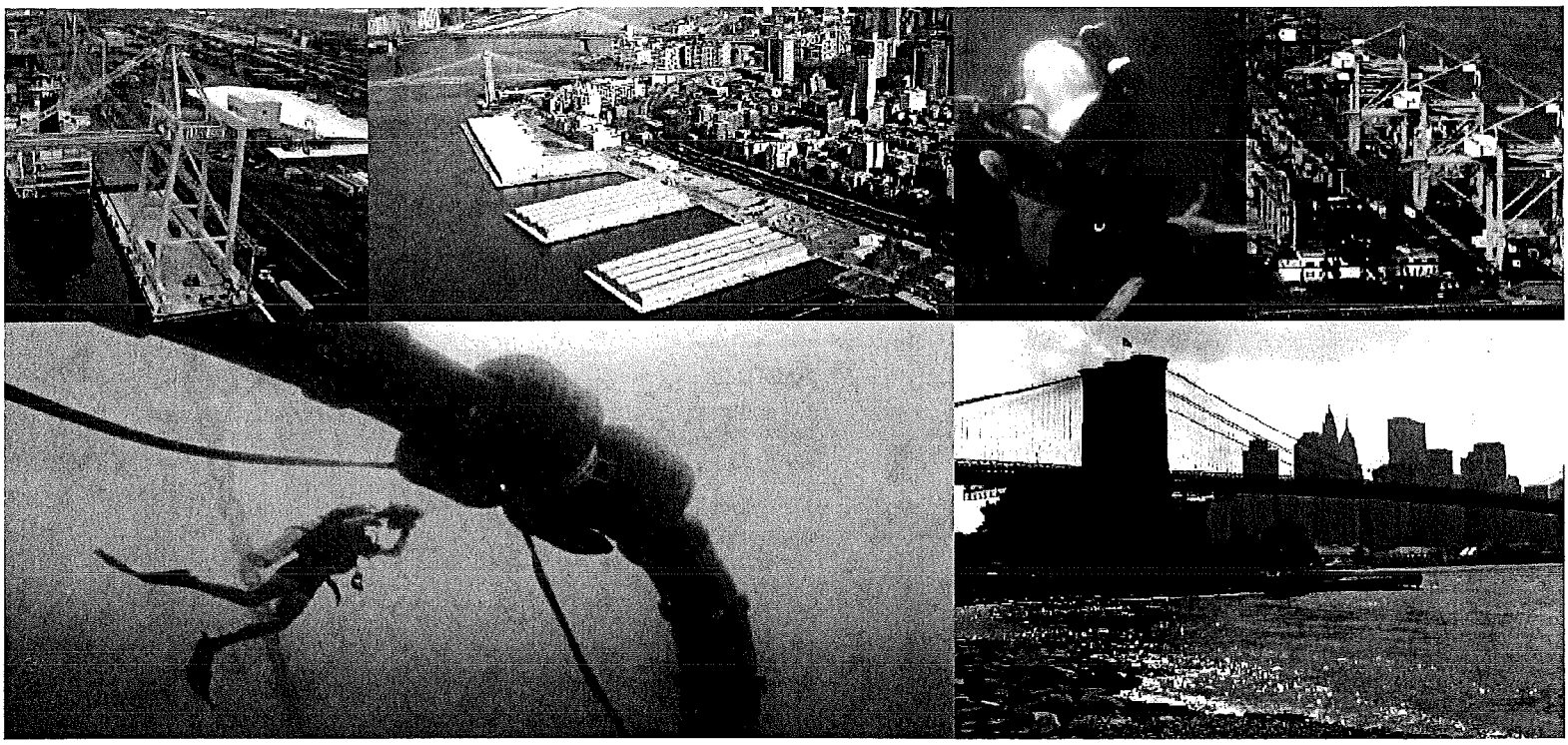
THE PORT AUTHORITY OF NY & NJ

Request for Proposals

Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as requested on a "Call-In" Basis during 2013

RFP Number 30225

ORIGINAL



submitted by:

CH2MHILL

September 2012

CH2M HILL
22 Cortlandt St.
New York, NY
10007
Tel 212.608.3990
Fax 212.566.5059

CH2MHILL

September 18, 2012

The Port Authority of New York and New Jersey,
2 Montgomery Street, 3rd Floor,
Jersey City, NJ 07302
Attention: RFP Custodian

Subject: Proposal for Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis during 2013

Dear RFP Custodian:

CH2M HILL is pleased to submit this proposal for the referenced project. Since 1990, CH2M HILL (as Halcrow) has provided similar services under contract to the Port Authority of New York & New Jersey (the Authority) QAD and is still under contract to the Authority. Based upon this history, we are extremely familiar with the Authority's facilities and have tailored our work procedures to meet the objectives of each assigned task. All work will be carried out by a highly competent team of experienced engineers, engineer-divers, inspection divers, and materials technologists drawn from the firm's regular, full-time staff. Our staff will be supported by certified MBE and WBE firms to the maximum extent feasible.

Within CH2M HILL's 25-inspector diver Underwater Inspection Group, headquartered in New York City, we have 6 divers with New York PE licenses and 2 with New Jersey PE licenses. We and are able to provide up to six, OSHA-compliant, 3-man underwater inspection teams simultaneously, if needed.

Although CH2M HILL has a wide range of relevant experience to draw from, due to the page limitation set forth in the RFP, we felt that it was important to highlight the firm's specific experience delivering quality waterfront facility condition survey services to the Authority. We are very proud of the work carried out under past contracts and believe that it ably demonstrates our ability to provide the highest quality services to the Authority. We also invite you to contact the clients presented in this proposal for whom we have been providing similar marine engineering and inspection services for many years

We sincerely appreciate being selected to submit a proposal for this contract and hope to have an opportunity to continue the excellent working relationship that we have established with the Authority. We would be pleased to meet with you at your convenience to present our qualifications in greater detail, or to discuss any aspects of this proposal.

Respectfully Submitted,
CH2M HILL

Kirk Riden, P.E.
Market Sector Leader – Maritime Asset Management

Attachments: Proposal (1 reproducible original, 3 copies, 4 CDs)

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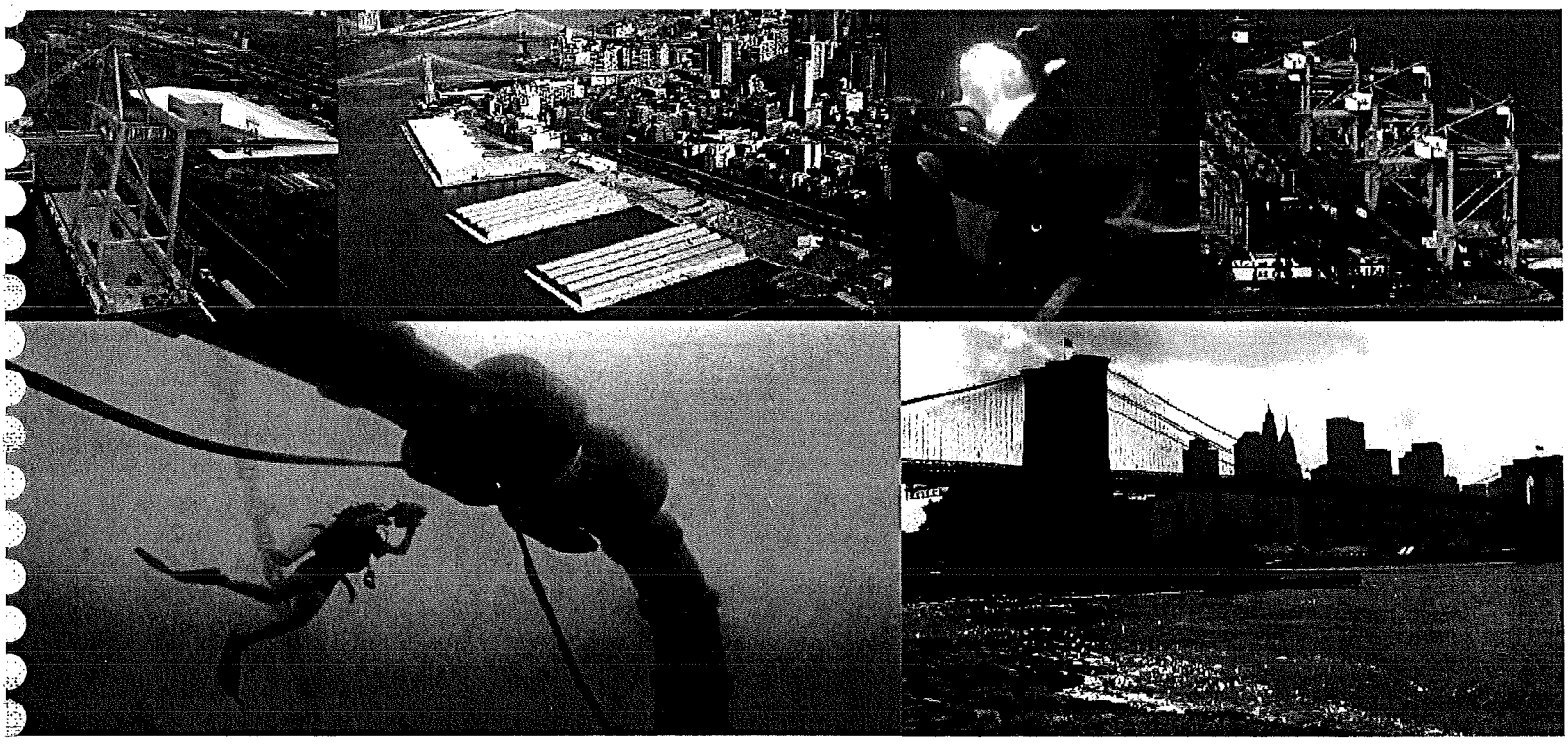
Section 1 - Attachment B



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ATTACHMENT B

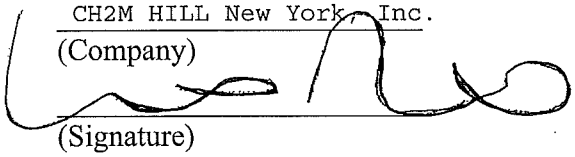
REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, as more fully set forth in the FOI Code, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

CH2M HILL New York, Inc.
(Company)



(Signature)

Market Sector Leader
(Title)

9/13/12
(Date)

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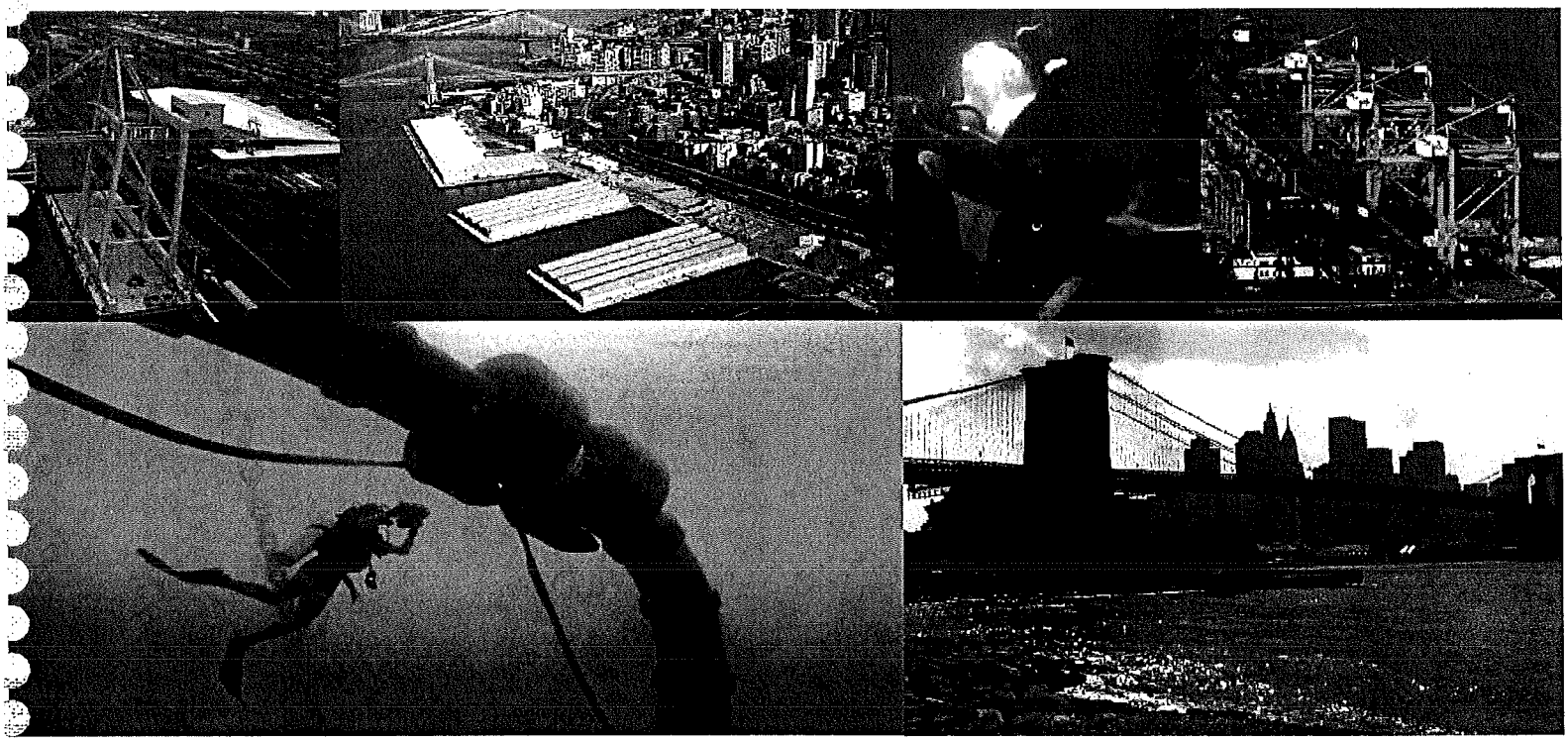
Section 2 - Attachment C



CH2MHILL.

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

1. Company Name (print or type):
   Ch2M HILL New York, Inc.

2. Business Address (to receive mail for this RFP):
   22 Cortlandt Street, 31st floor, New York, NY 10007

3. Business Telephone Number: 212-608-3990

4. Business Fax Number: 212-566-5059

5. Firm website: www.ch2m.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: ____/____/1951

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):
   Please see attached

9. Officer or Principal of Firm and Title:
   Jonathan Goldstick, PE - Vice President

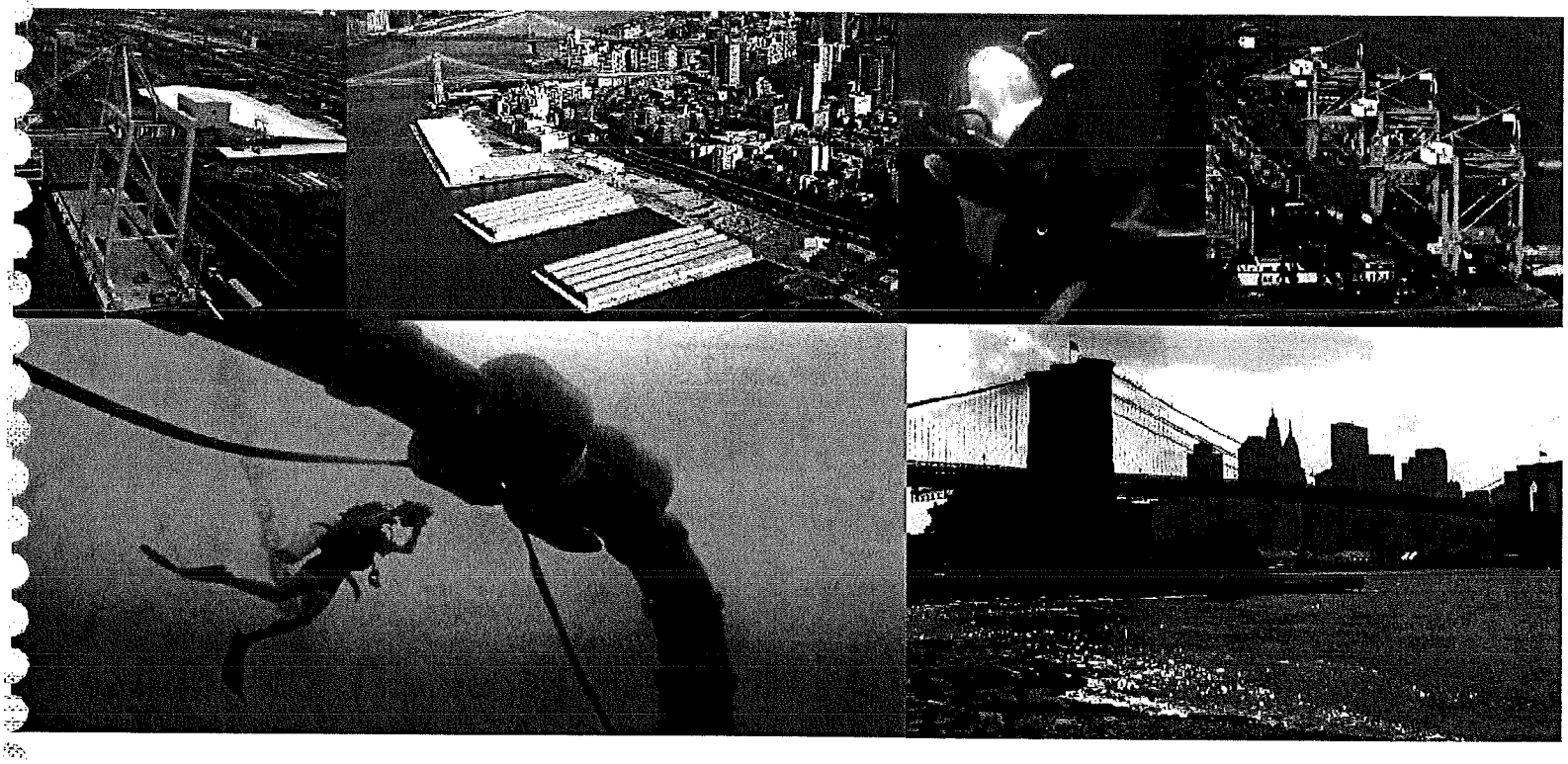
10. Name, telephone number, and email address of contact for questions:
    Kirk Riden, PE - 212-608-3990, Kirk.Riden@ch2m.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

Section 3 - Multiplier



CH2MHILL.

CH2M HILL
22 Cortlandt St.
New York, NY
10007
Tel 212.608.3990
Fax 212.566.5059

CH2MHILL

Date: September 14, 2012

Reference: **Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities As Requested On A "Call-In" Basis During 2013 (RFP #30225)**

MULTIPLIER CALCULATION

Multiplier for CH2M HILL Employees

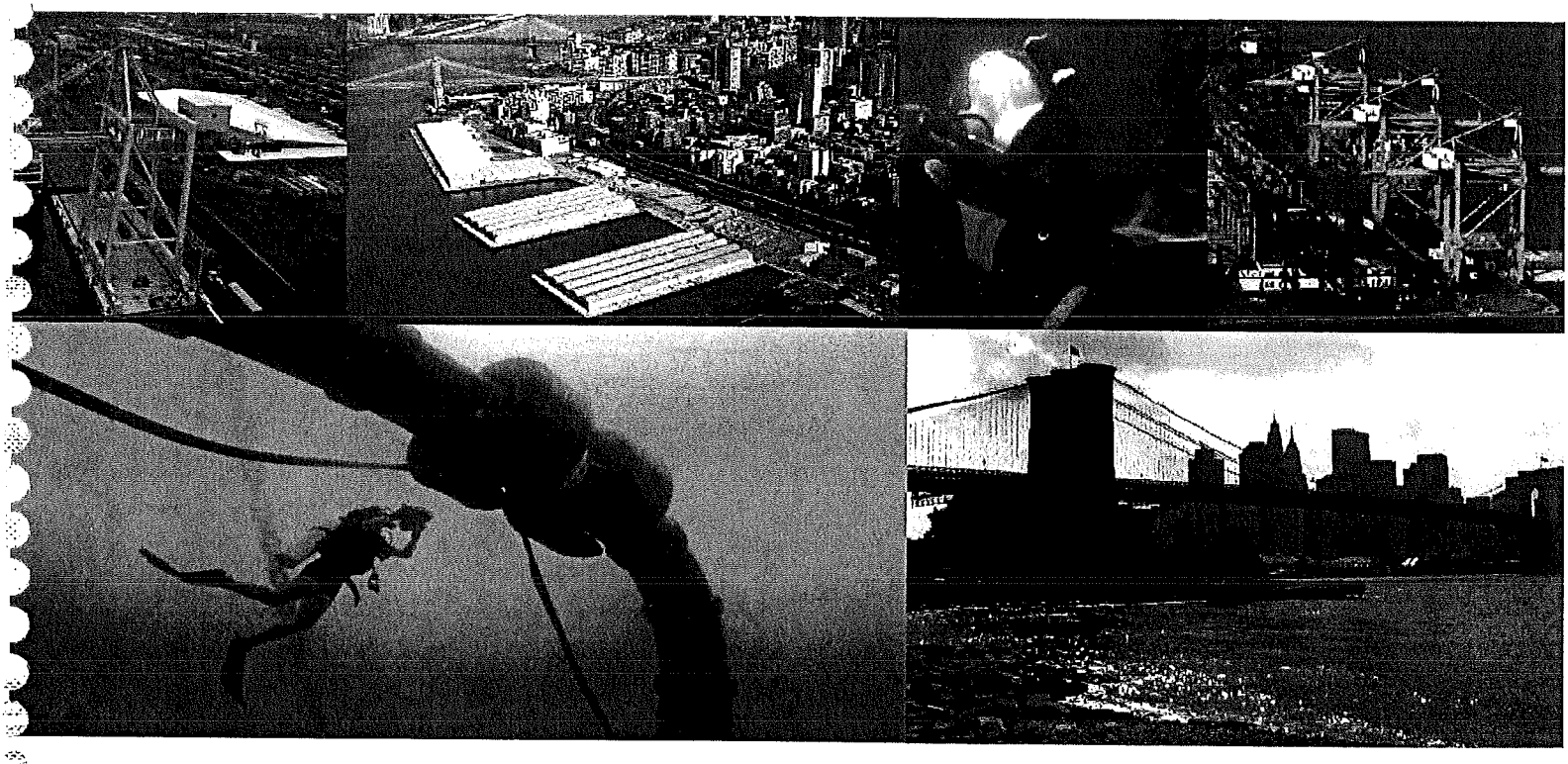
The multiplier that will be used for CH2M HILL employees is 2.86. The following is the breakdown of this multiplier as requested:

Raw Labor	1.00
Payroll Taxes and Fringes	0.563
General and Administrative	0.991
FEE (12%)	0.306
Total	**2.86**

Multiplier for Sub-Consultants

CH2M HILL will use a 1.05 multiplier for all sub-consultant invoices.

Section 4 - Key Personnel



CH2MHILL.

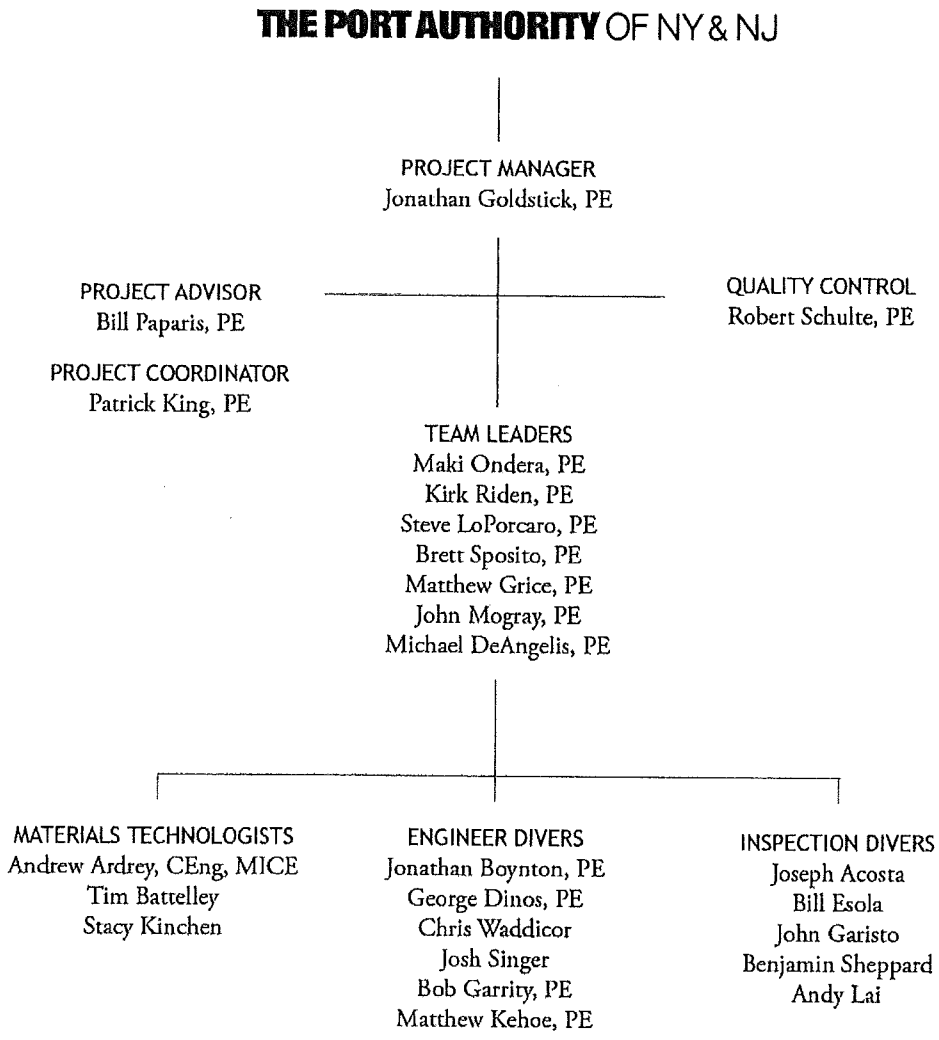
Key Personnel

CH2M HILL is proud to put forward the highly skilled, experienced, and committed team. We put a great deal of emphasis on recruiting and retaining the highest caliber of marine engineering experts in the field and we are pleased to make this expertise available to the Authority. All of the individuals presented in these resumes have direct relevant experience in working on Authority projects, and some of the individuals have been involved in every PANYNJ contract we have held since 1990.

All of the proposed Team Leaders and inspection team members are certified commercial divers registered with the Association of Diving Contractors and are well versed in all of the OHSA regulations governing safe diving practices. This enables the firm to ensure that operations are carried out in the safest, most effective manner, and in strict accordance with the relevant regulations.

Supporting the Engineering Divers Group is CH2M HILL's Materials Technology Services Group whose keen analytical skills and widespread experience routinely deal with problems associated with structures in the aggressive marine environment, both before they happen and once a problem has been identified.

Project Organization



CH2MHILL

Jonathan Goldstick, PE

Project Manager

Specialization

Ocean engineering

Registration/Certifications

PE: NY #062097 (1985); NJ #24GE04827000 (2009); DC #906019

Year Joined CH2M HILL

1995

Years with other Firms

15

Education

BSc, 1980, Ocean Engineering, Massachusetts Institute of Technology

1976 - 1978, Ocean Engineering studies, US Coast Guard Academy (No Degree)

Professional Affiliations

American Society of Civil Engineers (ASCE), Member

Society of American Military Engineers (SAME), Member

Society of Naval Architects and Marine Engineers (SNAME), Member

Key Qualifications

Jonathan Goldstick has over 30 years of domestic and international experience in waterfront engineering and project management. He has been involved in the design, analysis, construction, rehabilitation, and installation of a wide variety of waterfront structures worldwide. His expertise also includes project management and engineering support for urban waterfronts.

Relevant Experience

PANYNJ, Regional Goods Movement Plan, NY and NJ

Project director for the CH2M HILL-led study that explores how a long range strategic plan for regional goods movement can be composed and implemented, how it could improve the competitive attractiveness of the metropolitan New York market, and how the Port Authority could offer leadership in the process. The Goods Movement Plan, produced by leadership of the PANYNJ cooperatively with NYSDOT and NJDOT, looks broadly at freight activity in the tri-state region—including all freight, not just port-related elements—and defines long range goals for improvement, with the investments, policies, and institutions needed to bring them about. It moves beyond the modal-specific planning model to an integrated, multi-modal, and long-term approach to planning for the region's freight transportation network. Project fee $800 K, 2009 - Anticipated completion 2012

PANYNJ, Expert Operations and Analysis On-Call Contract, New York, NY

Project director for expert tactical and operations consulting services related to asset lifecycle management for the office of the chief operating officer in support of the PANYNJ's Operations Improvement Program. Current project includes the consolidation of Tenant Alteration Manuals across the PANYNJ's line departments. Project fee to date $400 K, 2009-ongoing

Regional Private Ferry Study, Port Authority of New York & New Jersey (PANYNJ), New York and New Jersey Harbor, NY and NJ

Project director for the review and market analysis of existing and potential private ferry services in the greater NY and NJ Harbor. The study examined how ferry service is currently funded, what role ferry service plays in the regional transportation network, the public and private sector roles in ferry transportation, and what funding and financing options are available. The potential for new routes was explored. Study findings helped guide strategies to better integrate ferries into the regional transportation network and enhance the financial stability of the privately-operated ferry services. Project fee $475 K, 2009 – 2010

Hudson River Park Parkwide "On-Call", Hudson River Park Trust (HRPT), New York, NY

Publications

"Fixed Wave Screen Designs", American Society of Civil Engineers (ASCE) Ports '04, Houston, TX, May 2004.

"Irvington, NY Brownfield Waterfront Remediation", American Society of Civil Engineers (ASCE) Ports '01, Norfolk, VA, May 2001.

"Pier 79 West Midtown Ferry Terminal Development, NY, NY", American Society of Civil Engineers (ASCE) Ports '01, Norfolk, VA, May 2001.

"69th Street Pier Composite Pier Design in Brooklyn, NY", American Society of Civil Engineers (ASCE) Ports '98, Long Beach, CA, March 1998.

"Developing the Mina Raysut Container Terminal", Society of Naval Architects and Marine Engineers (SNAME) 1997 Transportation Operations, Management and Economics Symposium, Secaucus, NJ, May 1997.

Principal-in-charge of the inspection, engineering, design, and construction administration services for the marine structures throughout the full length of the Hudson River Park, a five-mile park stretching along the Hudson River. Had final authority for all work performed, including condition surveys to monitor structures that were scheduled for replacement, inspection and rehabilitation design of structures that were to remain in use by the park, inspection and design of demolition plans for structures that were to be removed, and monitoring of pile fields for previously demolished piers. Structures inspected included timber and steel pile supported piers, granite block seawalls, and timber pile fields. Project fee $1.8 M, 2002 - 2010

"On-Call" Waterfront Condition Surveys, Port Authority of New York & New Jersey (PANYNJ), NY and NJ

Principal-in-charge of "on-call" engineering services for condition surveys of waterfront facilities. Oversaw the regular maintenance work and emergency response inspections for waterfront facilities of various types and constructions. Typically, these projects entailed 100 percent visual inspection of all structural elements and ten percent detailed inspection of select elements. Detailed inspections included cleaning of the structural elements, ultrasonic thickness measurement of steel, sounding of concrete, and evaluation of timber elements with regard to the presence of marine borers. Project fee $1 M/year, 1995 - 2010

"On-Call" Marine Structural Engineering Services, Engineering Division of the Port Authority of New York & New Jersey (PANYNJ), New York, NY

Principal-in-charge and project manager for "on-call" professional engineering design services for waterfront structures in New York Harbor. Services provided include assessments and repairs to existing structures and the design of new structures including bulkheads, and low and high level piers. Projects were generally part of an on-going maintenance program, but there have been numerous emergency response projects often resulting from vessel collision. Project fee $750 K/year, 2000 - 2010

Brooklyn Bridge Park Master Plan, Port Authority of New York & New Jersey (PANYNJ) for the Downtown Brooklyn Waterfront Development Corporation, Brooklyn, NY

Project manager for waterfront elements of the master plan for the development of a new waterfront park at the foot of the Brooklyn Bridge, including Brooklyn Piers 1-5. Expertise was provided in the following areas: shoreline rehabilitation to evaluate options for restoring dilapidated sections of the waterfront; evaluation of the feasibility of including a floating marina in the master plan; and establishment of the existing geometry and construction of the waterfront. Project fee $100 K, 2000 - 2002

CH2MHILL

Bill Paparis, PE

Ports, Senior Project Manager

Specialization
Structural engineering

Registration/ Certifications
PE: NY #57991; NJ #32879; NC #033898
PADI Scuba Diver Certification (1982)

Year Joined CH2M HILL
1984

Years with other Firms
8

Education
MS, 1976, Civil Engineering, Columbia University
BS, 1975, Civil Engineering, Columbia University

Professional Affiliations
American Society of Civil Engineers, National Society of Professional, Engineers, Member Tau Beta Pi

Key Qualifications

Bill Paparis has more than 35 years of experience on many marine related projects involving structural inspection, rehabilitation, upgrades and new construction design, planning, cost estimating, and construction management. His background includes inspection diving as a certified diver, and on-site construction management for marine and waterfront projects.

Bill has served as manager of the Civil/Structural Department, Construction Cost Estimating and Scheduling Department, and Inspection Department, and is currently Senior Project Manager for CH2M HILL's Ports Group.

Relevant Experience

Port Jersey Container Terminal Redevelopment, Electrical Substation Expansion, Bayonne/Jersey City, NJ

Project director/project manager for an expanded electrical substation at the Global Container Terminal in Bayonne/Jersey City, NJ. The work will accommodate the proposed automated container terminal expansion. The project scope includes a two-phase approach for expanding the substation. The first phase establishes transformer and load redundancy within the existing substation and expands it to accommodate the existing terminal load – 20 Automated Rail Mounted Gantry (ARMG) cranes, two Ship to Shore (STS) cranes, 486 refrigerator (reefer) container receptacles, site lighting and power incidental for a new entrance and exit truck gates. The second phase is for an additional 30 ARMGs, four additional STS cranes, 486 relocated reefer plugs, and ancillary loads such as site lighting. The work also involves the design of the tie in between nine wind turbines, which are part of an associated project at the site, and the site electrical utility grid.

PANYNJ, Port Newark Marine Terminal, Berth 3 Reconstruction, Newark, NJ

Project director for preliminary design of reconstruction of partially collapsed Berth 3 for Port Authority of NY & NJ. Work included evaluation of several structural alternatives for repair/reconstruction and selection of recommended alternative considering construction cost, traffic diversion, and permitting. CH2M HILL served as structural engineer and also coordinated the work of various Port Authority disciplines, including traffic, geotechnical, civil, electrical, and permitting. 2011

Port Authority of New York & New Jersey, Runway Safety Area Improvement Analysis, La Guardia Airport, Queens, NY

Lead structural engineer for the Runway Safety Area Engineering Study at La Guardia Airport. The project involved the development of conceptual engineering designs and life cycle cost estimates for several alternative runway extension schemes. Concept designs included development of civil and aviation arrangements for various runway pier extensions with structural and geotechnical design for each arrangement, and electrical schemes for both the aviation equipment and corrosion protection measures. Life cycle cost estimates were developed for each alternative scheme. Responsibilities

Publications

"Modernizing a Three Decade Old Wharf Structure for the Next Generation of Containerships", Proceedings of Port '2004, Houston, May 2004.

"Joint Effort Rapid Response Minimizes Downtime during Fuel-oil Dock Replacement", Proceedings of Port '2004, Houston, May 2004.

"Expansion of Middle Eastern Port Overcomes Difficult Ground Conditions", Proceedings of Port '2004, Houston, May 2004.

"What's Unique about Marine and Waterfront Structures?" Structure Magazine, August 2004.

Author of chapter "*Port Related Marine Structures*", Handbook of Port Engineering, John Wiley & Sons, 2004.

"Weapons Station Trestle Features Unique Elements", Proceedings of Ports '95, Tampa, March 1995.

"Port Terminal Design in a Region of Moderate Seismicity: Engineering and Economic Considerations".

included overall coordination and technical direction of all technical disciplines; geotechnical design and analyses; day to day correspondence with project team, subconsultants and client; coordination of drawings, outline specifications, calculations and cost estimates; and, production of a study report for the concept designs, with conclusions and recommendations. CH2M HILL fee: $970,000, 2010

PANYNJ, Piers 6, 7, 8 and Bulkhead 9B, Brooklyn, NY

Project director responsible for inspection and design of repairs to Piers 6, 7, 8 and Bulkhead 9B at the Port Authority of NY and NJ's Brooklyn Piers. The work included repair of concrete extension on timber piles, plating repairs to steel sheet piling, and the installation of a new steel sheet pile bulkhead.

Global Container Terminal, East Berth Extension, Bayonne/Jersey City, NJ

Project director/project manager responsible for a 900 ft terminal extension for Global Terminal & Container Services. The major challenge of the project is spanning over an existing storm water sewer outfall which runs at an acute angle to the length of the wharf. In order to accomplish this, a 190 ft long by ca. 30 ft deep steel truss was designed to span over the outfall pipe and support the waterside crane rail. Resilient high energy absorption rubber fenders and 150 ton capacity bollards will be provided along the face of the wharf. The scope of work also includes electrical and mechanical utilities and pavement design.

PANYNJ, "On-Call" Waterfront Condition Surveys, NY and NJ

Project manager of "on-call" engineering services for condition surveys of waterfront facilities. Oversaw the regular maintenance work and emergency response inspections for waterfront facilities of various types and constructions. Typically, these projects entailed 100 percent visual inspection of all structural elements and ten percent detailed inspection of select elements. Detailed inspections included cleaning of the structural elements, ultrasonic thickness measurement of steel, sounding of concrete, and evaluation of timber elements with regard to the presence of marine borers. 2007-2010

PANYNJ, Howland Hook Container Terminal, Staten Island, NY

Project manager responsible for detail design to expand and upgrade the Howland Hook Container Terminal for the Port Authority of NY & NJ. The major elements of the project included strengthening of the northernmost 945 ft of the existing wharf to permit future dredging, a 300 ft extension of the wharf to the north and a 175 ft extension to the south. The design relied on the installation of new high capacity steel pipe piles to resist sufficient vertical load so as to make it unnecessary for the existing outboard row of piles to resist any load. Steel sheet piling is to be driven and supported by these new pipe piles, to stabilize the dike below the wharf. 2004

CH2MHILL

Patrick King
Project Coordinator

Specialization
Inspection and rehabilitation design

Registration
Surface Supplied Diving Certification, Santa Barbara City College

Commercial Diver Certification, Professional Diving School of New York

Specialized Climbing and Repelling Course Certification

Instructors Certification, Professional Association of Diving

Year Joined CH2M HILL
1991

Years with other Firms
3

Education
BA, Ohio University

Publications
"How to Protect New York's Piers Against Marine Borers;" New York Construction News; August 1996.

"Conventional Repair Alternatives for Timber Marine Structures" ADC Underwater Magazine, 1998

"In-situ Concrete Evaluation of Marine Structures", US Navy Guidelines

Key Qualifications

Patrick King has more than 20 years of experience leading structural inspection programs and commercial diving operations to evaluate and rehabilitate marine facilities around the world. Throughout his career, Patrick has managed a wide variety of inspection, construction, and construction supervision projects for consulting engineering and marine construction companies. His evaluation and rehabilitation projects have included marine terminals, coastal and waterfront structures, submarine pipelines, dams, and bridges. His specific areas of expertise include timber and concrete structural repair, destructive and non-destructive sampling, underwater still and video photography, condition evaluation and analysis, report writing, and project management. His published manuals and articles include studies on the structural implications of marine borer infestation, in-situ concrete assessment, and conventional diving techniques. Currently, Patrick serves as the Technical Director of the Engineering Divers Group and the Regional Director for the US Northeast.

Relevant Experience

PANYNJ, Waterfront Inspection Services On-Call Contract, New York NY
Project director responsible for all tasks under this agreement for the Port Authority of New York & New Jersey, which consist of above and underwater cyclical condition surveys of the Authority's waterfront structures in the five boroughs of New York City and northern New Jersey summarized in formal condition reports. Work also includes the development of detailed design documents for the rehabilitation of a transfer facility and bulkhead in New Jersey. On-going, $1M per year, three-year cap

PANYNJ, Brooklyn Piers Pile and Bulkhead Rehabilitation, Brooklyn, NY
Project director for the design-level inspection of the timber piles, concrete extensions, and steel sheet pile bulkhead at Brooklyn Piers 7, 8, and 9B for the Port Authority of New York and New Jersey. Responsible for the preparation of an inspection letter report to provide recommendations to the Authority on the scope of repairs, the development of contract drawings and specifications, and associated construction cost estimate. 2008

PANYNJ, World Trade Center, Cooling Water Intake System Evaluation, New York, NY
Project director/project manager for the evaluation of the World Trade Center Cooling Water Intake System on the Hudson River for the WM Group on behalf of the Port Authority of New York & New Jersey. Tasks included the above and underwater inspection of the intake tunnels and chambers, preparation of an inspection summary letter, and recommendations for repair. 2007

US Navy, Indefinite Quantity Contract for Underwater Inspection (IDIQ), Condition Assessment and Repair Design, Worldwide

Project director responsible for all tasks for this worldwide contract with the United States Navy which include the condition inspection and design of repairs for various waterfront facilities including bridges, piers, and bulkheads. As a routine part of this contract, provides prioritized repair recommendations for the Navy's use in preparing facility maintenance management plans. On-going

Hudson River Park Trust, On-Call Waterfront Inspection Contract, New York, NY

Project director for CH2M HILL's On-Call Waterfront Inspection and Rehabilitation Contract with the Hudson River Park Trust. Tasks under this contract include the cyclical inspection of piers, wharves, bulkheads, and pile fields within 5 miles of Hudson River Park on New York's West Side. Major design assignments have included the replacement of Piers 25 & 26, and the aircraft carrier pier, Pier 86, the Intrepid Museum. $4M on-call, detail design $1.7 M, On-going

New York City Office of Management and Budget, Evaluation of Waterfront Structures, New York, NY

Project manager for the evaluation of multiple waterfront structures in New York and Queens, as part of the New York City Office of Management and Budget's (NYCOMB) Asset Management System, Work Order #5. Underwent training provided by the NYCOMB for the evaluation and development of costed reports. The project involved the evaluation of 79 assets along the shores of the East River, Harlem River, and Hudson River. Work involved cursory above water inspection, capture of date in NYCOMB database, and approval of developed costed reports. The work was performed for Gannett Fleming on behalf of the NYC Office of Management and Budget. 2008

CH2MHILL

Robert Schulte, PE
Quality Control

Specialization
Maritime, building structures

Registration/ Certifications
PE: FL #63482 (2005); CA #41097 (1985); Puerto Rico #22548 (2007; MD #37056 (37056)
SE: AZ #42040 (2005)

Year Joined CH2M HILL
2008

Years with other Firms
25

Education
BS, 1983, Civil/Structural Engineering, University of Arizona

Publications
"Design of Concrete Structures in Extreme Environments". Presented to the Construction Department of the South Florida Water Management District in 2007.

"Design of Anchored and Cantilevered Sheet Pile Walls". Presented to the Stanley Consultants Structures Department at the 2007 bi-annual Conference.

Key Qualifications

Robert Schulte has more than 29 years of experience in civil/structural engineering of maritime and building structures. His areas of expertise include project management, planning, feasibility, contract documents, tender assessment and construction supervision. Robert has specialized in the project management and design of waterfront structures for port facilities such as container, general cargo, LNG and crude oil terminals worldwide. His marine structural experience includes the design of open piled, sheet pile, combi-wall and cellular concrete caisson quay walls; cast-in-place and pre-cast/pre-stressed concrete structures; deepening and strengthening of berthing fronts; retrofitting and upgrading crane beams for modern crane loads; repair of piers due to ship-pier collisions; design of moorings, breasting dolphins and fenders.

Mr. Schulte is proficient in the structural design of stormwater control structures, bridges and buildings using a variety of materials such as reinforced concrete, pre-stressed/post-tensioned concrete, steel, aluminum, and timber. His civil and transportation capabilities include rural and urban highway design, site planning and detailed design of commercial and residential developments for which he has carried out hydrologic studies and hydraulic design of stormwater management systems.

Relevant Experience

PANYNJ, LaGuardia Airport Runway Extension, Queens, NY
Lead structural engineer responsible for quality assurance of alternatives study and detailed calculations. Objective of this project was to evaluate the most cost effective reliable solutions for carrying out runway improvements meeting all PANYNJ requirements. Scope included presenting detailed structural calculations for the selected most cost effective structural system for the runway extensions. This required an evaluation of the options and costs for making improvements to the Runway Safety Area (RSA) for both Runways 4-22 and 13-31 at LaGuardia Airport. Several options were provided by the Authority for inclusion in this study. These options were further evaluated for the most economical structural system from a cost and constructability point of view. The most cost effective structural system was considered further for more detailed structural analysis. 2010

Office of the Deputy Mayor for Planning and Economic Development, Southeast Federal Center, Pier Connection, Washington, DC
Lead structural engineer for detail design of pier. Project entails construction of 600ft long public access pier supported on 18" diameter, open-end, steel pipe piles and steel beam bent caps. Superstructure is made up an IPE hardwood deck on heavy timber joists, designed for pedestrian as well as truck loading. 2011

Met Tower Foundation, New Jersey

Project manager responsible for design of monopile foundation for 330 ft tower to be installed for meteorological data collection in support of offshore wind energy farm. Tower is to be placed in 75 ft water depth approximately 19 miles off the coast of Atlantic City. Designed platform, small craft fender and bracing elements to transfer loads from the base of tower to the monopile. Strength, fatigue and serviceability criteria were analyzed for monopile structure. 2009

Hutchison Port Holdings, Freeport Container Port Phase V, USA

Lead civil and structural engineer for design criteria and led team in final design of all civil and structural plans and specifications. Responsible for multi-discipline coordination of civil, structural, electrical and mechanical designs. Carried out hydrologic and hydrologic analyses and developed grading plans for automated container stacking and operations areas. Coordinated utility plans with berth structures and drainage structures. Drainage structures included trench drains, piped storm drain networks, junction structures and outlet structures. Prepared isolation details at interface of concrete structures and pavement. Led design of support beams and tie-downs for Automated Rail Mounted Gantry (ARMG). Responsible for design of reinforced concrete plinths to support 5-high container stacking. Construction value $250 Million, 2008

Spence Copper Concentrate Hypogene Project, Prefeasibility Study for New Marine Terminal, Atacama Desert, Chile

Technical reviewer and quality manager for a terminal port for exporting copper concentrate. The new facilities will have a capacity of 95,000 tpd. Project included study of material handling from land to bulk carriers, roads, access trestle, marine platform mooring and breasting dolphins. Navigational studies were carried out to determine optimal layout of marine structures. Deliverables also included development of CAPEX and OPEX to a -15% and +25% level of accuracy. 2011

CH2MHILL

Maki Onodera, PE

Team Leader

Specialization
Waterfront and marine structures

Registration/ Certifications
PE: PA #PE074315 (2006); NY #085133 (2007)

Year Joined CH2M HILL
2002

Years with other Firms
None

Education
MS, 2002, Civil Engineering, Columbia University

BS, 2001, Civil Engineering, Columbia University

Professional Affiliations
Association of Diving Contractors (ADC), Surface-Supplied Air Diver

Publications
None

Key Qualifications

Maki Onodera has more than seven years of experience in the analysis, design, and inspection of marine facilities. Maki's specific experience includes underwater inspection and structural condition evaluation of marine and waterfront structures, as well as design and construction supervision of marine and waterfront rehabilitation projects.

Relevant Experience

PANYNJ, New York Marine Terminal, Brooklyn, NY

Project manager for rehabilitation design of approximately 300 deteriorated timber piles and concrete extensions, a steel sheet pile bulkhead, and 17 pre-stressed concrete girders at Pier 9A and Wharf B at the New York Marine Terminal in Brooklyn, NY for the PANYNJ. An underwater investigation of the piers was performed in Fall 2009 and the PANYNJ subsequently selected the team to develop the contract drawings, technical specifications, and construction cost estimates for the rehabilitation design. In addition to designing the repairs, a structural analysis of the deteriorated pre-stressed girders was performed to determine the existing remaining capacity of the girders so that an appropriate cost-effective repair could be developed. The team will also provide construction support services, which will include answering contractor RFIs and reviewing contractor submittals. Project fee $105 K, 02/2010 - On-going

PANYNJ, Bulkhead Replacement between Piers 7 and 8, Brooklyn, NY

Project manager responsible for the inspection of the existing deteriorated steel sheet pile bulkhead and design of a replacement bulkhead between Piers 7 and 8 at the Brooklyn Marine Terminal for the PANYNJ. Approximately 350 ft of replacement bulkhead was replaced utilizing the existing tie rods to anchor back the new bulkhead. Tasks included a design-level inspection, development of contract drawings and specifications, and associated construction cost estimate. Construction support services included answering contractor RFIs and reviewing contractor submittals. Construction value $4.5 M, Project fee $90 K, 11/2008 - 11/2010

PANYNJ, Marine Float Bridge Inspection and Evaluation Brooklyn, NY

Project manager responsible for the inspection and evaluation of the 51st Street Float Bridge in Brooklyn, NY for the PANYNJ as part of the Waterfront Inspection Services On-Call Contract. Tasks included an above and underwater inspection of the steel float bridge and the timber pile-supported platform supporting the inshore end of the bridge. Subsequent to the inspection, a condition survey report was prepared and Immediate repairs were designed to address the severe condition of the bridge. The report included a structural analysis of the bridge, repair recommendations, and order-of-magnitude cost estimates. Construction support services for the Immediate repairs to the bridge included reviewing contractor

submittals and performing QA inspections. Project fee $92 K, 12/2008 - 06/2009

PANYNJ, Marine Rail Lift Bridges Inspection and Evaluation, Jersey City, NJ

Project engineer/manager for inspection and evaluation of the marine rail lift bridges at the Greenville Yards Facility in Jersey City, NJ for the PANYNJ as part of the Waterfront Inspection Services On-Call Contract. Tasks included an above and underwater inspection of the timber pile-supported steel towers supporting the four rail lift bridges. The mechanical and electrical systems were included in the inspection. Subsequent to the inspection, a condition survey report was prepared, which included a structural analysis of the bridges and towers, repair recommendations and order-of-magnitude cost estimates. A follow-up inspection was also performed in June 2010 to identify any significant change in condition. Project fee $220 K, 11/2008 - 06/2010

PANYNJ, Brooklyn Piers Pile and Bulkhead Rehabilitation, Brooklyn, NY

Project manager responsible for overseeing a design-level inspection of the timber piles, concrete extensions, and steel sheet pile bulkhead at Brooklyn Piers 7, 8, and 9B in Brooklyn, NY for the PANYNJ. Additional tasks included the preparation of an inspection letter report to provide recommendations to the PANYNJ on the scope of repairs, the development of contract drawings and specifications, and associated construction cost estimate. Construction support services include answering contractor RFIs and reviewing contractor submittals. Construction value $2.8 M, Project fee $178 K, 02/2008 - 10/2009

PANYNJ, Waterfront Inspection Services On-Call Contract, New York, NY

Project manager overseeing a call-in contract to provide waterfront inspection services to the PANYNJ. Tasks under this agreement consist of above and underwater cyclical condition surveys of the PANYNJ's waterfront structures in the five boroughs of New York City and New Jersey as summarized in formal condition reports. Condition surveys performed in 2008/2009 include the 51st Street Float Bridge in Brooklyn, NY, the Greenville Yards Marine Rail Facility in Jersey City, NJ, and Port Newark Berths 3-25 in Elizabeth, NJ. In 2010, Port Elizabeth Berths 50-66, the Auto Marine Terminal, and three bridges and two culverts at Newark Airport were inspected. Project fee approx. $1 M/year, 2007 - On-going

CH2MHILL

Kirk Riden, PE
Team Leader

Specialization
Structural engineering, condition assessment, maritime structure design, asset management and engineering

Registrations/Certifications
PE: NY #81564 (2003)

Advanced Open Water SCUBA Certification, 1994, Professional Association of Diving Instructors

Surface-Supplied Air Diver, 2008, Association of Diving Contractors International

Entry Level Tender/Diver, 2003, Association of Diving Contractors International

Safety Inspection of In-Service Bridges Training, 2005, National Highway Institute Course 130055A

Year Joined CH2M HILL
2003

Years with other Firms
6

Education
BS, 1998, Maritime Systems Engineering, Texas A&M University Galveston

Professional Affiliations
None

Key Qualifications

Kirk Riden has more than 15 years experience as a project manager, project engineer, designer, and engineer-diver performing above and underwater inspection. He is responsible for planning, design, and construction supervision of new and rehabilitated offshore and waterfront facilities. His commercial projects have included bridges, mobile offshore drilling units (jack-ups and semi-submersibles), bulkheads, piers, urban public access waterfronts, and shore side civil works. Kirk specializes in condition evaluation and rehabilitation design for offshore and waterfront projects, he also served as resident engineer on major offshore upgrade projects.

Relevant Experience

PANYNJ, LaGuardia Runway Extension Condition Assessment, New York, NY
Project director for the above water inspection of the LaGuardia Airport runway extensions. Project fee $250,000, July, 2011.

PANYNJ, On-Call Waterfront Inspection Contract, New York, NY
Project manager-diver for CH2M HILL's Call-In Contract to provide Waterfront Inspection Services to the Port Authority of New York and New Jersey. Tasks under this agreement consist of above and underwater cyclical condition surveys of the Authority's waterfront structures in the five Boroughs and New Jersey summarized in formal condition reports. Project fee per year $1 million, Project period 2004-2006.

PANYNJ, Piers 1 and 3 Inspections, Brooklyn, NY
Engineer-in-charge for the cyclical inspection of Brooklyn Piers 1 and 3 for the Port Authority of New York and New Jersey. Developed a comprehensive condition inspection report to detail the findings and observed conditions. Project fee $135,000, Completion 2005.

NYCEDC, On-Call Marine Engineering Services, New York, NY
Project director responsible for providing comprehensive "on-call" marine engineering services for waterfront sites in all five boroughs of New York City. The services provided include above and underwater inspections, condition evaluations, recommendations for maintenance, preparation of designs, drawings and specifications for rehabilitation, cost estimating, and inspection and support of construction. ongoing

Hudson River River Park, On-Call Waterfront Inspection, New York, NY
Project manager-diver for CH2M HILL's On-Call Waterfront Inspection Contract with the Hudson River Park Trust. Tasks under this contract include the cyclical inspection of piers, wharves, bulkheads, and pile fields within the Hudson River Park on Manhattan's West Side. Project fee per year $500,000, Completion 2006.

Publications

USACE 88th CERB – Presentation on Maritime Asset Management, July, 2011.

AAPA Facilities Engineering Conference – Presentation on Maritime Asset Management, November, 2009.

Riden, Kirk, et al, "NYC Office of Management and Budget Major Maintenance Guidelines", 2006.

Riden, Kirk, et al, "US Navy P-990, Conventional Underwater Repair Techniques", 2010.

Awards

2011 – ACEC NY Gold Award for Engineering Excellence – Brooklyn Bridge Park Marine Assessment, Brooklyn, NY

2008 – ACEC NY Platinum Award for Engineering Excellence – AIMS Major Maintenance Guidelines for Waterfront Management, New York, NY

2000 Young Engineer of the Year - American Society of Mechanical Engineers (ASME) NTS Petroleum Division

Brooklyn Bridge Park Condition Assessment and Life Cycle Cost Model, Brooklyn, NY

Project manager for the comprehensive above and underwater inspection of the marine infrastructure within the new, $350 million Brooklyn Bridge Park, including more than 12,000 timber and concrete substructure elements and 7,000 linear feet of bulkhead structure. Following the inspection, CH2M HILL performed partially destructive testing of the timber elements in order to determine the remaining life of the piles. All inspection data was input into a CH2M HILL-designed inspection database with GIS interface. The database was utilized to automatically generate loading capacity plans and contract documents for repairs. Investigations were undertaken by CH2M HILL in-house engineer-divers. Most recently, CH2M HILL was retained to prepare a life cycle cost model in order to provide a comprehensive view of required operations and maintenance costs over the next 50 years for the waterfront infrastructure. This task included inputs from CH2M HILL's concrete technologists in order to develop reliable estimates of useful remaining service life and helped to optimize the O&M cost estimations. Park construction value $350 million, Project fee to date $1 million, Completion 2011

Indefinite Quantity Underwater Inspection Condition Assessment and Repair Design Contract with US Navy, Worldwide

Project manager-diver for an Indefinite Quantity Underwater Inspection, Condition Assessment, and Repair Design Contract with the United States Navy. Tasks under this worldwide contract include the condition inspection and design of repairs for various waterfront facilities including bridges, piers, and bulkheads. As a routine part of this contract, CH2M HILL provides prioritized repair recommendations for the Navy's use in preparing facility maintenance management plans. Recent (within the past 12 months) task orders have included the inspection of Navy and Coast Guard facilities in Djibouti, Guam, Norfolk, VA, Patuxent River, MD, Annapolis, MD, and Diego Garcia, BIOT. Recent rehabilitation design projects have been performed in Cape May, NJ, Earle, NJ, and Patuxent River, MD. Project fee $1 million per year, on-going, Anticipated completion date: June, 2011.

Indefinite Quantity Underwater Inspection Condition Assessment and Repair Design Contract with US Navy, OCONUS

Project manager-diver for an Indefinite Quantity Underwater Inspection, Condition Assessment, and Repair Design Contract with the United States Navy. Tasks under this contract include the condition inspection and design of repairs for various waterfront facilities located OCONUS including bridges, piers, and bulkheads. As a routine part of this contract, CH2M HILL provides prioritized repair recommendations for the Navy's use in preparing facility maintenance management plans. Recent (within the past 12 months) task orders have included the inspection and rehabilitation design of Navy facilities in Japan and Diego Garcia, BIOT. Project fee $3.33 million per year, on-going, Anticipated completion date: December, 2014.

CH2MHILL

Stephen LoPorcaro, PE

Team Leader

Specialization

Project Management, Underwater Inspection, Construction Supervision

Registration/ Certifications

PE: FL #58913 (2002); NY #80164 (2002); NJ #43468 (2002)

Registered OUPV Captain- Inland Waters

Registered ADC Surface-Supplied Air Diver #19621

Safety Inspection of In-Service Bridges, FHWA National Highway Institute

Open Water SCUBA Certification

OSHA training: Confined Space Entry and 10-Hour Construction Safety

CPR/First Aid and O2 Provider

Managing Projects, 2005, ESI International, New York

Year Joined CH2M HILL

2002

Years with other Firms

6

Education

BS, 1996, Civil/Environmental Engineering, SUNY College of Environmental Science and Forestry at Syracuse University

Key Qualifications

Stephen LoPorcaro has more than 14 years of experience as a project manager, engineer-diver, and hydrographic surveyor performing above and underwater inspections, resident engineer services, rehabilitation design, and hydrographic surveys at marine terminals, various waterfront facilities, and bridges. His specific areas of expertise are structural condition evaluation and rehabilitation, non-destructive and destructive underwater testing, site supervision and construction oversight, and technical report preparation. Stephen has managed and performed waterfront inspection and assessment projects for large port facilities and fuel terminals throughout the world and is proficient in AutoCAD 2011.

Relevant Experience

PANYNJ, Waterfront Facilities, NY and NJ

Project manager/senior engineer-diver responsible for on-call engineering services, management, coordination, supervision, and performance of cyclical maintenance and emergency response inspections for marine facilities of various types and construction. 2005

PANYNJ, Downtown Manhattan Heliport, New York, NY

Project manager/team leader for inspection/condition survey of the downtown Manhattan heliport's steel pipe pile supported aircraft landing platform and the interior and exterior of a steel spud barge used as a parking platform. Project fee $98.9 K, 05/2005 -- 08/2005

PANYNJ, Lincoln Tunnel New York River Ventilation Buildings, New York, NY

Project manager/team leader for inspection/condition survey of granite foundation blocks and fascia panels which clad the buildings below water. 04/2005

PANYNJ, New York Marine Terminal, Brooklyn, NY

Project manager/team leader for a project that included approximately 700 lin ft of pile-supported wharf structures over two (2) NYC subway tunnels. Conducted cyclical condition survey of the bulkheads at Pier 5 and 6 to inspect elements that included timber and steel pipe piles, concrete pile extensions, pre-stressed concrete girders, and steel sheet pile bulkhead. 2005

PANYNJ, Port Elizabeth Marine Terminal, Berth 64, Elizabeth, NJ

As project engineer/team leader, performed emergency inspection to quantify the extent of damage caused by a ship impact. Assisted in the design and development of repair alternatives and details. 01/2005

Professional Affiliations
Professional Association of Diving Instructors

PANYNJ, New York Marine Terminal, Brooklyn, NY
As project engineer/team leader performed an emergency inspection to delineate a crack in the Pier 12 foundation. Deliverables included repair recommendations. 02/2005

PANYNJ, Port Elizabeth Marine Terminal, Elizabeth, NJ
Project engineer/team leader that completed critical condition surveys of Berths 50 through 86. Inspected elements included over 2 miles of wharf structure supported by over 17,000 steel and timber piles, concrete pile extensions and pile caps, concrete seawall, and timber and steel sheet pile bulkhead. 05/2004 - 10/2004

PANYNJ, Red Hook Container Terminal, Brooklyn, NY
Project engineer/team leader for a cyclical condition survey whose inspected elements included three (3) separate wharves supported by timber and steel pipe piles with concrete pile extensions, pre-stressed concrete girders and deck panels, and steel sheet pile bulkhead. 09/2003 - 10/2003

PANYNJ, LaGuardia Airport Runways, Queens, NY
Project engineer/team leader for a cyclical condition survey of substructural elements supporting the runways including 3,500 steel pipe piles equipped with cathodic protection. The inspection involved bathycorrometer measurements of the piles to determine electrical potentials. 05/2003 - 07/2003

New York City Office of Management and Budget, Asset Condition Surveys, New York, NY
Team leader/senior engineer-diver for asset condition surveys of various shoreline structures throughout Brooklyn, NY and Bronx, NY. The structures were evaluated for any hazardous conditions requiring immediate attention, and structural and non-structural damage at the structures was quantified for repair. Repair quantities and costed reports were developed for inclusion in New York City's budget for waterfront structure maintenance. Project fee $98.7 K, 12/2011 - Present

NYCEDC, South Street Seaport Pier 16, New York, NY
Resident Engineer for a pier rehabilitation project. Responsible for construction inspections and assessment of completed construction works, and reviewing, tracking, and monitoring submittals, RFI's, and change orders. Also responsible for monitoring above water operations during underwater concrete placement to ensure that all standard quality control procedures are followed by the contractor. Project fee $99.7 K, 8/2011 – Present

CH2MHILL

Brett Sposito, PE
Team Leader

Specialization
Project management, maritime development design and planning

Registration/ Certifications
PE: NY #086247 (2014), OR #57885PE (2014)

Association of Diving Contractors Commercial Diver Certification, Entry Level Tender/Diver

National Oceanic and Atmospheric Administration (NOAA) Divemaster (2004), Contaminated Water Diving Seminar

Professional Scuba Inspectors, Visual High Pressure Cylinder Inspector (2004)

Professional Association of Diving Instructors, Advanced Open Water SCUBA Certification (1999)

High Pressure-related HAZMAT Training

CPR/First Aid and DAN Oxygen First Aid Training

Federal Highway Administration (FHWA) National Highway Institute Training:

Bridge Inspection Refresher Training (2009)

Safety Inspection of In-Service Bridges (2003)

Key Qualifications

Brett Sposito has more than 14 years experience as an engineer diver, and has performed over 960 underwater structure inspections over 696 days, more than five years of experience as a fathometer surveyor performing 60 fathometer surveys of bridges over major waterways. Brett also has experience as a bridge designer performing design and providing construction support, concurrent with underwater bridge inspection experience. Brett's projects have included bridges, piers, wharves, bulkheads, dams, culverts, tidegates, and fender/pier protection systems. Specific areas of expertise include underwater inspection, structural condition evaluation of bridges, non-destructive and destructive underwater testing, underwater repair, underwater still photography, technical report preparation, and fathometer surveying. Brett is currently the client manager for our PANYNJ projects and working on an immediate repair demolition and stabilization design project for Port Newark Berth 14, a condition survey of Port Newark Even Berths 2 through 36, an interim inspection of the Holland Tunnel Center Pier 9/204, as well as preparing for a condition survey of the Howland Hook Wharf.

Relevant Experience

Waterfront Inspection Services On-Call Contract, Port Authority of NY & NJ, New York, NY
Project manager overseeing a call-in contract to provide waterfront inspection services to PANYNJ. Tasks under this agreement consist of above and underwater cyclical condition surveys of the Authority's waterfront structures in the five Boroughs of NYC and New Jersey as summarized in formal condition reports. Recent condition surveys performed in 2009-2011 include:

51st Street Float Bridge Immediate Inspection / Immediate Repair Design, Construction Support Services, As-Builts -
Project manager and Team leader for an emergency Inspection at the 51st Street Float Bridge in Brooklyn, NY on July 15, 2011. The purpose of the inspection was to assess damage that occurred on Thursday, July 14, 2011 to the South Hinge Support. The inspection focused on the damaged areas of the South Hinge Support, North Hinge Support, Lower Timber Support Platform and Timber Piles. 2011, $39,480.00

Port Newark Berths 3, 14, & 17
Project manager for Berth 3, 14 and 17. 2011 $193,535.00

Berth 3 Inspection & Repair - An Immediate inspection was performed of New Jersey Marine Terminal Port Newark Berth 3 in Newark, NJ during June 2011. The purpose of the inspection was to evaluate the conditions of targeted elements identified by the Port Authority, and to determine if the conditions warranted immediate action. The focus of the inspection was the sprung and non-bearing piles at the offshore face of the culvert between bents 56 and 63, the

piles bearing under the line cap near Bent 44, and the line cap at Bents 73 through 78.

Berth 14 Inspection, Berthing Analysis & Repair - An interim condition survey of Berth 14 of the New Jersey Marine Terminal at Port Newark in Newark, NJ was performed between October 17th and December 20th, 2011. The purpose of the inspection was to evaluate the area of the berth where no live load is permitted and to identify any conditions that have significantly changed since the 2010 interim inspection that could adversely affect existing operations. The focus of the inspection was primarily on the structural elements (timber piles, pile caps, line caps, and deck planks) where load restrictions have been put in place. An immediate action of restricting live loads was subsequently recommended as a result of our findings.

Berth 17 Immediate Repairs - inspections were performed at the New Jersey Marine Terminal at Port Newark in Newark, NJ during April 2011 and July 2011. The purpose of the inspection was to investigate the cause of sinkholes and settlement areas located at Berths 15 and 17. Immediate repairs were subsequently recommended as a result of our findings.

Greenville Yards - Project manager for an interim condition survey at the Greenville Yards Float Bridge at the Greenville Yards facility in Jersey City, NJ. The purpose of the inspection was to identify any conditions (above MLW) that have significantly changed since the last interim inspection in 2010 that could adversely affect existing operations. The focus of the inspection was on the tower substructure and superstructure elements that currently support Bridge No. 11. 2011, $20,144.00

Global Marine Terminal - Project manager and Engineer for a baseline condition survey of the Global Marine Terminal, New Jersey Marine Terminal, located in Bayonne, New Jersey from October to November of 2011. The inspection specifically addressed the condition of the approximately 1,811 ft long wharf, mooring dolphins, and walkways. The inspection focused on the associated facility elements such as precast prestressed concrete piles, partially encased steel H-piles, steel pipe piles, timber piles, concrete pile caps, concrete edge beam and crane rail beams, precast prestressed concrete deck planks, steel sheet pile bulkhead, steel walkways, mooring hardware, and asphalt concrete deck surface. The purpose of the condition survey was to determine the overall condition of the structure and to identify structural and non-structural deficiencies. 2011, $99,106.00

Year Joined CH2MHILL
2007

Years with other Firms
10

Education
BS, Civil Engineering, (1991), University of Washington

Professional Affiliations
Chi Epsilon, National Civil Engineering Honor Society (1991)

CH2MHILL

Matthew Grice, PE
Team Leader

Specializations
Underwater Inspection, Structural Analysis/Design, Project Management

Registration/Certifications
PE: NY #82516 (2005)

Commercial Diver
The Ocean Corporation
Houston, TX (2005)

Master Scuba Diver Certification, National Association of Underwater Instructors
(NAUI Worldwide, 2005)

Year Joined CH2M HILL
2006

Time with other Firms
7 years

Education
BS Civil Engineering, Manhattan College
Riverdale, NY (1998)

Professional Affiliations
American Society of Civil Engineers (ASCE)

Key Qualifications

Matt Grice has more than 13 years of diversified experience in the inspection, planning, construction support services and design of waterfront structures and commercial/industrial buildings. Projects have included ports, general cargo terminals, recreational facilities, container terminals, and military facilities. Specific areas of competence include structural design and analysis, geotechnical engineering, and inspection.

Relevant Experience

PANYNJ, Brooklyn Piers 7, 8, and 9B, Bulkhead and Pile Rehabilitation, Brooklyn, NY

Team leader/project engineer for the repair level inspection at Brooklyn Piers 7, 8, and 9B bulkhead and pile rehabilitation for the Port Authority of New York and New Jersey. Responsibilities included leading the field inspection work, issuing preliminary findings report, developing repair designs, contract documents, and construction cost estimate. Additional tasks included research of new repair materials and systems in order to provide an alternative approach to the traditional repairs that were found to be ineffective over time. This research included responding to comments from the PANYNJ structural, materials, contracts and law, and port departments. 2008

PANYNJ, Brooklyn Piers 6, 7, and 8 Condition Survey, Brooklyn, NY

Team leader/engineer-diver for the above water and underwater inspection of Piers 6, 7, and 8 on the East River in Brooklyn, NY, for the Port Authority of New York & New Jersey. The survey included the examination of approximately 11,000 timber piles with associated concrete extensions, which support a concrete deck. All of the structural elements were visually inspected in-depth including cleaning of piles to evaluate the presence of surface marine borers. Underwater photographs, ultrasonic thickness measurements, and a comprehensive report were provided. 2007

PANYNJ, Port Newark Condition Survey, Newark, NJ

Team leader/ engineer for the inspection of the New Jersey Marine Terminal, Port Newark Berths 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, and 36 located in Newark, New Jersey for the Port Authority of New York and New Jersey. The survey included inspection of all structural elements comprising the marine terminal including approximately 9,600 piles, 1,200 pile cap beams, 9,600 lin ft of steel and timber pile bulkhead, 10,000 lin ft of concrete seawall, and 450,000 sq ft of top of deck.. The purpose of the inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies. Underwater photographs, ultrasonic thickness measurements, and a comprehensive report were provided. 2006

Inspection of Pier Facilities for Development of Brooklyn Bridge Park, NY

Senior Engineer-Diver on inspection team that performed underwater and topside inspection of 12,000 piles and more than 900,000 SF of deck elements. Divers used computer-based asset management database tools to perform the inspection. The structural capacity of each facility was established and delivered to client using a GIS-based mapping format system. Repairs were designed and a series of construction documents produced in order to achieve the capacity necessary to support the park loadings. Subsequent to the repair design package and during the construction stage of the project, construction management diving inspections were performed. 2012

Con Ed, Pier 98 - 59TH St. Generating Station, NY, NY

Team leader/professional engineer-diver for the above water and underwater inspections of Pier 98 located on the Hudson River in Manhattan, New York. The inspection was performed on behalf of Consolidated Edison (Con Ed). The scope of services included; the inspection of a timber pier structure located directly adjacent to a concrete pier structure as well as a 600 ft penetration dive and an 800 ft penetration dive of two respective concrete discharge tunnels. Issuance of a detailed inspection report per the requirements of the Con Ed Waterfront Facilities Maintenance System specification, repair recommendations with associated cost estimates, as well as narrated above water and underwater video. 2010

Underwater and Above Water Inspection, Brooklyn Navy Yard, NY

Professional engineer-diver/team leader for the repair design level above water and underwater investigation of Pier D, Berths 8, 8A, 8B, 9, 9A, 10, 10A, and Small Boat Basin at The Brooklyn Navy Yard in Brooklyn, New York. The inspection was performed on behalf of the facilities owner, Brooklyn Navy Yard Development Corporation (BNYDC). The scope of services included; the inspection of four low level timber pile supported relieving platforms. Additional tasks included the preparation of six letter reports to provide recommendations to BNYDC on the scope of repairs, current berthing practices and associated construction cost estimates. 2009

Water Club Marginal Wharf, New York, NY

Inspection team leader/ professional engineer-diver for the routine level above water and underwater investigation of the Water Club Marginal Wharf on the East River in Manhattan, New York for The New York City Economic Development Corporation (NYCEDC) and Turner Construction Company of New York. The scope of services included the inspection of all structures and components comprising the facility to identify and document the extent of structural and non-structural deterioration, and subsequent to the field effort, the development of a detailed inspection report per the requirements of the NYCEDC Waterfront Facilities Maintenance System – Inspection Guidelines Manual containing the inspection findings, a structural analysis, projected life-of-structure expectancy, and repair recommendations with associated cost estimates. 2008

CH2MHILL

John Mogray, PE
Team Leader

Specialization
Engineer-diver

Registration/ Certifications
PE: CA # 77792 (2011)

Association of Diving Contractors International, Surface-Supplied Air Diver, 2009

Federal Highway Administration, NHI Underwater Bridge Inspection Course, 2009

Year Joined CH2M HILL
2008

Years with other Firms
None

Education
MS, 2008, Civil Engineering, University of California, Berkeley

BS, 2007, Civil Engineering, North Carolina State University

Professional Affiliations
American Society of Civil Engineers (ASCE), Member

Society of American Military Engineers (SAME), Member

Publications
None

Key Qualifications

John Mogray has four years of experience as an engineer performing above and underwater inspection and design. His projects include piers, bulkheads, and fender systems. His specific areas of expertise include condition survey evaluations, structural analysis and design, and report preparation.

Relevant Experience

PANYNJ, Pier 9/204 Condition Survey, Jersey City, NJ
Team leader/diver performed condition survey of Pier 9/204 in Jersey City. Tasks included above water and underwater inspection of the timber pile supported low-level timber platform and a steel beam supported concrete and timber deck. 2009

PANYNJ, LaGuardia Airport, Deck Preservation Program Inspection, Queens, NY
Engineer diver conducted a condition survey of offshore, pile-supported runways at LaGuardia Airport for Jacobs on behalf of the PANYNJ. Tasks included small boat, underdeck inspection of concrete superstructure elements including pile caps, prestressed deck planks, and prestressed girders. 2010-2011

Hunter's Point South Outfall Inspection, Queens, NY
Team leader performed inspection for Arup. The scope of services included inspection of two ductile iron pipe outfalls beneath the Water Taxi Beach in Long Island City. A letter report was submitted subsequent to the inspection. 2010

NYCOMB, Asset Information Management Systems (AIMS) Waterfront Inspection, New York, NY
Team leader performed evaluation of multiple waterfront structures throughout the five boroughs of the City of New York, as part of NYCOMB's Asset Information Management System (Task Order 21). The project involved the evaluation of multiple assets along the shores of the Upper New York Harbor, East River, Harlem River, and Hudson River. Work involved cursory above water inspection, capture of data in NYCOMB database, and assisting with development of costed reports. The work was performed for Gannett Fleming on behalf of the NYCOMB. 2011

NYCEDC, South Brooklyn Marine Terminal, Routine Waterfront Inspection, Brooklyn, NY
Team leader performed inspection for Turner Construction Company on behalf of NYCEDC. The scope of services included a routine inspection of five structures at SBMT, including steel sheet pile bulkheads, stone riprap revetments, and a timber-pile-supported relieving platform. Subsequent to the inspection, additional services included a presentation of preliminary

findings and the submittal of a final report containing observed conditions, rehabilitation recommendations, drawings, and cost estimates. 2011

NYCOMB, Asset Information Management Systems (AIMS) Waterfront Inspection, New York, NY

Team leader performed evaluation of multiple waterfront structures throughout the five boroughs of the City of New York, as part of NYCOMB's Asset Information Management System (Task Order 16). The project involved the evaluation of multiple assets along the shores of the Upper New York Bay, Kill van Kull, East River, Harlem River, and Hudson River. Work involved cursory above water inspection, capture of data in NYCOMB database, and assisting with development of costed reports. The work was performed for Gannett Fleming on behalf of the NYCOMB. 2009-2010

NYCEDC, Pier 88 Viaduct, Underwater and Above Water Inspection, New York, NY

Assistant team leader for the inspection of viaduct supporting structure at Pier 88. Work involved site inspection and letter report preparation. 2008

US Army Corps of Engineers, US Military Academy, Waterfront Facilities Inspection, West Point, NY

Team leader performed inspection for the URS Corporation on behalf of the US Army Corps of Engineers. The scope of inspection services included a design level condition assessment and asset inventory of underwater and above water assets including an adjacent to North Dock and South Dock. Subsequent to the inspection, additional services included a preliminary report outlining the observed areas of distress and the submittal of a final report containing observed conditions, rehabilitation recommendations, drawings, and cost estimates. 2010

US Army Corps of Engineers, Aberdeen Proving Ground, Waterfront Facilities Underwater Inspection of Pier 630, Aberdeen, MD

Assistant team leader performed inspection for URS Corporation on behalf of the US Army Corps of Engineers, the scope of inspection services included a design level condition assessment and asset inventory of underwater portions of Pier 630 and an adjacent bulkhead. Subsequent to the inspection, additional services included a preliminary report outlining the observed areas of distress and the submittal of a final report containing observed conditions, rehabilitation recommendations, drawings, and cost estimates. 2010

CH2MHILL

Michael R. DeAngelis, PE
Team Leader

Specialization
Marine and Waterfront Structures, project management

Registration/ Certifications
PE: NY # 087124 (2009)

Confined Space and Fall Protection Certification (2006)

OSHA Training

Advanced Open Water SCUBA, PADI Certification

PADI Emergency First Responders (2011)

DAN DEMP (2011)

Year Joined CH2M HILL
2011

Years with other Firms
6

Education
MBA, 2013, Business Administration Candidate, Fordham University

BS, 2004, Civil Engineering, Manhattan College

Professional Affiliations
American Society of Civil Engineers (ASCE), Member

Publications
None

Key Qualifications

Michael DeAngelis has more than six years of solid engineering experience with a proven track record in structural engineering and project management of public and private projects, including inspection and structural design of piers, bridges, ferry terminals, retaining walls, revetments, foundations and other complex structures.

Michael is versed in various computer applications such as Risa-3D, ETABS, ACES, Mathcad, and AutoCAD.

Relevant Experience

PANYNJ, Waterfront Inspection Services On-Call Contract, New York, NY
Team leader and project engineer for the 2011 interim inspections of Berths 3 & 14 located at the New Jersey Marine Terminal, Port Newark, Newark, New Jersey. The purpose of the interim inspections was to monitor the condition of the severely deteriorated structures and to identify any significant changes in reported condition. Subsequent to the inspections, additional services provided to the Authority included an analysis of Berth 14 to determine the remaining load capacity of the structure, development of an Immediate Action Letter and recommended actions, and development of letter reports summarizing observed conditions at Berth 3 and Berth 14. Project fee $155K, 2011

NYC Office of Management and Budget Asset Management System, Waterfront Structures Evaluation, New York, NY
Assistant Inspector for the evaluation of multiple waterfront structures in the Manhattan and Bronx boroughs of the City of New York, New York as part of the NYCOMB Asset Management System. Work involved cursory above water inspection, capture of data in NYCOMB database, and approval of developed cost reports. The work was performed for Gannett Fleming on behalf of the NYCOMB. 2011

NYCEDC, Hunts Point 600 Food Center Drive Routine Waterfront Inspection, Bronx, NY
Project engineer and Team Leader for the Routine Inspection performed for Turner Construction Company on behalf of NYCEDC. The scope of services included a routine inspection of a timber pile supported relieving platform. Subsequent to the inspection, additional services included a presentation of preliminary findings and the submittal of a final report containing observed conditions, rehabilitation recommendations, figures, and estimates of probable costs of recommended actions. Project Fee $45,000, Completion 2011

Battery Park City Authority Pier A - Assessment of Attached Pedestrian Promenade, Manhattan, NY
Team leader for the Routine Inspection of the pedestrian promenade attached to Pier A. The scope of the inspection included an above water and underwater investigation of the promenade, including the concrete deck, timber framing, timber bracing, and timber piles. The purpose of the investigation was to obtain condition information relating to the inspected elements suitable for use in assessing the load-carrying capacity of the promenade. Project Fee $25,000, Completion 2011

NYCEDC, Beach Channel Drive Emergency Bulkhead Rehabilitation, Queens, NY

Project engineer for the Beach Channel Drive Emergency Bulkhead Rehabilitation. CH2M HILL's services included emergency investigation and rehabilitation of approximately 300 LF of existing steel and concrete bulkhead following the collapse of a section of roadway. The rehabilitation design consisted of over-sheeting an existing steel sheet pile bulkhead with a new anchored steel sheet pile wall, CIP concrete pile cap, and rehabilitation of the concrete sidewalk and asphalt roadway. Completion 2011

NYCEDC, Manhattan Cruise Terminal Piers 88 and 90 West Apron Replacement, New York, NY

Project engineer for the design of new apron structures to replace severely deteriorated portions of the existing piers at the terminal. Tasks included development of contract drawings for structures to support mooring loads of the Queen Mary 2 cruise ship. The design included the steel pipe piles and prestressed rock anchors supporting a precast and CIP concrete deck, and 150 ton bollards. Ultimately, due to funding restrictions, NYCEDC proceeded with the replacement of the apron at Pier 90 only. Following award, and throughout construction, CH2M HILL worked with Turner Construction and the selected contractor to optimize the design to provide cost savings. Construction support services included RFI response, shop drawing review, and design modification such as revision of the design of concrete pile cap and deck elements to allow post-installation of rock anchors. Project fee $180,000, Completion 2011.

Hudson River Park Trust (HRPT), Chelsea Piers Peer Review Inspection of Piers 59, 60, & 61, New York, NY

Team leader and project engineer for the "spot check" inspection of the Chelsea Piers facility. The inspection included above and below water inspection of 30 percent of the timber substructure supporting the pier head houses at Piers 59, 60, and 61 and ten percent of the timber substructures supporting the offshore portions of Piers 60 and 61. All data was compiled to provide a basis for evaluation of reported findings of previous investigations. Project fee $50,000, Completion 2011

CH2MHILL

Andrew Ardrey, CEng, MICE

Materials Technology

Specialization

Asset management, asset engineering, business consulting

Registration/Certifications

UK Chartered Civil Engineer: #49555554 (1998)

Year Joined Halcrow

2007

Years with other Firms

13

Education

MBA, 2008, London Business School

MBA, 2008, Columbia University

Certificate in Engineering Management, 2000, University of Bristol

BEng, 1992, Civil Engineering, University of Bristol

Professional Affiliations

Institution of Civil Engineers (ICE), Member

Association for the Management and Operations of Infrastructure Assets, Founding Member

Friend of Transportation Asset Management Committee ABC40, Transportation Research Board

NY ICE Committee Member and 2012 Convention Chairperson

Key Qualifications

Andrew Ardrey is a chartered engineer with more than 18 years of experience. Currently, he heads Halcrow's North American Asset Management group as Team Leader providing services in infrastructure asset management and materials technology. He provides technical advice on materials technology issues to support construction-related projects, networking with Halcrow offices across North America and seeking contracts with working with clients to resolve materials technology related problems for infrastructure assets during construction and in service.

A qualified engineer, with business acumen and diverse international experience, Andrew's core skills are asset management and asset engineering consultancy; tying technical operations and maintenance activities to strategic and financial goals. With experience in providing strategic advice, structural design, the assessment and durability of new and existing structures, he is adept at preparing technical reports. His experience is across infrastructure types including transportation, oil and gas facilities, petrochemical and industrial plants, marine structures, power and desalination plants, and buildings, in concrete, masonry and steel.

A key member of Halcrow's Asset Management Group, Andrew currently liaises with Halcrow's global specialists to enable technology transfer to, from and within the region. Andrew represents Halcrow externally through presentations at conferences and membership of national organizations promoting and supporting asset management best practice.

Relevant Experience

PANYNJ, Goethals Bridge PPP Procurement, NY & NJ

Consultant providing lifecycle advice to the PPP advisory team developing the concessionaire documents for the landmark procurement. Project fee $1M, 2011

PANYNJ, Expert Operations and Analysis On-Call Contract, New York, NY

Project manager for expert tactical and operations consulting services related to asset lifecycle management to the PANYNJ's office of the chief operating officer as part of the support to the PANYNJ's Operations Improvement Program. Current project includes the consolidation of Tenant Alteration Manuals across the PANYNJ's line departments. Project fee to date $400 K, 2009-ongoing

PANYNJ, Development of One Consolidated Manual for the Tenant Construction and Alteration Process, NY & NJ

Project manager for a consolidated tenant alteration manual to include maintenance activity for which PANYNJ notification or approval is required. The Tenant Alteration Project was initiated to improve the process associated with tenant construction and alterations at PANYNJ facilities in order to make it more effective and customer-friendly. The work involved

leading project activities, workshop delivery and client liaison to develop the consolidated manual including a performance management framework, with Key Performance Indicators, and recommendations for data collection and performance monitoring. Project fee $460 K, est. 2012 completion

National Transit Institute, FTA Transit Asset Management Training Course, NJ

Consultant within the team developing the FTA's Transit Asset Management Training Course, including a slide set with participant and instructor notes. This course was developed by the National Transit Institute at Rutgers, The State University of New Jersey, in cooperation with the US Department of Transportation, Federal Transit Administration. Responsible for the delivery of a pilot course to New York City Transit. Project fee more than $150 K to date. 2010-Ongoing

Transportation Research Board SHRP 2 - R07 - Rapid Renewal and Rehabilitation Project Workshop, USA

Consultant provided a workshop on the UK Highways Agency Managed Agent Contract (MAC) for the SHRP 2 project investigators, which included a full explanation of the performance management practices. 2009

Pennsylvania Turnpike, PPP Services, Confidential Client, PA

Structures specialist managed a team of technical specialists and economic cost modelers to provide appropriate input data to populate databases for life-cycle cost analysis. Asset value >$10 B. Project fee confidential, 2008-2009

NJ Department of Treasury, Asset Monetization, NJ

Structures specialist whose responsibilities included coordination of a team of technical specialists and economic cost modelers to provide appropriate input data to populate databases for life cycle cost analysis. Assets valued at more than $10 B. 2007-2008

DC Water & Sewer Authority (DCWASA), Blue Plains Tunnel, Washington DC

As part of the Halcrow/ Traylor Design-Build team, task leader for developing the durability assessment and temperature control study report and related concrete specifications for the project. Key tasks are to help manage the project risk associated with durability and temperature control issues. The 4.6 mile, 23ft internal diameter combined sewer overflow tunnel infrastructure includes the tunnel lining, shafts and near surface structures in DC. Project fee ~$5M, 2011-ongoing

CH2MHILL

Tim Bettelley

Materials Specialist

Specialization

Condition surveys, repairs and cathodic protection
Senior materials engineer

Registration/Certifications

N/A

Year Joined CH2M HILL

2008

Years with other Firms

21

Education

BSc (Hons) Oceanography, University of Wales, College of Swansea, UK September 1980 to June 1983

Key Qualifications

Tim has over 25 years experience in the construction industry in the UK and overseas. He gained his experience through working as a consultant, management contractor, contractor and materials supplier. Tim is experience in conducting condition surveys and risk based inspections on all types of structures, testing (destructive and NDT) with remedial assessments and solutions especially for reinforced concrete structures, Cathodic protection; design, site installation/supervision and commissioning for a variety of different systems. He is also experienced with Façade technology, in particular structural and weather tightness testing; site investigations and material assessments and Materials technologist – reinforced concrete, masonry, render, glass, coatings and sealants.
He has provided site based supervision and management of a variety of construction tasks on all types of structure in different aspects of the industry, oil and gas, Utilities, transportation infrastructure, civil and marine projects.

Relevant Experience

Secondary Containment Audit Project, Senior Materials Engineer, UK

Conduct inspection audits to 19 facilities operated by independents and regulated by the EA to assess the compliance of the secondary containment structures or bunds

Severn Estuary Outfall Survey, Senior Materials Engineer, UK

Direct surveys including diver inspections to assess the condition of steel piled outfall structures including reinforced concrete elements. Reporting and provision of remedial options with outline costs.

Trinidad and Tobago Gas Corridor Bridge, Senior Materials Engineer, UK

Provide ad-hoc material advice for reinforced concrete structures to be built into aggressive soil conditions. Assist with materials testing requirements and analysis of test results

Great Yarmouth George Prior Quay, Senior Materials Engineer, UK

Undertake a condition assessment of steel and concrete elements and provide remedial repair options.

Berry Hill Sewage Treatment Plant, UK

Conduct a condition survey to assess the defects and remedial works necessary to reinstate sludge tanks.

New Jersey Bayway Refinery, Senior Materials Engineer, UK

Repair advise and preparation of a detailed galvanic CP system to protect underdeck reinforced concrete elements subject to severe marine exposure conditions.

Tilbury Power Station, Senior Materials Engineer, UK
Conduct a condition survey on the cooling water intake to asses the residual life and remedial options.

Evercreech Sewage Treatment Plant, UK
Assess the condition of a series of reinforced concrete sewage treatment tanks and provide an outline specification for remedial works.

Hastings Post Office, senior materials engineer, UK
Conducted an assessment of the brick/stone façade and provided a repair specification with outline bill of quantities to enable the main contractor to tender for specialist mason subcontractors to conduct the repairs. Corrosion to the steel frame identified a need to provide a CP system or major stripping/reinstating works to protect the framing.

Whitemare Pools and Shilbottle Bridges, senior materials engineer, UK
Oversee the contractors concrete repair and CP installation works for a combined mesh/discrete anode systems used for both bridges (under separate contracts). Review site documentation including method statements, ITP and respond to site technical queries. QA audit of site documentation. This also entailed the provision of site training to enable the client's staff to undertake these works.

A19 Middle Engine Bridges, senior materials engineer, UK
Design of a combined mesh/discrete anode CP design for two road bridges. Provision of specification, design calculation package and drawings. Interfacing with the third party reviewer to resolve design issues prior to final issue

River Don Viaduct, senior materials engineer, UK
Propose and conduct a visual survey to the superstructure and substructure of the motorway bridge working from an underdeck bridge inspection unit and also on the road surface. Supervised a condition and GPR survey on the running surface involving removal of the tarmac to expose the concrete and conducting a survey on the concrete deck. Propose remedial optioneering reports considering all Traffic Management issues.

Alstom Pembroke, senior materials engineer, UK
Detailed several separate condition surveys of existing cooling water structures working in a confined space environment, ahead of new construction phase, including recommendations for remedials. Supervised a GPR survey carried out in two outfall tunnels by a third party testing house. Provision of a remedial optioneering report. Assist the client at contractor selection meetings to assess the technical capability of the shortlisted contractors. Provided ad hoc support for the client when technical issues arose on site necessitating immediate responses to accommodate the tight construction schedule.

CH2MHILL

Richard S. Kinchen

Materials Specialist

Specialization

Concrete, fiber-reinforced concrete, lightweight high-strength concrete, chemically bonded ceramics

Registration

Certified Concrete Masonry Testing Technician #1204 (2008)

Year Joined CH2MHILL

2009

Years with other Firms

23

Education

BS, 1985, Microbiology, Ohio University

Professional Affiliations

American Concrete Institute (ACI), Member

Voting member of ACI 332 (Residential Code Committee)

ACI 332M-08 Code Requirements for Residential Concrete and Commentary

ACI 332.1R-06 Guide to Residential concrete construction

Associate Member of ACI 544 (Fiber-Reinforced Concrete)

American Society for Testing and Materials (ASTM International), Member

Key Qualifications

Richard "Stacy" Kinchen is a concrete specialist with CH2MHILL's transportation business group and has more than 20 years of experience in cementitious materials development, testing, and product management. Stacy currently acts as a concrete materials technology expertise resource for the transportation business group in North America. He also prepares and negotiates proposals and assists in ensuring the maximum commercial return for projects.

Stacy's prior experience includes: functioning as the technical liaison between cement production plant, sales, and customers, product development and field testing, and acting as the regional quality manager for various ready mix, and quarry operations. Stacy was also responsible for supervising technicians as well as specification review and selection of appropriate materials for specification compliance.

Stacy has a strong technical and commercial applications background with fiber-reinforced concrete, and has been extensively involved in research, standards development, and design of fiber reinforcement for various cast-in-place and precast concrete applications. Stacy also has a strong background in the development of high-strength lightweight cementitious materials and blast attenuating penetration resistant armors.

Relevant Experience

Jetty Rehabilitation Projects, New York, NY

Concrete specialist responsible for the supervision of concrete placement, reviews of contractor concrete submittals, identification of testing laboratories and technical advice to project design and site teams for multiple jetty repair and new build projects in New York. Provided concrete advice during the construction of these projects. 2009-Ongoing

DC Water and Sewer Authority, Blue Plains Tunnel, Washington, DC

Concrete specialist assisting in the coordination of concrete durability and thermal control assessment studies and specifications, including mix designs, tunnel lining, shafts and structures for a design-build contract for a 12.7 mile Combined Sewer Overflow tunnel. Providing input to the concrete mix design and concrete technical advice to the design-build project team. Construction value >$1 B, 2011-Ongoing

Cianbro/ Brasfield & Gorrie, Galveston Railroad Bridge, Galveston, TX

The Cianbro/Brasfield & Gorrie JV contracted CH2MHILL to conduct thermal modeling to mitigate the risks for thermal cracking in the large concrete foundations for this railroad bridge. As the project manager, led the effort and coordinated the finite element analysis of the structure to assist in identifying thermal mitigation strategies. Managed the report

Publications

Associate Member of ACI 544 (Fiber-Reinforced Concrete): This technical committee, published as an ACI specialized application and repair committee, has the mission of developing and reporting information for concrete reinforced with short, discontinuous, randomly-dispersed fibers. It is responsible for drafting and maintaining the following ACI documents.

544.1R-96: "*Report on Fiber Reinforced Concrete*" (Reapproved 2002)

544.2R-89: "*Measurement of Properties of Fiber Reinforced Concrete*" (Reapproved 1999)

544.3R-08: "Guide for Specifying, Proportioning, and Production of Fiber-Reinforced Concrete"

544.3R-93: "Guide for Specifying, Mixing, Placing, and Finishing Steel Fiber Reinforced Concrete" (Reapproved 1998)

544.4R-88: "Design Considerations for Steel Fiber Reinforced Concrete" (Reapproved 1999)

SP-206: "Concrete: Material Science to Application - A Tribute to Surendra P. Shah"

SP-248CD: (CD-ROM) "Deflection and Stiffness Issues in FRC and Thin Structural Elements"

production and work team and coordinated the interaction between the contractor and the work team, to deliver the project scope and provide value to the project. Also provided invaluable concrete mix design advice to the contractor to allow an efficient placement of the mass concrete pour. Assisted the contractor and owner's representative to understand the relevant technical concrete issues and develop solutions to the benefit of the project. Ensured that CH2MHILL remained responsive while providing quality consulting advice and completing the project deliverables. Construction value $100 M, Project fee $55,000, Completion 2011

National Network of Highways Project, Trinidad & Tobago

Concrete specialist performing a durability assessment for the 30% design of highways structures and concrete specification advice to ensure a 100 year design life. Provided input to the concrete mix design and advice to the design-build project team. Construction value ~$600 M, 2011-Ongoing

Brasfield & Gorrie, Alstom Power Plant, Chattanooga, TN

Project manager responsible for the thermal modeling for concrete for deep pour foundations on a manufacturing facility in Chattanooga. Brasfield & Gorrie constructed a bunker facility, and contracted CH2MHILL to conduct thermal modeling to mitigate the risks for thermal cracking. As project manager, coordinated the finite element analysis of the structure to assist in identifying thermal mitigation strategies. Managed the report production and coordinated the interactions between the contractor and the work team, to deliver the project scope and provide value to the project. Also offered invaluable concrete mix design advice to the contractor to allow an efficient placement of the mass concrete pour. Assisted the contractor and owner's representative to understand the relevant technical concrete issues and develop solutions to the benefit of the project. Ensured that CH2MHILL remained responsive while providing quality consulting advice and completing the project deliverables. Construction value $200 M, Project fee $50,000, Completion 2009

CH2MHILL

Jonathan Boynton, PE

Senior Engineer Diver

Specialization

Structural condition assessment, maritime structural design, engineering, and asset management.

Registration/ Certification

PE: CA #C71056 (2007); WA #47859 (2011)

Surface Supplied Air-Diving Supervisor, Association of Diving Contractors International - #35131

Bridge Inspection Team Leader, Safety Inspection of In-Service Bridges Training, National Highway Institute

Master Diver Trainer, Professional Association of Diving Instructors

CPR/First Aid Instructor, Emergency First Response

Oxygen Instructor, Diver's Alert Network

Year Joined CH2M HILL

2005

Years with other Firms

6

Key Qualifications

Jonathan Boynton has more than 11 years of experience as a project engineer, project manager, designer, and engineering diver performing both underwater and above water structural condition assessments. His project experience includes underwater inspection, structural analysis, offshore oil platform well intervention and structural debris removal, construction management, forensic analysis of foundation failures, repair design, and architectural design and framing design for residential and commercial buildings.

Relevant Experience

BP Richmond Marine Terminal MOTEMS Inspection, Richmond, CA

Professional engineer-diver / inspection team leader responsible for a MOTEMS-compliant underwater and above water inspection of the marine facilities at BP's Richmond California marine oil terminal. 2012

Grounding Rod Installation, Plains All American Pipeline Company, L.P., Martinez, CA

Team leader / lead diver for the installation of a subsea grounding rod and conduit encased cable installed on the terminal loading platform to ground the above water loading arms, piping, and associated material handling equipment for compliance with MOTEMS. Tasks included construction diving, coordination with electrical contractor, equipment mobilization, and project planning. 2011

Ship Impact Damage Assessment, Navy Pier 12, Port of Long Beach, CA

Professional engineer-diver / inspection team leader for an above water and underwater damage assessment of the concrete pile supported concrete pier. Inspection included the assessment of fender elements, hardware, concrete support panels and concrete piles. 2011

Structural Investigation of Collapsed Dolphin, Berth 247, Port of Long Beach, CA

Professional engineer-diver / inspection team leader for an underwater investigation of a collapsed mooring dolphin supported by prestressed concrete piles. 2011

Waterfront Facilities Inspection of Naval Station Annapolis, NFESC, Annapolis, MD

Professional engineer-diver/ inspection team leader for a comprehensive condition survey, facility inspection, and an asset inventory assessment of in-service waterfront structures. Inspection and assessment findings were recorded and presented for analysis using specific US Navy asset management guidelines and format. 2011

Education

BS, ARCE (Structural Engineering), California Polytechnic State University, San Luis Obispo, CA

Commercial Diver, Santa Barbara City College, Marine Diving Technology, Santa Barbara, CA

Professional Affiliations

American Society of Civil Engineers, M. ASCE

Underwater and Above Water Structural Condition Assessment of the Morro Bay North T-Pier, Shoreline Engineering, Morro Bay, CA

Professional engineer-diver / inspection team leader for an underwater and above water inspection of a timber pile supported pier. Inspection included underwater core sampling of the timber piles to determine the level of marine borer infestation. 2011

Underwater Inspection and Assessment of Port Everglades, DeRose Design Consultants, Broward County, FL

Professional engineer-diver / inspection team leader for the underwater inspection performed as part of a 5-year contract with the Port. The facilities consist of over 25,000 lin ft of steel bulkhead comprising Berths 1 through 33. Inspection tasks included ultrasonic thickness measurements, cathodic protection readings, and digital underwater photography. The inspection and assessment report included development of corrosion trends and rates based on information gathered during the three inspections. 2011

Structural Condition Assessment, Venoco's Ellwood Pier, Goleta, CA

Professional engineer-diver and inspection team leader for a 100% visual and 10% level III inspection of steel piles and below water structural elements including ultrasonic thickness measurements, cathodic protection readings, and digital underwater photography. 2010

Naval Station Pearl Harbor and the Fleet Industrial Supply Center, Hawaii for the US Navy (NFESC)

Professional engineer-diver/ inspection team leader for a comprehensive condition survey, facility inspection, and an asset inventory assessment of in-service waterfront structures. Inspection and assessment findings were recorded and presented for analysis using specific US Navy asset management guidelines and format. 2009

Above Water and Underwater Inspection, Hudson River Pier 76, New York, NY

Project engineer-diver for a 100% visual and 10% level II inspection of over 6,400 timber piles with reinforced concrete extensions, reinforced concrete pile caps, and concrete deck structure.

Above Water and Underwater Inspection, Port Newark, Newark, NJ

Engineer-diver for the inspection of various berthing structures.

Container Terminal Construction Inspection Elizabeth, NJ

Engineer-diver for an underwater construction inspection of the cathodic protection installed on King Piles at the Elizabeth Port Authority Marine Terminal, NJ, for Maersk. The inspection included a determination as to whether or not the cathodic protection was installed to specifications.

CH2MHILL

George Dinos, PE
Engineer-Diver

Specialization
Inspection and rehabilitation

Registration/Certifications
PE: CA #78814 (2011)

Surface-Supplied Air Diver, Association of Diving Contractors International (2008)

10-hour Occupational Safety and Health Training Course, OSHA (2008)

Emergency First Responder, Professional Association of Diving Instructors

Confined Space Entrant

Year Joined CH2M HILL
2008

Years with other Firms
None

Education
BS, 2008, Civil Engineering, Cooper Union

Professional Affiliations
None

Publications
None

Key Qualifications

George Dinos has more than two years experience as an engineer performing above and underwater inspection and rehabilitation design and construction management consulting services.

Relevant Experience

Port Authority of NY & NJ, Port Elizabeth, Elizabeth, NJ
Team leader headed onsite inspection of Berth 50 -66. Developed full condition report with deficiency plans and repair recommendations. Prepared and gave exit briefing for client to report inspection findings. Project fee $225K, 2010

Port Authority of NY & NJ, Newark International Airport Bridges, Newark, NJ
Engineer-diver involved with onsite inspection of multiple bridges throughout the airport. Performed load capacity analysis of compromised area to determine safe loading by essential vehicles. Developed deficiency plans and repair recommendations of several bridges for the final report. Project fee $58K, 2010

Port Authority of NY & NJ, Port Newark, Newark, NJ
Team leader led interim inspections of Berths 3 & 14 to monitor the condition of the severely deteriorated structures. Developed appropriate facility restrictions to maintain safe operations until rehabilitation can be implemented. Participated in the design of immediate repairs to stabilize Berth 3. Project fee $39K, 2010

Port Authority of NY & NJ, Port Newark, Newark, NJ
Engineer-diver and one of three team leaders heading onsite inspection. Performed analysis of load capacity for partially collapsed berth. Developed deficiency plans and repair recommendations for Berths 3-25. Project fee $348K, 2009

Brooklyn Bridge Park Corporation, Brooklyn Bridge Park, Brooklyn, NY
Engineer diver led inspection team in collection of timber pile core samples from Piers 5 & 6 for analysis to develop life cycle models. Led the pile wrap removal inspection to determine condition of otherwise inaccessible piles. Project fee $398K, 2010

Hudson River Park Trust, 40th Street Platform, New York, NY
Team Leader led an inspection team investigating the low level timber platform on the north and south side of Pier 81 on the Hudson River. Developed report identifying locations of repairable defects and verifying the accuracy of rehabilitation design drawings developed in 2005. Project fee $45K, 2010

Freeport McMoran, Smelter Dock, Carteret, NJ

Team leader and project engineer diver headed the inspection of a no longer utilized pier with the objective of providing technical feedback and creating a life cycle overview assessment to determine the optimal scenario between rehabilitation or replacement of the pier. Project fee $13K, 2011

Hudson River Park Trust, Pier 54, New York, NY

Team leader and project engineer diver led inspection team in the full comprehensive inspection of Pier 54 above and below water. Developed complete condition survey with recommendations, deficiency plans, repair actions and live load ratings for the facility. Project fee $50K, 2011

Hudson Meridian, Pier 35 & 36, East River Esplanade, New York, NY

Team leader and project engineer diver provided support for on-site resident engineer through the construction process of the Pier 35 and 36 Rehabilitation. Tasks included developing and implementing inspection methodology for quality control inspections on all work performed underwater. Project fee $134K, 2011

US Navy, Guam Naval Base, Arpor Harbor, Guam

Engineer-diver and team member for the asset inventory, underwater and topside inspection of several waterfront facilities for the Guam Naval Base. This project is part of the Indefinite Quantity underwater inspection condition assessment and repair design contract with US Navy. Project fee $1 million per year, 2010

NAVFAC, Pearl Harbor Naval Shipyard, Honolulu, HI

Engineer-diver participated as a team member in the asset inventory, underwater and topside inspection of several waterfront facilities for the Pearl Harbor Naval Shipyard. This project is part of the Indefinite Quantity underwater inspection condition assessment and repair design contract with US Navy. Project fee $1 million per year, 2009

ConocoPhillips, Bayway Refinery, Linden NJ

Project engineer led dive inspections for development of repair schedule for structures at the Bayway Refinery. Utilized collected data to develop the repair schedule and details to rehabilitate several active piers to a full 30-year service life. Project fee $235K, 2009

Hudson River Park Trust, Pier 62 & 63, New York, NY

Project engineer led an inspection team and developed a report of the underwater and under deck inspection for the newly constructed piers and rehabilitated bulkhead and led follow up inspection after completion of repairs. Project Fee $40K, 2009

CH2MHILL

Christopher Waddicor

Senior Engineer-Diver

Specialization

Marine construction project management and underwater inspection

Registration/ Certifications

OSHA, 30 Hour Construction Site Safety, 2009

American Red Cross, Adult CPR, First Aid and AED Certified, 2001, 2003, 2005, 2007, 2009

DAN Oxygen Provider, 2001, 2003, 2005, 2007, 2009

ADC Commercial Air Diving Supervisor, 2005

USDOT. Federal Highways Administration/National Highways Institute, National Bridge Inspection Standards (NBIS), 2005

ADC Commercial Air Diver, 2001

ANSI/ACDE Commercial Diver Certificate (IMCA recognized), 2001

NDT/UT Level I and II Certified, 2001

PADI Rescue Diver, 1997

Health & Safety Executive, Pt. 4, Scientific Diver, 1996

Year Joined CH2M HILL

2008

Years with other Firms

12

Key Qualifications

Chris Waddicor's professional career of more than 14 years of experience was founded in underwater inspection and forged in maritime design/repair and construction. He has several years experience in heavy marine construction management in New York City. Chris' experience and knowledge of marine structures has advanced every waterfront project under his direct management to safe, successful completion ahead of schedule. His management skills include the early identification of scope creep during contract performance. Chris' client relations develop rapidly and are trustfully maintained with a professional attitude, practical approach and personable manner. His strong interpersonal skills coupled together with on-site field experience further the promotion of confidence in the client, employer and employees.

Relevant Experience

Con Edison Client Manager, New York, NY

Client Manager overseeing all of the project CH2M HILL performs for Con Edison, understanding Con-Ed's goals and expectations and direct line of communication with Con-Ed. Some of the projects under this contract include

- ROV/Diver Investigation of limited access wharf substructure at Hudson Avenue Station, Brooklyn, NY 2009
- Underwater Inspection of Farragut Substation, Brooklyn, NY 2009
- Underwater Inspection of Pier 98 and Intake/Discharge tunnels at 59th St Generating Station with additional NYSDOT report for Tunnel structure carrying 12th avenue, Manhattan, NY 2010 –
- Emergency Design services for the required repairs to 74th St Intake and Discharge tunnels. Manhattan, NY. CM services to follow 2011 – 2012
- Underwater Inspection and Design services for the rehabilitation of Hudson Avenue Dock, Brooklyn, NY. CM Services to follow 2011-2012

NYCDDC, Fresh Kills Infrastructure Inspections, Staten Island, NY

Project Manager for the performance of the first routine underwater inspection of two bridges in Staten Island. Underwater inspections and reporting in accordance with NYSDOT Bridge Inspection standards 2012

Triborough Bridge and Tunnel Authority (TBTA), Bronx Whitestone Bridge, Bronx, NY

Project manager for the performance and delivery of the Diving and Fathometric surveys for the 2012 Routine Inspection of the Bronx Whitestone Bridge, NYC. Underwater and Fathometric investigation and reporting in accordance with Tri-borough Bridge Transit Authority Bridge Inspection and reporting standards.

Education

2001, Diver's Academy of the Eastern Seaboard, Camden, NJ

BEng, 1996, Civil Engineering, University of Wales Institute Cardiff, UK

Engineering Foundation, 1992, Manchester Polytechnic Institute, Manchester, UK

1996, Fort Bovisand Underwater Center, Plymouth, UK

Professional Affiliations

American Society of Civil Engineers (ASCE), Member

Structural Engineering Institute (SEI), Member

Coasts, Oceans, Ports, and Rivers Institute of the American Society of Civil Engineers (COPRI), Member

Project Management Institute (PMI), Member

American Society for the Advancement of Project Management (ASAPM), Member

International Project Management Association (IPMA), Member

Publications

Contributed to Jones, "Scanning Method Yields Fast, Accurate Underwater Surveys," Civil Engineering, ASCE, July 2010

TBTA, Verrazano Narrows Bridge, Staten Island, NY

Project manager for the performance and delivery of the Diving and Fathometric surveys for the 2012 Routine Inspection of the Verrazano Narrows Bridge, NYC. Underwater and Fathometric investigation and reporting in accordance with Tri-borough Bridge Transit Authority Bridge Inspection and reporting standards. 2010-2011

Cave Creek Road Bridge over the Cap Canal, Underwater Inspection, Phoenix, AZ

Project Manager for an underwater inspection and assessment of the road four-lane Cave Creek Road Bridge which spans the Cap Canal. Inspection findings were recorded using the National Bridge Inventory Standards (NBIS), and all diving activities were performed in accordance with the Central Arizona Project (CAP) diving standards. Deliverables included a condition evaluation with repair recommendations and underwater video and still photography. 2010

Freeport Container Port (FCP) (part of Hutchinson Port Holdings (HPH), Post-Event Engineering Assistance, Grand Bahama

Owners representative and site agent (personally requested by the client) for the rehabilitation work being undertaken to restore the damaged areas of the wharf through the events of the tornado. Restoration work entails structural concrete repairs, gantry crane rail refurbishment, and installation of new crane end stops at the north of the berth. Providing valuable supervision of the contract works, held by multiple vendors. Employing knowledge of FIDIC terms and conditions of construction contracts in performing contract administration services to the client for the works. Project value $1M+, 10/2010 - 01/2011. Client exercised option to extend the services of owners representative and site agent. Contract extension from 6/2011 – 8/2011

Freeport Container Port (FCP) (part of Hutchinson Port Holdings (HPH), Post-Event Engineering Assistance, Grand Bahama

Owners representative and site agent who provided assistance to FCP in an effort to qualify and quantify the extent of the damage to container port facility and marine civil structures caused by tornado. Worked directly alongside FCP and HPH civil engineering to provide rapid visual and tactile inspection assessments and data collection in an effort to facilitate FCP initial damage assessment and estimate of event damage. Specific elements that were inspected included the port crane rail and crane rail clips in the vicinity of crane impacts, precast concrete under deck, cast-in-place structural elements beneath the apron, precast beams of the berth, and vessel mooring hardware. Performed at no cost to assist valued client. 04/2010

CH2MHILL

Joshua Singer
Senior Engineer Diver

Specialization
Marine and waterfront structures

Registration/ Certifications
None

Year Joined CH2M HILL
2008

Years with other Firms
8

Education
BS, 2002, Civil Engineering, Northeastern University

BS, 1993, Marine Biology, Boston University

Professional Affiliations
American Society of Civil Engineers (ASCE), Member

Publications
None

Key Qualifications

Joshua Singer has eight years of experience in underwater and topside inspection (condition assessment), structural analysis, and design of marine structures. He has worked with structures that include piers, wharfs, seawalls and bulkheads, ferry terminals commercial marine ports, and ship lifting systems and in the supervision of repairs and installation of new marine structures.

Relevant Experience

Underwater inspection of ARFF Pier, Logan Water Transportation Facility and Conley Container Terminal East Boston, MA

Project manager/team leader responsible in leading underwater inspection of structural elements for multiple facilities for Massachusetts Port Authority. Structures inspected included steel pier support piles, steel mooring piles and associated guide bracket assemblies, steel floats, and all associated connections, timber piles, timber dolphins and associated timber wales, timber fender panels and concrete floats. A comprehensive underwater thickness measurement program was performed on all steel elements. Recommendations for repairs included structural concrete encasements and a sacrificial anode system for steel elements. Project fee $39,000, Completion ongoing

Inspection of Pier Facilities for Development of Brooklyn Bridge Park, NY

Project manager who led the team that performed underwater and topside inspection of 12,000 piles and more than 900,000 SF of deck elements. Divers used computer-based asset management database tools to perform the inspection. The structural capacity of each facility was established and delivered to client using a GIS-based mapping format system. Repairs were designed and a series of construction documents produced in order to achieve the capacity necessary to support the park loadings. Project manager for additional work including Life-Cycle Cost Analysis of structures and resident engineering of installation of designed repairs. Project fee $1.2 million, Completion ongoing

Forensic Investigation of Berthing Facility, Fall River, MA

Diver engineer who investigated potential causes for damage and assisted in providing a structural/stability analysis of damaged area of a berthing slip at terminal was damaged by large mooring line forces on bollards. Project fee $11,000, Completion 2009

Timber Bridge Inspection, Conoco Phillips, Bayway Terminal, Linden, NJ

Team leader who led inspection of two timber bridges at Bayway facility and performed structural analysis on foundation and topside elements using

STAAD. Bridge load ratings were reduced and repairs designed to return ratings to desired levels. Project fee $47,000, Completion 2009

Inspection of Pier 79 for New York Economic Development Corporation, NY

Diver-engineer performed underwater and topside inspection of high capacity commuter ferry terminal. Elements inspected included, steel piles, steel sheet pile bulkhead, steel berthing floats and mooring piles. Project fee $35,000, Completion 2009

Prior to joining CH2M HILL, Joshua had the following experience:

Childs Engineering, Medfield, MA 2000-2008

Underwater and Topside Inspection and Assessment of US Naval Facilities, Worldwide

Lead diver for the inspection of US Navy waterfront facilities in Norfolk VA, Yokosuka Japan, Boston MA, Rota Spain, Earle NJ New Orleans LA and Parris Island SC. Responsible for the inspection, structural analysis, and recommendation of repairs for waterfront facilities located on various bases. During inspections he determined the extent of structure deterioration, repairs for structures were prioritized, and engineer cost estimates created. Project fee $2 million, Completion 2008

Underwater and Topside Inspection and Condition Assessment US Naval Reserve Basin Philadelphia, PA

Project engineer conducted UW and topside inspection of all waterfront facilities at Naval Reserve Basin. Structures included: timber relieving platforms, steel sheet pile cells, mooring dolphins, berthing fender assemblies, all mooring hardware and concrete piers supported by timber piles. All structures were assigned a condition rating using US navy rating system, repair recommendations were made and cost estimate generated. Project fee $300,000, Completion 2007

Inspection and Rebuild of High Capacity Ferry terminal, Oak Bluffs, MA

Diver-engineer responsible in contracting inspection by the Martha's Vineyard/Nantucket Steamship Authority to inspect and redesign existing ferry terminal at Oak Bluffs, MA. As lead designer, inspected and redesigned the terminal to accommodate a larger vessel class. Timber elements were removed and replaced with new steel pile supported concrete head, side and turning dolphins. Also designed and installed passenger car and freight vehicle ship to shore transfer bridge. All elements were modeled in STAAD. Prepared construction drawings and specifications for client. Design was on an accelerated schedule so installation could occur during one offseason. Project fee $109,000, Completion 2007

CH2MHILL

Robert Garrity, PE
Senior Engineer Diver

Specialization
Marine and waterfront structures/ dredging

Registration/ Certifications
PE: MA #46474 (Civil)

PE: RI #9852 (Civil)

Association of Diving Contractors International, Commercial Diver Certification, Surface Supplied Air Diver

Year Joined CH2M HILL
2010

Years with other Firms
12

Education
BS, 1998, Civil Engineering, University of Massachusetts

Courses Attended
Dynamics of Structures, MIT, ASCE Structural Group, 1999

Professional Affiliations
American Society of Civil Engineers (ASCE), Member

Boston Society of Civil Engineers (BSCE), Member

Chi Epsilon, National Civil Engineering Honor Society

Publications
None

Key Qualifications

Robert Garrity is an accomplished senior engineer diver with more than 13 years of experience in underwater and topside inspection (condition assessment), structural analysis, and design of marine structures. Structures he has assessed include piers, wharfs, seawalls and bulkheads, ferry terminals, marine railways, and floating dock design. Bob has also led the supervision of repairs and construction of new marine structures in addition to dredge engineering, permitting, construction monitoring, and dredge studies including hydrographic surveys, and dredge volume calculations.

Relevant Experience

Irving Oil Marine Terminal, Irving Oil, Revere, MA
Project manager for inspection of the marine terminal, design and construction services for a new mooring/breasting dolphin, repairs to existing product transfer pier, mooring analysis and barge mooring point design for the Irving Oil Marine Terminal located on the Chelsea Creek. Construction value $2 M, 2010 - Present

Marine Structures Inspection, Town of Rockport, Rockport, MA
Engineer diver for the underwater inspection of all municipal owned marine structures including a breakwater located 1.5 miles offshore. Halcrow provided underwater inspection services. April 2011

Conely Terminal Berth 12 Inspection, Massport, South Boston, MA
Engineer diver for the underwater inspection of berth 12 at the Massport Conley Terminal. Halcrow provided underwater inspection services as a subconsultant and was responsible for the inspection and reporting of all elements of the pier below the waterline. July 2011

Liberty Wharf, Structural Modifications to Pier Platform, South Boston, MA
Project manager for the design of structural modifications to the pier platform at Liberty Wharf. New restaurant build-out required plumbing that ran underdeck and cores had to be made through the existing precast prestressed concrete deck. Scans of the deck were made to locate existing reinforcing steel and prestressing tendons. Calculations were performed to determine structural integrity of the precast panels. Construction value $200 K, April 2011

Precast Prestress Beam Investigation & Repairs, Distrigas of Massachusetts, Everett, MA
Engineering lead for the investigation and repairs of precast prestressed box beams and mooring/breasting dolphins, located at the Distrigas LNG terminal on the Mystic River. Contract drawings were developed for the repairs of various structures at the Distrigas facility. Construction value $1 M, July 2011

Design Level Investigation, US Navy, Diego Garcia, BIOT

Project manager for structural investigation of the petroleum, oil and lubricants pier, located on Diego Garcia. During the investigation, coordination with 4 separate entities and collaboration with a subcontractor was required in order to successfully complete the work on the remote atoll. The inspection was a follow up to a routine inspection that indicated that repairs to the facility were warranted. A report of findings was prepared and plans created that included all defects, their locations and quantities required for design and the creation of construction documents. Construction value $5 M, July 2010 - 07/11

Naval Air Station Design Level Investigation, US Navy, Patuxent River, MD

Team leader for the structural investigation of the Fuel Pier and Seaplane Ramp 1171 at the Naval Air Station in Patuxent River, MD. The investigation included underwater and topside inspection of a timber pier structure and concrete pile supported seaplane ramp for the preparation of repair designs. July 2011

Prior to joining Halcrow, Mr. Garrity's experience includes:

US Navy Japan, Yokosuka & Sasebo

Engineer diver for structural investigations of all waterfront facilities for CFAY Yokosuka and CFAS Sasebo bases in Japan. Inspections included seawalls, piers, wharves, floating docks, moorings, and revetments. A report of findings was compiled and repair recommendations and estimates prepared. 2010

US Navy Japan, FISC facilities for all of Japan

Engineer diver for field investigations and hydrographic surveys of fleet fueling facilities throughout Japan. In addition to the underwater investigations of all of the USN FISC Facilities in Japan we were tasked to complete hydrographic surveys of each berth in order to verify berth depths and complete a berthing analysis for each facility. 2010

US Coast Guard Station Castle Hill, Newport, RI

Engineer diver for the underwater inspection and assessment of the USCG Station Castle Hill marine structures. Inspection included review of the timber superstructure and concrete caisson foundations for the small craft pier and boathouse, and inspection of the concrete floating docks and of the concrete gravity retaining wall. 2010

Design & Construction Services, Liberty Wharf Pier/ Platform, Massport's Parcel E Development, Cresset Group, Boston, MA

Lead designer of 3 pier platforms that support multi-story building structures, design included precast prestressed concrete, cast-in-place concrete, steel, and timber elements. Responsibilities also included construction oversight. 2008-2010

CH2MHILL

Matthew Kehoe
Team Leader

Specialization
Waterfront inspection services,
civil engineering

Registration/ Certifications
EIT: NY (2007)
ADCI Surface-Supplied Air Diver (2007)
TDI Advanced Nitrox Diver/Nitrox Gas Blender
OSHA 10-hour Construction Safety & Health
NHI Underwater Bridge Inspection Certification
HASC Basic Plus Certification
TWIC Security Program Enrollment
SWAC Security Program Enrollment
DAN Oxygen First Aid for Diving Injuries
Emergency First Response
First Aid & CPR

Year Joined CH2M HILL
2007

Years with other Firms
1.5

Education
BS, 2006, Civil Engineering (Magna Cum Laude), Manhattan College, Riverdale, NY

Key Qualifications

Matthew has more than four years of experience as an engineer performing and directing above and underwater inspection, design, and construction supervision for consulting engineering. His projects include marine terminals, coastal and waterfront structures, foundation and building structures. Matthew's specific areas of expertise include condition survey evaluations & underwater inspections, proposal and report preparation, concrete repair, STAAD design and structural analysis, and construction management.

Relevant Experience

PANYNJ, Piers 6,7,8 and 9A Inspections, Brooklyn, NY
Engineer diver for the inspection of Piers 6, 7, 8, and 9A in Brooklyn, NY, for the Port Authority of New York & New Jersey. The survey included the examination of approximately 11,000 timber piles with associated concrete extensions, which support a concrete deck. All of the structural elements were visually inspected in-depth including cleaning of piles to evaluate the presence of surface marine borers. Underwater photographs, ultrasonic thickness measurements, and a comprehensive report were provided. 2007 - 2008

PANYNJ, Port Newark Berths 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, and 25, Newark, NJ
Assistant team leader for the Port Authority of New York & New Jersey condition survey inspection. The scope of inspection services included the development and utilization of a database to collect and organize all inspection data in the field. The inspection included a 100% visual and 10% hand-on inspection of all piles supports and condition survey of all structural underdeck and topside components. Additional scope requirements included the design level inspection of a collapsed structure, Berth 3. Subsequent to the inspection, additional services included assisting in the reduction of field data and in reporting on the observed conditions, providing repair recommendations and cost estimates. 2009

NYCEDC Brooklyn Cruise Terminal, Pier 12 Rehabilitation, Brooklyn, NY
Assistant resident engineer for the rehabilitation of the timber piling foundation of Pier 12. The scope of services provided includes monitoring and assessing the repair installations by the contractor across all stages of completion, scheduling/coordinating/performing site visits and dive inspections, providing regular updates regarding the status of work completed, participating in regular progress meetings with all involved parties, identifying/coordinating the need for repair revisions, and reviewing all submittal materials for approval against contract specifications. The repair scope of this project includes structural concrete encasement of piles and limited shotcrete repair to the existing concrete soffit. 3/2011 - 11/2011

Continuing Education
Inland Commercial Diver Training Center
STAAD.Pro v8i Fundamentals
Asbestos Awareness Training

NYCEDC Manhattan Cruise Terminal, Pier 92 Rehabilitation, New York, NY

Resident engineer for the rehabilitation of the timber piling foundation of Pier 92. The scope of services includes monitoring and assessing the repair installations by the Contractor (Trevcon Construction Co, Inc.) across all stages of completion, scheduling/coordinating/performing site visits and dive inspections, providing regular updates regarding the status of work completed, participating in regular progress meetings, effective communication with all involved parties, identifying/coordinating the need for repair revisions, and reviewing all submittal materials for approval against contract specifications. The repair scope of this project includes shimming, posting, pile & cap replacement, epoxy encapsulation & structural concrete encasement of piles, and extensive shotcrete repair to the existing concrete soffit. 2010 - 2011

NYCEDC East River Esplanade, New York, NY

Team leader for the East River Esplanade inspection services. The scope of services includes the on-going inspection/assessment of manhole chambers, outfalls layouts, and outfall penetrations through a concrete/masonry block bulkhead. Deliverables included hand-sketches locating relevant assets. 2009

Brooklyn Navy Yard Development Corporation, Navy Yard Permitting, Brooklyn, NY

Team leader for the Brooklyn Navy Yard permitting. The scope of inspection services included identifying the limits of a timber bulkhead behind a collapsed berth. The limits of slope stabilization riprap was determined for the collapsed area and related to MLLW elevations to determine the volume of water that would have to be mitigated during the partial restoration of the berth. 2009

Brooklyn Bridge Park Development, Piers 2, 3, 5, and 6, Brooklyn, NY

Assistant team leader for the Brooklyn Bridge Park Development Corporation marine inspection and engineering services. The scope of inspection services included 100% visual inspection of all piles and pile extensions supporting the piers. Minimum diameters and exposed lengths were determined for each pile and used to calculate loading capacities across the pier deck. Repair designs are based upon the loading conditions incurred by the client's intended use of the pier. 2009

NYCEDC, Downtown Manhattan Heliport, New York, NY

Engineer diver for the inspection and assessment of a steel pipe pile supported aircraft landing platform and the interior and exterior of a steel spud barge used as a parking platform. The assessment included structural analyses for remaining live load carrying capacity, and estimates for the remaining life of the pier and barge. Repair and replacement alternatives with associated cost estimates were included in the deliverables. 2008

CH2MHILL

Joseph Acosta
Inspection Diver

Specialization
Under and above water inspection, environmental monitoring, construction, and construction supervision

Registration/ Certifications
Certified Commercial Diver

NICET Level 1 Certification, Transportation Engineering Technology/Bridge Safety Inspection

Association of Diving Contractors International Certificate No. 10206, Surface Supplied Dive Supervisor

FHWA National Highway Institute Training, Safety Inspection of In-Service Bridges

OSHA training: Confined Space Entry; 10-Hour Construction Safety; CPR/First Aid and O_2 Provider

Year Joined CH2M HILL
1998

Years with other Firms
2

Key Qualifications

Joe Acosta has more than 15 years of experience as a commercial diver performing above and underwater inspection, environmental monitoring, construction, and construction supervision for consulting engineering and marine construction companies. His past projects include marine terminals, coastal and waterfront structures, landfills, and building structures. Specific areas of expertise include non-destructive testing, timber coring, underwater still and video photography, condition evaluations, and report preparation.

Relevant Experience

PANYNJ, Above Water and Underwater Survey of Global Marine Terminal, Bayonne, NJ

Senior diving supervisor/senior inspection diver for a general condition survey of the above water and underwater components that comprise Global Marine Terminal. The purpose of the condition survey was to determine the overall condition of the structure and to identify structural and non-structural deficiencies. The inspection specifically addressed the condition of the 1,800 ft long wharf, mooring dolphins, and walkways. The inspection focused on the associated facility elements such as precast prestressed concrete piles, partially encased steel H-piles, steel pipe piles, timber piles, concrete pile caps, concrete edge beam and crane rail beams, precast prestressed concrete deck planks, steel sheet pile bulkhead, steel walkways, mooring hardware, and asphalt concrete deck surface. Underwater photography was performed using a digital camera. 2011

PANYNJ, Above Water and Underwater Survey of Port Newark Berth 14, Newark, NJ

Senior diving supervisor/senior inspection diver for a general condition survey of the above water and underwater components that comprise Berth 14. Elements inspected included timber piles, pile caps, underdeck and sheet pile bulkhead. Underwater photography was performed using a digital camera. 2011

PANYNJ, Cyclical Condition Survey of Holland Tunnel Piers 9 and 204, Jersey City, NJ

Senior diving supervisor/Senior inspection diver for a general condition survey of the timber piles and pile caps that support the piers which allow emergency vehicles and personnel access to the tunnel vent building in the event that the tunnel must be evacuated in an emergency. Underwater photography was performed using a digital camera. 2011

PANYNJ, Port Elizabeth Berths 50 through 86, Elizabeth, NJ

Senior dive supervisor/senior inspection diver for a general condition survey of several structures and elements throughout the port. Elements inspected included timber, steel and concrete piles, as well as steel and timber sheet pile bulkheads. Underwater photography was performed using a digital camera. 2010

Education

BS, 1994 Biological Sciences, SUNY College at Old Westbury

Graduate Studies, Molecular Biology, University of Pennsylvania School of Medicine

Divers Academy of the Eastern Seaboard

Professional Affiliations

None

Publications

'Pile Wrap Evaluation Study," Proceedings of ASCE Ports 2004 Conference, Houston, TX.

"The Effect of Exogenous (Met) Enkephalin on Mature and Developing T Lymphocytes," Proceedings of Seventh National Conference on Undergraduate Research, 1993.

PANYNJ, of Brooklyn Piers 6, 7, 8 and 9B, Brooklyn, NY

Senior dive supervisor/senior inspection diver for the detailed design level inspection for detailed measurements of previously reported defects, in order to design repairs. The inspection included timber piles, concrete extensions and steel sheet pile bulkhead. 2008

PANYNJ, On-call" Above and Underwater Inspections and Assessments at Greenville Yards, Bayonne, NJ

Dive supervisor/senior inspection diver for an above and underwater inspection of 880 feet by 120 feet of a timber pile supported, timber deck, high level platform pier, 1,030 feet by 200 feet of an earth filled pier buttressed by timber relieving platforms, 1,335 feet of steel sheet pile bulkhead constructed immediately offshore of a timber crib bulkhead, and 900 feet of a collapsed timber crib bulkhead, currently consisting of a sloped shore. 2007

PANYNJ, Piers 6, 7 and 8, Cyclical Condition Survey Brooklyn, NY

Senior dive supervisor/senior inspection diver for the underwater and above water inspection of the timber piles, concrete extensions, and steel sheet pile bulkhead of Brooklyn Piers 6, 7 and 8. The inspection included a 100% swim-by of all piles and extensions, as well as a level II inspection of 10% of the piles. Underwater photography was performed using a digital camera. 2007

PANYNJ, Holland Tunnel Piers 9 and 204, Cyclical Condition Survey Jersey City, NJ

Senior dive supervisor/senior inspection diver for a general condition survey of the timber piles and pile caps that support the piers which allow emergency vehicles and personnel access to the tunnel vent building in the event that the tunnel must be evacuated in an emergency. Underwater photography was performed using a digital camera. 2006

PANYNJ, Hoboken Ferry Terminal, Cyclical Condition Survey, Hoboken, NJ

Senior dive supervisor/senior inspection diver for the underwater and above water inspection of the steel pipe piles that support the ferry terminal and the pedestrian walkways. The inspection included a 100% swim-by of all piles and the underside of the two spud barges to which the ferries dock. A level II inspection of 10% of the piles and at several locations along the barges was also performed. Underwater photography was performed using a digital camera. 2006

CH2MHILL

William Esola
Inspection Diver

Specialization
Construction services, evaluation of underwater structures

Registration/ Certifications
Commercial Diver Training, Professional Diving School of New York

ADC Bell Saturation Diver Certification, Association of Diving Contractors

ADC Senior ROV Pilot, Remotely Operated Vehicles, (ROV) Pilot

PADI Diving Instructor, Professional Association of Diving Instructors

Pisces Class, Manned Submersible Pilot, Pisces VI

Medic/ First Aid – Diving emphasis

Certified Oxygen Provider

AED Training

Occupational Safety and Health Administration, 30 hour

USCG Captains License, 50 ton Master Grade

Year Joined Halcrow
1988

Years with other Firms
11

Key Qualifications

Bill Esola is a resident engineer and senior dive supervisor with more than 34 years experience as a commercial diver performing underwater structural inspections, construction inspections, and construction supervision for consulting engineering and marine construction companies. Projects have included waterfront structures, offshore platforms, coastal structures, submarine pipelines and cables, bridges, and dams. Specific areas of competence are construction project oversight, underwater inspection using still and video photography, non-destructive testing, bathometric and hydrographic survey, timber and concrete coring, evaluation of existing cathodic protection systems, structural condition evaluations and report writing. Bill has additional specialized training in manned submersible piloting, ROV piloting, certified OSHA 30, certified USCG 50 ton Captain, PADI Instructor, climbing and repelling inspection techniques for specialized inspection projects, and a wide variety of non-destructive testing techniques.

Relevant Experience

PANYNJ, Arthur Kill Railroad Bridge, Elizabeth, NJ and Staten Island, NY
Dive supervisor for the underwater inspection of the bridge crossing the Arthur Kill waterway. A condition survey of all structural elements, bottom scour profiling, and ultrasonic testing of steel sheet pile fendering cells was carried out. $135 K, 6/2009

PANYNJ, Pier 40 Inspection, New York, NY
Dive supervisor for underwater and above water inspection of the deck elements, piles, pile repairs and cathodic protection of system pier. Work included inspection of over 10,000 piles, underwater photography, ultrasonic thickness measurements and a comprehensive report. 2003

PANYNJ, Inspection of Pier 6, 7 and 8, Brooklyn, NY
Dive supervisor for the underwater and underdeck inspection of Piers 6, 7 and 8. Piers were comprised of approximately 11,000 timber piles with concrete extensions supporting a concrete deck. One hundred percent of the structural elements were visually inspected and ten percent of the elements were inspected in-depth including cleaning of piles to evaluate the presence of surface marine borers. Timber cores were taken under a separate contract to evaluate the presence of internal marine borers. 2003

PANYNJ, Port Elizabeth Marine Terminal Inspection, Elizabeth, NJ
Dive supervisor for underwater and above water inspection of timber piles comprising Berths 86 through 98 for expansion and upgrading. The inspection was a general condition assessment of the berths. The work included planning, execution and supervision of all diving activities. $30 M, 4-7/1992, 5-7/1995, 7-8/2002

Education
Stockton State College
Somerset County College

Professional Affiliations
Association of Dive Contractors American Concrete Institute, NJ

Publications
None

PANYNJ, Container Terminal Inspection, New York, NY
Dive supervisor for the structural integrity inspection and assessment of 22,000 ft of container terminal relieving platforms, container crane rail foundations, and bulkheads. The scope included wood core extraction and analysis, marine borer evaluation, detailed examination of substructural elements, and documentation with video and still photography. 2002

PANYNJ, Passenger Ship Terminal Piers and Bulkhead Inspections, New York, NY
Structural integrity inspection and assessment Piers 88, 90, 92, and 40, and related bulkheads. The work included ultrasonic thickness testing, wood core analysis, detailed examination of substructure elements, and documentation with underwater video and still photography. 2001

PANYNJ, Red Hook Terminal Investigation, Brooklyn, NY
Dive supervisor for the site investigation, assessment of structural condition, design and repair of damaged bulkhead between Piers 9 and 9A. Repair incorporated new sheeting adapters, grouting with nylon forming bags, and underwater welding. 3/2001

PANYNJ, West 30th Street Heliport, New York, NY
Dive supervisor for complete inspection of the heliport, including the concrete support piles, landing pad and the heliport building. Underwater photography, ultrasonic thickness measurements and a comprehensive report were provided. 2000

PANYNJ, Newark Airport Inspection, Newark, NJ
Dive supervisor for the culvert inspection. Work included 600+ ft penetrations of four run-off culverts and photo documentation of any deficiencies. 1999

PANYNJ, Waterfront Structures Inspection, NY and NJ
Dive supervisor for the underwater and above water inspection of waterfront structures to determine extent of deterioration and development of cost estimates and a management plan to guide the PANYNJ in carrying out the design and construction for rehabilitation. Facilities include seven miles of wharves and piers and 100 warehouses and other buildings. 1999

PANYNJ, LaGuardia Airport Inspection, Queens, NY
Dive supervisor for underwater and above water inspection of the steel pipe piles, concrete beams, deck, and steel sheet pile. This was a general condition inspection involving ultrasonic thickness measurements of the steel pipe piles and bathycorrometer reading of the sacrificial cathodic protection system. 1999

CH2MHILL

John Garisto
Inspection Diver

Specialization
Underwater inspections, health and safety

Registration/Certifications
Commercial Diver Certification, State University of California at Santa Barbara

Surface Supplied Diver, Association of Diving Contractors International

Diving Emergency Management Provider (DAN)

FHWA National Highway Institute Training, Safety Inspection of In-Service Bridges

OSHA 10 Hour Construction Safety

Confined Space Entry

Smith System Defensive Driver Instructor

Year Joined Halcrow
1999

Years with other Firms
11

Education
BS, Environmental Science,

State University of New York at Buffalo

Key Qualifications

John Garisto is an accomplished diving inspector with more than 12 years of experience as a commercial diver performing above and underwater inspection, environmental monitoring, construction, and construction supervision for consulting engineering and marine construction companies. His experience includes marine terminals, coastal and waterfront structures, landfills, and building structures. Specific areas of expertise include non-destructive testing, timber coring, underwater still and video photography, condition evaluations, and report preparation. John has 11 years specialized experience in environmental engineering performing site surveys environmental studies assessments and also in waste water treatment and hazardous waste remediation.

John is a certified commercial diver who has achieved his Master Dive Trainer, Emergency First Responder Instructor and Oxygen Provider Trainer certifications through the Professional Association of Dive Instructors. In addition, he maintains his certification as a Surface Supplied Diver and DAN, Diving Emergency Management provider.

Relevant Experience

PANYNJ, Port Newark, Newark, NJ
Dive supervisor for inspections of berths 3 and 14 to monitor the condition of the severely deteriorated structures. Developed appropriate facility restrictions to maintain safe operations until rehabilitation can be implemented. Participated in the design of immediate repairs to stabilize berth 3. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. Project fee $39 K, 2011

PANYNJ, Berth Inspection, Port Newark, Newark, NJ
Dive supervisor for above and underwater inspection of the even berths at Port Newark. The inspection included the riprap profiles throughout the berths, Level I and Level II inspections of over 16,000 timber piles, a visual swim by inspection of newly installed steel pipe piles, concrete under deck and pile cap visual inspection, and a topside visual inspection of the mooring elements and any deficiencies with deck cap. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. Project fee $225 K, 2010

PANYNJ, Newark International Airport Bridges, Newark, NJ
Dive supervisor involved with onsite inspection of multiple bridges throughout the airport. Performed load capacity analysis of compromised area to determine safe loading by essential vehicles. Developed deficiency plans and repair recommendations of several bridges for the final report. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. Project fee $58 K, 2010

PANYNJ, Greenville Yards, Floating Bridge Inspection, Jersey City, NJ

Dive supervisor for underwater and above water inspection of the floating rail bridge at Greenville Yards. The inspection included 100% swim-by of all steel H piles and concrete pedestals, as well as a level II inspection of 10% of the piles, evaluation of the timber decking, and mechanical systems for the lift bridge operations. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. 2010

PANYNJ, Berths Inspection, Port Newark, Newark, NJ

Dive supervisor and lead diver inspector of the odd berths 3-25, responsible for the development and utilization of a database to collect and organize all field inspection data. The inspection included a 100% visual and 10% hand-on inspection of all piles supports and condition survey of all structural underdeck and topside components. Additional scope requirements included design level inspection of a collapsed structure, Berth 3. Subsequent to the inspection, additional services included assisting in the reduction of field data and in reporting on the observed conditions, providing repair recommendations and cost estimates. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. 2009

PANYNJ, Holland Tunnel, Pier 9 and 204 Condition Survey, Jersey City, NJ

Diving supervisor and inspection diver responsible for condition survey including above water and underwater inspection of the timber pile supported low-level timber platform and a steel beam supported concrete and timber deck. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. 2009

PANYNJ, Cyclical Condition Survey of Brooklyn Piers 6-8, Brooklyn, NY

Diving supervisor and inspection diver responsible for underwater and above water inspection of the timber piles, concrete extensions, and steel sheet pile bulkhead. The inspection included a 100% swim-by of all piles and extensions, as well as a level II inspection of 10% of the piles. Visual documentation collected using an underwater digital camera. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. 2007

PANYNJ, Cyclical Condition Survey, Holland Tunnel Piers 9 and 204, Jersey City, NJ

Diving supervisor and inspection diver responsible for a general condition survey of the timber piles and pile caps that support the piers which allow emergency vehicles and personnel access to the tunnel vent building in the event that the tunnel must be evacuated in an emergency. Visual documentation collected using an underwater digital camera. The project is part of Halcrow's waterfront inspection services on-call contract with PANYNJ. 2006

CH2MHILL

Benjamin Sheppard
Inspection Diver

Specialization
Engineer-diver

Registration/Certifications
Commercial Diving Certification

FHWA National Highway Institute Training, Safety Inspection of In-Service Bridges

Association of Diving Contractors International Certificate #19755, Surface Supplied Dive Supervisor

Electrical Technology

OSHA30 training
Confined Space Entry
CPR/First Aid and O2 Provider
KMDSI Technician
NDT Level 1
Boating Safety
Asbestos Awareness Training

Education
Classes at Youngtown State University, Electrical Technology (1997)

Year Joined Halcrow
2002

Years with other firms
3

Publications
N/A

Key Qualifications

Benjamin Sheppard has more than twelve years of experience as a commercial diver performing above and underwater inspection, environmental monitoring, construction, and construction supervision for consulting engineering and marine construction companies. His projects include marine terminals, coastal and waterfront structures, landfills, and building structures. Specific areas of expertise include non-destructive testing, timber coring, underwater still and video photography, and condition evaluations.

Relevant Experience

PANYNJ, Pier 35 Holland Tunnel, New York, NY
Dive supervisor for an above and underwater inspection for the Port Authority of New York and New Jersey at Pier 35 Holland Tunnel. The project included underwater inspection and condition assessment of approximately 1200 timber piles and the associated timber caps and under deck. The underwater inspection also included a detailed evaluation of potential sinkholes. 2009

Arthur Kill Lift Bridge, NY and NJ
Dive supervisor for a Pre-Design above and underwater investigation of existing cofferdams, fendering structures and sub structures of bridge piers 1 & 2. The inspection also included destructive testing by burning 1ft by 3ft holes in existing sheet-pile and coring 4in diameter by 10in deep concrete samples. 2009

PANYNJ, Pier 6-8 Inspections, Brooklyn, NY
Inspection diver for above and underwater inspections of Piers 6, 7 and 8 on the East River in Brooklyn, NY. The survey included the examination of approximately 11,000 timber piles with associated concrete extensions, which support a concrete deck. All of the structural elements wee visually inspected in-depth including cleaning of piles to evaluate the presence of surface marine borers. Timber cores were taken under separate contract to evaluate the presence of internal marine borers.

Bulkhead Inspection, International Airport Center, New York, NY
Inspection diver for inspection of a timber and steel sheet pile bulkhead. Tasks included above water and underwater inspection of entire structure and evaluation of existing conditions with cost estimates for repair.

PANYNJ, Piers 1& 3 Inspections, Brooklyn, NY
Inspection diver for cyclical inspection Piers 1 and 3 in Brooklyn. Tasks included full detailed above water and underwater inspection of pier platforms and retaining structures, analysis of findings, and report preparation.

PANYNJ, Greenville Yards, Bayonne, NJ

Dive supervisor for underwater inspections and assessments of waterfront facilities at Greenville Yards. This project included above and underwater inspection of 780 feet by 120 feet of a timber pile supported, timber deck, high level platform pier, 1,030 feet by 200 feet of an earth filled pier buttressed by timber relieving platforms, 1,335 feet of steel sheet pile bulkhead constructed immediately offshore of a timber crib bulkhead, and 900 feet of a collapsed timber crib bulkhead.

Con Ed. Hudson Ave, Power Station, New York, NY

Dive supervisor for above and underwater inspection services for Consolidated Edison NYC waterfront facilities. Services included inspection of loading dock, intake and discharge tunnels. The inspection included emergency repair design, non-destructive testing and underwater photography. 2011

Brooklyn Bridge Park Pier 6, Brooklyn, NY

Dive supervisor for above and underwater inspections and of Pier 6 at Brooklyn Bridge Park. The survey included the examination of approximately 900 timber piles through destructive testing. The inspection included the removal of timber bracing and asbestos forms to determine the extent of internal marine borer damage. 2010

New York City Economic Development Corporation, Battery Maritime Building to Pier 16 Bulkhead Inspection, New York, NY

Dive supervisor for a routine level above water and underwater investigation of the gravity wall bulkhead from the Battery Maritime Building (BMB) to the south side of Pier 16 (over 3000 LF), to include a low level relieving platform as well as the outfalls, manholes, and concrete and asphalt surface up to 35 ft behind the offshore face. 2009

NYC Economic Development Corporation, Downtown Manhattan Heliport, New York, NY

Dive supervisor for a condition survey and assessment of the Downtown Manhattan Heliport. This project included inspection and assessment of a steel pipe pile supported aircraft landing platform and the interior and exterior of a steel spud barge used as a parking platform.

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Andrew Lai
Inspection Diver

Specialization
Underwater construction and structural inspection

Registration/ Certifications
ADC Surface Supplied Air Diving Supervisor #6062; Divers Academy of the Eastern Seaboard – Professional Diver

National Highway Institute Bridge Inspector Certification, New Mexico State University

PADI Open-Water Certified

Industrial Rope Access Trade Association (IRATA) 1/25175

OSHA 30 Hour Construction Safety and Health

Confined Space Safety, Entry Supervisor, 8 Hour Entrant and Attendant

First Aid and Cardiopulmonary Resuscitation

Automated External Defibrillator (AED)

Divers Alert Network (DAN) Oxygen Provider

New York Fire Department, Non Flammable Compressed Gas and Air Compressor Handling

Smith System Defensive Driving Course

US Coast Guard, Boating and Seamanship

Key Qualifications

Andrew Lai is an inspection diver with more than 17 years experience in a variety of commercial diving and marine construction projects. He has extensive experience and knowledge of underwater construction and structural inspection and is also knowledgeable in computer aided design, project bidding and office administration.

Relevant Experience

PANYNJ, Port Elizabeth, Elizabeth, NJ
Dive Supervisor Emergency on-call inspection for the Port Authority of New York and New Jersey of sink holes and roadway depressions at Berth 3 and 17. Above and underwater inspection provided findings which established cause, load restrictions and repair recommendations.

PANYNJ, LaGuardia International Airport, Queens, NY
Dive Supervisor Performed an above water inspection of the runway underdeck for the Port Authority of New York and New Jersey. Verifying field conditions of the pile caps, girders and underside of deck to develop a preliminary engineering study for design.

PANYNJ, Newark Liberty International Airport Bridges, Newark, NJ
Dive Supervisor Condition survey of bridges number N27, N41 and N53 for the Port Authority of New York and New Jersey. 100% visual inspection of all structural elements requested on a Call-In basis.

PANYNJ, Port Elizabeth Berth 3, Elizabeth, NJ
Dive Supervisor Emergency sink-hole inspection at Berth 3 for the Port Authority of NY & NJ. Inspection involved locating suspect fill loss along the under-deck and bulkhead and to determine future areas of deck failure.

PANYNJ, Port Elizabeth, Elizabeth, NJ
Dive Supervisor Routine inspection of even berths 60–68 at Port Elizabeth. Assets include concrete caps, timber & steel piles and a timber panel bulkhead.

PANYNJ, Port Newark, Elizabeth, NJ
Dive Supervisor Provided inspection services of the odd berths at Port Newark. The inspection included the riprap profiles throughout the berths, Level I and Level II inspections of over 16,000 timber piles, a visual swim by inspection of newly installed steel pipe piles, concrete under deck and pile cap visual inspection, and a topside visual inspection of the mooring elements and any deficiencies with deck cap.

PANYNJ, Brooklyn Piers 6, 7, 8 and 9B, Brooklyn, NY
Detailed Design Level Inspection of Brooklyn Piers 6, 7, 8 and 9B. This project required detailed measurements of previously reported defects, in

Year Joined CH2M HILL
1997

Years with other Firms
5

Education
Divers Academy of the Eastern Seaboard;
Long Island University, Southampton College (non degree)

Professional Affiliations
None

Publications
None

order to design repairs. The inspection included timber piles, concrete extensions and steel sheet pile bulkhead.

PANYNJ, Greenville Yards Marine Lift Bridge, Jersey City, NJ

Provided inspection services of marine rail lift bridges as part of the Waterfront Inspection Services On-Call Contract. Tasks included the inspection of timber pile-supported steel towers supporting four rail lift bridges and condition survey of the bridge towers for later structural evaluation.

PANYNJ, Greenville Yards Above and Underwater Inspection, Bayonne, NJ

"On-call" engineering services for Greenville Yards 880 feet of timber pile supported timber deck, high level platform pier. 1,030 feet of an earth filled pier buttressed by timber relieving platforms, 1,335 feet of steel sheet pile bulkhead offshore of a timber crib bulkhead, and 900 feet of collapsed timber crib bulkhead, currently consisting of a sloped shore.

PANYNJ, George Washington Bridge Underwater Bridge Inspection, Hudson River, NJ

Performed an inspection of the two western pedestals of the George Washington Bridge. Scour, bottom survey and mortar loss of the granite faced pedestals were recorded for evaluation.

PANYNJ, Piers 6 - 8 and Pier 11 bulkhead Above and Underwater Inspection, Brooklyn, NY

Cyclical inspection of Piers 6 – 8 and Pier 11 bulkhead. The inspection included 100% visual inspection of all piles and concrete extensions, as well as a level II inspection of 10% of the piles, evaluation of the concrete decking, and pier hardware.

PANYNJ, World Trade Center Waterfront Facility, New York, NY

Evaluation of the World Trade Center Cooling Water Intake System on the Hudson River. Tasks included the above and underwater inspection of the intake tunnels and chambers for recommendations of repair.

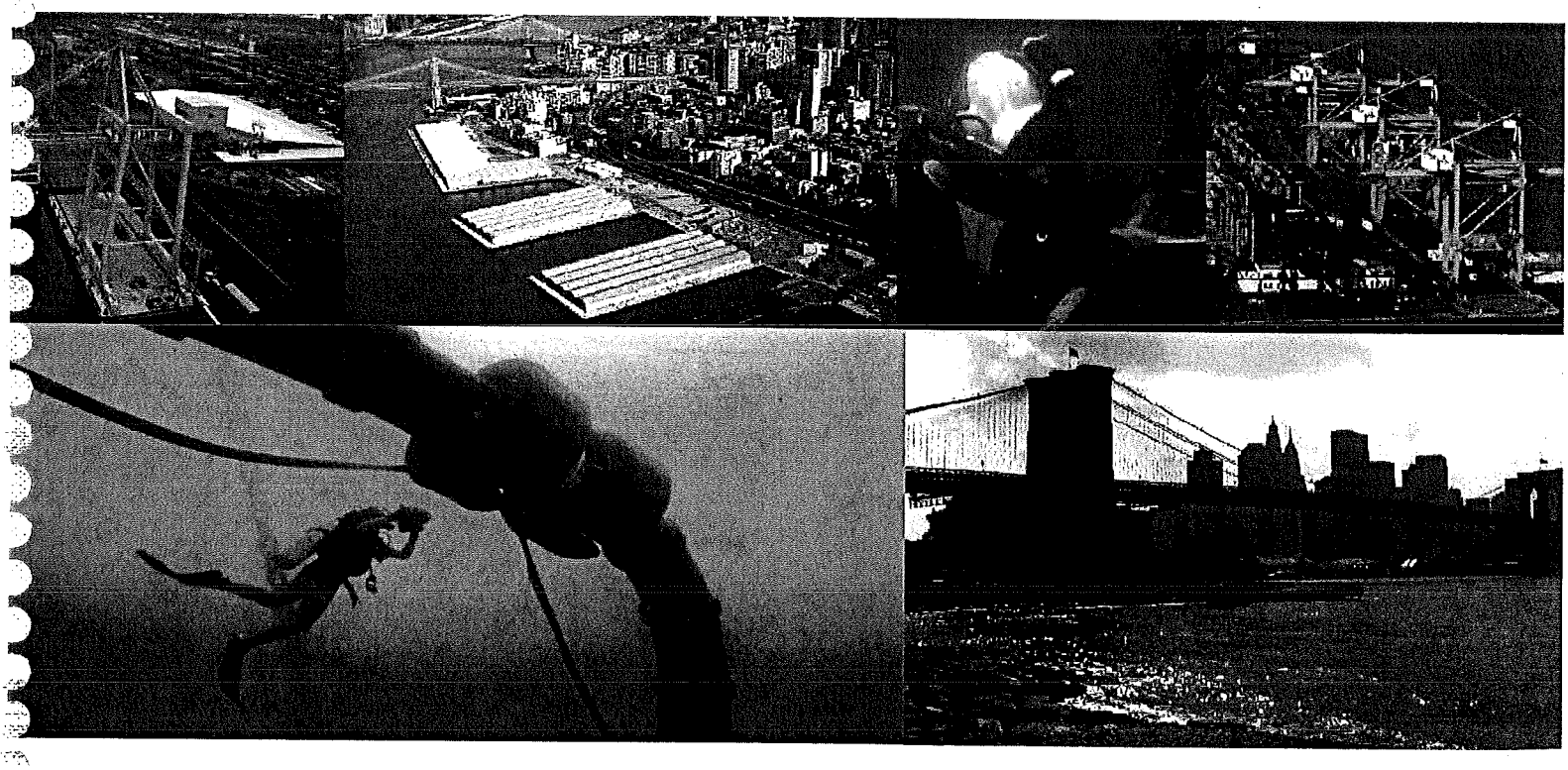
PANYNJ, Marine Terminal, Staten Island, NY

Performed the investigation at Howland Hook Marine Terminal confirmed the location and conditions of concrete pile defects that were previously identified and recommended for repair.

Port Authority of NY & NJ, Greenville Yard, Underwater Inspection, Bayonne, NJ

Inspection diver for the condition survey of a timber pile-supported timber pier, steel sheet pile bulkhead, low-level timber relieving platform, and additional marginal wharves.

Section 5 - Billing Rates



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Billing Rates

The names and hourly direct salary rates of personnel who may be assigned to perform services for this project are listed by job classification in the table below. The hourly rates are actual rates for the 2012 calendar year. CH2M HILL adjusts salaries on January 1st of each year, and some employees may receive additional adjustments during the year. Rates will be submitted for approval to the Authority's Project Manager when adjustments are made, and billings will be based on the approved actual rates.

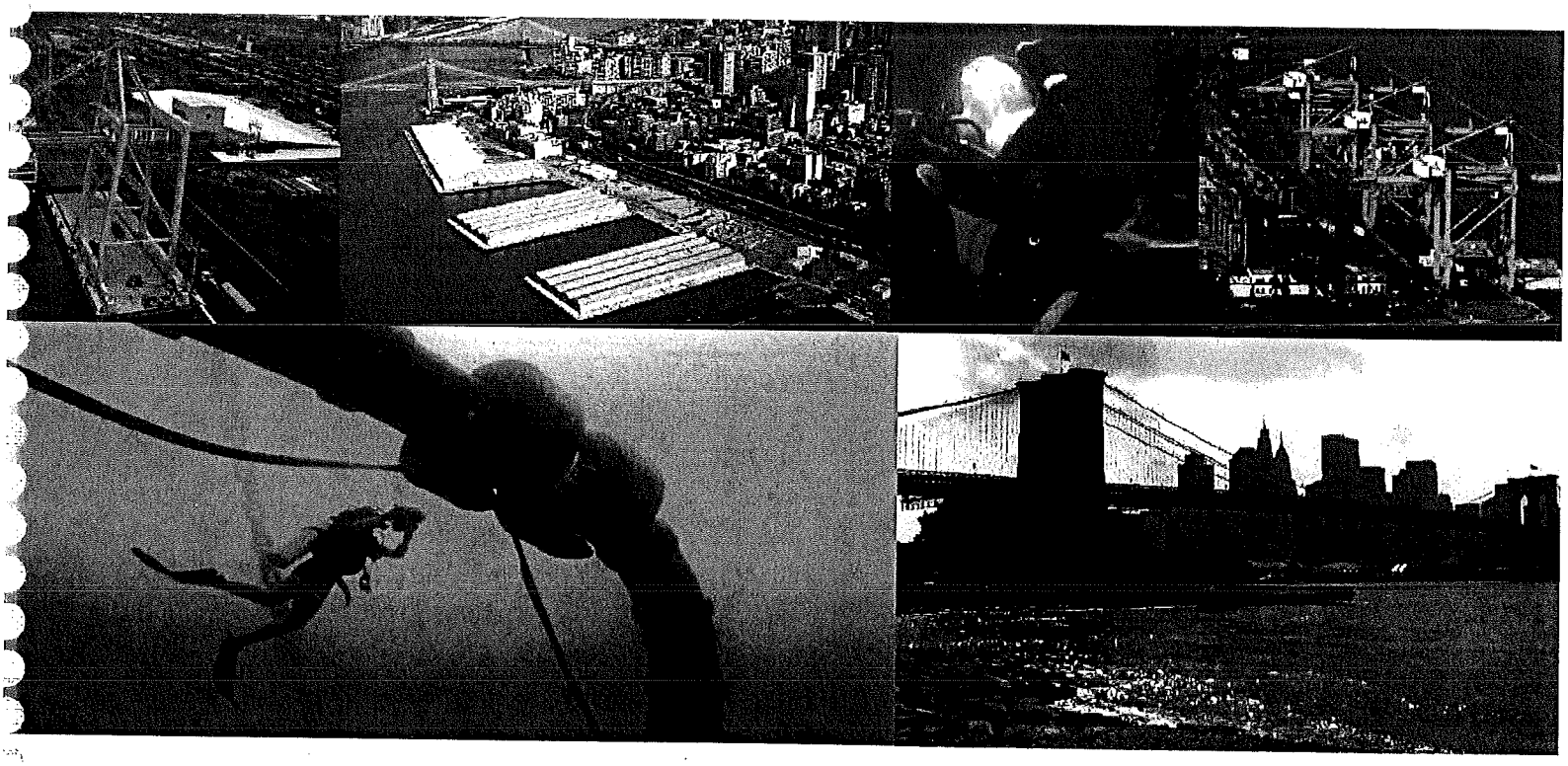
CH2M HILL's policy on compensation for premium pay is stated in the Staff Handbook and Policy Manual as follows: *When an employee who normally receives payment for overtime is required to work on a recognized holiday, the employee will receive his or her regular holiday pay plus the regular base rate for the hours worked.* The table below lists personnel proposed for this proposal. We have presented billing rates for senior management personnel.

NAME	TITLE	HOURLY RAW RATE
Senior Management		
Goldstick, Jonathan	Senior Vice President	$ 111.24
King, Patrick	Vice President	$ 112.48
Paparis, Bill	Vice President	$ 127.09
Personnel		
Acosta, Joe*	Technician Diver	$ 62.42
Ardrey, Andrew	Materials Technologist	$ 71.68
Bettelley, Tim	Materials Technologist	$ 26.14
Boynton, Jonathan	Engineer. Diver	$ 49.27
DeAngelis, Mike	Team Leader	$ 39.98
Dinos, George	Engineer Diver	$ 32.09
Esola, Bill*	Technician Diver	$ 53.53
Garrity, Robert	Engineer Diver	$ 46.51
Garisto, John*	Technician Diver	$ 37.14
Grice, Matthew*	Team Leader	$ 45.69
Kehoe, Matthew*	Team Leader	$ 34.00
Kinchen, Stacey	Materials Technologist	$ 50.82
Lai, Andrew*	Technician Diver	$ 35.98
LoPorcaro, Stephen*	Team Leader	$ 57.19
Mogray, John*	Team Leader	$ 35.29
Riden, Kirk*	Team Leader	$ 84.15
Schulte, Robert	Quality Control	$ 89.97
Sheppard, Ben*	Technician Diver	$ 40.54
Singer, Josh	Engineer Diver	$ 50.52
Sposito, Brett*	Team Leader	$ 55.47
Waddicor, Chris*	Engineer Diver	$ 53.34

* Note: These rates are non-diving (office) rates. As per NY State labor law, all diving and tending work is performed at the prevailing wage field rates provided in the table below, which include all applicable supplemental benefits. The diver rate applies to the member of the inspection team that actually performs the diving work for the day that work is performed. The tender rate applies to the member of the team that tends the diver for the day that work is performed.

	Prevailing Wage (Diver)	Prevailing Wage (Tender)
Joseph Acosta	$204.64	$204.64
Jonathan Boynton	$199.67	$171.99
Joe Choi	$197.74	$159.27
Michael DeAngelis	$204.72	$156.53
George Dinos	$205.41	$157.22
William Esola	$196.10	$174.71
Robert Garrity	$197.63	$162.02
John Garisto	$197.85	$149.66
Matt Grice	$200.06	$162.13
Mathew Kehoe.	$205.30	$157.10
Andrew Lai	$204.31	$156.12
Stephen LoPorcaro	$196.48	$191.44
John Mogray	$205.16	$156.96
Benjamin Sheppard	$199.83	$151.64
Josh Singer	$198.50	$163.66

Section 6 - Project Experience



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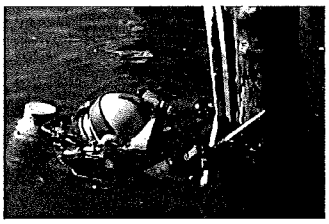
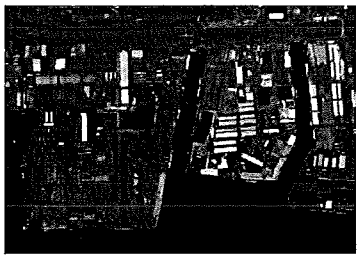
Relevant Experience



CH2M HILL (as Halcrow) has worked consecutively on annual open-ended, multi-task contracts awarded by the Port Authority of NY & NJ's Quality Assurance Division for over 25 years.

Typical work under these contracts consists of performing above water and underwater condition surveys and preparing Condition Survey Reports for the specified waterfront installations. These reports outline the condition of the facilities at the time of inspection, identify deficiencies which may present a hazard to personnel or the environment, and include recommendations and cost estimates, when required, for correcting such deficiencies.



Some projects under these contracts have been conducted on an emergency basis, where we have quickly mobilized inspection teams to respond to specific incidents such as vessel collision or rapid development of sinkholes.

In a number of cases, the inspection projects have continued to the design stage where we have been responsible for the design of repairs to piers, wharves, bulkheads, buildings, bridges, bridge pier protection, and other miscellaneous structures.

As shown below, we have an extensive history of performing exemplary condition survey work to assist the PANYNJ in maintaining your high standard of quality. Brief descriptions of selected recent PANYNJ projects over the last three years, are provided on the following pages to illustrate the wide range of our capabilities and experience.

Brooklyn Piers

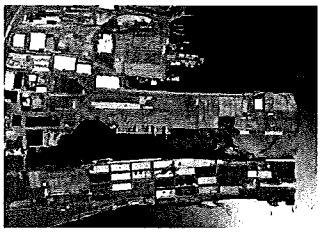
- Piers 1 & 3 ('96, '98, '99, '01, '04)
- Piers 2 & 5 ('96, '01, '04)
- Old Pier 6 area of Pier 1 ('04)
- Piers 6 & 7 ('93, '00, '07)
- Pier 8 ('93, '94, '95, '00, '03, '07)
- Piers 9A & 9B ('98, '99, '00, '02)
- Pier 10 ('00)
- Pier 11 ('02)
- Pier 12, Pier 12 Bulkhead, Float Bridge ('99, '00, '03, '04)
- Bulkheads at Pier 5 and between Piers 5 & 6 ('02, '05)
- Bulkhead at Piers 6, 7 & 8 ('98, '00)
- Bulkhead at Pier 11 ('07)
- Wharf/Bulkhead, Pier 9B & Red Hook ('99, '04)
- Red Hook Terminal Damage Inspection ('94)
- Piers 6, 7, 8 and 9B Pile and Bulkhead Interim and Repair Inspection ('08)

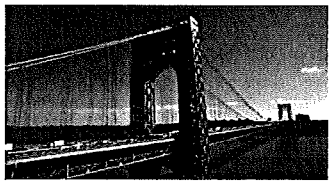
Port Elizabeth

- Even Berths 50-60 ('10)
- Even Berths 50-86 ('91, '99, '04)
- Even Berths 64-98 ('93, '97, '98)
- Even Berths 88-98 & Turntable ('98)
- Odd Berths 51-63 ('94, '99)
- Berth 64 King Pile Damage ('05)

Port Newark

- Odd Berths 3-25 ('09)
- Berths 3, 4, 21 ('10)
- Berths 3, 14, 17 ('11)
- Berth 14 ('12)





Global; Marine Terminal ('11)
Odd Berths 51-63 ('93, '97)
Even Berths 2-36 ('95, '03, '06)
Berths 9-11 Expansion Joint ('96)
Buckling Pavement b/t Berths 24 to 26 ('93)
Building Group II ('98)

Port Jersey

Greenville Yards ('04, '07, '09, '11)
Greenville Yards Float Bridge ('10, '11)
Greenville Yards Fender Rack ('11)
Auto Marine Terminal:
Berths 1 & 2, Concrete Mooring Dolphins, Timber Walkways ('95, '01, '04. '10)

Howland Hook Container Terminal

Terminal ('12)
Marine Terminal Condition and Repair Inspection ('07)
Facility Buildings, Access Tunnel, & High Mast Light Poles ('97)
Bulkhead ('92)
Port Ivory:
All Waterfront Structures ('04)
Piers 2 & 3 and Culvert ('01)

Bridges

George Washington ('03)
Bayonne ('90)
Geothals ('90)
Outerbridge Crossing ('87, '91, '98)

Airports

LaGuardia:
Inspection of Piles/ Cathodic Protection ('03)
Runway Extensions 4-22 & 13-31 ('99, '04,'06, '11)
Superstructure, Deck, Runway ILS Piers ('04)
JFK International:
Bergen Basis Barge Piers ('02)
ILS Pier for Runway 4-22R ('95)
Newark:
Bridge O27 ('98)
Culverts ('94)
Bridges N27, N47, N53 ('11)

Heliports

Downtown Manhattan: ('92, '99, '05)
West 30th St.: ('93)

Tunnels

Holland:
Protective Pier 9/204 ('03, '07 '09, '11,'12)
Rehabilitation Alternatives ('01)
NYRB Protective Structure Repairs ('05)
Lincoln:
Ventilation Building ('97, '05)
Security Netting 3 & 4 ('02)
Pier 79 Bulkhead ('09)

Ferry Terminals

Hoboken Ferry Terminal ('99, '03, '06)

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PANYNJ On Call Waterfront Structural Engineering Services

New York, NY

Client Contact
Port Authority of New York & New Jersey
Two Gateway Center
EADD Structural Center, 16th Floor, NE
Newark, NJ 07102

Owen Lee
973.792.4510

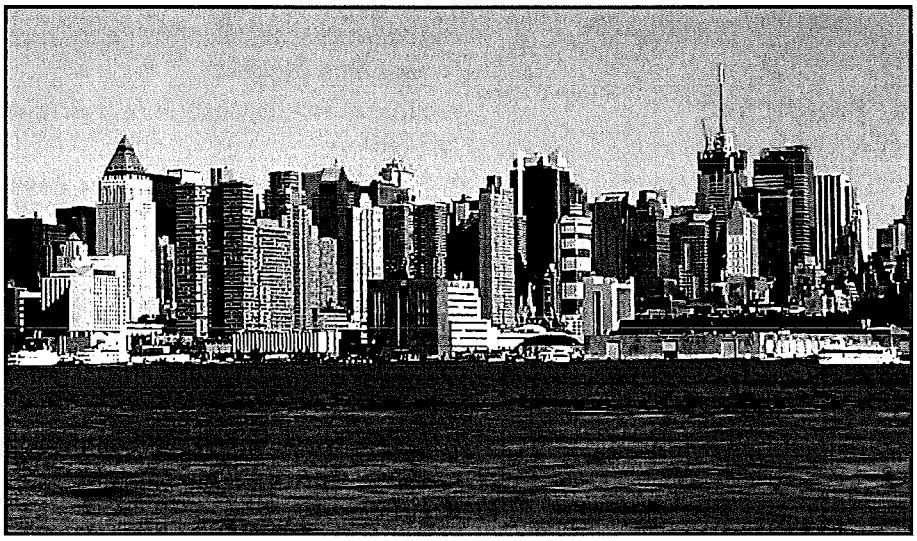
Start/Completion Dates
1998 - 2011

Project Fee
$300,000 per year (average)

Project Description

CH2M HILL (asHalcrow) has worked with the Design Division of the Port Authority of New York & New Jersey (PANYNJ) continuously since 1998 under annual "Call-In" contracts to provide professional waterfront structural engineering services on a task order basis. The PANYNJ is responsible for numerous waterfront facilities in New York Harbor of various ages and construction types. Task orders have included all aspects of the evaluation and design process including site investigations, above and underwater inspections, analysis of existing conditions, concept studies, design of emergency and temporary repairs, demolition, design of new structures, and services during construction. For larger facilities, such as Port Elizabeth and the Brooklyn Marine Terminal, multiple task orders have been completed.

While the nature of the work performed under this contract encompasses a diverse range of engineering expertise, some key features of the work performed include: above and below water surveys; utilization of multiple in-house engineering disciplines including marine, civil, structural, geotechnical, mechanical, electrical, and cathodic protection; preparation of AutoCAD drawings; design of repairs for piers, wharves, fender systems, mooring equipment, riprap, granite and concrete quay walls, steel and timber sheet piling, pavements, cofferdams, and warehouses; design of new structures to meet the PANYNJ's needs; the preparation of cost estimates; and the acquisition of permits.



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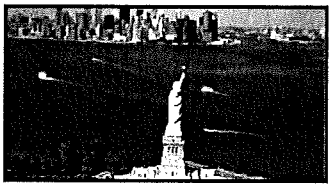
PANYNJ On Call Waterfront Facility Condition Surveys

New York, NY



Client Contact

Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Fl
Newark, NJ 07102

Mitch Aldea
973.792.3940
maldea@panynj.gov

Start/Completion Dates

1998 - On-going

Project Fee

Variable, $1 M/yr

Project Description

This is the twelfth consecutive, annual, open-ended, multi-task contract that has been awarded to the firm by the Port Authority of New York & New Jersey's Quality Assurance Division. The work of the contract consists of performing above water and underwater condition surveys and preparing Condition Survey Reports for the specified waterfront installations. These reports outline the condition of the facilities at the time of inspection, identify deficiencies which may present a hazard to personnel or the environment, and include recommendations and cost estimates for correcting such deficiencies. In many cases, the inspection projects have continued to the design stage where the form has been responsible for the design of repairs to piers, wharves, bulkheads, buildings, bridges, bridge pier protection, and other miscellaneous structures. To date, some of the notable assignments under these contracts have included:

- Design of bridge pier protection cell replacement for Outerbridge Crossing
- Upgrade of Howland Hook Container Terminal
- Inspection/evaluation of 230,000 sq ft Brooklyn Pier 12 and adjacent 700 ft seawall
- Inspection/evaluation of the relieving platform-type seawall that constitutes the wharf for fifty-seven ship berths at Port Elizabeth and Port Newark
- Inspection/evaluation of the runway extensions at LaGuardia Airport
- Inspection/evaluation of the downtown Manhattan Heliport Pier
- Design of repairs to Port Elizabeth Berths 50-76
- Inspection/evaluation of Piers 6, 7, and 8 in Brooklyn
- Design of repairs to Pier 8 in Brooklyn
- Inspection/evaluation of Pier 40 in Manhattan
- Inspection/evaluation of the Auto Marine Terminal
- Design of bulkhead repairs for Brooklyn Piers 1, 3 and 5

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PANYNJ 51st Street Float Bridge Emergency Repairs

Brooklyn, NY

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2011

Contract Value

$ 40K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: Mike DeAngelis

Structural Engineer: Jack Luo

Other Firms Involved

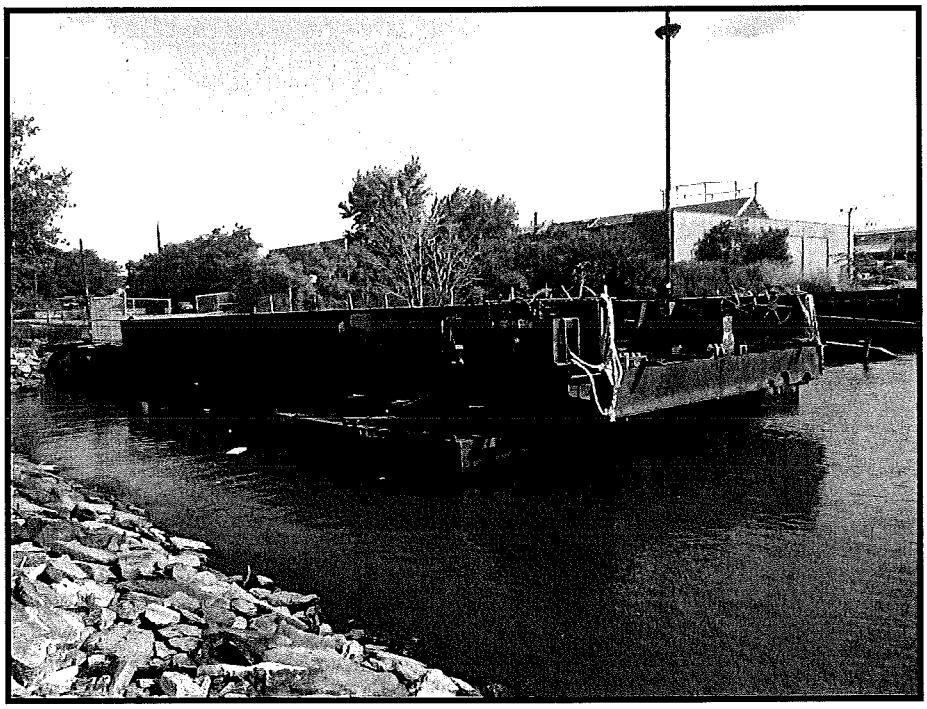
N/A

Project Description

The 51st Street Float Bridge facility is located within the New York Marine Terminal, west of 1st Avenue and 51st Street in Brooklyn, New York. The facility consists of a 100 ft long by 33 ft wide steel float bridge and a 25 ft long by 40 ft wide timber access platform. The offshore end of the bridge is supported on two contiguous 50 ft long by 13 ft wide pontoons. The facility is used to transfer rail cars between a railcar float barge and tracks on shore. The timber access platform supports large hinges at the inshore end of the float bridge, allowing the bridge to rise and fall with the water level, allowing the height of the outboard end of the bridge to match the deck elevation of the rail barge.

During the summer of 2011, one of the two hinges failed, forcing a shutdown of the New York New Jersey Rail, LLC (NYNJR) service operating between New Jersey and Brooklyn. Because NYNJR is a subsidiary of the Port Authority of NY & NJ (PANYNJ), PANYNJ tasked the firm with inspecting the damage and designing a repair. PANYNJ required the bridge to be back in operation within seven days of the shutdown.

Our engineer-divers and engineers worked virtually around the clock with the PA's contractor to assess the damage, design a repair, and oversee the repairs. The repair included encasing the deteriorated underwater bridge foundation in concrete and reinforcing deteriorated portions of the hinge with new steel. The team's response generated a commendation letter from the PANYNJ's Port Commerce Department to their Executive Director praising the team's rapid response.



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Auto Marine Terminal
Bayonne, NJ

Client Contact
The Port Authority of New York and New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Mr. Mitch Aldea, P.E.
973.792.3940

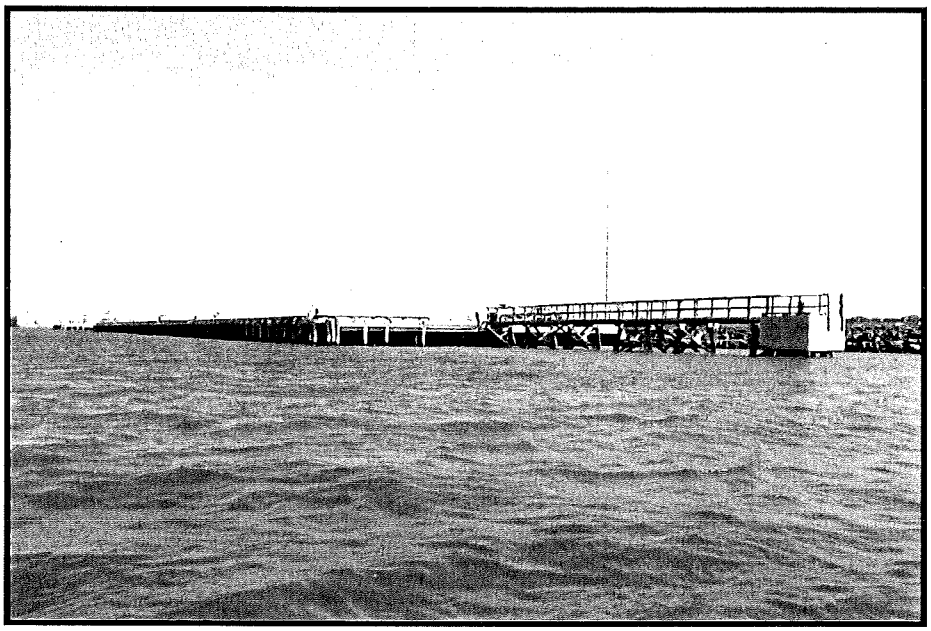
Start/Completion Dates
2010

Contract Value
$ 67K

Project Team
Project director: Jonathan Goldstick
Project manager: Maki Onodera
Team leader: Brett Sposito

Other Firms Involved
N/A

Project Description
CH2M HILL (as Halcrow) performed a condition survey of the Auto Marine Terminal at the New Jersey Marine Terminal located in Bayonne, NJ. The condition survey included above water and underwater inspection of Berths 1 and 2, the concrete mooring dolphins, and the timber walkways. The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report was prepared in accordance with the Authority's "Guidelines for Condition Survey of Waterfront Structures".



CH2MHILL

Global Marine Terminal

Bayonne, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2011

Contract Value

$ 99K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: George Dinos

Other Firms Involved

N/A

Project Description

CH2M HILL (as Halcrow) performed a baseline condition survey of the Global Marine Terminal at the New Jersey Marine Terminal located in Bayonne, NJ. The inspection specifically addressed the condition of the approximately 1,811 ft long wharf, mooring dolphins, and walkways. The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report was prepared in accordance with the Authority's "Guidelines for Condition Survey of Waterfront Structures".

CH2MHILL

Greenville Yards Transfer Bridge

Jersey City, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2008-2011

Contract Value

$ 20K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: Josh Singer

Other Firms Involved

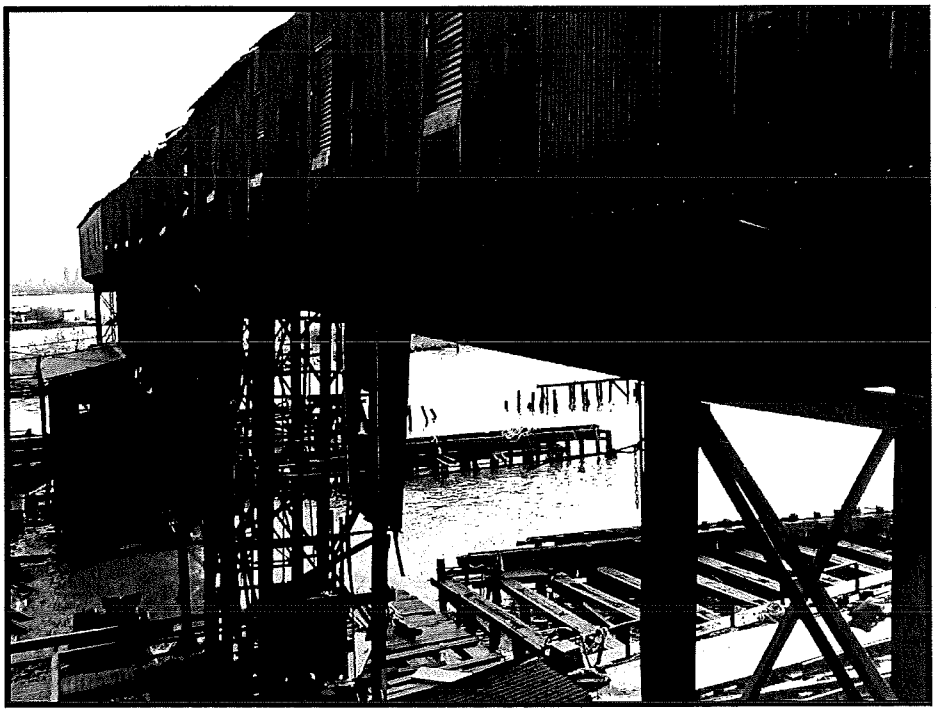
N/A

Project Description

CH2M HILL (as Halcrow) performed an interim condition survey at the Greenville Yards Float Bridge at the Greenville Yards facility in Jersey City, NJ. The purpose of the inspection was to identify any conditions (above MLW) that have significantly changed since the last interim inspection in 2010 that could adversely affect existing operations. The focus of the inspection was on the tower substructure and superstructure elements that currently support Bridge No. 11.

The firm performed the baseline inspection of the entire facility from November 2008 to January 2009, and a subsequent emergency inspection in December 2009 after a reported impact between a barge and the North Apron Tower of Bridge No. 11. An interim inspection was performed in June 2010 and an emergency inspection was accomplished in March 2011 to assess the damage to the Bridge No. 11 South Fender Rack caused by a collision.

We designed immediate repairs for the collision damage to the Bridge No. 11 South Fender Rack.



CH2MHILL

Holland Tunnel Pier 9/204 Condition Survey and Immediate Repair Design

Jersey City, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2012

Contract Value

$ 80K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: George Dinos

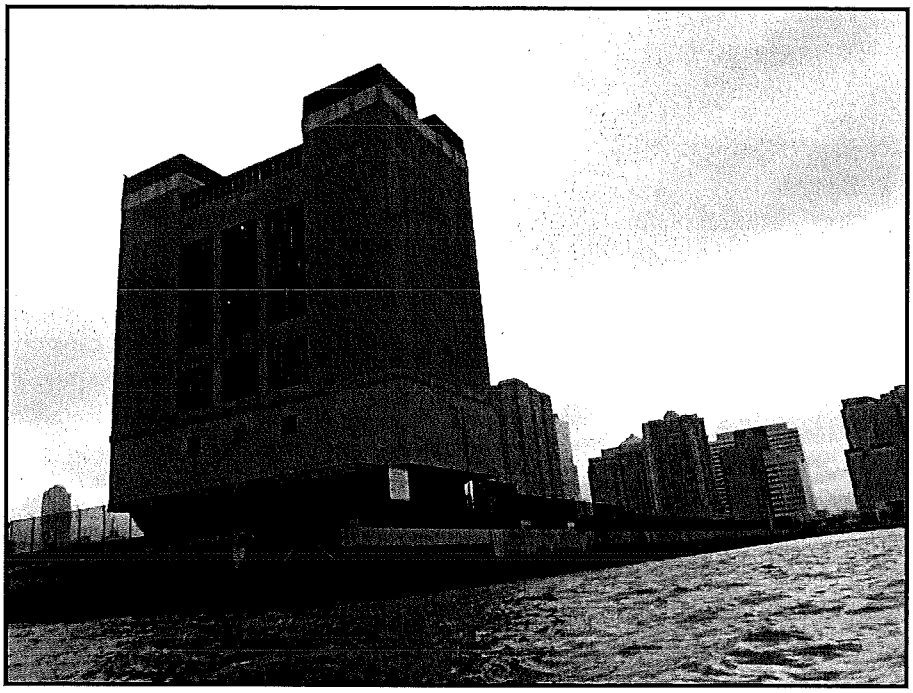
Other Firms Involved

N/A

Project Description

CH2M HILL (as Halcrow) performed a cyclical condition survey of the Holland Tunnel Pier 9/204 facility located in Jersey City, NJ. The purpose of the inspection was to determine the overall condition of the structures and to identify structural and non-structural deficiencies that could adversely affect existing operations.

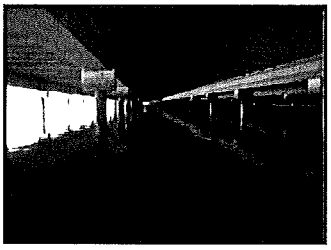
We performed the baseline condition survey of the facility in 2003, and subsequent cyclical condition surveys in 2006, 2009, and 2011. During the 2011 inspection we discovered one condition that required immediate action. It was recommended to restrict vehicular loading to a portion of the structure due to accelerated marine borer deterioration of the timber structural elements. It was also recommended that a temporary access bridge and gangway be installed. The firm designed both the temporary access bridge and gangway structures and are providing construction support for both efforts. Additionally, we are currently performing an interim inspection of the Center Pier to identify any conditions that have significantly changed since the last inspection in 2011 that could adversely affect existing operations.



CH2MHILL

LaGuardia Airport Studies

Queens, New York



Client Contact

The Port Authority of New York & New Jersey
100 Mulberry Street
3 Gateway Center, 3rd Floor
Newark, NJ 07102

Runway Safety Areas Improvement Analysis
Mr. Joseph Calautti
973.792.4337

Engineering Study of the Rehabilitation of Runway Deck
Mr. Rao Chava
973.792.4479

Start/Completion Dates

2010, Runway Safety Areas Improvement Analysis
2010, Engineering Study of the Rehabilitation of Runway Deck

Constructed Value

$970 K (fee), Runway Safety Areas Improvement Analysis

Contract Value

$185K, Engineering Study of the Rehabilitation of Runway Deck

ESCO Engineers & Services, P.C Deck

Project Description

The Port Authority of New York & New Jersey (PANYNJ) owns and operates La Guardia Airport. A portion of the two airport runways are located in Flushing Bay and are supported on steel pipe piles, concrete pile caps, prestressed girders, and reinforced concrete deck.

Runway Safety Areas Improvement Analysis

In March 2010, CH2M HILL (as Halcrow) entered into a contract with PANYNJ for the "Performance of Expert Professional Runway Safety Areas Improvement Analysis Services at LaGuardia Airport". The scope of work required an evaluation of six alternatives defined by the PANYNJ, with development of lifecycle costs, for making runway safety area improvements at the airport.

The dimensions of the proposed new runways, and associated safety facilities and requirements, were finalized for each alternative to confirm the size of additional structure required for the existing deck. Various structural systems were compared on a construction cost basis, to develop an optimum structural arrangement for the proposed deck extensions. Studies were made to determine the range of options currently available to provide corrosion mitigation solutions for the deck structure. Lifecycle cost comparisons were developed for the most suitable solutions, and final solutions were selected for each of the runway extension deck structure elements. The most cost effective structural arrangement was determined to comprise of a flat slab deck with concrete pile caps supported on vertical steel pipe piles.

The flat slab deck was determined to be a composite of precast, prestressed concrete planks, and cast-in-place concrete, with post tensioning in two directions. Corrosion mitigation uses of a state-of the-art concrete mix, designed for a 50 year life, together with corrosion monitoring equipment installed during construction. Pile caps comprise post-tensioned precast concrete elements with pile plug/cap connections using stainless steel reinforcing to provide corrosion mitigation. 24 in. diameter steel pipe piles with reinforced closed ends will be protected above water using a non-structural polymer sheath, infilled with cementitious grout. Below water protection includes a coal tar epoxy coating, with sacrificial anodes.

Practicable and conservative construction planning assumed construction over a six nights a week work schedule, with only one runway under construction at any time. Lifecycle costs, over a 50 year period, were calculated for each alternative, inclusive of capital construction costs, and operational and capital maintenance costs.

Engineering Study of the Rehabilitation of Runway Deck

The Firm was also retained in 2010 to provide an in depth inspection from below deck of all reinforced concrete structural elements, to include pile caps, girders, deck soffit, and sheet pile bulkhead.

The purpose of the evaluation was to review and evaluate the effectiveness of the past rehabilitation practices (steel and concrete jacketing and thickening bottom of deck, etc.) for pile caps, girders and deck slabs, and make recommendations for improvements or alternate repair details based on current industry practices.

Additionally, short and long term repairs with costs for pile caps, girders and deck slabs were prepared.

CH2MHILL

Newark Liberty International Airport Bridges

Newark, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2010

Contract Value

$ 58K

Project Team

Project director: Jonathan Goldstick

Project manager: Maki Onodera

Team leader: Maki Onodera

Other Firms Involved

N/A

Project Description

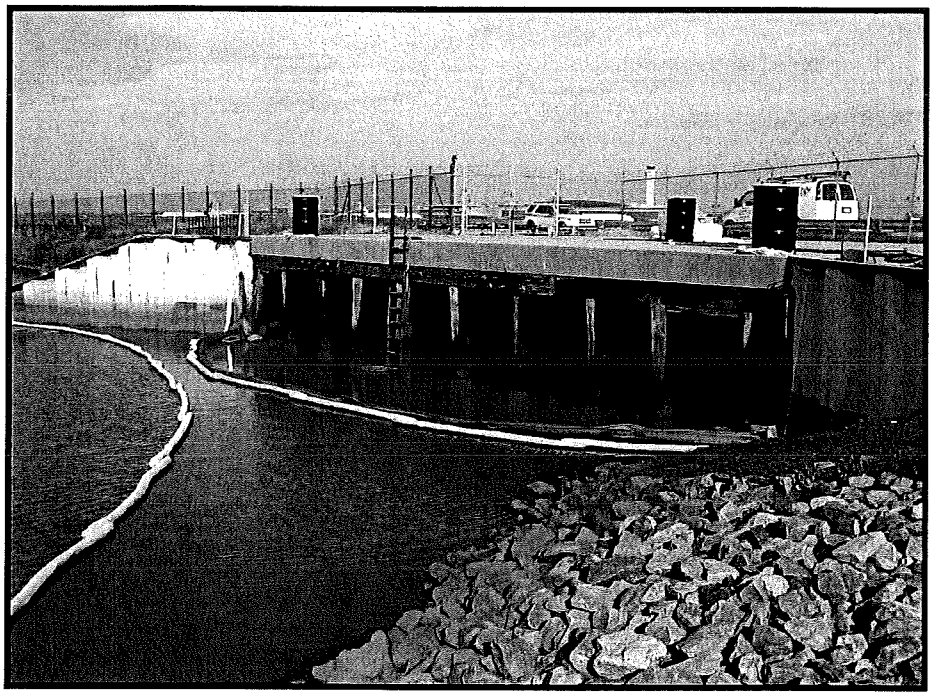
CH2M HILL (as Halcrow) performed a condition survey of Bridge Nos. N27, N41 and N53 located at Newark Liberty International Airport in Newark, New Jersey.

Bridge No. N27 is a nine-span timber pile-supported bridge approximately 46 ft wide and 277 ft long located along the service road parallel to Runway 4-22 and adjacent to the pump house. The bridge is supported on approximately 600 timber piles and includes a steel sheet pile wingwall and timber bulkheads along the length of the bridge.

Bridge No. N41 is a seven-span concrete box culvert approximately 94.5 ft long and 600 ft wide. The bridge is located within the rental car lots occupied by National at the south end and Hertz at the north end.

Bridge No. N53 is a two-span multi-prestressed box beam bridge approximately 65.7 ft long and 1850 ft wide. The prestressed box beams are supported on concrete abutments at both ends and a steel pipe pile-supported center concrete pier. The bridge spans over a drainage ditch and runs parallel to Taxiway Y.

The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. Port Authority of New York and New Jersey and New Jersey Department of Transportation condition survey reports were prepared for each bridge in accordance with the respective guidelines.



CH2MHILL

Newark Liberty International Airport Culverts

Newark, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2010

Contract Value

$ 100K

Project Team

Project director: Jonathan Goldstick

Project manager: Maki Onodera

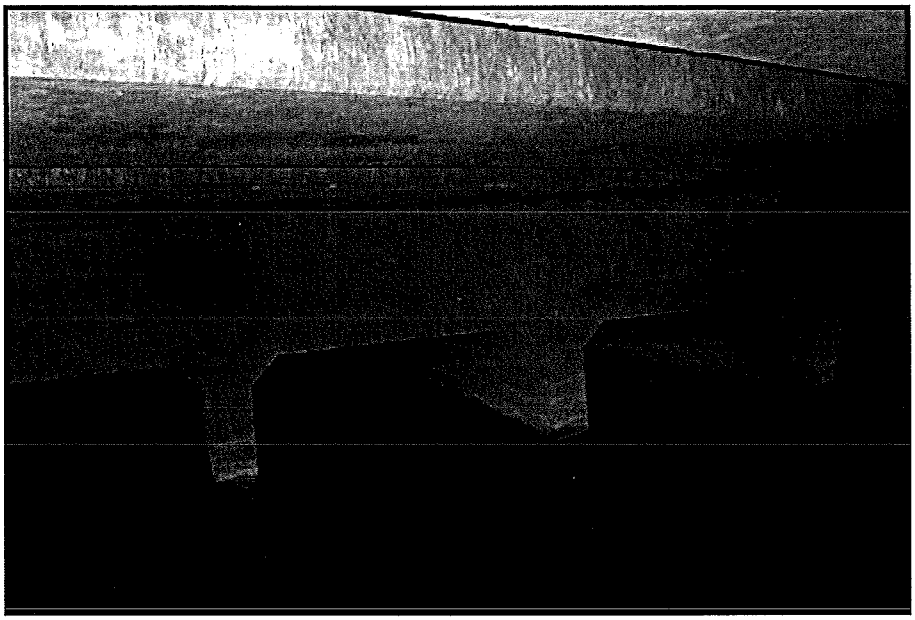
Team leader: Maki Onodera

Other Firms Involved

N/A

Project Description

CH2M HILL (as Halcrow) performed a condition survey of Culvert Nos. 5 and 7 located beneath the runways and taxiways at Newark Liberty International Airport in Newark, New Jersey. Culvert No. 5 is a 1,790 ft long triple barrel reinforced concrete culvert located beneath Runway 11-29 and Taxiways U, W, Y, and Z. Culvert No. 7 is an 890 ft long triple barrel reinforced concrete culvert located beneath Runway 4-22 and Taxiway P. The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report was prepared in accordance with the Authority's "Guidelines for Condition Survey of Waterfront Structures".



CH2MHILL

Port Elizabeth Even Berths 50 to 66

Elizabeth, NJ

Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2010

Contract Value

$ 224K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: George Dinos

Other Firms Involved

N/A

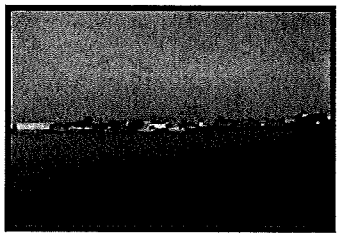
Project Description

CH2M HILL (as Halcrow) performed a condition survey of Port Elizabeth Berths 50, 52, 54, 56, 58, 60, 62, 64 and 66. Over 8,000 timber and steel piles, to include concrete pile extensions, were inspected. Additionally, concrete pile caps, deck, seawalls, and timber bulkhead were inspected, to include a cursory inspection of the riprap dike. The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report was prepared in accordance with the Authority's "Guidelines for Condition Surveys of Waterfront Structures.

CH2MHILL

Port Newark Berths 3, 14, 17 and 21 Immediate Repairs

Newark, NJ



Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2010-2012

Contract Value

$ 358K

Project Team

Project director: Jonathan Goldstick

Project manager: Maki Onodera

Team leader: Brett Sposito

Other Firms Involved

N/A

Project Description

CH2M HILL (as Halcrow) designed and developed contract documents for immediate repairs to Port Newark Berths 3, 14, 17 and 21.

Berth 3

Berth 3 is an L-shaped low-level platform that varies in width from 35 ft to 76 ft. Timber pile bents spaced 6 ft on center support timber pile caps and deck planks with an asphalt deck topping on earth fill. A timber sheet pile bulkhead retains the fill at the inshore side of the relieving platform and a reinforced concrete bulkhead wall retains the fill at the offshore face of the wharf.

For Berth 3, the rehabilitation consisted of sealing gaps between timber sheet piles with the installation of timber sheets over the gaps, repairing breaks and gaps in timber deck planks with the installation of additional planking to be supported by angles attached to the side of existing pile caps, and repairing a sinkhole with the pressure injection of a lightweight cellular concrete fill and replacement of asphalt concrete.

Berth 14

Berth 14 is a low-level platform that is 587 ft long and 43 ft wide. For a majority of the berth, timber piles support timber pile caps and deck planks with an asphalt deck topping on earth fill. A timber sheet pile bulkhead retains fill at the inboard side of the berth and a concrete seawall retains the fill at the outboard side of the berth.

For Berth 14, the demolition and stabilization consists of removing the fill and concrete seawall of the low level platform for a majority of the berth and installing a gabion wall.

Berth 17

Berth 17 is a high-level relieving platform that is 528 ft long and 49 ft wide. Timber piles with concrete pile extensions support reinforced concrete pile caps and a reinforced concrete deck. A concrete bulkhead wall retains fill at the inshore side of the relieving platform.

For Berth 17, the rehabilitation consisted of repairing a damaged water main and the resultant sinkholes, settlement areas, voids in the bulkhead, and a gap under the bulkhead.

Berth 21

Berth 21 is a 723 ft long by 50 ft wide high-level platform. Concrete-filled steel pipe pile bents spaced approximately 12 ft on center support reinforced concrete pile caps and a reinforced concrete deck with an asphalt surface. A steel sheet pile wall retains the earth fill at the inshore side of the berth.

For Berth 21, the rehabilitation consisted of repairing a void and spall at an expansion joint in the concrete deck, located between active rail tracks.

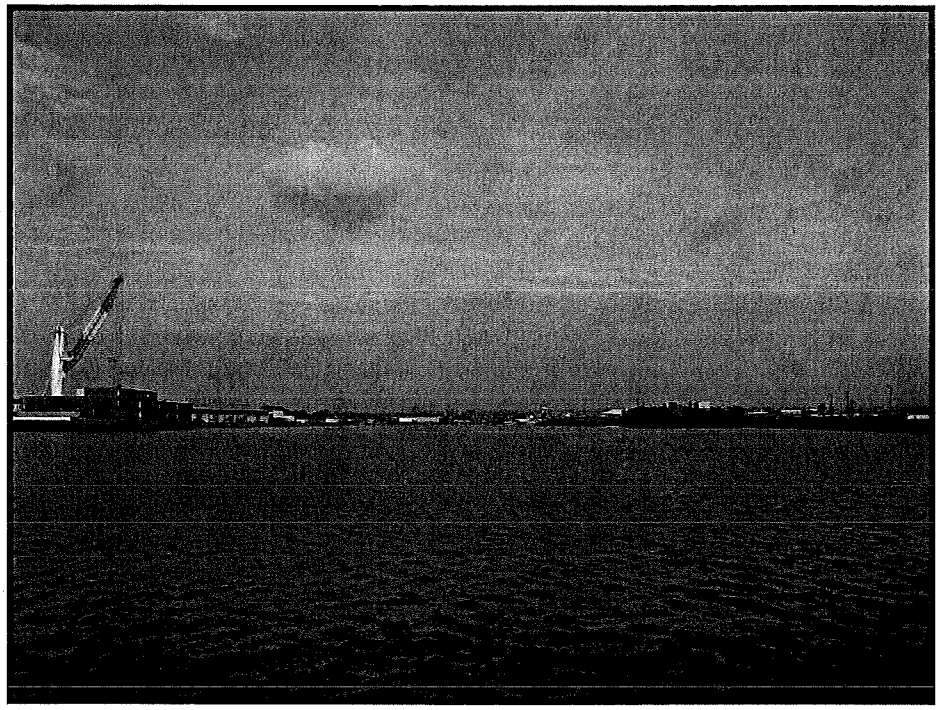
CH2MHILL

Port Newark Even Berths 2 to 36

Newark, NJ

Project Description

CH2M HILL (as Halcrow) are currently performing a condition survey of Port Newark Berths 2, 4, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34 and 36. Over 9,000 piles, to include pile extensions, will be inspected. Additionally, concrete pile cap beams, deck, seawalls, and bulkhead will be inspected. The purpose of the survey is to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report will be prepared in accordance with the Authority's "Guidelines for Condition Survey of Waterfront Structures".



Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2012

Contract Value

$ 300K

Project Team

Project director: Jonathan Goldstick

Project manager: Brett Sposito

Team leader: John Mogray/George Dinos

Other Firms Involved

N/A

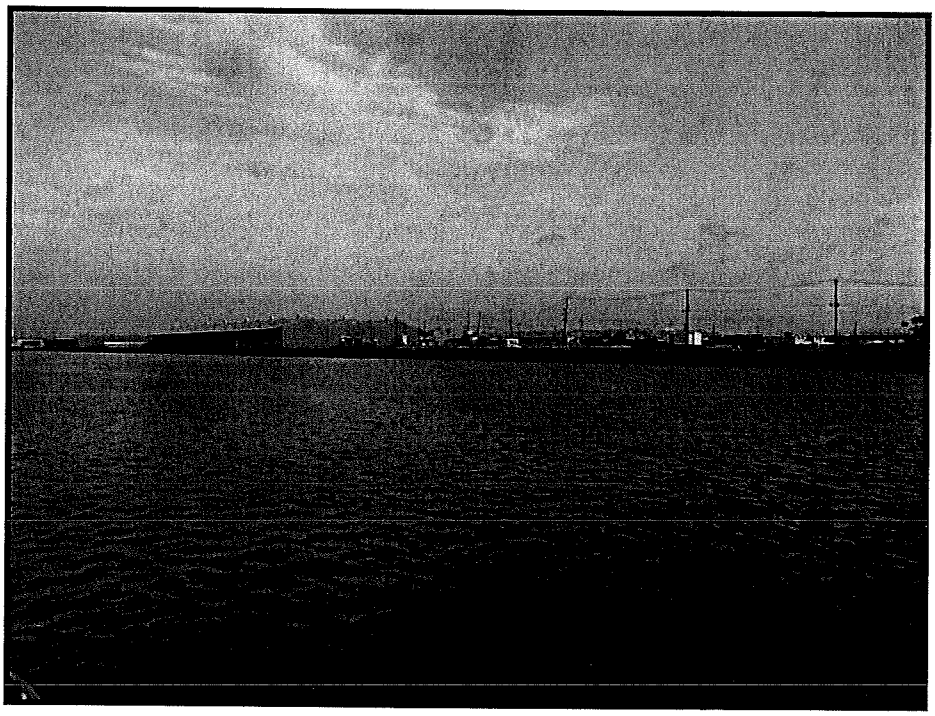
CH2MHILL

Port Newark Odd Berths 3 to 25

Newark, NJ

Project Description

CH2M HILL (as Halcrow) performed a condition survey of Port Newark Berths 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23 and 25. Over 10,000 piles, to include pile extensions, were inspected. Additionally, concrete pile cap beams, deck, seawalls, and bulkhead were inspected. The purpose of the survey was to determine the overall condition of the structures and to identify any structural and non-structural deficiencies. A condition survey report was prepared in accordance with the Authority's "Guidelines for Condition Survey of Waterfront Structures".



Client Contact

The Port Authority of New York and New Jersey

100 Mulberry Street

3 Gateway Center, 3rd Floor

Newark, NJ 07102

Mr. Mitch Aldea, P.E.

973.792.3940

Start/Completion Dates

2009

Contract Value

$ 303K

Halcrow Team

Project director: Jonathan Goldstick

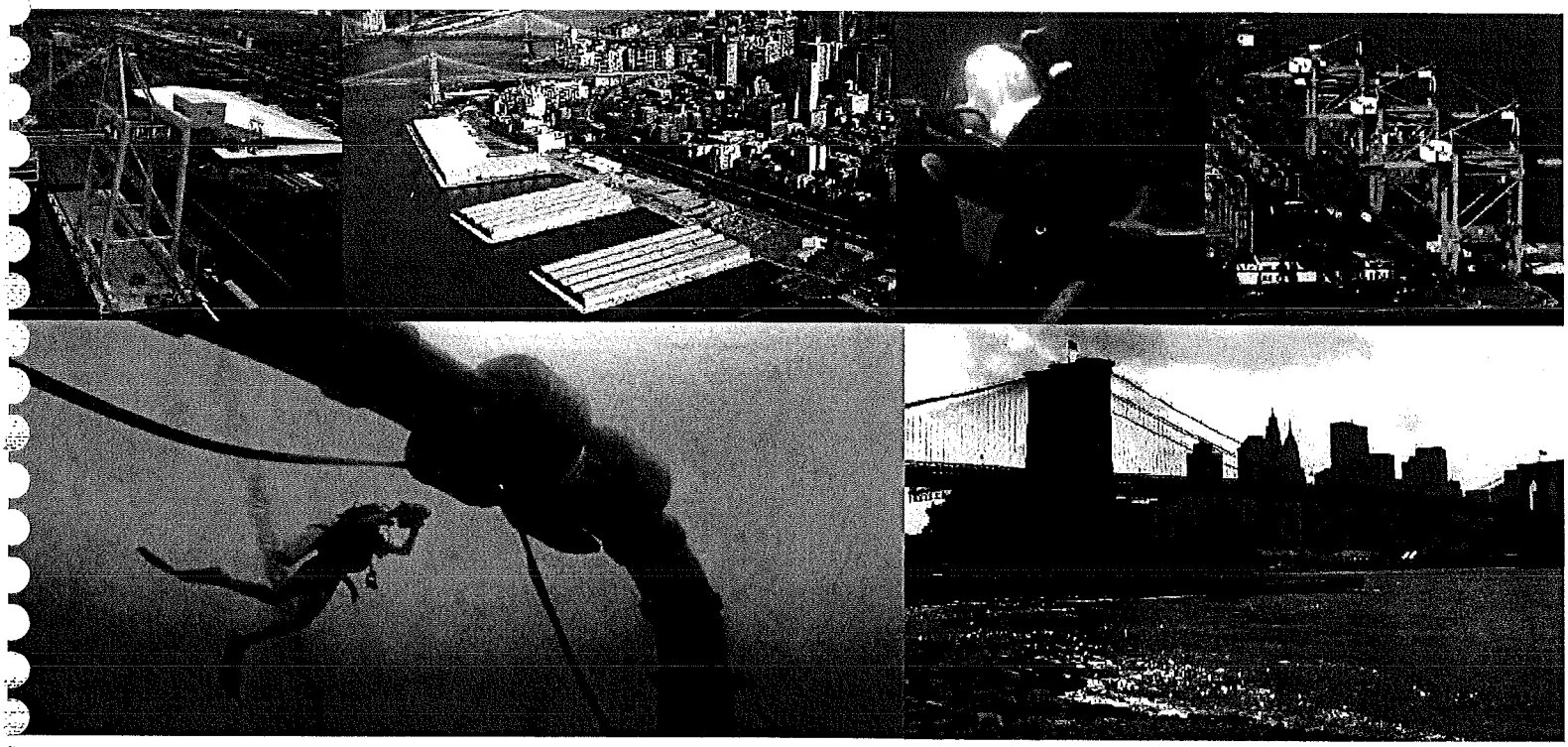
Project manager: Maki Onodera

Team leader: Brett Sposito

Other Firms Involved

N/A

Section 7 - Unit Prices



CH2MHILL.

MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES

EXHIBIT I - DAILY DIVE COST ESTIMATE

	ITEM	TIME	HOURLY RATE	MULTIPLIER	*STRAIGHT TIME CHARGE	*FLAT CHARGE	*OFFICE CHARGE
HOURLY RATE	Ch. Engineer Diver	8 Hours	$ 39.98	2.86	$ 914.74	$ 723.02	$ 914.74
	Engineer Diver	8 Hours	$ 32.09	2.86	$ 734.22	$ -	$ 734.22
	Inspector Diver	8 Hours	$ 37.14	2.86	$ 849.76	$ 347.52	$ 849.76

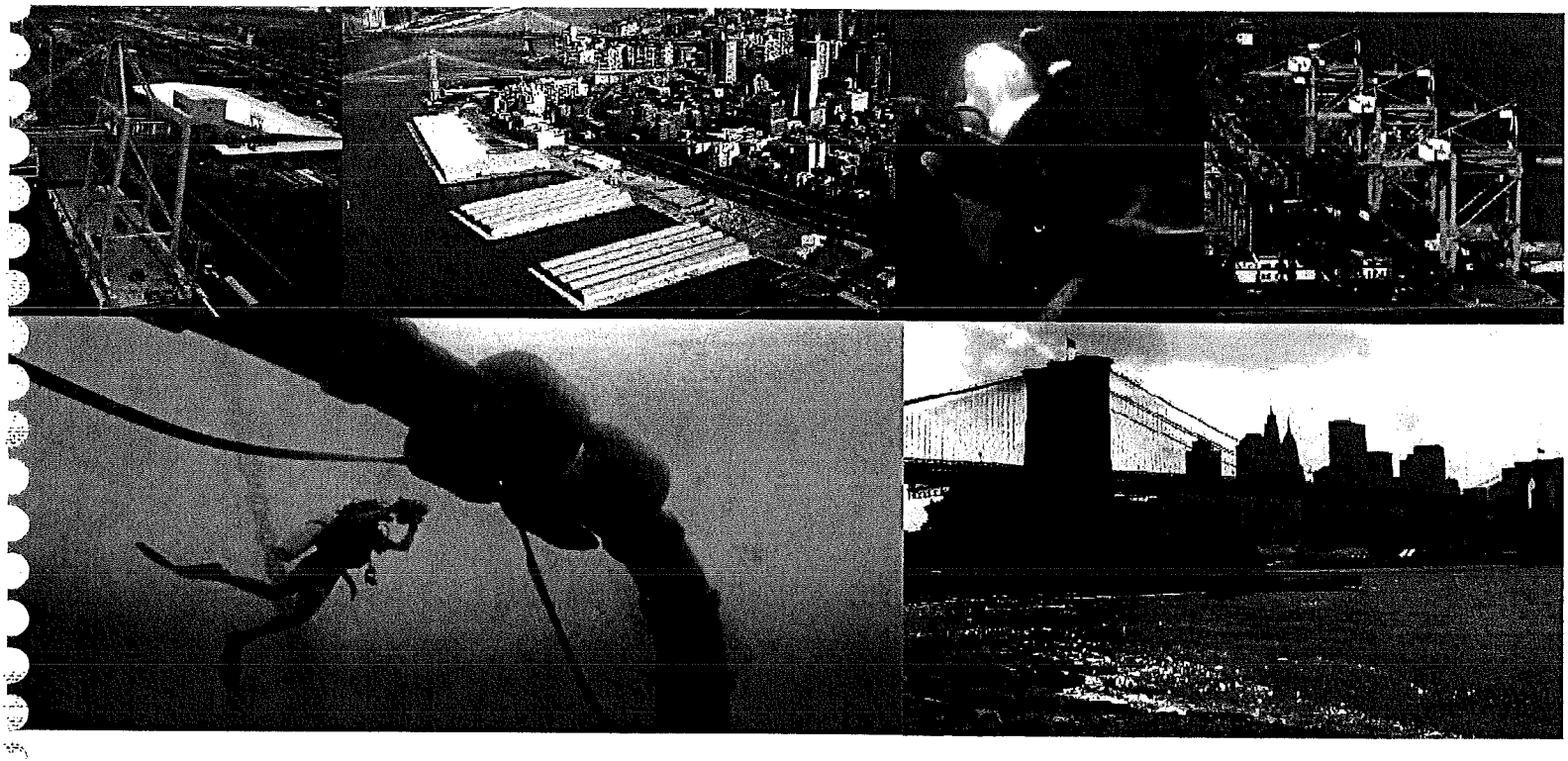
UNIT PRICES			
	Workboat (25-ft)	8 Hours	$ 400
	Workboat (16-ft)	8 Hours	$ 260
	U/W Video Camera System (color) per day		$ 140
	Hydraulic Wood Coring Equipment per day		$ 315
	U/W Cutting/Burning Equipment per day		$ 80
	HAZMAT Diver Encapsulation Gear per day		$ 75
	Water Jet Pump per day		$ 95
	UT Oscilloscope (KB USK7 DTM) per day		$ 180

CH2M HILL Notes:
Typical dive team is 1 PW diver, 1 PW tender, and one member at office rate. Flat rates shown above reflect that team make-up.
Office charges would be based on agreed number of hours at the hourly rate x multiplier above.

* ***NOTES:***

STRAIGHT TIME CHARGE = No. of Hours x Hourly Rate x Multiplier
FLAT CHARGE = Diver Premium of $_____/hour - Employee Rate/Hour x Number of Hours
OFFICE CHARGE = Employee Rate/Hour x Number of Hours (Diver Premium Does not apply) Any office time gets added to the Straight Time Charge Total

Section 8 - Firm Affiliates



CH2MHILL.

Firm Affiliates

CH2M HILL Canada Limited - 3025802

CH2M HILL Constructors, Inc. - 84-1230545

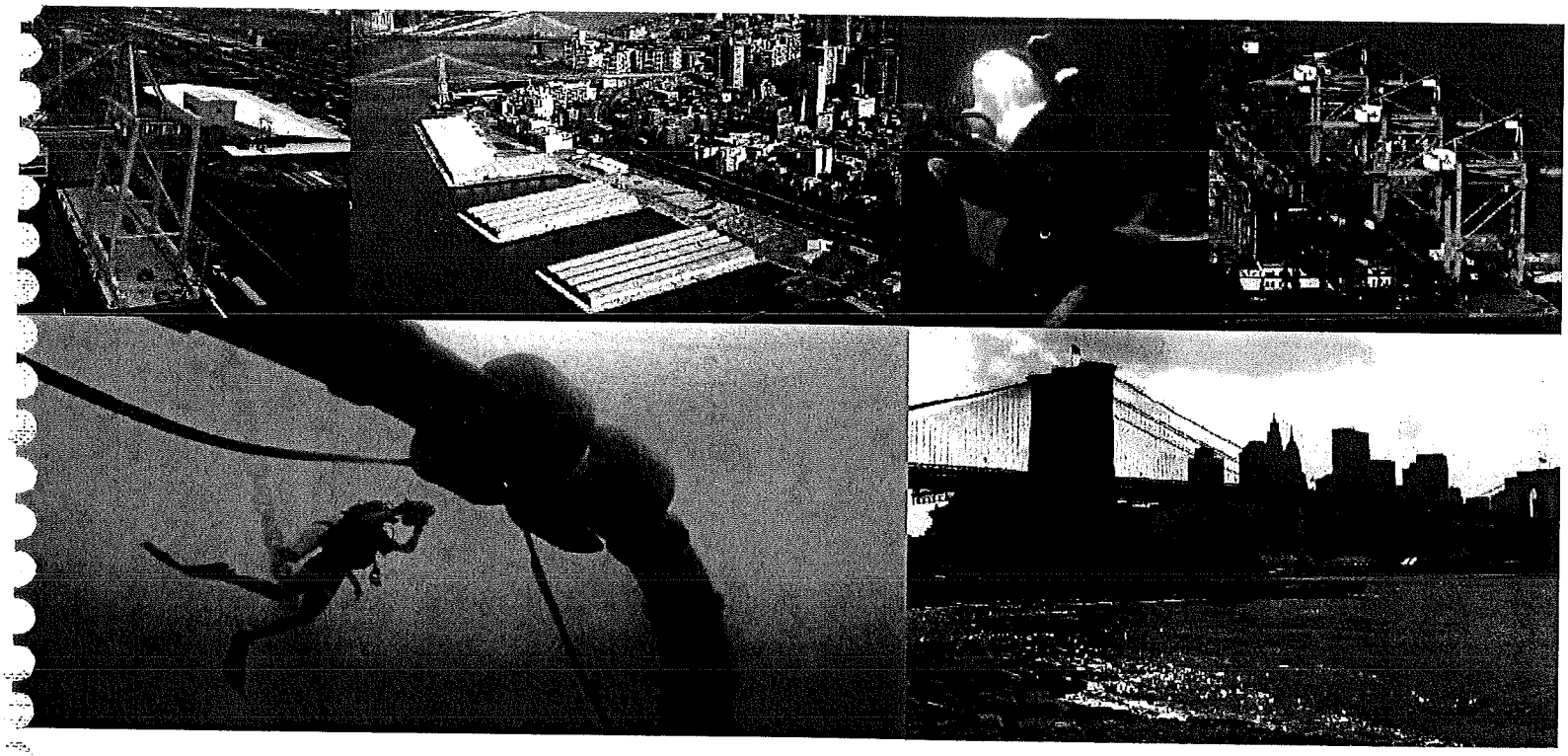
CH2M HILL Energy, Ltd. - 71-1036839

CH2M HILL Global, Inc. - 52-2418319

CH2M HILL International, Ltd. - 84-1141196

Operations Management International, Inc. - 93-0784940

Section 9 - Conflicts of Interest

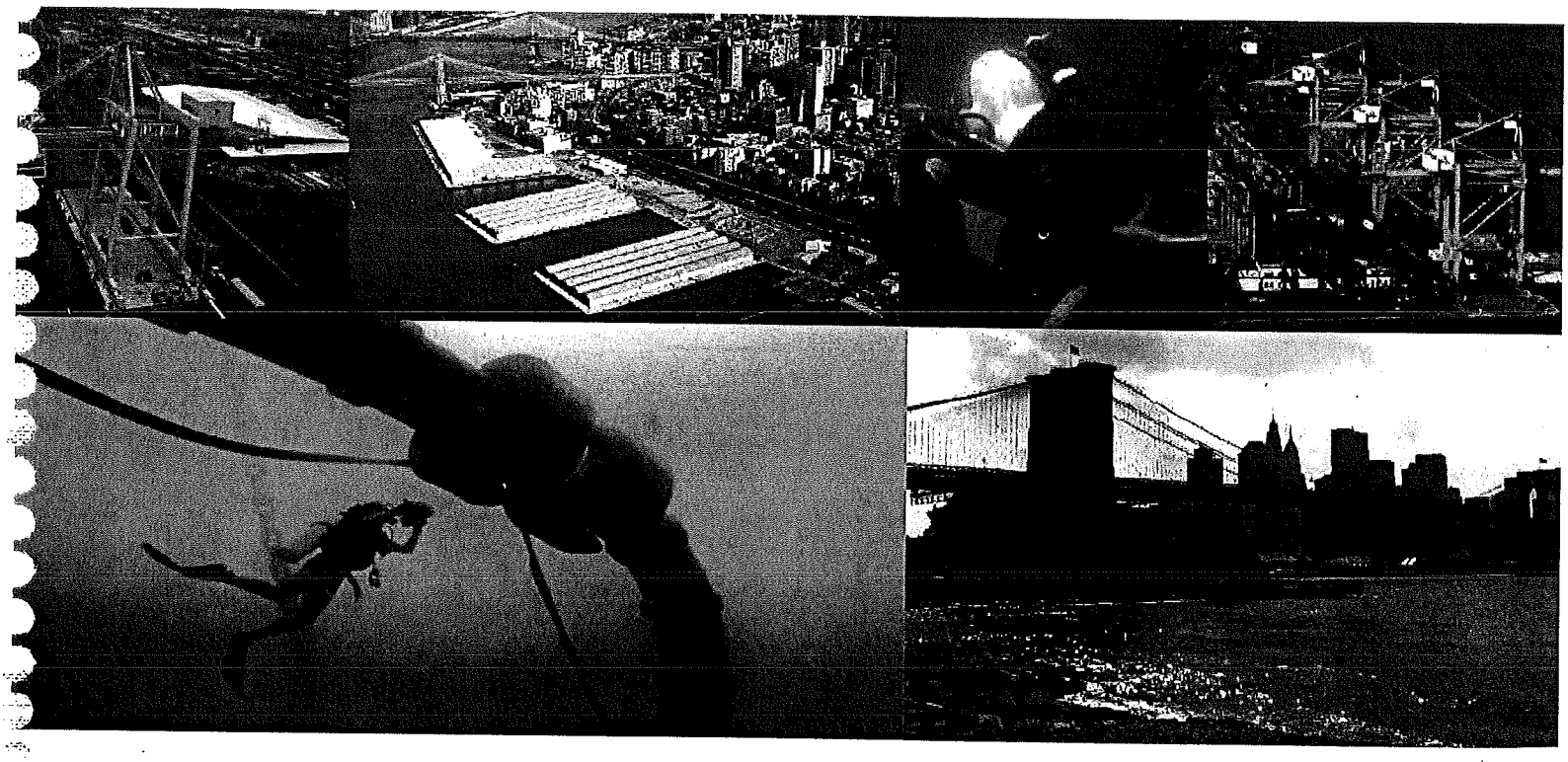


CH2MHILL.

Conflicts of Interest

CH2M HILL (including all employees, agents or subcontractors) has no conflicts of interest to declare.

Section 10 - Terms and Conditions



CH2MHILL.

Terms and Conditions

CH2M HILL has thoroughly reviewed the Authority's Standard Agreement and has found it to be in keeping with past contracts. CH2M HILL has no specific exemptions as part of this call-in basis contract

CH2MHILL
22 Cortlandt Street
New York, NY 10007
212.608.3990

ch2m.com

CH2MHILL®

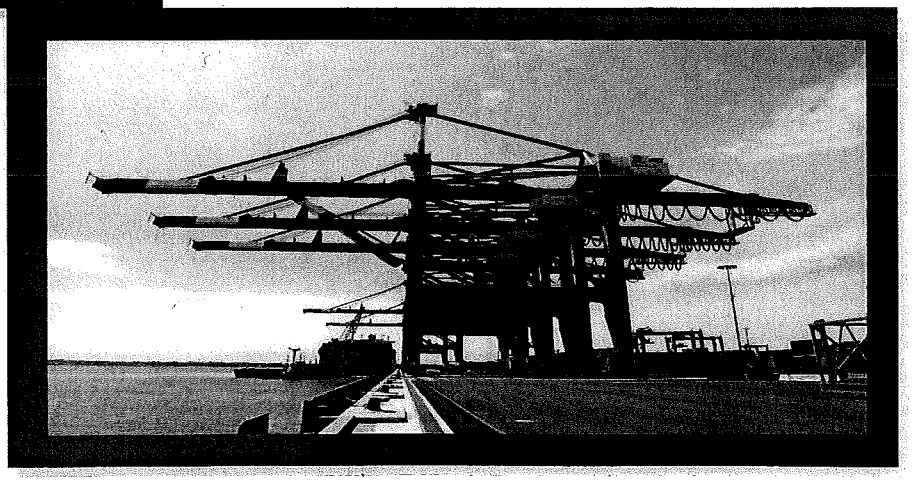
THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY

Original

Response to RFP #30225
Performance of Expert Professional

Marine Condition Surveys of Piers and Waterfront Facilities As Requested on a "Call-In" Basis During 2013

September 18, 2012 2:00 PM



ICLaren ENGINEERING GROUP

M. G. McLaren, P.C.
100 Snake Hill Road West Nyack, N.Y. 10994
(845) 353-6400 Fax. (845) 353-6509

TABLE OF CONTENTS

ATTACHMENT B

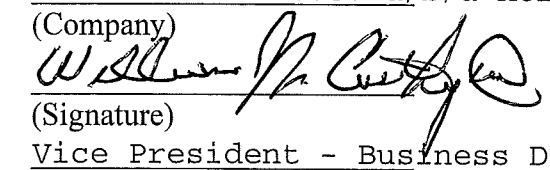
REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, as more fully set forth in the FOI Code, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

M.G. McLaren P.C. d/b/a McLaren Engineering Group
(Company)



(Signature)
Vice President - Business Development
(Title)
September 18, 2012
(Date)

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ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL FACILITY CONDITION SURVEYS FOR WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2012 (RFP #26350)

1. Company Name (print or type):

   M.G. McLaren P.C. d/b/a McLaren Engineering Group

2. Business Address (to receive mail for this RFP):

   100 Snake Hill Road

   West Nyack, NY 10994

3. Business Telephone Number: (845)353-6400

4. Business Fax Number: (845)353-6509

5. Firm website: http://www.mgmclaren.com/

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 2 / 1 /1977

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

Highland Equipment Rental, P.O. Box 60, West Nyack, NY 10994, EIN: 11-3089183

LandMetrics Engineering & Land Surveying, 100 Snake Hill Rd., W. Nyack,NY 10994, EIN: 20-8545100

9. Officer or Principal of Firm and Title:

   Malcolm G. McLaren/President & CEO

10. Name, telephone number, and email address of contact for questions:
    William J. McCarthy III

    Tel: 845-353-6400 x354/ E-mail: wmccarthy@mgmclaren.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

McLaren ENGINEERING GROUP applied ingenuity

bridge, highway & rail engineering
entertainment engineering
subaqueous investigation
civil & site engineering
structural design
marine facilities
geotechnics
surveying
forensics

September 18, 2012

The Port Authority of New York and New Jersey
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302

Attn: RFP Custodian

Re: Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013, RFP #30225
McLaren File No. 120707

To whom it may concern:

M. G. McLaren, P.C. (McLaren) is pleased to submit one (1) reproducible original and three (3) copies, along with four (4) compact disc copies of our proposal to provide Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013. Based on McLaren's unique experience and qualifications, we strongly believe that we are ideally suited for this on-call agreement.

McLaren is one of few firms in the nation with expertise in the above and underwater inspection as well as the design of piers and waterfront structures. We are an engineering firm with extensive in-house inspection capabilities and experience, and when not in the field, our inspectors are supporting the report and design effort. This allows our staff to not only perform inspections, but also execute effective condition assessments and repair designs.

Key McLaren Attributes:

- ***Thirty-Five Years of Waterfront Facilities Engineering Excellence...***McLaren possesses a 35-year history of providing full service structural engineering, above/ underwater inspection services, and marine/ocean engineering and design and construction inspection services. We are experts in all facets of above and underwater inspection and condition assessment of waterfront facilities structures ranging from piers, bulkheads, bridge foundations, and breakwaters to floating platforms and ferry terminals.
- ***Professional Engineer/Divers...***McLaren can provide seven (7) in-house divers that possess either New York or New Jersey P.E. Licenses. Our Engineer Divers are ADC certified, "fit to dive" certified, CPR and First Aid Certified, Oxygen Provider Certified - all per Army Corps EM385-1-1. They are all graduates of the NBIS course for above and underwater inspection.
- ***Staff Inspector Diver Availability...***McLaren can provide thirteen (13) in-house Inspector Divers for this contract.
- ***Underwater Inspection Team Availability...***McLaren is able to provide four (4) three-man Underwater Inspection Teams as needed for this contract. As demonstrated by our Organization Chart provided herein, we can provide additional inspectors should the need arise.
- ***Full-Service Engineering...***With eight (8) full-fledged technical divisions, McLaren can cover almost all aspects of major facility development projects. We have a long history of combining marine and structural engineering with survey services for the inspection, assessment and design of all types of structures, a history that is substantiated by our extensive experience portfolio as described herein.
- ***NYC Waterfront Experience...***McLaren has successfully resourced and served the assessment of waterfront structures comprising approximately 75 percent of the perimeter of Manhattan Island and the surrounding areas within the last decade.
- ***Technical Hot Buttons...***McLaren is well acquainted with the issues and "technical hot buttons" especially those that are likely to be focused on by the state and local agencies. We have hands on and recent

M. G. McLAREN, P.C.
100 Snake Hill Road
West Nyack, New York 10994
Phone (845) 353-6400
Fax (845) 353-6509
e-mail: mgmclaren@mgmclaren.com
On the web: www.mgmclaren.com

experience with the issues of above/underwater inspection and design services on waterfront facilities in the New York area and are very familiar with the sensitivities of the region.

- ***Equipment...***McLaren's staff has available to them all of the necessary equipment required to complete all above and underwater condition assessments that will be assigned during this "call-in" agreement.
- ***OSHA Safety Record***...Our Engineer Divers have successfully completed over 200 dive contracts in the last three years and have never had any OSHA violations during execution of these activities – or in the firm's entire history.
- ***Working Relationship...***McLaren understands and is familiar with the Port Authority of New York and New Jersey (PANY&NJ) standards, specifications and procedures, and we are particularly proud of our current professional working relationship with the PANY&NJ.
- ***Rapid Response...***Given our expertise in mobilizing our inspection crews worldwide, in addition to our corporate depth, McLaren can provide the PANY&NJ hands-on, immediate response to its requests any time a need arises. We are capable of inspecting, assessing and repairing damage above or below water, high in towers or bridges and on fast land anywhere in the world on a moments notice.
- ***Effective Cost Efficient Response...***McLaren understands the PANY&NJ's need and concern for cost-effective technical response and the need to keep assignments on schedule and under budget. This will be a paramount concern to McLaren throughout this effort.
- ***Project Management Expertise...***McLaren is known for its management expertise throughout the inspection process, resulting in cost efficiencies, exchange of ideas and information and development of the eventual proper design solution.

We believe McLaren's commitment to excellence and our experience in working with the PANY&NJ will assuredly provide you with the comprehensive breadth of expertise and capabilities necessary to perform successfully on this "Call-In" Agreement. Full effort will be made to meet the PANY&NJ's MBE/WBE participation goals.

Our proposal is based on our thorough review of the RFP. We structured it in accordance with the RFP requirements to facilitate your review. On the following pages we demonstrate our compliance and prequalification requirements identified in Section 1 of the RFP. Please do not hesitate to contact me or Mr. William J. McCarthy III, Vice President: Business Development, at (845) 353-6400 if you have any questions or require any additional information.

Very truly yours,

The Office of
McLaren Engineering Group
M.G. McLaren, P.C.

Malcolm G. McLaren, P.E., SECB
President
MGMcL/WJM/rls

Enclosures
cc: File 120707, MGM, WJM, SDF – Internal

P:\Proj120\120707\1_Proposal Tech Info\Response\Proposal\Working Documents\120707 Cover Letter.doc

McLaren understands that firms selected for performance of the subject services must meet the following requirements as follows:

A. ***Staff P.E. Divers/Diver Inspectors...*** McLaren has one (1) or more Divers with a New York P.E. License, one (1) or more Divers with a New Jersey P.E. License, and eight (8) or more Inspector Divers on staff. McLaren has provided resumes for nine of the following individuals in Section D of this proposal, with more available upon request. These resumes contain information relative to certifications, registrations, education and project experience.

• Malcolm G. McLaren, P.E.	NY- #056880-1	NJ- #24GE02647600
• James Green, P.E.	NY- #078453-1	NJ- #24GE04707900
• Brian Moody, P.E.	NY- #078994-1	
• Matthew Daniels, P.E.	NY- #084989-1	
• Craig Plate, P.E.	NY- #090837-1	
• Brandon Quadrini, P.E.	NY- #081098-1	
• Dominic Desantis, P.E.	NY- #090828-1	
• Dan Korkosz		
• Carl Sundvik		
• John St. Denis		
• Brian Fischer		
• Steve Molison		
• Shannon Clarke		

B. ***Staff Underwater Inspection Teams...*** McLaren is able to provide two (2) three-man Underwater Inspection Teams, as needed. As described in our firm's Organizational Chart (Figure E-1) in Section E, we have four (4) teams available. In addition, McLaren has Alternate Inspectors available. Relevant corporate and staff licenses are provided on the following pages.

Professional Engineer Licenses

CA-20

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New Jersey Office of the Attorney General
Division of Consumer Affairs

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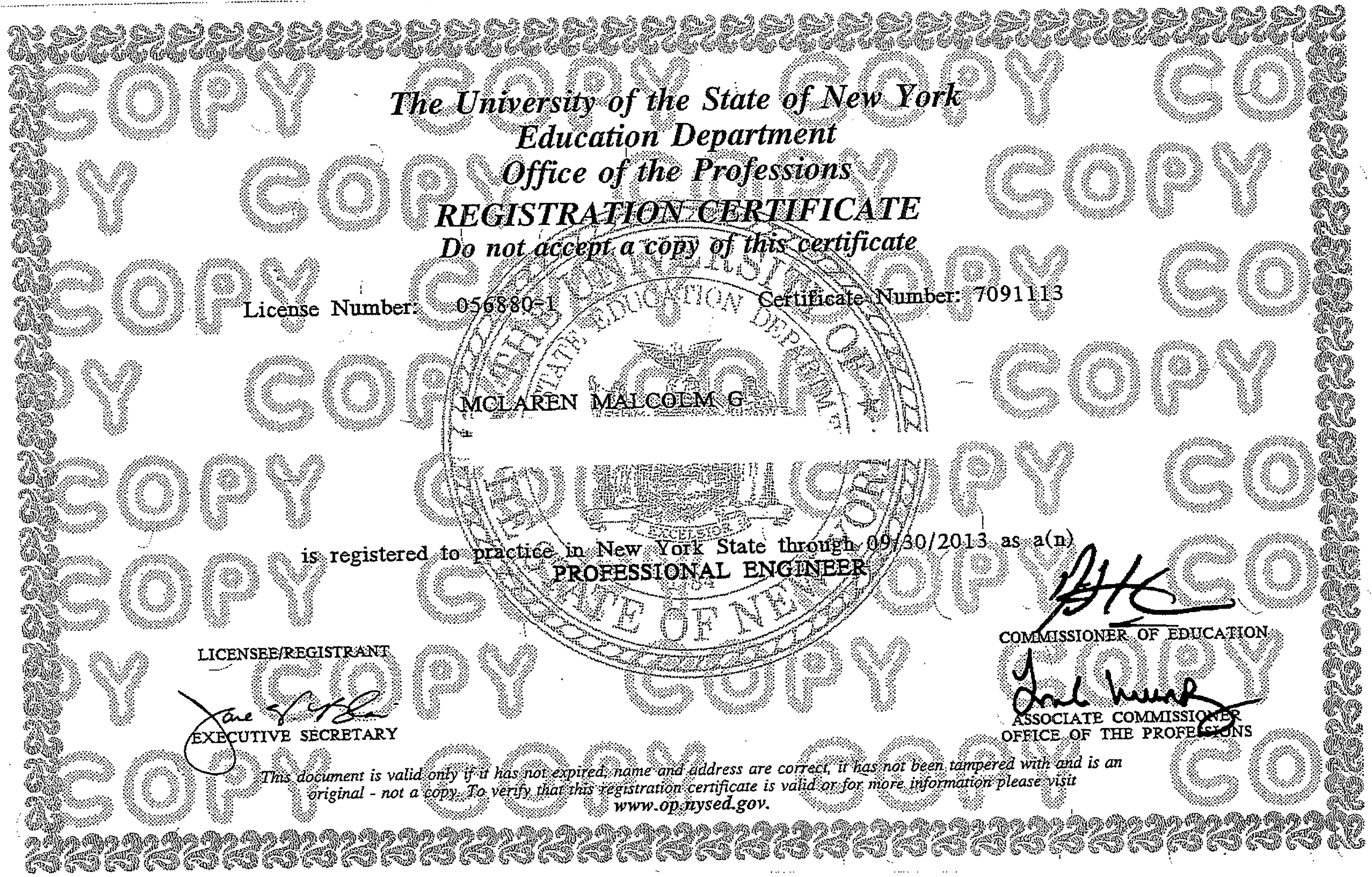
HAS LICENSED

MALCOLM G. MC LAREN

FOR PRACTICE IN NEW JERSEY AS A(N): Professional Engineer

03/30/2012 TO 04/30/2014
VALID

24GE02647600
LICENSE/REGISTRATION/CERTIFICATION #



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MCLAREN MALCOLM G

is registered to practice in New York State through 09/30/2013 as a(n)
PROFESSIONAL ENGINEER

LICENSEE/REGISTRANT

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GREEN JAMES VINCENT

is registered to practice in New York State through 01/31/2015 as a(n)
PROFESSIONAL ENGINEER

LICENSEE/REGISTRANT

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COMMISSIONER OF EDUCATION

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Division of Consumer Affairs

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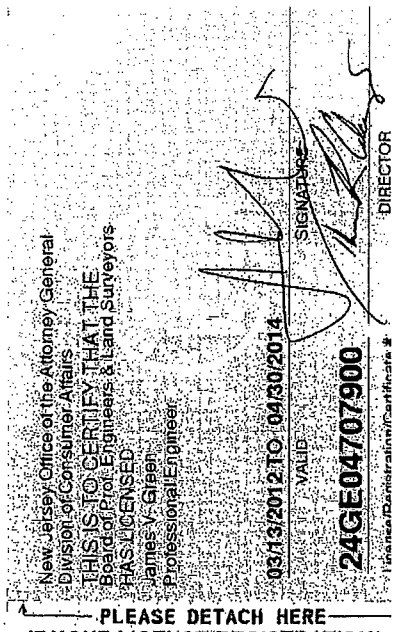
James V. Green
(Ex. 1)

FOR PRACTICE IN NEW JERSEY AS A(N): Professional Engineer



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P.O. Box 45015
Newark, NJ 07101

03/13/2012 TO 04/30/2014
VALID

24GE04707900
LICENSE/REGISTRATION/CERTIFICATION #

Signature of Licensee/Registrant/Certificate Holder

DIRECTOR

PLEASE DETACH HERE

James V. Green EXPIRATION DATE **2014**

YOUR LICENSE/REGISTRATION/CERTIFICATE NUMBER IS **24GE 04707900** . PLEASE USE IT IN ALL CORRESPONDENCE TO THE DIVISION OF CONSUMER AFFAIRS. USE THIS SECTION TO REPORT ADDRESS CHANGES. YOU ARE REQUIRED TO REPORT ANY ADDRESS CHANGES IMMEDIATELY TO THE ADDRESS NOTED BELOW.

Board of Prof. Engineers & Land Surveyors
P.O. Box 45015
Newark, NJ 07101

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If the law governing your profession requires the current license/registration/certificate to be displayed, it should be within reasonable proximity of your original license/registration/certificate at your principal office or place of business.

To: Licensee/Registrant

- Please review the Registration Certificate below to be sure the information on it is correct.
- If any of the information is not correct, please contact us at OPREGFEE@mail.nysed.gov or (518) 474-3817, Ext. 410.
- If the information is correct, sign above the Licensee/Registrant block and please destroy any previous Registration Certificates you may have, as certificates with incorrect information are not valid and should not be kept.
- Should your address or name change, please notify us as described on the reverse and a new certificate will be issued.

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License Number: 078994-1 Certificate Number: 6854896

MOODY BRIAN C
(Ex. 1)

is registered to practice in New York State through 12/31/2012 as a(n)
PROFESSIONAL ENGINEER

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DANIELS MATTHEW JAMES

is registered to practice in New York State through 02/28/2013 as a(n)
PROFESSIONAL ENGINEER

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EDUCATION DEPARTMENT

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PROFESSIONAL ENGINEER

IN THE STATE OF NEW YORK

IN WITNESS WHEREOF THE EDUCATION DEPARTMENT GRANTS THIS LICENSE
UNDER ITS SEAL AT ALBANY, NEW YORK
THIS TWENTIETH DAY OF JUNE, 2012.

PRESIDENT OF THE UNIVERSITY
AND COMMISSIONER OF EDUCATION

LICENSE NUMBER
090837

DEPUTY COMMISSIONER
FOR THE PROFESSIONS

EXECUTIVE SECRETARY
STATE BOARD FOR
ENGINEERING AND LAND SURVEYING

7855002

C-10

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License Number: 081098-1 Certificate Number: 7488828

QUADRINI BRANDON LAURENCE

is registered to practice in New York State through 08/31/2014 as a(n)
PROFESSIONAL ENGINEER

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License Number: 090828-1 Certificate Number: 7854993

DESANTIS DOMINIC VINCENT
(Ex. 1)

1784

is registered to practice in New York State through 05/31/2015 as a(n)
PROFESSIONAL ENGINEER

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C-12

Section D
Multiplier Breakdown

McLaren's multiplier and its breakdown is as follows:

M.G. McLaren, P.C. Proposed Multiplier	
Payroll	1.00
Overhead & Fringe Benefit	1.429 *
Subtotal	2.429
Profit (10%)	0.244
Audited Multiplier	2.673
Multiplier Proposed For This Assignment	**2.67**

***2011 CONR-385 Multiplier Summary in accordance with FAR Part 31**

Distribution of Field and Office Expenses

1. Direct Labor	**Amount**	**Percent**	**Total**
Office Engineering	$5,663,545	100%	$5,663,545
Field Engineering		0%	
Total	$5,663,545	100%	$5,663,545

2. Indirect Cost	**Total**	**Field**	**Office**
Indirect Labor	$3,885,049		$3,885,049
Payroll Taxes, Insurance & Fringes	$1,837,812		$1,837,812
General Allowable Overhead Expenses	$2,368,512		$2,368,512
Total Allowable Indirect Cost	$8,091,373		$8,091,373
3. Overhead Cost Rate (#2/#1*100)	**142.9%**		**142.9%**

The above multiplier breakdown does include all expenses (as delineated in the RFP), with the exception of certain specialty equipment (e.g. dive boats and vans) that are used only on specific type projects.

I. OVERVIEW

McLaren Engineering Group (McLaren) has assembled a staff of highly qualified professionals with considerable expertise in the areas of under and above water inspection, with a specialty in the area of marine borers infestation and remediation; construction inspection services; marine design and engineering; and project management. Our staff's ability to provide the highest level of service is exemplified by our history of successfully executing projects of similar scope and is combined with an understanding of the underwater/waterfront environment and further augmented by our understanding of the materials and techniques used in marine site inspection, construction and rehabilitation. Our carefully selected staff is prepared to provide the PANY&NJ with the appropriate facility inspection and condition assessment services for various waterfront structures.

McLaren retains its own forces for site investigations, and we can easily and rapidly commit those forces, as frequently as necessary, to properly address the PANY&NJ's requirements over the course of this "call-in" agreement. McLaren can, and has, responded to emergency situations on an immediate basis; that is, within hours. This flexibility makes it possible to maintain high quality in both service and deliverables.

McLaren's staff has successfully performed the underwater investigation, design and construction inspection of waterfront structures comprising approximately 75 percent of the perimeter of Manhattan Island within the last decade.

As a result of this vast New York Harbor experience, McLaren's engineer inspectors have become proficient in many specialized aspects of waterfront inspection, design and engineering, such as:

- Marine Borer and Zebra Mussel Identification
- Effects of Current Velocity on Scour
- Cathodic Protection – both Galvanic and Impressed
- Measurement of Water Resistivity and Stray Current
- Low Visibility Diving (Tactile Investigations)
- Cold Weather Diving
- Underwater Videography and Photography
- Various Cleaning Methods – Pneumatic Brush, Hand Scraper, Water Blaster
- Ultrasonic Testing
- Statistical Relevance of Representative Sampling
- Structural Analysis/Design of Structural Repairs/Construction Inspection
- Comprehensive Report Preparations and Surveys
- Execution and Management of On-Call Agreements
- Possess Established Relationships with NYC, NYS and NJ Regulatory Agencies
- Industry Protocols for Damage Assessment of Buildings and Bridges
- Extensive Experience Performing Site Inspections and Assessment of Building and Bridge Facility Structural Integrity
- Able to Provide Recommendations Regarding Public Safety
- Experienced Providing Structural Analyses and Reports
- Knowledge of Local and Specialized Testing Laboratories, when required
- Fluent Providing Recommendations Regarding New Technologies

A proposed project Organization Chart for the *Performance of Marine Condition Surveys and Diving Inspection Technical Services as Requested on a "Call-In" Basis During 2013* is provided on the following page in Figure E-1, while a full Staff Availability chart can be found in Figure E-2.

II. PROJECT TEAM

McLaren strongly believes that our team's qualifications and corporate depth will provide the PANY&NJ with technically sound, cost efficient solutions under this contract. We are pleased to offer a highly capable and motivated squad with both the knowledge and related technical, as well as managerial experience, to successfully perform all tasks assigned to us.

TECHNICAL QUALIFICATIONS OF MCLAREN'S STAFF

- **Experts...**In all facets of above and underwater inspection, condition assessment and design of waterfront facilities ranging from piers, bulkheads, bridge foundations, and breakwaters to floating platforms and ferry terminals.
- **Experience...**On average, each proposed staff member has over 20 years of experience in the inspection, design, and construction supervision of waterfront facilities in New York Harbor. Collectively, the group offers over 240 years of experience in NYC waterfront experience, including the identification and remediation of marine borers infestation.
- **Specialty Certifications...** McLaren's Inspection Staff features commercial divers that possess certifications in welding inspections (CWI), both non-destructive and destructive testing programs, and other specialty qualifications. They also have extensive experience in obtaining wood, concrete and metallic samples and possess all the necessary equipment to perform such testing.
- **Coastal Engineering...**McLaren's proposed staff are experts in all facets of coastal engineering, including: wave analysis, wave attenuation, sediment transport, environmental loading, structural coastal interaction.
- **Regulatory Agencies and Permits...**McLaren has established points of contact and good working relationships with most City, State and Local government agencies in the area. We are experts in preparation of permit packages for these agencies.
- **Loyalty...**The McLaren Engineers/Inspectors that will be assigned to specific task orders under this "call-in" agreement have been with McLaren Engineering Group for many years and are loyal employees of the firm.
- **"Call-In" Agreements...**The same McLaren Engineers/Inspectors have inspected over one million piles in the NY Harbor. The McLaren Design Teams that will be assigned to specific task orders under this "call-in" agreement have worked previous "Call-In" cycles for various city and state agencies, particularly the Port Authority of New York and New Jersey.
- **Security Clearance...**All of our personnel possess the required security clearance required to work within the waters surrounding New York City, as mandated by the U.S. Coast Guard since September 11th. Most crewmembers also possess higher-level military security clearances from prior military service. All members will have TWIC credentials when the requirement comes into effect.
- **Coast Guard Protocol...**McLaren is familiar with and regularly use all U.S. Coast guard requirements, notifications and daily radio call-in procedures used while working from vessels within the East River, New York Harbor and the North River.
- **NYPD/FDNY Protocol...**McLaren is also familiar with proper NYPD and FDNY notification and security procedures while working along the New York waterfront.

Project Organization Chart

McLaren Engineering Group

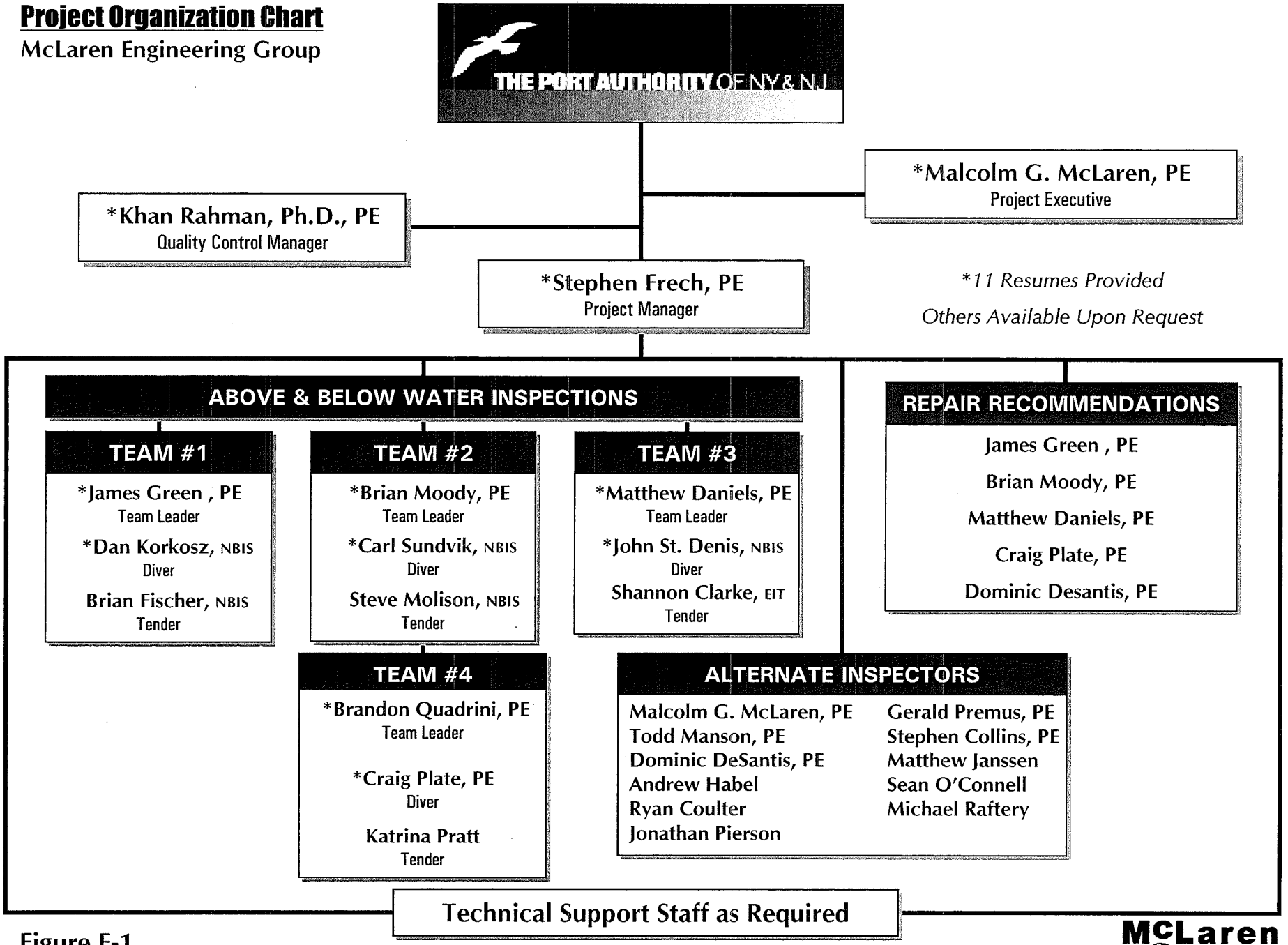


Figure E-1

Available Personnel

Figure E-2

Management	
Project Executive	Malcolm G. McLaren, P.E., SECB
Quality Control	Khan Rahman, Ph.D., P.E.
Marine Engineering	
James Green, P.E.	B.S. Civil Engineering, Manhattan College, NY
Brian Moody, P.E.	M.S. Structural/Geotechnical Eng.; B.S. Structural Engineering, Manhattan College, NY
Matthew Daniels, P.E.	B.S. Civil Engineering, Manhattan College, NY
Stephen Frech, P.E.	B.S. Civil Engineering, Washington University, St. Louis, MO
Stephen Collins	B.S. Civil Engineering, Manhattan College, NY
Michel Karaoglan	M.S. Civil Engineering, Polytechnic, NY; B.S. Civil Engineering, Northeastern University, MA
Dominic DeSantis, P.E.	B.S. Civil Engineering, Manhattan College, NY
Craig Plate, P.E.	B.S. Civil Engineering, Manhattan College, NY
Ryan Coulter, E.I.T.	M.S. Structural Engineering; B.S. Civil Engineering, Manhattan College, NY
Katrina Pratt	B.S. Civil and Environmental Engineering, Cornell University College of Engineering, NY
Brian Fischer	Diver's Academy of the Eastern Seaboard; AAS Portland Community College
Steve Molison	Divers Institute of Technology, Inc.; Coursework, Niagara County Community College
John St. Denis	U.S. Navy Dive School; The Ocean Corporation, Commercial Dive School
Carl Sundvik	Civil Engineering Technician, Westchester CC; U.S.C.G. Emergency Medical Technician School
Daniel Korkosz	A.S. Marine Technology, College of Oceaneering, Wilmington, CA
Waterfront/ Ocean Engineering	
Shannon Clarke	M.S. Maritime Systems; B.S., Mechanical Engineering, Stevens Institute of Technology, NJ
Todd Manson, P.E.	B.S. Ocean Engineering, University of Rhode Island
Inspection (Diving and Topside)	
Underwater Team 1	James V. Green, P.E. / John St. Denis / Brandon Quadrini, P.E.
Underwater Team 2	Brian C. Moody, P.E. / Brian Fischer / Steve Molison
Underwater Team 3	Matthew J. Daniels, P.E. / Carl Sundvik / Dan Korkosz
Above Water Team 1	Mark Bujtas, P.E. / Alaina Haggerty / Nabil Saadi
Above Water Team 2	Todd Manson, P.E. / Miao Zhou/ Jonathan Pierson
Above Water Team 3	Gerry Premus, P.E. / Shannon Clarke / Ryan Coulter
Buildings/ Facilities	
Team 1	Rick Mahoney, P.E. / Nick Zanzano / Jon Skinner
Team 2	Doug Platt, P.E. / Kyle Moyer / Gang Xuan
Team 3	Nathan Shuman, P.E. / Luke Daur, P.E. / Rebecca Knorr
Forensics	
Team 1 (Line Structures)	Mark Bujtas, P.E. / Porfirio Lantigua, P.E. / Nabil Saadi
Team 2 (Buildings)	Rick Mahoney, P.E. / Nick Zanzano / Jon Skinner
Structural Engineering	
W. Richard Mahoney, P.E.	B.S. Architectural Engineering, Pennsylvania State University
David W. McLaren, P.E.	B.S. Civil Engineering, University of Maryland
Robert F. Oleck Jr., Ph.D, P.E.	Ph.D. Civil Engineering, Syracuse University, NY; M.S. Architectural Engineering, PennState
V. Doug Platt, P.E.	M.S. University of Illinois; B.S. NJ Institute of Technology, Civil Engineering
Nathan Shuman, P.E.	B.S. Architectural Engineering, Pennsylvania State University
Nick Zanzano	B.S. Civil Engineering, Farleigh Dickinson University
Gang Xuan, P.E., LEED AP	M.S. Structural Engineering, Universary of Cinncinatti; B.S. Civil Engineering, Tongji Universary
Kyle Moyer	B.S. Civil Engineering, Pennsylvania State University
Mark Cunningham	B.S. Civil Engineering, Pennsylvania State University

Douglas Herrit	B.S., Civil Engineering, Pennsylvania State University
William Gorlin, P.E.	M.Eng. & B.S. Civil Engineering, Cornell University, NY
Jeremy Billig, P.E.	M.S. & B.S., Structural Engineering, Cornell University, NY
Fred Smith	B.S. Mechanical Engineering, NJIT; B.A. Liberal Studies, Iowa State University
Curtis P. Nordin, E.I.T.	M.S. Civil Engineering, University of Tennessee; B.S. Civil Engineering, University of Alaska
Andrew Habel, P.E.	B.S. Civil Engineering, University of Alabama; Huntsville, Alabama
Site/ Civil Engineering	
Steven Grogg, P.E.	B.S, Civil Engineering, University of Maryland
Lamberto Santos, P.E.	B.S. Civil Engineering; B.S., Sanitary Eng. Mapua Institute of Technology
John M. Speer, P.E., PP	B.S. Civil Engineering, 2001, New Jersey Institute of Technology
Pete V. Mellits, P.E., LEED AP	B.S. Civil Engineering Technology, Old Dominion University, VA ; Fire Officer IV Certification
Thomas James Crawley, P.E.	B.S. Civil Engineering Technology, Bucknell University, PA
Ana Elisa Gallardo	M.S. Environmental Engineering, Georgia Institute of Technology
Luke Daur, P.E., LEED AP	B.S. Civil Eng. Manhattan College; US Navy Civil Engineering Corp Training
Alison Scott, E.I.T.	B.S. Civil Engineering Technology, Central Connecticut State University
Chris Leung, E.I.T., LEED AP	B.S. Civil Engineering, Ryerson Polytechnic University, Toronto, Ontario, Canada
Stephen Zaskey	B.S. Civil Engineering, University of New Hampshire
Geotechnical/ Drilling	
Ray Volpe, P.E.	B.S. Civil Engineering, Northeastern University
Gerald Premus, P.E.	M.S. Civil Engineering - Structures, State University of New York at Buffalo
Surveying - Land Survey / Hydrographic Survey / Lands Under Water	
Donald O. Viele, L.S.	Mohawk Valley Community College - Survey Technology
Brian Osborne	Roger Williams University Bristol - Bachelor of Arts
Landscape Architecture	
Claire L. Williams, RLA, ASLA	Masters Landscape Architecture, 1975; Bachalor of Fine Arts-1969; University of Michigan
Bridge/Highway/Rail Engineering	
Mark Bujtas, P.E.	B.S. Mechanical Engineering, New Jersey Institute of Technology
Alaina Haggerty	B.S. Civil Engineering, Villanova University
Nabil Saadi	B.S. Civil Engineering, Aleppo University, Aleppo, Syria
Miao Zhou	M.S. Civil Engineering, Rensselaer Polytechnic; B.S., Civil Eng, Tongji University
Finite Element Analysis - ANSYS, STAAD-PRO, Risa3D, ETABS, SAFE	
William Gorlin, P.E.	M.Eng., B.S., Civil Engineering, Cornell University
Jon Skinner	B.S. Civil Engineering, Arkansas State University
Environmental Engineering	
James Green, P.E.	B.S. Civil Engineering, Manhattan College
Mechanical, Electrical, Plumbing Engineering	
Adam Yeager	B.S. Mechanical Engineering, Rochester Institute of Technology
Design Support Services	
Computer-Aided Applications	
Pre-Visualization	Murphy Gigliotti - 24 Years Experience
Computer Graphics	Sid Richardson - 20 Years Experience
CAD Drawings	Woo Young Chung - 26 Years Experience
CAD Drawings	Robert Curti - 22 Years Experience
CAD Drawings	Beverly Marquez - 14 Years Experience
CAD Drawings	George Kolb - 20 Years Experience
CAD Drawings	Jay Issa - 30 Years Experience
Cost Estimating	
Lead Estimator	James V. Green, P.E.
Lead Estimator	Mark Bujtas, P.E.
Associate Estimator	Matthew J. Daniels, P.E.

- **Familiarity with McLaren...**McLaren vessels and crews are well known throughout the New York Waterfront.
- **PANY&NJ Standards...**Almost all of the key staff proposed in our organization chart have worked for the PANY&NJ in the past and are intimately familiar with the applicable standards, specifications, procedures, and guidelines, including the PANY&NJ Condition Survey of Waterfront Structures guidelines
- **Professional Relationship...**McLaren's staff is proud of their past and current professional relationship with the PANY&NJ and is eager to continue providing their professional services.

III. KEY PERSONNEL

Brief bios of our Project Executive, Quality Control Manager, Project Manager, and Team Leaders are provided below. Full resumes for McLaren's staff described in our organization chart are provided at the end of this section.

Mr. Malcolm G. McLaren, P.E. will serve as **Project Executive** for this contract. Mr. McLaren brings over 37 years of marine, structural, and geotechnical engineering and design experience to the project. One of Mr. McLaren's great professional pleasures has been his involvement in the design of very complex structures. His experience and expertise encompass all aspects of structural inspection, design and construction on the waterfront, having worked on many of these type projects worldwide. As Project Executive, Mr. McLaren will provide conceptual design and management review, ensure that the appropriate resources of the team are available to conduct assignments, and provide senior level input to technical aspects of the project.

Dr. Khan Rahman, Ph. D., P. E. (McLaren) will serve as the **Quality Control Manager** for this contract, and will be responsible for conformance of all report and design documents to McLaren's Quality Control Plan and the PANY&NJ policies, procedures, and specifications. In this capacity, he will provide QA/QC review of all report findings and design recommendations. Dr. Rahman has served as QA/QC Engineer, On-Site Professional Engineer/Team Leader, Project Engineer and Project Manager for the management and execution of various inspection, assessment, and design services assignments for the PANY&NJ, NYSDOT, NYCDOT, NYS Thruway Authority, and NJDOT as well as many private sector clients. Dr. Khan Rahman is a Certified Risk Manager and currently holds a PMI-RMP certificate.

Mr. Stephen D. Frech, P.E. (McLaren) will serve as **Project Manager** for this contract. Mr. Frech has over 13 years of experience in marine structural engineering, and has worked on projects involving various marine structures and installations, such as piers, wharves, landings, ferry terminals, docks, and building structures ranging from commercial to industrial to educational. He possesses a specialty in the mechanics of high performance structures and the production demands that come from working with clients on tight schedules. Mr. Frech is currently serving as Project Manager for Port Newark Berth 3 Wharf Reconstruction project for the PANY&NJ; the Design of a New Oceanfront Entertainment Pier and Ferry Terminal in Long Branch, NJ, as well as the recently completed rehabilitation design and construction inspection of Piers C & D in Weehawken, NJ.

As Project Manager, Mr. Frech will ensure that all of the needs and requirements of the PANY&NJ are satisfied. He will report to the Authority all project-related issues and will ensure that all tasks associated with this project are managed effectively from start to finish. Mr. Frech's role as Project Manager will entail, but not be limited to the following:

- Providing direct oversight with regard to project execution and accountability
- Verifying and approving the project schedule and budget
- Implementing project changes as requested by the PANY&NJ
- Providing all staff resources necessary for successful project implementation and completion
- Providing review and approval of project performance and deliverables

Mr. Frech employs a methodical and level-headed management style built on open communication and has proven to be a positive and responsive leader – he is fully devoted to keeping clients satisfied. He has developed a solid rapport with clients and has earned the respect of his subordinates as a result of his technical and managerial excellence. In this way, he is able to lead multiple projects, for multiple clients, simultaneously without sacrificing diligence on anyone.

Mr. James V. Green, P.E. will serve as **Underwater Inspection Team Leader (Team #1)** for this contract. Mr. Green has over 24 years of experience in the field of underwater inspections and repair analysis/design of waterfront structures. His background includes experience in all facets of structural inspection on the waterfront, including piles, fendering systems, shipping facilities, piers and wharves, and foundation engineering. He has worked extensively in these type roles on projects for the PANY&NJ, U.S. Navy, NYSDOT, NYCDOT, NHDOT, NJDOT, NYSTA, NYTA, EDC, and various other agencies on their underwater investigations.

Mr. Brian Moody, P.E. will serve as **Underwater Inspection Team Leader (Team #2)** for this contract. Mr. Moody has over 14 years of experience in structural design and inspection projects, working assignments that include marine structures, canal structures, bridges, roadways, buildings and foundations. His responsibilities have included inspection, design and analysis, report preparation, and construction inspection. Mr. Moody's experience includes work for agencies such as the PANY&NJ, the NYCEDC, NYSDOT, NYCDOT, NYSTA, New York Canal Corporation, New Jersey Transit, and the NHDOT.

Mr. Matthew Daniels, P.E. will serve as **Above Water Inspection Team Leader (Team #3).** Mr. Daniels has over 11 years of experience as a Team Leader on condition surveys of marine structures, as a Project Manager for fathometric surveys, and as a Resident Engineer. He has participated in structural integrity inspection and evaluation projects for various and marine structures, bridges, and culverts, including assignments for the Port Authority of New York & New Jersey, NYSDOT, NYCDOT, DELDOT, and various private clients. His expertise also includes design of marine structures, including rehabilitation designs and cost estimates.

Mr. Brandon Quadrini, P.E. will serve as **Inspection Team Leader (#4)** for this project. Mr. Quadrini has over 18 years of experience in bridge inspection and design. He is an experienced diver specializing in underwater inspection, scour and footing assessment, soundings, and fathometric surveys. Mr. Quadrini experience includes the inspection on ballast tanks, bulkheads, stiffeners, trim tank walls, decks, internal framing members, revetment, sheet piling, outfalls, and many other marine structures.

RESUMES FOR KEY STAFF ARE INCLUDED AT THE END OF THIS PROPOSAL SECTION.

Support Personnel from McLaren include inspectors, designers, engineers, technical drafters, and administrative staff to process the volume of data that will be generated in the course of inspection and assessment. Specific staff disciplines include CAD personnel, above and underwater inspection personnel, civil and structural engineering personnel, marine engineering and design staff, value engineering personnel, construction management, and support personnel (clerical and administrative). These individuals will handle the functions of preparing as-built drawings and microfilms, dive support, and discrete activities as directed by the Project Manager, or Resident Engineer.

IV. CAPABILITIES

McLaren provides complete office support for the preparation of its deliverables, namely reports, studies, schedules, cost estimates, specifications, contract documents, bid documents, and graphics. The office includes word processing and CAD/drafting departments, reprographics facilities, a state-of-the-art library and computer facilities. Some of the computer programs and software that could potentially be utilized to execute the task orders assigned under this contract include, but are not limited to:

- AutoCAD 2012/LT
- Autodesk REVIT
- MicroStation V8i
- Mathcad
- Risa 3D
- ETABS Non-Linear
- RamSteel
- ADOSS
- ADAPT
- Ansys Design
- Nastran 4D
- ACES
- Inventor Suite
- Civil 3D
- SAFE
- Real Wave
- Working Model
- RamFrame
- Tides & Currents
- Land Desktop

In addition, McLaren has developed and maintains dozens of spreadsheets that help us perform and organize various calculations and analyses. These include spreadsheets for general use, as well as pertaining to marine, geotechnical, and structural applications.

V. SUBCONSULTANTS – MBE/WBE REQUIREMENTS

McLaren has built successful relationships with several firms who would be available to us if an element in a specific task order arises that requires the expertise of one or more of these firms. These sub-consultants are available and ready and willing to join our team upon selection. These firms include:

Firm Name	Disciplines
AIA Engineers, Ltd. (MBE) 505 8th Avenue, Fl 12A New York, NY 10018	Underwater Inspection, Fathometer Survey
AKRF, Inc. 34 South Broadway, Ste. 314 White Plains, NY 10601	Environmental Services
Barbara Thayer, PE, Arch., P.C. (WBE) 19 W. 44th Street, 18th Fl. New York, NY 10036	Architectural, Landscape Architecture, and Structural Inspection and Design Support Services
KS Engineers, P.C. (MBE) 24 Commerce Street, 16th Fl Newark, NJ 07102	Land Surveying, Design and Inspection Support Services
Naik Prasad, Inc. (M/SBE) 10 Parsonage Road, Ste. 310 Edison, NJ 08837	Land Surveying
Rogers Surveying, PLLC (SBE) 1632 Richmond Terrace Staten Island, NY 10310	Fathometric Surveying
O'Dea, Lynch, & Abbattista Consulting Engineers 50 Broadway Hawthorne, NY 10532	MEP Services

Over the past 35 years, McLaren has had continuous success in working with qualified, experienced MBE and WBE sub-consultant firms on assignments. **McLaren will meet or exceed the PANY&NJ's goal of 12 percent participation by qualified and certified MBEs and 5 percent to qualified and certified WBEs.**

Bonus: McLaren's staff has available to them all of the necessary equipment required to complete all above and underwater condition assessments that will be assigned during this "call-in" agreement.

Key Staff Resumes

Malcolm G. McLaren, P.E., SECB
President & Chief Executive Officer
Project Role: Project Executive

Education:
Master of Science, Structural Engineering, Rutgers University, 1975
Bachelor of Science, Civil Engineering, Cornell University, 1973

Professional Registration:
Professional Engineer: New Jersey and 43 other states
ADC and NASDS Certified Diver

Experience:
Mr. McLaren has more than 37 years of design, engineering and inspection experience for structural, bridge/highway/rail, site/civil, geotechnical, marine, and forensics projects nationwide. He has participated as engineer or manager on more than 12,000 projects varying in scope and difficulty. Design specialties include waterfront structure inspection and rehabilitation, especially relative to wharves, bulkheads, piers and fendering/mooring systems; design of mixed use high rise building structures; design of unique bridge and rail structures; land use development; waterborne transportation facility design; intermodal transportation planning; the design and use of composite materials; forensics investigations and litigation testimony; and the design of complex theatrical staging and mechanized effects. Representative projects include:

- **Port Newark Berth 3 Wharf Reconstruction; for PANY&NJ;** Project Executive for the professional marine/waterfront engineering and design services for the reconstruction of Berth 3. Work includes structural design, preparation of Stage III Final Design Contract Documents, and providing Stage IV services for the replacement of Berth 3 wharf restructure and the adjacent culvert structure under Corbin Street. It will also include design of a replacement floating dock for police use.
- **25th Street Wharf Structural Rehabilitation; Brooklyn, NY; for Lafarge North America;** Project Executive for the inspection and design rehabilitation of the 25th Street Wharf, located along the Gowanus Canal in Brooklyn. Services included the above water and underwater inspection and assessment of the wharf, which comprises a low-level relieving platform, provision of preliminary and final design services with construction cost estimates for rehabilitation and life cycle cost analysis.
- **Engineering and Inspection Services for Marine Structures; Manhattan, NY; for Battery Park City Authority;** Project Executive for this contract involving the structural inspection of the piles, precast concrete seawall skirt, and the riprap slope protection that surrounds the perimeter of the Battery Park City Authority parcel in lower Manhattan. McLaren assessed the condition of and made repair recommendations for approximately 3,500 precast concrete piles that support the relieving platforms at the Battery Park City esplanade, as well as timber piles which support a platform at the north end. McLaren also performed a testing program to investigate "hot spots" (areas of significant deterioration), provided statistical analysis of inspection data, developed repair alternatives with cost estimates, prepared construction documents and specifications, and provided construction administration services and full-time construction inspection.
- **Condition Survey Inspection of Berths 51-63, at Port Elizabeth Marine Terminal; Port Authority of New York and New Jersey;** Project Executive for the condition survey of the New Jersey Marine Terminal, Port Elizabeth Berths 51, 53, 55, 57, 59, 61, and 63. The condition survey included an underwater inspection of the treated timber piles, steel H-piles, steel pipe piles, timber bulkheads, and an above water inspection of the concrete pile extensions, deck soffit, and top of deck. A condition survey report was also provided.
- **Areawide Waterfront Rehabilitation Design Services Contract – Rehabilitation of Berths and Wharves; Brooklyn, NY; for Brooklyn Navy Yard Development Corporation;** Project Executive for the design of repairs, reinforcing, and protection of various waterfront structures at this 213-acre site, including

Piers C, D, G and K; Berths 3A, 14A, 17, 18, 20A and 20B. Work included above and underwater inspection and assessment of piers, low-level relieving platforms, bulkheads/seawalls, and wharves. Services provided included preliminary and final design, as well as preparation of construction cost estimates for the rehabilitation.

- **Puerta Cancun-Xcaret, S.A. de C.V. Cruise Ship Docking Facility; Quintana Roo, Mexico; for Carnival Corporation;** Project Executive for development of RFP Design-Build documents for a 280,000 sq ft cruise ship docking facility. Provided senior level input to the production and assembly of technical and performance specifications, and design criteria for the pier and fendering.
- **Ferry Shore Facilities – Inspection & Design of Piers, Wharves, and Marine Terminals; Citywide; for New York City Department of Transportation;** Project Executive for inspection, design, and resident engineering services on an as needed basis for various ferry facilities. These facilities include ferry terminals and maintenance berthing facilities, their associated fendering systems, marine installations, and upland structures, buildings, and facilities, including facilities for connecting transit modes. Encompassed are piers, pontoons, gangways and moveable bridges, ship fendering structures and mooring systems, passenger terminal buildings, soil retaining structures, dredged channels, fueling and bulk oil storage and distribution facilities, maintenance and industrial buildings, elevated traffic structures, and parking facilities on platforms over water and upland.
- **U.S. Gypsum Berthing Facility Fendering System Design; Stony Point, NY;** Project Executive for this contract involving the rehabilitation of breasting and mooring dolphins used to accommodate a 20,000-ton cargo vessel. Included structural analysis to determine the combined stresses due to axial compression and bending in unbraced battered steel H-piles; as well as analyses of berthing energy and criteria of the vessel for fender selection; determination of environmental forces such as wind, wave, current and ice; and geometric studies of the vessel to determine optimum positioning during operation.
- **Battery Park City Ferry Terminal; Battery Park City, NY; for PANY&NJ;** Project Executive and Chief Engineer for this contract to provide structural, marine, geotechnical and civil engineering design services for a $70 million, 32,000 square foot floating terminal for the PANY&NJ.
- **Condition Survey Inspection of Brooklyn Pier 12 and Bulkhead – New York Marine Terminal; PANY&NJ;** Project Executive for the field survey of Pier 12. Services included visual inspection and a ten percent hands-on inspection of all timber, and steel piles; all pile cap beams and pile extensions; all exposed and accessible surfaces along the entire length of the timber and steel sheet pile bulkhead, including ultrasonic thickness measurements of steel sheet pile bulkhead and soundings were taken along the bulkhead; a twenty percent hands-on inspection of the deteriorated portions of the deck soffit; and a visual inspection of the concrete edge beam and wharf topside. A condition survey report was also provided.
- **SUNY Maritime Pier Rehabilitation; Throgs Neck, NY;** Project Executive for the rehabilitation and expansion of campus pier and other waterfront structures. Services include an in-depth inspection of campus' Main Pier, structural and load rating analysis of the pier and an extension to the pier. Work also includes rehabilitation of the 5,000 sq ft deck surface and pier, in-depth inspection of the structural support members, and replacement of the C channel whaler.
- **NYPD Marinas Inspection and Rehabilitation Design; Randall's Island & College Point, NY; for Skanska/NYCEDC/NYPD;** Project Executive for this contract to provide professional engineering and design services for two marinas. Services included the condition inspection and design of upgrades and replacements of the marinas and other coastal structures, as well as the analysis of geotechnical borings for the structural design. Construction administration services are also being provided.

Khan Rahman, Ph.D., P.E., P.M.P.
Division Chief – Bridge, Highway, Rail
Project Role: Quality Control Manager

Education:
Ph.D., Civil Engineering/Structures, Texas Tech University 1989
M.S.C.E., Civil Engineering/Structures, Louisiana State University 1985
B.S.C.E., Civil Engineering/Structures, Bangladesh University of Engineering and Technology 1982

Registrations & Certifications:
Professional Engineer: New York 071809-1, 1994; New Jersey GE 40070, 1996;
Pennsylvania, 1992, PE-042615-E; California (Pending 2012 Special Exam)
Certified Project Manager: PMP Certification from Project Management Institute (PMI)

Computer Expertise
Programming Languages: BASIC, FORTRAN, PL/1
Structural Application Software: NASTRAN, RISA-3D, SAP2000, COSMOS-M, LARSA, STAAD, STRUDL, SUPER STRESS, COBEAM, ADOSS, BAR and SEISAB.

Professional Affiliations
American Society of Civil Engineers
Phi Kappa Phi
Project Management Institute (PMI) and PMI NJ Chapter. Provides volunteer services

Experience:
Dr. Rahman has over 30 years of experience in manifold engineering tasks including management and supervision; proposal preparation and presentation; building and strengthening client relationship; technical challenges and leadership; and teaching and research. Dr. Rahman has managed a variety of diversified bridge, highway and building projects; has demonstrated superior technical competence and provided technical leadership. He has in-depth knowledge and hands-on experience in all phases of projects from the inception of conceptual design stage to the preparation of bid documents and solving of field problems during construction. He is well versed in seismic design and retrofitting; and inspection and design of fracture critical structural members. Representative projects include:

- **Port Newark Berth 3 Wharf Reconstruction; PANY&NJ;** Project Engineer involved with the complete structural design, preparation of Stage III final design contract documents and Stage IV services for the replacement of Berth 3.
- **Oak Tree Road Bridge Replacement Design / Flood Mitigation for Sparkill Creek; Town of Orangetown, NY;** Project Manager responsible for the full bridge design services for replacement of the Oak Tree Road Bridge, including development of alternatives, preliminary bridge plans, advance detail plans, contract documents, and cost estimates. The new bridge will replace the existing 17'9" long and 30' wide structure. Responsibilities also include updating the bridge inventory forms and the coordination with the various utilities that will be affected by the replacement. The design of the new bridge will be dictated in large part by the hydraulic analysis performed beforehand.
- **Private Bridge Route 42, West Kill, NY; for Gary Graham;** Project Manager responsible for the engineering services in connection with the proposed Route 42 Residential Bridge Replacement Project. The bridge will be designed to carry emergency vehicles. The pre-fabricated Bailey bridge will be 110' long x 12' wide. The superstructure will be supported on precast pile concrete caps on steel piles. The scope of work includes topographic survey; preparation of bridge plans; design support services during construction; as well as permits and coordination with NYSDOT an NYSDEC.

Khan Rahman, Ph.D., P.E., P.M.P.
Division Chief – Bridge, Highway, Rail
Project Role: Quality Control Manager

- **Waterfront Piers and Buildings Inspection, Load Rating and Structural Evaluation; New York, New York; for NYSDOT;** As Project Manager, inspected West Side piers and buildings to determine load rating. Prepared structural evaluation reports. Also conducted structural load rating analysis and prepared reports on six waterfront pier structures. Project included in-depth inspection and subsequent re-inspection to monitor on-going deterioration.
- **Pan-Am & Japan Airline Hangers, John F. Kennedy International Airport; Queens, New York; for PANY&NJ;** As Senior Structural Engineer performed in-depth inspection and prepared structural evaluation reports for Pan-Am and Japan Airlines' hangars.
- **Sewaren-Linden-Bayway Structure – Inspection, Analysis, Foundation and Tower Modification Design; for Public Service Enterprise Group (PSE&G);** Project Manager responsible for the engineering services required to assess the structural capacity of the existing Sewaren-Linden-Bayway Structure (S-L-B) 6/6, Tasks included document research and review; Field inspection; preparation of design calculations; model the structure with PLS-Tower; preparation of a PLS-CADD Model; analysis of the structure; preparation of report; and preparation of design drawings. Under this contract, Dr. Rahman was also responsible for the modification of Tower S-L-BA 6/6 with the addition of a new set of arms; condition assessment and structural analysis of Tower L-MT 1/3; foundation design for Steel Pole Structure L-MT ½ which included review of previous subsurface report; soil investigation, preparation of a geotechnical report and conduct soil resistivity test; preparation of detailed design and construction documents; as well as assistance in bidding and support services during construction.
- **Total Design Services for the Rehabilitation/Reconstruction for Six Bridges; Manhattan, New York; for NYCDOT;** Project Manager and Technical Lead responsible for the in-depth inspection, structural load rating, structure evaluation and condition assessment and preparation of bridge rehab/reconstruction reports; structure alternative study on precast prestressed concrete, precast concrete-steel panels and steel plate girder bridge; preliminary plans and final contract documents including plans, specifications and cost estimates.
- **Preliminary and Final Design (Phases I-VI) for the Korean War Veterans Parkway Terminus Ramp Project; Staten Island, New York; for NYSDOT;** Project Manager and Technical Lead responsible for the preliminary and final design phase of the Korean War Veterans Parkway Terminus Ramp project. The project included the rehabilitation design of a 500 ft. long two-span steel curved girder bridge, supported on concrete pier and abutments.
- **2012-2013 Underwater Bridge Inspection & Fathometer Survey Program; NYSDOT, East Regions;** Quality Control Manager/Senior Bridge Engineer involved with the underwater bridge inspection/assessment and fathometer surveys for the 2012-2013 East Regions, D031018; PIN: 1B13.03, 2B13.03, 7B13.03, 8B13.03, 9B13.03 contract. Under this contract, a total of 142 bridges consisting of 287 SSU's will be inspected and fathometer surveys will be conducted for 39bridges.
- **2011-2012 Underwater Bridge Inspection & Fathometer Survey Program; NYSDOT, West Regions;** Quality Control Manager/Senior Bridge Engineer involved with the underwater bridge inspection/assessment and fathometer surveys for the 2011-2012 West Regions, D030918 PIN 3B11.03 contract. Under this contract, a total of 129 bridges consisting of 237 SSU's were inspected and fathometer surveys were conducted for 24 bridges.

Stephen D. Frech, P.E.
Senior Engineer
Project Role: Project Manager

Education:
B.S., Civil Engineering, Washington University

Active Registration:
Professional Engineer: New York, #7295887

Professional Affiliations:
Structural Engineers Association of New York – Existing Building Codes Committee

Experience:
Mr. Frech is a licensed Professional Engineer with over 13 years of experience in inspection, design, construction, and project management for a wide range of project types. His extensive expertise encompasses various marine structures and installations, such as wharves, marinas, ferry terminals, piers, and landings, and docks, in addition to buildings and structures ranging from commercial to industrial to educational. His experience also includes architecturally exposed, environmentally sensitive structures and high-rise flat-plate construction. Mr. Frech possesses a specialty in the mechanics of high performance structures and the production demands that come from working with clients on tight schedules. Representative projects include:

- **Port Newark Berth 3 Wharf Reconstruction; for Port Authority of New York and New Jersey;** Project Manager for the professional marine/waterfront engineering and design services required to provide Stage III and IV services for the reconstruction of Berth 3 at Port Newark. Work includes structural design, preparation of Stage III final design contract documents, and providing Stage IV services for the replacement of Berth 3 wharf restructure and the adjacent culvert structure under Corbin Street. It will also include design of a replacement floating dock for police use.
- **Design of an Oceanfront Pier, Ferry Terminal and Waterfront Destination; City of Long Branch, New Jersey;** Project Manager responsible for marine and structural engineering services needed to design and construct a new, $120 million oceanfront pier in Long Branch, New Jersey. The pier will include multi-functional retail and entertainment space, a learning center, a ferry terminal providing commuter access to New York City and will also incorporate renewable energy resources. The pier is a critical aspect of the City's redevelopment plan, which will enhance its identity as a premier United States destination.
- **Feasibility Study – Relocation of P.J. Sharp Boathouse, Sherman Creek; New York, New York;** Senior Engineer for marine-related services in determining the feasibility of relocating the P.J. Sharp Boathouse. Mr. Frech is assisting in the assessment, in addition to design of modifications for an existing kayak launch at the site and development of a shoreline cleanup and stabilization plan. Construction support services will also be provided.
- **Investigation of and Repair Design for Piers C & D; Weehawken, NJ; for Hartz Mountain;** Senior Engineer for the provision of ongoing marine-related services at Piers C & D in Weehawken, New Jersey. Mr. Frech is helping coordinate design and construction administrative services for repairs to the piers and other marine installations at the Charthouse Restaurant site.
- **Inspection and Repair Design, Arthur's Landing Restaurant Substructure; Weehawken, New Jersey;** Project Manager for the inspection and condition assessment of substructure supporting the former Arthur's Landing Restaurant. Mr. Frech is leading the design of repairs to the failed steel sheet pile bulkhead west of the Restaurant.
- **Ferry Shore Facilities – Miscellaneous Engineering Services (On-Call); for NYCDOT;** Senior Engineer/ Manager providing project management oversight for on-call Civil Engineering and Allied

Services in relation to construction contracts for structural reconstruction of ferry facilities and other miscellaneous work when and where directed by the NYCDOT. Mr. Frech is currently overseeing the replacement of elevated slabs at Slips 4, 5 and 6, an effort that involves slab design – from demolition through construction documents – construction cost estimates, and bid phase support.

- **India St. Pier Marina Design; Brooklyn, NY;** Senior Engineer/ Manager providing project management oversight for the condition survey, hydrographic and side scan survey and schematic design of this marina with high-end boat slips. Services encompassed an above water condition survey of the existing shoreline and piers, which included findings, recommendations for repair or replacement and a construction cost estimate for the selected alternative. Close coordination with the owner/developer was required to provide cost effective solutions to meet client needs.
- **Ferry Shore Facilities – Harper St. Asphalt Plant Dock Facility 25-10; for New York City Department of Transportation;** Project Manager for the underwater condition inspection and schematic design of repairs or the rehabilitation and reconstruction of the pile-supported docking platform at the Harper Street Asphalt Plant located in Corona, NY.
- **Green Street Pier Stabilization, Demolition and Replacement Design; Brooklyn, NY; for Park Tower Group;** Senior Engineer/ Manager providing project management oversight for the shoreline stabilization, demolition and construction at the Greet Street Pier. Services include preparation of shoreline stabilization plans, details and sections; demolition plans and details; and pier reconstruction plans indicating piles, deck framing and fendering.
- **East and Harlem River Ferry Landings; New York, NY; for New York City Economic Development Corporation;** Senior Engineer providing technical oversight for the structural and marine design of various ticket booths and ferry landing facilities for a $10 million civil-structural-marine engineering project to develop three waterfront locations as ferry landing sites to accommodate vessels, passengers, and intermodal transportation along the East and Harlem Rivers of Manhattan.
- **Tall Ship Mooring Design at Berths 6, 7, and 7A; Brooklyn, NY; for Brooklyn Navy Yard;** Senior Engineer/ Manager providing project management oversight at Brooklyn Navy Yard Berths 6, 7, and 7A. It has been determined that the reconstructed berths at 6, 7 and 7A represent an opportunity for vessels to berth in the New York Harbor. Design services to convert these berths are being provided in anticipation of Tall Ship berthing, which will begin in the summer 2011.
- **Public Walkway Investigation, Jersey City Waterfront; Jersey City, New Jersey;** Project Manager for the investigation of deficiencies noted at a public walkway that runs from Essex St. to York St. in Jersey City. Mr. Frech led the investigation and prepared a findings report with repair recommendations.
- **Green Street Pier Stabilization, Demolition & Replacement Design; Brooklyn, NY; for Park Tower Group;** Senior Engineer/ Manager providing project management oversight for the shoreline stabilization, demolition and construction at the Greet Street Pier. Services include preparation of shoreline stabilization plans, details and sections; demolition plans and details; pier reconstruction plans indicating piles, deck framing and fendering.

James V. Green, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #1)

Education:
M.S. Candidate, Structural Engineering, Manhattan College
B.S., Civil Engineering, Manhattan College, 1992
A.S., Engineering Science, Rockland Community College, 1988

Registration:
Professional Engineer: New York, Maryland

Certifications:
National Bridge Inspection Standards (NBIS), 2005 -- Course #FHWA-NHI-130055
American Red Cross – Adult CPR and Standard First Aid
Association of Diving Contractors, Commercial Diver Certification, #285
Open Water Diver Certification, 1994

Experience:
Mr. Green is a structural engineer with over 24 years of experience. His background encompasses resident engineering, field investigation, and construction inspection services, as well as, review of shop drawings, subaqueous investigation, and extensive structural design experience. He has worked on underwater inspection and assessment programs and construction inspection programs for the PANY&NJ, NYCDOT, NYSDOT, ConnDOT, NHDOT, NJDOT, and the NYSTA. His background includes experience in all facets of structural and civil engineering design on the waterfront, including ferry terminals, shipping facilities, piers and wharves, and foundation engineering. He is involved in the preparation of permit applications, EIS documentations, and consistency review documents, as well as coordination with and between agencies on permitting issues to include the Army Corps of Engineers, the Department of Environmental Conservation, the Department of State, National Marine Fisheries Service, the Fish and Wildlife Service, and other local agencies. Representative projects performed by Mr. Green include:

- **Engineering and Inspection Services for Marine Structures; Manhattan, NY; for Battery Park City Authority;** Marine Engineer and Underwater Inspector for the structural inspection of the piles, precast concrete seawall skirt, and the riprap slop protection that surrounds the perimeter of the Battery Park City Authority parcel in lower Manhattan. McLaren assessed the condition of and making repair recommendations for approximately 3,500 precast concrete piles that support the relieving platforms at the Battery Park City esplanade, as well as timber piles which support a platform at the north end.
- **Underwater Inspection of Waterfront Structures at the Brooklyn Navy Yard: Brooklyn, NY; for Brooklyn Navy Yard Development Corporation;** Team Leader for underwater condition assessment of facilities including piers, bulkheads, and relieving platforms. Included pre-construction survey and construction inspection of timber piles, concrete pile caps, underdeck, and pile wraps. A comprehensive report was prepared including condition assessment, structural analysis, repair recommendations, and cost estimates.
- **Waterfront Revitalization – 4th and 5th Street Piers at Kent Avenue; Brooklyn, NY; for RD Management Corp;** Assistant Project Manager for this redevelopment project along Williamsburg's waterfront in Brooklyn NY. The 4th and 5th Street Piers are being revitalized in two phases: the demolition phase and the construction phase. McLaren is performing detail design, construction inspection and construction administration services during these phases. McLaren performed an investigation of the waterfront structures including existing pile fields and bulkheads, and a hydographic survey of the project

site area. McLaren provided a boring plan, waterfront site investigation and permitting services, and conceptual designs in addition to supervising the taking of geotechnical boring samplings.

- **Underwater Condition Inspection, Assessment, and Design of Repairs at the U.S. Submarine Base; Pearl Harbor, HI; for U.S. Department of the Navy;** Team Leader/P.E. Diver for the topside and underwater inspection and condition evaluation of the waterfront structures at the U.S. Navy submarine base. Provided assistance with report preparation, including condition assessment, structural analysis and repair recommendations.
- **Construction Inspection; Throgs Neck Bridge;** Diver/Tender for engineering services to perform construction inspection of underwater repairs presently being conducted at various substructural elements of the Throgs Neck Bridge.
- **Williamsburg, The Edge Waterfront Development; for Douglaston Development; Brooklyn, NY;** Senior Engineer for the preliminary pier design and investigation of permitting issues for this waterfront development project along the East River. Project responsibilities include above and underwater inspection of piers and bulkheads; evaluation of soil conditions; site/civil inspection; feasibility studies for water related activities; and waterfront permitting services.
- **Pier 98 Fuel Oil Unloading Dock Inspection; New York, NY; for Con Edison;** Dive Team Leader for the structural condition assessment of the Pier 98 facility at Con Edison's 59th Street Station. A thorough tactile inspection of the facility was performed to enable the development of detailed and prioritized repair recommendations. All structural and fendering components were examined with emphasis on marine borer activity, deterioration, and damage reports, drawings, and condition rating.
- **FDR Drive Marine Borer Inspection Program; New York, NY; New York City Department of Transportation [HBCBORERS; PIN 84197BKBR087];** Team Leader/P.E. Diver for underwater inspection and assessment of approximately 15,000 piles, extraction of 1,000 cores (Level III inspection), and a Level II inspection of 30% of the piles. Identification of marine structures along the length of the FDR Drive was made, including low-level relieving platforms and concrete and stone masonry bulkheads.
- **Emergency Repairs to the FDR Drive Relieving Platform; New York, NY; for New York City Department of Transportation;** Dive Team Leader for damage investigation and impact assessment of the relieving platform structure supporting the FDR Drive. Structural assessment, alternative solutions, detailed construction drawings and specifications, and construction support / inspection services were provided. Repairs were completed in conjunction with a marine contractor within five months of initial damage.

Brian C. Moody, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #2)

Education:
1999, Manhattan College, MSCE, Structural and Geotechnical Engineering
1997, Manhattan College, BSCE, Structural Engineering

Registrations & Certifications:
Professional Engineer - New York 078994-1-2003
Transportation Worker Identification Credentials (TWIC)
National Bridge Inspection Standards (NBIS), 2005 -- Course #FHWA-NHI-130055
National Bridge Inspection Standards (NBIS), 2010 Refresher Course #FHWA-NHI-130053
Association of Diving Contractors International, Surface-Supplied Air Diver #4727
Fatigue and Fracture Critical Bridge Inspection Course, March 2011

Professional Societies:
American Society of Civil Engineers

Experience:
Mr. Moody has over 14 years experience with underwater condition assessment, inspection, and structural design projects. He has worked on all types of structures, including wharves, piers, bulkheads, bridges, canal structures, roadways, buildings, and foundations. His responsibilities have included inspection, design and analysis, report preparation, and construction inspection. He has worked on projects for the PANYNJ, NJDOT, NJT, NYCDOT, NYSDOT, NYSTA, New York Canal Corporation, NYCEDC, NHDOT and for various NJ Counties. As a Team Leader, Mr. Moody has performed the above and below water inspection of many bridges, piers, bulkheads, dams, and culverts. Representative projects include:

- **Condition Survey Inspection of Berths 51-63, at Port Elizabeth Marine Terminal; Port Authority of New York and New Jersey;** Team Leader/P.E. Diver responsible for the condition survey of the New Jersey Marine Terminal, Port Elizabeth Berths 51, 53, 55, 57, 59, 61, and 63. The condition survey included an underwater inspection of the treated timber piles, steel H-piles, steel pipe piles, timber bulkheads, and an above water inspection of the concrete pile extensions, deck soffit, and top of deck. A condition survey report was also provided.
- **Battery Park City Ferry Terminal; Battery Park City, NY; for Port Authority of New York & New Jersey;** Marine Engineer responsible for design and technical oversight and budget monitoring of ongoing construction administration services for the construction of a 32,000sf floating terminal valued at $70 million in construction cost. Also responsible for computer modeling of the ferry terminal's two anchorage towers anchored to bedrock 75 feet below the water. Designed steel vessel loading ramps and steel main terminal ADA-compliant access ramps. The terminal consists of a mono-hull main terminal with five ferry slips with variable height landing systems.
- **Underwater Inspection of Brooklyn Piers 6, 7, & 8; Brooklyn, NY; for Port Authority of New York & New Jersey;** Marine Engineer/ Team Leader for the underwater inspection of Pier 6, 7, & 8. Inspection included 100 percent visual inspection and 10 percent tactile inspection of piles, pile extensions and pile caps.
- **25th Street Wharf Structural Rehabilitation; Brooklyn, NY; for Lafarge North America;** Project Engineer for the inspection and design rehabilitation of the 25th Street Wharf, located along the Gowanus Canal in Brooklyn. Responsible for the above water and underwater inspection and assessment of the wharf, which comprises a low-level relieving platform, provision of preliminary and final design services with construction cost estimates for rehabilitation and life cycle cost analysis.

Brian C. Moody, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #2)

- **Port Newark Berths 2-36; 3-25; Port Newark, NJ; for Port Authority of New York and New Jersey;** Marine Engineer/ Team Leader for underwater inspection and assessment of pier/berthing structures and preparation of comprehensive reports including photographs, sketches, condition assessment, and repair recommendations.
- **Maxwell House Waterfront Site Development – Design of Recreational Piers and Esplanade; Hoboken, NJ;** Team Leader/Marine Engineer during the design phase of pier rehabilitation for the conversion design of the former Maxwell House coffee industrial site to a residential mixed-use facility. Work involved design of two piers to be incorporated in the New Jersey Waterfront Walkway. Plans prepared included conversion and modifications of existing buildings, design of roadways that connect to local streets, site and utility development, and the addition of a connecting two-level underground parking area to Elysian Park on Sinatra Drive.
- **Design of Transmitter Park and Pier; Brooklyn, NY;** Marine Engineer/ Team Leader for open space improvements that include a pier, waterfront esplanade, and a waterfront park with the objective of giving the community much needed recreational space, connecting residents to the waterfront and accommodating future ferry service. Services included underwater inspection of timber low-level relieving platform and concrete seawall, schematic design, and consultation for the proposed park.
- **Staten Island Homeport Bulkhead/Seawall Rehabilitation; Staten Island, NY; for NYCEDC;** Project Engineer for the design and construction support services for long-term rehabilitation of a collapsed portion of steel sheet pile bulkhead located at Staten Island Homeport. Services provided include engineering analysis and design for a replacement tied back bulkhead. A full set of construction drawings and technical specifications were prepared, as well as construction cost estimates and assistance with bidding.
- **Below Water Inspection of Canal Structures; Albany, Syracuse and Buffalo, NY; for New York State Thruway Authority;** Marine Engineer/ Team Leader for the underwater inspection of approximately 100 canal structures along the New York Waterway Canal System. Provided underwater condition assessment of structures, which included locks, guard gates, fixed crest dams, moveable dams, taintor gates, spillways, terminals, docks, guide structures and culverts. Prepared comprehensive reports, which included drawings and photo documentation.
- **Staten Island Ferry Transfer Bridge Inspection; Staten Island, NY;** Team Leader/Marine Engineer for the inspection of 21 transfer bridges at various facilities throughout New York City and Staten Island. The task order included surface inspection utilizing visual and tactile procedures, and included investigation of the feasibility of transporting the Denka Lift on upper bridge/gangplanks at each terminal.
- **New York Marine Terminal Inspection of Piers 2, 3, 4, 5, & 11; Brooklyn, NY; for PANY&NJ;** Marine Engineer/ Team Leader for underwater inspection and assessment of bulkheads (timber piles, steel H-piles, pile cap beams, pile extensions, steel sheet piles) between Piers 2 and 3, Piers 4 and 5 and along Pier 11. A topside inspection of the concrete seawall and wharf was also performed to determine its general condition.

Matthew J. Daniels, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #3)

Education:
B.S., Civil Engineering, Manhattan College, 2000

Active Registration:
Professional Engineer: New York, Delaware (Reciprocity Pending)

Certifications:
National Bridge Inspection Standards (NBIS) -- Course #FHWA-NHI-130055
Bridge Inspection Workshop (2005), NYSDOT
Annual Bridge Inspector's Training (2005), NYSDOT
NICET Level I
NAUI Certified Open Water Diver
ADCI Entry-Level Tender/Diver

Experience:
Mr. Daniels has over 11 years of experience as a Team Leader on condition surveys of marine structures, as a Project Manager for fathometric surveys, and as a Resident Engineer. He has participated in structural integrity inspection and evaluation projects for various and marine structures, bridges, and culverts, including assignments for the Port Authority of New York & New Jersey, NYSDOT, NYCDOT, DELDOT, and various private clients. His expertise also includes design of marine structures, including rehabilitation designs and cost estimates. Representative projects include:

- **On-Call Waterfront Condition Surveys Technical Services; New York, NY; for PANYNJ;** Engineer and Fathometer Surveyor on over 80 assignments involving underwater quality assurance inspections of waterfront facilities undergoing repairs, and condition survey assessments of various types of marine structures including piers, wharves, relieving platforms, and bulkheads.
- **NYSDOT Bridge Diving Inspections & Fathometer Surveys; Regions 1 through 11; for NYSDOT;** Fathometer Surveyor that has performed 300 fathometric surveys of bridges spanning waterways utilizing Electronic Range-Azimuth and Differential Global Positioning Systems in conjunction with dual frequency hydrographic survey equipment to assess changing waterway scour patterns adjacent to bridge footings. Also prepared in excess of 240 CADD-generated contour maps of waterway bottoms using AutoCAD2000.
- **Box Culvert Inspection at Newark International Airport; Newark, NJ;** Project Engineer for the inspection and condition survey of runway support structures (box culverts).
- **Port Newark Marine Terminal, Berths 2 through 36; for PANYNJ;** Resident Engineer/Team Leader for the diving inspection and construction quality assurance of the substructural rehabilitation repairs throughout the 16,500 LF of active shipping terminals located in Port Elizabeth, NJ.
- **DELDOT Bridge Diving Inspections; Statewide, DE;** Engineer that has performed condition and fathometric surveys of 65 bridges spanning waterways, including superstructures on low-clearance bridges requiring PONTIS assessments. Assisted in preparation of reports.
- **Caesar's Bay Plaza Facility, Toys 'R Us Pier; Brooklyn, NY;** Project Engineer for the inspection and condition survey of four high-level platforms.

Matthew J. Daniels, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #3)

- **Robert Moses Causeway over the Great South Bay;** Team Leader for the inspection and construction quality assurance of the rehabilitation repairs to the substructure.
- **Third Avenue Bridge over Harlem River; for NYCDOT;** Team Leader for the inspection and construction quality assurance of the bridge reconstruction and cable installation
- **Madison Avenue Bridge over Harlem River; for NYCDOT;** Team Leader for the inspection and construction quality assurance of the bridge reconstruction and cable installation.
- **Port Elizabeth Marine Terminal, Berths 50 through 62 and 76 through 86; for PANYNJ;** Functioned as Team Leader for the inspection and construction quality assurance of the sub-structural rehabilitation repairs throughout the 8,500 LF of active shipping terminals located in Port Elizabeth, NJ.
- **Military Ocean Terminal Bayonne;** Project Engineer for the structural inspection of all submerged structural components of Berths N1, N4 and N5 including in-depth condition surveys of the timber and steel bulkheads and mudline profiles beneath the wharf.
- **Passaic Valley Sewerage Commission Sludge Loading Dock;** Engineer for the inspection and fathometric survey of ship berthing facility.
- **Bergen County Utilities Authority Sludge Loading Dock;** Engineer for the inspection and fathometer survey of mooring platforms and access piers.
- **Brooklyn Marine Terminal;** Engineer for the inspection and condition survey of Pier 1, relieving platform.
- **BICC Cables – Dock Facility North and West of Building No. 8 Hudson River Stage, Point Street Facility; Yonkers, NY;** Team Leader for the rehabilitation and design concept of the entire dock facility connecting Building No. 19 with the Hudson River Stage Building (EPRI Lab).
- **Manhattan Heliport Rehabilitation Inspection; for PANYNJ;** Engineer for the quality control inspections and condition survey of the steel pipe piles and cost-in-place concrete pile caps supporting the structure.
- **Brooklyn Marine Terminal Steel Sheeting Bulkhead Rehabilitation; for PANYNJ;** Engineer for the quality control inspection of repairs to steel sheeting at Piers 6, 7, and 8.

Brandon Quadrini, P.E.
Senior Engineer/P.E. Diver
Project Role: Inspection Team Leader (Team #4)

Education:
B.S., Civil Engineering, Northeastern University, 1993

Registration:
Professional Engineer: New York 081098-1

Certifications:
'Level II' Non-Destructive Testing Methods
Scuba Certified
Surface Supplied Air
Certified National Highway Institute Pontis Bridge Inspection and Inventory Program;
Certified National Highway Institute 80 Hour Bridge Inspection Course
Certified Confined Space Entry
The National Resource Center for OSHA Training

Experience:
Mr. Quadrini has over 18 years of experience in bridge inspection and design. He is an experienced diver specializing in underwater inspection, scour and footing assessment, soundings, and fathometric surveys. Representative projects include:

- **2003 & 2005 Underwater Inspection of 3 Bridges; Sussex County, NJ; for New Jersey Department of Transportation;** Engineer/Diver who performed underwater inspections for two cycles of simple span, concrete encased, steel multi-girder bridge and corrugated steel plate arch culvert for the New Jersey Department of Transportation. Duties included hands on underwater inspection, measurement of river bottom (soundings), assessment for scour and footing exposure, and preparation of inspection reports.
- **Underwater Inspection of 8 Bridges; CT; for Connecticut Department of Transportation;** Project Manager and Engineer/Diver who performed an underwater inspection of 21 substructure units for the Connecticut Department of Transportation. Duties included project management, hands on underwater inspection, measurement of river bottom (fathometer survey/soundings), assessment for scour and footing exposure, and preparation of inspection reports.
- **Underwater Inspection of 38 Bridges; CT; for Connecticut Department of Transportation;** Project Manager and Engineer/Diver who performed an underwater inspection of 124 substructure units for the Connecticut Department of Transportation. Duties included project management, hands on underwater inspection, measurement of river bottom (fathometer survey/soundings), assessment for scour and footing exposure, and QA/QC of Reports.
- **Underwater Inspection of 13 Railroad Bridges; CT; for Connecticut Department of Transportation;** Project Manager and Engineer/Diver who performed an underwater inspection of 31 substructure units for the Connecticut Department of Transportation. Duties included project management, hands on underwater inspection, measurement of river bottom (fathometer survey/soundings), and assessment for scour and footing exposure, and quality control of inspection and reporting reports.
- **Underwater Inspection of 4 Bridges; CT; for Connecticut Department of Transportation;** Project Manager and Engineer/Diver who performed an underwater inspection of 9 substructure units for the Connecticut Department of Transportation. Duties included project management, hands on underwater

inspection, measurement of river bottom (fathometer survey/soundings), and assessment for scour and footing exposure, quality control of inspection and reporting reports.

- **Underwater Inspections and Fathometer Survey (2001, 2002-2003, 2006-2007); NY; for New York State Department of Transportation;** Assistant Project Manager & Diver responsible for scheduling, database management, coordination of report preparation and QA/QC, coordination of subconsultants, underwater inspection and scour assessment.
- **Underwater Investigation of Major Bridge Structures; NY; for New York State Thruway Authority;** Diver/Tender who performed an underwater investigation of Schoharie Creek Bridge and Castleton Bridge. Schoharie Creek is famous for its bridge collapse due to scour undermining back in late 1980's. Castleton Bridge is a major steel truss over the Hudson River. Mr. Quadrini performed Diver/Tender duties and report preparation.
- **Underwater Investigation and Fathometer Survey of Ogdensburg Suspension Bridge; Ogdensburg, NY;** Diver/Tender responsible for the investigation of multiple substructure units for large suspension bridge over the St. Lawrence Seaway.
- **Underwater Inspection of 6 Bridges; MI; for Michigan Department of Transportation;** Engineer/Diver who performed an underwater inspection for the Michigan DOT. Duties included hands on underwater inspection of substructure units from the high water line to mud line, measurement of river bottom (soundings), assessment for scour and footing exposure, and preparation of inspection report.
- **Underwater Inspection of Interstate I-80 Bridge over the Rockaway River; NJ; for New Jersey Department of Transportation;** Engineer/Diver who performed an inspection of two span bridge. Duties included hands on underwater inspection of substructure units from the high water line to mud line, measurement of river bottom (soundings), assessment for scour and footing exposure, preparation of inspection report.
- **Underwater Inspection of 8 Bridges along the Garden State Parkway; NJ; for Garden State Parkway Authority;** Engineer/Diver who performed an underwater inspection for Garden State Parkway Authority in New Jersey. Duties included hands on underwater inspection, measurement of river bottom (soundings), assessment for scour and footing exposure, and preparation of inspection report.
- **Underwater Inspection and Fathometer Survey of Amtrak Bridge over the Delaware River; Trenton, NJ;** Engineer/Diver who performed an underwater inspection, scour assessment, and fathometer survey of multi-span stone masonry bridge.
- **Spud Barge Hull Inspection; Newport News, VA;** Engineer/Diver who performed an underwater inspection of two tandem spud barge hulls. Duties included a Level II type inspection and non-destructive testing (NDT) of two spud barge hulls. Over 750 thickness readings were taken along the hull bottom over a 6-foot by 6-foot grid.
- **Dry Dock Caisson Gate Inspection, Northrop Grumman Shipyard; Newport News, VA;** Engineer/Diver who performed an underwater inspection of caisson gate. Duties included inspection of the ballast tanks, bulkheads, stiffeners, trim tank walls, decks, and internal framing members. Over 2500 D-meter reading were taken for finite element modeling of the gate.

Daniel S. Korkosz
Director of Training, Dive Division
Project Role: Diver

Education:
Associate Degree/1987/Marine Technology, College of Oceaneering, Wilmington, CA
Professional Dive Course (PD#113)/1979, Commercial Diving Center, Wilmington, CA
Underwater Bridge Inspection Training Course, 1992
Remote Operated Vehicle Course, College of Oceaneering, 1987
R.O.V. Pilot/Technician Induction & Safety Course, Wray Castle, College of Marine Electronics, 1990

Active Registration: Year First Registered / Discipline
National Bridge Inspection Standards (NBIS), 2004 -- Course #FHWA-NHI-130055A
Association of Diving Contractors, Commercial Diver Certificate #4726, ROV Pilot/Technician #13622
Certified Advanced Open Water Diver, NAUI #A22073
Nitrox Diver, Technical Diving International #24374
NICET Level IV
OSHA Confined Space Entry
Red Cross First Aid and Adult CPR Certified

Experience:
Mr. Korkosz has 21 years of structural inspection experience (including surface supplied air experience), as well as experience in oil field diving encompassing construction, salvage, S.P.M. maintenance and N.D.T. inspection of ships and structures. He has participated in numerous structural integrity inspection and evaluation projects for various bridge, culvert, and marine structures, including assignments for the Port Authority of New York & New Jersey, the U.S. Navy, Hudson River Park Trust, NYCEDC, and various state Departments of Transportation.

- **Pier 98 Fuel Oil Unloading Dock Inspection; New York, NY; for Con Edison;** Diver/Tender for this contract to provide a structural condition assessment of the Pier 98 facility at Con Edison's 59th Street Station. A thorough tactile inspection of the facility was performed to enable the development of detailed and prioritized repair recommendations. All structural and fendering components were examined with emphasis on marine borer activity, deterioration, and damage.
- **Underwater Inspection of Piers 6, 7, 8, 9, 9A & 12 at the New York Marine Terminal; Brooklyn NY; for the Port Authority of New York & New Jersey;** Diver/Tender for underwater inspection of more than 10,000 timber piles and bulkhead, including a 10 percent in-depth inspection to determine marine borer infestation. A comprehensive report was prepared including condition assessment, repair recommendations, and cost estimates.
- **Underwater Inspection of Pier One; East Boston, MA; for Roseland Property Company;** Diver/Tender for underwater/above water condition survey of the substructure for Pier One to determine the appropriate and most cost effective method of restoring and strengthening the piles that support the pier. Includes preparation of inspection reports.
- **2003-2005 Below Water Inspection of Canal Structures; Albany, Syracuse and Buffalo; for New York State Thruway Authority;** Diver/Tender for the underwater inspection of approximately 100 canal structures along the New York Waterway Canal System. Structures encompass locks, guard gates, fixed crest dams, moveable dams, taintor gates, spillways, terminals, docks, guide structures and culverts. The assignment includes preparation of a comprehensive report, drawings, and photo documentation.

Daniel S. Korkosz
Director of Training, Dive Division
Project Role: Diver

- **Underwater Inspection of Waterfront Structures; Brooklyn Navy Yard, NY; for Brooklyn Navy Yard Development Corporation;** Diver/Tender for underwater condition assessment of facilities including piers, bulkheads, and relieving platforms. A comprehensive report was prepared including condition assessment, structural analysis, repair recommendations, and cost estimates.
- **Marine Borer Inspection Program along the FDR Drive (East River); New York, NY from 15th Street to 154th Street;** Diver/Tender responsible for the underwater inspection and assessment of approximately 15,000 piles, extraction of 1,000 cores (Level III inspection), and a Level II inspection of 30% of the piles. Identification of marine structures along the length of the FDR Drive will also be made, including low-level relieving platforms and concrete and stone bulkheads. Providing assistance with report preparation.
- **2005-2006 Above and Below Water Inspection of Bridges Statewide; for Connecticut DOT;** Diver responsible for the engineering services associated with the above and below water bridge inspections and ratings of approximately 229 highway and railroad bridges and 430 SSUs. Contract includes in-depth inspection, photography, permitting, reporting, and repair recommendations.
- **Underwater Inspection of 33 Bridges; Connecticut; for Baker Engineering/Connecticut Department of Transportation;** Diver for underwater inspections of state and town bridges located throughout the state of Connecticut. Includes fathometric survey of several bridges and preparation of inspection reports.
- **2004-2005 Bridge Diving Inspection and Fathometer Survey; East (Regions 1, 2, 7, 8, 9) NY; for New York State Department of Transportation;** Diver/Tender for this two-year bridge inspection contract. McLaren is providing underwater inspection and fathometer survey services for 100 bridges consisting of 219 SSU's.
- **2001-2002 Biennial Underwater Bridge Inspection and Fathometer Survey Program; Regions 10 and 11, NY; for New York State Department of Transportation;** Chief of Operations and Diver-Tender for the underwater inspection and assessment of 126 bridges in the New York City and Long Island areas. A total of 400 SSUs were inspected, and fathometer surveys were performed for 61 bridges. Comprehensive reports were prepared including database management (dBASE 5 format), results of findings and repair recommendations.
- **U.S. Coast Guard Training Center; Cape May, NJ; for the U.S. Navy;** Diver/Tender for underwater inspection of Pier 4 and associated structures. Included 633 timber piles supporting a timber structure with deck and 100 linear feet of steel sheetpile bulkhead. Comprehensive reports were prepared summarizing the results of the inspection including photographs, and videotape documentation.
- **Three-Year In-Depth Marine Borer Infestation Study and Evaluation; FDR and Harlem River Drives, NY; for New York State Department of Transportation;** Diver/Tender for evaluation of the FDR and Harlem River Drives. Included extraction and analysis of timber cores, placement of three types of test boards, measurement of circumferences, and performance of water chemistry analysis.
- **Underwater Inspection of Dams in the Catskill and Delaware Watershed System; New York; for NYCDEP;** Lead Inspector for underwater inspection and assessment services for six dams in Delaware, Schoharie, Sullivan, Putnam, Ulster, and Westchester Counties.

Carl G. Sundvik
Chief of Field Operations
Project Role: Diver

Education:
Bachelor's Candidate, Civil Engineering Technician, Westchester Community College
Coursework, Architecture, Syracuse University, 1984-1985
U.S.C.G. Emergency Medical Technician School, 1988

Certifications:
National Bridge Inspection Standards (NBIS) Recertification Course, PENNDOT Course No. R69; 2005
National Bridge Inspection Standards (NBIS), 1997
PADI Certified Open Water Diver
Association of Diving Contractors, Surface-Supplied Air Diving Supervisor, Certificate #4730
NICET Level III – Bridge Safety Inspection
OSHA Confined Space Entry
American Red Cross First Aid and Adult CPR Certified
U.S.C.G. Small Boat Coxswain
U.S.C.G. Rescue Swimmer

Experience:
Mr. Sundvik has more than 18 years of combined commercial/military experience, including 14 years of surface supplied air diving experience. He has participated in numerous structural integrity inspection and evaluation projects for NYSDOT, NYCDOT, CDOT, NYSTA, Port Authority of New York & New Jersey, the U.S. Navy, Hudson River Park Trust, and NYCEDC. Representative projects performed by Mr. Sundvik include:

- **Condition Survey Inspection of Brooklyn Pier 12 and Bulkhead, Brooklyn, New York;** Diver/Inspector for this task where McLaren performed a condition survey of Brooklyn Pier 12 and Bulkhead at the New York Marine Terminal. Work included inspection and report preparation.
- **Underwater Condition Survey of Port Authority-Lincoln Tunnel Ventilation Building, New York City, New York;** Diver/Inspector for this task whereby McLaren provided services in connection with the performance of an underwater condition survey of the exterior faces of the Lincoln Tunnel New York River Ventilation Building. The condition survey was limited to the north and center tube shafts from the underside of deck to the mudline.
- **North 1st Street Fuel Oil Terminal Facility located at 214 Kent Street in Brooklyn, NY; for Con Edison;** Chief of Field Operations for this contract to provide the necessary waterfront inspection services associated with the North 1st Street Fuel Oil Terminal Facility located at 214 Kent Street in Brooklyn, NY. The purpose of this inspection was to determine the present condition of the facility, note any deficiencies and to make recommendations for repairs to the collapsed portion of the North 1st Street Walkway.
- **Pier 98 Fuel Oil Unloading Dock Inspection; New York, NY; for Con Edison;** Diver/Tender for this contract to provide a structural condition assessment of the Pier 98 facility at Con Edison's 59th Street Station. A thorough tactile inspection of the facility was performed to enable the development of detailed and prioritized repair recommendations. All structural and fendering components were examined with emphasis on marine borer activity, deterioration, and damage.
- **2003-2005 Inspection of Canal Structures from Albany to Syracuse for the New York State Thruway Authority.** Diver-Tender for the inspection of approximately 100 canal structures along the

New York Waterway Canal System. Structures included locks, guard gates, fixed crest and moveable dams, taintor gates, spillways, terminals, docks, guide structures and culverts. The assignment included the design of repair recommendation, preparation of a comprehensive report, drawings, and photo documentation.

- **Port Newark, Berths 2-36, Port Newark, New Jersey for the Port Authority of New York & New Jersey.** Engineer-Diver for underwater inspection and assessment of pier structures and preparation of comprehensive report, including photographs, sketches, condition assessment, and repair recommendations.
- **Underwater Inspection of Pier One; East Boston, MA; for Roseland Property Company;** Diver/Tender for underwater/above water condition survey of the substructure for Pier One to determine the appropriate and most cost effective method of restoring and strengthening the piles that support the pier. Includes preparation of inspection reports.
- **Staten Island Homeport, Staten Island, NY; for NYCEDC;** Diver/Tender for an above and underwater condition survey, design alternatives to repair an existing bulkhead, and shoreline stabilization for the refurbishment of a former 36-acre naval base into a mixed-use development. Includes 350 residential units, ground floor retail, a farmer's market, restaurant/banquet facility, and a community sports complex.
- **2007-Present Construction Inspection; Throgs Neck Bridge;** Diver/Tender for engineering services to perform construction inspection of underwater repairs presently being conducted at various substructural elements of the Throgs Neck Bridge.
- **2005-2006 Bridge Inspection; Statewide; for Connecticut Department of Transportation;** Diver/Tender for engineering services to perform above and below water bridge inspections for approximately 300 highway and railroad bridges. Includes in-depth inspection, photography, permitting, reporting, and repair recommendations.
- **2004-2005 Bridge Diving Inspection and Fathometer Survey for the East (Regions 1, 2, 7, 8, 9) of New York State.** Diver-Tender for this two-year bridge inspection contract for the New York State Department of Transportation. McLaren will provide underwater inspection and fathometer survey services for 93 bridges consisting of 186 SSU's.
- **2001-2002 Biennial Underwater Bridge Inspection; for Connecticut Department of Transportation;** Diver responsible for the engineering services associated with the above and below water bridge inspections and ratings of approximately 191 highway and railroad bridges and 490 SSUs.
- **1999-2002 Underwater Inspection Services for the Reconstruction of Atlantic Beach Bridge over Reynolds Channel, Nassau County, New York for the New York State Department of Transportation.** Engineer-Diver for underwater construction inspection services associated with repairs to the substructure elements of the bridge, including repairs to concrete piles, bascule piers, fender systems, bulkhead and pile encasements.

Philip John St. Denis
Diver/Tender
Project Role: Diver

Education: Degree(s) / Year/ Specialization
1987/U.S. Navy Dive School
1991/The Ocean Corporation, Commercial Dive School
Underwater Bridge Inspection Training Course, University of New Mexico

Active Registrations: Year First Registered / Discipline
National Bridge Inspection Standards (NBIS), 2005 - Course #FHWA-NHI-130055
U.S. Navy Medical Training Department, IV & Suture Certified
Association of Diving Contractors, Mixed Gas Diving Supervisor, Certificate #4728
Certificate, OSHA Confined Space Entry – June 1997
American Red Cross First Aid and Adult CPR Trained
NICET – Bridge Safety Inspection, Level 1
G35-Fitness – Air Compressor Operation – Certification # 81292591
G46-Fitness – Storage/Use Nonflammable Compressed Gases – Certification # 81292658
W14-Fitness – Handle Motor Fuel-Portable Container – Certification # 81292518

Experience:
Mr. St. Denis has more than 16 years of combined commercial/military experience, including 14 years of surface supplied air diving experience. He has participated in numerous underwater structural integrity inspection and evaluation projects for various bridge, culvert and marine structures. Mr. St. Denis is currently the company Dive Safety Officer and Equipment Manager.

- **Underwater Condition Survey of Port Authority-Lincoln Tunnel Ventilation Building, New York City, New York;** Diver/Inspector for this task whereby McLaren provided services in connection with the performance of an underwater condition survey of the exterior faces of the Lincoln Tunnel New York River Ventilation Building. The condition survey was limited to the north and center tube shafts from the underside of deck to the mudline.
- **North 1st Street Fuel Oil Terminal Facility located at 214 Kent Street in Brooklyn, NY; for Con Edison;** Diver for this contract to provide the necessary waterfront inspection services associated with the North 1st Street Fuel Oil Terminal Facility located at 214 Kent Street in Brooklyn, NY. The purpose of this inspection was to determine the present condition of the facility, note any deficiencies and to make recommendations for repairs to the collapsed portion of the North 1st Street Walkway.
- **Underwater Inspection of the 59th Street and 74th Street Generating Stations for Consolidated Edison;** Diver-Tender for in-depth video inspection of cooling water intakes and discharge tunnels, with penetrations to 700 feet. Soundings and siltation profiles were documented and a condition assessment was prepared.
- **Pier 98 Fuel Oil Unloading Dock Inspection, New York, NY, Con Edison;** Diver for the structural condition assessment of the Pier 98 facility at Con Edison's 59th Street Station. A thorough tactile inspection of the facility was performed to enable the development of detailed and prioritized repair recommendations. All structural and fendering components were examined with emphasis on marine borer activity, deterioration, and damage.
- **Underwater Construction Inspection and Assessment of the Con Edison Relieving Platform at FDR Drive (15th Street), Lower Manhattan for the New York City Department of Transportation (1996);** Diver-Tender for emergency underwater inspection of collapsed portion of relieving platform including assessment of pile damage; marine borer assessment. Subsequent underwater inspection during rehabilitation providing oversight of contractor hired to provide repairs.

Philip John St. Denis
Diver/Tender
Project Role: Diver

- **Underwater Inspection of Waterfront Structures at the Brooklyn Navy Yard for the Brooklyn Navy Yard Development Corporation;** Diver-Tender for the underwater condition assessment of a variety of facilities including piers, bulkheads and relieving platforms. A structural analysis and condition assessment was conducted, comprehensive reports were prepared, as well as repair recommendations and cost estimates.
- **Fulton Fish Market Platforms, Manhattan for the New York Economic Development Corporation/Turner Construction;** Diver/Tender for the condition assessment of the underwater and above water inspection services as part of a condition survey of the pile-supporting platforms at Fulton Fish Market.
- **FDR Drive Marine Borer Inspection Program, New York City Department of Transportation [HBC BORERS; PIN 84197BKBR087];** Diver for underwater inspection of 6,860 linear feet of platform along the FDR Drive. Included below water inspection and assessment of 15,000 piles, marine borer identification, and destructive testing and evaluation.
- **West Side Piers Safety Improvements for the New York State Department of Transportation;** Diver for underwater construction inspection and consulting services associated with an interim stabilization repair project at the West Side Piers. Restoration of Piers 25, 26 & 64 involved repair and bracing of piles to achieve a five-year design life.
- **Underwater Inspection at the U.S. Naval Shipyard, Puget Sound, Bremerton, WA;** Underwater inspection of port facilities including piers, bulkheads, quay walls, dry docks and moorings. Underwater photography and ultrasonic thickness measurements were utilized. A comprehensive report was prepared including condition assessment, repair recommendations and cost estimates.
- **Berths 88-98 and the Turntable at Port Elizabeth at the New Jersey Marine Terminal for the Port Authority of New York and New Jersey;** Diver/Tender for underwater condition survey of all timber, concrete and steel piles, pile cap beams and pile extension, steel sheet pile bulkhead, seawall and wharf. Including a comprehensive inspection report prepared including photographs and a summary of findings.
- **U.S. Navy Defense Fuel Support Pier, Melville, Rhode Island for the U.S. Department of the Navy;** Diver-Tender for the underwater inspection of 950 timber piles and 36 steel support piles, including marine borer infestation and steel corrosion assessments. Provided assistance with report preparation, including condition assessment, structural analysis, and repair recommendations.
- **2003-2005 Inspection of Canal Structures from Albany to Syracuse for the New York State Thruway Authority;** Diver-Tender for the inspection of approximately 100 canal structures along the New York Waterway Canal System. Structures included locks, guard gates, fixed crest and moveable dams, taintor gates, spillways, terminals, docks, guide structures and culverts. The assignment included the design of repair recommendation, preparation of a comprehensive report, drawings, and photo documentation.
- **Port Newark Berths 2-36, Port Newark, New Jersey for the Port Authority of New York & New Jersey;** Diver for underwater inspection and assessment of pier structures and preparation of comprehensive report including photographs, sketches, condition assessment and repair recommendations.

Craig P. Plate, P.E.
Senior Engineer
Project Role: Diver

Education:
B.S., Civil Engineering, Manhattan College, 2007

Active Registration:
Professional Engineer: New York #090837

Certifications:
Transportation Worker Identification Credentials (TWIC)

Computer Software:
AutoCAD, Microsoft Office 2003, RISA 3D

Experience:
Mr. Plate is an engineer with experience in structural analysis and design, load rating and renovation/rehabilitation design. He specializes in steel and concrete design for all types of structures including bridges, piers, bulkheads and other waterfront structures. Representative projects include:

- **East and Harlem River Ferry Landings; New York, NY; for New York City Economic Development Corporation;** Marine Engineer for the structural and marine design of various ferry landing facilities for a $10 million civil-structural-marine engineering project. Mr. Plate was involved in developing three waterfront locations as ferry landing sites to accommodate vessels, passengers, and intermodal transportation along the East and Harlem Rivers of Manhattan. This included the concrete pier design at 34th Street and the design of steel mooring arms at the BMB ferry landing. He was also the lead engineer during the construction administration phase of the project. This involved providing engineering support as well as project management for the length of the construction.
- **Structural Evaluation of Crane Installations for the NYC Department of Buildings;** Serves as site engineer/ inspector at various locations throughout New York City. Site observations include: tower crane erections, routine inspections of tower mast, tie-ins to the building and mast foundations; tower crane mast jump up and jump down including the installation/dismantling of tie-ins, and tower crane disassembly.
- **Poughkeepsie-Highland Railroad Bridge Conversion; Poughkeepsie, NY;** Engineer/Inspector for this bridge inspection project. McLaren is converting the Poughkeepsie-Highland Railroad Bridge into a park and walkway over the Hudson River for pedestrian traffic. Mr. Plate participated in a climbing inspection of the structural steel trusses, partaking in non-destructive testing and ultimately retrieving data necessary for the design work to follow. McLaren is also responsible for underwater inspection of the four piles of the bridge in the Hudson River, as well as the piers above the water line.
- **River Barge Park (Hackensack River) Shoreline Stabilization; Carlstadt, NJ; for NJ Meadowlands Commission;** Engineer, provided structural engineering and design services associated with developing a sheet pile design along the boundary between River Barge Park and the Hackensack River. Mr. Plate's main design challenge was to properly incorporate the architectural elements into the new steel design, while considering soil conditions around the shoreline. He also supplied permitting support.
- **Emergency Landing Barges; various Manhattan locations; for NYCDOT;** Engineer for this project, supported structural design and construction administration for the creation of a barge landing. Mr. Plate designed the railing system and steel platform at the shoreline by optimizing existing drawings. He also completed cost estimates.

Craig P. Plate, P.E.
Senior Engineer
Project Role: Diver

- **Sentosa Cranes; Sentosa, Singapore;** Marine Engineer for marine engineering and design of the support platform for the Dancing Cranes exhibit off the coast of Sentosa, Singapore. The exhibit displays two 80 ft. mechanical cranes, which put on a water and pyrotechnics presentation. McLaren is responsible for the development of conceptual models indicating alternative systems of actuation, which will allow the kinematic motion to occur. Also responsible for examining the consequences and resulting cost effects of considering alternative parametric designs. The pile and barge design included extensive computer modeling in order to consider the wide range of loading on the platform.
- **White Hall Ferry Terminal Repairs; Staten Island, NY; for NYCDOT;** Engineer supporting structural evaluations at various terminal locations including load-bearing analysis of piles and pile caps.
- **Williamsburg, The Edge Waterfront Redevelopment; Brooklyn, New York; for Douglaston Development;** Engineer for this project, provided structural engineering and load rating analysis relative to concrete staircase and platform as part of this extensive waterfront development project.
- **SUNY Maritime Waterfront Rehabilitation and Development, Throgs Neck, NY;** Marine Engineer and Construction Inspector who performed construction oversight and design services for the rehabilitation and expansion of the campus pier and other waterfront structures for the State University Construction Fund's (SUCF). Mr. Plate was involved in the coordination and inspection of the ongoing construction activities. Responsibilities included monitoring the progress of the construction and managing the contractor payment requisitions. He also performed underwater inspections of the pile repairs.
- **Bulkhead at Lincoln Harbor, Weehawken, NJ; for Hartz Mountain;** Marine Engineer for the design and preparation of construction documents for repair of bulkhead at Lincoln Harbor using composite sheetpiling. Mr. Plate participated in the research and review of historical documentation and investigated multiple design alternatives for the site. Mr. Plate's responsibilities also included the preparation of an "Application for Soil Erosion and Sediment Control Plan Certification" for the proposed Bulkhead Repair at Lincoln Harbor as well as construction administration and inspection.
- **Investigation of Piers C & D; Weehawken, NJ; for Hartz Mountain;** Marine Engineer for the provision of ongoing marine-related services at Piers C & D in Weehawken, New Jersey. Mr. Plate provided the design and construction administrative services for repairs to the piers and other marine installations at the Charthouse Restaurant site.
- **2009-2012 Above and Below Water Inspection of Statewide Bridges; for Connecticut DOT;** Marine Engineer for the engineering services associated with the above and below water inspection services at approximately 450 bridges carrying state and local roadways. Mr. Plate's responsibilities included the inspection and preparation of comprehensive reports, which will include underwater photography/videography and data assessment.
- **Inspection of Ellis Island Seawall; for HDR Engineering;** Marine Engineer responsible for the engineering services associated with the underwater and topside inspection of the Ellis Island Seawall and preparation of Class C, Class B and Class A Construction Cost Estimates. Mr. Plate assisted with the preparation of a condition survey report for the 5,333 LF of existing seawall. His effort also included preparation of construction cost estimates for schematic and preferred alternatives as well as the final design. Mr. Plate also performed underwater inspections of the bulkhead repairs at various stages of construction to confirm proper installation and conformance to the contract documents.

Hourly rates for McLaren staff are set forth below. The staff members reflected below represents the firm's technical staff. Other McLaren personnel, including administrators, are available as required to support the PANYNJ on this contract. Premium pay for non-salaried staff is straight time. Premium pay for non-salaried staff is paid at time and one-half.

McLaren Engineering Group

Last Name	First Name	Suffix	Title	Effective Date	Current Rate	Billing Rate (Rate X 2.67)
McLaren	Malcolm	P.E.	Principal/CEO	3/8/2012		$ 170.00
Gorlin	William	P.E., S.E.,	Engr Mgr	2/23/2012	$ 72.79	$ 194.35
Mahoney	W. Richard	P.E.	Engr Mgr	2/23/2012	$ 56.94	$ 152.03
Grogg	Steven	P.E.	Engr Mgr	2/23/2012	$ 64.95	$ 173.41
Rahman	Khan	Ph.D., P.E.	Engr Mgr	6/4/2012	$ 62.06	$ 165.70
Bujtas	Mark	P.E.	Sr Eng 3	3/9/2012	$ 47.51	$ 126.85
Platt	Vernon	P.E.	Sr Eng 3	5/17/2012	$ 46.50	$ 124.16
Shuman	Nathan	P.E.	Sr Eng 3	2/23/2012	$ 46.99	$ 125.46
Frech	Stephen	P.E.	Sr Eng 3	2/23/2012	$ 55.29	$ 147.62
Lantigua	Porfirio	P.E.	Sr Eng 3	8/24/2012	$ 48.00	$ 128.16
Green	James	P.E.	Sr Eng 2	3/9/2012	$ 45.61	$ 121.78
Moody	Brian	P.E.	Sr Eng 2	3/9/2012	$ 44.94	$ 119.99
Billig	Jeremy	P.E.	Sr Eng 2	3/10/2011	$ 46.76	$ 124.85
Daniels	Matthew	P.E.	Sr Eng 2	3/9/2012	$ 42.85	$ 114.41
Speer	John	P.E.	Sr Eng 2	7/7/2011	$ 41.00	$ 109.47
Daur	Luke	P.E.	Sr Eng 1	1/26/2012	$ 40.00	$ 106.80
Koklanos	Panagiotis	P.E.	Sr Eng 1	4/23/2012	$ 48.07	$ 128.35
Shuman	Andrea	P.E.	Staff Eng 3	2/23/2012	$ 36.48	$ 97.40
Premus	Gerald	P.E.	Staff Eng 3	9/1/2012	$ 39.25	$ 104.80
Santos	Lamberto	P.E.	Staff Eng 3	3/9/2012	$ 36.75	$ 98.12
Quadrini	Brandon	P.E.	Staff Eng 3	3/9/2012	$ 36.05	$ 96.25
Manson	Todd	P.E.	Staff Eng 2	5/31/2012	$ 35.00	$ 93.45
Xuan	Gang	P.E.	Staff Eng 2	3/10/2011	$ 35.29	$ 94.22
Plate	Craig	P.E.	Staff Eng 1	5/31/2012	$ 33.00	$ 88.11
DeSantis	Dominic	P.E.	Staff Eng 1	5/31/2012	$ 33.00	$ 88.11
Skinner	Jon		Staff Eng 1	1/26/2012	$ 33.25	$ 88.78
Moyer	Kyle		Staff Eng 1	3/9/2012	$ 31.35	$ 83.70
Yeager	Adam		Staff Eng 1	3/9/2012	$ 31.35	$ 83.70
Gigliotti	Murphy		Sr Tech Designer 2	3/9/2012	$ 38.89	$ 103.84
Smith	Fred		Sr Tech Designer 2	3/10/2011	$ 41.51	$ 110.83
Zanzano	Nicholas		Tech Desgin Mgr	1/19/2011	$ 39.00	$ 104.13
Bonadonna	Stephen		Tech Desgin Mgr	3/30/2011	$ 49.76	$ 132.86
Viele	Donald		Prin Surveyor	3/9/2012	$ 47.40	$ 126.56
Clarke	Shannon		Jr Eng 3	3/9/2012	$ 31.20	$ 83.30
Nordin	Curtis		Jr Eng 3	3/10/2011	$ 31.05	$ 82.90
Haggerty	Alaina		Jr Eng 2	3/9/2012	$ 28.33	$ 75.64

Coulter	Ryan		Jr Eng 2	3/9/2012	$	28.08	$	74.97
Pratt	Katrina		Jr Eng 2	3/9/2012	$	29.11	$	77.72
Iserovich	Denis		Jr Eng 2	3/10/2011	$	29.12	$	77.75
Knorr	Rebecca		Jr Eng 2	4/5/2012	$	28.75	$	76.76
Can	Daniel		Jr Eng 2	3/9/2012	$	26.78	$	71.50
Pierson	Jonathan		Jr Eng 2	1/9/2012	$	29.00	$	77.43
Canepa	Charles		Jr Eng 2	7/23/2012	$	28.00	$	74.76
Vienckowski	Lisa		Jr Eng 2	6/4/2012	$	28.00	$	74.76
Raftery	Michael		Jr Eng 2	7/16/2012	$	29.00	$	77.43
Leventhal	Jake		Jr Eng 2	8/6/2012	$	28.00	$	74.76
Janssen	Matthew		Jr Eng 2	9/10/2012	$	29.00	$	77.43
Zhou	Miao		Jr Eng 1	3/9/2012	$	28.26	$	75.45
Volpe	Jesse		Jr Eng 1	3/9/2012	$	26.39	$	70.46
Eras	Diego		Jr Eng 1	5/24/2011	$	26.25	$	70.09
Johnson	Albert		Jr Eng 1	7/5/2012	$	27.00	$	72.09
Chiang	Randa		Jr Eng 1	3/9/2012	$	27.41	$	73.18
Goodman	Laura		Jr Eng 1	11/21/2011	$	27.00	$	72.09
Graham	Ryan		Jr Eng 1	1/9/2012	$	27.00	$	72.09
Adamovich	Michael		Jr Eng 1	5/31/2012	$	27.00	$	72.09
Ihrig	Roxanne		Jr Eng 1	6/4/2012	$	26.00	$	69.42
O'Connell	Sean		Jr Eng 1	6/11/2012	$	26.00	$	69.42
Doliber	Patrick		Jr Eng 1	6/18/2012	$	27.00	$	72.09
Carzzarella	Gillian		Jr Eng 1	8/2/2012	$	27.00	$	72.09
Kelly	Brendan		Jr Eng 1	8/20/2012	$	27.00	$	72.09
Karaoglan	Michel		Resident Eng 2	3/9/2012	$	33.94	$	90.62
Collins	Stephen		Resident Eng 2	3/9/2012	$	29.27	$	78.15
Osborne	Brian		Instrument Person	6/28/2012	$	24.00	$	64.08
Donnelly	James		Instrument Person	7/12/2012	$	24.00	$	64.08
Siegel	Robert		Facilities 1	12/9/2011	$	10.00	$	26.70
Sundvik	Carl		Eng Tech 4	3/10/2012	$	39.32	$	104.98
Korkosz	Daniel		Eng Tech 4	3/9/2012	$	38.03	$	101.54
St. Denis	Philip		Eng Tech 3	3/9/2012	$	34.61	$	92.41
Molison	Stephen		Eng Tech 3	3/9/2012	$	29.85	$	79.70
Leung	Shing-Wai		Eng Tech 3	3/9/2012	$	32.59	$	87.02
Scott	Alison		Eng Tech 3	3/9/2012	$	31.35	$	83.70
Saadi	Nabil		Eng Tech 3	3/9/2012	$	28.57	$	76.28
Zaskey	Stephen		Eng Tech 3	3/9/2012	$	28.25	$	75.43
Fischer	Brian		Eng Tech 1	3/9/2012	$	20.60	$	55.00
Chung	Woo		Chief Cad Officer	2/23/2012	$	41.03	$	109.55
Curti	Robert		Sr Cad Operator	3/9/2012	$	35.43	$	94.60
Issa	Jay		Cad Operator 2	3/9/2012	$	30.50	$	81.44
Marquez	Beverly		Cad Operator 2	3/10/2011	$	30.14	$	80.47
Grip	Robert		Cad Operator 1	3/27/2011	$	27.30	$	72.89
Rowe	Osbourne		Cad Operator 1	3/10/2012	$	28.15	$	75.16
Dragos	Alexander		Cad Operator 1	12/29/2011	$	24.00	$	64.08
Daniels	Matthew	P.E.	P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40

Green	James	P.E.	P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Moody	Brian	P.E.	P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Fischer	Brian		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Korkosz	Daniel		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Molison	Stephen		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Plate	Craig		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
St. Denis	Philip		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Sundvik	Carl		P.E. Diver/Diver Prevailing Wage	8/1/2012	$	58.95	$	157.40
Clarke	Shannon		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Collins	Stephen		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Coulter	Ryan		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Daniels	Matthew	P.E.	Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
DeSantis	Dominic		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Green	James	P.E.	Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Moody	Brian	P.E.	Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Fischer	Brian		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Karaoglan	Michel		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Korkosz	Daniel		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Molison	Stephen		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Plate	Craig		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
St. Denis	Philip		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Sundvik	Carl		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
O'Connell	Sean		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Doliber	Patrick		Tender Prevailing Wage	8/1/2012	$	42.10	$	112.41
Osborne	Brian		Survey Prevailing Wage	8/1/2012	$	27.28	$	72.84
Donnelly	James		Survey Prevailing Wage	8/1/2012	$	27.28	$	72.84
Tyler	Dewey		Survey Prevailing Wage	8/1/2012	$	27.28	$	72.84
Fischer	Brian		Survey Prevailing Wage	8/1/2012	$	23.74	$	63.39
Molison	Stephen		Survey Prevailing Wage	8/1/2012	$	23.74	$	63.39

I. OVERVIEW

MCLAREN ENGINEERING GROUP, founded in 1977, and headquartered in West Nyack, New York, with offices in New York City, New York; Baltimore, Maryland; Meriden, Connecticut; and Orlando, Florida; is a multi-discipline firm providing complete professional engineering services with specialties in the following areas:

- Above and Underwater Inspection Services
- Marine Engineering Design and Construction
- Waterborne Transportation Design Services
- Structural Engineering
- Coastal/Ocean Engineering
- Civil and Geotechnical Engineering

McLaren distinguishes itself as one of the nation's leading experts in the above and underwater inspection, assessment, design and construction inspection of waterfront structures. The firm has 35 years of experience in above and underwater inspection and structural assessment, varying in type from piers, bulkheads, and seawalls to bridge foundations and dams. Much of our work has been performed along the Eastern seaboard, which provides perhaps the greatest variation of diving media in the nation. Only a handful of engineering firms possess the specialized qualifications, experience and trained personnel necessary to perform above and below water inspection projects. The many varied underwater inspections performed by our dive crews have provided us with a tremendous database for the effects of water chemistry and flow on the life of various marine construction types and materials.

McLaren has successfully performed the above and underwater investigation, design and construction of waterfront structures comprising approximately 75 percent of the perimeter of Manhattan Island within the last decade. McLaren's overall waterfront experience can be summarized as follows:

- Number of Piles Inspected: 2,000,000
- Length of Waterfront Inspected: 200 miles
- No. of Facilities Upgraded, Repaired or Replaced: Over 450
- Value of Construction: $3,000,000,000

McLaren has successfully built a manifest of clients, particularly within the New York Harbor area, including the Port Authority of New York & New Jersey, the New York City Economic Development Corporation, Hudson River Park Trust, both the New York City and State Departments of Transportation, the Brooklyn Navy Yard Development Corporation, the New York City Department of Parks and Recreation, the New York City Department of Design and Construction, the New York City Department of Sanitation, Consolidated Edison Company, and many private industrial and development concerns.

"APPLIED INGENUITY" The motto, goal and indeed, mantra at McLaren is "Applied Ingenuity." It is our intent to be ever improving- exploring new solutions to old problems and constantly striving to serve our clients better. We will never rest on our accomplishments nor will we be satisfied with what we did yesterday. Ours is a determination to perform better than we did on the last project. Over the past two years we have accomplished the following toward meeting this goal:

- **Opened a new Office in Midtown Manhattan...**In order to better serve our clients in New York City, we have opened and staffed an office on 42nd Street which allows rapid response to agencies situated in the five boroughs.
- **Office Expansion...**We have expanded our offices in West Nyack and Baltimore, and have provided a fully redundant generator system to avoid interruptions in power and communication.

- **Professional Education...**We have hosted or delivered several Continuing Education programs at our office, providing Professional Development Hours for licensed professionals. Topics have ranged from development and application of new products to innovative methods of analysis for Heavy Moving Structures. This is generally performed once a month.
- **Professional Licensing...**Over the past two years we have added twelve (12) Professional Engineers or licensed Land Surveyors to our staff.
- **Reduced Multiplier...**Based on our cost efficient technical approach and effective project management work ethic, our overhead multiplier has been reduced consistently in the last several years.
- **New Accounting and Project Management Software...**McLaren implemented a new project management software, Deltek Vision, to help better manage the company and our projects, while providing our clients faster accurate responses.
- **Risk/Certified Project Manager...**We recently hired a Certified Risk Manager who is also a Certified Project Manager who currently holds a PMI-RMP certificate. He oversees the firm's quality control and quality assurance practices as well as our project management practices to ensure they conform to industry and client standards and specifications.
- **Sustainable Design...**We seek to fully integrate sustainable design thinking into the design process from the early stage, working closely with clients and engineers so that green technologies and best practices inform the unique spatial resolution of every design problem. With several LEED Accredited Professionals on staff, we have the capacity to help projects achieve LEED certification, if desired by the client.
- **Expansion of Our Expertise...**We have invested in research, development and have added new personnel with expertise in Solar Energy, Underwater Sonar Imaging, Energy, Wave/Tidal Energy, and Blast Engineering. This has improved and expanded our capabilities and our value to clients.

II. OUR SERVICES

Subaqueous Marine Inspections and Condition Assessments

McLaren distinguishes itself as one of the nation's leading experts in the underwater inspection, assessment, design and construction inspection of waterfront structures, having performed such services for 35 years. McLaren has extensive experience in underwater inspection and structural assessment, varying in type from quay walls and piers to bridge foundations and dams. Much of our underwater work has been performed along the Eastern seaboard, which provides probably the greatest variation of diving media in the nation. The many varied underwater inspections performed by our dive crews have provided us with a tremendous database for the effects of water chemistry and flow on the life of various marine construction types and materials. Through these projects, McLaren has become proficient in many specialized engineering concepts, such as:

- Marine borer identification
- Effects of current velocity on scour
- Cathodic protection – both galvanic and impressed
- Measurement of water resistivity and stray current
- Low visibility diving (tactile investigations)
- Cold weather diving
- Sonar Imaging
- Underwater videography and photography
- Various cleaning methods – pneumatic brush, hand scraper, water blaster
- Ultrasonic testing
- Statistical relevance of representative sampling
- Design of structural repairs
- Fathometric surveys

MARINE ENGINEERING AND DESIGN SERVICES

Since our firm is involved in the engineering of all types of structures, our capabilities for design and analysis are comprehensive. We are familiar with materials and methods of construction, costs, specifications, and means of analysis. We are an engineering firm with diving capabilities and experience, and therefore possess an advantage in providing both above and underwater inspection and design services.

Our depth of experience and expertise encompass all aspects of marine design and construction, including:

- Underwater Engineering Inspections
- Bulkheads, relieving platforms, quay walls – rehabilitation and new construction
- Crane/Crane Rails/Off-loading Machinery
- Breakwaters
- Navigation aids
- Fendering and berthing energy absorption
- Marine Terminal Operations Analysis
- Port and Marine Terminal Planning and Development
- Terminals – berthing, loading and conveying systems
- Floating Structures (terminals and piers)
- Pier design – new or rehabilitation
- Permitting
- Dredging
- Recreational marinas for pleasure craft Multi-modal Facilities
- RO-RO Facilities
- Marina Designs/Studies/Permitting
- Effects of water chemistry on materials
- Tidal Influences
- Geotechnical Studies and Design
- Cathodic protection – investigation and design
- Marine borer studies and remediation, infestation and appropriate mitigation
- Gangways/ADA Compliance
- Application of advanced materials

McLaren provides waterfront facility master planning, development/design, and design-build RFP document preparation services. Port terminals and marine layout planning, dry bulk handing/conveying, container terminal feasibility studies/design, TEU loading/unloading analyses, RO-RO and LO-LO planning/design, liquid bulk transshipment planning and design, cruise ship terminal design, all are within the realm of expertise offered by McLaren's Marine Division.

Through our extensive experience in this rather specialized field, we can offer expertise in cost estimating, life cycle analysis, and construction supervision. Our underwater inspection capabilities provide assurance that construction is carried out in conformance with plans.

We have provided structural engineering plans and specifications for thousands of structures worldwide. Much of our work involves the rehabilitation, retrofit, or modernization of marine facilities – including fender systems, bulkheads, piers, and wharves of all types. Our advanced technical procedures, excellence of staff, and sophisticated computer analysis provide safety and efficiency of design. Effective management and quality control make the design process flow smoothly and ensures constructibility.

We are expert at analysis, which must be used in situations where some of the conditions are hidden from view; selection of materials; and preparation of construction documents.

ENVIRONMENTAL PERMITTING

McLaren has successfully prepared the environmental permit applications and guided clients through the maze of waterfront-related permits and approvals for large municipal projects. Suggestions for innovative project alternatives greatly reduced the potential for impacts to aquatic biota and the estuarine habitats, thereby allowing the project to be successfully permitted within a relatively short time frame. Furthermore, by eliminating certain impact issues, the need for extensive fieldwork was eliminated.

McLaren has a good understanding of the process and issues that must be addressed in permitting waterfront projects. Because agency review of permit applications can be a lengthy process, it is extremely important to:

- Design projects in a way that minimizes potential problems during the review period to the extent practicable;
- Get review agency approval of overall project approach and concept as early as possible;
- Develop project construction schedules (including those for producing construction drawings) that recognize the uncertainties regarding the timing of permit issuance.

III. RELEVANT EXPERIENCE

McLaren possesses an extensive corporate portfolio, demonstrating how our expert professional inspection, engineering, and design services have made us a leader in the industry. In the pages that follow, please find relevant project samples from this portfolio that best represent our expertise and ability relative to marine condition surveys of piers and waterfront facilities. Our projects have been completed on schedule and within allotted budgets. The only deviation from this would be changes in scopes of work adding additional tasking to our projects, and thus additional time. As requested by the RFP, we present projects completed within the last 3 years. Please find tear sheets for the following.

- Port Authority of New York and New Jersey Term Agreement Contracts
- 2010 Inspection of Berths and Turntable at Port Elizabeth
- Brooklyn Navy Yard Waterfront Structural Design Development
- Condition Survey Inspection of Berths 51-63 Port Elizabeth Marine Terminal
- On-Call Marine Engineering Services for NYCDOC
- Waterfront Structural Engineering Services New Jersey Marine Terminal – Elizabeth, New Jersey
- Ferry Shore Facilities – Waterfront Facility Inspection and Design
- Long Branch Ferry Terminal Design and Entertainment Pier
- SUNY Maritime Rehabilitation of Campus Pier and Other Waterfront Structures
- Battery Park City Ferry Terminal
- Underwater Inspection and Rehabilitation of Pier One
- Battery Park City Authority Inspection and Design Services for Marine Structures
- Port Newark Berth 3 Wharf Reconstruction
- Rehabilitation of JFK Outfall Numbers 10 and 13

Location
Various Locations, New York and New Jersey

Client/Owner
Port Authority of New York and New Jersey

Project Type
Inspection and Design Engineering Services

Services
Marine Engineering
Above and Underwater Inspections
Structural Engineering
Load Rating Analysis
Design
Construction Administration

Contract Period
1990-2012

Reference
Port Authority of New York and New Jersey
3 Gateway Center, 3rd Floor
Newark, NJ 07102
Mr. Chung Lin, P.E.
(973) 792-3909

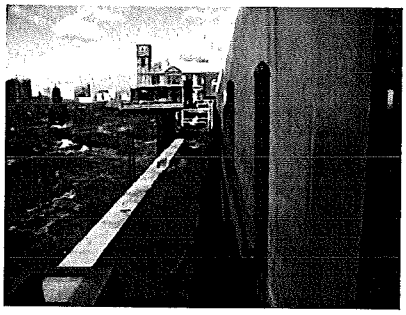
Project Description

McLaren Engineering Group (McLaren) has been providing the Port Authority of New York and New Jersey professional engineering inspection and design service through term agreement contracts since 1990. McLaren is currently working on four (4) separate call-in term agreements for marine engineering; inspection, design and construction inspection and management for their in-water and upland facilities. They are:

- Performance of Marine Condition Surveys and Diving Inspection Technical Services (426-09-013) (426-10-013) (426-11-013) (426-12-013)
- Performance of Expert Professional Facilities Condition Surveys of Waterfront Facilities (405-09-027) (405-10-027) (405-11-027)
- Expert Professional Services for Performance of Structural Engineering Services (Waterfront) on a "Call-in" Basis (415-11-168) (415-12-168)
- Performance of Expert Professional Facility Condition Surveys for Waterfront Facilities as requested on a "Call-in" Basis (405-12-024)

These contracts involve various structure types, including but not limited to piers, wharves, berths, docks, outfalls, seawalls, ferry facilities and building structures.

McLaren's Role



McLaren, as Prime Consultant to the Port Authority of New York and New Jersey, was and is responsible for underwater inspection, above water inspection, facility inspection, design repairs and construction support services on these contracts.

Project Highlights

- Marine Engineering
- Structural Engineering
- Underwater Inspection Services
- Above Water Inspection
- Underwater Videotaping
- Geotechnical Engineering
- Fathometer Survey Services
- Load Rating Analysis
- Database Management
- Report Preparation
- Construction Administration

2010 Inspection of Berths and Turntable at Port Elizabeth

Location
Elizabeth, New Jersey

Client/Owner
Port Authority of New York and New Jersey

Services
Underwater Inspection
Condition Survey

Contract Period
2010

Reference
Port Authority of New York and New Jersey
3 Gateway Center, 3rd Floor
Newark, NJ 07102
Mr. Chung Lin, P.E.
(973) 792-3909

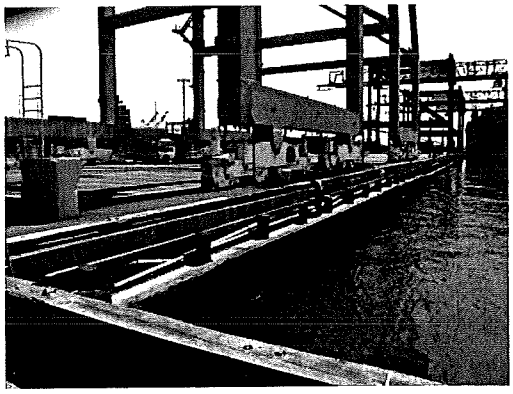
Project Description

Under PANYNJ Agreement Number: 405-09-027, McLaren Engineering Group (McLaren) was retained to perform a condition survey at the Elizabeth Port Authority Marine Terminal located on the west shore of Newark Bay in Elizabeth, NJ. The terminal consists of a wharf (low-level relieving platform) type structure Berths 88, 90, 92, 94, 96, 98 and a turntable, which was used to transfer cranes between the eastern and the southern berths. The purpose of the survey was to determine the overall condition of the structures.

The inspection included all timber and steel pipe piles, concrete pile extensions, underside of deck, steel sheet pile bulkhead, concrete seawall/edge beam, top of deck with curbs and mooring fittings, and the turntable located at the southeast corner of the facility. The previous inspection from the summer of 2007, served as a baseline to which current conditions were compared and evaluated.

The above and below water inspection consisted of approximately 220,500 square feet of wharf, 6,022 piles, over 4,000 linear feet of bulkhead, and the turntable which is located at the southeast corner of the facility.

The field survey included a 100 percent visual inspection and a 10 percent hands on inspection of all timber piles, steel piles, pile cap beams and pile extensions. The survey also included complete visual inspections of the concrete edge beam and wharf topside, the steel sheet pile bulkheads, and deteriorated portions of the deck soffit. McLaren then conducted soundings every 50 feet of the steel bulkhead.



Photographs were taken both above and below water to provide a visual representation of the typical and aberrant conditions as well as to support the written text of the inspection. Based on the findings in the field, McLaren's Marine Engineers prepared a condition survey report, complete with repair recommendations and plan sketches for the repairs.

Brooklyn Navy Yard Waterfront Structural Design Development

Location
Brooklyn, New York

Client/Owner
Brooklyn Navy Yard Development Corp

Project Type
Waterfront Rehabilitation

Services
Marine Engineering
Above Water Inspections
Underwater Inspections
Design Services
Construction Cost Estimating
Bid Document Preparation
Permitting
Construction Administration
Construction Inspection

Contract Period
1992-2012

Reference
Brooklyn Navy Yard Development Corporation
63 Flushing Avenue, Bldg. No. 292, 3rd Floor
Brooklyn, New York 11205
Mr. James Corley, Jr.
(718) 852-1441

Project Description

As part of Brooklyn Navy Yard Development Corporation's 10-year Master Plan to revitalize the Navy Yard as an economic development facility, McLaren Engineering Group (McLaren) was selected to provide specific area waterfront rehabilitation services at this 213-acre site. Improvements have been made to various marine structures at the facility, including Piers C, D, G and K; Berths 3A, 6, 7, 7A, 14A, 17, 18, 20A and 20B.

McLaren first performed above water and underwater inspection and assessment of piers, low-level relieving platforms, bulkheads/seawalls, and wharves. Preliminary and final design services, with construction cost estimates, were then provided for the rehabilitation.

Each of the repair packages was fully designed and constructed, and McLaren provided full engineering services throughout those phases. Specifically, the following were performed for each of the waterfront structures listed above:

- Data Accumulation and Research
- In-Depth and Detailed Underwater and Above Water Condition Surveys and Assessments
- Preparation of a Condition Survey Report
- Preparation of an Alternatives Study and Feasibility Report with Costs
- Preparation of Environmental Permits and Coordination Meetings with NYSDEC and USACE
- Preparation of Bid Documents (Contract Drawings, Technical Specifications and Boilerplate/General Specifications) – Submittals to 30%, 70%, 100% and Final Stages
- Bidding Assistance and Evaluation/Contractor Selection
- Construction Inspection using Underwater Inspection Crews
- Construction Administration Support Services (Shop Drawings/Submittals, Clarifications, Meetings, As-Built Documentation, Scheduling)

Prior to repairs, the structures were in a dilapidated state. Because the facilities are old timber structures, McLaren was exposed to nearly every type of timber construction – and nearly every type of condition for which a solution was needed. Repairs were executed in consideration of the environmental regulations and included:

- Wrapping timber piles in plastic and driving new timber piles
- Posting timber piles and shimming non-bearing piles
- Encasing timber and steel piles in concrete
- Replacing or encasing timber pile caps
- Protecting, through encasement, timber cut-off walls and underdeck
- New cast-in-place concrete pile caps
- Constructing new steel sheet piles/anchored "dead man"
- Constructing new cast-in-place cutoff walls
- Reconstructing severely deteriorated seawall of low-level platforms
- Design of cathodic protection systems

Location
Elizabeth, New Jersey

Client/Owner
Port Authority of New York and New Jersey

Services
Marine Inspection

Contract Period
2009

Reference
Port Authority of New York and New Jersey
3 Gateway Center, 3rd Floor
Newark, NJ 07102
Mr. Chung Lin, P.E.
(973) 792-3909
clin@panynj.gov

Project Description

Under PANYNJ Agreement Number: 405-09-027, McLaren Engineering Group (McLaren) was retained to perform a condition survey of Berths 51, 53, 55, 57, 59, 61 and 63 at the New Jersey Marine Terminal, at Port Elizabeth. The purpose of this condition survey was to determine the overall condition of the wharf structures. The previous report dated November 2006, served as a baseline to which current conditions were compared and evaluated.

The inspections included a 100% visual inspection of approximately 6,728 treated timber piles, 288 steel pipe piles, 7 steel H-piles, concrete underdeck, approximately 5,344 linear feet of timber sheet pile bulkhead, and 410 feet of steel sheet piling. Also included in the scope was an above-water inspection of the wharf and concrete seawall.

Ten percent of the timber piles were inspected by hands-on methods, which included partial cleaning of the piles and recording noted deficiencies. Piles were cleaned and closely examined at 3 elevations where water depths exceeded 12 feet; 2 elevations where water depths were between 6 feet and 12 feet; and 1 elevation where water depths were less than 6 feet. Photographs were taken both above and below water to provide a visual representation of the typical and aberrant conditions as well as to support the written text of this inspection.

Additionally, soundings were taken at 50-foot intervals along the bulkhead and corresponding seawall location.

McLaren's Role

McLaren provided above and underwater inspection of waterfront structures, which included:

- Piles
- Pile Extensions and Caps
- Timber Sheet Pile Bulkhead
- Steel Sheet Piles
- Underdeck
- Concrete Seawall
- Top of Deck

Location
Riker's Island and Various Sites, New York

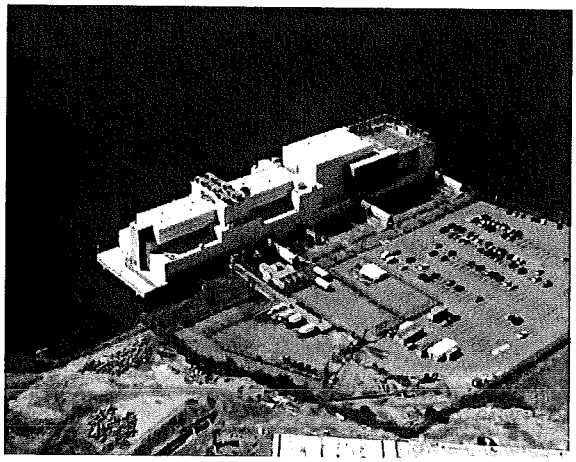
Client/Owner
New York City Department of Corrections

Services
Marine Engineering and Design
Geotechnical Engineering
Underwater Inspection
Site Investigation
Permitting
Construction Administration

Contract Period
2007-2013

Reference
Hardee Saini
NYC Dept of Correction
Bulova Corporate Center
75-20 Astoria Blvd
Ground Floor East
East Elmhurst, NY 11370
(718) 546-0787
Hardee.Saini@doc.nyc.gov

Project Description



Under this on-call term agreement, McLaren Engineering Group (McLaren) is performing marine and geotechnical engineering, underwater and site inspections, and permitting services for New York City Department of Corrections' marine structures on an as-needed basis.

Task performed to date include:

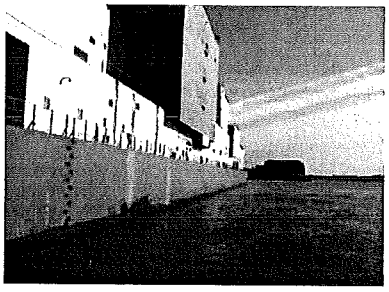
Vernon C. Bain Center (VCBC) Underwater Investigation

McLaren divers performs a visual and tactile inspection of the submerged structural steel hull of the VCBC. Ultrasonic thickness measurements (UTM) were taken along a pre-defined grid and then evaluated against original steel thickness to determine section loss. Repairs were developed based on the findings.

VCBC Bulkhead Inspection and Repair

McLaren divers performed an underwater inspection along the cellular steel sheet pile bulkhead that runs adjacent to the VCBC. UTMs were taken throughout to determine section loss. The divers identified a number of holes through the sheeting for which repair details were developed. McLaren provided design details for the installation of anodes throughout the bulkhead extent in an effort to impede the rate of corrosion.

Feasibility Analysis for Relocation of VCBC to Riker's Island



DOC had an interest in relocating the VCBC barge from its current mooring at Hunts Point to the shoreline of Rikers Island. McLaren conducted a feasibility analysis for this potential relocation which included an analysis and recommendation of potential mooring locations at Rikers Island. McLaren performed a topographic and hydrographic survey of the selected Rikers Island site and developed schematic details for permanent structures which would accommodate the relocated VCBC facility.

VCBC Shower and Bathroom Resurfacing and Plumbing Upgrades

McLaren provided engineering services for floor resurfacing and plumbing upgrades at sixteen (16) shower and bathroom facilities within the VCBC. McLaren specified a traction resistant surface to allow for safe foot traffic while wet. Floor drains and the associated piping were added throughout to alleviate water pooling.

Location
Elizabeth, New Jersey

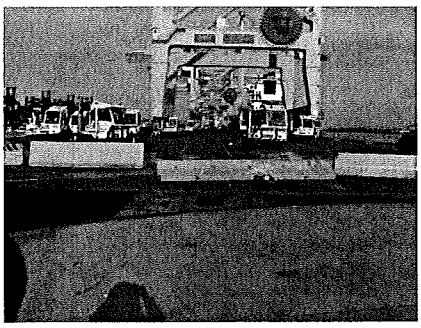
Client/Owner
The Port Authority of New York and New Jersey

Services
Waterfront Engineering
Structural Engineering

Contract Period
2009-2010

Reference
The Port Authority of New York & New Jersey
3 Gateway Center, 3rd Floor
Newark, NJ 07102
Mr. Yu Shing Wong
(973) 972-4541

Project Description



McLaren Engineering Group (McLaren) provided the waterfront structural engineering services necessary to inspect, evaluate, design and prepare contract drawings and construction cost estimates for priority repairs for the following:

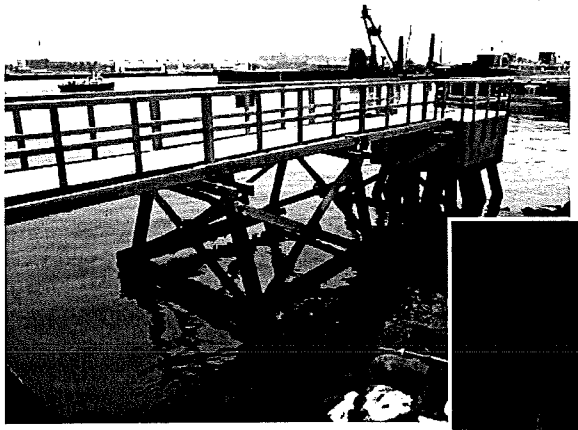
- NJMT Port Newark Berths 3 to 25 (Odd)
- NJMT Port Newark Berths 2 to 36 (Even)
- Elizabeth PAMT Berths 50 to 86 (Even)
- Elizabeth PAMT Berths 88 to 98 (Even) & Turntable
- NJMT AMT Berths 1 &2, Conc. Mooring Dolphins & Timber Walkways

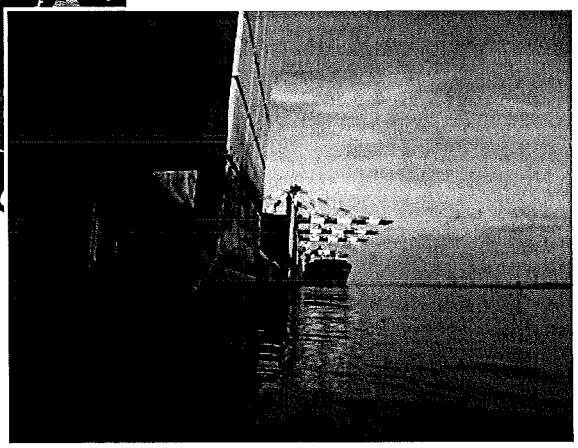
McLaren is intimately familiar with all of these sites from previous successful work, streamlining our inspection and design effort on this project.

McLaren's Role

Work included the inspection, design, preparation of construction documents and specifications, preparation of construction cost estimates, and construction administration services for the rehabilitation of the project sites. Inspections performed by McLaren were planned to accommodate the port's berthing schedule.

The project objective was to restore each of the berths to a level of quality, safety, durability, and reliability that meet the PANYNJ needs, requirements, and preferences. Developing cost effective solutions was key to this objective.





Location
New York, New York

Client/Owner
New York City Department of Transportation (NYCDOT)

Services
Site/Civil Engineering
Marine Engineering
Geotechnical Engineering
Structural Assessment
Design Services
Permitting
Construction Support Services

Contract Period
2005-2012

Construction Value
$50,000,000

Reference
New York City DOT
59 Maiden Lane, 35th Floor
New York, NY 10038
Mr. Earl J. Baim, P.E.
(212) 487-8369

Project Description

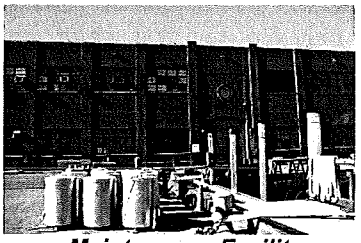
McLaren Engineering Group (McLaren) was engaged to provide on an as-needed basis architectural, engineering, and construction related services for their various ferry facilities citywide. The ferry facilities contained within this contract included but were not limited to the following:

- Ferry Terminals
- Buildings
- Facilities (including connecting transit modes)
- Maintenance Berthing Facilities
- Marine and Upland Structures

Ferry facilities' components/structures included but were not limited to the following:

- Piers, Pontoons, Gangways
- Moveable Bridges
- Ship Fendering and Mooring Systems
- Passenger Terminal Buildings
- Soil Retaining Structures
- Associated MEP Systems
- Dredged Channels
- Fuel/Oil Storage
- Maintenance/Industrial Buildings
- Elevated Traffic Structures
- Rail/Rapid Transit Stations
- Bus Terminals, Parking Facilities

Staten Island Ferry Maintenance Facility


Maintenance Facility

McLaren provided the necessary design and construction support services to ensure the structural integrity and water tightness of the Ferry Maintenance Facility building envelope. McLaren performed a condition survey to determine the extent of structural damage and deterioration in the building envelope, including the existing parapets and lintels at windows and doors. The survey also identified and documented cracks in façade masonry, and included any necessary exploratory probe work to verify assumptions regarding the causes of the observed distress. The existing concrete structure was investigated for corrosion damage at locations of water intrusion. Based on the findings of the condition survey, McLaren developed design and construction documents for the NYCDOT and will oversee construction.

Emergency Ferry Landing Barges and Associated Equipment

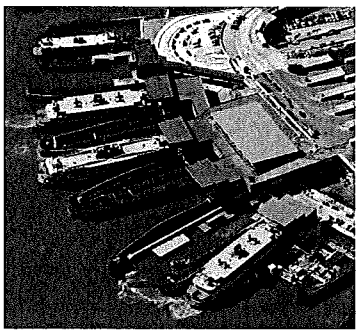
McLaren provided marine design services necessary for three (3) emergency ferry-landing barges to prepare for future civil emergencies. Using the barge and associated system designs recently constructed at Slip 7 of the St. George Ferry Terminal as the concept vessel, McLaren conducted a condition survey, developed design alternatives and prepared construction documents.


Moveable Transfer Bridges

Transfer Bridge Inspection

McLaren performed the latest cycle of inspection on the NYCDOT's transfer bridges at various facilities throughout New York City and Staten Island, which was last completed in 2009. Under the previous cycle, McLaren performed bridge inspections on 21 transfer bridges. The task order included surface inspection utilizing visual and tactile procedures. McLaren investigated the feasibility of transporting the Denka Lift on upper bridge/gangplanks at each terminal. Calculations and analysis, preliminary sketches, a conceptual cost estimate, a forecast of whether the physical work could be effected with the upper bridge/gangplanks in situ or otherwise and an estimated

work duration was included in scope of services. McLaren also prepared preliminary and final designs.



St. George Ferry

Subaqueous Rehabilitation of Slip 4 – St. George Ferry Terminal, Staten Island, NY

McLaren provided professional engineering design services for the underwater rehabilitation of the supporting structure of the transfer bridge and terminal wing at the St. George Ferry Terminal's Slip 4. Based on its 2005 underwater inspection of the site, McLaren assessed the condition of the existing structures and systems, and developed a program of repairs. McLaren provided schematic, design, construction and bid documents while also overseeing the construction phase of the project.

RACON Systems Installation Design – St. George & Whitehall Ferry Terminals

For the design and installation of RACON Beacon systems at the Whitehall Ferry Terminal in Manhattan, and the St. George Ferry Terminal on Staten Island, McLaren provided engineering support and consultancy to the NYCDOT.

Pier 1 and Pier 2 Condition Assessment – Staten Island Ferry

For this task, McLaren provided the necessary design and construction support services for the repair of two high level timber pile supported concrete deck piers (Piers 1 and 2) and wharves (Wharf 2 through 3). These repairs included not only the pier and wharf structures, but also the timber fender system surrounding each pier and wharf. McLaren performed a Level I underwater inspection of both piers, and the adjacent wharf and bulkhead structures, with a Level II and III inspection of a considered sample of waterfront structures. From the condition survey, McLaren developed design and construction documents that highlight the following:

- Plans for specific details relating to the repair or replacement of marine structures that included piers and adjacent waterfront structures. Details included concrete encasement of damaged timber piles and replacement of existing timber pile bracing.
- Demolition plans were developed to allow for the safe removals while maintaining overall stability of the structures for those portions of the structure requiring replacement.

Conversion of Derrick #3

McLaren was tasked to provide inspection, survey, design and construction support services necessary to replace the existing oil fired steam power plant of Derrick #3 with a diesel powered compressed air system. McLaren performed an investigation of the existing site conditions, completed a preliminary barge stability analysis, and has provided the structural and mechanical design services needed for replacement of the power plant.

Staten Island Ferry Permitting Support

McLaren provided permitting support services to the NYCDOT for obtaining permits from the New York State Department of Environmental Conservation, the U.S. Army Corp of Engineers, and the New York State Department of State to perform general maintenance activities at Staten Island Ferry, City/Hart Island Ferry, and various Private Ferry sites throughout the City.

Staten Island Ferry Environmental Support

McLaren supported the NYCDOT in the final remediation of a fuel oil leak at St. George Ferry Terminal. McLaren developed and executed a work plan, which was submitted to the New York State Department of Environmental Conservation, for boring and testing needed for location/identification of remaining oil at the site. McLaren's site investigation report, summarizing our field investigation and testing effort, resulted in the site being classified as 'closed' according to the NYSDEC without need for additional remediation.

Miscellaneous Engineering Services (On-Call)

McLaren provided, as requested by the city, on-call services for miscellaneous engineering tasks at ferry facilities citywide. To date, work produced under this task order includes:

1. Inspection and damage assessment of St. George Ferry Terminal Slip 5
2. Replacement of the elevated concrete slab at the upper receiving areas of Slips 4, 5 and 6 at the St. George Ferry Terminal.
3. Upgrade to the photovoltaic electrical generation system of the Whitehall Ferry Terminal to meet stringent ConEd requirements.

Location
Long Branch, New Jersey

Client/Owner
City of Long Branch

Project Type
Ferry Planning & Operations
Pier Planning

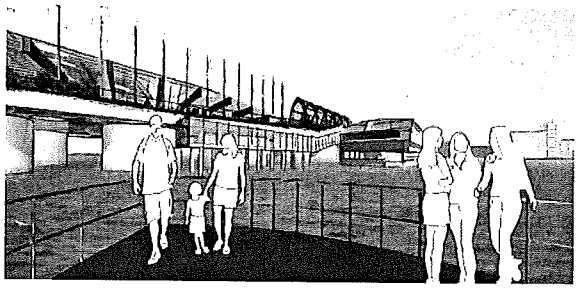
Services
Project Management
Marine Engineering
Site/Civil Engineering
Geotechnical Engineering
Structural Engineering
Surveying
Sustainable Design
Permitting
MEP Services
Public Outreach
Cost Estimating
Pier Planning
IT Technology

Contract Period
2009-2014

Construction Value
$89 million (est.)

Reference
BBPCA, Inc.
Nichols Center
177 Defense Highway, Suite 10
Annapolis, MD 21401
Mr. Brian Dowling
T: (410) 266-7800
F: (410) 266-7866

Project Description

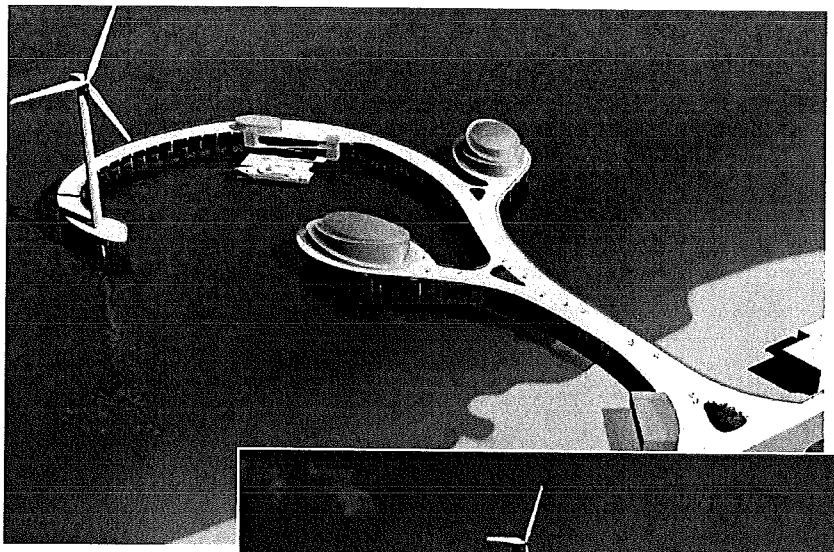


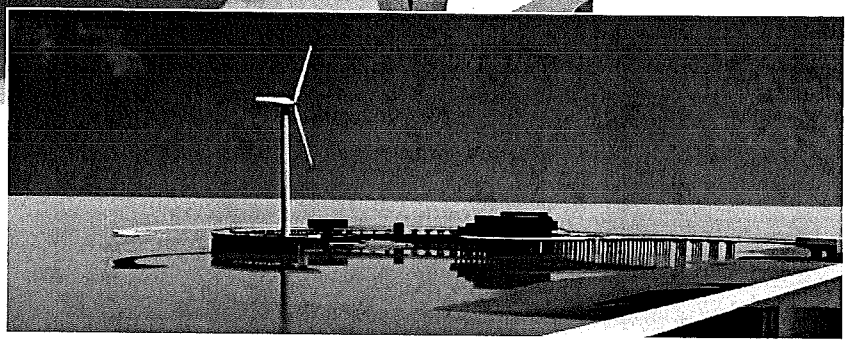
The redevelopment of the Long Branch Oceanfront Pier and Ferry Terminal represents an opportunity for the City of Long Branch to re-establish its public identity for the 21st century, for the benefit of residents and visitors alike.

McLaren's Role

McLaren Engineering Group (McLaren) is providing overall Program Management, as well as marine, site/civil, structural, geotechnical engineering and surveying services needed for design and construction of a new oceanfront pier in Long Branch, New Jersey. The $89 million pier will include a multi-functional retail and entertainment facilities, a ferry terminal providing commuter access to New York City, renewable energy resources, and a learning center. The pier is a critical aspect of the City's redevelopment plan, enhancing its identity as a premier United States destination.

As part of this contract, the McLaren project team will identify funding opportunities for the terminal and pier to become a long-term source of sustainable economic development for the City. In order to keep the community fully engaged in the vision of the new pier, McLaren will lead an inclusive, collaborative public process that will strengthen the design and execution as the project moves forward. McLaren will convene a series of facilitated workshops, known as "charrettes," to identify important questions and articulate the shared priorities. We believe this process is the most effective means of achieving broad support for this environmentally, socially, and economically sustainable project over the long term.





SUNY Maritime Rehabilitation of Campus Pier & Other Waterfront Structures

Location
Throgs Neck, New York

Client/Owner
State University Construction Fund

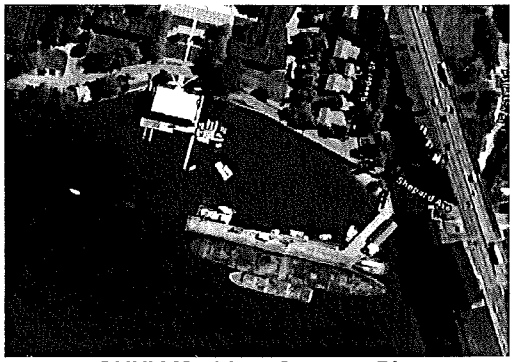
Services
Underwater Inspection
Marine Engineering and Design
Permitting
Construction Inspection

Contract Period
2006-Present

Construction Value
$7,302,000

Reference
State University Construction Fund
353 Broadway
Albany, NY 12246
Mr. Richard Brown
(518) 320-3204

Project Description

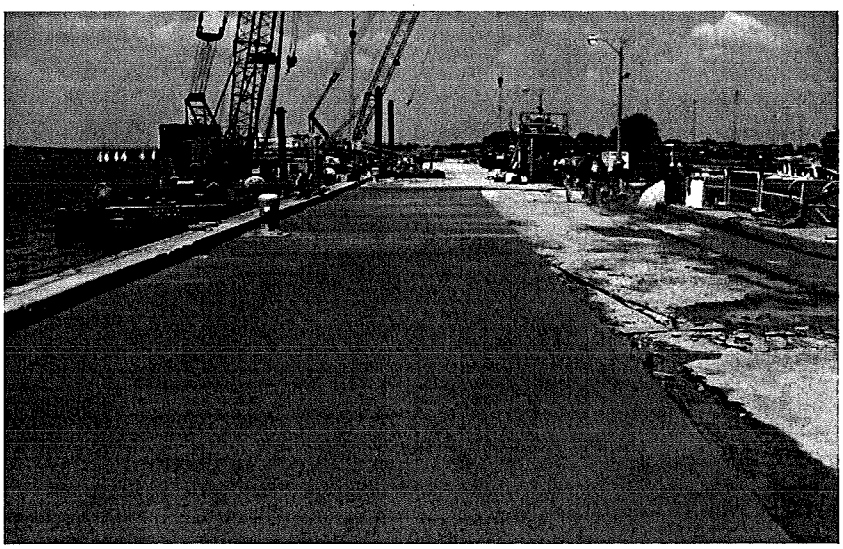


SUNY Maritime Campus Pier

McLaren Engineering Group (McLaren) performed marine structures inspection, and rehabilitation and repair design services for the SUNY Maritime Campus' entire waterfront in Throgs Neck, New York. The project involves an in-depth inspection of the campus' Main Pier and comparison to a previous cursory investigation to access the full extent of damage and deterioration. McLaren also performed a structural and load rating analysis of the pier, and designed an extension to the pier to accommodate the docking of an additional sea-faring vessel. McLaren performed the rehabilitation design of the 5,000 square foot deck surface and pier in a way to help prevent future occurrences of significant damage and deterioration as was found during the inspection process. The project also included mooring and berthing dolphin design, fendering design, and floating dock design.

In addition to work on the pier, McLaren also performed an in-depth inspection of the steel sheet pile bulkhead at the college's Student Activity Building to fully access the extent of deterioration. McLaren designed the replacement of the C channel whaler providing lateral support to the steel sheet piling, and designed the replacement timber bracing between the piles supporting the boat crane. McLaren designed the replacement of the timber bracing between the piles supporting the campus boat shed and re-point approximately 3,400 feet of the college's seawall as well.

McLaren is currently performing construction inspection services.



Pier Under Construction

Location
New York, New York

Client/Owner
Port Authority of New York & New Jersey

Project Type
Ferry Terminal

Services
Marine Engineering
Structural Assessment
Design Services

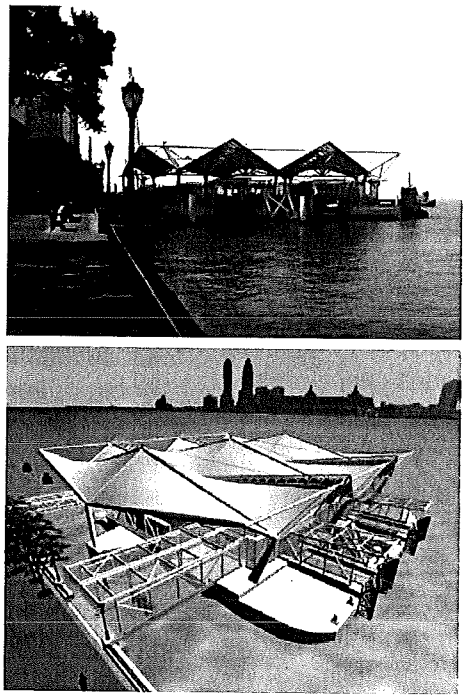
Contract Period
Design: 1998-2008
Construction Completed: April 2009

Reference
Port Authority of New York & New Jersey
2 Gateway Center
14th Fl
Newark, NJ 07102
Ms. Nilgun Ozdemir, P.E.
(973) 792-4766

Project Description

New York Construction best of award
Best Public Works Project

The Battery Park City Ferry Terminal was originally constructed in 1989 to provide ferry service between Hoboken and Battery Park City. The original facility was a temporary structure consisting of a floating landing terminal and appurtenances. The Port Authority of New York & New Jersey contracted McLaren Engineering Group (McLaren) to provide structural and marine engineering services for the design of a permanent floating ferry terminal, which will provide the facility a minimum 25-year life. The facility is the largest of its kind in the United States, encompassing more than ¾ acres of floating structure.



Battery Park City Ferry Terminal (Actual v. Rendered Views)

McLaren's services under this contract involved preparation of Stage I – Schematic Design Documents, Stage II – Preliminary Design Documents, Stage III – Detailed Design Documents, and Stage IV – Construction Administration. The floating terminal structure consists of a mono-hull main terminal; two anchorage towers anchored to bedrock, 75 feet below the water; and pedestrian walkways connecting to the Battery Park City Esplanade. McLaren was also responsible for the design of ADA-compliant access ramps to the ferries, fendering, staging, and constructibility.

The technical design involved static and dynamic analyses of floating structures in accordance with the principles of Naval Architecture. The facility accommodates all six degrees of freedom by restraining three and allowing three motions. Complicating its design was the requirement to minimize interruptions to the existing ferry service. This facility is an aesthetically prominent feature of New York City's waterfront.

Project Highlights

- Dynamic Response Analysis
- Computer Modeling and Simulation
- Prestressing of Rock Anchors
- Buoyancy, Flotation and Damage Stability
- Mechanical Engineering of Deployable Ramps
- Glass and Glazing
- Geotechnical Analysis, Rock Mechanics, Pile Driving and Rock Coring
- Ferry Operations and Passenger Flow
- Fendering and Energy Dissipation
- Materials Expertise for Piers, Bearings, Fenders, Moving Parts
- Corrosion Control
- Fabric Structures Interaction
- Permitting & ADA Compliance
- Underwater Inspection Services

Underwater Inspection and Rehabilitation of Pier One

Location
East Boston,
Massachusetts

Client/Owner
Roseland Property
Company

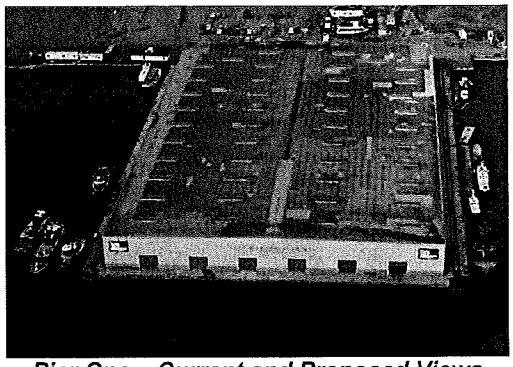
Project Type
Marine Design
Underwater Inspection

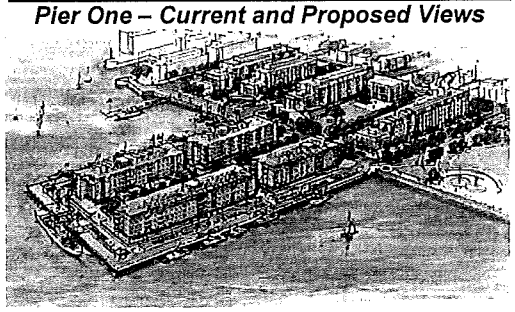
Services
Underwater
Investigation
Condition Survey
Marine Engineering
Design
Cost Estimating
Bid Document
Preparation
Construction
Administration

Contract Period
2005–Present

Reference
Roseland Property
Company
233 Canoe Brook Road
Short Hills, NJ 07078
Mr. Joe Tricarico
(973) 218-2380

Project Description





Pier One – Current and Proposed Views

McLaren Engineering Group (McLaren) was retained to provide an above and underwater condition survey of the substructure for Pier 1, located in East Boston, Massachusetts. The purpose of this comprehensive investigation was to determine the appropriate and most cost effective method of restoring and strengthening the piles that support the pier. Preliminary analysis and review of reports indicated that not all piles required full strengthening encapsulation or repair. Upon completion of underwater investigations, McLaren prepared a preliminary findings letter. The obtained data was analyzed for deterioration trends due to corrosion. Based on our investigation findings, McLaren was tasked to evaluate the capacity of the piles, perform structural analysis, and design the repairs to the piles that support the existing piers. Engineering services will include upgrading the piles supporting the timber relieving platform along the wharf. McLaren will develop contract plans and technical specification for the system of repairs, improvements, and protection

Project Highlights

- Waterfront Structures Investigation
- Preliminary Findings Report
- Construction Cost Estimates
- Construction Documents

Battery Park City Authority
Inspection and Design Services for Marine Structures

Location
Manhattan, New York

Client/Owner
Battery Park City Authority

Project Type
Marine Structures
Shoreline Stabilization

Services
Underwater Inspection
Marine Engineering
Cost Estimating
Bid document Preparation
Construction Inspection
Construction Administration

Contract Period
2005-2009

Reference
Battery Park City Authority
One World Financial Center
New York, NY 10281-1097
Mr. Ken Windman
(212) 417-4330
Kenneth.Windman@Battery ParkCity.org

Project Description

McLaren Engineering Group (McLaren) was retained by the Battery Park City Authority to perform a structural inspection of the piles, the precast concrete seawall skirt, and the riprap slope protection that surrounds the perimeter of the BPCA parcel in lower Manhattan.

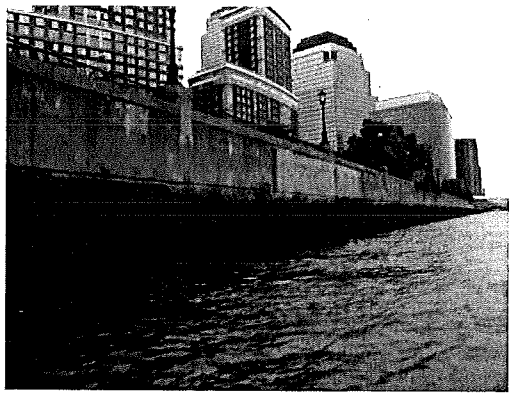
Under this agreement, McLaren assessed the conditions and made repair recommendations for approximately 3,500 precast concrete piles that support the relieving platforms at the Battery Park City esplanade, as well as timber piles that support a platform to the north end. After inspection work was completed and the findings were reviewed, McLaren embarked upon a testing program to further investigate the "hot spots" (areas of significant deterioration) to better understand the cause of deterioration and arrive at the correct repair scheme.

In conjunction with the testing program, McLaren performed a statistical analysis of the inspection data to determine the cause and extent of damage to the piles and seawall. McLaren considered the effects of water chemistry, abrasion, and impact in this analysis. Using the analysis results, McLaren then developed repair alternatives with cost estimates. After the final repair scheme was approved, McLaren prepared construction documents and specifications and provided construction administration services, including support during the bidding process.

The final project task was full-time construction inspection, which McLaren recently completed.

McLaren's Role

- In-depth inspection, assessment, design and construction management services for repairs to 3,500 precast concrete piles; 6,200 linear feet of precast concrete seawall skirt; and 3,500 linear feet of stone rip rap slope protection.
- Design Repair Alternatives Study
- Construction Cost Estimating
- Construction Inspection Services



Location
Port Newark, New Jersey

Client/Owner
The Port Authority of New York and New Jersey

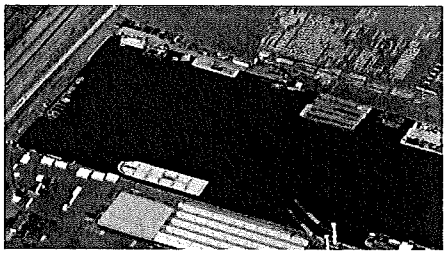
Services
Structural Design
Constructability Review
Wharf Restructure
Culvert Restructure

Contract Period
2011-2012

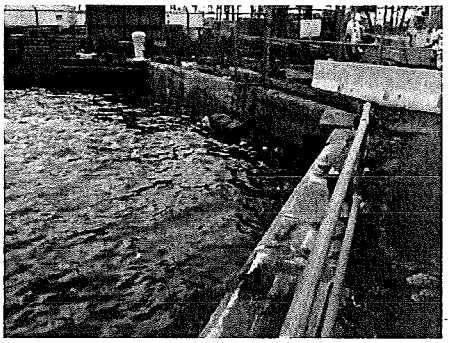
Construction Value
$10,000,000

Reference
Port Authority of New York and New Jersey
Newark, NJ 07102
Mr. Yatsun Lau
(973) 792-4498

Project Description



The Port Authority of New York & New Jersey (PANYNJ) wanted to redevelop Berth 3 to full serviceability. The new berth will be designed and reconstructed to a level of quality, safety, durability, and reliability that meets the PANYNJ needs, requirements, and preferences.



McLaren's Role

McLaren Engineering Group (McLaren) is providing structural design services and preparing final design contract documents, for the replacement of Berth 3 and the adjacent culvert structure under Corbin Street. McLaren is also designing the replacement floating docks.

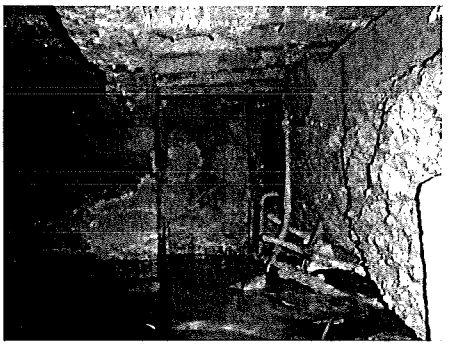
McLaren's expertise in waterfront structural design, constructability, serviceability, and construction administration/inspection is contributing significantly to this safe and cost-effective design.

McLaren explored various alternatives that were available in order to satisfy the Stage 1 Alternative 1 concept. The selected materials best balanced first cost versus maintenance costs for the life of the wharf.

McLaren provided a solution for Berth 3 that ties into adjacent berths at both the north and south ends. This solution wasn't disruptive to the structural integrity of the adjacent wharves both during and after construction. Proper joints were detailed, and temporary conditions were examined, so no damage was sustained to these adjacencies.

McLaren is also working with PANYNJ to advise the appropriate choice of floating dock and dock anchorage. McLaren also provided recommendations for the final locations of the new floating docks.

During the demolition of the existing wharf, disruption to adjacent berths and the undermining of the roadway will be limited. When the culvert is demolished and removed, an alternate temporary path will be established. The staging of construction is of particular importance for the culvert replacement. During construction of the new culvert the existing utilities that run across and through the culvert must be supported and maintained. McLaren designed a temporary support system for these utilities.



After examining all available alternatives (e.g. minimizing the height of sheeting, full height sloped excavation, ground freezing / grouting to eliminate the use of high boom cranes, etc.), it was determined that permanent steel sheeting for the culvert will be installed inboard of an existing timber sheeting.

Project Highlights

- Wharf Reconstruction Design
- Construction Staging to Maintain Railroad Traffic
- Maintenance and Protection of Traffic to Maintain Vehicular Traffic

Location
Queens, New York

Client/Owner
Port Authority of New York and New Jersey

Project Type
Inspection and Design

Services
Marine Engineering
Structural Inspection
Structural Design
Construction Administration

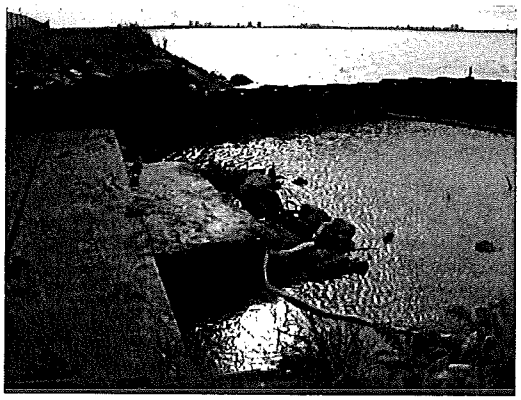
Contract Period
2008-2011

Construction Value
$3,500,000

Reference
The Port Authority of New York and New Jersey
2 Gateway Center
Newark, NJ 07102
Mr. Amit Chatterjee, P.E.
(973) 972-4486

Project Description

McLaren Engineering Group (McLaren) was retained to provide engineering services for the reconstruction design of Outfalls #10 and 13 at JFK International Airport. The outfalls, which are located on the south side of the airport adjacent to Runway 31L/13R, convey a portion of the airport drainage to the Grassy Bay.



Outfall 10 and Installed Cofferdam

The largest outfall, Outfall #10, consists of a pile-supported triple barrel, a 13-foot by 7-foot box culvert constructed of cast-in-place concrete. Outfall #13 is a pile supported 60-inch diameter outfall located east of Outfall #10. The existing outfall is installed in a 13-foot by 7-foot box culvert. The project included inspection and structural design services.

Outfall 13

McLaren's Role

McLaren conducted a thorough field investigation to properly assess current field conditions at each outfall. The firm also compared inspection data with contract documents to determine if any discrepancies exist. McLaren also evaluated the condition of stored materials at both sites.

McLaren evaluated the adequacy of the proposed reconstruction design including culvert bypass design; replacement culvert structural design; replacement culvert foundation design; and replacement culvert construction staging and sequence. Based on this evaluation, McLaren developed alternative designs, construction staging plans, and construction cost estimates.

McLaren also provided construction administrative services including shop drawing review, RFI responses, resolution of construction issues, evaluation of construction details and materials, and preparation of post contract changes with detailed cost estimates.

EXHIBIT I
Daily Dive Cost Estimate

	Item	Time	Hourly Rate	Multiplier	*Straight Time Charge	*Flat Charge	*Office Charge
Hourly Rate	Ch. Engineer Diver	8 Hours	$58.95	2.672	$1,260.12	$117.90	$122.91
	Engineer Diver	8 Hours	$58.95	2.672	$1,260.12	$117.90	$96.19
	Inspector Diver	8 Hours	$36.00	2.672	$769.54	$72.00	$96.19

Unit Prices			
	Workboat (25-ft)	8 Hours	$325.00
	Workboat (16-ft)	8 Hours	$150.00
	U/W Video Camera System (color) per day		$100.00
	Hydraulic Wood Coring Equipment per day		$90.00
	U/W Cutting/Burning Equipment per day		$400.00
	HAZMAT Diver Encapsulation Gear per day		$180.00
	Water Jet Pump per day		$70.00
	UT Oscilloscope (KB USK7 DTM) per day		$95.00

*** NOTES:**

Straight Time Charge = No. of Hours x Hourly Rate x Multiplier

Flat Charge = Diver Premium of $_____/hour - Employee Rate/Hour x Number of Hours

Office Charge = Employee Rate/Hour x Number of Hours (Diver Premium Does not apply) Any office time gets added to the Straight Time Charge Total

McLaren has interpreted the "NOTES" as follows:

Straight Time Charge = No. of Hours x Hourly Rate x Multiplier

Flat Charge = the hourly rate charged for all overtime dive work in excess of 8hrs per day or 40hrs per week. It includes multiplier x hourly rate

Office Charge = Rate listed is the hourly rate charged for this individual working in the office. It includes the multiplier x base hourly rate

M.G. McLaren, P.C. doing business as **McLaren Engineering Group** presents the following affiliates:

- ***Highland Equipment.*** Certain equipment that we use in the performance of our services is rented from this affiliate. Their full name and address is as follows:

  Highland Equipment Rental
  P.O. Box 60
  West Nyack, NY 10994

- ***LandMetrics Engineering and Surveying PC,*** a subsidiary specializing in land surveys and related consulting. LandMetrics provides specialized surveys and design support that few surveyors can offer because it also has the full support of a large engineering firm.

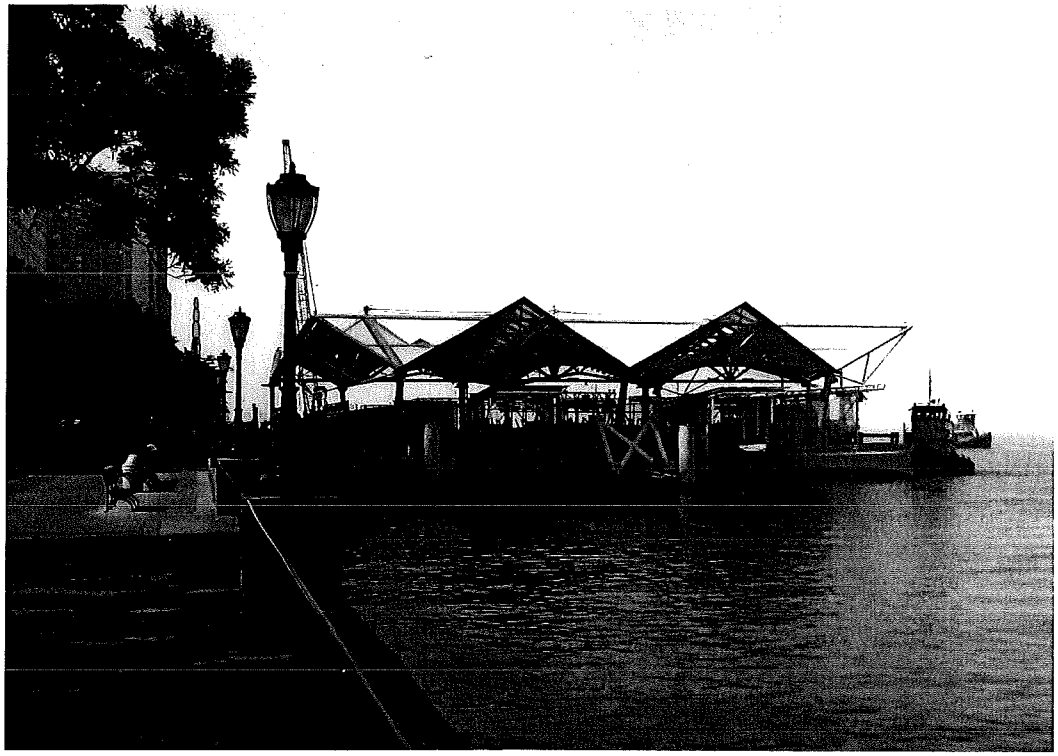
  LandMetrics Engineering and Surveying PC
  100 Snake Hill Road
  West Nyack, NY 10994

Section K
No Conflict of Interest

There exists No Conflict of Interest or an appearance of a possible Conflict of Interest relative to McLaren Engineering Group and our performance of work on this "Call-In" Contract.

Section L
No Exceptions

McLaren Engineering Group has performed a cursory review of the contract terms and conditions and at this time have no exceptions based on the said review.



McLaren
ENGINEERING GROUP

M. G. McLaren, P.C.
100 Snake Hill Road West Nyack, N.Y. 10994
(845) 353-6400 Fax. (845) 353-6509
Contact: William J. McCarthy III

September 18, 2012

Proposal to Provide for

THE PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS F PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013

RFP#: 30225

Presented to

THE PORT AUTHORITY OF NY & NJ

moffatt & nichol

Moffatt & Nichol

104 West 40th Street
14th Floor
New York, New York 10018

(212) 768-7454
Fax (212) 768-7936

September 18, 2012

The Port Authority of New York and New Jersey
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302

Attention: RFP Custodian

Subject: ***Request for Proposals for the Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013 (RFP #30225)***

Dear Sir/Madam:

Moffatt & Nichol is pleased to submit the enclosed proposal to provide Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities to the Materials Department of the Port Authority of New York and New Jersey. We are very interested in this potential "call-in" contract and have assembled a highly qualified team in pursuit of same.

We thank you for the opportunity to submit our proposal and look forward to working with the Materials Department. As always, Moffatt & Nichol stands ready to provide the Port Authority of New York and New Jersey with the highest quality of professional services.

Sincerely Yours,
Moffatt & Nichol

Santiago Alfageme, P.E.
Principal-in-Charge

Enclosures

A. Agreement on Terms of Conditions

Please see the attachment on the next page.

ATTACHMENT B

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, as more fully set forth in the FOI Code, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Moffatt & Nichol
(Company)

Santiago Aragonés
(Signature)

VICE PRESIDENT
(Title)

9-14-2012
(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY. DO NOT RETYPE.

B. Company Profile

1. Company Name (print or type):

   Moffatt & Nichol

2. Business Address (to receive mail for this RFP):

   104 West 40th Street, 14th Floor

   New York, New York 10018

3. Business Telephone Number: (212) 768-7454

4. Business Fax Number: (212) 768-7936

5. Firm website: www.moffattnichol.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 07/01/1945

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

   Moffatt & Nichol, International
   3780 Kilroy Airport Way, Suite 750
   Long Beach, California 90806
   EIN:95-1951343

   Craney Island Design Partners, LLC
   800 World Trade Center
   Norfolk, Virginia 23510
   EIN:95-1951343

   Moffatt & Nichol, Latin America, Inc.
   Ocean Business Centre, Oficina 1204
   Ave Aquilino de la Guardia y Calle 47
   Republica de Panamá
   EIN:95-1951343

   Moffatt & Nichol, London
   5 St. Helen's Place
   Bishopsgate
   London EC3A 6AU, United Kingdom
   EIN:95-1951343

   M&N Engineering, P.C.
   104 West 40th Street, 14th Floor
   New York, New York 10018
   EIN:20-2002235

   Wetland and Estuary Tides, LLC
   P.O Box 3493
   Norfolk, Virginia 23510
   EIN:95-1951343

9. Officer or Principal of Firm and Title:

   Eric A. Nichol, Ph.D., P.E., President

10. Name, telephone number, and email address of contact for questions:

    Santiago R. Alfageme, P.E.

    (212) 768-7454, salfageme@moffattnichol.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ? Yes [X] No

C. Prequalification Requirements

Moffatt & Nichol is organized to provide the highest quality underwater inspection to PANYNJ. Underwater inspection team leaders will be professional engineers registered in New York and/or New Jersey. Moffatt & Nichol currently has over 50 engineer-divers, 20 of which are certified by the Association of Diving Contractors International (ADCI) and the Diver Certification Board of Canada (DCBC). Moffatt & Nichol will have no problem meeting the demand of any inspection job, even on short notice. Moffatt & Nichol strives to meet or exceed the needs of PANYNJ, especially for the following requirements:

A. Moffatt & Nichol has one (1) or more divers with a New York P.E. License and one (1) or more divers with a New Jersey P.E. License.

B. Moffatt & Nichol has eight (8) or more inspector divers on staff.

C. Moffatt & Nichol is able to provide two (2) three-(3-)man underwater inspection teams, as needed. Two teams can be deployed on a single day.

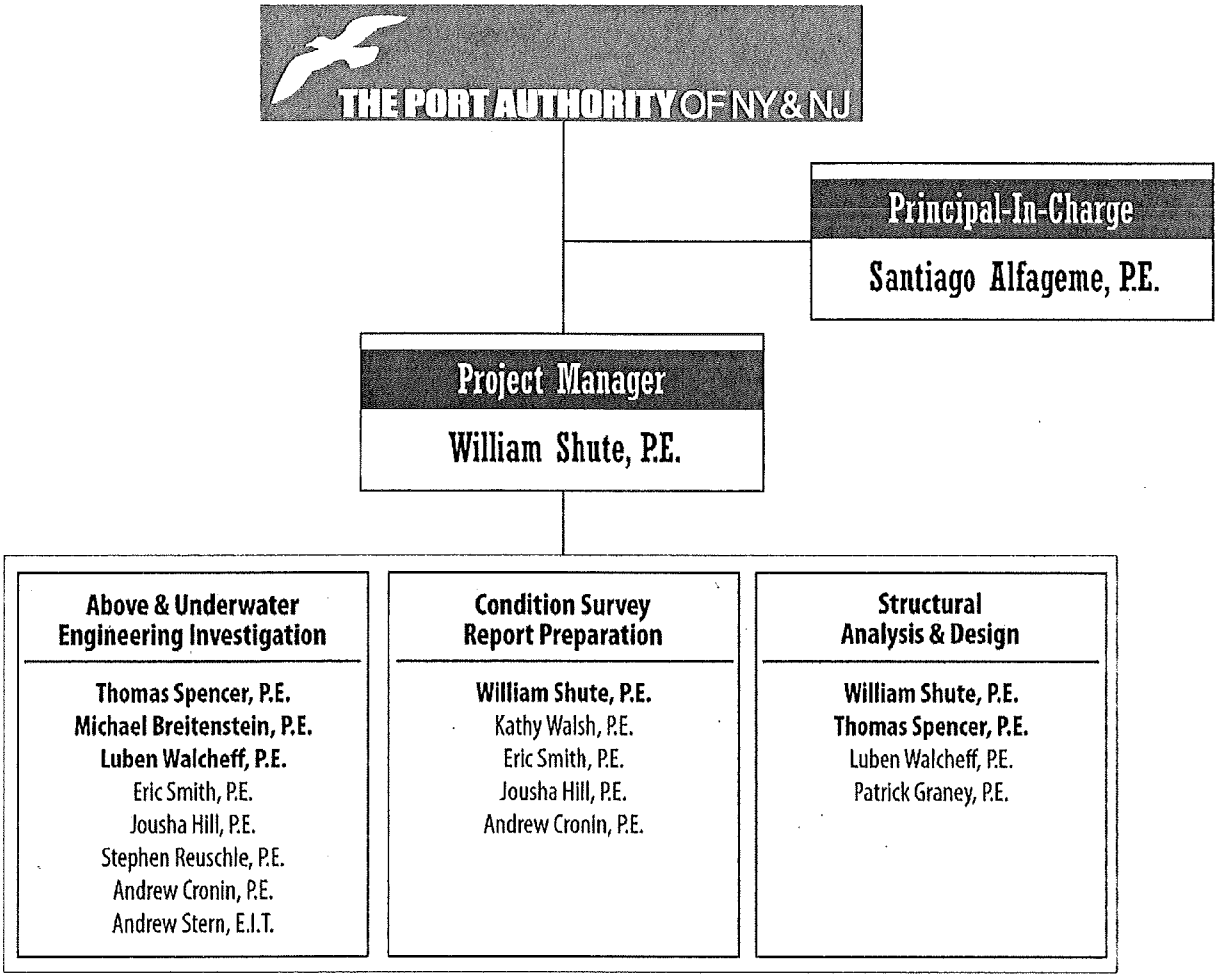
D. Multiplier

1. Moffatt & Nichol "Multiplier"
(To be used in the first line of subparagraph 9.A of the Standard Agreement)

	Fringe Benefit Rate	
Breakdown		***53.61%***
Vacation, sick, holiday	(17.87%)	
Workers Comp	(0.97%)	
Payroll Taxes	(14.85%)	
Other Fringe Costs	(19.92%)	
General Overhead		***136.92%***
Rent	(20.73%)	
Insurance	(4.22%)	
Indirect labor	(51.48%)	
Other G&A Overhead	(60.49%)	
Total Overhead Rate		***190.53%***
Discount Extended to Client		***(36.89%)***
Discounted Overhead Rate		***153.64%***
Profit		***10%***
Total Proposed Multiplier:		***2.79***

E. Resumes and Technical Qualifications

Moffatt & Nichol proposes the following project team:



Note: **Bold** denotes team leader

The following pages contain the resumes of the staff members listed above.

E. Resumes and Technical Qualifications

WILLIAM M. SHUTE, P.E.
Project Manager

EDUCATION:
M.E., Engineering Management, Duke University
B.S., Civil Engineering, Bucknell University

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: New York, 081122, 2003
New Jersey, 24GE04799100, 2009

EXPERIENCE:
Mr. Shute is a Senior Engineer and Project Manager with more than 13 years' experience as a design engineer, project engineer, project manager, inspector, and owner's representative on various projects. He a part of the civil/structural department and has been involved in many multidisciplinary projects, directly interfacing with the company's coastal, and economics department, as well as with various clients and agencies. As Project Manager, Mr. Shute will be responsible for interfacing with the client, facilities, and managing the day-to-day activities of the internal staff. He will also periodically be onsite overseeing and directing the inspection team in order to ensure the condition assessments are properly completed.

Port Authority of New York and New Jersey Waterfront Inspection "Call-In" Contract, New York, NY. Since 2006, Mr. Shute has served as the Project Manager overseeing Moffatt & Nichol's Waterfront Inspection "Call-In" contract with the Port Authority of New York and New Jersey (PANYNJ). In this role, Mr. Shute has been responsible for interfacing with the client, organizing the inspection team, coordinating site access with tenants, providing progress updates, and creating the Condition Assessment Reports. He has also been a member of the inspection team that performed the inspections. Over the past three years, Mr. Shute has ensured the successful completion of numerous inspections for the PANYNJ including locations such as:

- **Brooklyn Piers 9A and 9B** – included over 5,000 piles and encasements, 40,000 square feet of concrete deck and 1,250 linear feet of shoreline bulkhead.
- **NYMT and the Bulkhead between Pier 9B and Red Hook** – included inspection of over 4,500 steel and timber piles, prestressed concrete beams, concrete deck, and 1,700 linear feet of shoreline bulkhead.
- **JFK Airport Outfall No. 10** – consisted of a 1,000 linear feet concrete culvert beneath an active runway
- **LGA Airport ILS Piers** – included five different pier structures and platforms which extend from the LGA Airport Runway Extensions
- **Holland Tunnel Pier 34** – included two approach piers, protective apron around and façade of Holland Tunnel Ventilation Building and 250 feet of the shoreline bulkhead.

Mr. Shute has also been responsible for PANYNJ Condition Assessments at Port Jersey South, as well as the Brooklyn Cruise Terminal Pier 12 and NYMT Piers 8, 10, and 11.

E. Resumes and Technical Qualifications

WILLIAM M. SHUTE, P.E.
(continued)

Routine Inspection of the Battery Maritime Building Substructure and Ferry Slips, New York, NY. Mr. Shute served as the Project Manager and an inspection team member, for a routine inspection of the Battery Maritime Building Substructure, as well as the elements that comprise Ferry Slips 5, 6, and 7 for the Governors Island Ferry for Turner Construction and the NYCEDC.

As part of this project, Mr. Shute coordinated site access and interfaced daily with site operations personnel to ensure inspection activities did not interrupt daily ferry operations. He served as an inspection team member and also oversaw the completion of the Condition Assessment Report, which was completed in accordance with the NYCEDC Waterfront Facilities Maintenance Management System Inspection Guidelines Manual.

Condition Survey Inspection of Brooklyn Piers 9A and 9B, Brooklyn, NY. Project Manager for the cyclical condition survey of the underwater and above water elements of the Piers 9A and 9B at the New York Marine Terminal. The condition survey included inspection of two pile supported piers and over 1,250 feet of shoreline bulkhead. Some of the elements inspected included steel pipe piles, timber piles, concrete pile extensions, concrete decking, steel sheet pile, and mooring hardware. As the Project Manager, Mr. Shute coordinated all of the project operations. He also completed the topside and underdeck surveys, and authored the Condition Assessment Report.

Condition Survey Inspection of the LaGuardia Airport ILS Piers, Queens, NY. Project Manager for the inspection and conditional assessment of the LGA ILS Piers. Mr. Shute coordinated all daily activities required to perform the above- and underwater inspections of the ILS piers. He also completed the topside and underdeck surveys and the Condition Assessment Report.

Condition Survey Inspection of Holland Tunnel Pier 34, New York, NY. Project Manager supervising a cyclical condition survey of the underwater and above water elements of the Pier 34, located on the east bank of the Hudson River. The condition survey included inspection of two approach piers, protective apron around and façade of Holland Tunnel Ventilation Building and 250 feet of the shoreline bulkhead. Inspected elements included steel pipe piles, precast concrete pile caps, prestressed concrete deck panels, fender assemblies, handrails, expansion joints, concrete encased steel girders and granite blocks. Supervised preparation of a Condition Assessment Report which categorized inspection findings by both the extent of deterioration and priority of repairs and provided recommendations for the repair of the deteriorated structures.

East River Waterfront Esplanade and Piers Project, New York, NY. Project Manager supervising the planning, design, and construction document preparation for the waterfront elements of a $130 million waterfront park being constructed along a 2.2-mile-long section of the East River, in Lower Manhattan. Project components under consideration include widening Esplanade A, replacing Pier 15, adding a new, 100-slip marina near the Brooklyn Bridge, removing of a portion of Pier 36 to create a marine habitat, and modifying Pier 42 to an "urban beach". Mr. Shute serves as Moffatt & Nichol's Project Manager providing project oversight, staff management, and day-to-day contact/ communication with the prime consultants and other members of the Joint Venture team, the NYC Economic Development Corporation, and Department of City Planning.

E. Resumes and Technical Qualifications

SANTIAGO R. ALFAGEME, P.E.
Principal-in-Charge

EDUCATION:
M.S., Coastal and Oceanographic Engineering, University of Florida
M.E., Civil Engineering, University of Cantabria, Santander, Spain

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: Florida, 56726, 2002

EXPERIENCE:
Mr. Alfageme serves as both project engineer and project manager on a wide range of projects involving coastal and estuarine processes, state-of-the-art modeling, shore protection measures, sediment management, coastal structure design, ecosystem restoration, navigation improvements, and dredging. His environmental restoration experience includes numerical studies of wetland hydraulics and sediment transport processes, engineering and design of marsh and tidal creek restoration projects, and preparation of final design documents. His coastal erosion and sediment transport experience includes detailed analysis of shoreline and profile evolution, historic and projected-future erosion rates, and development of inlet and shoreline sediment budgets, development of shoaling reduction measures in channels and harbor basins. Mr. Alfageme also has extensive experience in sediment transport modeling using the full range of available numerical tools: from simple analytical/spreadsheet methods to the most sophisticated 3D sediment transport and morphological models. He is currently supervisor of the coastal engineering department in the New York office.

Primarily Technical Reviews of Coastal, Navigation, and Flood Control Projects, New York, NY. Project Manager/Coastal Engineer for each of the tasks Moffat & Nichol completed under this open-end contract including:

- **Reviews for Fire Island to Montauk Point Reformulation Study, Long Island, NY.** Completed review of SOW and product submittals for ADCIRC and SBEACH modeling completed by the USACE's Waterways Experiment Station as part of the FIMP Reformulation Study
- **Additional Water Quality Modeling, New York/New Jersey Harbor Navigation Study.** Moffat & Nichol performed additional hydrodynamic and water quality model calibration/verification to supplement previous modeling efforts.

IDC for Shore Protection and Coastal Inlet Studies with the North Atlantic Division, New York, NY. Project Manager/Coastal Engineer for each of the tasks completed by Moffatt & Nichol including:

- **Coney Island-Sea Gate Shoreline Analysis and Protection Design.** Finalized the design of the USACE-chosen shore protection alternative (T-head groins) involving data analysis, numerical modeling (GENESIS-T & Delft3D), coastal engineering analysis, physical modeling, and construction document preparation.

E. Resumes and Technical Qualifications

SANTIAGO R. ALFAGEME, P.E.
(continued)

Fire Island to Montauk Point Reformulation Study, NY. Project Manager/Coastal Engineer for many of the tasks under a multi-year, multi-task reformulation study of a comprehensive shore protection and storm damage reduction project for more than 80 miles of primarily low-lying barrier islands subject to the effects of storm surge flooding, waves, overwash, and breaching. Performed detailed coastal engineering analysis including: storm surge modeling (ADCIRC/Delft3D), beach erosion modeling (SBEACH), hydrodynamic and water quality modeling (MIKE21), sediment transport and morphological modeling (DELFT3D) for Fire Island, Moriches & Shinnecock Inlets, and development of regional sediment budgets. Supervised all development/screening of alternative storm damage reduction measures as well as potential mitigation features. Directed development of detailed flood hazard maps in GIS.

Dredged Material Management Plan, New York Harbor, NY. As Coastal Engineer, he participated in a feasibility study for a dredged material Confined Disposal Facility (CFD) in New York Harbor. Developed preliminary designs of various containment methods, including rock dikes, concrete caissons, and sheetpile cofferdams. Performed a detailed analysis of winds, water levels and wave conditions at the site to size the different structures. Evaluated construction methods and estimated construction and maintenance costs to recommend an optimal solution.

Ferry Terminal at 30 Hudson Street, NJ. Coastal Engineer for a new ferry terminal in upper New York Harbor. Performed a detailed analysis of design winds, water levels and wave conditions at the site. Developed hydrodynamic and wave loads on proposed fixed and floating mooring structures. Assessed ferry navigation needs including approach route and required water depths.

New York and New Jersey Harbor Navigation Study EIS. Developed 3-D hydrodynamic and water quality model (MIKE3) used as a means of assessing harbor deepening impacts on estuarine hydrodynamics (currents, water levels, salinities, temperature, and various other water quality parameters) as input to the Environmental Impact Statement (EIS). Supervised the development of boundary conditions (tides, salinity, and temperature), model setup (grid development, nesting scheme, and environmental forcings), model calibration/ verification, and model runs for different dredging scenarios.

E. Resumes and Technical Qualifications

THOMAS E. SPENCER, S.E., P.E.
Principal / Senior Diver

EDUCATION:
B.S., Civil Engineering, Oregon State University

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: New York, 086870, 2009
New Jersey, 24GE04830400, 2009
ADCI Certified SSA Commercial Supervisor/Diver
DCBC Certified SSA Commercial Supervisor/Diver

EXPERIENCE:
Mr. Spencer is a Senior Structural Engineer with more than 30 years of experience in planning, inspection, analysis, design, construction document preparation, post-construction-award services, and litigation support for structural and civil engineering projects. His structural engineering experience has included marine and waterfront structures, bridges, buildings, and other structures; civil engineering experience has included civil site work, utilities, retaining structures, and storage tanks. Typical marine and waterfront structures have encompassed piers, wharves, bulkheads, drydocks, bridges, breakwaters, seawalls, revetments, fender systems, and reservoirs. Through work on these structure types, he has experience with a range of structural materials – timber, steel, concrete, masonry, composites, rock, and soils – and many client types from government (federal, state, and local) through a variety of private entities including other professional services firms.

In particular, Mr. Spencer provides detailed knowledge and familiarity with topside and underwater inspection of structures having conducted extensive investigations of concrete, steel, and timber structures in marine and landside environments. This experience has provided him with intimate knowledge about the deterioration of cementitious materials including alkali-silica reaction, sulfate attack, delayed ettringite formation and corrosion and, combined with his publications on the subject, has earned him a nationwide reputation as a specialist in the performance and response of concrete structures in the marine environment. He is also a contributing author to the American Society of Civil Engineers Manual 101 "Underwater Investigations Standard Practice Manual".

Port Authority of New York/New Jersey Waterfront Inspection "Call-in" Contract, New York, NY. Provided oversight of inspection and strategic assessment for two tasks under this Port Authority of New York/New Jersey (PANYNJ) contract. Efforts included underwater inspections, assessments, estimated costs, and repair prioritization. Tasks included:

- **Condition Survey, Piers 9A and 9B, New York Marine Terminal.** I&R team inspected twin 620-ft-long by 325-ft-wide piers involving 5,200 piles/encasements, 400,000 sf of concrete deck, and 1,250 lf of shoreline bulkhead.
- **Condition Survey, Outfall No. 10, John F. Kennedy Airport.** I&R team inspected three 850-ft-long concrete culverts.

E. Resumes and Technical Qualifications

THOMAS E. SPENCER, S.E., P.E.
(continued)

Waterfront Inspection "Call-in" Contract, New York, NY. Under a second, consecutive on-call PANYNJ inspection contract, he again provided oversight of inspection and strategic assessment for three tasks involving underwater inspections, assessments, estimated costs, and repair prioritization:

- **Condition Inspection of Wharves A, B, and B-Extension, Red Hook Terminal.**
- **Condition Assessment, Outfalls No. 10 and 12, John F. Kennedy Airport.**
- **Immediate Action Inspection and Baseline Condition Assessment, Military Ocean Terminal Bayonne.**

Philadelphia Regional Port Authority Strategic Facilities Assessment, Philadelphia, Pennsylvania. Inspection and rehabilitation oversight for the inspection and strategic assessment of 11 facilities for the Port Authority. Efforts included underwater inspections, assessments, estimated costs, and repair prioritization.

N62473-06-D-3006 IQC: Underwater Inspection and Assessment, Worldwide. For NAVFAC's Engineering Service Center, he was Project Manager for numerous above- and below-water inspection delivery orders for facilities located on the U.S. West Coast, Hawaii, and Japan. Deliverables included reports with above and below water photographs, CAD drawings, repair recommendations, and cost estimates. Many of the reports also include materials assessment including petrographic analysis and other methodologies. A number of the inspection projects resulted in follow-up tasks to design repairs for the facilities.

N62473-06-D-1008 IDIQ Contract – Waterfront Construction and Repairs SWDIV. Project Manager/Engineer/Diver for a wide variety of marine structure projects including concrete pier, wharf, and quaywall rehabilitation; above and below water inspection; hydrographic surveying and dredging; development of design-build solicitation packages; structure load capacity studies; and miscellaneous delivery orders.

IQC: A-E Services for Waterfront Facilities Projects, Various Locations, CA. For Facilities Engineering Center, Southwest, he was Project Manager for a wide variety of marine structure projects including concrete pier, wharf, and quaywall rehabilitation; above and below water inspections; topographic surveying and dredging; development of design-build solicitation packages; load capacity studies; and miscellaneous delivery orders.

Inspection/Assessment of Ford Island "Admiral Clarey" Bridge, Pearl Harbor, HI. Principal Engineer/Diver who led an engineering assessment of a major bridge structure in accordance with FHA "Safety Inspection of In-Service Bridges" guidelines. Assessment included sampling and laboratory testing of damaged concrete piles and development of repair/replacement strategies.

E. Resumes and Technical Qualifications

MICHAEL E. BREITENSTEIN, P.E.
Senior Diver / Engineer

EDUCATION:
M.S.C.E., Civil Engineering (Construction Management): University of California, Berkeley
B.S.C.E., Civil Engineering: University of California, Berkeley

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: California, C32842, 1981
ADCI Certified SSA Commercial Diver
DCBC Certified SSA Commercial Supervisor/Diver

EXPERIENCE:
Mr. Breitenstein provides more than 30 years of civil engineering and construction experience acquired on a wide variety of waterfront projects, including industrial, commercial, public works, and environmental projects. His responsibilities have included quality assurance program management, detailed condition assessment of existing structures, field/shop inspections, development of special testing programs and procedures, feasibility studies, civil/structural design, quality and constructability reviews, permit processing, handling claims and arbitration processes, and providing expert testimony. Mr. Breitenstein has completed topside and underwater structural inspections of waterfront structures in a wide variety of environmental conditions including cold water, low visibility, and fast current. In 2005, he attended a 120-hour commercial dive training class to become familiar with surface-supplied, hard hat diving. This course involved classroom, pool, and field instruction and practice in the safe use of surface-supplied diving as well as certification in the use of Nitrox gas for diving.

Condition Survey Inspection of Brooklyn Piers 9A and 9B, Brooklyn, NY. Underwater Inspector and Dive Supervisor who completed a cyclical condition survey of the underwater and above water elements of the Piers 9A and 9B at the New York Marine Terminal in Brooklyn, New York. The condition survey included inspection of two pile supported piers and over 1,250 feet of shoreline bulkhead. Some of the elements inspected included steel pipe piles, timber piles, concrete pile extensions, concrete decking, steel sheet pile, and mooring hardware.

Condition Survey Inspection of Holland Tunnel Pier 34, New York, NY. Performed the underwater inspection of Pier 34, located on the east bank of the Hudson River. The condition survey included inspection of two approach piers, protective apron around and façade of Holland Tunnel Ventilation Building and 250 feet of the shoreline bulkhead. Some of the elements inspected included steel pipe piles, precast concrete pile caps, prestressed concrete deck panels, fender assemblies, handrails, expansion joints, concrete encased steel girders and granite blocks.

Condition Survey Inspection of the Red Hook Marine Terminal, Brooklyn, NY. Utilizing Surface Supplied Air (SSA) equipment, he inspected a timber pile-supported concrete wharf and steel sheet pile bulkhead. The inspection included ultrasonic thickness measurements of steel bulkhead and underwater photography.

E. Resumes and Technical Qualifications

MICHAEL E. BREITENSTEIN, P.E.
(continued)

Facilities assessed include:

- Port of Hueneme – Commercial wharves, Hueneme, CA
- Santa Monica Public Pier – Santa Monica, CA
- Escravos Wharf – Support facilities for Chevron Nigeria Limited operations at Escravos, Nigeria.
- Santa Cruz Wharf – Municipal wharf, Santa Cruz, CA
- Capitola Wharf – Municipal wharf, Capitola, CA
- Port of San Francisco Pier 1, Pier 80, and Pier 15/17 – Commercial Piers, San Francisco, CA
- Point Molate – Commercial wharf, Richmond, CA
- Chevron Long Wharf – Chevron Products Co., Richmond, CA
- Outzen Pier – Commercial Pier/Dock and Bulkhead, Moss Landing, CA

Waterfront Facilities Inspections, Miscellaneous Locations. Team leader for the inspection of existing and under-construction pile-supported and bulkhead facilities, including underwater inspections. Dive supervisor for surface supplied air and scuba dive teams. Inspected substructure, deck, and superstructure elements, and performed non-destructive testing of concrete, wooden, and steel structural members. Surveyed sites and adjacent areas, and researched original construction documents. Utilized testing and sampling tools including concrete and wood coring machines, ultrasonic thickness testers, Galvapulse, Bathycorrometer, pachometer, Schmidt Hammer, underwater camera and video systems, etc. Produced reports and drawings that detailed existing conditions/construction progress, and evaluated repair alternatives. Produced proposals for repairs/rehabilitations that included preliminary design drawings, specifications, cost estimates, and constructability reviews. Facilities inspected include:

- PANYNJ Piers 8 and 11– Commercial Wharves, Brooklyn, NY
- PANYNJ Red Hook Terminal – Container terminal, Brooklyn, NY
- PANYNJ Piers 9A and 9B – Commercial Wharves, Brooklyn, NY
- PANYNJ Pier 34, Holland Tunnel – Tunnel ventilation structure and approaches, New York, NY
- Sumay Cove and Clipper Landing Cove, Apra Harbor Naval Base, Guam
- Wharf Victor, Apra Harbor Naval Base, Guam
- Naval Base Pt. Loma – Submarine Base Waterfront Facilities, San Diego, CA
- Naval Base Coronado – Waterfront Facilities, San Diego, CA
- Manhattan Beach Pier – Municipal Pier, Manhattan Beach, CA
- Port Hueneme Outfall Replacement, Port Hueneme, CA
- Pier F Rock Slope, Port of Long Beach, CA
- Fruitvale Ave. Railroad Bridge Piers (USACE), Oakland/Alameda, CA
- Port of Hueneme Ship Strike Damage Assessment, Port Hueneme, CA
- Seal Beach Naval Weapons Station Waterfront Facilities, Seal Beach, CA
- Hunters Point Naval Shipyard Bulkheads, San Francisco, CA
- Vopak Marine Oil Terminal, Port of Los Angeles, CA (MOTEMS)
- Mobil Marianas Marine Oil Terminals – Guam, Rota, & Tinian

E. Resumes and Technical Qualifications

LUBEN S. WALCHEFF, P.E.
Senior Diver / Engineer

EDUCATION:
B.S., Structural Engineering, University of California at San Diego
B.A., Aquatic Biology, University of California at Santa Barbara

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: California, C50538, 1993
ADCI Certified SSA Commercial Supervisor/Diver
DCBC Certified SSA Commercial Supervisor/Diver

EXPERIENCE:
Mr. Walcheff combines commercial diving experience with B.S. degrees in structural engineering and aquatic biology. His experience involves above and below water inspection and design of repairs for a wide range of marine waterfront facilities including piers, wharves, quaywalls, bridges, oil platforms, fender systems, floating docks, and other miscellaneous structures. Mr. Walcheff holds numerous diving certifications including certification as a commercial diver in the U.S. and U.K. He is qualified as an Inspection Team Leader in accordance with Section 3.4.2 "Manual for Condition Evaluation of Bridges" American Association of State Highway Transportation Officials.

Condition Survey Inspection of Brooklyn Piers 9A and 9B, Brooklyn, NY. Underwater Inspector and Dive Supervisor who completed a cyclical condition survey of the underwater and above water elements of the Piers 9A and 9B at the New York Marine Terminal in Brooklyn, New York. The condition survey included inspection of two pile supported piers and over 1,250 feet of shoreline bulkhead. Some of the elements inspected included steel pipe piles, timber piles, concrete pile extensions, concrete decking, steel sheet pile, and mooring hardware.

US Navy N68711-01-D-3017 IDIQ Contract – Waterfront Construction and Repairs SWDIV. Project Engineer diver for numerous marine structure projects including concrete pier, wharf and quaywall rehabilitation; above and below water inspection; hydrographic surveying and dredging; development of design-build solicitation packages; structure load capacity studies; and miscellaneous delivery orders.

Inspection and Engineering Evaluation Services, Port of Los Angeles, CA. Project Engineer for multi-year inspection and repair contract involving more than 13 miles of war was operated by the Port of Los Angeles. Tasks included above and below under inspection; preparation of concrete repair documents; and, an implementation of automated inspection and repair database (AIRIS).

US Navy N62473-0 6-D-3006 IDIQ Contract – Underwater Inspection and Assessment, NAVFACENGSERCTR Worldwide. Project Engineer diver for numerous above and below water inspection delivery orders for marine waterfront facilities located worldwide. Following report preparation and submittal, many of the tasks evolved into design of repairs for the facilities.

US Navy N62473-0 6-D-1008 IDIQ Contract – Waterfront Construction and Repairs SWDIV. Project Engineer diver for numerous marine structure projects including concrete pier, wharf and quaywall rehabilitation; above and below water inspection; hydrographic surveying, and dredging.

E. Resumes and Technical Qualifications

ERIC D. SMITH, P.E.
Diver / Engineer

EDUCATION:
M.S.E., Naval Architecture and Marine Engineering, University of Michigan
B.S. Civil Engineering, Purdue University

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: Maryland, 34931, 2007
Connecticut, 22608, 2002

EXPERIENCE:
Mr. Smith has provided marine engineering, underwater inspection, and coastal engineering services for a variety of projects. Mr. Smith has been trained in SCUBA and Surface Supplied Air, as well as underwater inspection techniques and technologies and routinely provides underwater/topside inspection of waterfront facilities. He has inspected a wide range of timber, concrete, and steel structures including bulkheads, piles, mooring buoys, and offshore structures as well as in the deployment of wave and current meters. This experience has involved a wide range of environmental conditions including cold water, low visibility, and fast currents.

Condition Survey Inspection of Brooklyn Piers 9A and 9B, Brooklyn, NY. Underwater Inspector who completed a cyclical condition survey of the underwater and above water elements of the Piers 9A and 9B at the New York Marine Terminal in Brooklyn, New York. The condition survey included inspection of two pile supported piers and over 1,250 feet of shoreline bulkhead. Some of the elements inspected included steel pipe piles, timber piles, concrete pile extensions, concrete decking, steel sheet pile, and mooring hardware.

Condition Survey Inspection of Holland Tunnel Pier 34, New York, NY. Performed the underwater inspection of Pier 34, located on the east bank of the Hudson River. The condition survey included inspection of two approach piers, protective apron around and façade of Holland Tunnel Ventilation Building and 250 feet of the shoreline bulkhead. Some of the elements inspected included steel pipe piles, precast concrete pile caps, prestressed concrete deck panels, fender assemblies, handrails, expansion joints, concrete encased steel girders and granite blocks.

Post-Incident Inspection of Ambrose Light Tower, Offshore New York/New Jersey. Diver/Engineer for inspection of damage to the Ambrose Light Tower following a vessel collision incident with the tower. The offshore light tower marks the entrance to New York Harbor's Ambrose Channel in 70-feet of water as well as serving as a NOAA weather station. Performed Level 1 inspection of damage to the jacket structure of the tower. Provided condition assessment report, structural analyses, and estimates for repair.

Structural Inspection and Evaluation of Waterfront Bulkheads, USCG Group Buffalo, NY. Coastal Engineer/Diver for subaerial/underwater inspection, structural analysis/evaluation, and development of conceptual designs for repair/replacement of waterfront timber and steel bulkheads. Provided inspection report detailing structure conditions, structural analyses, and recommending repair/replacement alternatives.

E. Resumes and Technical Qualifications

JOUSHA M. HILL, P.E.
Diver / Engineer

EDUCATION:
B.S., Civil Engineering: Old Dominion University

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: Virginia, 0402045628, 2010
ADCI Certified SSA Commercial Diver
DCBC Certified SSA Commercial Diver

EXPERIENCE:
Mr. Hill has 7 years of experience and provides civil engineering support, project management and construction inspection for projects throughout the Tidewater area, predominantly focusing on civil works infrastructure involving water resources, hydrology, and hydraulics. He is a certified commercial diver and has performed above- and underwater inspection and evaluation of many types of waterfront structures, both as stand-alone projects and as part of larger repair and rehabilitation projects. Mr. Hill has also performed above- and underwater inspections for a number of municipal structures including bridges, bulkheads, and culverts. In many cases, these inspections have resulted in the development of cost effective repair and/or rehabilitation alternatives, along with plans, specifications and opinions of probable cost.

Pier 34 Inspection, New York, NY. Served as dive team member for the underwater inspection of the finger pier and ventilation shaft structure for the Holland Tunnel. Performed Level I, Level II and Level III inspection on steel piles including ultra-sonic testing.

LaGuardia Airport ILS Piers Inspection, New York, NY. Dive team member who inspected the ILS Piers associated with LaGuardia Airport. Performed Level I and Level II evaluation on steel and timber piles to determine the structural condition of the piers, Level III inspection was also completed on the steel piles which included ultra-sonic testing.

Condition Survey Inspection of Brooklyn Piers 9A and 9B, Brooklyn, NY. Underwater Inspector who completed a cyclical condition survey of the underwater and above water elements of the Piers 9A and 9B at the New York Marine Terminal in Brooklyn, New York. The condition survey included inspection of two pile supported piers and over 1,250 feet of shoreline bulkhead. Some of the elements inspected included steel pipe piles, timber piles, concrete pile extensions, concrete decking, steel sheet pile, and mooring hardware.

Condition Survey Inspection of the LaGuardia Airport ILS Piers, Queens, NY. Mr. Hill performed the underwater inspection of the ILS piers at LaGuardia Airport. Inspection effort included a 100% visual and minimum of 10% hands-on inspection of steel pipe piles, timber piles, caps, and underdeck.

Condition Survey Inspection of Holland Tunnel Pier 34, New York, NY. Performed the underwater inspection of Pier 34, located on the east bank of the Hudson River. The condition survey included inspection of two approach piers, protective apron around and façade of Holland Tunnel Ventilation Building and 250 feet of the shoreline bulkhead. Some of the elements inspected

E. Resumes and Technical Qualifications

JOUSHA M. HILL, P.E.
(continued)

included steel pipe piles, precast concrete pile caps, prestressed concrete deck panels, fender assemblies, handrails, expansion joints, concrete encased steel girders and granite blocks.

Underwater Level I and Level II Bridge Inspections, Phase 1 City of Norfolk, VA. Project Manager for the underwater inspection of six bridges in the City of Norfolk. Assisted in taking detailed notes, soundings, and measurements regarding condition of structures and prepared an Underwater Bridge Inspection Report which included the condition assessment of the bridge, figures and photographs of the bridge, and the NBIS Rating of the bridge in its current condition.

Underwater Level I and Level II Bridge Inspections, Phase 2, City of Norfolk, VA. Project Manager for the underwater inspection of seven bridges in the City of Norfolk. Took detailed notes, soundings, and measurements regarding condition of structures and prepared an Underwater Bridge Inspection Report which included the condition assessment of the bridge, figures, and photographs of the bridge and the NBIS Rating of the bridge in its current condition.

VDOT Term Contract for Bridge Safety and Sign Structure Inspections for NOVA and Culpeper Districts, VA (2004-2005). Member of Inspection Team for four contract task orders to inspect bridges and more than 300 sign structures over major roadways and interstate highways in the Northern Virginia District. Performed structural inspection of ~50 sign structures and six bridge structures. Inspections were performed in accordance with VDOT and FHWA specifications.

E. Resumes and Technical Qualifications

STEPHEN R. REUSCHLE, P.E.
Diver / Engineer

EDUCATION:
B.S., Mechanical Engineering: North Carolina State University

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: North Carolina, 037485, 2010
ADCI Certified SSA Commercial Diver
DCBC Certified SSA Commercial Diver

EXPERIENCE:
He has assisted with project management and tracking, prepared plans for railway/highway grade crossings, reviewed construction documents and material lists. Mr. Reuschle attended a 120-hr commercial dive class to become familiar with surface-supplied, hard hat diving. This course involved classroom, pool, and field instruction and practice in the safe use of surface-supplied diving. He has also completed certification for the use of Nitrox when diving. Mr. Reuschle is also a Kirby Morgan Certified Maintenance and Repair Technician for Kirby Morgan diving helmets having completed their training course.

Condition Survey Inspection of the LaGuardia Airport ILS Piers, Queens, NY. Performed the underwater inspection of the ILS piers at LaGuardia Airport. Inspection effort included a 100% visual and minimum of 10% hands-on inspection of steel pipe piles, timber piles, caps, and underdeck.

Condition Survey Inspection of the Red Hook Marine Terminal, Brooklyn, NY. Utilizing Surface Supplied Air (SSA) equipment, he inspected a timber pile-supported concrete wharf and steel sheet pile bulkhead. The inspection included ultrasonic thickness measurements of steel bulkhead and underwater photography.

Throgs Neck Bridge Maintenance and Repair, New York, NY. Civil Engineer/Diver for underwater inspection of bridge protective systems – fender systems on the bridge towers, protective dolphins at abutments, and a fender system along the north abutment in an anchorage area. Tower fender systems were comprised of concrete-encased piles supporting steel framing attached to the tower and fronted by a timber fascia panels. Dolphins were three-pile timber dolphins. Northern abutment fender system comprised of three 12-pile dolphins connected by steel members fronted by timber fascia. Timber fascia was found to be in good condition while steel members were in poor condition.

Condition Survey, CITGO Terminal, Wilmington, NC. Following a vessel collision with the waterfront facilities, Mr. Reuschle provided a topside/underwater inspection of a scour unit platform and adjacent mooring dolphin. Scour platform was steel superstructure supported by steel H-piles and held a "turbine" that increased turbidity in its vicinity during tide flows and thereby decreased sedimentation. Dolphin superstructure was concrete supported by both steel pipe piles and concrete piles. Damage was limited to the scour unit platform's superstructure. Dolphin was found to be in typically bad condition primarily due to age.

E. Resumes and Technical Qualifications

PATRICK R. GRANEY, P.E.
Diver / Engineer

EDUCATION:
M.C.E., Civil Engineering: North Carolina State University
B.S., Civil Engineering: North Carolina State University (Magna Cum Laude)

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: North Carolina, 25930, 2000

EXPERIENCE:
Mr. Graney has served as a civil/structural engineer with Moffatt & Nichol for over 14 years on inspecting a wide variety of marine and coastal structures throughout the world. He has routinely managed or participated in topside and underwater inspections of various marine and coastal structures including wharves, piers, bulkheads, floating docks, revetments, pipelines, pipeline supports, buoys, and fender systems. These projects have involved the field investigations, developing detailed condition assessment reports and preparing repair documents.

- Performed Numerous Topside and Underwater inspection of Port and Marine facilities.
- Extensive Experience in Developing Condition Assessment Reports.
- Experience in Preparing Repair and Retrofit Drawings.

Inspection and Repair of Ferry Slips and Transfer Bridge System, USCG Station Governor Island, NY. Structural Engineer/Diver for topside/underwater inspection of two ferry slips comprised of timber piles and deck, steel girders, abutments, steel H piles, and timber sheathing and wales.

Structural Inspection and Evaluation of Waterfront Bulkheads, USCG Group Buffalo, NY. Structural Engineer/Diver for subaerial/underwater inspection, structural analysis and evaluation, and development of conceptual designs for repair/ replacement of waterfront timber and steel bulkheads. Assisted in preparation of inspection report describing conditions, structural analyses, and recommended repair/replacement alternatives.

Waterfront Inspection, USCG Station Hatteras Inlet, Cape Hatteras, NC. Project Manager/Structural Engineer/Diver for detailed topside/underwater inspection, structural analysis/evaluation, and conceptual designs for repair of concrete-capped, anchored sheet pile bulkhead, anchored sheet pile bulkhead twin travel lift piers, concrete floating docks, timber pile fender system, and eight dolphins. Prepared inspection report detailing structure condition, providing structural analysis, and recommending repairs/replacement with opinions of probable costs.

Waterfront Structures Inspection, USCGC BRAMBLE Moorings, Port Huron, MI. Structural Engineer for underwater/topside structural inspection and evaluation of 140-ft-long steel and 130-ft-long timber sheet pile bulkheads, and four timber pile mooring dolphins. Included coring of timber bulkhead and ultrasonic measurements of steel sheet pile bulkhead.

E. Resumes and Technical Qualifications

PATRICK R. GRANEY, P.E.
(continued)

Inspection and Evaluation of Waterfront Facilities, ANT Dulac, LA. Structural Engineer/Diver for underwater/topside inspection of waterfront structures. Assisted in preparation of inspection report that included recommended repairs, structure load ratings, estimated remaining serviceable lives, and replacement alternatives with opinions of probable costs.

Berths 1-6, Dundalk Terminal, Port of Baltimore, MD. Structural Engineer who inspected selected sections at each berth to determine existing condition and deficiencies in the timber and steel pile-supported, timber relieving platform backed by a steel sheet pile bulkhead. (Steel piles supported wharf's crane rail.) Provided subsequent structural analysis to determine load capacity of structure and assisted preparation of design alternatives for pile repair/replacement.

Structural Inspection and Evaluation of Greenville Town Commons Esplanade, Greenville, NC. Project Manager for the topside and underwater dive investigation of the concrete sheet piles, tie-rods, existing weep holes, storm water drainage outfalls, handrails and utilities. Inspection included obtaining ultrasonic thickness measurements of the steel sheet piles to determine the extent of corrosion of the existing bulkhead. Inspection was supplemented by a concrete coring program and geotechnical exploration to determine the extent of undermining under the existing concrete slab. Moffatt & Nichol prepared a detailed condition assessment report with photographic documentation and recommended repair alternatives with figures and associated opinions of probable cost.

Structural Inspection/Evaluation of Screwpile Foundation, Thomas Point Light, MD. Project Manager/Structural Engineer/Diver for topside/underwater inspection of cast-iron screwpile foundation. Prepared inspection report evaluating foundation and identifying necessary repairs.

Underwater Inspection, Short-Term Wharf Repairs, USCG Harbor Facility, Corpus Christi, TX. Structural Engineer for underwater inspection of timber piles repaired using pile splices as well as other timber piles wrapped with plastic protective wrap. Prepared inspection report.

Underwater Inspection, Bellevue Front Range Structure, Delaware River, DE. Structural Engineer/Diver for underwater/subaerial inspection of this concrete superstructure/steel H-pile substructure platform supporting navigation range light to assess its condition.

Inspection/Evaluation of Pile Deterioration at Seagirt Marine Terminal, Baltimore, MD. Lead Structural Engineer/Diver who inspected and evaluated existing piles that were heavily deteriorated. Prepared inspection report and recommended alternative for repair.

Emergency Inspection of Collapsed Pier 7 at North Locust Point, Baltimore, MD. Structural Engineer/Diver who inspected a collapsed pier. Pier consisted of concrete ballasted deck supported on timber piles. Inspection involved delineating the extent of failure and evaluating the remainder of the existing structure.

Clinton Street Pier Inspection, Baltimore, MD. Structural Engineer/Diver who inspected a 100 year old timber pile support wharf supporting an existing asphalt paved street. Inspected timber piles, timber bulkhead, bent caps and stringer. Provided inspection report outline the findings from the investigation.

E. Resumes and Technical Qualifications

ANDREW D. CRONIN, P.E.
Diver / Engineer

EDUCATION:
M.S., Civil Engineering, University of Kentucky, May 2008
B.S., Civil Engineering, University of Kentucky, May 2006

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: New York, 089647, 2011
ADCI Certified SSA Commercial Diver
DCBC Certified SSA Commercial Diver

EXPERIENCE:
Mr. Cronin is a structural engineer who has served in a wide variety of roles during his time of employment with M&N. He has experience in various aspects of civil and structural engineering, including structural design and rehabilitation, structure and site inspection, concrete and steel design, and construction document preparation. Mr. Cronin is proficient in many specialized engineering computer applications, including Staad.Pro, RISA-3D, LPILE, SAP2000, and Mathcad.

Mr. Cronin is an ADCI certified commercial diver and is intimately familiar with the practices of surface-supplied air, hard-hat diving. In addition, Mr. Cronin has had additional training in the use of dry suit diving as well as certification in SCUBA diving, the use of Nitrox gas for SCUBA diving, CPR, First Aid, & DAN Oxygen Provider.

Port Authority of New York and New Jersey Condition Assessment of Berths E1, E2, & S1, New Jersey Marine Terminal, Port Jersey South, Bayonne, NJ. Team leader responsible for the completion of a baseline condition assessment of Berths E1, E2, and S1 at the Bayonne Dry Dock in Bayonne, New Jersey. Mr. Cronin organized all daily activities associated with surface-supplied air dive operations. In addition, he used the field data collected during the inspections to develop rehabilitation designs for the structures which were then used to develop complete construction documents. He was also responsible for generating a condition assessment report upon completion of the inspection which documented the type and severity of deficiencies identified, and prioritized the need for repairs. The inspection included over 1,200 timber piles, 168 concrete-encased steel pipe piles, timber caps and deck planks, concrete fascia beams, concrete deck underside, concrete deck, and topside.

Port Authority of New York and New Jersey Condition Assessment of Pier 8 and Bulkheads and the Bulkhead at Pier 11, New York Marine Terminal, Brooklyn, NY. Dive team member responsible for the completion of a routine level condition assessment of Pier 8, the Bulkheads from Pier 7 to Pier 9A, and the Bulkhead at Pier 11 at the New York Marine Terminal in Brooklyn. Mr. Cronin was a part of all daily activities associated with surface-supplied air dive operations. He was also responsible for generating a condition assessment report upon completion of the inspection which documented the type and severity of deficiencies identified, and prioritized the need for repairs. The inspection included over 3,300 timber piles and concrete extensions, 60 steel pipe piles, concrete caps and edge beams, concrete deck, and over 2,500 lf of steel sheet pile bulkhead.

E. Resumes and Technical Qualifications

ANDREW D. CRONIN, P.E.
(continued)

NYCEDC Routine Inspection of the Battery Maritime Building, Manhattan, NY. Inspection team member responsible for the completion the above and below water inspection of the Battery Maritime Building Substructure and Ferry Slips located in Manhattan, New York. Mr. Cronin was involved with all above water underdeck and topside inspections of the Battery Maritime Building Substructure, Slip 5 Ferry Landing, Slip 6, Slip 7, and the Ferry Fender System. Generated a condition assessment report upon completion of the inspection which documented the type and severity of deficiencies identified, and prioritized the need for repairs. Performed a Structural Condition Assessment for the structure determining existing live load capacities.

Port Authority of New York and New Jersey Condition Assessment of Red Hook Wharves at New York Marine Terminal, Brooklyn, NY. Inspection team member responsible for the completion of a routine level condition assessment of Wharves A, B, and B extension at the New York Marine Terminal in Red Hook, Brooklyn. Mr. Cronin was involved with all underdeck and topside inspections. Mr. Cronin was also responsible for generating a condition assessment report upon completion of the inspection which documented the type and severity of deficiencies identified, and prioritized the need for repairs. The inspection over 2000 timber piles, concrete extensions, 250 steel pipe piles, concrete caps, and concrete deck.

Sims Municipal Recycling Facility, Brooklyn, NY. Project engineer responsible for the design and analysis of the wharf structure for a new metal and glass recycling facility in South Brooklyn. The design included the evaluation of crane outrigger loads imposed on the concrete deck surface and berthing/mooring loads as well as the forces provided by the environment. In addition, Mr. Cronin served as resident engineer monitoring construction activities. As resident engineer, ensured that all work was completed in accordance with the Contract Documents and that the Contractor conducted operations in a safe manner.

Pier 11 Relieving Platform Replacement, Manhattan, NY. Primary resident engineer responsible for the monitoring of all construction activities for the replacement of a deteriorated wharf structure at Pier 11 on the East River. As resident engineer, ensured that all work was completed in accordance with the Contract Documents and that the Contractor conducted operations in a safe manner. Team leader and lead diver for all underwater construction inspections and for the final close-out inspection. Deliverables included daily site activity reports, weekly progress reports, inspection reports, a close-out punchlist, and a complete project binder which included all of the preceding as well as the original Contract Documents.

Port Authority of New York and New Jersey Demolition of Holland Tunnel Pier 9, Jersey City, NJ. Project engineer for the phasing and planning of the demolition of 160,000 sq ft of an 80-year old pier composed of concrete and timber. Prepared construction documents including design drawings and specifications. Quantified cost estimates for the pier demolition as well as replacement pier alternatives. Performed several analyses of vessel collision scenarios for the use in future protection for Pier 9. Confirmed existing pier conditions through a thorough site visit investigation.

E. Resumes and Technical Qualifications

ANDREW R. STERN, E.I.T.
Diver / Engineer

EDUCATION:
B.S., Ocean Engineering, Florida Institute of Technology

LICENSES AND CERTIFICATIONS:
ADCI Certified SSA Commercial Supervisor/ Diver
DCBC Certified SSA Commercial Supervisor/Diver

EXPERIENCE:
Mr. Stern is experienced in a variety of coastal, ocean, and port projects both in the US and overseas involving vessel moorings, navigation improvement, port development, and shore protection. His experience includes dynamic simulation of moored vessel responses to waves, currents, and winds, simulation of vessel maneuvering in harbors and waterways, design of onshore and offshore vessel mooring systems. He has analyzed and designed mooring systems and navigation routes for terminals and port facilities worldwide. In addition, he is a certified diver and a member of Moffatt & Nichol's inspection staff of diver-engineers. Mr. Stern has completed the 120 Hours Commercial Dive Training and is a certified SCUBA, CPR, First Aid & DAN Oxygen Provider.

Brooklyn Marine Terminal, Piers 9a and 9b, Brooklyn, NY. Inspected piles at Piers 9A and 9B of the Brooklyn Marine Terminal using Level I and Level II inspection techniques. At Pier 9B, sections of sheetpile were visually inspected, as well as examined for section loss using an Ultrasonic Thickness Gauge.

ESSO Terminal, St. Georges Parish, Bermuda. Performed a post-incident inspection on each mooring dolphin structure as well as the center loading platform. Inspection involved checking the conditions of the piles, concrete caps, and evaluating the condition of the topside of the structures.

Poplar Island, Chesapeake Bay, MD. Performed a visual inspection of the toe armor stone placed for the closure of Cell 6 at Poplar Island. The toe armor stone consists of 2,000 lb rocks with a median size of 2.25 feet. The length of the closure work was 1000 feet. The scope of work included 100% visual inspection of the toe. Inspection assessed the quality of the stone placement, as well as looking for major areas or gaps where stone may be deficient.

Cove Point LNG Terminal, Dominion Cove, MD. Performed inspection of the following pile-supported structures (for a total of 98 piles):

- Breasting Dolphins (four steel pipe piles each): number 3, 7, 9 and 10 on each berth
- Mooring Dolphins (six-ten steel pipe piles each): number 1, 2, and 4 on each berth
- Ten Intermediate Walkway Supports

A 100% visual and approximately 10% hands-on inspection was completed on all steel pipe piles and concrete pipe piles from the pile cap to the mudline. Inspection involved cleaning the pile in the tidal zone, at mid-pile, and at the mudline, to detect signs of concealed deterioration. Performed boat operator duties for duration of job as well as diving.

E. Resumes and Technical Qualifications

KATHY M. WALSH, P.E.
Senior Engineer

EDUCATION:
M.S., Civil Engineering, Manhattan College
B.S., Civil Engineering, Manhattan College

LICENSES AND CERTIFICATIONS:
Professional Engineer Registration: New York, 085986-1, 2008

EXPERIENCE:
Ms. Walsh is a waterfront structural engineer who has served in a variety of planning and engineering roles for waterfront projects. She has experience in various aspects of civil and structural engineering, including marine structure design and rehabilitation, structure and site inspection, concrete and steel design, construction document preparation, and construction management. Ms. Walsh is proficient in STAAD/Pro and TERMSIM.

Paulus Hook Ferry Pier and Terminal, Jersey City, NJ. Staff Engineer for project involving waterfront elements of the $450 million Goldman Sachs supertower complex, which features the tallest building in the state. Engineering services provided by Moffatt & Nichol include site inspection, production of demolition plans for the existing Sussex St. Pier, design of a new pier and associated ferry berthing structures, design of a 3,000-square-foot ferry terminal building, provision of a new helicopter landing, and design of a structure to support the historic Colgate Clock. The construction cost of these new waterfront facilities was approximately $9.6 million.

Seawall Repair and Replacement at USCG Battery Park Building, NY. Participated in site inspection of severely deteriorated steel sheet pile bulkhead adjacent to a high usage parking area. Loss of fill through the corroded bulkhead resulted in formation of numerous large sinkholes which prohibited safe usage of the facility. Performed a slope stability analysis to determine the capacity of the deteriorated existing sections of sloping backfill as well as evaluate the potential for further deterioration and sudden failure. Determined the capacity of the existing sheet pile to resist failure due to buckling and overturning. Designed new replacement sheet pile bulkhead.

Cape Vincent Marina, Cape Vincent, NY. Performed peer review of structural calculations and design drawings for a steel marina on the shore of Lake Ontario. Included reviewing methodology used to analyze proposed structures under wind, wave, dead and live loadings, and considering fatigue due to shear and torsion. Reviewed documents for state and national code conformance.

East River Waterfront Esplanade and Piers Project, New York, NY. Project involved marine elements design development of a $130 million waterfront park along the East River. Project elements included the design development of a new pier, overwater walkway, and marina, along with the rehabilitation of various existing pier structures and bulkheads. As Structural Engineer, she performed structural modeling for a pile support deck platform connecting the shore to a new pier.

North Cove Marina, New York, NY. North Cove Marina is a private marina located in downtown Manhattan, adjacent to the Winter Garden. An adjacent ferry terminal is creating a wave environment within the marina basin that is unacceptable to the marina operator.

E. Resumes and Technical Qualifications

BRIAN D. FORD
CADD Technician

EDUCATION:
Certificate, Mechanical Drafting, Wake Technical Community College

EXPERIENCE:
Mr. Ford has more than 15 years' experience as a designer and detailer for a variety of port projects involving civil and structural planning and engineering for port authorities located throughout the United States and around the world. He has provided project support services involving drawings, plans, estimates, and construction documents including digital terrain modeling, project layout and quantity determination. Typical port projects have involved waterfront structures, site/backland development, and coastal and environmental engineering and permit applications. Site and backland development aspects have included site layout, grading, pavements, parking, and roadway layout involving traffic staging and traffic control, utilities (water, sewer, stormwater, fuel, and communications), flood control, stormwater management, and drainage and erosion control. Representative experience includes:

Port Newark Container Terminal Development, NJ. Engineering Technician for site planning and design of a new container terminal that involved a multi-million dollar upgrade and consolidation of two 30-yr-old low-density container terminals into a single, 158-acre high-density terminal capable of handling beyond Post-Panamax vessels. Assisted design and provided detailing and construction drawings for site grading and drainage system. Drainage system utilized prefabricated trench drains with special drainage tops to allow utilization of existing manholes on trunk lines within the site and thereby reduce costs. System designed for 145,000 lb wheel loads.

Container Yard Improvements, Phase 2, APM Terminals, Elizabeth, NJ. Engineering Intern for site work associated with upgrade of this 70-acre container yard from wheeled chassis operation to a high-density, grounded container operation. Prepared quantities and drawings for preliminary/final container yard layouts, asphalt pavement sections for top loader operations, and reinforced concrete runways for RTG operation. Also assisted in preparation of site stormwater study and detailing/ construction document preparation for trench drain system to convey runoff to stormwater mainline.

Container Yard Improvements, Phase 3, APM Terminals, Elizabeth, NJ. Civil Designer for site work associated with upgrade of this 80-acre container yard (at a site adjacent to Phase 2) from wheeled chassis operation to a high-density, grounded container operation. Prepared quantities and drawings for container yard layouts, asphalt pavement sections for top loader operations, and reinforced concrete runways for RTG operation. Also assisted in preparation of site stormwater study and detailing/construction document preparation for trench drain system to convey runoff to stormwater mainline.

Berth 8 Replacement, Port of Wilmington, NC. Engineering Technician for planning, design, and construction document preparation for a replacement wharf that utilized two different superstructure designs supported by precast/prestressed concrete piles. Superstructure designs were: 1) precast concrete deck panel with cast-in-place topping slab supported by concrete bent caps and 2) two-way slab section. Also included existing wharf demolition and crane beams (50-ft and 100-ft-gauge), new fender system, mooring hardware, crane and railroad rail, hurricane tie-downs, and crane stops.

F. Proposed Staff

The following table summarizes proposal staff titles and hourly rates. The staff proposed may change due to the need to provide additional services or as a result of personnel transfers or new hires.

Name	Title	Hourly Rate
William M. Shute, P.E.	Project Manager	64.75
Santiago R. Alfageme	Principal-in-Charge	215.00 (Billing Rate)
Thomas E. Spencer, P.E.	Principal / Senior Diver	215.00 (Billing Rate)
Michael E. Breitenstein, P.E.	Senior Diver / Engineer	65.50
Luben S. Walcheff, P.E.	Senior Diver / Engineer	52.00
Eric D. Smith, P.E.	Diver / Engineer	53.00
Jousha M. Hill, P.E.	Diver / Engineer	35.00
Stephen R. Reuschle, P.E.	Diver / Engineer	35.00
Patrick R. Graney, P.E.	Diver / Engineer	54.00
Andrew D. Cronin, P.E.	Diver / Engineer	36.00
Andrew R. Stern, E.I.T.	Diver / Engineer	32.50
Kathy M. Walsh, P.E.	Senior Engineer	46.75
Brian D. Ford	CADD Technician	33.00
Yelena Chibisova	CADD Technician	32.25

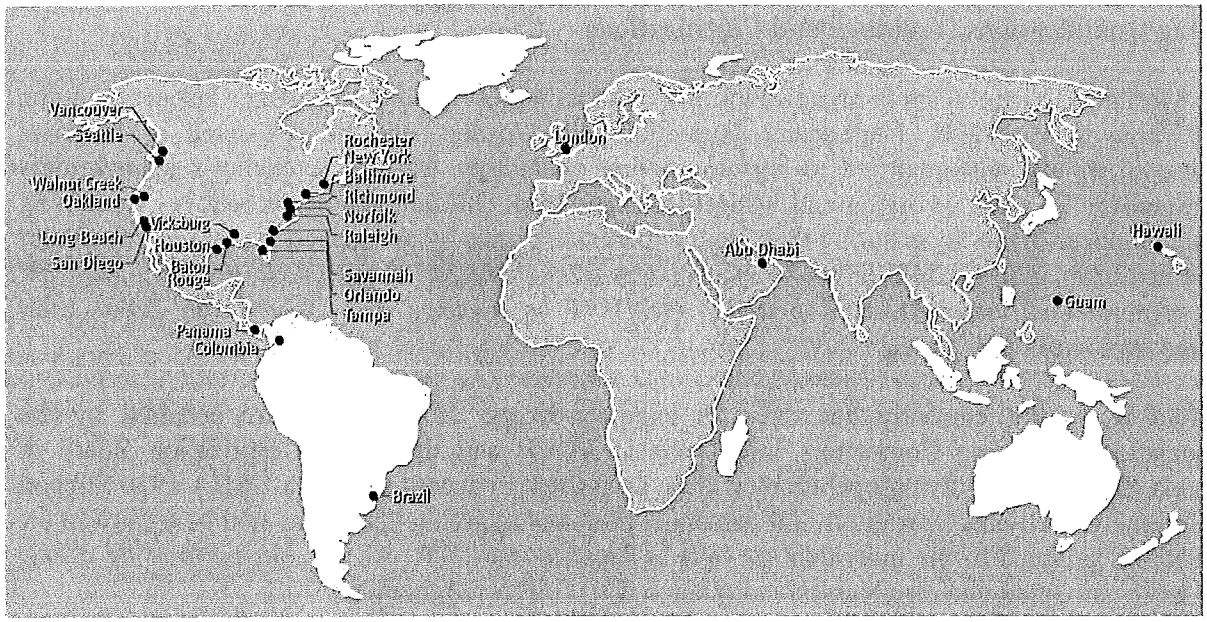
Notes:

Rates are actual hourly rates for all staff, except for Principals where Billing Rates are provided.

M&N will utilize a multiplier of **2.79** x hourly rate to establish billing rates for approved staff (except Principals).

G. Firm Experience

Moffatt & Nichol is a multidiscipline engineering and planning firm providing a full range of consulting services, including conceptual planning, feasibility studies, preliminary and final design services, waterfront inspections and construction support activities. Moffatt & Nichol was founded in 1945 in Southern California and has grown to 26 offices around the world, including ***a local office in New York, New York.***



Moffatt & Nichol is one of the fastest growing engineering firms in the U.S. and ranks among the Top Engineering Firms in the country by *Engineering News Record.* The firm is nationally recognized for providing quality engineering solutions in the areas of transportation and public works engineering. ***We have gained an international reputation as a leader in the inspection and design of structures located in the marine environment.*** In fact, the *John G. Moffatt - Frank E. Nichol Harbor and Coastal Engineering Award,* endowed by Moffatt & Nichol in 1977, is given annually to a member of the American Society of Civil Engineers. The award recognizes expertise in the marine engineering field, as well as new ideas that expand engineering, design, inspection, and construction techniques for harbor and coastal projects.

The firm's history includes numerous coastal, bridge, harbor and waterfront projects in connection with on-call and specific-project type contracts. We have also provided underwater inspection and condition survey services for these same structures. The ability to perform above- and underwater inspection on marine structures is a crucial part of Moffatt & Nichol's core business practice. ***These underwater inspections are conducted by the same professional engineers that prepare the inspection reports and, in many cases, the detailed repair plans and specifications.*** These engineer-divers provide valuable insight into structure performance and behavior.

G. Firm Experience

Moffatt & Nichol will provide PANYNJ with waterfront structure inspection and structural engineering design services, as well as project management and quality assurance. *We are one of the few firms that specialize in underwater inspection, as well as waterfront facility design and engineering services.* Moffatt & Nichol's waterfront inspection and engineering experience includes over 2,500 projects.

Diving Qualifications, Training, and Certifications

The Moffatt & Nichol team is organized to provide the highest quality underwater inspection at the best value to PANYNJ. Underwater inspection team leaders will be registered professional engineers, trained and qualified to perform diving operations. Moffatt & Nichol's team leaders average over 15 years of diving and inspection experience. Moffatt & Nichol believes in training newer engineer-divers by ensuring their field experience comes by an inspection team led by two or more senior members. ***This mentor-based system allows Moffatt & Nichol to properly train its' less experienced members, and benefits PANYNJ by keeping our Dive Team labor rates competitive with other firms.***

Moffatt & Nichol currently has over 50 engineer-divers, 20 of which are certified by the Association of Diving Contractors International (ADCI) and the Diver Certification Board of Canada (DCBC). All diving operations will be performed in accordance with OSHA 1910 Subpart T, Commercial Diving Operations. All personnel performing diving operations will be trained in the operations assigned to the individual as well as first aid and CPR. All persons performing diving will have current annual physicals in compliance with OSHA requirements.

Moffatt & Nichol has extensive experience in underwater inspection as mentioned above. The table on the following pages provides a partial list of inspection projects Moffatt & Nichol has completed in the past three (3) years, and offers insight into the depth and breadth of experience offered by the Moffatt & Nichol team:

G. Firm Experience

Project	Location	Owner Contact	Description	On Time	In Budget
Inspection of Wharfs A, B, and B Extension	Brooklyn, NY	C.C. Lin, P.E. PANYNJ (973) 792-3940	Timber and Steel Piles, Concrete Extensions, Prestressed Concrete Girders, Concrete Deck	Yes	Yes
JFK Outfalls Nos. 10 and 12 – Conditional Assessment	Queens, NY	Steven Vecchione, P.E. PANYNJ (973) 792-3997	Concrete culverts	Yes	Yes
Holland Tunnel Pier 34 – Conditional Assessment	New York, NY	Camille Dagher, P.E. PANYNJ (973) 792-3958	Steel piles, Precast Concrete Caps, Concrete Deck	Yes	Yes
NYMT Piers 8 and 11 – Conditional Assessment	Brooklyn, NY	C.C. Lin, PE PANYNJ (973) 792-3900	Timber Piles, Concrete Extensions, Concrete Deck, Steel Sheet Pile, Steel Piles	Yes	Yes
MOTBY – Immediate Action Assessment	Bayonne, NJ	C.C. Lin PANYNJ (973) 792-3940	Timber Piles, Timber Caps, Low Level Relieving Platform	Yes	Yes
MOTBY – Baseline Condition Assessment	Bayonne, NJ	C.C. Lin PANYNJ (973) 792-3940	Timber Piles, Timber Caps, Low Level Relieving Platform, Concrete encased steel piles, Precast Concrete Bridges, Steel H Piles	Yes	Yes
NYMT Pier 12 and Bulkhead – Conditional Assessment	Brooklyn, NY	C.C Lin PANYNJ (973) 792-3940	Timber Piles, Concrete Extensions, Concrete Deck, Steel Sheet Pile, Steel Piles	Yes	Yes
JFK Culvert Inspection	Queens, NY	Steven Vecchione PANYNJ (973) 732-3997	Concrete culverts	Yes	Yes

G. Firm Experience

Project	Location	Owner Contact	Description	On Time	In Budget
Battery Maritime Building Ferry Pier Inspection	Manhattan, NY	Alex Rau Turner Construction (718) 630-2447	Steel floats and piles	Yes	Yes
Heavy Marine Structural Engineering for Quonset Business	North Kingstown, RI	Evan Matthews Quonset Development Corporation (401) 295-0044	Steel sheet pile, concrete, fender system	Yes	Yes
Pier 11 Platform Replacement	New York, NY	Kevin Chase Turner Construction Co. (718) 630-2449	Concrete encased timber piles, concrete deck slab, steel sheetpile bulkhead	Yes	Yes
Waterfront Facilities Inspection (WFI) Puget Sound Naval Shipyard	Bremerton, WA	Shawn Lindmark, P.E. NAVFAC ESC (202) 433-5480	Revetments, wharves, piers, bulkheads, fender systems, dry docks	Yes	Yes
WFI Naval Base Point Loma/Naval Base Coronado	San Diego, CA	Shawn Lindmark, P.E. NAVFAC ESC (202) 433-5480	Revetments, marginal wharves, piers, bulkheads, fender systems	Yes	Yes
WFI Naval Magazine, Lualualei	Pearl Harbor, HI	Shawn Lindmark, P.E. NAVFAC ESC (202) 433-5480	Revetment, marginal wharf, bulkhead, fender systems	Yes	Yes
WFI Victor Wharf	Apra Harbor, Guam	Eric Funasaki NAVFAC Pacific (808) 472-12773	Steel sheet pile bulkhead, fendering systems, mooring	Yes	Yes
Sumay Cove Waterfront Facilities Repair and Modernization	Naval Base, Guam	Chris Halpin NAVFAC Marianas (671) 333-3184	Steel sheet piling	Yes	Yes
ID/IQ Underwater Inspection and Engineering Services	Norfolk, VA	Chuck Joyner, P.E. City of Norfolk (757) 664-4648	Timber, steel, & concrete piles, steel, timber & concrete bulkheads, and concrete decks	Yes	Yes

H. Unit Prices

Please see the attachment on the next page.

MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES (RFP # 30225)

EXHIBIT I - DAILY DIVE COST ESTIMATE

	ITEM	TIME	HOURLY RATE	MULTIPLIER	*STRAIGHT TIME CHARGE	*FLAT CHARGE	*OFFICE CHARGE
HOURLY RATE	Ch. Engineer Diver	8 Hours	$ 65.00	2.79	$ 1,450.80	$ 100.00	$ -
	Engineer Diver	8 Hours	$ 50.00	2.79	$ 1,116.00	$ 100.00	$ -
	Inspector Diver	8 Hours	$ 35.00	2.79	$ 781.20	$ 100.00	$ -

UNIT PRICES	Workboat (25-ft)	8 Hours	$ 1,000.00
	Workboat (16-ft)	8 Hours	$ 195.00
	U/W Video Camera System (color) per day		$ 290.00
	Hydraulic Wood Coring Equipment per day		$ 285.00
	U/W Cutting/Burning Equipment per day		$ 550.00
	HAZMAT Diver Encapsulation Gear per day		$ 1,500.00
	Water Jet Pump per day		$ 250.00
	UT Oscilloscope (KB USK7 DTM) per day		$ 75.00

* ***NOTES:***

STRAIGHT TIME CHARGE = No. of Hours x Hourly Rate x Multiplier
FLAT CHARGE = Diver Premium of $_____/hour - Employee Rate/Hour x Number of Hours
OFFICE CHARGE = Employee Rate/Hour x Number of Hours (Diver Premium Does not apply) Any office time gets added to the Straight Time Charge Total

I. Affiliates

The following companies are affiliates of Moffatt & Nichol:

Moffatt & Nichol, International
3780 Kilroy Airport Way, Suite 750
Long Beach, California 90806
Tel: (562) 590-6500

Moffatt & Nichol, Latin America, Inc.
Ocean Business Centre, Oficina 1204
Ave Aquilino de la Guardia y Calle 47
Republica de Panamá
Tel: + 407-301-0901

Moffatt & Nichol Engineering, P.C.
104 West 40th Street, 14th Floor
New York, New York 10018
Tel: (212) 768-7454

Craney Island Design Partners, LLC
800 World Trade Center
Norfolk, Virginia 23510
Tel: (757) 628-8222

Moffatt & Nichol, London
5 St. Helen's Place
Bishopsgate
London EC3A 6AU, United Kingdom
Tel: + 44 20 7036 0440

Wetland and Estuary Tides, LLC
P.O Box 3493
Norfolk, Virginia 23510
Tel: (757) 629-9259

J. Conflict of Interest

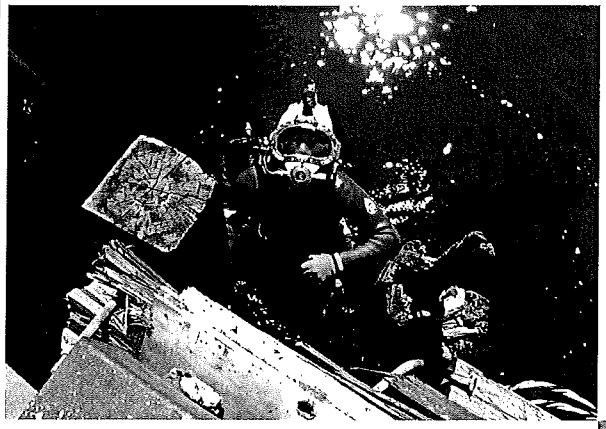
Moffatt & Nichol has no Conflict of Interest Issues with the proposed project and services.

K. Exceptions to the Standard Agreement

Moffatt & Nichol has no exceptions to the Authority's standard agreement.

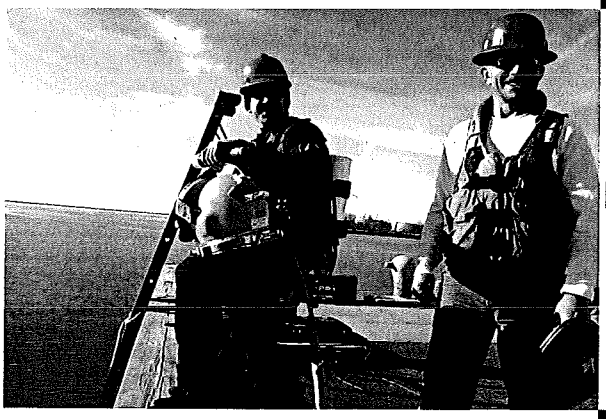
moffatt & nichol

Vest 40th Street
Floor
York, NY 10018
2.768.7454
2.768.7936
moffattnichol.com



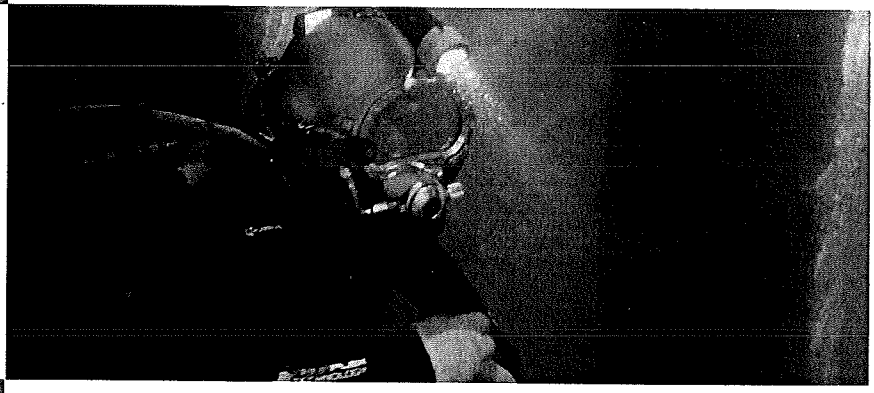
OCEAN AND COASTAL

CONSULTANTS



RFP Number 30225

Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013



Attenion: RFP Custodian
The Port Authority of New York and New Jersey
2 Montgomery Street, 3rd Floor
Jersey City, NJ 07302

September 18, 2012

Prepared by:
Ocean and Coastal Consultants Engineering, P.C.
19 West 21st Street, Suite 703
New York, NY 10010

OCEAN AND COASTAL CONSULTANTS

Ocean and Coastal Consultants
Engineering, P.C.
19 West 21st Street, Suite 703
New York, NY 10010
Tel 646 545 2125
Fax 646 553 1620
www.ocean-coastal.com

The Port Authority of New York and New Jersey
2 Montgomery Street, 3rd Floor
Jersey City, New Jersey 07302

Date
18 September 2012
Our ref.
90-4242/SAFA

Attn: Mr. Tim Volonakis
Assistant Director, Procurement Department

Reference: Response to Request for Proposals for the Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013
PANYNJ RFP No. 30225

Dear Mr. Volanakis:

Ocean and Coastal Consultants Engineering, P.C. (OCC) is pleased to submit one reproducible and three copies along with four compact disc copies of our proposal for the above referenced RFP.

OCC's authorized representative for this proposal is Mr. Stephen A. Famularo, P.E. Mr. Famularo is the vice-president of OCC's New York office, a project director, and a professional engineer-diver. He can be reached at the address on this letterhead, on his mobile phone at 203-395-6350, his office phone at 203-400-6560 and by e-mail at safa@ocean-coastal.com.

We are looking forward to working with you and sincerely hope that the enclosed proposal meets your expectations. If you have any questions, please do not hesitate to contact me or Mr. Famularo.

Very truly yours,

OCEAN AND COASTAL CONSULTANTS ENGINEERING, P.C.

Stanley M. White, P.E.
President/Managing Engineer

Stephen A. Famularo, P.E.
Vice-President/Program Manager

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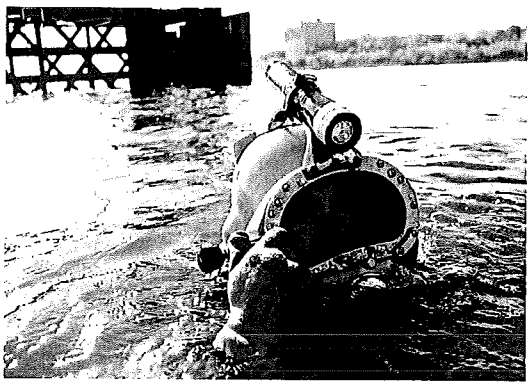


ATTACHMENT B

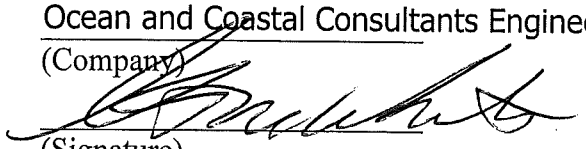
REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion ("Agreement"), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: http://www.panynj.gov/corporate-information/pdf/foi-code.pdf, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, as more fully set forth in the FOI Code, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

Ocean and Coastal Consultants Engineering, P.C
(Company)



(Signature)
President
(Title)
September 17, 2012
(Date)

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ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES AS REQUESTED ON A "CALL-IN" BASIS DURING 2013 (RFP #30225)

1. Company Name (print or type):
   Ocean and Coastal Consultants Engineering, P.C.

2. Business Address (to receive mail for this RFP):
   19 West 21st Street, Suite 703

   New York, NY 10010

3. Business Telephone Number: 646-545-2125

4. Business Fax Number: 646-553-1620

5. Firm website: www.ocean-coastal.com

6. Federal Employer Identification Number (EIN): (Ex. 1)

7. Date (MM/DD/YYYY) Firm was Established: 07 / 31 / 2003

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):
   Ocean and Coastal Consultants, Inc. EIN 06-1203942

   35 Corporate Drive, Ste 1200, Trumbull, CT 06611

9. Officer or Principal of Firm and Title:
   Stanley M. White, P.E., D.CE, D.PE, President/Managing Engineer

10. Name, telephone number, and email address of contact for questions:
    Stephen A. Famularo, P.E., 203-400-6560 safa@ocean-coastal.com

    Douglas E. Friend, P.E., 646-545-2123, dofr@ocean-coastal.com

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? ☐ Yes ☒ No

    If yes, please attach **Port Authority** certification as a part of this profile.

    If your firm is an M/WBE not currently certified by the Authority, see the Authority's web site – http://www.panynj.gov/business-opportunities/supplier-diversity.html, to receive information and apply for certification.

OCEAN AND COASTAL
CONSULTANTS

Ocean and Coastal Consultants
Engineering, P.C.
19 West 21st Street, Suite 703
New York, NY 10010
Tel 646 545 2125
Fax 646 553 1620
www.ocean-coastal.com

The Port Authority of New York and New Jersey
2 Montgomery Street, 3rd Floor
Jersey City, New Jersey 07302

Attn: Mr. Tim Volonakis
Assistant Director, Procurement Department

Date
18 September 2012

Our ref.
90-4242/SAFA

Reference: Response to Request for Proposals for the Performance of Expert Professional Marine Condition Surveys of Piers and Waterfront Facilities as Requested on a "Call-In" Basis During 2013
PANYNJ RFP No. 30225

Dear Mr. Volanakis:

With great enthusiasm, Ocean and Coastal Consultants Engineering, P.C. (OCC) submits this proposal to the Port Authority of New York and New Jersey (the Authority) for the above referenced project. This transmittal letter presents our adherence to the minimum qualifications, a brief introduction to our firm and key staff, and key differentiators from our competitors.

Minimum Qualification Requirements

As requested in Section I of the RFP, OCC hereby provides the following compliance statements regarding the minimum qualification requirements:

A. OCC has four Professional Engineer-Divers with New York P.E. Licenses and two Professional Engineer-Divers with both New York and New Jersey P.E. Licenses. These Professional Engineer-Divers are on staff and not sub-consultants. This quantity exceeds the minimum requirement stating that any firm being considered have at least one diver with a New York P.E. License and at least one diver with a New Jersey P.E. License.

B. OCC has a total of 23 inspector divers on staff. This group comprises 12 Professional Engineer-Divers, nine engineer-divers and two technician divers. This exceeds the minimum requirement of eight inspector divers on staff.

C. OCC has the ability to provide the Authority with four 3-person underwater inspection teams and we are positioned to provide two teams on a single day, if requested. This level of staffing and responsiveness exceeds the minimum

requirement of two inspection teams. Across all projects, OCC has the in-house staff and equipment to field six simultaneous inspection teams.

The above statements are supported by the resumes and certifications presented in Section E and the Firm Experience presented in Section H.

Firm Summary

OCC is a small engineering firm dedicated exclusively to delivery of comprehensive projects in the marine and coastal environment. Our traditional services include above water and underwater inspection, rehabilitation and new structure design, permitting, dredging support, construction administration, and waterfront information technology services. Ninety percent of OCC's staff are located in our New York, New Jersey, and Connecticut offices.

OCC's small size and the location of our staff relative to the Authority's facilities allow us to provide responsiveness that exceeds expectations. The program manager and project manager assigned to the Authority for the contract have direct phone lines and are immediately reachable for any emergency. With a fleet of dive vehicles and vessels, which includes 3 diving support vans and 3 diving support boats, and 20 divers in the tri-state area, our inspection teams can be on-site within hours of receipt of a call from the Authority and can quickly respond to any urgent situation.

While OCC provides "small firm" responsiveness, we are also supported by our parent company, COWI, an international multi-discipline consulting firm based in Denmark. In 2010, the COWI marine group (including OCC) was ranked number one internationally by the Engineering News Record (ENR) for Marine and Port Facilities.

In 2010, the COWI marine group (including OCC) was ranked number one internationally by the Engineering News Record (ENR) for Marine and Port Facilities.

Key Staff Qualifications and Experience

The following are three of the key staff that will work on this project:

- **Stanley M. White, P.E., P.Eng., D.PE, D.CE** - Mr. White is the President and Managing Director of OCC. He has over 36 years of waterfront engineering experience expanding to regions all over the world. Mr. White is the former president of the American Society of Civil Engineers (ASCE) Coasts, Oceans, Ports, and Rivers Institute (COPRI) and has his diplomate in Port and Coastal Engineering from the Academy of Coastal, Ocean, Port, and Navigation Engineers. Mr. White will serve as Quality Control Director for this contract.

- **John E. Chapman, P.E., P.Eng** - Mr. Chapman is the Vice-President of OCC. He has over 26 years of waterfront engineering experience particularly in the Port of NY and NJ. In addition to designing structures, he has par-

ticipated in construction management services for marine and pile foundation works. This allows him to take proper responsibility for design, permitting, cost estimating, purchasing, labor scheduling, and field engineering during construction of marine projects, such as dredging, piers, marinas, tide gates, bulk heading, seawalls, wharfs, and other unique waterfront structures. Mr. Chapman has Professional Engineering licenses in the states of New York and New Jersey and will be the overall Technical Director for this contract.

- **Stephen A. Famularo, P.E.** - Mr. Famularo is the Vice President and Project Director for OCC's NYC office. He has over 16 years of waterfront engineering experience, including inspection experience at current and former Authority waterfront facilities in both New York and New Jersey. Mr. Famularo is a Professional Engineer-Diver (ADCI certified) with current registration in both New York and New Jersey. He has extensive practical experience in inspection, rehabilitation and construction of marine structures with additional training in underwater bridge inspection and non-destructive testing (NDT) of concrete structures. Since 2006, he has managed and been the engineer of record for over $60 million in waterfront construction and rehabilitation, primarily in Manhattan and Brooklyn. Mr. Famularo will be the overall Program Manager providing contract management, coordinating quality control, and technical oversight. In addition, Mr. Famularo will serve as team leader for one of our inspection teams.

Key Differentiators from our Competitors

While we anticipate many qualified firms will compete for this project, we would like to emphasize some key factors that will separate OCC from others in the New York and New Jersey area:

- **Experts in Waterfront Engineering** - OCC is solely dedicated to engineering projects in the marine environment. Since our founding in 1983, our firm has focused completely on this specialty area which allows us to be leaders in our field and provide our clients with confidence in our capabilities.

- **Highest Quantity of Engineer-Divers** - OCC has the largest staff size and highest concentration of engineer-divers in the northeast United States. Our 21engineers with both 4-year degrees and commercial diving training represent over 90 percent of the total diving staff, and more than half of the firm's total professional staff. These engineer-divers can recognize the many modes of deterioration in timber, steel, and concrete; apply their knowledge of deterioration mechanisms and structural load paths to field observations; and, design and recommend constructible solutions for repair and rehabilitation.

- **Specialized Capabilities** - OCC has the staff capabilities and experience to perform specialized sampling, testing, and the subsequent evaluation of a

OCC has the largest quantity and concentration of engineer-divers in the northeast United States. Our 21degreed engineers with commercial diving training represent over 90 percent of our total diving staff

wide variety of materials. For example, in the last two years we have performed four concrete service life evaluation projects around New York Harbor. Work for these projects has included removal of over 80 concrete cores, measurement of corrosion potential and corrosion rate, concrete powder sampling, chloride profile calculation, and evaluation of apparent chloride diffusion coefficient. In most cases, COWI has performed the laboratory analysis of the concrete which allows us to keep all work in-house. This type of high-level marine structure evaluation is in addition to other field work performed by our engineer-divers including: measurement of dissolved oxygen within pile barrier wraps, voltage potential testing to evaluate cathodic protection, and steel sample removal for determination of yield stress and grade.

- **Extensive Inspection and Rehabilitation Experience in New York Harbor** - Since 2005, OCC Professional Engineer-Divers have designed or provided resident engineering services for the construction of over 30,000 linear feet of pile repair around the harbor. Also, in a strictly qualifications based selection process, OCC was awarded a contract by the New York City Department of Transportation to provide resident engineering services for one of the largest marine borer protection projects in the United States. Over the next four years, OCC engineer-divers will inspect over 136,000 lineal feet (almost 26 miles) of pile barrier wrapping on the FDR drive in New York City.

Over the next four years, OCC engineer-divers will inspect over 136,000 lineal feet (almost 26 miles) of pile barrier wrapping on the FDR drive in New York City.

OCC's authorized representative for this proposal is Mr. Stephen A. Famularo, P.E. Mr. Famularo is the vice-president of OCC's New York office, a project director, and a professional engineer-diver. He can be reached at the address on this letterhead, on his mobile phone at 203-395-6350, his office phone at 203-400-6560 and by e-mail at safa@ocean-coastal.com.

We are looking forward to working with you and sincerely hope that the enclosed proposal meets your expectations. If you have any questions, please do not hesitate to contact me or Mr. Famularo.

Very truly yours,

OCEAN AND COASTAL CONSULTANTS ENGINEERING, P.C.

Stanley M. White, P.E.
President/Managing Engineer

Stephen A. Famularo, P.E.
Vice-President/Program Manager

OCEAN AND COASTAL CONSULTANTS ENGINEERING P.C.
19 WEST 21ST STREET, SUITE 703
NEW YORK, NY
PH 646-545-2125 FX 646-553-1620
www.ocean-coastal.com

CONFIDENTIAL BUSINESS INFORMATION

Section D - Multiplier

Overhead = 206.3% (See attached)

Direct Wages = 100%

Profit = 10%

Total Multiplier = (Direct Wages + Overhead) x (1 + Profit) = 3.37

Discounted for PANYNJ = 0.85 x 3.37 = 2.86

Proposed Multiplier = 2.86

CONFIDENTIAL BUSINESS INFORMATION

OCEAN AND COASTAL CONSULTANTS ENGINEERING, P.C.

COMBINED SCHEDULE OF INDIRECT EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 2011

Total allowable indirect expenses	$ 4,405,068
Direct labor	$ 2,135,717
Indirect expense rate	206.26%

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SECTION E - RESUMES

OCC has extensive experience in performing waterfront inspections and our firm philosophy places great emphasis in developing a group of marine engineers of the highest caliber. Through recruitment of motivated and skilled engineers and investment in a comprehensive training program, OCC has successfully assembled a staff of true experts in the field of waterfront inspection and evaluation.

OCC is proud to present a highly qualified, experienced, and dedicated project team to the Port Authority of New York and New Jersey. All of the members of the team have backgrounds and work experience directly related to the types of services likely to be included in Consultant tasks under this contract and the project leadership has many years of experience as industry leaders in the performance and management of waterfront inspection and evaluation projects. The OCC team has been carefully assembled to provide the best possible support to any needs of PANYNJ under this contract, for projects of any scope or complexity this team has been selected to provide PANYNJ with our highest levels of responsive service and our ultimate capabilities and technical expertise.

The *OCC Program Manager* is the founder of the firm's underwater inspection program and has over 16 years of experience in inspection, evaluation, and rehabilitation of waterfront structures.

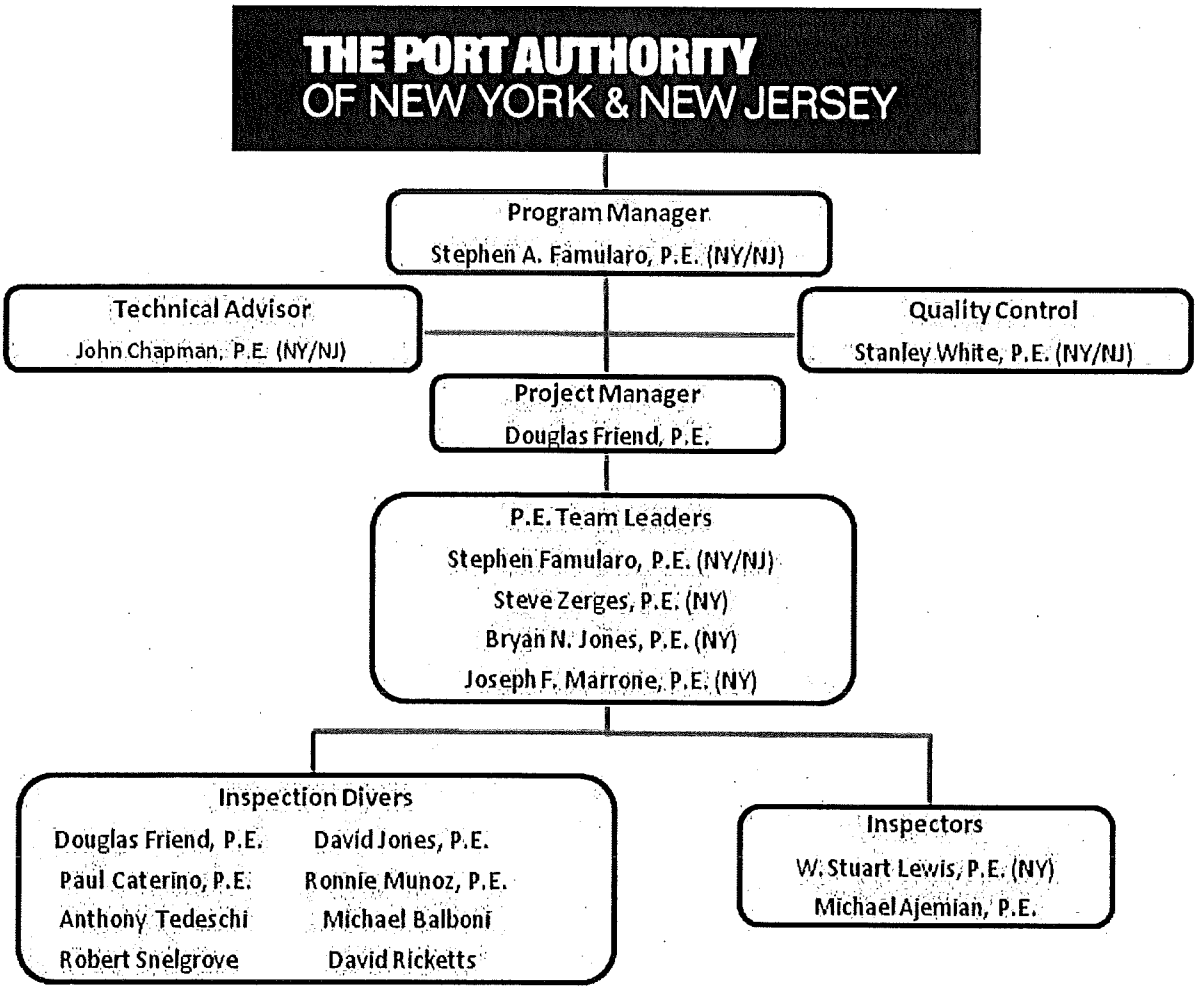
The *OCC Project Manager* has over 15 years of experience in waterfront inspection including extensive experience in the management of "Call-In" contracts for the New York Economic Development Corporation, the Hudson River Park Trust, the United States Coast Guard, and the US Army Corps of Engineers.

All members of the OCC Inspection teams are certified commercial divers registered with the Association of Diving Contractors International (ADCI) and are trained in all aspects of safety to meet OSHA regulations governing safe diving practices. This ensures that all project operations are performed in the safest manner and in accordance with applicable regulations. Additionally, members of our project staff are very familiar and capable in the use of the most up-to-date non-destructive and destructive testing equipment, including systems for the testing of remaining steel thickness, evaluation of cathodic protection (CP) systems, timber and concrete coring equipment, steel property and strength evaluation (sheet pile and reinforcing steel), and use of remote operated vehicles (ROV) in support of inspection efforts.

Our project team, selected from our staff of 23 inspection divers, exceeds all requirements for qualification for the work and specifically includes:

- Twelve Professional Engineers; with seven engineers licensed in NY and three engineers licensed in NJ
- Twelve ADCI Certified Inspector Divers
- One Certified Welding Inspector
- One NACE Corrosion Engineer
- Six HAZWOPER 40 certified inspectors
- Eleven team members with experience in sampling and testing of timber and concrete
- Four members experienced in the testing of structural steel
- Three members with experience piloting an ROV
- Six members with experience as Resident Engineers
- Three Concrete Construction Special Inspectors

Project Organization



OCEAN AND COASTAL CONSULTANTS

Stanley M. White, P.E., P.Eng, D.CE, D.PE
President and Managing Engineer
Project Role: Quality Control

Education:
Degree of Civil Engineering Coastal Engineering, MIT, 1976
M.S.C.E., Coastal Engineering, MIT, 1976
B.S.C.E., Civil Engineering, Union College, 1973

Professional Memberships:
ASCE COPRI Governing Board Past President
ASCE COPRI Ports and Harbor Committee-Past Chairman
PIANC Working Group 159 "Renewable Energy for Maritime Ports" US Rep.

Professional Registration:
Professional Engineer: NY, NJ, LA, RI, PA, MA, VA, CT, SC, NC, DE, OH, MD, NS

Capabilities Related to this Contract:
Mr. White has more than 39 years of experience in coastal and structural engineering and is an expert in the design and remediation of coastal and harbor structures. During this period, he has been actively involved in analyzing existing port facilities, such as piers, docks, bulkheads, and breakwaters, and either rehabilitating them to accommodate higher loading capacity or returning them to their original design capacity. He has extensive experience in all phases of planning, design, and construction management, and has a strong practical and theoretical background which enhances his expertise in coastal and structural engineering.

Mr. White has been active in the offshore wind industry since 2005 providing engineering services to developers and utilities. Mr. White has been responsible for the design of scour protection for monopiles in Massachusetts, the design of a metrological tower off the southern coast of Long Island, the tender design for a wind farm in Lake Erie, conceptual design for foundations related to a 700MW wind farm to be located in Lake Ontario and the planning of a 40MW demonstration project in South Carolina. Mr. White has been the principal investigator for three (3) US Department of Energy grants related to reducing the cost of offshore wind energy. Mr. White has also been the principal investigator for two (2) market studies related to port facilities supporting the offshore wind industry.

Mr. White is the Past-President of the Coast Oceans Ports River Institute of the American Society of Civil Engineers (COPRI) Governing Board and past Chairman of the ASCE/COPRI Ports and Harbors Committee. He has also published papers on breakwater design, and the analysis of docks and harbor structures using computer modeling techniques, and was a primary author of the ASCE Manual No. 101 Underwater Investigations Standard Practice Manual. He has also performed numerical modeling analysis of the effects of heated water discharge into tidal bays and other modeling associated with the impacts of waves on the shoreline.

Mr. White served on the ASCE site evaluation team sent in to investigate coastal damage to the Mississippi Gulf Coast after Hurricane Katrina.

Stanley M. White, P.E., P.Eng, D.CE, D.PE
President and Managing Engineer
Project Role: Quality Control

Experience:

- **Waterfront Redevelopment of Anthony's Pier 4, New England Development, Boston, MA** - Managing Engineer, Engineer of Record, responsible for existing condition surveys, regulatory permitting, preliminary structural design, and construction cost estimates for the phased development of approximately $15 million in waterfront improvements, which include a public water commons; 1,800 LF of steel sheet pile bulkhead, and a 12,000 SF concrete pier.
- **Nantucket Yacht Club - Marine Bulkhead & Site Drainage Improvements, Nantucket, MA.** Managing Engineer, Engineer of Record, for the replacement of a 600 LF steel sheet pile bulkhead, timber pile repairs, new boat hoist, and the installation of drainage improvements. Responsibilities included site assessment; federal, state and local permitting; civil and structural design; development of plans and specifications; and construction management.
- **Harbor Square-Waterfront Development, Ossining, NY** - Development of mixed-use residential, commercial and public access components over a 4.5 acre site. Services included: evaluation of existing coastal protection structures, site survey, design of new coastal protection structures, design of a public access fishing pier, design of a kayak launch facility, preparation of state and federal waterfront permit applications, and preparation of a grant application for shore protection improvements
- **UI Steel Point Waterfront Rehabilitation, Bridgeport, CT** - OCC performed structural inspections and provided designs for necessary repairs of the Steel Point property, located along Bridgeport Harbor, CT. This involved inspecting nearly 1600 linear feet of waterfront structures, including historical research and upland exploratory excavation to investigate existing foundations and tie back systems. OCC designed remedial repairs and developed an opinion of probable cost for these repairs. Prepared permit applications, contract documents for demolition and construction of new marine grade steel bulkhead with ground anchor supports, provided resident engineering services, and construction administration.
- **Island End River Confined Disposal Facility, Everett, MA.** Managing Engineer, Engineer of Record, responsible for the structural design and resident engineering services to construct a $40 million waterfront confined disposal facility at a former coal tar processing plant. The project included the development of plans and specifications for the structural work including site drainage improvements; construction oversight; and the review of contractor shop drawings and field change requests.

Selected Publications:

"The Use of an Innovative Mechanical Fastening Technology to Replace Failed Fixing Bolts and Extend the Useful Life of Anchored Steel Bulkheads", co-authored with Matthew S. Rousseau, Ports 2001 Conference, Norfolk, VA.

"Optimizing Pier Design by Utilizing Deck Stiffness", co-authored with Dennis V. Padron, Ports '83 Specialty Conference, Modernization, Upgrading & Repairs, New Orleans, LA, March 1983.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☐ADCI Certified Diver	☐CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

John E Chapman, P.E.
Vice President/Project Director
Project Role: Technical Director

Education:
B.S. Ocean Engineering, University of Rhode Island, 1996

Professional Memberships:
American Society of Civil Engineers (ASCE)
International Liquid Terminal Association (ILTA)

Professional Registration:
Professional Engineer: NY, NJ, CT, NC, MS, and BC

Professional Diving and Safety Certifications:
Surface Supplied Diving Operation, Florida State University, 2002
Dan O2 Oxygen Provider
CRP/AED/First Aid/Bloodborne Pathogens Training
TWIC Card

Capabilities Related to this Contract:
Mr. Chapman is a Senior Project Manager whose work experience has focused on port and harbor engineering since 1986. His expertise is in earth support systems, deep pile foundation design, solid fill and stilt pier design, dredging, and berth deepening design. He has extensive project background in regulatory issues affecting coastal projects, particularly with dredging projects in the Port of NY and NJ. His knowledge of regulatory issues concerning coastal development, especially for dredging-related topics, has resulted in a broad understanding of issues facing terminal operators.

He has been exposed to a variety of marine construction duties and responsibilities. In addition to designing structures, he has participated in construction management services for marine and pile foundation works. This allows him to take proper responsibility for design, permitting, cost estimating, purchasing, labor scheduling, and field engineering during construction of marine projects, such as dredging, piers, marinas, tide gates, bulk heading, seawalls, wharfs, and other unique waterfront structures.

As Vice President and Corporate Secretary, he also leads the company in daily management of operations, strategies, and business planning

Experience:

- **IMTT-Bayonne, Facility-Wide Maintenance Dredging, Bayonne, New Jersey.** This bulk liquid facility requires periodic maintenance dredging at approximately 18 active barge and ship berths spanning nearly two (2) miles along the Kill Van Kull waterway. To streamline the regulatory process, John managed this project which combined all berths into a single facility-wide permit. Follow-on tasks have included annual hydrographic surveys and evaluation of draft limits and subsequent solicitation of dredging services and engineering services during dredging operations.
- **Kinder Morgan Liquid Terminals Maintenance Dredging, Staten Island, New York.** The former Port Mobil facility located on the Port Socony reach of the Arthur Kill had not been dredged for nearly 18 years, and the tanker berth required approximately 100,000 cy of accumulated sediment to be characterized and authorized for placement as beneficial reuse material. John managed the dredging project from inception to completion in January 2008. Processed dredge material was placed at multiple facilities due to the time constraints which also required obtaining a 30-day extension of the dredging time of year restriction by NYSDEC.

John E. Chapman, P.E.
Vice President/Project Director
Project Role: Technical Director

- **IMTT PKC-North Cell Remediation** - As part of a state-ordered remedial action, 1.2 acres of an open water canal was remediated through a combination of perimeter containment and stabilization. John managed the project from coastal permitting to design and construction, working closely with client, regulator, and the technical team. The in-situ stabilization of 30,000 cy of impacted sediment was successfully completed in spring of 2008. The performance-based construction bidding process resulted in an economical and innovative solution to be developed for a project with numerous complicating and challenging site conditions.
- **Gordon Terminal Bulkhead Design & Permit** - Project Manager for investigation and design of repairs to an existing steel sheet pile bulkhead, approximately 380 linear feet, at an existing ship and barge berth petroleum storage facility in Bayonne, NJ.
- **Kinder Morgan Carteret Facility-Wide Asset Integrity Assessment** - Project Manager for multi-year project to assess integrity of marine structures assets at all active vessel berths. Program includes investigation, assessment, permitting, design, and construction assistance. Project will encompass rehabilitation and new structure design and construction over a 4-year period with a budget of approximately $7M. The first phase of construction will be initiated in 2011.
- **Erie Basin Pier 5 Collapse** - Expert retained by counsel for the insurance company to provide professional opinion regarding causation of a pier collapse in the Erie Basin, NY. Performed underwater investigation of pier to evaluate marine borer infestation and overall deterioration of an aging timber pier structure.
- **UI English Station Bulkhead Rehabilitation** - Rehabilitated a site owned by United Illuminating Company, which comprised approximately 2600 linear feet of deteriorated waterfront consisting of anchored steel sheet pile bulkheads, intake and discharge structures, active high voltage submarine cable crossings, and 115 kV overhead high-tension power lines making it a critical infrastructure project for electric distribution in greater New Haven. The project was completed in three (3) phases over a five (5) year period. Services included initial evaluations, investigations, permitting services, contractual development, bid assistance, bid analysis and recommendations, construction administration, etc.
- **Valero Aruba - HDS Pier Inspection** - Mr. Chapman served as Project Manager/PE-Diver for the UW inspection of this essential cargo terminal. He coordinated with Valero Refinery staff and performed above and UW structural inspections of cellular sheet pile structures, steel H-piles, concrete dolphins and the associated cathodic protection systems. He presented initial findings and debrief within 24 hours of completing the program, and lead subsequent efforts to address critical infrastructure needs.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☒New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☐ADCI Certified Diver	☐CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

Stephen A. Famularo, P.E.
Vice President/Project Director/Professional Engineer-Diver
Project Role: Program Manager/Team Leader

Education:
B.S.C.E. Civil Engineering, Manhattan College, 1995
M.S.E. Coastal Engineering, University of California at Berkeley, 1996
Surface Supplied Diving Operations, Santa Barbara City College, 1996

Professional Memberships:
American Society of Civil Engineers (ASCE)
Coast, Oceans, Ports and Rivers Institute (COPRI)

Professional Registration:
Professional Engineer: NY, NJ, CT, and CA

Professional Diving and Safety Certifications:
ADCI Surface-Supplied Air Diver No. 4291
Kirby Morgan Dive Systems, Inc.-Helmet and Band Mask Operator/User Training, 2007
CPR/AED/First Aid/Bloodborne Pathogens Training
Dan O_2 Oxygen Provider
FHWA - NHI - 130091 Underwater Bridge Inspection
OSHA 10-Hour Construction Safety
OSHA Confined Space Safety Entrant and Attendant Program (29 CFR1910.146)
TWIC Card

Capabilities Related to this Contract:
Mr. Famularo is a Project Director with over 16 years experience in waterfront development and rehabilitation projects. This experience includes underwater structural inspection, service life evaluation, resident engineering services, and developing and implementing inspection databases.

Mr. Famularo is a trained commercial diver in surface-supplied air diving. He has conducted numerous above and underwater investigations of marine facilities throughout the United States and the Caribbean. He also has extensive experience in recognizing biological, chemical and mechanical deterioration in timber, concrete and steel elements.

Mr. Famularo has prepared inspection reports for the NYC Economic Development Corporation (NYCEDC), Port Authority of New York and New Jersey, and various oil companies and transshipment terminals such as International-Matex Tank Terminals, Valero, Hess, and ExxonMobil. In preparing these reports, Mr. Famularo performs calculations of existing and future structural capacities, recommends durable and cost effective rehabilitation measures, and prepares opinions of probable cost.

Mr. Famularo is responsible for review, recommendation, and purchasing of Ocean and Coastal Consultants (OCC) inspection, testing, and diving equipment. He has developed and administers OCC's diver training program. This program provides instruction in safe diving practices and underwater inspection and assessment.

Experience:
- **Pier 17 Routine Inspection and Concrete Investigation** - Mr. Famularo was the Project Manager for the Routine Inspection of this concrete pile supported pier in Downtown New York City. He performed underwater inspection of the piles and supervised the concrete investigation of the piles caps to assess cause and severity of cracking. The concrete investigation consisted of coring (and subse-

quent mechanical testing and petrographic analysis) and half-cell potential testing to determine corrosion risk in the reinforcing steel. The measured chloride concentrations were used to assess the apparent chloride diffusion rates and estimate time to initiation of widespread corrosion damage.

- **NYCEDC Waterfront Facilities Database** - Mr. Famularo developed a Waterfront Facilities Maintenance Management System for the NYCEDC and co-authored the accompanying manual entitled "Inspection Guidelines Manual." Mr. Famularo subsequently managed the field GPS mapping of over 135 miles of NYC-owned waterfront properties and developed the accompanying desktop GIS application which recalls management responsibility, structure type, and site photographs.

- **Brooklyn Cruise Terminal - Pier 12 Investigation and Rehabilitation** - Mr. Famularo was the Project Manager for the Routine Inspection and rehabilitation design of Pier 12 in Brooklyn, New York. Mr. Famularo was an active participant in the above and underwater investigation, permit preparation, structural analysis & design, cost estimates, and preparation of the competitive bid contract documentation which included drawings and specifications. The project consisted of $3Million in repairs to the piles and deck.

- **Manhattan Cruise Terminal - Pier 92 Inspection and Rehabilitation** - Mr. Famularo was the Project Manager for the Routine Inspection and rehabilitation design of Pier 92 in New York City. Mr. Famularo was an active participant in the above and underwater investigation, permit preparation, structural analysis & design, cost estimates, and preparation of the competitive bid contract documentation which included drawings and specifications. The project consisted of $8Million in repairs to the piles, deck, and fender system.

- **Piers 13 and 14 Rehabilitation and Demolition** - Mr. Famularo was the Project Manager and Dive Team Leader for the demolition of the piers and rehabilitation of the associated inshore platforms. Mr. Famularo was an active participant in the above and underwater investigation, permit preparation, structural analysis & design, cost estimates, and preparation of the competitive bid contract documentation which included drawings and specifications. In addition, Mr. Famularo provided investigation and resident engineering services during the rehabilitation phase of the project as dive team leader and PE-Diver.

Selected Publications:

"Marine Construction Cost Estimating – Thinking Like a Contractor," co-authored with Scott R. Anastasio, P.E., Ports Conference, San Diego, CA, 2007.

"Development of a Diver Training Program for Engineer-Divers Conducting Underwater Investigations," Ports Conf., Houston, TX, 2004.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☒New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Inspector Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

Douglas E. Friend, P.E.
Chief Project Manager/Professional Engineer-Diver
Project Role: Project Manager/Inspection Diver

Education:
M.Sc. Civil Engineering, Columbia University New York, 2005
B.S.C.E. Civil Engineering, Manhattan College, 1994

Professional Memberships:
American Society of Civil Engineers (ASCE)

Professional Registration:
Professional Engineer: MA

Professional Diving and Safety Certifications:
ADCI Surface Supplied Air Diver
American Red Cross, Adult CPR, First Aid and AED Certified
DAN Oxygen Provider
Federal Highways Admin/National Highways Institute, Safety Inspection of In-Service Bridges, 2006

Capabilities Related To This Contract:
Douglas Friend has more than 15 years of experience in inspection, evaluation, analysis and construction supervision of marine and waterfront facilities. His project experience includes piers, offshore platforms, bulkheads, wharves, bridges, dams, and marine terminals. Doug's specific areas of competence are condition structural evaluation, construction supervision and inspection, rehabilitation design, and analysis of marine structures.

Prior to joining OCC, Mr Friend Doug served as the Team Leader and project manager for "Call-in" contracts for inspection and design services for the NYC Economic Development Corporation (NYCEDC), the Hudson River Park Trust, US Coast Guard, and the US Army Corps of Engineers.

Experience:

- **Forensic Investigation, Lincroft, NJ** - Project Engineer and Project Manager for the underwater forensic investigation of a collapsed timber pile supported bridge. Oversaw all aspects of invesitation, analysis, and preparation of comprehensive report detailing inspection findings and probable modes of collapse.

- **NYCEDC, On-Call Marine Engineering Services, New York, NY** - Project manager and team leader responsible for providing comprehensive "on-call" marine engineering services for waterfront sites in all five boroughs of New York City. The services provided include above and underwater inspections, condition evaluations, recommendations for maintenance, preparation of designs, drawings and specifications for rehabilitation, cost estimating, and inspection and support of construction.

- **NYCEDC, Beach Channel Drive Emergency Bulkhead Repairs, Queens, NY** - Project Manager of the design and construction supervision services for the emergency rehabilitation of the Beach Channel Drive bulkhead performed for Turner Construction on behalf of the NYCEDC and the New York City DOT. The emergency action was required to stabilize 300 ft of bulkhead along a portion of Beach Channel Drive between Beach 130th to Beach 143rd Streets. The repair works comprised the installation of steel sheet piles for stabilization of the existing bulkheads along collapsed and undermined portions of the Beach Channel Drive roadway, restoration of compromised sections of the roadway and adjacent walkway, and installation of a sacrificial cathodic protection system.

Douglas E. Friend, P.E.
Chief Project Manager/Professional Engineer-Diver
Project Role: Project Manager/Inspection Diver

- **Hudson River Park Trust, On-Call Hudson River Waterfront Inspection Contract, New York, NY** - Project manager and team leader for On-Call Waterfront Inspection Contract with HRPT. Tasks under this contract include cyclical inspection of piers, wharves, bulkheads, and pile fields within Hudson River Park on Manhattan's West Side.

- **Hudson River Park Trust, Peer Review and Inspection Piers 59, 60, & 61, New York, NY** - Project manager for the peer underwater and above water inspection of a sampling of timber pile substructure of Piers 59, 60, and 61 at Chelsea Piers. The inspection included over 1,000 timber piles supporting the timber piers along the Hudson River waterfront. A report summarizing the findings of "spot-check" above water and underwater inspections was provided, including summary of observed conditions and comparison with findings reported by consultants and contractors who had previously inspected portions of the facility. Conclusions included summary of quality of currently available data and recommendations for further investigation and rehabilitation.

- **US Coast Guard-Civil Engineering Unit, Marine Engineering "On-Call" Services, Providence, RI** - Project manager/lead engineer diver for the provision of "on-call" marine engineering services including underwater inspections, condition assessments, and design services for the First US Coast Guard District. The facilities investigated under this contract vary by type and construction and have included timber, steel, and concrete structures. The contract has included the performance of design and conceptual design for waterfront structures and facilities.

- **US Coast Guard-Civil Engineering Unit, Facility Inspections US Coast Guard Station New York, NY** - Project engineer for the underwater and above water inspection of the USCG Station New York facility. The inspection included approximately 500 LF of granite block seawall, 600 LF of steel pipe pile supported timber wave screen, and an existing concrete pile supported pier. A comprehensive report on the above water and underwater inspections was provided, this included observed conditions, structural condition assessments, repair recommendations, and cost estimates for repairs for each structure inspected.

- **Con Edison, Hudson Avenue Station Fuel Dock, Brooklyn, NY** - Project manager and Team Leader for the underwater inspection and evaluation at the Hudson Avenue Station. Project included inspection and destructive testing the timber-pile-supported fuel unloading dock. The evaluation included a structural analysis for existing live load carrying capacity, an estimate for the remaining life of the dock, and repair recommendations with alternatives and associated cost estimates.

- **US Army Corps of Engineers, Military Academy, Waterfront Facilities Inspection, West Point, NY** - Project manager and Team Leader performed inspection for the URS Corporation on behalf of the US Army Corps of Engineers. The scope of inspection services included a design level condition assessment and asset inventory of underwater and above water assets including an adjacent to North Dock and South Dock.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Stephen Zerges, P.E., C.B.I., C.W.I.
Associate Project Manager/Professional Engineer-Diver
Project Role: Team Leader

Education:
B.S. Civil Engineering, Colorado State University, 2001
Coastal Engineering Graduate Certificate, Old Dominion University, 2009
Underwater Bridge Inspection Technician, NHI, 2002 and 2009
Commercial Surface Supplied Diving Technician, Florida State University, 2002
Arctic Engineering, University of Alaska, 2010
Stream Stability & Scour at Highway Bridges for Bridge Inspectors, NHI/USACE

Professional Registration:
Professional Engineer: NY, CO, AK, WA, HI

Professional Diving and Safety Certifications:
Air Diver Certification #8154/2003/ADCI
Air Diving Supervisor #10863/2004/ADCI
Captain License #1092115
OSHA 10-Hr Construction
OSHA 30-Hr Construction
Bridge In-Service Safety Inspector/2010/NHI
Certified Corrosion Technician/2002/NACE
Certified Weld Inspector #2017613/2011/AWS
Red Cross First Aid, CPR & Bloodborne Pathogens
DAN Oxygen First Aid for Scuba Diving Injuries
Confined Space Entry & Rope Access Techniques

Capabilities Related to this Contract:
Mr. Zerges is a professional engineer-diver, certified bridge inspector, and certified weld inspector with over ten years experience in civil and waterfront engineering projects. He has performed above water and underwater inspections of timber, steel and concrete structures throughout the United States, as well as structural design and rehabilitation of bridges, piers, and bulkheads. In addition, Mr. Zerges has experience composing condition reports and recommending design repairs for inspected facilities; inspecting marine facilities for corrosion and designing cathodic protection systems; leading marine field teams as a licensed Captain and certified diving supervisor; and conducted logistical planning for remote field operations.

Mr. Zerges' experience is not limited to structural engineering. He has a graduate certificate in coastal engineering and has performed coastal wave and tidal bridge scour modeling; analysis and design of bridge scour and protective measures; urban storm water and sanitary sewer design including field study and instrumentation design, installation and monitoring; and, bridge scour and stream stability field analysis. Mr. Zerges is also a co-author for federal culvert assessment and rehabilitation guidelines.

Experience:
- **Governors Island Passenger Ferry Terminal Study** - OCC provided planning and preliminary design assistance for the installation of passenger ferry landings on the east side of the Island. After the preliminary layout was determined, OCC prepared detailed contract documents, determined the operational and environmental loads for the spud pile mooring system, and designed the berthing areas for access by multiple ferry operators.

Stephen Zerges, P.E., C.B.I., C.W.I.
Associate Project Manager/Professional Engineer-Diver
Project Role: Team Leader

- **NYC EDC - Brooklyn Army Terminal Pier 1 -** OCC was retained to inspect a deteriorated timber pile supported concrete pier, timber bulkhead, revetment and timber crib wall in order to develop a plan for the rehabilitation of approximately 1,500 lf of waterfront in Bay Ridge, Brooklyn. Subsequent tasks involved the design of a replacement pier, a new steel sheet pile bulkhead, new revetment, obtaining permits for the emergency and permanent work and resident engineering services during emergency stabilization repairs. Mr. Zerges performed underwater investigations.
- **NYC EDC Waterfront Facility Mapping -** OCC was responsible for the development of a comprehensive GIS map that illustrated ownership and maintenance responsibilities for EDC managed properties along the New York City Waterfront. Mr. Zerges performed GIS mapping, site investigations and field work.
- **NYCDOT FDR Blvd Pre-construction Underwater Inspection -** OCC was the selected to provide an underwater investigation of 6,200 meters of relieving platform in the East and Harlem Rivers. The areas chosen for this inspection support FDR Drive. OCC selected specific repairs to address deteriorated piles and other defects. Timber cores were taken from a number of piles for species identification and chemical retention. Mr. Zerges conducted 20 days of underwater inspection, with 1-2 days per day in various locations along FDR Blvd, data compilation, and reporting.
- **NYCDOT FDR Blvd Pre-construction Underwater Inspection -** Performed over 20 days of diving at relieving platforms of the FDR drive to assist in reviewing anticipated repairs to timber piles. Previously unidentified concrete structures were investigated at a level to provide as–built details. Timber cores were taken from a number of piles for species identification and chemical retention.
- **NYCEDC Waterfront Inspections -** Conducted underwater investigations, prepared reports and assisted in rehab for five EDC managed facilities in Manhattan and Brooklyn. The scope included Level III effort consisting of voltage potential and ultrasonic thickness readings on steel piles, and timber coring on timber piles to determine preservative creosote retention and the active presence of marine borers.
- **Water Taxi Passenger Ferry Landings -** OCC provided NY Water Taxi with marine engineering services at two high profile sites in downtown NYC – South Street Seaport and Battery Park. At South Street Seaport, OCC provided design and resident engineering services for the installation of a new ferry landing. At the Battery Park site, OCC utilized our coastal and geotechnical experience to design a system for mooring a landing at Slip 6. OCC designed a mooring system that allows removal of the landing when ice flows are significant. Mr. Zerges performed site investigations and ferry berthing facility designs.
- **NYCEDC - Piers 13/14 Repairs -** Performed underwater investigation and resident engineering inspections for rehabilitation of the inshore platforms at Piers 13 & 14 in order to review contractor's work for conformance to contract specifications.

Experience Relevant to PANYNJ	
☒New York P.E .License	☒Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Bryan N. Jones, P.E.
Deputy Project Director/Professional Engineer-Diver
Project Role: Team Leader

Education:
M.B.A. Auburn University, 2002
M.S. Coastal Engineering, Old Dominion University, 1996
B.S. Mechanical Engineering, Virginia Polytechnic Institute & State University, 1991

Professional Memberships:
American Society of Civil Engineers (ASCE) Standards Committee Chair - Engineer-Diver Training
Coast, Oceans, Ports and Rivers Institute (COPRI)

Professional Registration:
Professional Engineer: NY, MA, RI, PA, VA, SC

Professional Diving and Safety Certifications:
OSHA Confined Space Entrant, Attendant, Supervisor (29 CFR 1910.146)
OSHA 10-Hour Construction Training
OSHA HAZWOPR 40-Hour Training (29CFR1910.120)
Surface Supplied Diving Training/1999/Inland Commercial Diver Training Center, Inc., Brainerd, MN
FHWA-NHI-130091 Underwater Bridge Inspection
FHWA-NHI-130055 Safety Inspection of In-Service Bridges
Kirby Morgan Dive Systems, Inc. - Helmet and Bandmask Operator, User Training, 2010
ADC Surface Supplied Air Diver # 17609ACSM-Certified Hydrographer #215
Dan O2 Oxygen Provider
Dan O2 Advanced Oxygen Provider
Dan O2 On-Site Neurological Assessment Provider
CPR/AED/First Aid/Bloodborne Pathogens Training

Capabilities Related to this Contract:
Mr. Jones is a chief project manager with expertise in the assessment, design and permitting of marine structures and shoreline protection works. He has repaired and rehabilitated waterfront structures, performed and lead underwater investigations, procured regulatory permits, provided waterfront construction support, and managed hydrographic surveys.

In addition to the analysis and design of new projects, Mr. Jones develops engineering plans, technical specifications, and construction cost estimates for waterfront repair or rehabilitation projects. Representative projects include docks, piers, bulkheads, seawalls, revetments, groins, and other coastal structures. After design phases, Mr. Jones often serves as the Owner's representative during bids, contractual development, and construction. Duties and responsibilities include contractor coordination, monitoring contractor work, troubleshooting construction issues on-site, and review of contractor's shop drawings, invoices and submittals.

Mr. Jones is also an ACSM-Certified Hydrographer. He directs numerous hydrographic surveys for a range of projects which require dredging support, condition surveys, underwater obstruction surveys, coastal engineering studies, and scour analysis.

Mr. Jones is an ADCI-Certified Commercial Surface Supplied Air Diver and has performed underwater engineering investigations since 1996. As a PE-Diver, Mr. Jones performs non-destructive tests and uses underwater cameras for documentation. He leads investigations on a variety of marine structures at sites

such as waterfront facilities for transshipment terminals, municipal bulkheads and piers, bridges, and other private industrial and commercial facilities. In addition, he serves as Committee Chair for developing diver training standards for underwater investigations.

Experience:

- **EDC 2010 Waterfront Inspections at Pier 17 and Fulton Fish Market (New York, NY)** - Performed routine investigations of NYCEDC owned waterfront structures in accordance with NYCEDC Inspection Guidelines Manual.
- **New England Development Pier 4 (South Boston, MA)** - Project Manager and Engineer-of-Record for more than $4 million in waterfront structural improvements for the re-development of a historic solid-filled pier into three parcels including an office building, hotel and waterfront residences. The scope of services included structural assessment, design of repairs, regulatory permitting and value engineering/cost estimation services to restore 1800 LF of granite quay wall, including a 120 LF floating public "Water Commons" dock for water taxi and public touch and go mooring, as well as nearly 900 LF of pile-supported platforms to support a harbor walk along the waterfront.
- **Island End River - Confined Disposal Facility (Everett, MA)** - Project Manager for the structural design, underwater investigations, and resident engineering services during construction of a $50 million waterfront confined disposal facility at a former coal-tar processing plant. This 900 LF facility was filled with more than 10,000 cubic yards of amended and stabilized contaminated sediments dredged from the adjacent waterway, and capped with a 1,200 PSF capacity concrete deck.
- **Green Hill Seawall Rehabilitation (Hull, MA)** - Coastal engineering analysis, design, regulatory permitting, preparation of plans and specifications, and construction administration for the replacement of a 900 LF severely damaged 1940's era concrete seawall with a sloping stone revetment. The design included stabilization of the eroding coastal bank above the revetment with a geo-cellular confinement system. New public access stairs were also installed.
- **Patton Property Shoreline Protection (Nantucket, MA)** - Designed, permitted, and provided technical support for constructing a shoreline protection structure. Services included a site investigation utilizing historical data and existing conditions to determine engineering alternatives permissible under local, state, and federal environmental laws. Recommended designs consisted of buried gabion mattress systems to protect the toe of the bank and vegetated dunes to cover the gabions.
- **Hamblin Pond Access Rehabilitation (Mashpee, MA)** - Provided designs and permits for rehabilitating a public access point to Hamblin Pond. Designs consisted of a terraced structure of precast concrete blocks.
- **Valero Aruba Refinery, HDS Pier Investigation (Sint Nicholaas, Aruba)** - Emergency above and below water inspection of mooring and breasting dolphins, access trestles, and a failed steel sheet pile bulkhead at a general cargo pier. Work included extensive NDT testing of concrete and steel.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Tech	☐Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Joseph F. Marrone, P.E.
Vice President/Project Director/Professional Engineer-Diver
Project Role: Team Leader

Education:
M.S. Ocean Engineering, University of New Hampshire, 1990
B.S. Naval Architecture and Marine Engineering, Webb Institute of Naval Architecture, 1987

Professional Memberships:
American Society of Civil Engineers (ASCE)
Society of Naval Architects and Marine Engineers (SNAME)

Professional Registration:
Professional Engineer: NY, CT, ME, ME, RI, SC, GA, and AL

Professional Diving and Safety Certifications:
OSHA Confined Space Safety Entrant, Attendant & Supervisor (29 CFR1910.146)
ADCI Surface Supplied Diver No. 4366
Dan O_2 Oxygen Provider
CPR/AED/First Aid/Bloodborne Pathogens Training
TWIC Card

Capabilities Related To This Contract:
Mr. Marrone is a Project Director with over 22 years experience in the planning and design of waterfront facilities and coastal engineering. Throughout his career, he has specialized in the design of unique waterfront structures in challenging marine environment. He has also taught a graduate level course in Coastal Engineering at the University of New Hampshire.

He has been responsible for all aspects of the planning, evaluation and design of industrial, commercial and military waterfront structures, such as conceptual design studies, structural evaluations, final design plans and specifications, cost estimates, and construction administration for a wide variety of waterfront structures. Specific design experience includes industrial piers, ferry terminals, mooring dolphins, wharves, quaywalls, bulkheads, bulk cargo terminals and fender systems. He is familiar with several coastal engineering software packages, including ACES, CHAMP, TABS-2 and the Surface Water Modeling System (SMS).

Mr. Marrone is also a Commercial Certified Diver with over 25 years of dive experience. He has been responsible for numerous underwater inspections for the US Navy, US Coast Guard, municipal and industrial clients. He has helped develop dive inspection programs in order to assist clients with determining existing structural conditions as well as programming future maintenance requirements. Inspections have included wharves, piers, offshore platforms, pipe lines, potable water tanks, mooring systems, and bridges. Mr. Marrone is experienced in underwater inspection techniques including ultrasonic testing, coring and photography. He is familiar with the unique deterioration mechanisms found in the marine environment including corrosion, marine borers and ASR/DEF (in concrete). Results of the inspections were typically summarized into reports and databases including structural evaluations, useful life assessments and cost estimates for repairs.

Mr. Marrone has managed and designed database applications for engineering projects. He assisted with the database design for the IMTT Bayonne, NJ Waterfront Facility Database. He has implemented waterfront inspection databases including one for Pier 4, USCG TRACEN Cape May, NJ.

Joseph F. Marrone, P.E.
Vice President/Project Director/Professional Engineer-Diver
Project Role: Team Leader

Experience:

- **USCG Group Moriches, Long Island, NY** - Managed the design program to rehabilitate the waterfront structures. Project included replacement of approx. 360 LF of deteriorated timber bulkhead with a new composite sheet pile bulkhead (270 LF) and new steel sheet pile bulkhead (90 LF).
- **USCG Battery Building, Manhattan, NY** - Waterfront repair, including the design of a new steel sheet pile bulkhead with dredging & rehabilitation of an existing pier to accommodate USCG frigates.
- **EDC Piers 13/14, NYC** - Repairs to protect Piers 13 and 14 using flexible pile wraps and concrete encasements. As a result of poor material quality and installation, the tenacious marine borers in New York Harbor continued to eat away at the timber piles.
- **USCG CEU PROVIDENCE IDIQ Experience, Region 1** - Project Manager and Professional Engineer-Diver on multiple IDIQ contracts since 1996. Responsible for over 30 underwater investigations, structural assessments, structural analyses, load ratings and reports.
- **USCG TRACEN Cape May, NJ** - Project Manager and Professional Engineer-Diver for marine engineering services including above and underwater inspection and structural analysis at TRACEN Cape May since 2006. Pier 3 and 4 are 800 foot long timber piers supported by 600 timber piles.
- **Marine Transfer Station Conversion Project, NYC, New York** - Project Manager and PE Diver for the underwater investigation and wave environment monitoring/modeling at eight (8) of the Department of Sanitation Marine Transfer Station (MTS) sites. Currently managing the evaluation, design of repairs and permitting for the West 59th Street MTS, Manhattan, NY.
- **Magellan Terminal Holdings, L.P. Waterfront Inspection Program, CT, TX, LA** - Project Manager for the underwater investigation, structural assessment and mooring analysis for three (3) waterfront terminals. Terminals are located in New Haven, CT; Galena Park, TX and Marrero, LA. Inspected facilities include piers, bulkheads, dolphins, trestles, floating barges, and access ramps.
- **Sprague Energy Corp. Waterfront Inspection Program, New York/New England** - Project Manager and PE Diver for waterfront engineering services including underwater inspections at Sprague Terminals. Engineering services have included field investigations, underwater inspections, construction review, structural analyses, plans and specifications for repairs, documentation of findings and report preparation, report review, cost estimating, bid analysis, post construction award services and resident engineer/observation of work in progress (Title II inspection) for waterfront facility repairs. Inspection and design services have included piers, wharves, bulkheads, quaywalls, seawalls, sheet pile cells, walkways, dolphins, and moorings. Specific assignments include above and underwater inspections with PE divers at seven (7) terminal facilities, including underwater structural condition assessments, non-destructive and destructive testing, testing and evaluation of materials, cathodic protection system evaluation, vessel structure analysis and inspection reports in electronic format.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Paul M. Caterino, P.E.
Senior Project Engineer/Professional Engineer-Diver
Project Role: Inspection Diver

Education:
B.S. Civil Engineering, Michigan State, 1998

Professional Registration:
Professional Engineer: MI

Professional Diving and Safety Certifications:
ADCI/DCBC Commercial Diver/Tender Course/2012/Minnesota Commercial Diver Training Center, Inc.
NSPS Survey Technician Level II
OSHA 10 Hour Construction
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.146)
Kirby Morgan Dive Systems, Inc. - Helmet and Band Mask Operator/User Training, 2012
CPR/AED/First Aid/Oxygen
Underwater Bridge Inspection (NHI 130091)
NHI 80 hour Bridge Course, 2005

Capabilities Related to this Contract:
Mr. Caterino is a project engineer-diver with extensive experience in waterfront structure inspection projects. This experience includes the investigation of piers, bulkheads, wharves, bridges, and dams.

Mr. Caterino is a trained commercial diver in surface-supplied air diving certified by the Association of Diving Contractors International (ADCI) and the Diver Certification Board of Canada (DCBC). He has conducted numerous above and underwater investigations of marine facilities throughout the United States, including the Pacific, Gulf, and West Coasts as well as numerous inland waterways.

Experience:
- **Forensic Investigation of Swimming River Reservoir Pipe Bridge, Lincroft, NJ** - Assisted with above and below water forensic investigation of a collapsed timber pile supported water pipe bridge. Preparation of a report detailing inspection findings and probable modes of collapse.

- **Inspection of the Pier and Bulkhead at 212 Wolcott Street, Brooklyn, NY** - Assisted with the detailed underwater and above water inspection of a timber pier. Work included the underwater inspection of a steel/timber bulkhead, timber piles, and the concrete deck. Preparation of a report detailing inspection findings, recommended repairs, and cost estimates.

- **Brooklyn Navy Yard Waterfront Rehabilitation, Brooklyn, NY** - Engineer-Diver for underwater investigation of the barge basin and dry dock facilities. Preparation of an inspection report on findings.

- **National Park Service, San Francisco Maritime Historical Park, CA-** Performed for the National Park Service, the scope of services included a routine level investigation of a 700 foot timber pier and appurtenances, concrete/stone seawall and large boat moorings. Deliverables included a full investigation report detailing observations, recommendations for rehabilitation and cost estimates.

- **US Naval Base, Norfolk, VA** Performed for the US Navy, the scope of inspection services consisted of over 30 waterfront structures, including piers, seawalls, and mooring hardware. The scope of services included deck soundings, evaluation of mooring hardware, inspection of pilings and seawalls.

Paul M. Caterino, P.E.
Senior Project Engineer/Professional Engineer-Diver
Project Role: Inspection Diver

- **South Florida Water Management District, FL** Performed underwater inspections and underwater videography on water control structures, including flood control gates, spillways, weirs and pump stations.
- **United States Coast Guard, Gulf Coast, LA, AL, FL, MS** - Performed for the US Coast Guard, the scope of services included above and below water inspections of all waterfront facilities at each of the nine Coast Guard Stations. Subsequent to the inspection, additional services included assessment of deteriorated assets, reports containing observed conditions, rehabilitation recommendations, and cost estimates.
- **United States Coast Guard, West Coast, MI** - Performed for the US Coast Guard, the scope of services included above and below water inspections of all waterfront facilities at each of the 8 Coast Guard Stations. Subsequent to the inspection, additional services included assessment of deteriorated assets, reports containing observed conditions, rehabilitation recommendations, and cost estimates.
- **Inspection of the Mackinac Bridge, MI** – Performed for the Mackinac Bridge Authority. Scope of work included underwater inspection and videography of 31 steel encased concrete piers of a 5 mile long suspension bridge between the upper and lower peninsulas of Michigan. Dives ranged from 20 to 140 feet.
- **City of Saginaw, MI** – Performed level I and II underwater bridge inspections of 5 bridges over the Saginaw River. Bridges were of varied construction including timber, concrete and steel elements. Reports were provided detailing deficiencies and recommended repairs.
- **ODOT District 7, OH** - Performed underwater bridge inspection services on 9 bridges in multiple counties within the Ohio Department of Transportation's District 7. Reports were provided detailing deficiencies and recommend repairs.
- **Michigan Department of Transportation Southwest Region, MI** - Performed underwater bridge inspection services on 23 bridges and detailed reports were prepared detailing deficiencies and recommended courses of action.
- **Indiana Department of Transportation, IN** - Performed underwater bridge inspection services on 12 bridges and detailed reports were prepared detailing deficiencies and recommended courses of action.
- **Southwest and Central Lower MI** – Performed above water bridge inspections for the cities of Coldwater, Paw Paw, Portage, Watervliet, South Haven and Kalamazoo County. Reports were prepared detailing deficiencies, and recommended repairs.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☐Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

David A. Jones, P.E.
Professional Engineer-Diver
Project Role: Inspection Diver

Education:
B.S. Civil Engineering, Lehigh University, 2007

Professional Registration:
Professional Engineer: CA

Professional Diving and Safety Certifications:
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.146)
OSHA 10-Hour Construction Training
Surface Supplied Dive Training/2010/Divesafe International, British Columbia, Canada
Kirby Morgan Dive Systems Inc. Helmet/Bandmask Operator/User Certification
ADCI Surface Supplied Diver No. 40390
DCBC Restricted Surface Supplied Diver No. 20100126
DAN O_2 Oxygen Provider
CPR/AED/Red Cross First Aid/Bloodborne Pathogens Training
ACI Concrete Field Testing Technician
ACI Concrete Construction Special Inspector

Capabilities Related to this Contract:
Mr. Jones is an Engineer-Diver with theoretical and practical experience in the inspection, design, and permitting of waterfront structures. Previous experience includes storm water and wastewater management, residential property design, and land surveying.

Mr. Jones is an Advanced PADI certified SCUBA diver, and has earned a DCBC certification in restricted surface supplied diving. This certification is internationally recognized and allows him to perform any approved diving operation to a depth of 30 meters. Earning this certification confirms he has met competency levels of CSA Standards Z275.4-02 and Z275.5-05.

Currently, Mr. Jones designs repairs and rehabilitation plans for various waterfront structures and provides residential engineering services for waterfront projects.

Experience:
- **United States Coast Guard (USCG)** - Performed above water and underwater inspections of USCG Cape May Pier 3, Staten Island, Fire Island, and SARDET Fishers Island facilities. Mr. Jones assisted with preparing inspection reports, performing structural condition assessments, recommendations, and cost estimates for future repairs.
- **Pier 16 Substructure Rehabilitation** - Performed above water inspection of Pier 16 in NYC. Assisted in the development of permitting and contract documents for rehabilitation.
- **Pier 6 Heliport Substructure Rehab** - Performed site inspection of the pier and floating barge at Pier 6 in New York City. Assisted in the preparation of specifications and bid drawings.
- **Pier 11 Substructure and Seawall Rehab** - Performed a concrete investigation which included underwater extraction of concrete samples from prestressed concrete piles. Assisted in the preparation of specifications and bid drawings for the rehabilitation of the substructure and seawall at Pier 11 in lower Manhattan.

David A. Jones, P.E.
Professional Engineer-Diver
Project Role: Inspection Diver

- **Pier 16 Concrete Investigation** - Extracted concrete core samples from the pile caps throughout the structure as a part of a concrete investigation.
- **Pier 94 Resident Engineering Services** - Provided resident engineering services for rehabilitating Pier 94 in Manhattan, New York. Above water and underwater inspections were performed at the site. Inspection data aided with contract drawings, specifications, and local and state permits.
- **Piers 35 & 36 on the East River** - Performed above water and underwater inspections in support of the Piers 35 and 36 construction services.
- **Local Law 68/Ferry Landings** - Evaluation of ten (10) ferry landings. Developed a maintenance manual for Pier 11 and East 34th street ferry landings
- **Global Terminal - Phase I Encasement RE** - Provided resident engineering services for rehabilitation of Global Terminal marginal wharf.
- **TAMUG Marine Pier Investigation (Galveston, TX)** - Routine underwater investigation of concrete piles for Texas A&M University at Galveston as a subcontractor to Ben C. Gerwick, Inc.
- **Toy-R-Us Routine Underwater Inspection** - Routine underwater investigation of concrete and steel piles for the Toys-R-Us Caesar's Bay Facility. Mr. Jones assisted in preparing inspection reports, performing structural condition assessments, recommendations, and cost estimates for future repairs.
- **Hudson NJ Outfall Inspection** - Performed above water and underwater inspection of steel pile supported structure in compliance with contract documents. Mr. Jones assisted in preparing letter report and recommendations for future repairs.
- **HM 216th Street Waterfront Infrastructure Upgrade** - Prepared specifications and bid documents for the installations of a riprap revetment and stainless steel sheet pile wall.
- **UI Grand Ave Sub Station Bulkhead 2010** - Performed a routine inspection of 640 ft of a steel sheet pile bulkhead on the West Branch of the Mill River in New Haven, Connecticut. Non-Destructive testing techniques were utilized to determine structural condition assessment.
- **Tarrytown Marina Inspection** - Performed an above-water inspection of marina components and shoreline structures, including electrical, mechanical, plumbing and fire protection systems. Provided a condition report with immediate, short and long-term maintenance recommendations.
- **Center Point Terminal Newark** - Provided resident engineering services during the construction of a high level concrete pier. Services included documentation of concrete pours and pile driving operations.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☒Concrete Field Testing Technician	☐Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Michael P. Ajemian, P.E.
Associate Project Manager/Professional Engineer-Diver
Project Role: Above Water Inspection

Education:
B.S. Ocean Engineering, University of Rhode Island, 2003

Professional Registration:
Professional Engineer: CT

Professional Diving and Safety Certifications:
U.S. Merchant Marine Officer – USCG Captain of Uninspected Passenger Vessels
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.146)
OSHA 10-hr Construction Training
OSHA 30-hr Construction Certification
Surface Supplied Diving Operation/2004/ Florida State University
FHWA - NHI - 130091 Underwater Bridge Inspection
Dan O2 Oxygen Provider
Dan O2 Advanced Oxygen Provider
Dan O2 On-Site Neurological Assessment Provider
CPR/AED/First Aid/Bloodborne Pathogens Training

Capabilities Related To This Contract:
Mr. Ajemian is an inspector with extensive experience in waterfront projects involving structure investigations, contract document preparation, marine construction, resident engineering services, and permitting. His experience and marine related duties include underwater and above water investigations, rehabilitation design, project specifications, construction administration, topographic surveying, regulatory compliance, Geographic Information Systems (GIS) and Remote Operated Vehicle (ROV) investigations. Mr. Ajemian has become a U.S. Merchant Marine Officer and Kirby Morgan Dive Systems Maintenance and Repair Technician.

Mr. Ajemian's inspection experience includes investigation of existing conditions, report writing, repair design and specifications, and repair cost estimates.

Experience:
- **IDIQ for Underwater Inspections & Marine Engineering Services USCG First District** - Engineer Diver for the underwater inspection of 6 USCG waterfront facilities. Completed 50 pecent of the dive inspections, prepared the detailed inspection reports. Inspections included NDT and DT, engineering analysis of existing conditions, and structural condition assessments.
- **Sprague Energy Corporation Portland, ME, Quincy, MA, Providence, RI** - Lead Project Engineer-Diver responsible for dive safety plans, field investigations, and above/underwater inspections. Performed underwater structural condition assessments, cathodic protection evaluation of steel structure, documented findings, an existing condition report and engineering analysis of the piers, wharves, bulkheads and mooring dolphins. Responsible for the design of waterfront repairs, including plans and specifications, as well as cost estimates for repairs to the facilities.
- **Global Container and Terminal Services, Inc., Jersey City, New Jersey** - Assisted with an underwater investigation of deterioration in concrete piles supporting a container wharf. Responsible for destructive testing of piles by taking core samples using underwater pneumatic drill. Assisted in testing and evaluation of the structural material samples obtained and the documentation and analysis of find-

ings. Responsible for 100 percent Design Level Investigation of the wharf for development of a Wharf Maintenance Program. Developed contract drawings and project specifications for 3-year Wharf Maintenance Program. Mr. Ajemian was also responsible for the resident engineering services including bid assistance, observation of work in progress, payment application review and progress meetings.

- **Piers 35 / 36 Rehabilitation Project New York, NY** - Project engineer diver for the design level investigation to confirm existing conditions and develop contract drawings and project specifications for the replacement and rehabilitation of the structures at Piers 35 and 36. The investigation included above and underwater inspections with confined space entry. Due to intricate site ownership and facility use, the project included coordination with sanitation, transportation, city architect and environmental protection agencies within New York City.
- **EDC Waterfront Inspection-Pier 17, East River, New York, NY** - Served as Project Engineer-Diver for this above water and underwater investigation. Prepared a routine inspection report which included executive summary, description of structures inspected, observed conditions, structural condition assessment, recommended maintenance plan and associated opinion of probable costs (OPC).
- **USCG (United States Coast Guard) Ambrose Light Damage Investigations** - Project Engineer-Diver for the above water and UW investigation of the Light Tower located 8.5 nautical miles offshore of the entrance to Lower New York Bay. He prepared a damage assessment letter report which included executive summary, description of facility, observed conditions, structural condition assessment, recommended short term and long term stabilization measures and associated opinion of probable costs (OPC).
- **Governors Island Seawall and Piers** - Evaluated existing conditions which included above and underwater investigations of the main waterfront structures. Primary objectives of the investigation was to assess the structural condition of the two mile long seawall surrounding the Island, as well as the three ship piers on the east side to provide preliminary cost estimates for future repairs and maintenance. OCC identified three (3) sections of wall of immediate concern, and subsequently supplied designs for immediate repairs.
- **NYCEDC Pier 42, East River, Manhattan, NY, Substructure Rehabilitation** - Performed a Routine Inspection of the pier. Inspected all steel H-Piles and pipe piles, as well as cast-in-place concrete pile caps and concrete deck. Prepared a comprehensive routine inspection report which described the structure, observed conditions, comparison with previous inspections, a structural analysis, and recommendations for further action.
- **Pier 16, NYC, Substructure and Electrical Rehabilitation** - Repaired damage to the pier, specifically, to timber piles of with severe marine borer infestation and replace the dilapidated pier electrical system, which provided shore tie connections for the museum ships moored at the pier. Sections of the pier were upgraded to accommodate heavy loading for rescue, fire, and service vehicles.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☐ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

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OCEAN AND COASTAL
CONSULTANTS

W. Stuart Lewis, P.E.
Project Engineer/Professional Engineer-Diver
Project Role: Above Water Inspection

Education:
B.S. Civil Engineering, Polytechnic Institute of New York University, 2005

Professional Registration:
Professional Engineer: NY, CT

Professional Diving and Safety Certifications:
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.146)
OSHA 10 Hour Construction
OSHA 30 Hour Construction
OSHA HAZWOPR 40-HR Training (29 CFR 1910.120)
Surface Air Supplied Work Diving, Safety & Supervision Course, Florida Keys Community College, '07
Dan O2 Oxygen Provider
Dan O2 Advanced Oxygen Provider
Dan O2 On-Site Neurological Assessment Provider
CRP/AED/First Aid/Bloodborne Pathogens Training

Capabilities Related To This Contract:
Mr. Lewis is a project engineer-diver with over seven (7) years experience as a structural engineer. Mr. Lewis has a strong background in bridge condition inspections, structural analysis, ferry barge logistics and marine construction. Practical experience with bridges and marine structures makes Mr. Lewis a valued team member at Ocean and Coastal Consultants (OCC).

Mr. Lewis is certified in the use of surface supplied air diving equipment and is trained to perform underwater inspections according to guidelines of the American Society of Civil Engineers (ASCE) for PE divers and inspection methods of the U.S. Navy. This training supplements his previous SCUBA certification. Mr. Lewis has experience with all aspects of underwater investigations.

Duties as a project engineer-diver include: managing teams for waterfront inspections and structural analysis for structures such as relieving platforms, seawalls, bulkheads, anchorages and piers for private and public clients. He has also inspects existing conditions, documents findings, prepares inspection reports, estimates costs, develops repair recommendations, and provides construction administration.

Experience:

- **DeLaval and STP Properties** - Documented the condition of the two (2) contiguous properties fronting the Hudson River. Various schemes were designed based on the site conditions and project requirements. On site client representative during construction activities, over saw the installation of steel sheet pile bulkheads and rip-rap revetment.
- **NYCDOT FDR Marine Borers RE Services** - Office engineer documenting and reviewing all correspondence, payment applications, submittals, RFI, change orders and extension of time, submitted by the contractor. Performed underwater investigations of on going construction activities.
- **Chelsea Piers Headhouse Substructure Investigation** - Performed an above water and underwater investigation of the inshore Piers at the Chelsea Piers Facility. Preparation of an inspection report on findings.

W. Stuart Lewis, P.E.
Project Engineer/Professional Engineer-Diver
Project Role: Above Water Inspection

- **Piers 13 & 14 Rehab. & Demo.** - On site client representative during the demolition of piers 13 and 14 located on the lower East side of Manhattan. Reviewed multi beam side scan sonar to insure that all pile stubs and debris had been retrieved by the contractor.
- **Piers 35/36 on the East River** - Performed inspections and provided rehabilitation designs. Above water and underwater inspections were performed to properly identify, locate, and quantify defects in need of repair. A tidal eco-park was also designed and installed at the inshore portion of Pier 35. All local, state, and federal permits were prepared for rehabilitation.
- **SBMT Bulkhead Emergency Stabilization** - Design of emergency stabilization anchorage for a failed steel bulkhead. On-site client representative during installation of design. Review of submittals and contractor payment application.
- **Chelsea Piers Offshore Substructure Investigation** - Performed an underwater investigation of Piers 59, 60 and 61 at the Chelsea Piers Facility. An inspection report of these findings was prepared.
- **Local Law 68/Ferry Landings** - Evaluated and developed modifications for ten landings with respect to Local Law 68 (New York City Administrative Code: Title 19: Chapter 7: Sections 701-712). Responsibilities included preparing structural designs, ferry landing standards, plans, specifications, and reviews of landing compliance with Law 68.
- **PSEG BHS Oil Dock Walkway Capacity Determination** - Determined the load capacity for an existing timber oil dock walkway at the PSEG Bridgeport Harbor Station, in Bridgeport, CT. Site investigations verified current conditions of the timber walkway.
- **Toys R Us Caesar's Bay Facility Investigation** - Extracted concrete core samples from the pile caps and pedestals throughout the structure as a part of a concrete investigation. The cores where extracted for visual inspect of concrete, strength testing, chloride testing and half-cell potential of reinforcing steel to determine structural capacity and remaining service life.
- **NYC Waterfalls-Underwater Investigation** - Performed an underwater investigation of the substructure of a NYC Waterfall Art Exhibit at Brooklyn Pier 5.
- **SI Pier One Substructure Design** - Served as Engineer-Diver during the underwater construction stage of the rehabilitation of pier 1 in Staten Island, New York. Performed routine inspections to monitored construction techniques employed, accuracy and quality of work.

Experience Relevant to PANYNJ	
☒New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☐ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

Ronald A. Muñoz, Jr. P.E.
Engineer-Diver
Project Role: Inspection Diver

Education:
M.S. Structural Engineering, Drexel University, In Progress
M.S. Chemical & Environmental Engineering, University of California, Riverside, 2006
B.S. Chemical & Environmental Engineering, University of California, Riverside, 2003

Professional Registration:
E.I.T: CA

Professional Diving and Safety Certifications:
ADCI Commercial Diver, Divers Academy International
OSHA Confined Space Safety Entrant & Attendant Program (29 CFR 1910.146).
OSHA HAZWOPER 40-hr. Training (29 CFR 1910.120)

Capabilities Related to this Contract:
Mr. Muñoz is an Engineer and ADCI Certified Commercial Diver, whose professional focus has been on the use of geosynthetics for dewatering and shoreline protection and on the design, repair, and analysis of waterfront structures. Mr. Muñoz's diverse educational and vocational experience provides for a multi-disciplined approach to clients' projects. Mr. Muñoz has performed above and underwater investigations, assisted in compiling clients' reports, and designed repairs.

Mr. Muñoz's educational background includes an MS in Chemical & Environmental Engineering and an MS in Structural Engineering with the incorporation of geosynthetics coursework. Mr. Muñoz has proven valuable to Ocean and Coastal Consultants (OCC) and its clients when designing solutions for various projects in order to meet EPA and other regulatory standards. All designs require exhaustive reviews of current technologies.

Experience:
- **Grand Isle Rehabilitation Construction** - Determined the suitability and design of a beachfill and geotextile tube-reinforced sand dune for shoreline protection, stabilization, and rehabilitation at Grand Isle, LA, following damage incurred by Hurricane Gustav, Ike, and Katrina. Services were extended to include development of the final design and final project review. Provided technical consultation and construction inspection. Developed project Operations and Maintenance Manuals.
- **Jamaica Bay Wave Attenuator** - Reviewed and utilized floating wave attenuator technology to design structures for the protection and restoration of existing marsh in Jamaica Bay. Design task included a wave climate analysis and review of current technologies. The recommended design utilized a novel synthetic product called Floating Islands.
- **NJ-DOT I-Boat Development of a Boat Hull Wash Wastewater Treatment System** - Performed study to characterize hazardous materials present in boat hull wash wastewater in small NJ marinas. Designed and constructed a system—utilizing geotextile and zeolite materials—to capture, treat, and recycle boat hull wash wastewater at marinas. Submitted a project report.
- **NU Northport Cable Remediation** - Determined the suitability and design of geosynthetics marine mattresses for cable protection. Provided technical consultation, construction inspection, and resident engineering services.

Ronald A. Muñoz, Jr. E.I.T.
Engineer-Diver
Project Role: Inspection Diver

- **Niantic River Toe Protection Design-** Determined the suitability and design of geosynthetics marine mattresses for toe protection. Design was used to reduce the effective thickness and cost in relationship to alternative designs.
- **Sconset Coastal Bank Stabilization** - Assisted in design of geotextile tube protection for approximately 2,000 feet of coastal bank.
- **Eustatia Island Final Design** - Provided shoreline stabilization design services for a perched beach utilizing geotextile tubes with scour aprons on the south side of Eustatia Island
- **Revel Beach Final Design** - Provided design of low profile timber groin and breakwater extensions for beach stabilization and protection.
- **Cruiser Olympia and Submarine Becuna Survey** - Provided a dive investigation to survey the underwater portions of the two historic Navy vessels. Services included a technical consultation and written report.
- **Sea Isle City DM Beneficial Use-** Research and presentation of findings for the beneficial reuse of dredge material. Recommendations included the novel use of DM for terrapin barriers and Sea Isle City Landfill Remediation.

Selected Publications:
"Ionothermal Synthesis of Oriented Zeolite AEL Films and their Application as Corrosion-Resistant Coatings," Angewandte Chemie Int. Ed. 2008; 46(3):525-8.

"High Silica Zeolite (ZSM-5) Coated Aluminum (Al-2024-T3): Micro-Structural Characterization by Laser Confocal Microscopy and Electrochemical Studies," and *"Corrosion Resistant Hydrophilic Zeolite Coatings for Improved Heat Transfer,"* 210th Meeting of The Electrochemical Society, Cancun, Mexico.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Robert F. Snelgrove
Engineer-Diver
Project Role: Inspection Diver

Education:
B.S. Civil Engineering, Wentworth Institute of Technology, 2009

Professional Diving and Safety Certifications:
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.120)
OSHA 30-Hour Construction Training
OSHA HAZWOPER 40-Hour Training (29 CFR 1910.120)
Surface Supplied Diving Operation Training/2010/British Columbia
DCBC Restricted Surface Supplied Diver No. 20100127
Dan O2 Oxygen Provider
ACI Concrete Field Testing Technician
ACI Concrete Construction Special Inspector
CPR/AED/First Aid/Bloodborne Pathogens Training

Capabilities Related To This Contract:
Mr. Snelgrove is an engineer-diver and an ACI certified concrete inspector with extensive experience in marine/waterfront rehabilitation projects. His specialty is forensic concrete inspections (on land and underwater). Specific experience and marine related duties include resident engineering services, land and underwater investigations, rehabilitation design, construction administration, topographic and hydrographic surveying, Geographic Information Systems (GIS), and Remote Operated Vehicle (ROV) investigations.

Mr. Snelgrove was involved in the resident engineering services for the NYCDOT FDR Emergency Marine Borers Repair. The project involved working closely with the client and contractor to ensure the repairs were done in a timely and cost effective way while also maintaining strict adherence to the specifications. Mr. Snelgrove was responsible for QA/QC on site which included inspections of concrete production and placement, lightweight fill production and placement, micro-pile installation and epoxy jacketing of timber elements. He was also involved in material tracking and approval as well as review of payment applications and change orders.

Mr. Snelgrove has also recently completed resident engineering work on dredging the Manhattan Cruise Terminal for the New York City Economic Development Corporation. The project involved the annual dredging of all berths during the beginning of the terminals busy season. Mr. Snelgrove acted as the Resident Engineer on site from beginning to end and coordinated with the dredging company, the client, the cruise terminal, and the general contractor. He was responsible for ensuring that the project was completed in a timely and costly fashion while not interrupting normal vessel traffic to the Terminal. In addition, Mr. Snelgrove was responsible for tracking the contractor's quantities for payment and coordinating with the USACOE oversight.

Experience:

- **NYCDOT FDR Marine Borers RE Services** - For this emergency project, the work was performed on a fast track basis to address immediate stability concerns as well as preventing long term deterioration from marine borers. The work involved installations of bored-in piles, epoxy grout encapsulation of timber piles, structural concrete encasements, and placement of lightweight concrete fill.

Robert F. Snelgrove
Engineer-Diver
Project Role: Inspection Diver

- **Manhattan Cruise Terminal Annual Dredging RE Services** - Supervised the removal of 300,000 cubic yards of clean silt from the ship berths at Manhattan Cruise Terminal and the disposal of that material in a USACOE controlled placement area.
- **Manhattan Cruise Terminal Concrete Investigation** - Assisted with planning and execution of concrete investigation involving visual inspection, coring for strength testing, chloride testing and half-cell potential of reinforcing steel.
- **Pier 16 Substructure Rehabilitation, NYC** - Inspected, designed, and prepared permits and contracts for rehabilitating Pier 16 in NYC.
- **EDC 2010 Waterfront Inspections** - Performed a routine investigation in accordance with NYCEDC Inspection Guidelines Manual. Thoroughly inspected structures significantly damaged or in neglect. Provided follow-up repair designs and rehabilitation effort support.
- **Pier 94 Resident Engineering Inspection Dive** - Performed underwater inspections of completed repairs on granite block seawall for acceptance by Engineer.
- **Tern Harbor Marina Revetment Survey** - Performed a hydrographic and topographic survey of a revetment and subsurface cap at Tern Harbor Marina in Weymouth, MA. Survey provided information on structural conditions and verified no settlement or damage.
- **Pier 4 Boston Investigation** - Performed above water and underwater inspection of timber dock and granite block seawall to determine repair quantities and costs involved with rehabilitating the structure for use. Date: 2/2011. Client: New England Development Corporation.
- **Toys 'R' Us Brooklyn Concrete Investigation** - Assisted with planning and execution of concrete investigation involving visual inspection, coring for strength testing, chloride testing and half-cell potential of reinforcing steel.
- **Battery Maritime Building Slip 7 Assessment** - Assisted with the planning and execution of an above water inspection of the slip and lift bridge to determine suitability for use with the Governors Island Ferry.
- **East River Wharf Rapid Inspection** - Performed above water and underwater inspection of 5 adjacent structures that make up the East River Wharf. Inspected timber, steel and concrete elements to determine current condition and suggested repairs.
- **Koppers Dock Demo RE** - Acted as the resident engineer for the removal of a timber dock as part of a dredging and capping project involving contaminated sediment.
- **Kinder Morgan Carteret, NJ Terminal Dock Repairs** - Acted as Resident Engineer on site for three major dock repair/upgrade projects involving two different contractors. In addition, duties included coordinating the contractors' activities with the vessel traffic at the docks to minimize impacts to construction schedule and Kinder Morgan Operations.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☒Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Anthony Tedeschi
Engineer-Diver
Project Role: Inspection Diver

Education:
M.S. Ocean Engineering, Florida Institute of Technology, 2011
B.S. Ocean Engineering, Florida Institute of Technology, 2008

Professional Memberships:
Marine Technology Society (MTS)
American Concrete Institute (ACI)

Professional Diving and Safety Certifications:
OSHA Confined Space Safety Entrant, Attendant, Supervisor (29 CFR 1910.146)
OSHA 10-Hour Construction Training
Surface Supplied Dive Training/2011 Minnesota School of Commercial Diving
FHWA - NHI - 130091 Underwater Bridge Inspection
Kirby Morgan Dive Systems, Inc. - Helmet and Band Mask Operator/User Training/2011
ADCI Surface Supplied Diver No. 40269
DCBC Restricted Supplied Diver No. 20110384
Dan 02 Oxygen Provider
Dan 02 Advanced Oxygen Provider
Dan 02 On-Site Neurological Assessment Provider
CPR/AED/First Aid/Bloodborne Pathogens Training

Capabilities Related to this Contract:
Mr. Tedeschi is an Engineer-Diver with experience in the inspection of marine structures involving structural investigations, contract document preparation, resident engineering services, and permitting. His experience and marine related duties include underwater and above water investigations of existing conditions, material testing and rehabilitation design.

Mr. Tedeschi has a background in Ocean Engineering receiving both his Bachelor of Science degree and Masters of Science degree in Ocean Engineering from the Florida Institute of Technology. He performed academic research in the area of underwater technologies, coastal structures, and Port/Harbor Facilities.

Mr. Tedeschi has prepared inspection reports for the United States Coast Guard (USCG), NYC Economic Development Corporation (NYCEDC), and various companies such as Magellan Midstream Partners and Consolidated Edison.

Experience:

- **Pier 88 and 90 Routine Inspection, Manhattan, NY** - Performed a routine investigation in accordance with NYCEDC Inspection Guidelines Manual. Structures significantly damaged or in neglect were inspected thoroughly. All inspections were followed up with repair designs and rehabilitation efforts. Assisted in the preparation of routine inspection report which included executive summary, description of structures inspected, observed conditions, structural condition assessment, recommended maintenance plan and associated opinion of probable costs (OPC).

- **USCG Routine Inspection, Moriches, NY** - Performed above water inspections for the United States Coast Guard at Sector Field Office Moriches. Inspected all top side water front structural components. Prepared a routine inspection report which included executive summary, description of structures in-

spected, observed conditions, structural condition assessment, recommended maintenance plan and associated opinion of probable costs (OPC).

- **Magellan Terminal, New Haven, CT** - Served at as an Engineer-Diver for the inspection and berthing/mooring analysis of this facility.
- **Magellan Inspections, (Galena Park, TX and Marrero, LA)** - Served as Engineer-Diver for this above water and underwater investigation as well as berthing and mooring analsis for each facility. Prepared a routine inspection report which included executive summary, description of structures inspected, observed conditions, structural condition assessment, recommended maintenance plan and associated opinion of probable costs (OPC).
- **EDC FY 2011 Routine Inspection MCT** - Performed a routine investigation in accordance with NYCEDC Inspection Guidelines Manual. Structures significantly damaged or in neglect were inspected thoroughly. All inspections were followed up with repair designs and rehabilitation efforts.
- **United States Coast Guard (USCG)** - Performed above inspections for the USCG at Sector Field Office Moriches in Moriches, NY. Inspected all top side water front structural components.
- **MCT Viaduct Concrete Investigation** - Extracted concrete core samples from precast pre-stressed concrete supports throughout the structure as a part of a concrete investigation. The cores where extracted for visual inspect of concrete, strength testing, chloride testing and half-cell potential of reinforcing steel to determine structural capacity and remaining service life.
- **Turner MCT Dredging 2011** - Provided resident engineering services for dredging operations at the Manhattan Cruise Ship Terminal. Coordinated the daily operations between the client, facility and contractor. Prepared daily and weekly progress reports to Turner and the NYCEDC.
- **Toys R Us Caesar's Bay Facility Investigation** - Extracted concrete core samples from the pile caps and pedestals throughout the structure as a part of a concrete investigation. The cores where extracted for visual inspect of concrete, strength testing, chloride testing and half-cell potential of reinforcing steel to determine structural capacity and remaining service life.
- **IMTT Pier 7 Berth 1 Container for ExxonMobil** - Procured permits from New Jersey DEP and USACE for the construction of shoreline stabilizing elements around face of the pier to rehabilitate pier structure.
- **GI Transfer Bridge** - Conceptual design and 3D modeling of existing structure and conceptual design of Soissons Dock.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☐In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☐Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

Michael S. Balboni
Dive Supervisor/Field Operations
Project Role: Inspection Diver

Professional Diving and Safety Certifications:
ADCI Surface Supplied Air Diving Supervisor- No. 22030
ADC Surface Supplied Air Diver - No. 8986
PADI Advanced Open Water Diver/PADI Rescue Diver
Sea School Captains Course OUPV
DAN Oxygen First Aid
Adult CPR and First Aid
OSHA 30-hr
HAZWOPER 40-hr
AGA-Certified Technician

Capabilities Related To This Contract:
Mr. Balboni is a commercial diver with diverse field experience. His experience in underwater and top-side projects has included inspections of bridges, bulkheads, cable laying, cofferdams, culverts, dams, dry docks, piers and pipelines.

Mr. Balboni participated in various construction, rehabilitation, and inspection projects. These projects have included application of underwater coatings and epoxy, underwater concrete, burning, using heavy lift, hydraulic and pneumatic equipment, welding, closed circuit video recording, still photography and non-destructive testing. He has safely conducted diving operations in capacities as both contractor and quality assurance for the owner.

Mr. Balboni's construction dive team training qualified him as an ADC Certified diver. He has been a team member for projects involving the inspection, rehabilitation and construction of coastal and inland structures. The combination of diving and mechanical skills and the ability to accomplish tasks above water and under water make him a valuable asset on any job site.

Additional experience includes inspection and repair programs for portable water facilities, repair and maintenance in contaminated environments, as well as the installation, maintenance or removal of environmental barriers. All work was executed according to specific safety plans, resulting in a safe and successful project.

Experience:
- **Tesoro Long Beach Terminal Inspection** Underwater inspection of the Tesoro terminal in Long Beach, CA. Work performed in conjunction with an above water inspection by Ben C. Gerwick. This was a MOTEMS Pre-Audit inspection.
- **Chelsea Piers Headhouse Substructure Investigation, Manhattan, NY** - Perform above water and underwater investigation of the inshore end of Piers 61, 60 and 59 at the Chelsea Piers on the west side of Manhattan. Preparation of an inspection report on findings.
- **EDC 2010 Waterfront Inspections, NYC** - Perform Routine Investigation of the Fulton Fish Market and Pier 17 platforms in accordance with NYCEDC Inspection Guidelines Manual. Additional alternates are for pile wrap removal.
- **Port of Salalah Under Water Inspection, Oman** - Assisted and performed above and underwater inspections of Berths 21-24 and the Liquid Handling Berth at the Port of Salalah. A full surface supplied dive station mobilized by OCC to perform inspections of structures outlined above.

Michael S. Balboni
Dive Supervisor/Field Operations
Project Role: Inspection Diver

- **Pier 6 - Barge Pile Weld Seam Inspection** - Review the weld seams for piles supporting the existing steel barge that is adjacent to the pier.
- **Governors Island, NY, -** Prepared design drawings and specs for the rehabilitation of Soissons Dock Ferry Landing.
- **Jones Beach Amphitheater on Long Island, NY** - Underwater investigation of a concrete tunnel.
- **Bayonne, NJ** - Performed an underwater investigation of an obstruction reported by barge operators in a berth located in Bayonne, NJ. The obstruction was located and identified.
- **West 59th Street Marine Transfer Station Substructure** - Pre-design above and underwater investigation, report of findings and design of repairs.
- **Port Reading Waterfront Investigation** - Performed underwater investigation of north and south docks at Port Reading Terminal to plan for future rehabilitation.
- **Cotuit Town Landing Inspection** - Routine above and below water inspection of a 25ft x 50 ft fixed timber pier, floats, and guide piles at the Town Landing facility on Oyster Place Road in Cotuit, MA.
- **PSEG BHS Concrete Investigation** - Perform concrete investigation of piles to determine cause of deterioration.
- **Kinder Morgan Facility on Staten Island, NY** - Underwater inspection of steel sheet pile bulkhead, fixing bolt testing and replacement.
- **Philadelphia Naval Yard** - Underwater inspection of timber and steel pile- supported low deck platform.
- **Fulton Fish Market EDC** - Pile wraps removal and underwater investigation of marine borer activity.
- **Toys R Us Caesar's Bay Facility Investigation** - Extracted concrete core samples from the pile caps and pedestals throughout the structure as a part of a concrete investigation. The cores where extracted for visual inspect of concrete, strength testing, chloride testing and half-cell potential of reinforcing steel to determine structural capacity and remaining service life.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☐Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS

David A. Ricketts
Dive Supervisor/Field Operations
Project Role: Inspection Diver

Education:
Valdosta Technical College, 2009
Magnet Particle Testing & Ultrasonic Testing, Divers Institute of Technology, Seattle, 2003
Aviation College of Georgia, 2001

Professional Diving and Safety Certifications:
ADCI Certified Surface Supplied Air Diver
DAN O_2 Oxygen Provider
HAZ-MAT OSHA (29 CFR 1919.120)
Rigging: Chevron USA/API 2D (RP2D)
CPR, First Aid
FHWA-NHI 130055 Safety Inspection of In-Service Bridges
FHWA-NHI 130091Underwater Bridge Repair/Rehab/Countermeasures
FHWA-NHI 130091 Underwater Bridge Inspection

Capabilities Related To This Contract:
Mr. Ricketts has an extensive background in underwater inspections of bridges and marine structures throughout the United States. Many of his inspections were conducted in less that a foot of visibility with active currents. Mr. Ricketts is responsible for boating operations, performing inspections, taking field notes, and maintain OCC's commercial diving equipment.

Experience:

- **East River Esplanade Inspection, New York, NY** - Underwater inspection of timber piles supporting relieving platforms of the East River Esplanade from East 60th Street to East 123rd Street on the East and Harlem Rivers in New York City.
- **Ex-USS Requin Hull Survey, Pittsburgh, PA** - Underwater investigation services for a 1-day level-of-effort hull survey of a 300 ft long submarine (museum) in Pittsburg, PA including a visual inspection of the hull using CCTV and UTM of through-hull blanking plates.
- **NYCDOT 2012 FDR REI Services** - For this emergency project, the work was performed on a fast track basis to address immediate stability concerns as well as preventing long term deterioration from marine borers. The work involved installations of bored-in piles, epoxy grout encapsulation of timber piles, structural concrete encasements, and placement of lightweight concrete fill.
- **Sidney Lanier Bridge, Brunswick, GA** - Performed inspection on the Sidney Lanier Bridge, the largest cable stay bridge on the coast of Georgia. Responsible for inspection of the sub-structure beginning at 6 feet above surface, down to 70 feet below water surface, in less than a foot visibility, in over a 2 knot current. This structure has massive concrete columns on footings. Mr. Ricketts was also responsible for the boating, diving, field notes and entering notes into BIMS for GDOT.
- **Tallmadge Memorial Bridge, Savannah, GA** - Performed inspection of the Tallmadge Memorial Bridge on the coast of Georgia. This bridge spans across the Savannah River and is the second largest bridge in Georgia. This inspection was conducted in heavy current and in less than a foot of visibility. It is a cable stay bridge with massive concrete columns on footings. Mr. Ricketts was also responsible for the boating, diving, field notes and entering notes into BIMS.

David A. Ricketts, FHWA, NHI
Dive Supervisor/Field Operations
Project Role: Inspection Diver

- **Fort Pulaski Bridge, Savannah, GA -** Inspected this timber pile bridge structure. All piles where sounded and all suspect piles where cored. The piles in the worst condition where due to marine borers from the inside out of the piles. During this inspection, visibility was less than a foot, in a heavy current and depth was approximately 35 feet at the deepest point. Mr. Ricketts was also responsible for the boating, diving, field notes and entering notes into BIMS.
- **Newtown County Bridge, Lake Jackson, GA -** Inspected this bridge over Lake Jackson consisting of pile caps with steel I-beam piles. The steel piles had moderate to severe section loss at the splash zone on numerous piles. Mr. Ricketts prepared a special report for GDOT's engineers detailing how serious the section loss was and where it was occurring. He also measured each pile at four different locations to find the amount of section loss. The depth was around 20 feet with about 2 feet of visibility.
- **Stone Mountain State Park, Georgia -** Inspection of previous repairs made to a wooden covered bridge in Stone Mountain State Park. The sub-structure consists of very old masonry piers. The depth was about 25 feet and the visibility was around 3 feet.
- **Lake Blackshear, Georgia -** Performed an inspection of a submerged culvert at Lake Blackshear requiring a penetration dive of about 300 feet into the culvert to examine the barrels for cracks and see if debris was constricting the water flow out of the lake. Mr. Rickets also checked both faces of the culvert for scour and undermining. The visibility was less than a foot inside the barrels and the depth was around 20 feet with moderate current coming out of the lake.
- **Multiple Bridges in Georgia** - Performed sonar imaging of many scour critical bridges in Georgia where the visibility is too poor to take pictures and the area of damage is too large for photos. Mr. Ricketts was looking for undermining of the seals and abutments and also checking to see if repairs that had been made are working.

Experience Relevant to PANYNJ	
☐New York P.E .License	☐Certified Welding Inspector
☐New Jersey P.E. License	☒In-Situ Sampling and Testing Experience
☒ADCI Certified Diver	☒CP and NDT Inspection Experience
☐Concrete Field Testing Technician	☒Resident Engineering Experience

OCEAN AND COASTAL CONSULTANTS ENGINEERING P.C.
19 WEST 21ST STREET, SUITE 703
NEW YORK, NY 10010
PH 646-545-2125 FX 646-553-1620
www.ocean-coastal.com

SECTION H - EXPERIENCE

OCC's project experience and our deep understanding of the processes of degradation, evaluation, and rehabilitation of waterfront structures in New York Harbor make our firm the perfect fit the needs of the Authority under this contract.

OCC is committed to providing the Authority with industry-leading, world-class waterfront engineering services, with the express objective of providing the Authority with the cost-effective professional engineering services required, meeting all requirements for scope, budget, and schedule.

As the firm with the largest available, qualified staff in the northeast United States, OCC offers the following key attributes and differentiators in support of the Authority:

- Highly qualified, full-time engineer divers supported by innovative experts in the fields of materials technology and testing, marine structural design and analysis, and environmental planning.
- Comprehensive coverage and responsiveness for all of your project needs with the highest quality of professional staff located where the Authority operates facilities.
- A culture of professionalism and safety in all practices related to the delivery of underwater inspection and materials testing services.
- A proven track record of success and client satisfaction in all aspects of marine and ocean engineering.

OCC is a small consulting engineering firm specializing in Coastal and Marine Engineering. Since its founding in 1983, OCC has provided professional waterfront engineering services to private and public entities nationwide. OCC has maintained relationships with clients along the east, west and gulf coasts of the United States that include the US Coast Guard, US Army Corp of Engineers, and multiple marine transshipment terminal (liquid and container) owners. In addition, OCC has serviced international clients located in Canada, Aruba, Guam, Bahamas, Dubai, Ireland, American Samoa, Oman, Guyana, Kuwait, the British Virgin Islands and the Turks and Caicos.

OCC is headquartered in Trumbull, Connecticut, only 70 miles from midtown Manhattan, New York. OCC currently operates regional offices in Marshfield, MA; Gibbsboro, NJ, and Mt. Pleasant, SC. Most recently, OCC has added a new regional office in downtown Manhattan, New York, with easy access to the Authority facilities and offices.

OCC's parent company, COWI A/S, is a leading international engineering firm headquartered in Denmark. COWI has over 350 dedicated marine, waterfront and coastal engineers on staff as well as over 6,000 engineers and scientists world-wide. OCC's sister company, Ben C. Gerwick, Inc. has offices in New Orleans, Louisiana; Houston, Texas; Oakland, California and Seattle, Washington. Together both firms make up COWI USA. Buckland & Taylor, Ltd, another COWI Group companies a premier bridge design firm located in Vancouver, Canada.

OCC employs a wide variety of professional staff capable of providing unique expertise for solving complex problems in the coastal and offshore environments. Thirty-eight of the 50 full-time employees are degreed engineers, which includes twenty registered professional engineers. In addition, OCC employs 23 commercially trained engineer-divers, 12 of whom are also registered Professional Engineers. The professional staff at OCC support new structure designs, rehabilitation designs for existing facilities and resident engineering services during construction. The unique combination of individuals who are both professionally licensed engineers and commercially certified divers provide OCC's clients with a wide variety of expert consulting services.

The OCC engineer diver understands marine structures and is able to prepare concept designs, work with permitting agencies, produce new structural or process plans and specifications, assess and recommend rehabilitation for damaged or deteriorated existing waterfront facilities, and provide mooring/wave analysis. The scope resident engineering services provided by OCC include on-site design/build engineering, above and underwater inspection services to monitor contractor conformance with contract documents, review of contract pay requests and rapid fulfillment of contractor requests-for-information. Along with the inspection, design and resident engineer services, OCC's experience with permitting provides a complete package for the owner or developer of waterfront facilities. Our engineer and professional engineer divers must have training compliant with 29 CFR 1910.41, prior to performing dive work. OCC requires all divers to be current with annual dive physicals, oxygen administration, first-aid, blood borne pathogens, CPR, Confined Space trained and AED certification. We also conduct in-house dive seminars and hold a safety meeting every month to review procedures and in-house safety requirements. Our clients include the US Coast Guard, US Army Corps of Engineers, ExxonMobil, the City of New York, and liquid terminal and container port owners and operators from Maine to California.

OCC has professional experience in the delivery of the following marine and coastal engineering services:

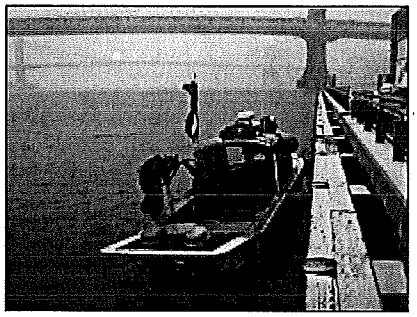
- Underwater Inspection and Investigation Services with Professional Engineer-Divers
- Civil/Dredging Engineering
- Marine Structures Inspection, Design and Rehabilitation
- Resident Engineer and Construction Inspection Services
- Coastal Engineering
- Coastal Projects (wave climate, sediment transportation, erosion control and protection)
- Construction Administration
- Dredging and Hydrographic Surveying
- Environmental Planning
- IT/GIS Database Development (*or information Technology-Waterfront Development*)
- Marine Assess Management
- Regulatory Services
- Structural Engineering
- Structural Analysis and Design of Steel, Concrete and Timber Structures

MANAGEMENT APPROACH

While some elements of the specific management approach will depend upon the specific requirements and scope of a given assignment from the Authority, we pride ourselves on our consisent and efficient methods for performance and delivery of inspection project of all sizes and complexities. Through our years of experience delivering high-quality work throughout New York Harbor, the Authority can be assured that it will always be provided with a flexible and efficient project team and project approach. OCC's goal is to approach each task with a project approach that ensures efficiency and cost-effectiveness.

EXPERIENCE WITH COMMERCIAL DIVING OPERATIONS USING CERTIFIED ENGINEER-DIVERS

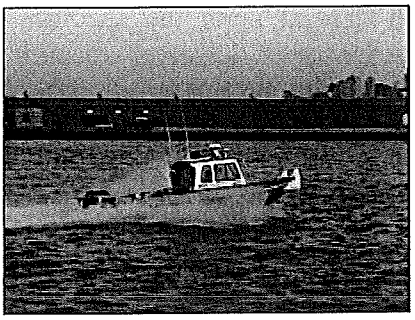
OCC is a leader in the practice of utilizing commercially-trained and certified Engineer-Divers to perform inspections, structural evaluations, and construction support. OCC has dedicated significant resources to the training of our engineers in the safe practices of commercial diving; since 2003 we have funded over 2,500 hours of off-site commercial dive training for 28 engineers. OCC maintains a full-time staff of 23 engineer-divers who are actively involved in the performance of underwater inspection services. Our primary dive platform is surface-supplied air which provides our staff of professionals with the safe working environment required to meet all requirements for OSHA, USCG, and ADCI consensus standards for safe diving practices.



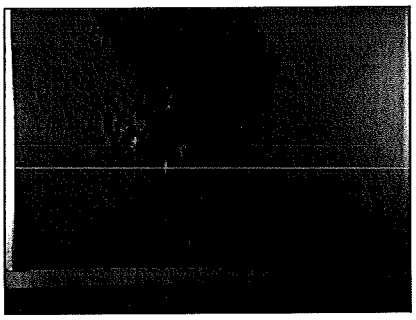
OCC can simultaneously field up to six fully-equipped and fully responsive surface-supplied dive teams staffed with commercially trained divers with extensive experience in the inspection and assessment of every type of waterfront structure. OCC dive teams routinely work within New York harbor and regularly perform tasks that span the full array of specialized inspection techniques and working conditions. Difficult working conditions such as those encountered within a busy PANYNJ facility, submerged structures and limited access structures are all typically encountered. These conditions require staff of extreme skill and training, physical protection, reliable equipment and communications, and fail-safe life support equipment that the surface-supplied air diving platform provides. Safe diving practices are the hallmark of OCC and our first consideration when organizing project teams and commencing any underwater project. We are extremely proud of our exemplary record of safety.

As standard operating procedure OCC provides three-person inspection teams, each equipped with two complete surface supplied air dive stations that are regularly maintained and tested to ensure that they can be safely and efficiently mobilized when required. In addition, OCC owns, operates, and maintains a fleet of inspection vessels and dive vehicles, and has a full catalog of inspection and testing equipment to meet the requirements of any project.

WATERFRONT FACILITY CONDITION ASSESSMENTS

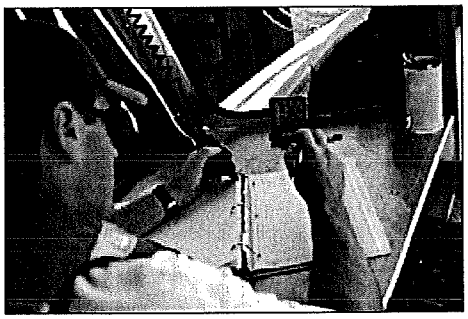


OCC is a leader in the field of waterfront condition assessment work in New York Harbor; it is that level of experience and capability that will ensure that the Authority are provided with the most qualified project team for this contract. Because so much of our work is related to the inspection, testing, and evaluation of waterfront structures we have developed the necessary management systems and project approach to efficiently complete all tasks and assignments, and to respond quickly and consistently to client needs. Whether with city or state agencies or private developers and terminal operators, we consistently respond to our client needs large or small.



OCC has been providing expert waterfront inspection services since 2000 and we take a great deal of pride in the development of our firm, our inspection program, and our staff. The local OCC team of full-time engineer-diver staff carry out all aspects and phases of our underwater inspection projects, ensuring the highest level of quality in the inspection and reporting phases of every project, and adherence to the project schedule and budget. All equipment is owned and operated by OCC, assuring a high reliability of equipment and familiarity by our staff which improves operational safety.

At OCC, a typical underwater inspection team will consist of a professionally registered Team Leader, an engineer-diver (Inspection Diver), and Dive Supervisor (Inspection Diver). The Team Leader is responsible for supervising the work, performing follow-up engineering evaluation, and preparation of detailed inspection reports. On the Authority assignments, the Team Leader will typically perform 25 percent of the inspection and will be an active participant in any sampling and testing program.



Throughout each phase of the project from commencement, through planning, execution, delivery, and close-out the Team Leader will be supported by the Project Manager who will work with the Program Manager to ensure that team assignments are made to meet all safety and logistical aspects of the project. Additional support will be provided by the Technical Advisor, an engineer-diver with over 25 years in the industry. Quality Control oversight will be provided by the firm's founder and president, a recognized leader in the marine engineering industry.

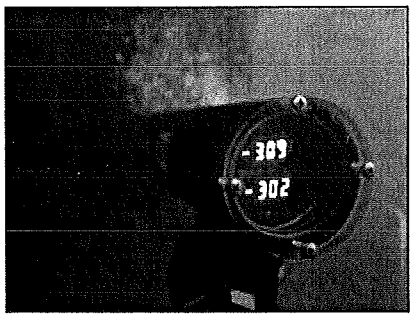
NON-DESTRUCTIVE TECHNIQUES

OCC understands the role that non-destructive and destructive testing practices can play in the performance of a full structural evaluation of a structure or facility. The firm has extensive practical experience in the use and understanding of the leading non-destructive techniques available today.

The OCC team is fully versed in the use of all standard tactile inspection techniques for the inspection of timber, steel, and concrete elements. Additionally, OCC staff are experienced with the following specialized, non-destructive testing techniques:

Ultrasonic Thickness Testing. For ultrasonic thickness testing, OCC uses diver-read, ultrasonic thickness (UT) meters made by Cygnus Instruments. The UT meters are used to measure the remaining wall thickness of steel elements. Readings are taken at multiple elevations in order to develop profiles of remaining thickness and develop a comprehensive understanding of the patterns of corrosion, the effects on structural capacity, and remaining service life for the steel elements. OCC has recently invested in a helmet mounted "heads-up" display to enhance efficiency of operation for the divers and improve operations in turbid or high-current environments.

Evaluation of Cathodic Protection Systems. The OCC team has experience in the evaluation of CP systems for marine facilities. Field methods for evaluation include careful visual evaluation of CP system elements and measurement of electrical potential with a submersible, diver-held bathycorrometer cell-voltmeter. Following the inspection, our NACE certified corrosion engineer will evaluate the findings, report on results, and recommend solutions for any deficiencies that may exist.

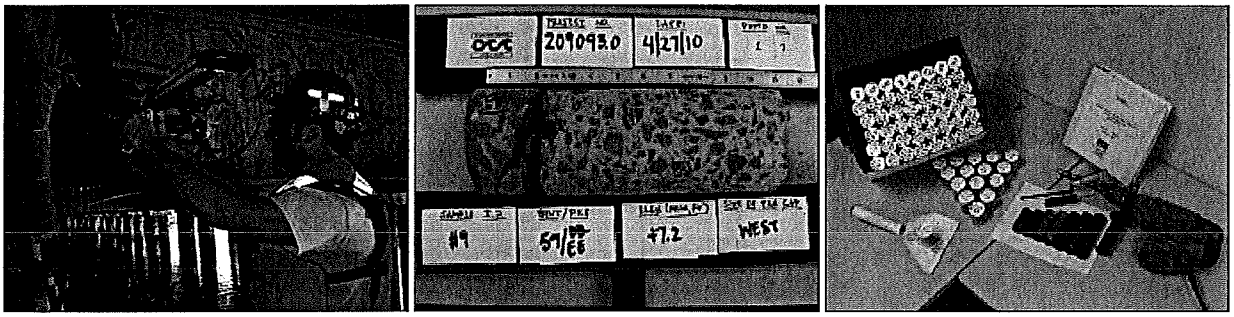


DESTRUCTIVE TESTING AND EVALUATION OF STRUCTURAL MATERIALS

OCC staff are amongst the leaders in New York Harbor in the application of destructive testing and evaluation programs; in the last two years we have performed four concrete service life evaluation projects in New York Harbor comprising the sampling and testing of over 80 concrete cores.

Concrete Coring and Testing. Concrete coring is a very useful option when the cause and full effect of observed deterioration cannot be determined with through visual inspection. OCC has the capability to collect concrete cores above and below water using our hydraulic drill press and diamond-tipped coring bits. The cores are visually examined for defects, including corrosion of reinforcing steel and type, size, and orientation of existing cracks. Additional in-situ testing

services provided by OCC include measurement of corrosion potential, concrete powder sampling, chloride sampling.



Retrieval of laboratory quality samples in accordance with requirements of ASTM standards has become a routine activity for OCC; we understand that the accurate and complete identification of deterioration mechanisms and the full effects of damage is of paramount concern when implementing a testing program for concrete. OCC has the excellent fortune to be able to call upon a leading materials testing laboratory within our parent company, COWI. OCC has worked closely with the materials technologists at COWI and has complete confidence in the efficacy of their testing procedures. It is of great benefit to OCC and our clients that a concrete testing work can be carried out within the framework of our own organization and does not require hiring of subconsultants or outside testing laboratories; this vertical structure ensures the highest quality of results.

Timber Coring and Sampling. OCC team members have utilized both incremental and large diameter timber cores to great effect in the evaluation of timber for microbiological deterioration, preservative (creosote) retention, and marine borer activity. OCC primarily utilizes 0.2 in. incremental cores to assess levels of fungal decay above water and creosote retention. Assessment of limnoria and teredo activity, along with species identification can be obtained through large bore timber cores. These samples are typically 1.5 in. to 2 in. diameter and 3 in. long. The large bore samples are taken from selected elevations and cross-sections of the timber piles using our hydraulic powered drill and boring bits. Additional timber evaluation has been performed by OCC utilizing sampling of selected timber piles to fully identify the extent of marine borer activity. OCC typically works with a local testing laboratory in New York

who performs all aspects of the evaluation of the samples collected by OCC. Our familiarity with this testing lab has lead to good results and a complete understanding of requirements needed to ensure satisfactory results.

RESIDENT ENGINEERING AND CONSTRUCTION SUPPORT

Many of OCC's projects include the provision of construction supervision or support services following completion of inspection and design work. For some of these projects, OCC has provided full-time on-site supervision services, while others have included part-time involvement comprising technical support, inspection services, or special inspection services. In all cases, OCC provides a team of capable and experienced individuals available to serve the needs of the Authority including oversight of contractor works and safety, submittal review, response to contractor Requests for Information, review of change orders and payment requests, construction progress inspections, and above water and underwater quality assurance inspections. In addition, in response to the latest requirements for inspection within New York City, OCC has invested time and resources into developing skills and obtaining certifications for our staff to be capable of providing special inspection services in compliance with the New York City Building Code.

In the following pages are project description sheets selected to highlight the depth of our firm's experience in providing services relevant to the Authority requirements. OCC strongly encourages the Authority to contact the referenced client contacts to inquire about our capabilities and our project performance.

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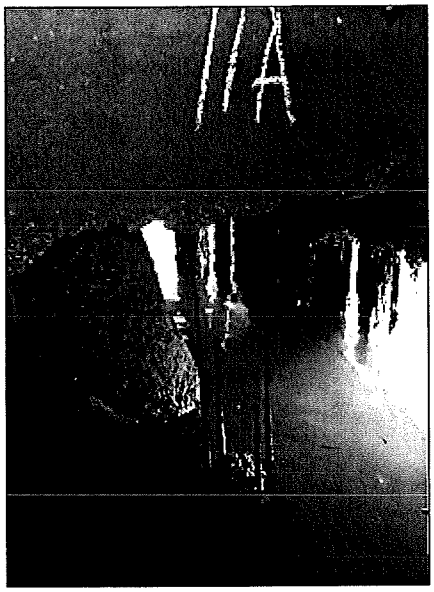

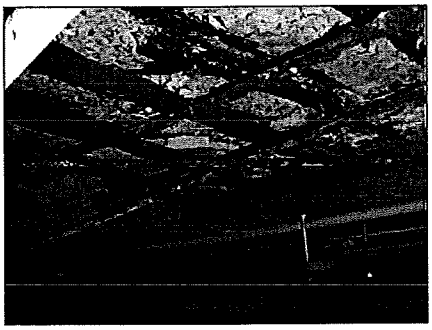

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title: **Jones Beach Amphitheater Immediate Repair Design**
New York

Client: Live Nation

Reference: Mr. Adam Citron
General Manager
Jones Beach Amphitheater
1000 Wantagh Parkway
Wantagh, NY 11793
(516) 247-5203

Project Cost:
Engineering: $95,000
Construction: $1,015,000

Completion Date:
Engineering: 2008
Construction July 2008

Project Role: Prime Consultant

Permits/Agency: NYS Department of Environmental Conservation; U.S. Army Corps of Engineers

Description of Project:

Ocean and Coastal Consultants (OCC) was retained by Live Nation to perform an above and under water inspection of the timber substructure of the mezzanine and timber bulkheads of the stage and seating to evaluate the overall structural condition. During the inspection extensive deterioration was found in supporting concrete piles, substructure deck and grade beams, and the underwater tunnel.

Based upon subsequent investigation of deteriorated substructures, OCC prepared permits, design documents for Immediate Repair items.

Permits, design and specifications were in place for the contractor to be substantially complete in critical areas to allow a sold out concert to take place. OCC performed resident engineer inspection and measurement for payment. Repairs involved jacketing of concrete piles with both concrete and epoxy encasements, and shotcrete repairs to both substructure deck and grade beams. *The inspection and design was completed on-time and within budget, meeting all critical schedule milestones.*

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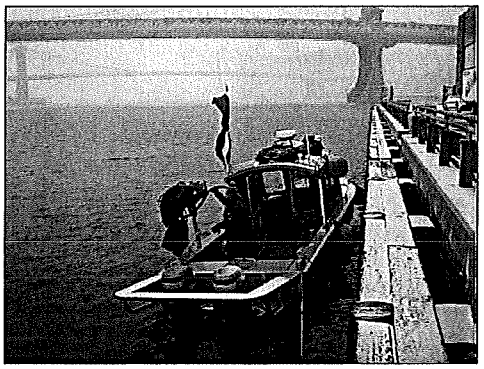

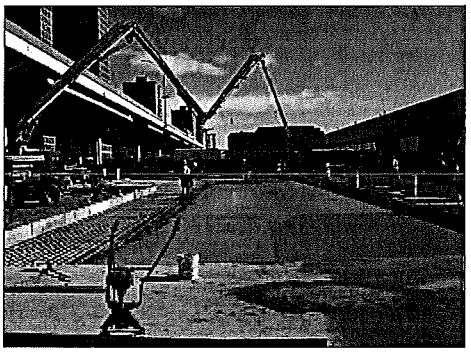

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☒ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title: **Piers 35/36 Inspection and Rehabilitation**
East River
Manhattan, New York

Client: Hudson Meridian Construction Group / New York City Economic Development Corporation (EDC)

Reference: Malcolm McPherson, P.E
Hudson Meridian
40 Rector Street, 18th Floor
New York, NY 10006
(212) 608-6600

Project Cost:
Construction: $10,169,000
Engineering: $417,000

Completion Date:
Construction: 2012
Engineering: 2010

Project Role: Primary Consultant

Permits/Agency: NYC DEC
NYS DOS
US ACOE
NYC DSBS

Description of Project:

Ocean and Coastal Consultants (OCC) performed a design level inspection of the structures at Piers 35 and 36 along the East River in Manhattan, New York City. The purpose of the inspection was to identify, locate, and quantify the defects in need of repair. The investigation included both above water and underwater inspections, which were performed by OCC's team of Engineer-Divers.

The results of the inspection indicated that extensive rehabilitation was required, including the demolition of the Pier 35 and Pier 36 Relieving Platforms. OCC designed new high level platforms to replace the deteriorated relieving platforms. Contract documents were prepared to detail these new high level platforms as well as perform repairs to the substructure of the existing Pier 36.

OCC also prepared all local, state, and federal permits associated with the rehabilitation. The permit applications included detailed mitigation calculations to account for the removal of the low level platforms and subsequent replacement.

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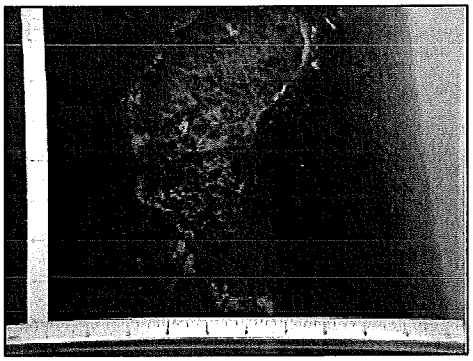
project experience profile



Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☒ Non-Destructive Testing Program
- ☒ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

Project Title: **Evaluation of Various Waterfront Structures at the Magellan Terminals Marrero, LA & Galena Park, TX Terminals**

Client: Magellan Midstream Partners, LP

Reference: Mr. Nathan Sigmon
Magellan Midstream Partners, LP
One Williams Center, MD 27-2
Tulsa, OK, 74172
(918) 574-7445

Project Cost:
Engineering: $260,000
Construction: N/A

Completion Date:
Engineering: 2011
Construction: N/A

Project Role: Prime Consultant

Permits/Agency: N/A

Description of Project:

OCC completed multiple task orders for waterfront facility engineering at the Magellan Galena Park and Marrero Terminals in Texas and Louisiana. These assignments included above water and underwater field investigations of waterfront structures.

OCC executed the dive operations from one of three dive support vehicles. Given the high volume of ship and barge traffic utilizing the terminal, OCC was required to perform setups and dive operations at multiple locations on a daily basis. The dive support vehicle made this requirement efficient and seamless.

The scope of work included the above and underwater inspection and evaluation of steel and concrete structures, mechanical and electrical systems, and impressed current cathodic protection systems. In addition, OCC performed structural condition assessments utilizing non-destructive testing (NDT) for evaluation of waterfront above water and submerged steel structures. This included ultrasonic measurements of steel thickness and potential readings of steel to determine cathodic protection effectiveness. The inspection services were completed on-time and within the project budget.

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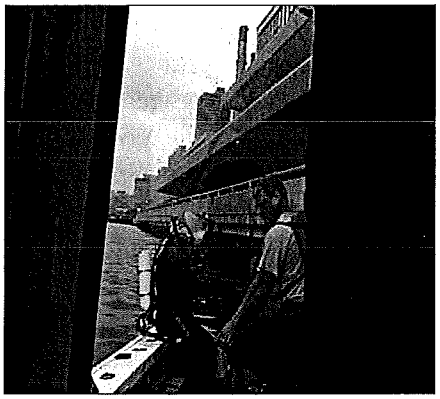

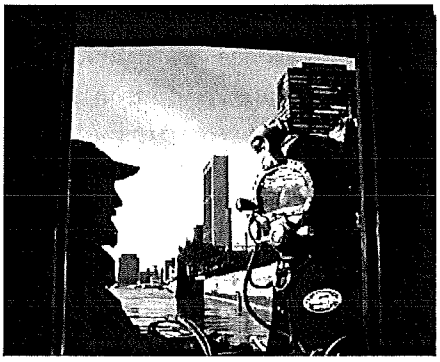

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☐ Structural Condition Assessment
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- ☒ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title:	**NYCDOT** **Pre-Construction** **Underwater Inspection**
Client:	PB Port & Marine, Inc. One Penn Plaza New York, NY 10119
Reference:	Mr. John Carel
Project Cost:	$528,000
Completion Date:	May 1, 2005
Project Role:	Subcontractor Engineer Diver
Permit:	Not Applicable

Description of Project:

Ocean and Coastal Consultants performed the investigation of 6,200 meters of relieving platform in the East and Harlem Rivers. The areas chosen for this inspection directly support FDR Drive, a major thoroughfare which runs along the east shore of Manhattan, New York.

The relieving platform consists of bents of creosote treated timber piles and substructure. Over the last 50 years, the waters of the East and Harlem River have become progressively cleaner. Although good for the public, this transition has also benefited wood eating organisms. Due to the age the relieving platform, the level of chemical treatment in the timber piles has diminished.

There were many challenges in executing the underwater investigation of the relieving platform. Underwater visibility ranged from zero to several feet. The platform remains underwater throughout the normal tide cycle. Access is most often only by boat. Daily coordination with numerous city, state and federal agencies was required. Special security measures were taken in areas adjacent to the United Nations building.

The project was completed on-time and within the project budget.

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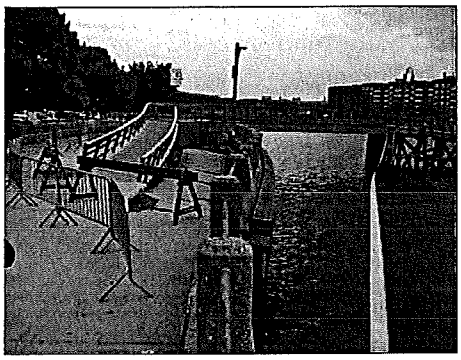

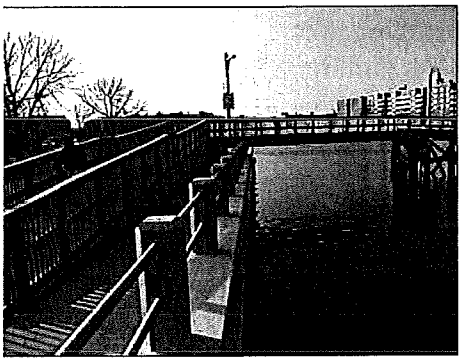

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
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- ☒ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title: **Sheepshead Bay Bulkhead**

Client: New York City Economic Development Corporation (EDC)

Reference: Mr. Daniel Zarrilli, P.E.
Vice President
NYC EDC
110 William Street
New York, NY 10038
(212) 312-3774

Project Cost:
Engineering: $50,000
Construction: $1.9 million

Completion Date:
Engineering: 2005
Construction 2005

Project Role: Prime Consultant

Permits/Agency: NYS DEC
ACOE
NYS DOS
NYC DOT

Description of Project:

Ocean and Coastal Consultants (OCC) was selected by EDC to provide marine engineering services for a failing bulkhead under strict time requirements. OCC was contacted to respond to the failure over Memorial Day Weekend in 2005 and to provide an immediate analysis of existing conditions. As a result of the poor findings, OCC was directed to design repairs to the waterfront facility by preparing plans and specifications and OCC PE Divers were to perform field investigation work consisting of underwater structural condition assessments.

Because of the poor condition of the failed bulkhead, EDC requested that OCC perform an underwater structural condition assessment of the remaining bulkheads. OCC in-house PE-Diver and Engineer-Diver staff performed the above water and underwater structural condition assessments using both NDT and destructive testing techniques. The NDT work included ultrasonic thickness measurement of steel sheet piles; evaluation of cathodic protection systems; and testing of the fill behind the bulkhead using ground penetrating radar (GPR). The destructive testing included drilling through the concrete sidewalks and obtaining measurements of soil loss to correlate to the GPR findings. Additional documentation of findings was provided by underwater digital photography.

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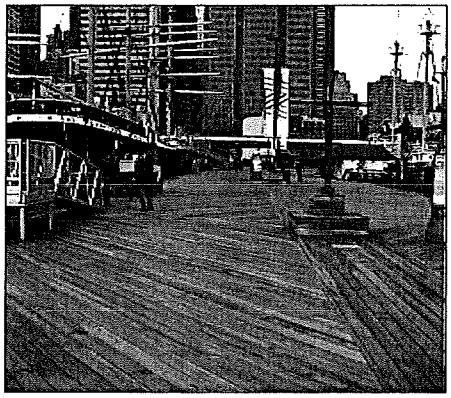

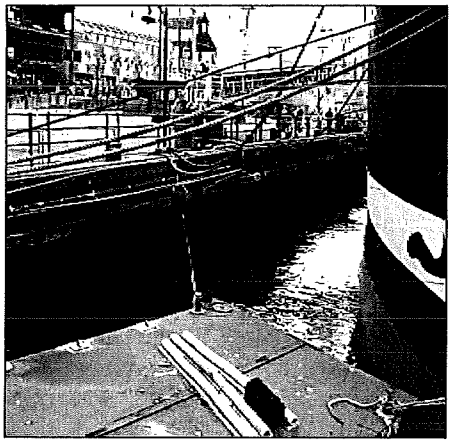

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title: **Pier 16 Rehabilitation**

Client: Turner Construction Corporation

Reference: Mr. Alex Rau
Turner Construction Corporation
c/o Brooklyn Army Terminal
140 58th Street
Brooklyn, NY 11220
(718) 630-2447

Project Cost: $190,000 Engineering & RE
$2,000,000 Construction

Completion Date: Summer 2006

Project Role: Primary Consultant

Permits/Agency: NYC DEC
US ACOE
NYS DOS
NYC DSBS

Description of Project:

Ocean and Coastal Consultants (OCC) was selected as the primary consultant for the underwater rehabilitation of Pier 16 in New York City. The purpose of the project was to repair damage to timber piles with severe marine borer infestation.

OCC performed above water and underwater design inspections of the piles in order to measure the remaining pile diameters and the exposed length of pile, and to identify any potential obstacles that could interfere with construction, or result in possible contractor requests for additional funds to cover changed conditions.

OCC then prepared a report estimating repair quantities and costs, completed and submitted the necessary permit applications and, finally, prepared the contract drawings and specifications for the work.

OCC's PE-divers provided underwater Resident Engineering Services during construction to observe the contractor's progress and conformance with the contract documents. The project was completed in early 2007. All aspects of the inspection, design, and resident engineering work were completed on-time and within budget.

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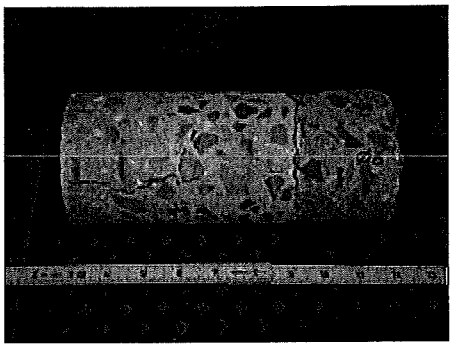

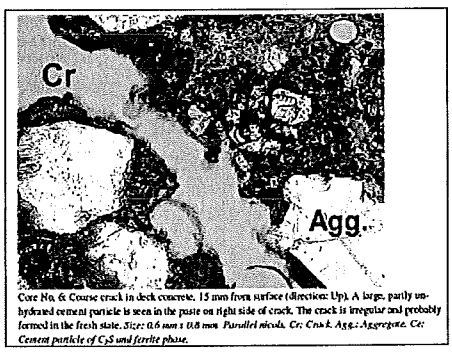

Core No. 6: Coarse crack in deck concrete. 15 mm from surface (direction: Up). A large, partly unhydrated cement particle is seen in the paste on right side of crack. The crack is irregular and probably formed in the fresh state. *Size: 0.6 mm x 0.6 mm. Parallel nicols. Cr: Crack. Agg.: Aggregate. Ce: Cement particle of C_2S and ferrite phase.*

Relevance to PANYNJ

- ☐ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☒ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title: **Brooklyn Army Terminal Pier 4 - Deck Investigation**
Brooklyn, New York City

Client: New York City Economic Development Corporation

Reference: Mr. Brian Craine
Project Manager
110 William Street
New York, NY 10038

Engineering Cost: $35,000

Completion Date: July 2009

Project Role: Prime

Permits/Agency: None

Description of Project:

Pier 4 is located at the Brooklyn Army Terminal on 58th Street in Brooklyn. NYCEDC requested that OCC evaluate rehabilitation options for the concrete deck. The proper evaluation of the options required an accurate assessment of the deck's current state of deterioration. In order to perform this, OCC and COWI developed a test program consisting of petrographic examination and chloride profile analysis to evaluate the concrete matrix as well as the rate and significance of chloride ion penetration into the concrete.

OCC and COWI staff members were on-site to perform visual inspection and direct coring and extraction of 16 cores from selected locations throughout the pier deck. These locations were selected based with respect to geographic coverage, structural features, and visual defects.

Using the actual chloride concentration measurements at various depths and the known age of the structure, OCC developed a computer worksheet to curve-fit the chloride data and obtain the surface chloride content and the diffusion coefficient for each sample location.

The inspection and testing program was completed on-time and within project budget.

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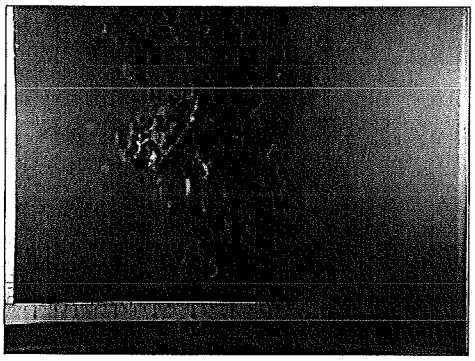

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title: **Pier 88 and 90 Investigation and Design**
New York, New York

Client: Turner Construction / New York City Economic Development Corporation (EDC)

Reference: Dan Fine
Turner Construction
Brooklyn Army Terminal
140 58th Street
Brooklyn, NY 11220
(718) 439-5373

Project Cost:
Construction $8,000,000
Engineering: $265,000

Completion Date: 2012
Engineering: 2011

Project Role: Primary Consultant

Permits/Agency: NYC DEC
NYS DOS
US ACOE
NYC DSBS

Description of Project:

In 2011, OCC was selected as the primary consultant for Routine Inspection of Piers 88 and 90, located at the Manhattan Cruise Terminal. The scope of the project included the above water and underwater inspection of the structure and preparation of a routine inspection report. As a result of damage observed, OCC prepared contract drawings, specifications, and all local and state permits.

OCC's PE-Divers, Engineer-Divers, and Technician-Divers performed the underwater inspection of the course of 8 weeks. OCC utilized a database to record both above and underwater inspection notes. Early in the inspection, OCC observed severe marine borer attack in the timber and developed criteria that allowed the repairs to be determined in the field.

OCC prepared two routine inspection reports that documented the observed conditions, provided recommended priority and routine repairs, and cost estimates. The results of the analysis, along with the data obtained during the investigation, were used to prepare a set of contract drawings and specifications.

The inspection and design services provided were completed on-time and below project budget resulting in a savings of over 10% on engineering fees to the client.

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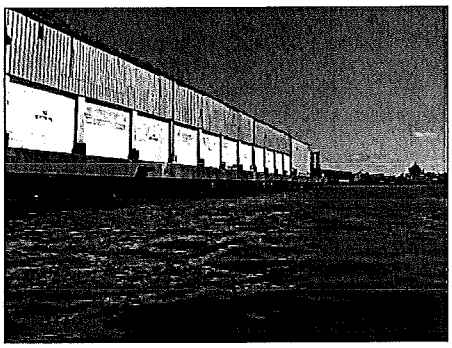
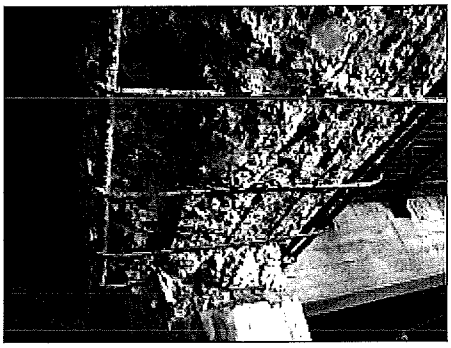
project experience profile





Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☒ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

Project Title: **Pier 42, East River,** Manhattan

Client: Turner Construction Company on behalf of the New York City Economic Development Corporation

Reference: Mr. Alex Rau
Turner Construction Company
c/o Brooklyn Army Terminal
Brooklyn, NY 11220
(718) 630-2441

Project Cost:
Engineering: $320,000
Construction: $4,500,000

Completion Date:
Engineering: 2008
Construction: 2008

Project Role: Prime Consultant

Description of Project:

In 2005, Ocean and Coastal Consultants (OCC) performed the Routine Inspection of Pier 42 as part of a contract to inspect five (5) EDC-managed facilities throughout New York Harbor. OCC inspected all of the 521 steel H-piles and pipe piles, as well as the cast-in-place concrete pile caps and concrete deck. Upon completion of the field work, OCC prepared a comprehensive routine inspection report that presented the description of the structure, observed conditions, comparison with previous inspections, a structural analysis, and recommendations for further action.

OCC was selected to design repairs, and provide part-time resident engineering services during the construction. The scope of the repairs consisted of approximately 5,900 linear feet of structural concrete encasement for the HP piles, 375 linear feet of epoxy encapsulation for the pipe piles, installation of sacrificial anodes on 157 piles, and concrete repair to 875 linear feet of pile cap.

OCC provided resident engineering services to review contractor progress; perform above water and underwater review of piles prepared for encasement, confirm proper concrete cap repair preparation, provide quality control during concrete placement, and review the contractor's request for payment.

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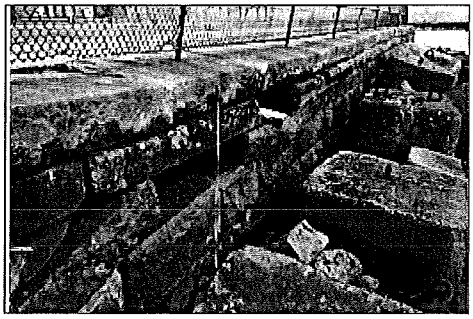

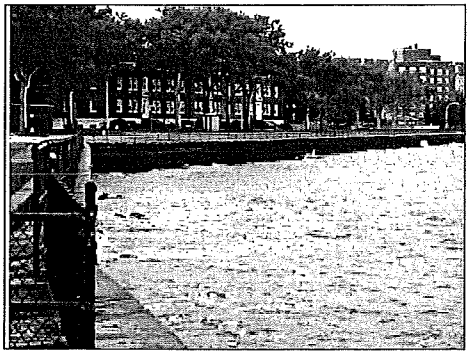

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title:	**Seawall Investigation, Rehabilitation and RE Services Governors Island Preservation and Education Corporation (GIPEC)**
Client:	Turner Construction Corporation
Reference:	Mr. Thomas Hyland Turner Construction Corporation c/o Governors Island Battery Maritime Bldg, Slip 7 10 South Street New York, NY 10004 (212) 809-4079
Project Cost:	$175,000
Completion Date:	2004, Design 2008 Construction
Project Role:	Primary Consultant
Permits/Agency:	NYSDEC, ACOE, DSBS, NYSDOS

Description of Project:

Ocean and Coastal Consultants (OCC) performed above and underwater investigation of the main waterfront structures. The primary objective of the investigation was to assess the structural condition of the two mile long seawall surrounding the Island, as well as the three ship piers on the east side in order to provide preliminary cost estimates for future repairs and maintenance.

The seawall around the perimeter of the Island is comprised primarily of stone masonry block set in mortar, with some sections replaced by a concrete gravity wall. OCC identified three sections of wall of immediate concern. Based on the findings, OCC was requested to design repairs for the immediate areas. OCC provided Contract Drawings and Bid Assistance; and performed Field Review during construction of the repairs. The inspection and design work was completed on-time and within budget.

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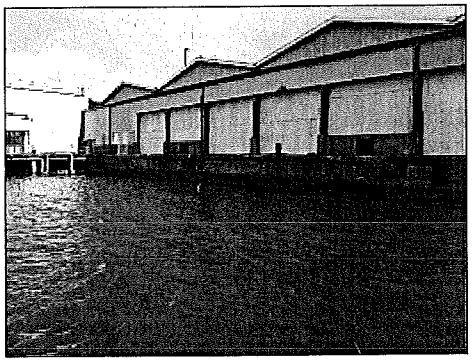

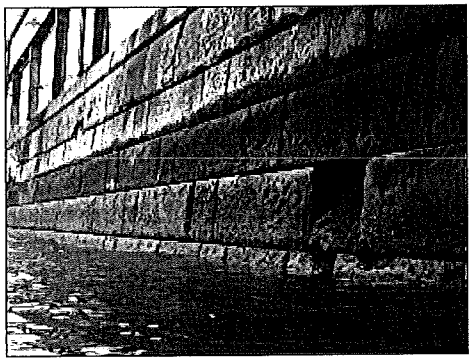

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title: **Pier 94 Resident Engineering Services**
12th Avenue
Manhattan, New York

Client: Turner Construction / New York City Economic Development Corporation (EDC)

Reference: David Barron
Turner Construction
Brooklyn Army Terminal
140 58th Street
Brooklyn, NY 11220
(718) 630-2447

Project Cost:
Engineering: $101,000

Completion Date: On-going
Engineering: 2010

Project Role: Primary Consultant

Permits/Agency: NYC DEC
NYS DOS
US ACOE
NYC DSBS

Description of Project:

Ocean and Coastal Consultants (OCC) was retained by Turner Construction Company (Turner) to perform resident engineering services for the rehabilitation of Pier 94 as well as design repairs for the granite block seawall located inshore of the Pier.

OCC performed the above water and underwater inspection of the seawall in order to identify any missing or deteriorated granite blocks as well as missing or failed masonry grout.

OCC identified grout loss between courses, as well as missing and deteriorated granite blocks in need of repair. The inspection data was used to prepare contract drawings, specifications, and local and state permits.

Also included in the project scope are the resident engineering services for the repair of the seawall as well as the repairs to the timber piles and substructure of Pier 94. During construction of the repairs, OCC will be responsible for the periodic review of contractor's progress and to confirm that the work is in compliance with the contract.

All work was completed within budget and on-time.

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Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☒ Resident Engineer/Constriction Support

project experience profile

Project Title: **Local Law 68 / Ferry Landing Implementation**

Client: New York City EDC
New York City DOT

Reference: Nicholas Catalano
STANTEC
50 West 23rd Street
New York, NY 10010
(212) 366-5600

Laura Gray
Project Manager
New York City EDC
110 William Street
New York, NY 10038
(212) 312-3509

Project Cost:
Engineering: $ 392,000
Construction: $ 16,000,000 (estimated)

Completion Date: December 2008

Project Role: Subconsultant to Stantec

Description of Project:

The New York City Council, realizing the importance of waterborne commuter transportation within the city adopted the "Accessible Waterborne Commuter Services Facilities Transportation Act" otherwise known as Local Law 68.

Stantec and Ocean and Coastal Consultants (OCC) were retained by New York City EDC and New York DOT to evaluate and develop modification to ten landings with respect to compliance with this new Local Law.

OCC was responsible for structural design and preparation of the ferry landing standards, plans and specifications.

The team responsibilities included:

- Review of each landing for compliance to the new law
- Review and document the entire private passenger ferry fleet;
- Develop conceptual design report;
- Present concepts to the disabled advocacy groups and facility operators;
- Develop construction documents and specifications to correct deficiencies;
- Develop a draft standard for future city owned and operated ferry landings;
- Provide construction support.

The project was completed on-time and within project budget.

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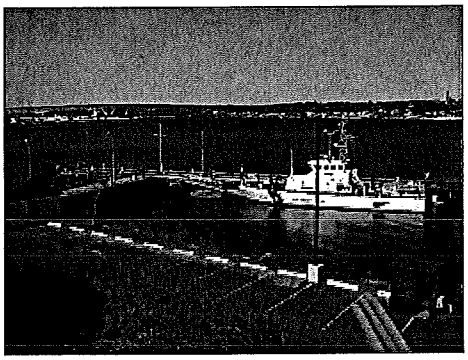

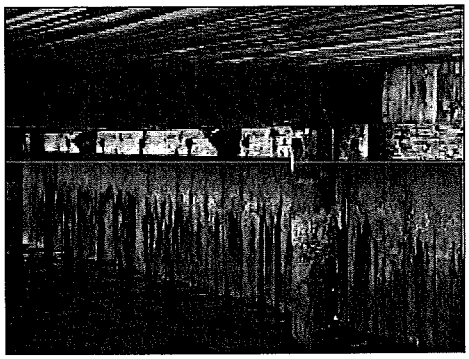

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title:	**USCG Waterfront Investigations**
Client:	United States Coast Guard (USCG) Civil Engineering Unit (CEU), Providence
Reference:	LT Robert Hueller USCG CEU Providence 300 Metro Center Blvd. Warwick, RI 02886 (401) 736-1713
Project Cost:	$150,000
Completion Date:	2004
Project Role:	Primary Consultant
Permits/Agency:	None

Description of Project:

Ocean and Coastal Consultants, Inc. is providing the United States Coast Guard Civil Engineering Unit, Providence with marine engineering services at four USCG stations throughout New York and Connecticut to determine if additional deterioration has occurred since the last routine inspection was conducted.

At three USCG Stations, (Station Jones Beach, Station Shinnecock, and Station New London), OCC conducted above and underwater marine surveys and investigations. A level I inspection was conducted at all facilities with Level II (cleaning and NDT) inspections conducted at Station Shinnecock due to the marine borer infestation. The investigations were conducted on numerous waterfront structures.

At USCG Group Moriches, OCC conducted services that included an above water marine survey/investigation on the bulkhead and wharf, a load limit analysis on the South Wharf, and the design of a steel and FRP composite sheet pile bulkhead to replace a deteriorated timber bulkhead. OCC will also provide an inspection of the newly constructed bulkhead to verify design compliance.

All inspection work was completed within requirements of project schedule and budget.

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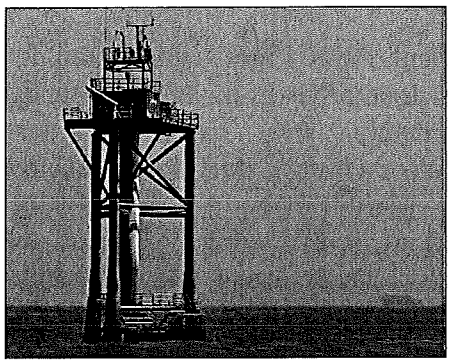
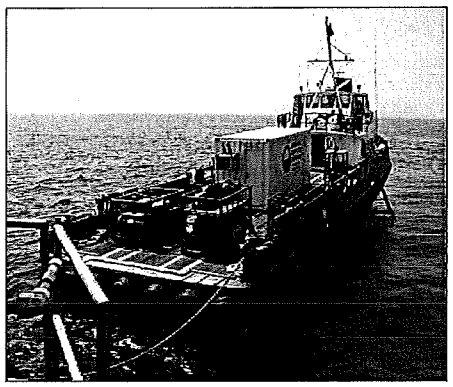


Overall view of Ambrose Light Tower.



Dive Support Vessel with decompression chamber.

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☐ In-Situ Sampling and Testing Program
- ☒ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title: **Ambrose Light Tower – Waterfront Facility Inspection and Assessment**

Client: United States Coast Guard

Reference: Claudio Polselli
Civil Engineer
USCG CEU Providence
300 Metro Center Blvd.
Warwick, RI 02886
(401) 736-1713

Project Cost:
Engineering: $106,075
Construction: N/A

Completion Date:
Engineering: 2007
Construction N/A

Project Role: Prime Consultant

Permits/Agency: N/A

Description of Project:

Ocean and Coastal Consultants (OCC) provided professional engineering services which included above water and underwater routine inspection, repair recommendations, and estimates of repair costs for the USCG Ambrose Light Tower. The task order was part of a multi-year, indefinite deliverable /indefinite quantity (IDIQ), contract which OCC has been working under for the past four years.

The USCG Ambrose Light Tower is located 8.5 nautical miles southeast of the entrance to Lower New York Bay at latitude 40°27' N and longitude 73°48'W.

OCC utilized surface-supplied air and commercial diving equipment to conduct the above water and underwater inspection. Depths greater than 100 feet were reached during this inspection.

Following impact by a 799-foot tanker ship that struck the Ambrose Light and the collision critically damaged the structure. OCC responded immediately to assemble and mobilize the dive team. OCC utilized its in- house ROV system to investigate the damage in water depths from 65 feet to 100 feet. Emergency stabilization repairs were then designed.

All aspects of the inspection and design services were completed on-time and within budget.

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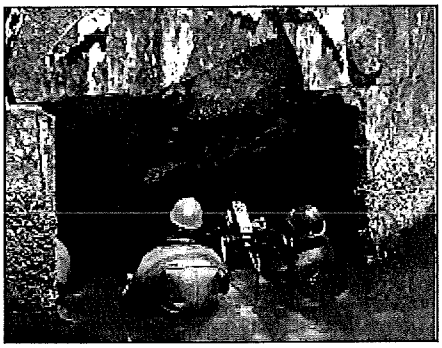

Relevance to PANYNJ

- ☒ Waterfront Inspections
- ☒ Structural Condition Assessment
- ☒ In-Situ Sampling and Testing Program
- ☐ Non-Destructive Testing Program
- ☐ Cathodic Protection System Assessment
- ☐ Resident Engineer/Constriction Support

project experience profile

Project Title:	**USCG Repairs to Orient Point Light** Long Island, NY
Client:	United States Coast Guard (USCG) Civil Engineering Unit (CEU) Providence
Reference:	LT Gregory McLamb USCG CEU Providence 300 Metro Ctr. Blvd. Warwick, RI 02886 (401) 736-1713
Project Cost:	
Engineering:	$85,000
Construction:	$320,000
Completion Date:	2009
Project Role:	Prime Consultant
Permits/Agency:	None

Description of Project:

The Orient Point Light, constructed in 1899, is located in Long Island Sound, approximately 0.4 nautical miles northeast of Orient Point, Long Island, NY. The Light is owned and operated by the US Coast Guard - Aids to Navigation Team, Long Island Sound. The Orient Point Light is comprised of a tower section (brick lined cast iron plate construction), a base section that is a concrete filled cast iron caisson, associated boat landing structures and a perimeter of riprap armoring.

During an above and underwater investigation conducted in February, 2008, the concrete filled circular base of the Orient Point Light was found to be in serious condition. The 1-1/2 inch thick cast iron caisson panels were found to have failed and the interior concrete fill was severely deteriorated.

Repair of the lighthouse foundation presented several challenges: difficult environmental conditions such as high currents and waves; access only via water-borne equipment; and historic structure restrictions.

In order to determine the cause of the deterioration and appropriate repairs, subsurface investigation program and concrete sampling were completed. The subsurface investigation included two borings from a barge. Cores were collected from the concrete caisson fill for compressive strength testing and petrographic analysis.

All project work was completed to meet requirements of project schedule and budget.

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19 WEST 21ST STREET, SUITE 703
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PH 212-545-2125 FX 203-268-8821
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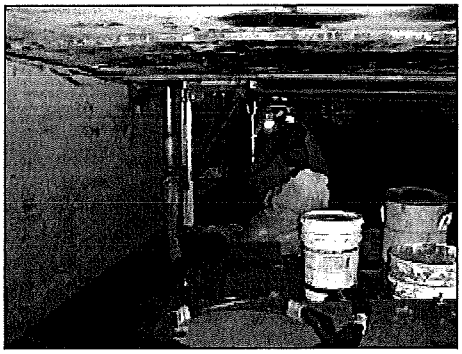
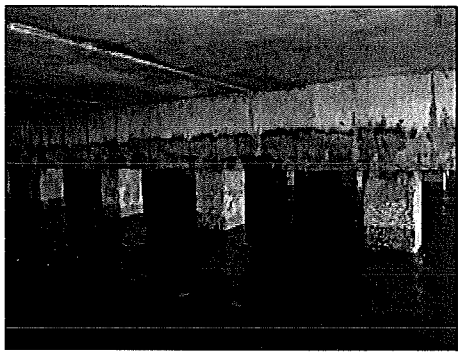
WATERFRONT SAMPLING & TESTING

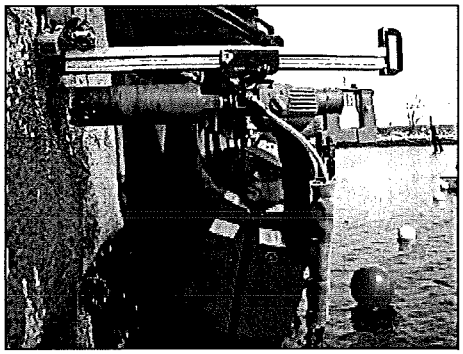
New York, NY



NYCEDC, Manhattan Cruise Terminal
Conducted a concrete investigation on precast prestressed substructure supporting the elevated traffic viaduct south of Pier 88. ***Scope of work included visual inspection, coring, strength testing, chloride testing, and half-cell potential of reinforcing steel.***

NYCEDC, Pier 17 at the South Street Seaport
Completed testing program comprising concrete coring and service life evaluation in response to severe levels of observed deterioration during Routine underwater inspection. The purpose was to determine the cause of structural cracking and remaining service life of structure based on corrosion activity and anticipated chloride thresholds.

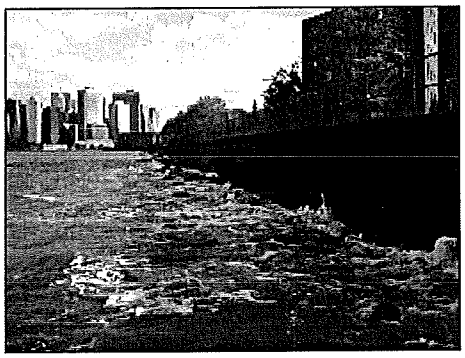




Toys 'R' Us Caesar's Bay Facility, Brooklyn, NY
Extracted cores from pile caps and pedestals for concrete investigation as part of comprehensive inspection program. Scope of work included visual inspection of concrete, strength testing, chloride testing, and half-cell potential of reinforcing steel.

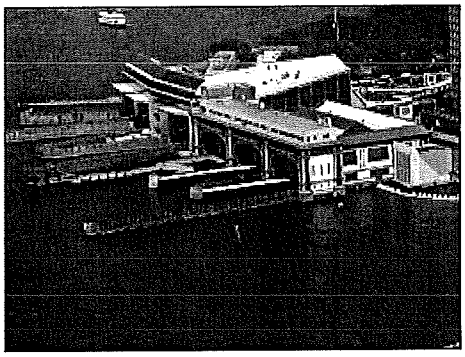
RESIDENT ENGINEERING AND REHABILITATION DESIGN

New York, NY



NYCEDC, Governors Island, NY

Performed above and underwater investigation of the main waterfront structures at Governors Island, NY. The primary objective was to access the structural condition of the two mile long seawall surrounding the Island, as well as the three ship piers on the east side in order to provide preliminary cost estimates for future repairs and maintenance.



NYCEDC, Battery Maritime Building

Scope of Work included permit preparation, contract documents, and resident engineering services for dredging BMB Slips 6 and 7. Original scope changed to include sinkhole assessment & repair, seawall investigation & repair documents, seawall waterfall investigation, and Slip 7 transfer bridge repairs.

DREDGING

New York, NY

NYCEDC, Manhattan Cruise Terminal

Conducted hydrographic surveys, dredge design, preparation of plans and specifications, material volume computations, cost estimates, bid assistance, and resident engineering services including monitoring of placement operations for the annual dredging project at the NYCT. Supervised the removal and disposal of 300,000 cubic yards while adhering to the specifications of both the DEC and USACOE permits. Coordinated the dredge contractor's activities around passenger ship schedules and ongoing waterborne pier construction.

MARINE CONDITION SURVEYS OF PIERS AND WATERFRONT FACILITIES (RFP # 30225)

EXHIBIT I - DAILY DIVE COST ESTIMATE

	ITEM	TIME	HOURLY RATE	MULTIPLIER	*STRAIGHT TIME CHARGE	*FLAT CHARGE	*OFFICE CHARGE
HOURLY RATE	Ch. Engineer Diver	8 Hours	$53.56	2.86	$1,225.45	$382.08	$1,225.45
	Engineer Diver	8 Hours	$38.77	2.86	$887.06	$500.40	$887.06
	Inspector Diver	8 Hours	$26.44	2.86	$604.95	$599.04	$604.95

UNIT PRICES	Workboat (25-ft)	8 Hours	$350.00	/DAY
	Workboat (16-ft)	8 Hours	$250.00	/DAY
	U/W Video Camera System (color) per day		$100.00	
	Hydraulic Wood Coring Equipment per day		$300.00	
	U/W Cutting/Burning Equipment per day		$300.00	
	HAZMAT Diver Encapsulation Gear per day		$200.00	
	Water Jet Pump per day		$150.00	
	Cygnus 1 UT Gauge per day		$140.00	

OCC NOTES:
1. Rates shown are for typical dive team composition. Actual hourly rates will vary depending upon dive team composition. See Section F for actual hourly rates. As a result, flat charge will vary for each staff member.
2. Office charge is all inclusive for time general office time performed by that person. It is equal to the straight time (i.e. No. of Hours x Direct Hourly

* ***NOTES:***

STRAIGHT TIME CHARGE = No. of Hours x Hourly Rate x Multiplier

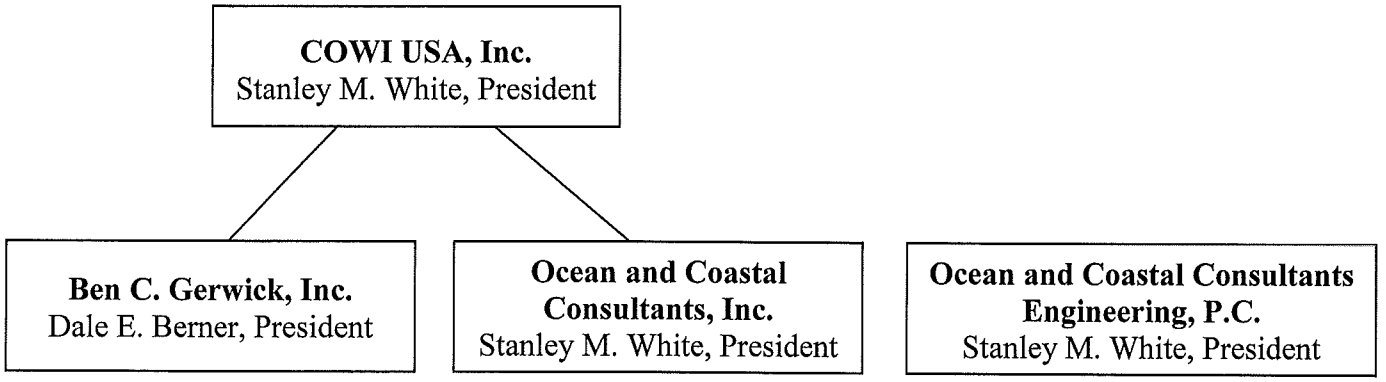
FLAT CHARGE = Diver Premium of $101.32/hour - Employee Rate/Hour x Number of Hours

OFFICE CHARGE = Employee Rate/Hour x Number of Hours (Diver Premium Does not apply) Any office time gets added to the Straight Time Charge Total

OCEAN AND COASTAL CONSULTANTS ENGINEERING P.C.
19 WEST 21ST STREET, SUITE 703
NEW YORK, NY
PH 646-545-2125 FX 646-553-1620
www.ocean-coastal.com

Section J - Firm Affiliates

Ocean and Coastal Consultants Engineering, P.C. (OCC) does not have any Affiliates as defined in Section 32 of the Authority's Standard Agreement. However, OCC does share some commonality with Ocean and Coastal Consultants, Inc., Ben C. Gerwick, Inc. and COWI USA, Inc. as shown below:



Ocean and Coastal Consultants, Inc. and Ben C. Gerwick, Inc. are Affiliates of COWI USA, Inc. Ben C. Gerwick is a marine engineering firm in California with specialization in design-build of large bridge and marine structures, marine foundations, marine concrete and general waterfront engineering. COWI provides the international resources of an additional 150 marine engineers as well as an additional 20 staff in the materials group with worldwide expertise in marine concrete deterioration and steel corrosion.

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Section K - Conflict of Interest Statement

To the best of our knowledge, Ocean and Coastal Consultants Engineering, P.C. (OCC) does not have any real or apparent conflicts of interest for any work that may be performed for the Port Authority of New York and New Jersey (the Authority). We have no employees, agents or subcontractor that have formerly been employees of the Authority, nor do we have any existing or pending waterfront engineering work that is in opposition to sites or projects of the Authority.

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Section L - Exceptions

Ocean and Coastal Consultants Engineering, P.C. (OCC) does not take any exceptions to the standard agreement and terms and conditions for this RFP.