permit conditions. She attended and reported on engineering progress at all project meetings during construction.

Ms. Brenner has been working on various tasks to support Collier County since 2007. She supported design and post-construction reporting for Wiggins Pass Maintenance Dredging and Navigation Improvement Project in 2013. She assisted with LiDAR analysis for the City of Naples to identify outfall locations and potential offshore hardbottom impacts. She also performed geotechnical analysis for sand searches in Collier County from 2007 – 2009.

Project Manager, Panama City Beaches 2017 Beach Renourishment, Bay County, Florida

Ms. Brenner assisted with hot-spot identification and development of project scope. Then conducted coastal engineering design in development of the construction plans and technical specifications. Ms. Brenner led pre-bid, pre-construction and all during construction progress meetings. This dredge and fill project placed approximately 835,000 cubic yards during spring 2017.

Project Manager, 10th Street Boat Basin Dredging, City of Sarasota, Florida

City of Sarasota's 10th Street Boat Basin dredging project has been awarded to Energy Resources Inc. and construction began in April 2017. The project will remove, dewater, and dispose of approximately 16,500 CY from the clogged boat basin to improve boat access to a popular City boat ramp.

Coastal Engineer, 2013, 2014, 2015 and 2016 Annual Monitoring Reports of Panama City Beach's Erosion Control and Storm Damage Reduction Projects, Bay County, Florida

Ms. Brenner performed calculations and report writing for the Annual Monitoring Reports of Panama City Beach's Erosion Control and Storm Damage Reduction Projects.

Coastal Engineer, Benthic Habitat Mapping Project, Marquesas, Florida

Benthic habitat mapping project interpreted from satellite imagery in the Marquesas and Quicksands area offshore of the Florida Keys. CB&I mapped more than 1,300 km² of benthic habitats for developing management strategies that balance the protection of these habitats with their use. Habitats were mapped using "heads-up" digitizing on a large format SmartBoard by identifying color and texture patterns that were confirmed in the field using GPS-linked drop and dive supported cameras. Deliverables included digital benthic habitat maps, metadata, and ground validation imagery.

Coastal Engineer, Florida LiDAR Elevation Change Analysis Project, Florida, Statewide

Ms. Brenner assisted in the LiDAR Elevation Change Analysis Project, which quantified coastal volume change using LiDAR data. USACE's Joint Airborne LiDAR Bathymetry Technical Center of Expertise (JALBTCX) hired CB&I to quantify volume change from multiple LiDAR data sets on the Gulf of Mexico and east Florida coastline. She developed large format plots displaying changes for the studied time period as a project deliverable.

William Robertson, Ph.D., GISP QA/QC

Education

- Ph.D., Geosciences, Florida International University, Miami, Florida
- Master of Science, Geology, Florida International University, Miami, Florida
- Bachelor of Arts, Geology, Minor: Environmental Studies, Skidmore College, Saratoga Springs, New York

Registrations/Certifications

- Certified Geographic Information Systems Professional (GISP)

Qualifications Overview

Dr. Robertson's research focuses on using conventional survey and remote sensing data to quantify change in coastal morphology and develop models from these results using geographic information systems (GIS) to aid in coastal analysis and mitigation. Dr. Robertson specializes in working with remote sensing data sets to create seamless digital elevation models (DEMs) that are often critical for accurate geomorphic change analysis and often serve as the basis for scientific conclusions. Since joining CB&I in 2007, Dr. Robertson has participated and managed numerous geologic, remote sensing, GIS, survey, engineering and habitat mapping projects.

Sample Projects

Project Manager, Analyzing the Potential Impacts to Cultural Resources at Significant Sand Extraction Areas, BOEM

Project Manager for a northern Gulf of Mexico study are for historical research, geophysical and submerged cultural resource remote sensing, archaeological site investigation, identification and assessment in three offshore areas and one site in Louisiana territorial waters where sand resources are being obtained and/or will be obtained in the immediate future.

Project Manager, Florida Gulf of Mexico to Maine LiDAR Elevation Change Analysis, USACE Joint Airborne LIDAR Bathymetry Technical Center of Expertise

Managed the volume change, shoreline change and dune change quantification project using LiDAR data. Quantified volume change from multiple LiDAR data sets on the Gulf of Mexico and east US coastline. Utilized a grid-based approach to measure volume differences within GIS using a custom Python-coded system. Volume change was quantified by bins along the coastline and summarized in terms of the total positive, negative, net and normalized volume change. Shoreline, dune and volume metrics were combined in geodatabase for linear comparisons. Final products included quantified changes for the multiple time periods.

Project Manager, SLOSH and HEC-RAS Modeling in Mattapoisett Bay to Simulate Storm Surge and Saltwater Intrusion Under Multiple Sea Level Rise Scenarios, EPA

Multiple SLOSH models were run to determine storm surge extent at a dam up-river from Mattapoisett Harbor for different hurricane and Sea Level Rise (SLR) scenarios. The dam represents the intersection of the fresh water reservoir and the salt-water bay. The model was based on data inputs that were derived from previous studies and previous hurricane conditions. A one-dimensional HEC-RAS hydrodynamic model was run based on SLOSH model results that indicated storm surge extents in areas surrounding Mattapoisett Harbor for different hurricane and Sea Level Rise (SLR) scenarios. The HEC-RAS model indicated locations and times of saltwater intrusion and its interaction with the Mattapoisett Bay aquifer.

Project Scientist, Louisiana Sand Resources Database, CPRA

Designer and administrator for data management and support services for high volume datasets. Over 1,000 LiDAR, multibeam and other datasets were identified, obtained, reviewed and formatted. Currently working with CPRA to continue formatting and revisions to attribute specifications along with refining GIS formatting guidelines.

**Douglas W. Mann, PE,
D.CE**
Program Advisor

Education

- Master of Science, Coastal and Oceanographic Engineering, University of Florida, Gainesville, Florida
- Bachelor of Science, Civil Engineering, University of Delaware, Newark, Delaware

Registrations/Certifications

- Professional Engineer, Florida (44046), Delaware (12949), Louisiana (31121), Massachusetts (46574), Virginia (049702)
- ASCE-ACOPNE, Diplomate of Coastal Engineering, ASCE, Active, Nationwide

Qualifications Overview

Douglas Mann has worked as a coastal engineer with CB&I since 1987. He is experienced in all aspects of coastal engineering including dredge and fill projects for material disposal and beach nourishment, beach and inlet engineering, coastal structure design (including breakwater, groins, seawalls, jetties, and Permeable Adjustable Groin (PAG) design and construction) as well as marine-related upland structures. Mr. Mann is experienced in Joint Coastal permitting, Environmental Resource permitting, and Florida Department of Environmental Protection Coastal Construction Control Line permitting.

Sample Projects

Longboat Key Comprehensive Coastal Engineering Services, Town of Longboat Key, Florida.

Mr. Mann was project manager and engineer of record for designing, permitting, and construction management of three large-scale beach nourishment projects and the implementation of multiple permeable adjustable groins (PAGs).

Engineer of Record, Seawall Project, Eastpointe II Condominium Association, Florida.

Mr. Mann is engineer of record for design of a 300-foot long seawall to protect habitable upland improvements.

Coastal Engineer, Emergency Dune Restoration, Seawinds Property Owners Association, Florida.

Mr. Mann designed and permitted an emergency dune restoration for 500 linear feet of dune. Mr. Mann provided construction contract administration.

Coastal Engineer, Mayfair House Seawall Replacement, South Palm Beach, Florida.

Mr. Mann designed and permitted the replacement and raising of an oceanfront seawall in South Palm Beach, Florida. The project involved the design of an internal concrete beach access stairs.

Project Manager and Engineer of Record, North Ocean Boulevard Seawall Toe Protection Project, Palm Beach, Florida.

Mr. Mann was project manager and engineer of record for the design of a rock toe berm to prevent the failure of an exposed ocean front seawall.

Coastal Engineer, Cortez Groin Removal and Replacement Project, Manatee County, Florida.

Mr. Mann was coastal engineer for the replacement of permeable groins that are controlling end losses from Federal beach nourishment project and protecting upland emergency evacuation route.

Engineer, Delray Beach Shore Protection Project, Palm Beach County, Florida.

Engineer and coauthor for the Limited Reevaluation Report for the third renourishment of the shore protection project. Performed economic analyses, engineering design of fill, borrow area design, permitting, and cost estimating for the project. Provided construction observations and assisted with contract administration.

Project Engineer, North Shore Road Seawall Return Wall Extension, Town of Longboat Key, Florida.

Designed and permitted a return wall extension of the existing seawall to protect North Shore Road. Provided construction observations and contract administration to the Town.

Islamorada, Village of Islands, Founder's Park Marina Rehabilitation Project.

Engineer of record for the replacement of the 77-slip marina. Project included a marina materials evaluation including life cycle costs, revised layouts to accommodate larger boats, and increased structure elevations to accommodate storm surges.

Engineer of Record, City of Delray Beach, City Marina, Deck Replacement and Dock Repairs.

Engineer of record for replacement of all finger dock decks and structural repairs at the 24 slip City Marina. Marina improvements included upgraded deck materials and boat fenders (2004). Designed repairs for impacts associated with Hurricane Wilma.

Engineer of Record, City of Miami Beach, 69th Street Bulkhead Repairs and Dock Replacement.

Engineer of record for 450 linear feet of bulkhead repairs and replacement of two existing docks. Two derelict floating docks were also removed.

Project Manager, City of Miami Beach Public Seawall Observations, Miami Dade County, Florida.

Project manager for the structural inspection of approximately 80 City-owned seawalls.

Veterans Park Bulkhead Replacement, Palm Beach County, Florida.

Designed and permitted a concrete pile and panel bulkhead to replace the existing bulkhead. Project constraints included working around high voltage power lines over the project and crossing the Intracoastal Waterway. Two marginal docks were included in the design..

Ringling Museum Seawall Replacement, Sarasota County, Florida.

Designed and permitted a replacement seawall for the museum along their Sarasota Bay shoreline. Maintained appearance of the seawall to match historic photographs. Developed specifications to protect the adjacent Ca d'Zan house, which is registered as a Historic Place .

West Lake Village Homeowners Association Erosion Evaluation, Hollywood Florida.

Erosion evaluation and sea level rise forecast for Intracoastal Waterway community.

Jordon Cheifet, PE, CFM Marine Engineering

Education

- Master of Science, Ocean and Resources Engineering, University of Hawaii, Honolulu, Hawaii
- Bachelor of Science, Civil Engineering, Pennsylvania State University, University Park, Pennsylvania

Other Training

- 40-Hour HAZWOPER Training

Registrations/Certifications

- Professional Engineer, Civil, Florida, License No. 72876, Active
- Certified Floodplain Manager
- Certified Video Ray ROV Operator
- Surface Supplied Air Underwater Inspection Certification
- NAUI Open Water Diver, 1992
- NAUI Advanced Diver, 2010
- NAUI Nitrox Diver, 2012
- NAUI Rescue Diver, 2016

Qualifications Overview

Jordon Cheifet is a marine/coastal engineer with more than 12 years of technical and project management experience, including waterfront structure design, FEMA coastal floodplain mapping, shoreline restoration/protection design, numerical modeling, and marina design. His field experience includes underwater waterfront facility inspections, GIS/GPS data collection and analysis, surveying, and construction administration.

Sample Projects

Project Engineer, 10th Street Outfall – City of Sarasota, Florida

Mr. Cheifet provided structural design for the marine works component of this municipal boat basin project which includes boat basin dredging and bulkhead replacement. Services performed included bulkhead repair design, basis of design reporting, and QA/QC of internal and sub-consultant project deliverables including construction plans and specifications.

Project Engineer, Service Club Park Boardwalk Renovations, City of Venice, Florida

Mr. Cheifet performed a structural/coastal engineering assessment of the existing timber boardwalk over the dune system in Service Club Park to evaluate the current condition. Engineering data obtained was used to provide recommendations for replacement and public safety. Mr. Cheifet provided structural/coastal engineering design for the replacement structure which is currently being permitted by the FDEP. Next steps include preparation of construction plans and specifications and construction oversight when construction begins later this year.

Project Engineer, Pass-a-Grille Jetty Investigation, City of St. Pete Beach, Florida

Mr. Cheifet performed a structural/coastal engineering assessment of the Pass-a-Grille jetty and fishing pier to evaluate the current condition and effectiveness of the waterfront structures. The field investigation included an above- and under-water investigation of the structure.

Construction Oversight, Curtis Park, City of Miami, Florida

Mr. Cheifet provided construction oversight for the marine works phase of this municipal boat ramp restoration project. Services performed included dock pile installation monitoring, bulkhead construction observation, and boat ramp repair design.

Hampton Inn Clearwater, City of Clearwater, Florida

Mr. Cheifet performed coastal engineering for an oceanfront commercial structure. Services performed include storm recession analysis, calculation of wave loads for subsequent structural design, and scour analysis, and FEMA/FBC flood code compliance consulting.

Jason Whitman, PG, CHMM Environmental Lead

Education

- Master of Science, Geology, Florida Atlantic University, Boca Raton, Florida
- Thesis - Variations in Model Discretization and its Effects upon Groundwater Modeling
- Bachelor of Science, Geology, Florida Atlantic University, Boca Raton, Florida

Other Training

- 40-Hour HAZWOPER Training
- OSHA HAZWOPER 8-Hour Refresher
- FDEP Qualified Stormwater Management Inspector #16585

Registrations/Certifications

- Professional Geologist, Florida PG2379; 2005
- Certified Hazardous Materials Manager, CHMM 12170

Qualifications Overview

Mr. Whitman is responsible for the management of both private client and government-funded environmental and engineering related projects. Management duties involve client communication, work scope development, cost estimating, and effective project implementation using both internal and external resources to complete project goals.

Mr. Whitman has experience in managing projects related to the assessment, design, and remediation of automotive and aircraft petroleum hydrocarbon contaminants, dense non-aqueous phase liquids, as well as a wide range of industrial wastes such as pesticides, PCBs, chlorinated solvents, brine contamination, lead, arsenic, and chromium in both soil and groundwater regimes. As a result of his experience, Mr. Whitman has exceptional knowledge of regional groundwater systems and their associated regulatory overlay as he is the lead technical advisor for Water Well and Septic development projects for Large Residential Land Development Firms.

As a Senior Hydrogeologist, Mr. Whitman has delineated contaminant plumes, evaluated contaminant pathway migration patterns, and designed and installed groundwater remediation systems. Mr. Whitman is well versed in the application of federal, state and local environmental regulations. During his graduate studies he worked with Dr. Jorge Restrepo to develop a MODFLOW computer model designed to replicate the process of evapotranspiration for SFWMD.

Sample Projects

Project Geologist, FDOT 6 Districtwide Contamination Assessment & Remediation Services

Oversees QA/QC of assessment fieldwork and reporting.

Region Project Manager, Florida Department of Environmental Protection, South Region (16 counties), FL

Management of a regional team of engineers and scientists performing contaminations assessments, engineering design, and petroleum cleanup projects at various state funded cleanup sites across the South Region.

Project Manager, South Florida Water Management District, West Palm Beach, FL

Management of a national technical review team tasked with performing third-party engineering reviews of design packages for the District using a team of highly experienced technical reviewers across the US both employed by CB&I and subcontracted out. The reviews are performed using www.projnet.org and completed from the design phase all the way through to the final design package. Responsible for hosting and participating in kick-off meetings, design workshops, and on-site design meetings with SFWMD staff, SFWMD subcontracted designers, and review team members. Managed all financial aspects of the invoicing and labor tracking.

Geologist, FDOT 4 CAR contract, West Palm Beach, FL

Supported contamination assessment and remediation of State Road 80 Right-of-Way properties for a roadway expansion along a 15-mile stretch of roadway.

Senior Geologist, Environmental Services for Dragados USA, I-595, Broward County, FL.

CB&I has been a key provider of environmental services to Dragados USA, Inc. roadway expansion operations. Dragados USA, Inc. is the prime contractor on the I-595 Corridor Roadway Improvements project consists of the reconstruction of the I-595 mainline and all associated improvements to frontage roads and ramps from the I-75/Sawgrass Expressway interchange to the I-595/I-95 interchange, for a total length along I-595 of approximately 10.5 miles, and approximately 2.5 miles on Florida's Turnpike from Peters Road to Griffin Road. The design and construction cost of the project is approximately \$1.2 billion.

Site Project Manager, AT&T MSA, Various US Locations, Puerto Rico, the Virgin Islands, and parts of Canada.

AT&T has approximately 3,500 such facilities, and their Spill Prevention, Control and Countermeasure Plans (SPCC) must be revised and PE certified every five years in accordance with 40 CFR Part 112, "Oil Pollution Prevention and Response; Non-Transportation-Related Onshore and Offshore Facilities." For each work order to prepare and certify SPCC plans, CB&I personnel conducts a site survey before preparing or revising the SPCC plan according to an SPCC plan template developed and provided by AT&T. A CB&I Professional Engineer (PE) licensed in the state where the facility is located then provides professional engineering certification of the plan. Mr. Whitman manages a site for AT&T that involves monitoring, assessment, remediation, system design, and permitting for a historical diesel spill. Over \$81,000,000 in cost to date.

Senior Geologist, 7-Eleven Alliance Program, Various Locations across the US.

CB&I and its predecessor companies have been a key provider of environmental services to 7-Eleven stores' retail petroleum operations since 1993. The total services volume provided over that period has totaled over \$100 million. 7-Eleven currently has a total of 5,900 owned, operated, and franchised stores in the US, of which about 50 percent offer gasoline. CB&I's principal work is associated with 7-Eleven stores with gasoline sales. Mr. Whitman has been working with 7-Eleven for the past 11 years. Mr. Whitman directed and supervised site assessments, natural attenuation monitoring, treatment system design and installation, pilot testing, system operation and maintenance, tank closure assessments, and property due diligence projects for various 7-Eleven properties located in Florida.

Project Manager, City of Miami Miscellaneous Environmental Contract, Miami, FL.

CB&I was contracted by the City of Miami, FL for miscellaneous environmental services including but limited to, completed planning and design services, programming, phase I and II site assessments, surveying, geotechnical, feasibility studies, options evaluations, public meetings, detailed facility assessments, lead-based paint analysis, asbestos surveys, mold assessments and recommendations, cost estimates, opinions of probable construction cost, preparation of bid and construction documents, review of work prepared by sub-consultants and other consultants, field investigations and observations, construction contract administration, as-built documentation and other related environmental services. Conducted Phase I and II, groundwater and soil testing, AST design, oversight, and SPCC for the City of Miami. Total cost to date: \$250,000.

Project Manager, Florida Department of Transportation District VI – Contamination Assessment and Remediation, Miami Dade and Monroe Counties.

CB&I has been a Contamination Assessment and Remediation (CAR) contractor to the Florida Department of Transportation District VI since 2008. The total services volume provided over that period has totaled over \$3.5 million. CB&I's principal work is to support all phases of FDOT's business with an emphasis on the identification, handling, assessment and remediation of hazardous and non-hazardous materials on State roadways or any situation that presents an immediate threat to the environment or citizens. Mr. Whitman works as an advisor to this program for District VI since inception of contract.

Project Manager, Miami International Airport, Miami, FL

Tasked to complete the development of a remedial action plan (RAP) for the remediation of a former cargo area impacted by chlorinated solvents. Scope included well sampling, well installation, aquifer pump testing, exfiltration testing, treatability studies, and RAP preparation.

Project Manager, Scott Homes – Sectors I - IV, Opalocka, FL

Performed assessment and cleanup of a former dump site located adjacent to the Gwen Cherry landfill. Area is currently slated to be developed to low income housing, but is impacted by lead contamination in hazardous levels as a result of dumping. Scope includes soil boring installation, mapping lithology, well installation, soil excavation, and soil disposal.

Project Manager, Anadarko Petroleum

Tasked to manage multiple remote site projects related to the assessment and design of remedial options for saltwater plume present in the potable aquifer system at depth from historic well drilling activities in Felda, Florida. Managed office operations (data compilation, reporting, permitting, and scheduling), field operations (construction of remedial system, trenching, drilling, contractor oversight and berm construction), and all subcontracted services. Served as client contact and was responsible for preparing all cost proposals and client invoices.

Stacy Buck

Natural Resources Lead

Education

- Master of Science, Coastal Zone Management, Nova Southeastern University, Dania Beach, Florida
- Bachelor of Science, Marine Science, University of South Carolina, Columbia, South Carolina

Registrations/Certifications

- SDI Divemaster, 2012
- Dry Suit Specialty Diver, 2009
- Enriched Air Nitrox Diver, 2003
- PADI Rescue Diver and Advanced Diver, 2003
- AAUS Scientific Diver, 2003
- NAUI Open Water Diver, 1997
- Emergency First Responder (CPR, 1st Aid, AED)
- DAN O₂ Administration
- Divers Alert Network (DAN) Member, 1997
- BOEM and NMFS Protected Species Observer, 2007

Qualifications Overview

Stacy Buck has 17 years of experience in biological and environmental science with the last 14 years focused on coastal and marine biology in south Florida. In her career at CB&I, she has conducted over 1200 scientific dives monitoring natural and artificial habitats in the marine environment. Ms. Buck has extensive experience in the design and implementation of monitoring programs for marine resources and routinely prepares environmental documents in support of state and federal permit applications including joint coastal (JCP) and environmental resource (ERP) permits. Her experience includes marine habitat characterization of natural and artificial reef communities, implementation of coral restoration and transplantation programs, seagrass habitat assessment, and marine wetland delineation. Ms. Buck is responsible for the complete coordination of biological monitoring projects from pre-permit application coordination through final report deliverables.

Sample Projects

Ms. Buck has conducted permitting, biological monitoring and assessments and/or project management for the following projects:

- Delray Beach Fifth Periodic Renourishment, Delray Beach, Florida
- Southern Palm Beach Island Comprehensive Shoreline Stabilization Project, Palm Beach County, Florida
- Mid-Town Beach Renourishment and Expansion Project, Town of Palm Beach, Florida
- Reach 7 Phipps Ocean Park Beach Restoration Project, Town of Palm Beach, Florida
- Erosion Control Study, Town of South Palm Beach/Town of Lantana, Florida
- Ocean Ridge Beach Nourishment Project, Florida
- South and Central Boca Raton Beach Nourishment Project, Boca Raton, Florida
- City of Deerfield Beach, Artificial Reef Permitting, Deerfield Beach, Florida
- Segment II and III Shore Protection Project, Broward County, Florida
- A1A Beach Repair Project Sediment Monitoring, Broward County, Florida
- USACE, Broward County Segment I Nearshore Reef Assessment and Literature Review, Florida
- Marquesas Benthic Habitat Mapping, Florida Keys National Marine Sanctuary, Florida
- Beach Renourishment Project, Town of Longboat Key, Florida
- Lindley Street Boat Ramp Seagrass Survey, Town of Longboat Key, Florida
- North End Renourishment Project, Town of Longboat Key, Florida
- Wetland Delineation and Aerial Analysis, North End Structural Stabilization Project, Town of Longboat Key, Florida

Jeffrey Andrews, PSM

Survey and Mapping Lead

Education

- Master of Science, Ocean Studies, Nova Southeastern, University, Fort Lauderdale, Florida
- Bachelor of Science, Marine Science, University of North Carolina, Wilmington, North Carolina

Registrations/Certifications

- Certified Inshore Hydrographer, License No. 104, 1998
- Professional Surveyor and Mapper, Florida, License No. LS5805, 1998

Qualifications Overview

Jeffrey Andrews is Director of Operations for CB&I's Marine Geosciences and Metocean group. He has extensive experience in hydrographic surveying and is well versed in undertaking surveys in offshore and navigable channel environments using the latest state-of-the art equipment. He has conducted hundreds of marine investigations and mapped more than 100 million cubic yards of beach compatible sand on the continental shelf. Mr. Andrews directed bathymetric and upland surveys in Florida, Georgia, North Carolina, Virginia, New Jersey, New York, Massachusetts, Alabama, Louisiana, Texas, Alaska, Puerto Rico, Brazil and the Bahamas. He prepared all hydrographic and topographic survey reports, including technical writing and supervision of data analysis. With over 35 years of experience, he continues to manage and direct hydrographic, topographic and geophysical data collection along the Gulf and Atlantic coasts.

Sample Projects

- Manatee County, Florida, Beach Survey (2013, 2014, 2016)
- Delray Beach, Florida, Pre-Construction Hydrographic Survey (2013- 2016)
- Captiva Island, Beach and Offshore Surveys 2016
- Lido Key, Florida, Beach and Offshore Survey (2009, 2015)
- Manatee County Port Dolphin Pipeline, Florida, Offshore Survey (2010)
- Captiva and Sanibel Islands, Florida, Beach Survey (2014, 2015, 2016)
- Redfish Pass and Blind Pass Bathymetric Surveys (2015)
- Cameron Meadows, Louisiana, Sand Resource Investigations (2015)
- BOEM, Louisiana, Cultural Resources at Significant Sand Extraction Areas (2015)
- Panama City Beach, Florida, Beach and Offshore Survey (1998, 2009)
- Anna Maria Island Offshore Survey (1998)
- Captiva Island Borrow Area Bathymetric Survey (2005, 2008)
- Dade County, Florida, Erosion Monitoring Hydrographic and Topographic Survey (2013)
- Port of Miami, Florida, Side Scan Sonar Survey and Multibeam Survey (2012)
- Atchafalaya River, Louisiana, Multibeam Survey (2011-2012)
- Shell Island, Louisiana, Borrow Area Bathymetric Survey (2011)
- Longboat Key, Florida, Beach and Offshore Survey (2010)

Beau Suthard, PG Geophysical/ Geotechnical Lead

Education

- Master of Science, Geological Oceanography, University of South Florida, St. Petersburg, Florida
- Bachelor of Science, Marine Science/ Marine Geology, Eckerd College, St. Petersburg, Florida

Registrations/Certifications

- Professional Geologist License/Florida (2615), Virginia (2801001948), Delaware (S4-0001296), Louisiana (746)

Qualifications Overview

Mr. Suthard serves as a Marine Geophysicist, Project Manager, and Program Manager. He is responsible for the coordination, planning and execution, and processing of CB&I geophysical and geotechnical investigations. In addition, Mr. Suthard is responsible for program management of CB&I's projects with the Town of Longboat Key Comprehensive Beach Management Plan, Pinellas County Coastal Management Program.

Sample Projects

Bureau of Ocean Energy Management (BOEM) Offshore Sediment Survey

Mr. Suthard serves as both the Project Manager and Technical Manager for this project. The goal of the project is to acquire geophysical and geological data along the east coast from Florida to Maine to support identification, characterization, and delineation of OCS aggregate mineral resources for use by coastal communities in future coastal restoration efforts.

Project Management of the Maryland Energy Administration offshore geophysical survey of the Maryland Wind Energy Area

As project manager, oversaw the high-resolution geophysical resource survey and geohazard analysis of the entire 79,706 acre offshore Maryland Wind Energy Area for the Maryland Energy Administration, resulting in data collection, processing, interpretation and geohazard reporting on 2,800 km of geophysical data, and nearly 5,200 km of hydrographic data.

Additional projects of Mr. Suthard's geophysical survey data collection, processing, and report development project experience include:

- Bureau of Ocean Energy Management, Geophysical and Geological Data Acquisition: Inventory of Potential Beach Nourishment and Coastal Restoration Sand Sources on the Atlantic OCS (2014)
- East-African High Resolution 2D Geophysical Survey (2014)
- Maryland Energy Administration High Resolution Geophysical Resource Survey (2013)
- Anna Maria Island, Florida. Offshore Geophysical/Geotechnical Investigation (2010)
- Longboat Key, Florida. Offshore Geophysical/Geotechnical Investigation (2010)
- Grand Liard, Louisiana. Offshore Geophysical/Geotechnical Investigation (2010)
- Barataria, Louisiana. Offshore Geophysical/Geotechnical Investigation (2010)
- Salvador, Bahia, Brazil. Estuarine Geophysical Investigations (2009)
- Sand Key, Florida. Offshore Geophysical/Geotechnical Investigation (2009)
- Florianópolis, Santa Catarina, Brazil. Estuarine Geophysical Investigations (2009)
- Broward County, Florida. Offshore Geophysical/Geotechnical Investigation (2009)

Angela Belden

GIS/CAD Lead

Education

- Bachelor of Science, Business, New Hampshire College
- Associate of Science, Business Management, New Hampshire Technical Institute

Other Training

- ESRI Enterprise Dbase Development and Management, 2007
- Certified Autodesk Civil 3-D Training, 2006
- USGS Metadata for Geospatial & Biological Data Training, 2002
- ESRI GIS Training; University of Florida, 1995 1996, 2000
- Certified Autodesk Training, 1995, 2000, 2001, 2006
- Certified Eaglepoint Survey Software Training, 1994, 2000
- Certified Microstation Training, 1993

Registrations/Certifications

- Autocad 2013 Certified Professional
- Autocad 2011 Civil 3d Certified Associate
- Certification in Metadata for Geospatial and Biological Metadata-USGS 2002

Qualifications Overview

Angela Belden has 26 years of experience working with various GIS, CAD and engineering programs. She directs all GIS operations for CB&I's coastal restoration offices, and is responsible for the management of personnel, software, and resources that provide GIS and Computer Aided Engineering/Drafting (CAE/CAD) service and product support to all of our regional offices and clients. She advises the groups Remote Sensing and Spectral Analysis Applications, including geoprocessing, archival in spatial databases and the creation of maps and visualizations.

Ms. Belden possesses a broad range of experience with geospatial technologies ranging from database design, integration, data validation and integrity, specializing in complex GIS file translations between widespread digital formats. She also directs all CAD documentation development and software applications. She has successful project and resource management experience and has provided both geospatial and information management technical support on numerous projects. She is experienced in a variety of information technologies, from ESRI's suite of GIS products to graphic design packages such as Adobe Illustrator and Photoshop. In 2000, her project management experience began with environmental resource mapping in Broward County, and has extended to more than 17 GIS benthic habitat mapping projects from Texas to North Carolina. Ms. Belden specializes in customized GIS products that clients require for public distribution.

Ms. Belden has served as a Project Manager for GIS-oriented projects where responsibilities included proposal preparation, scope of work development, level-of-effort and pricing determination, and scheduling and budget oversight. She has authored and presented papers at multiple GIS conferences.

Sample Projects

GIS/CAD Director, Lido Key Beach Renourishment Program, City of Sarasota, Florida

CB&I has performed engineering, environmental and survey services to the City of Sarasota since 1988 resulting in the construction of four beach renourishment projects. CB&I provided all design and permitting services for construction of the most recent 2009 FEMA funded hurricane repair project. Ms. Belden's role in all of these projects includes assisting in the development of design options, preparing permit sketches and directing the development of the construction plans. She also performs all QA/QC review of GIS and CAD documents produced by CB&I required for the projects.

GIS Project Coordinator, Benthic Habitat Mapping of the Marquesas/Quicksands Area of the Florida Keys, Monroe County, Florida

Ms. Belden oversaw the creation of the mapping units and digitization efforts for this project. CB&I conducted GIS-based image analysis and visual interpretation of the color and texture pattern signatures using "heads-up" digitizing of orthorectified, high resolution, pan-sharpened color IKONOS satellite imagery. Shallow-water benthic habitats were delineated on the basis of these attributes: large biogeographic zones that are comprised of smaller geomorphological structure, and biological cover. Image enhancement techniques like color band subtraction and application of various filters were applied to the images with positive results especially in deeper environments. The mapping process was conducted using heads-up digitizing on a large screen LCD display equipped with a SmartBoard.

GIS/Information Manager, Interactive GIS Database, Town of Palm Beach, Florida

Ms. Belden directed creation and implementation of an Interactive GIS database as a functional tool to explore the data pertaining to renourishment projects. Ms. Belden served as the data and information manager on this project. She directed the creation of an interactive interface, performed quality assurance and control on the data, and reviewed all FDGC compliant metadata created by her GIS staff.

4.B Approach to Project Management

CB&I has built its stellar reputation by satisfying the needs of clients throughout the state and the country. The majority of our work comes in the form of indefinite delivery/indefinite quantity (ID/IQ) contracts that require the ability to react to as-needed task orders (or Service Authorizations) that often come concurrently, involve multiple disciplines, and are to be performed in different locations. CB&I's project management procedures support this profile of service and allow our teams to excel in their work delivery.

Our CB&I Management System (CMS) contains policies, processes, procedures, work instructions, tools and supporting documents describing the way CB&I is to execute work activities. CMS represents CB&I's best work practices and is continually improving as the company pursues "Excellence In All We Do." This forms the basis for our Quality Assurance/Quality Control plan as it covers all facets of a project from the proposal stage to final close-out of the project.

While CMS represents CB&I's baseline methodology for executing business and projects, we recognize that each project is unique according to the dictates of the contract and task specifics. Our Team will apply CB&I's proven, highly successful project management system to control all aspects of contract delivery and the City's goals. The primary features of our project management and control system include:

- A formal, documented project delivery system based on Project Management Institute guidance.
- A fully integrated project control system that combines commercially available software and customized proprietary systems for estimating, tracking, controlling cost and schedule, and measuring technical progress.
- A proven task delivery system with the Program Manager as the single point of contact, responsibility, and authority for all project matters.
- Complete project support capabilities, including fully compliant quality assurance, health and safety, procurement, contract administration, and project controls functions implemented by experienced, dedicated staff.

4.B.a Program Delivery and Interaction with the City

CB&I trains its personnel in our CB&I Project Delivery System (PDS), which provides the framework for Project Managers to lead a project through its entire lifecycle: initiating, planning, executing, monitoring and control, and closing. The objective of the PDS is client satisfaction through performance excellence. The focus of the system is facilitating the highest possible quality in every aspect of a job. Our PDS has been implemented on thousands of projects, and generally follows a flexible management style, meaning that there are rigid centralized company controls but the project has autonomy for entrepreneurship and innovation. This process is illustrated in **Exhibit 4-7**.

Our project managers monitor and evaluate technical, cost, and schedule performance within a single integrated project baseline and can quickly evaluate progress and make course corrections to ensure project objectives are achieved.

Project management support includes timely reports resulting from our project controls system that include tracking progress; updating schedules, financial execution and numerous other elements we routinely monitor to assess progress for our clients.

Successful project management and client satisfaction requires close communications. We understand that the City is at the helm and that it never wants surprises from its consultants either in the performance of their services or in helping to foresee obstacles or increased risks that might impact the goals of the City. The CB&I team's communications protocols and proactive consultancy will keep the City's best interests in the forefront. For example, as part of our consulting work for the City's beach renourishment program, we provide quarterly reports to keep the City abreast of all upcoming and completed tasks, as well as for use as a submittal to FDEP to ensure continued project funding. We will use multiple methods of communications. With our team located close by, we find face to face meetings beneficial for developing project scopes and at key project milestones. We are also available to attend and present at City Commission meetings as needed.

Exhibit 4-7. Project Delivery System
CB&I's PDS meshes perfectly with the City's Service Authorization method of work ordering.



Quality assurance is an integral element of Project Management system and without its proper focus, we would not have experienced the steady growth that has characterized our firm for decades.

4.B.b Approach to the Design of Projects

As the City identifies work that it needs accomplished, CB&I's Program Manager (Tara

Brenner, PG, PE) will develop a detailed scope of work and budget. She will assign a project manager based on the work required. With the project manager's input they will develop a Project Work Plan that acts as the blueprints for the project, including manpower, equipment scheduling and a timeline for deliverables.

Protecting our clients' budget and schedule are important elements of project delivery. For the City, CB&I will respond to all requests given with immediacy. Upon receiving a notice to proceed work, our staff will commence within 2 weeks. Before beginning work, and at regular intervals thereafter, CB&I will work to develop and adapt (if necessary) a project timeline for deliverables that meets the City's needs.

Depending on the complexity (involving many disciplines over a long period of time), Ms. Brenner's Work Plan may touch on most or all of the elements shown in **Exhibit 4-8** and will activate internal systems for control. The Work Plan will include reporting that Ms. Brenner will schedule with the City.



CB&I presenting at a City Commission Meeting.

4.B.c Work Location

CB&I will manage and staff this contract from its office at 2481 NW Boca Raton Blvd., Boca Raton, FL. This gives us quick access to all parts of the City and since a number of our staff members are Delray Beach residents, the efficiency is complete.

As has been true in the past with our services under the City's Coastal Engineering Consulting Contract

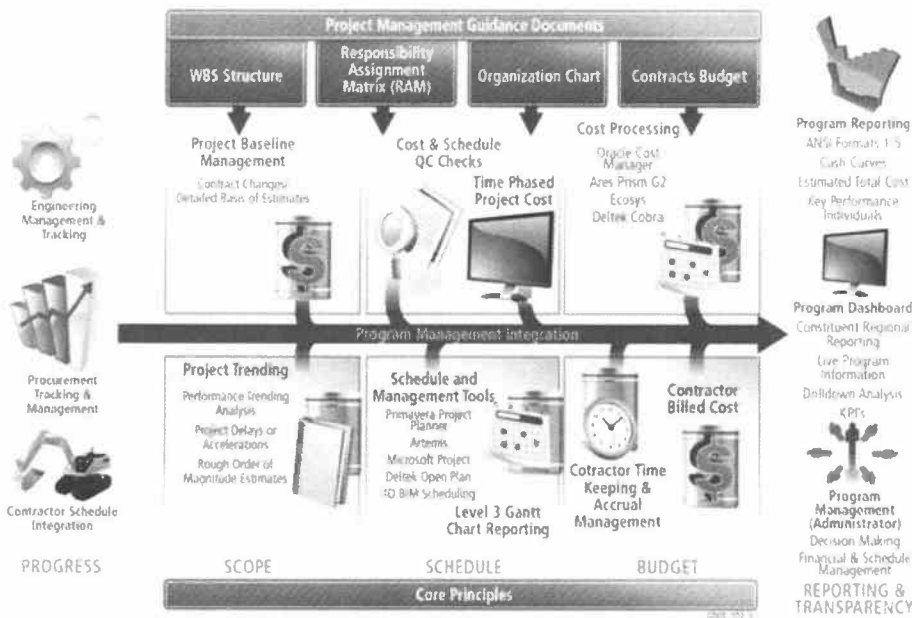


Exhibit 4-8. Project Management and Oversight of Work Plans

CB&I's methodology for implementing its effective project management and oversight is to involve the right personnel and equipment for the tasks at hand and to train and support managers with information tools and procedures to ensure success.

(#12-070), we remain completely accessible and available for pre-scheduled meetings and participation in person. For unplanned meetings, we will make every effort to attend in person or at the very least by conference call. Our staff is only 15 minutes away and can always be reached through email, or cell phones.

Our managers have access to all resources that might be necessary for unplanned events. Also, CB&I maintains an emergency number that can be used to access personnel throughout the country.

Our managers are available 24/7. In off hours, they may be reached at:

Tom Pierro 561-756-2535

Tara Brenner 631-896-9137

4.C Projects for Similar Services

Following are representative projects illustrating our work in the categories for which we are proposing in this submittal.

Indian River County Beach Preservation Plan Indian River County, Florida

Client: Indian River County
1801 27th Street, Building A, Vero Beach, FL 32960

Dates: (BPP) Date: 11/2013 to 4/2015

Status: Design, Construction, Substantial Completion, Complete

Scope: Coastal & Marine Engineering

CB&I assisted Indian River County in the 2014 update to the Beach Preservation Plan (BPP), first adopted in 1988, which details the County's strategies for the management and the long-term sustainability of its coastline. The purpose of this update was to evaluate the condition of the County's coastline and identify cost-effective alternatives to maintain and improve its sustainability. To accomplish this, the following goals were established.

- Avoid adverse impacts to environmental resources including nearshore hardbottom
- Assess the vulnerability of upland property up to a 30-year storm event
- Quantify the damages due to shoreline retreat over the next 30 years
- Determine the recreational value of the beaches

To address these goals, CB&I completed several tasks including updating the beach conditions by evaluating shoreline and volumetric change data and performing erosion and storm impact analyses. Holding Public meetings to explain the objectives of the update to the BPP and to solicit public input into potential beach management strategies. CB&I reviewed the boundaries of the various Sectors within the County with respect to dominant coastal processes, historical shorelines changes, projected bluff locations in 30 years, upland development, and environmental resources. Updating the inventory of public beach access within the County and providing cost-effective recommendations for needed improvements. CB&I performed a Delft3D alternatives analysis to model the complex interactions between offshore bathymetry, waves



(using SWAN), tides, winds, currents, sediment transport, erosion and deposition. A storm damage vulnerability analysis was also performed utilizing SBEACH to simulate changes in the beach profile that could result from coastal storms of varying intensity in terms of storm tide levels, wave heights, wave periods, and storm duration. Subsequently, a storm damage reduction analysis was done to evaluate the size of a beach fill that would be required to eliminate the potential damage identified with a particular storm return interval. In addition, CB&I conducted recreational benefit and economic analyses, discussed the implications of sea level rise, and included the sea level rise impacts in the vulnerability analysis. The costs of initial construction and future maintenance of the recommended management strategies were estimated over the next 30 years and compared to the costs of taking no action. To fund these strategies, potential funding sources and mechanisms were identified for the County's consideration.

Emergency Dune Repair

The effects of Hurricane Sandy passing off the coast of Florida resulted in significant dune erosion in the 6-mile Sector 3 nourishment project area. To quickly address this need, CB&I obtained an FDEP permit modification for a one-time truck haul sand placement project. CB&I designed and managed the dune repair project, renourished in 2014-15

(approximately 175,000 cubic yards). CB&I continues to assist regarding this project with post-project monitoring reporting.

Post-Hurricane Matthew FEMA Assistance

CB&I is currently performing a storm impact analysis report to secure FEMA disaster relief funding for the Sector 3 project as well as the 2.6 miles of Sector 5 and the 2.1 miles of Sector 7.

Dune Nourishment Design and Permitting

CB&I is performing design and permitting efforts for a subsequent beach renourishment project in Sector 5 (approximately 200,000 cubic yards). This involves developing a feasibility study and coordinating with state and federal permit agencies.

"CB&I's engineering and biological staff are always extremely knowledgeable and professional. The CB&I team has been a great addition to Indian River County's Beach Management Program."

James Gray, Coastal Coordinator for Indian River County
(reference given April 2017)



Tracking Station Park before and after dune repairs following Hurricane Matthew (2016 and 2017).

Curtis Park Boat Ramp Improvements Miami, Florida

Client: City of Miami
444 SW 2nd Avenue, 8th Floor, Miami, FL 33130

Dates: 2013 to 2017

Status: Construction

Scope: **Marine Engineering**

The City of Miami is revitalizing a portion of one of their neighborhoods through improvements to Curtis Park. The City asked CB&I to design and permit improvements to the boat ramp area with the following components:

- Replacement of a decayed wooden dock
- Addition of a new center marginal dock to assist in boat launching
- Repairs to the existing boat ramp
- Replacement of wooden dolphin piles
- Replacement of a failed concrete bag revetment with a concrete pile and panel bulkhead
- Parking lot expansion and paving to specifically serve vehicles with boat trailers

- Develop a soil management plan to address historic debris buried onsite
- Provide for stormwater treatment for the expanded parking lot

All work was designed and permitted to protect the Miami River, which is an Outstanding Florida Water. After surveying the topography and bathymetry of the site, CB&I obtained permits from the South Florida Water Management District, U.S. Army Corps of Engineers, and Miami Dade Department of Regulation and Economic Recovery to facilitate the construction. Construction is expected to be completed in 2017. The traffic flow to the ramps and the parking lot was reconfigured to meet standards. The parking lot was designed to meet the Miami-Dade County Manatee Protection Plan for the Miami River, which allowed no net increase in trailer parking within the Park.



Manatee County Coastal Management Program

Manatee County, Florida

Client: Manatee County
5502 33rd Avenue Drive West, Bradenton, FL 34209
Dates: 1989 to ongoing
Status: Ongoing
Scope: Coastal & Marine Engineering

Since 1989, CB&I has been the coastal engineering consultant to Manatee County. We have produced and maintained a comprehensive beach management plan for the County and have continually provided engineering services for the County's coastal program, including: project design, geotechnical investigations, environmental studies, hardbottom monitoring, state and federal permitting, surveying services, and construction administration required to build the County's coastal projects. Our history with Manatee County is an example of our dedication to providing a wealth of technical and program management services that benefit our clients.

Federal Coordination and Funding

To meet client concerns regarding funding, CB&I adapted the 2002 nourishment project to include a 0.6-mile coastal segment in the City of Anna Maria, which was not in the original project. Expediting the project, and reducing engineering and construction costs, the non-federal sponsor, Manatee County proceeded under the authority of Section 206 of the Water Resources Development Act (WRDA) of 1992, Public Law 102-580. Section 206 allowed Manatee County to engineer and construct the project, control the design and schedule and reduce engineering and construction costs. Section 206 of the WRDA was authored by Rick Spadoni of CB&I. CB&I was able to assist the County in proceeding under Section 206 to construct the beach nourishment project.

Recently, we have conducted geotechnical investigations and assisted the federal government with nourishment of the Central Beach Nourishment Project. CB&I prepared the permit application and project plans for the Corps on behalf of Manatee County. In support of the project, CB&I also conducted the corresponding investigations and design analyses. Construction of the project was completed in 2014. CB&I provided the County with



construction oversight, 24 hours/7 days a week throughout the project and assisted with the post-construction monitoring permit requirements.

Emergency Response

In 2004, Hurricanes Charley and Ivan caused direct impacts to Anna Maria Island. The US Army Corps of Engineers was allocated emergency funds throughout the State of Florida for beach fill to replace sand lost during the severe 2004 hurricane season. CB&I prepared the project plans and specifications for the placement of approximately 415,000 cy of fill material to reconstruct the 2002 Anna Maria Island design template. CB&I engineers and scientists re-investigated the ebb shoal borrow site, designed the borrow area to enhance the sediment quality and minimize the heavy shell fraction found in sections of the borrow site, negotiated the necessary permit modification from FDEP, and provided construction observation. CB&I also assisted the County in securing approval of eligibility for FEMA assistance for the City of Anna Maria Island segment, a non-federally authorized section of the project. The northern section of the Island was renourished in 2005.

In April 2011, nourishment within the City of Anna Maria and Coquina Beach was constructed by Manatee County. The project included the placement of approximately 230,000 cy of sand in the City of Anna Maria and the Coquina Beach segments, respectively. The sand was obtained from an offshore borrow area. CB&I helped the City obtain FEMA

funding by documenting impacts from hurricane activity in 2004 and 2005. In order to incorporate the Coquina Beach area in the County's beach maintenance program, CB&I worked to "piggy-back" the Coquina Beach project onto the FEMA funded City of Anna Maria Beach Renourishment Project, saving Manatee County significant costs in dredge mobilization/ demobilization to nourish Coquina Beach.

Coquina Beach was renourished in March 2014 to replace losses due to Tropical Storm Debby and fill the template to full capacity. We again assisted the County in coordinating the timing of the renourishment to coincide with the 2014 Federal project, which resulted in substantial cost savings for the County.

CB&I provided geotechnical services to identify the sand source, the engineering design, funding acquisition, permitting services, technical consultation and construction administration services to help restore this portion of the island's receding coastline, while reducing the project cost.

CB&I also designed, permitted and oversaw the construction a 5-acre mitigative artificial reef approximately 1,100 feet off the coast of Coquina Beach. CB&I worked aggressively on the County's behalf to limit the amount of required artificial reef as appropriate replacement for burial of nearshore hardbottom by the beach nourishment project, again resulting in significant cost savings to Manatee County.

Geotextile Tube Design and Construction

The Longboat Pass north jetty is located at the south end of Anna Maria Island and has deteriorated over time allowing a significant amount of sand to enter the Pass. In response, CB&I designed, permitted and oversaw construction of a shore-perpendicular geotextile tube placed adjacent to the existing jetty to stop sand from passing through the existing porous jetty and reduce beach loss and shoaling. The test installation has functioned extremely well and the County is pursuing permanent jetty tightening.

Since this area has been nourished, the geotextile tube installation has maintained a wider beach north of the tube and has benefitted Manatee County by retaining sand that otherwise would have been lost

into the Pass. This has resulted in cost savings by retaining sand placed by beach nourishment and by reducing maintenance requirements for Longboat Pass.

Cortez Groins Removal and Replacement

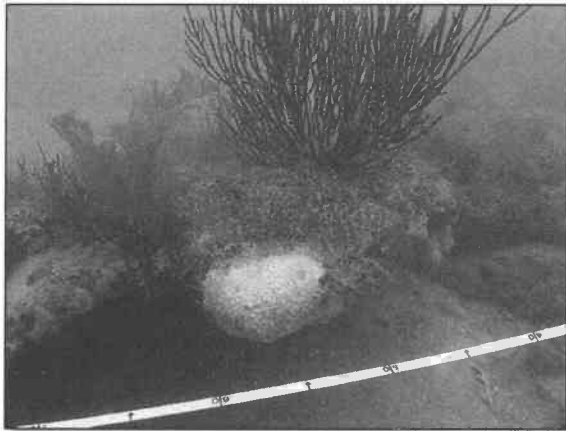
CB&I is assisting the County with the Cortez Groins Removal and Replacement project, which includes the demolition of three dilapidated pier-type structures and replacement with new permeable adjustable groins in order maintain the stabilization of the shoreline. CB&I conducted a site-observation of the existing groins to document the existing conditions and developed the Feasibility Study to evaluate the effects on Cortez Beach and the surrounding beaches due to modifications to the groins, considering various levels of removal, replacement and permeability of the structures. The Feasibility Study included development of an alternatives and numerical modeling analyses. CB&I also assisted with the permitting and is providing the construction administration.

Artificial Reef and Hardbottom Monitoring

Due to the presence of nearshore hardbottom in the shallow waters adjacent to Anna Maria Island, mitigation and monitoring have been required to offset project impacts to these resources. CB&I assisted the County with determining appropriate locations for placement of the artificial reefs and obtaining State and Federal permits. Our engineers designed and oversaw the construction of the 1993, 2005 and 2011 Artificial Reefs to ensure they were built in compliance with project permits. Following construction of the artificial reefs, CB&I biologists conducted permit-required annual monitoring to document that the reefs succeed at mimicking the natural hardbottom that they are intended to mitigate. These surveys included benthic assessments, fish counts, relief measurements, reef delineation, and collection of photo and video documentation.

In addition to monitoring the colonization and succession of the artificial reefs, CB&I biologists have been monitoring the natural nearshore hardbottom adjacent to Anna Maria Island since the initial project was constructed in 1993. We developed and updated the biological monitoring plan for each project in close coordination with FDEP. During annual

monitoring surveys, our biologists utilize quadrat-based benthic assessments, sediment measurements, and *in situ* resource mapping, supplemented by photo and video documentation. Data are analyzed to document any potential secondary impacts related to project construction, and reports are prepared and submitted to agencies as required by permit conditions.



CB&I biologists conduct annual monitoring of Anna Maria Island nearshore hardbottom (above) and artificial reef (right) resources.

Long Beach Dune Overwalks

City of Long Beach, NY

Client: City of Long Beach, NY
One West Chester Street, Long Beach, NY 11561

Dates: 2013 to 2014

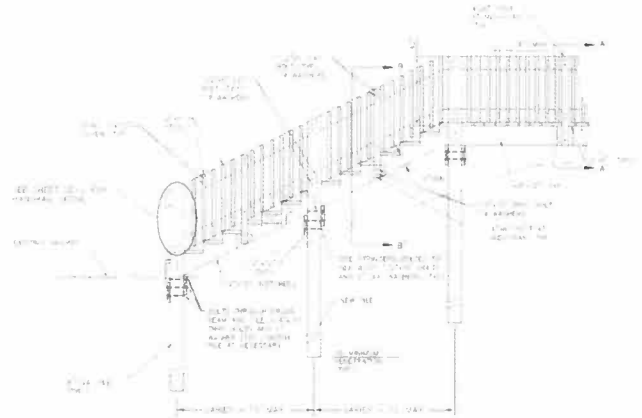
Status: Complete

Scope: Coastal Engineering Services

CB&I provided coastal engineering services to assist the City of Long Beach with a dune repair and walkover project in response to Hurricane Sandy related damages. CB&I designed 19 walkovers constructed using FEMA funding. CB&I coordinated with FEMA, USACE and the City to ensure that the constructed dune and walkovers were part of USACE's LRR for the City to make the dune and structures eligible for PL-99 funding should they be damaged in a future storm.

Permit Acquisition and Administration

CB&I provided general administration services and acquired the New York State Department of Environmental Conservation (NYSDEC) permit for the dune reconstruction project under Article 34 (Coastal Erosion Hazard Area). CB&I assisted with securing piping plover monitoring and reporting requirements.



Construction Plans and Specifications

CB&I developed the construction plans and technical specifications for the dune repair including beach grass plantings and the installation of 19 dune walkovers. The engineered dune was designed with a +15 feet crest elevation, a 25-foot crest width, a front slope of 1V:5H and a back slope of 1V:3H. The location of the dune repair was similar to the pre-storm dune location and located to blend into the remaining dunes, exiting scarps and complement the anticipated USACE beach nourishment project. The design included dune grass planting and sand



fencing. The dunes were constructed using existing beach sand that was scrapped off City streets and cleaned. The dune placement was conducted using City Public Works employees.

Timber dune walk-overs were designed at an elevation of 2 feet above the dune crest elevation with ADA compliant slopes and landings. The design included stairs to allow residents rapid access to the beach should they not require ADA ramps.

CB&I provided the City with plans and specifications in hardcopy and in electronic format for bidding purposes and secure FEMA approval. We assisted the City with development of the Bid Form (Schedule of Bid Items).

Bidding Assistance

CB&I provided assistance to the City throughout the bidding and selection process, and provided a recommendations concerning contractor selection. We prepared for, and participated in, a pre-bid meeting to describe the project and to address contractor questions and issued amendments, as required. After bids were received by the City of Long Beach, we reviewed the bids and provided our recommendations for contractor selection.

Pre- and Post-Construction Topographic Surveys

CB&I conducted a topographic survey of the stockpile of sand collected from City streets to verify the volume available to be placed back on the dune. CB&I collected a pre- and post-construction survey of the dune construction area landward of the MHW line. The survey included 30 profile lines shown on the construction plans at roughly 200-foot intervals within the dune reconstruction areas. The surveys were used to verify that the project was constructed in accordance with the plans, specifications and permits for the project. All topographic data were collected using RTK GPS.

Construction Administration Services

During beach construction, CB&I observed the project and the Engineer of Record visited to observe dune construction operations. CB&I assisted the City with reviewing walkover construction change orders. CB&I coordinated with the City, State, FEMA and USACE agencies.

Panama City Beach Erosion Control and Storm Damage Reduction

Panama City Beach, Florida

Client: Panama City Beach
17001 Panama City Beach Parkway, Panama City
Beach, FL 32413

Dates: 1997 to ongoing

Status: Ongoing

Scope: Coastal Engineering

CB&I was responsible for reformulation of the 17-mile \$30 million federal beach nourishment project that was constructed in 1998/99. Since the initial nourishment, we have continued to provide services that protect the shoreline of Panama City Beach, including recently obtaining 15-year multi-use permits from the FDEP and USACE for the beach nourishment program.

Based on physical monitoring results to date, a hot spot nourishment project was identified to address four narrow areas and bring them back in line with the rest of the project. The 2017 Interim Beach Renourishment Project was constructed, with CB&I providing construction oversight. We also continue to prepare permit-required annual monitoring reports.



Panama City Beach Interim Beach Renourishment Project (April 2017).



During Construction of the 2017 Panama City Beach Renourishment Project

Our firm has provided the following services to Bay County: preparation of permit applications; assistance with State and Federal funding applications; development of environmental documents for agency coordination; preparation of the supplement to the General Design Memorandum (GDM) to modify the design; modification of upland drainage features and storm water outfalls; preparation of plans and specifications; processing of the Erosion Control Line and assistance with upland easements; offshore geotechnical investigations including vibracores; construction inspection and beach and hydrographic surveys; environmental and physical pre- mid- and post- construction monitoring; and public outreach. The project exceeded expectations and did not require renourishment at the anticipated 5-year design interval in 2004.

In 2005-06, we worked with the USACE Mobile District and the local sponsor to fast-track the emergency restoration of the beach following impact of Hurricane Ivan.

Our professionals quantified storm losses that qualified for FEMA and USACE emergency funding. Our surveyors conducted offshore sand investigations and bathymetric surveys and located additional local borrow area sites to save construction time and reduce local costs. We worked together with the USACE and the TDC to expedite design and permitting. We continued to assist during construction, which began in April 2005 under the direction of the USACE. A total of 3.3 million cubic yards of sand were placed along 17 miles of Panama City Beach.

A portion of the 2005-06 project included a truck haul project in Carillon Beach and Pinnacle Port Reach.

We assisted the USACE in assessing the 2005 hurricane impacts to the project area, which allowed for the planning of a 2011 project addressing the 2005 storm losses (constructed fall 2011).

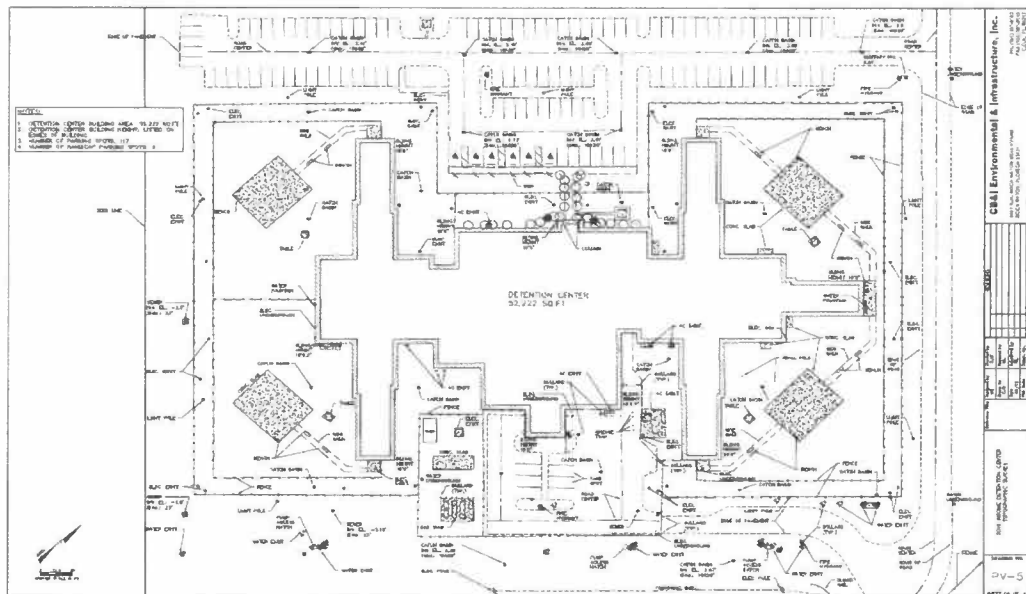
Topographic and Boundary Survey Krome Detention Center American Land Title Association (ALTA) Miami, FL.

Client: Miami Dade County, FL
111 NW 1st Street, Suite 2420, Miami, Florida 33128
Dates: 8/2016
Status: Complete
Scope: Survey

CB&I was contract my Miami-Dade County Internal Services Division to complete a topographic survey for the Krome Detention Center in Miami-Dade county. The survey was performed in compliance with the Standards of Practice set forth in Chapter 5J-17 of the Florida Administrative Code pursuant to section 472.027 of the Florida Statutes. Further, this survey met the Minimum Standard Detail for ALTA Land Title Surveys. The survey included verification of the parcel boundary, location of all improvements and visible utilities, location of all sewers including rim, inverts, pipe size, and direction of pipe. A topographic survey of ground elevations were collected for the entire 114 acre site at fifty foot grid spacing. A site survey of the detention center building complex was also performed to ALTA standards including location of the edge of buildings, fences, walkways, driveways, parking spaces, utility poles, and location of all water bodies (drainage ponds)



Deliverables included full size drawings, signed and sealed by a Florida Professional Surveyor and Mapper along with the electronic copy in AutoCAD format.



Hydrographic Survey of the Deerfield Beach Canal System

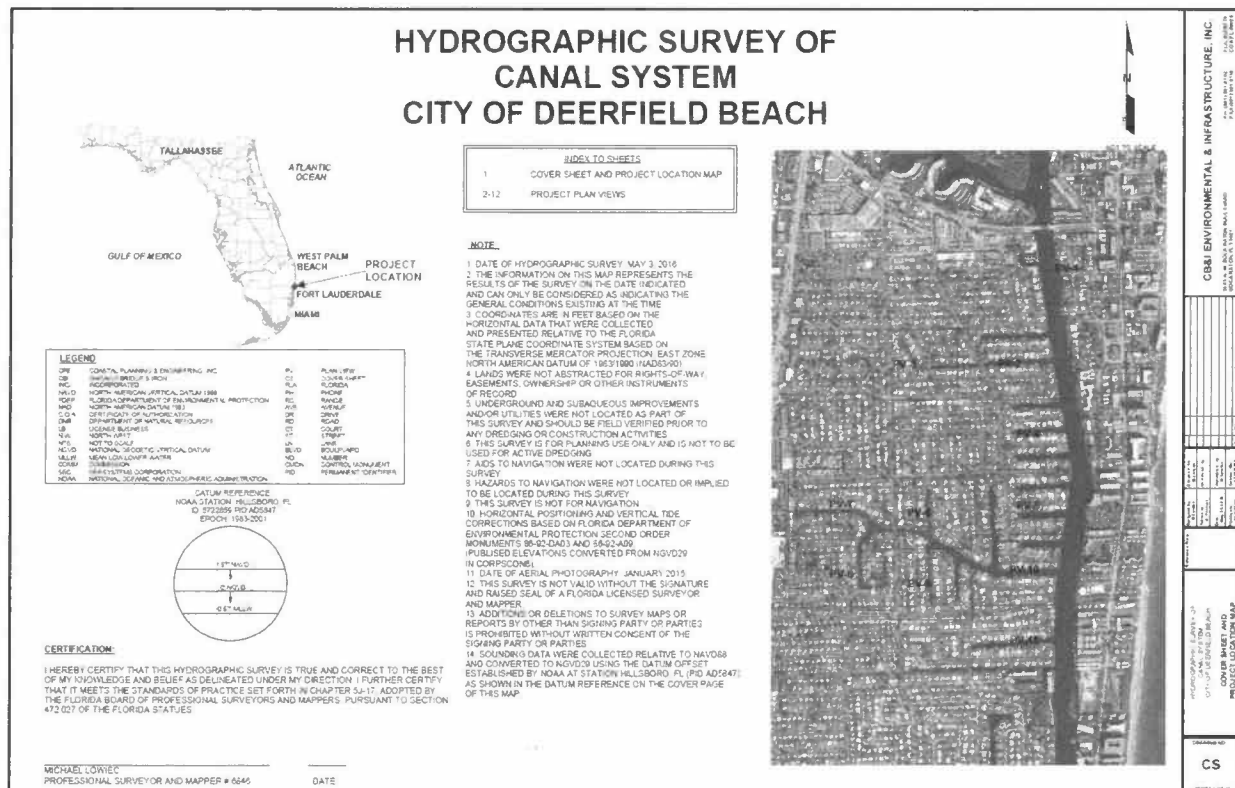
Deerfield Beach, Florida

Client: Deerfield Beach, FL
401 SW 4th Street
Deerfield Beach, FL 33441

Dates: 6/2016
Status: Complete
Scope: Survey

Sounding data were collected for approximately 3.5 linear miles of canals corresponding to the survey work previously completed in 2005. Three to five longitudinal transects were collected in each canal for a total survey of approximately 20 survey line miles. The survey vessel was able to collect all necessary data while avoiding moored vessels and other obstructions.

Sounding data were collected onboard a CB&I survey vessel using an Odom Hydrotrac single beam sounder. The vessel was equipped with real time kinematic global position systems (RTK GPS) for navigation, data positioning and water level corrections. HYPACK navigation software was used for data acquisition and navigation to the helm. Further, survey data for portions of the canal system inaccessible to the main survey vessel due to fixed bridges or other obstructions was collected with a small skiff and RTK GPS rover.



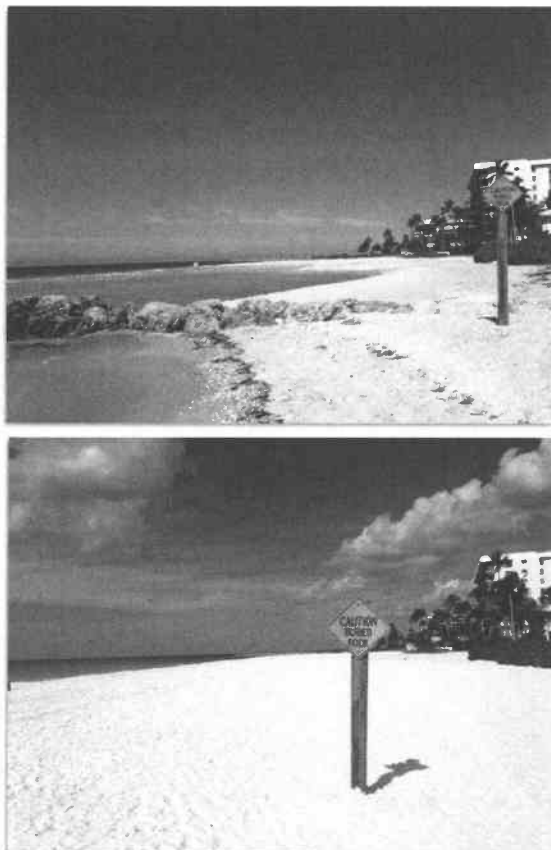
2013-14 Truck Haul Nourishment Project Collier County, Florida

Client: Collier County, FL
2685 S. Horseshoe Drive, Unit 103, Naples, FL 34104
Dates: 2012 to 2014
Status: Complete
Scope: Coastal Engineering

CB&I assisted Collier County to design, permit, and implement a comprehensive shore protection project along 8.5 miles of coastline, which was constructed in 2013/14. Our work for Collier County exemplifies the comprehensive services CB&I offers, from permitting through construction and monitoring.

CB&I aided the County in obtaining flexible permit modifications for the 2013/14 project, which allowed either hydraulic placement of beach fill via offshore sand source or fill placed via truck haul from an upland sand source. CB&I also assisted the County in bid package generation with the development of technical specifications that allowed either hydraulic fill placement or placement of sand via truck haul. The 2013/14 project was bid, awarded and constructed using truck haul by two contractors. CB&I helped the County in performing construction observations in order to ensure the project was built to the plans and specifications. Overall, the project placed 240,000 cubic yards of sand within the four construction reaches. The project was a success in that it finished both on time and on budget. The project also resulted in a fringe benefit of providing a positive impact to the local economy.

The 2013/14 project incorporated a comprehensive biological monitoring program developed in coordination with FDEP. Our integrated approach between engineering and biology led to the design and permitting of a beach project that minimized impacts to hardbottom. The 2013 pre-construction monitoring survey and 2015 one-year post-construction survey were completed as a joint effort between CB&I and Collier County biologists.



2013 Naples Beach before and after project photographs.

Louisiana Sand Resources Database Louisiana CPRA

Client: State of Louisiana Coastal Protection and Restoration Authority (CPRA)
150 Terrace Avenue, Baton Rouge, LA 70802

Dates: 2007 – ongoing

Status: Work ongoing for Phase IV

Scope: **Mapping & Data Management**

Since 2007, CB&I has worked with CPRA to develop and refine formatting standards for the standardization and online dissemination of data and ultimately its incorporation into the Louisiana Sand Resources Database (LASARD). LASARD is a publically available, centralized GIS database developed to help facilitate the identification and management of nearshore, offshore, and riverine sediment resources. In LASARD, the geoscientific data required for ecosystem restoration are archived, populated and maintained on a GIS platform. Once standardized, the data are available to users through the CPRA publically accessible spatial viewer. The overall objective of LASARD is to centralize relevant data from various sources for better project coordination and to facilitate future planning for delineating and utilizing sediment resources for a sustainable ecosystem restoration.

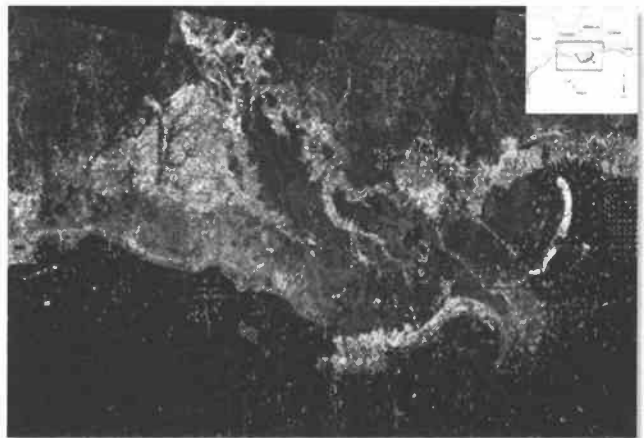
CB&I compiled historic data sets, developed queryable database standards, populated the database with historic data, and maintained the database. We have enjoyed significant cooperation with private industry, academic institutions and the regulatory community while obtaining data for the project. Data types incorporated to date include bathymetric/topographic data; seismic reflection data; sidescan sonar contacts and images; magnetic anomalies; vibracore/grab samples; isopach maps; deposit/borrow areas; shipwrecks/cultural resource sites; and pipelines and platforms. The data sets of LASARD cover the entire Louisiana coast, including the Mississippi River. To date, over 2,000 datasets have been formatted for incorporation into the database.

Through this project, CB&I has minimized the cost and time required to identify resources for current and future coastal restoration projects by streamlining access to existing data sources. We centralized relevant data from various sources for

better project coordination and facilitated future planning for delineating and using sediment resources for sustainable ecosystem restoration in coastal Louisiana.

Although relatively new, this work has played a key role in several sand and sediment search investigations. In 2010, the Barataria Reconnaissance Sand Resource Investigation was conducted within State waters. We reviewed and used these datasets to identify potential sediment resources and develop reconnaissance survey, geophysical and geotechnical data collection plans. Researchers used LASARD to focus survey efforts for the Shell Island Barrier Enhancement Project. By using LASARD, initial “data search” costs were substantially reduced, and investigators avoided re-collecting data where data already existed.

We have used the information compiled in LASARD to develop regional sediment maps in support of the Louisiana Sediment Management Plan. These maps are integral to Louisiana’s robust coastal program. Louisiana has a very highly developed coastal program with multiple restoration projects occurring in tandem. A regional approach to project and sediment management is therefore paramount to State goals. The surficial sediment maps we developed allow the State to take a regional approach to sediment management, which saves the state considerable dredging fees and efficiently uses the very limited sand resources that are available for coastal restoration.



The data sets of the LASARD database cover the entire Louisiana coast, including the Mississippi River.

St. Johns River Water Management District Environmental Assessment of District Lands Indian River County, Florida

Client: St. Johns River Water Management District
(SJRWMD)
4049 Reid Street, Palatka, FL 32178

Dates: 2/2017 – 4/2017

Status: Complete

Scope: Environmental/Natural Resources Services

As part of its contract with SJRWMD (Environmental Assessments of District Lands), CB&I provided Phase I Environmental Site Assessment (ESA) and Phase II ESA environmental services for a Coastal Oaks Preserve site. The assessments were in support of evaluation of a 35.3-acre property for use as a conservation easement intended to provide mitigation for wetland impacts associated with a FDOT road project. The site is located just off US Highway 1 in Vero Beach, Indian River County. The work was performed on behalf of the SJRWMD, which took on the project for the Indian River Land Trust. The mitigation project will be completed within the boundary of a 35.3-acre conservation easement.

During the assessment, CB&I identified recognized environmental conditions associated with former long-term citrus growing operations (pesticides) and a brief period of a wastewater treatment plant (WWTP) and associated infiltration ponds. After completion of the Phase I and Phase II assessments, CB&I also performed an asbestos containing materials survey in order to obtain a demolition permit for removal of the WWTP from the site.



Package wastewater treatment plant well.



Wastewater treatment plant tank.

South Florida Regional Transportation Authority Environmental Services Dade, Broward, Palm Beach Counties, Florida

Client: South Florida Regional Transportation Authority (SFRTA)
801 NW 33rd Street, Pompano Beach, FL 33064

Dates: March 2015 to 2019

Status: Ongoing

Scope: Environmental/Natural Resources Services

CB&I supports the SFRTA with environmental support for all rail operations on a 72-mile passenger and freight rail line that extends through three counties (Dade, Broward, and Palm Beach).

CB&I operates and maintains the Waste Water Treatment Plant on a full time basis and oversees environmental compliance by the users of the railyard and the associated rail corridor.

CB&I handles all routine monthly inspections and ensure compliance with the Spill Prevention Control and Countermeasures (SPCCs) and Stormwater Pollution Prevention Plan (SWPPPs) for the SFRTA facilities. CB&I also oversees the Asbestos Maintenance Program within the corridor.

CB&I is on-call 24-hours a day to respond to emergency responses related to train derailments, vehicle strikes, or minor discharges.



Services include:

- Operation and maintenance of an industrial water treatment plant at the Miami Railyard
- Routine compliance inspections for rail users
- SSPCC and SWPPP compliance/inspections
- Environmental permitting
- Asbestos management
- Waste management and disposal
- Environmental compliance
- Environmental assessment and remediation
- Emergency response services



Fisher Island Community Association Miami-Dade County, Florida

Client: Fisher Island Community Association (FICA)
One Fisher Island Drive, Fisher Island, FL 33109

Dates: December 2009 to present

Status: Design, Construction, Substantial Completion, Complete

Scope: Environmental/Natural Resources Services

CB&I supported Fisher Island Community Association and legal counsel to evaluate the environmental risks associated the purchase of a commercial property located across Government Cut in order to redevelop it for a new ferry terminal and parking garage.

CB&I performed both Phase I and Phase II Environmental Site Assessments prior to purchase. After the property was acquired, CB&I supported FICA to assess the full extent of the soil and ground water impacts, working closely with Miami-Dade County Department of Environmental Resources Management to satisfy Chapter 62-780 of the Florida Administrative Code and Chapter 24 of the Miami-Dade Code of Ordinances.



Once the Assessment was fully complete, CB&I assisted FICA with Natural Attenuation Monitoring and the development of an Engineering Control Plan in support of Conditional Site Closure.

Prior to redevelopment of the seawall, FICA decided to change the approach and seek a Unconditional Site Closure option. CB&I prepared a Remedial Action Plan and oversaw complete removal of all impacted soil at the subject property.

The contamination reported on the property has been remediated. CB&I remains the environmental consultant for FICA.

4.D Organizational Structure

4.D.a Staffing Resources

CB&I's Boca Raton office is fully staffed with personnel needed for this RFQ. **Exhibit 4-9** shows the personnel in this office.

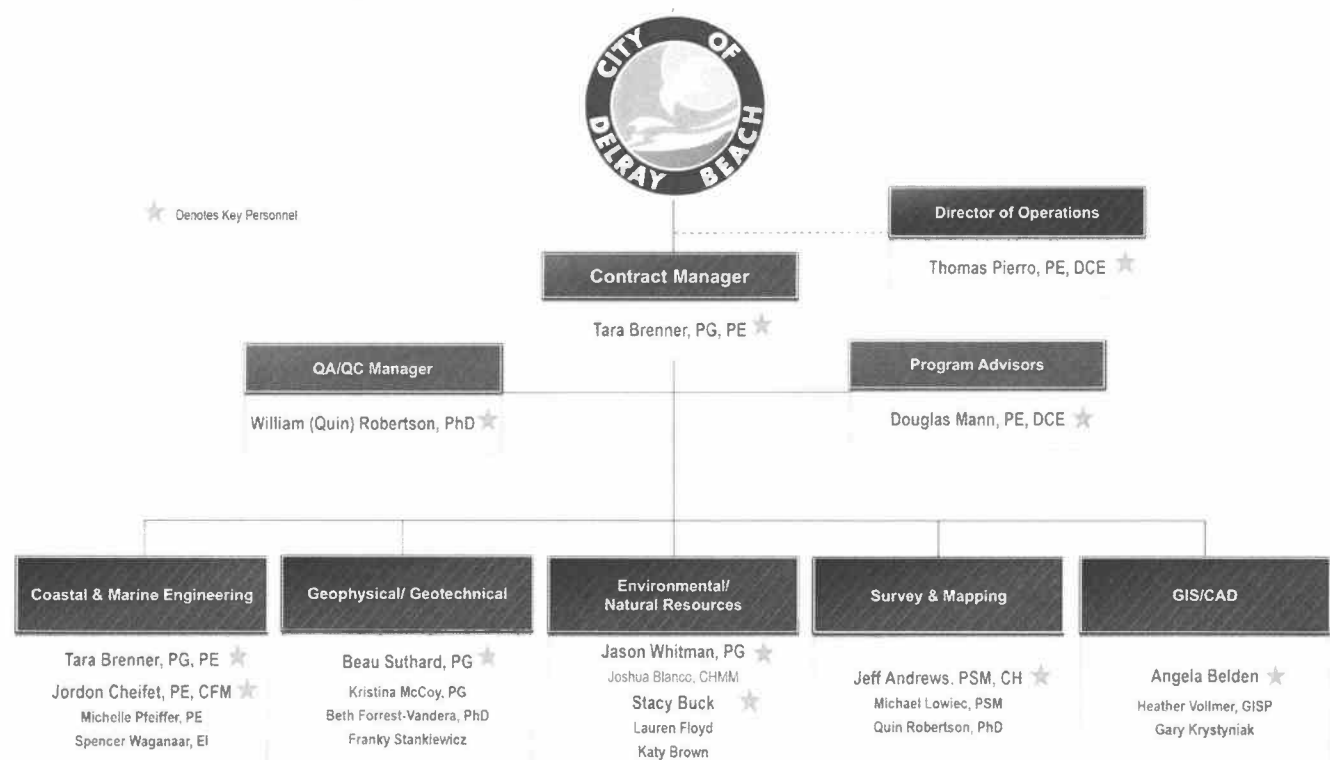
Exhibit 4-9. Boca Raton Staffing

Number of Employees	Discipline
5	Administrative
2	CAD Technician
3	Engineer - Civil
4	Engineer - Environmental
1	Geographic Information System Specialist
4	Geologist
2	Management Specialist
1	Project Manager
3	Scientist - Biologist
4	Scientist - Environmental
4	Scientist - Oceanographer
4	Technician/Analyst
37	

4.D.b CB&I Team Organization

Exhibit 4-10 shows the organization we bring to the City's contract. This shows the reporting responsibilities and roles.

Exhibit 4-10. CB&I Team Organization



4.D.c Roles and Responsibilities

CB&I has no need to subcontract any but peripheral tasks so there are no contractual relationships to show. In **Exhibit 4-11** we show key personnel and their corresponding roles and responsibilities on this team.

4.D.d Availability and Personnel Commitment

Below is a listing of the major projects currently held by our team and the date at which they expire or will be completed.

- City of Delray Beach Coastal Engineering Consulting – Summer 2020
- Panama City Beach 2017 Interim Beach Renourishment Project – to be completed Summer 2017
- City of Sarasota 10th Street Boat Basin Dredging – to be completed Fall 2017
- Collier County Grant Funded Professional Services for Coastal Zone – Summer 2018
- Manatee County Hardbottom and Artificial Reef Monitoring – to be completed Fall 2017

- Town of Palm Beach Environmental Impact Statement – to be completed 2017
- Sarasota Bay Estuary Program Artificial Reef Monitoring – to be completed Spring 2018
- Walton County NRDA Artificial Reef Monitoring – to be completed Fall 2017
- Louisiana CPRA Golden Triangle Marsh Creation Project – to be completed Spring 2018
- Louisiana CPRA System Wide Assessment and Monitoring Program – to be completed Spring 2018
- Louisiana CPRA LASARD Phase IV – to be completed Fall 2017
- BOEM Inventory of Potential Beach Nourishment and Coastal Restoration Shelf Sources on the Atlantic Outer Continental Shelf– to be completed Fall 2017

Our letter of intent also acts as our commitment of the personnel and other resources for the City's projects.

Exhibit 4-11. Roles and Responsibilities of Key Personnel

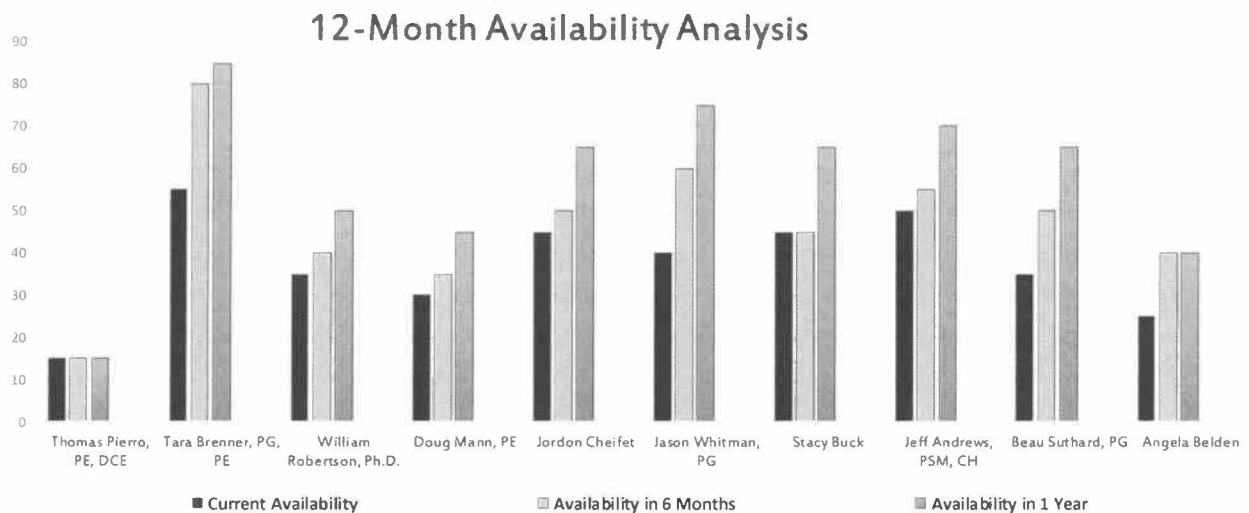
Name/Role	Responsibilities
Thomas Pierro Director of Operations	• Acts as corporate liaison with client • Oversees performance of CB&I team • Provides resources needed to ensure success
Tara Brenner Contract Manager	• Accept Scope Authorizations • Develops scope, schedule, price and secure client approval • Assigns Project Lead • Develops Work Plans • Performs Coastal Engineering Design, Analysis and Permitting • Reviews project deliverables • Review invoices
William Robertson QA/QC Manager	• Ensures CB&I QA/QC Protocols are followed • Review work plans as requested and advises on projects • Reviews Reports
Douglas Mann Program Advisor	• Advises on Work Plan • Provides Historic Reference and Project Experience • Reviews Engineering Designs
Jordon Cheifet Marine Engineering	• Serves as Project Lead for Marine Engineering Design, Analysis and Permitting • Chooses team member as required and makes assignments • Oversees the work and reviews reports

Name/Role	Responsibilities
Beau Suthard Geophysical/Geotechnical	- Serves as Project Lead for Geophysical and Geotechnical Data Collection, Analysis and Permitting - Chooses team member as required and makes assignments - Oversees the work and reviews reports
Jason Whitman Environmental	- Serves as Project Lead for Environmental Data Collection, Analysis and Permitting - Chooses team member as required and makes assignments, including subcontractors as necessary - Oversees the work and reviews reports
Stacy Buck Natural Resources	- Serves as Project Lead for Natural Resource Data Collection, Environmental Assessments, Analysis and Permitting - Chooses team member as required and makes assignments - Oversees the work and reviews reports
Jeff Andrews Survey and Mapping	- Professional Surveyor and Mapper Serves as Project Lead for Survey Data Collection, Analysis and Map Preparation - Chooses team member as required and makes assignments - Oversees the work and reviews reports
Angela Belden GIS/CAD Services	- Supports all Functional Groups with GIS and CAD Data Management and Mapping Services - Chooses team member as required and makes assignments - Oversees the work and reviews deliverables

4.D.e Workloads and Availability of Key Personnel

Exhibit 4-12 shows the current availability and future availability of Key Personnel. Note that when a Scope Authorization is issued, the personnel involved will be given full availability to meet the agreed upon schedule.

Exhibit 4-12. Availability of Key Personnel
(Shown in Percentage)





5.0 Required Forms

5. REQUIRED FORMS

Attached you will find:

- Public Entity Crimes Form
- Drug Free Workplace Form
- Conflict of Interest Form
- Acknowledgement of Addenda Form

Form B - Public Entity Crimes

NOTIFICATION OF PUBLIC ENTITY CRIMES LAW

Pursuant to Section 287.133, *Florida Statutes*, you are hereby notified that a person or affiliate who has been placed on the convicted contractors list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity; may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work; may not submit proposals on leases or real property to a public entity; may not be awarded or perform work as a contractor, supplier, sub-Proposer, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 [F.S.] for Category Two [\$35,000.00] for a period of thirty-six (36) months from the date of being placed on the convicted contractors list.

Acknowledged by:

CB&I Environmental & Infrastructure, Inc.

Firm Name



May 8, 2017

Signature

Date

Thomas Pierro, PE, DCE, Director of Operations

Printed Name and Title

Form C - Drug-Free Workplace

In the event a tie exists at the conclusion of evaluations, preference will be given to the supplier(s) who certifies it has a drug-free workplace program in accordance with Section 287.087, Florida Statutes. The drug-free workplace preference is applied as follows:

TIE: Whenever two or more proposals are equal with respect to scoring for the evaluation criteria (e.g., price, experience, quality, service) are received for the procurement of commodities or contractual services, a proposal received from a supplier that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing a tie will be followed if none of the tied suppliers have submitted this Form C and/or have a drug-free workplace program.

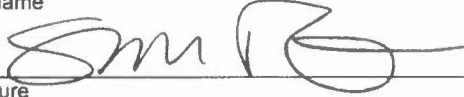
As the person authorized to sign this statement, I certify that this firm complies fully with the following requirements:

- 1) This firm publishes a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) This firm informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
- 3) This firm gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), this firm notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- 5) This firm imposes a sanction on or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) This firm will continue to make a good faith effort to maintain a drug-free workplace through implementation of this section.

Acknowledged by:

CB&I Environmental & Infrastructure, Inc.

Firm Name



Signature

May 8, 2017

Date

Thomas Pierro, PE, DCE, Director of Operations

Printed Name and Title

Form D - Conflict of Interest Disclosure

The award of the agreement is subject to the provisions of Chapter 112, Florida Statutes. All Proposers must disclose within their Proposal, the name of any officer, director, or agent who is also an employee or relative of an employee of the City of Delray Beach.

Furthermore, all Proposers must disclose the name of any City employee or relative(s) of a City employee who owns, directly or indirectly, an interest in the Proposers firm or any of its branches.

The purpose of this disclosure form is to give the City the information needed to identify potential conflicts of interest for key personnel involved in the award of this contract.

The term "conflict of interest" refers to situations in which financial or other personal considerations may adversely affect, or have the appearance of adversely affecting, an employee's professional judgment in exercising any City duty or responsibility in administration, management, instruction, research, or other professional activities.

Please check one of the following statements and attach additional documentation if necessary:

☒ To the best of our knowledge, the undersigned firm has no potential conflict of interest as defined in Chapter 112, Florida Statutes and Section 2-443, Palm Beach County Code of Ordinances.

☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other Cities, Counties, contracts, or property interest for this RFQ.

Acknowledged by:

CB&I Environmental & Infrastructure, Inc.

Firm Name



May 8, 2017

Signature

Date

Thomas Pierro, PE, DCE, Director of Operations

Printed Name and Title

Form E - Acknowledgment of Addenda

The Proposer hereby acknowledges the receipt of the following addenda, which were issued by the City and incorporated into and made part of this RFQ. It is the sole responsibility of the Proposer to ensure that all addenda have been received and receipt of each has been acknowledged. Failure to submit acknowledgement of each addendum issued may result in the Proposer being deemed non-responsive.

ADDENDA NUMBER	ADDENDA DATE
1	April 24, 2017
2	April 27, 2017
3	May 4, 2017
4	May 10, 2017
5	May 10, 2017
6	May 18, 2017
7	May 19, 2017



Signature of Proposer's Agent

Director of Operations

Title

Thomas Pierro, PE, DCE

May 22, 2017

Printed Name

Date



6.0 Evidence of Insurances

6. EVIDENCE OF INSURANCES

As show by the attached sample certificates, CB&I can comply with the insurance requirements of this RFQ.



CERTIFICATE OF LIABILITY INSURANCE

7/1/2016

DATE (MM/DD/YYYY)

6/23/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY 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).

PRODUCER LOCKTON COMPANIES 444 W. 47TH STREET, SUITE 900 KANSAS CITY MO 64112-1906 (816) 960-9000	CONTACT NAME:
	PHONE (A/C, No, Ext):
INSURED 1307216 CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. A SUBSIDIARY OF CHICAGO BRIDGE & IRON COMPANY 4171 ESSEN LANE BATON ROUGE LA 70809	FAX (A/C, No):
	E-MAIL
	ADDRESS:
	INSURER(S) AFFORDING COVERAGE
	INSURER A: Steadfast Insurance Company
	INSURER B:
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

COVERAGES CERTIFICATE NUMBER: 12735527 REVISION NUMBER: XXXXXXXX

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO. JECT ☐ LOC ☐ OTHER			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX DAMAGE TO RENTED PREMISES (Ea occurrence) \$ XXXXXXXX MED EXP (Any one person) \$ XXXXXXXX PERSONAL & ADV INJURY \$ XXXXXXXX GENERAL AGGREGATE \$ XXXXXXXX PRODUCTS - COMPIOP AGG \$ XXXXXXXX \$
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident) \$ XXXXXXXX BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$
	UMBRELLA LIAB ☐ OCCUR EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☐ N/A		NOT APPLICABLE			PER STATUTE ☐ OTH-ER ☐ E.L. EACH ACCIDENT \$ XXXXXXXX E.L. DISEASE - EA EMPLOYEE \$ XXXXXXXX E.L. DISEASE - POLICY LIMIT \$ XXXXXXXX
A	PROFESSIONAL LIABILITY	N	N	EOC5965238-07	7/1/2015	7/1/2016	\$1,000,000 PER CLAIM & \$1,000,000 IN THE ANNUAL AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
EVIDENCE OF INSURANCE COVERAGE

CERTIFICATE HOLDER

12735527
SAMPLE CERTIFICATE

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPR:



CERTIFICATE OF LIABILITY INSURANCE

7/1/2016

DATE (MM/DD/YYYY)

6/23/2015

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).

PRODUCER	LOCKTON COMPANIES 444 W. 47TH STREET, SUITE 900 KANSAS CITY MO 64112-1906 (816) 960-9000	CONTACT NAME: PHONE (A/C, No, Ext): E-MAIL ADDRESS:	FAX (A/C, No):
INSURED	1315326 CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. A SUBSIDIARY OF CHICAGO BRIDGE & IRON COMPANY 4171 ESSEN LANE BATON ROUGE LA 70809	INSURER(S) AFFORDING COVERAGE INSURER A: Zurich American Insurance Company INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	
		NAIC # 16535	

COVERAGES

CERTIFICATE NUMBER: 12734683

REVISION NUMBER: XXXXXXXX

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.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR ☒ BROAD FORM PD ☒ CONT. LIAB & XCU GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☐ LOC OTHER:	N	N	GLO 5821847-02	7/1/2015	7/1/2016	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 25,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000 \$
A	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO ALL OWNED AUTOS ☒ HIRED AUTOS ☐ SCHEDULED AUTOS NON-OWNED AUTOS	N	N	BAP 5821846-02	7/1/2015	7/1/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$ XXXXXXXX
	☐ UMBRELLA LIAB ☐ EXCESS LIAB DED ☐ RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX \$ XXXXXXXX
A A A A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N ☒ N	N/A	WC 5821848-03 (AOS) WC 5821850-03 WC 5821849-03 INCLUDES STOP GAP	7/1/2015 7/1/2015 7/1/2015	7/1/2016 7/1/2016 7/1/2016	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
EVIDENCE OF INSURANCE COVERAGE

CERTIFICATE HOLDER

CANCELLATION

12734683
SAMPLE CERTIFICATE

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2014 ACORD CORPORATION. All rights reserved.

EXHIBIT “B”



Category: Coastal Engineering

Hourly Raw Salary Rate

Principal Engineer	\$ 53.42
Project Manager	\$ 33.06
Senior Engineer	\$ 34.61
Engineer I	\$ 20.00
Engineer II	\$ 24.52
Senior Engineering Tech	\$ 25.21
Senior CADD Designer	\$ 21.75
CADD Designer	\$ 20.00
Construction Manager	\$ 30.00
Senior Inspector	\$ 22.00
Office Support	\$ 18.68

PRICE ADJUSTMENTS BASED ON GOVERNMENTAL PRICE INDEX

Prior to the completion of the first year of the Contract term, and every 12-month anniversary thereafter, the City may consider an adjustment to prices based on the most recent 12 month change in the following pricing index: Bureau of Labor Statistics, Employment Cost Index, Private Industry Workers, Total Compensation, Management business and financial occupations, Not Seasonally Adjusted, CIU2010000110000A.

It is Consultant's responsibility to request any pricing adjustment under this provision. For any adjustment to be considered, the Consultant's request for adjustment should be submitted at least sixty (60) days prior to the anniversary date. The adjustment requested shall not be in excess of the relevant pricing index change. If a timely adjustment request is not received from the Consultant, the City may exercise its Option to Renew the Contract for another Term without any pricing adjustment.