

EDUCATION

University of Rhode Island
M.S., Civil Engineering (geotechnical specialty), 1990
B.S., Civil Engineering, 1984

PROFESSIONAL REGISTRATION

Rhode Island, Massachusetts, Connecticut, Maine, Pennsylvania, New York (inactive)

PROFESSIONAL EXPERIENCE

Fairbanks Engineering Corporation
President, 2000 to present
Pare Engineering Corporation
Vice President, 1997 - 2000; Managing Engineer; 1990 - 1994; Senior Project Engineer, 1989 - 1990;
Project Engineer, 1987 - 1989; Engineer, 1984 - 1987
GZA GeoEnvironmental, Inc.
Senior Project Manager, 1994 - 1997

Dams

Mr. Fairbanks has considerable dam engineering experience having been involved with more than 450 dam related projects since 1987, including earth embankment and gravity dams. His experience encompasses Phase I and Phase II dam inspections, stability analyses for earth embankments and gravity structures, slope protection design, spillway and low-level outlet gate systems modification and replacement design, design of new dams, permitting, and construction observation. He also has experience in preparing Emergency Action Plans, and Operation and Maintenance manuals. Relevant project experience includes:

- **Block Island Rod & Gun Club Dam, Block Island, RI:** Principal-in-Charge and Engineer of Record for addressing a notice of violation (NOV) issued for this dam by the state regulatory agency, RI DEM Office of Compliance & Inspection, Dam Safety Group. This included performing a Phase I type inspection of the dam to evaluate condition and also investigating water outflow including the necessity of an auxiliary spillway structure. Ongoing in 2016.
- **High Hazard Dam Inspections, Rhode Island:** Principal-in-charge and Engineer of Record for 9 Phase I type dam inspections across the state for the RIDEM's Dam Safety Office. Field inspection of each dam and prepare a summary report. Spring 2015.
- **Significant Hazard Dam Inspections, Rhode Island:** Principal-in-charge and Engineer of Record for 21 Phase I type dam inspections across the state for the RIDEM's Dam Safety Office. Field inspection of each dam and prepare a summary report. Winter 2014/15.
- **Lake Aldersgate Dam, Gloucester, RI:** Principal-in-Charge and Engineer of Record for addressing a notice of violation (NOV) issued for this dam by the state regulatory agency, RI DEM Office of Compliance & Inspection, Dam Safety Group. This included performing a Phase I type inspection of the dam to evaluate slope and seepage issues. We prepared an evaluation report with recommended mitigation and monitoring. This resulted in the removal of the NOV. Spring of 2014.
- **Smith & Sayles Reservoir Dam, Gloucester, RI:** Principal-in-Charge and Engineer of Record for addressing a notice of violation (NOV) issued for this dam by the state regulatory agency, RI DEM Office of Compliance & Inspection, Dam Safety Group. This included performing a Phase I type inspection of the dam to evaluate slope stability issues. We prepared an evaluation report with recommended mitigation.

This resulted in the removal of the NOV. Spring of 2014.

- **Pond B Dam, Hudson, MA:** Principal-in-Charge and Engineer of Record for the design and permitting of a new 49-foot high, significant hazard structure at the Highland Commons Shopping Plaza. This included stability analysis, Emergency Action Plan, Operation and Maintenance Manual, review of H&H analysis, and assistance during project bidding. Prepared and obtained the MADCR Chapter 253 application and permit. Provided construction observation throughout the construction. Worked closely with MADCR throughout the design, permitting and construction.
- **2006 Phase I Dam Inspections:** Principal-in-Charge for developing and implementing a Phase I inspection program for Massachusetts Department of Conservation and Recreation. This included field inspections and surveys of 26 dams located throughout southeastern Massachusetts, reviewing available H&H data, and preparing reports prioritizing recommendations for remedial activity and establishing construction costs to repair the dams.
- **North Kingstown, RI Phase I Dam Inspections:** Principal-in-Charge for inspecting and preparing a Phase I inspection report for 3 high hazard dams owned by the Town. This included field inspections and surveys of the 3 dams, reviewing available H&H data and performing updated H&H and Dam Breach analyses, and preparing reports prioritizing recommendations for remedial activity and establishing construction costs to repair the dams.
- **Rodman Mill Dam Inspection:** Principal-in-Charge for inspecting and preparing a Phase I inspection report for the high hazard dams owned by Bakeford Properties in North Kingstown, RI. This included field inspections and surveys, reviewing available H&H data, and preparing reports prioritizing recommendations for remedial activity and establishing construction costs to repair the dams. Also included representing the Owner to the Town and State during monitoring of the structure throughout the historic floods in the spring of 2010.
- **Ocean State Power Dam Remedial Repairs:** Mr. Fairbanks was Project Manager for the repair of the dam located in Burrillville, Rhode Island as part of a design build project. The work included adding pea stone along the downstream slope to choke the stone rip rap and stabilize the sand bedding below the rip rap. It also included repairing a washout along the drainage swale at the left abutment area paving the crest of the unpaved portion of the dam, and grouting a void below the spillway slab. The project was completed in 2001 for a total cost of about \$100,000.
- **Ocean State Power Dam Phase I Inspection:** Mr. Fairbanks was Project Manager and Engineer of Record for a Phase I inspection of the dam located in Burrillville, Rhode Island to determine the existing condition and required remedial work. This also included reviewing previous archives records in an attempt to gather record drawing information for the dam. The project is ongoing at a cost of about \$5,000.
- **Ocean State Power New Dam Design:** Mr. Fairbanks was Project Manager while employed at GZA for design and development of construction bid documents for the construction of a new 40-foot high, high hazard, earth dam. The dam was constructed to impound 29 million gallons of water used for make-up and cooling during the generation of power at the Ocean State Power Plant located a few miles away. The embankment dam design included complete stability analyses for the earth embankment, H&H analyses, and spillway sizing and detailing to pass the required SDF. The project was completed in 1996 for a total cost of about \$3,600,000.
- **Lake Gardner Dam Emergency Inspection:** Project Manager for performing a Massachusetts Department of Environmental Management emergency inspection of the granite block overflow spillway after it was damaged by the flood waters from the October 1996 rains. The damage endangered the stability of the structure and the Town of Amesbury was instructed to undertake emergency repairs in the field. Also performed a hydraulic/hydrologic investigation to determine the recommended lake drawdown level to provide 50, 100 and 500-year storm protection until the spillway could be repaired. Developed options and

costs to repair the spillway. Amesbury, Massachusetts.

- **Lake Gardner Dam Repairs:** Project Manager for design and analysis to install a counterweight berm, blanket drain and toe drain system to mitigate stability concerns due to seepage and slope instability. Work included designing a new stone slope rip rap protection system for the upstream slope, developing and detailing an instrumentation plan for future monitoring of the dam, and developing construction documents for bidding. Amesbury, Massachusetts
- **Lake Gardner Dam, Phase II Investigation:** Project Manager for developing and undertaking an investigation including borings, instrumentation installation and monitoring, inspection, and stability analyses to determine the condition of the 800' long, 25' high earthen embankment. Work included preparing a report outlining existing conditions and developing numerous repair options with associated construction cost estimates. Amesbury, Massachusetts.
- **Silver Lake Dam:** Principal-in-Charge for performing emergency engineering services to replace the spillway after it an unexpected failure. Performed an inspection to determine the cause of the failure and borings and testing to determine the soil and piezometric conditions at the site. Investigated several options for constructing a temporary cofferdam at the site to maintain the pond until the spillway could be replaced. Determined that a Portadam cofferdam system would be most cost effective and environmentally friendly and coordinated with the supplier for the installation. Hydraulic and hydrologic (H&H) analyses were undertaken to determine the spillway design flood for the site and to develop several spillway replacement options. Prepared construction documents to replace the spillway with a reinforced concrete spillway, including the design of sheeting to protect an existing house located immediately adjacent to the new spillway. Provided resident inspection services throughout the duration of the project. Bellingham, Massachusetts.
- **1998 Phase I Dam Inspections:** Principal-in-Charge for developing and implementing a Phase I inspection program for Massachusetts Department of Environmental Management. This included field inspections and surveys of 79 dams located throughout the state of Massachusetts, undertaking hydraulic and hydrologic (H&H) analyses at select sites and reviewing H&H data at all others, and preparing reports prioritizing recommendations for remedial activity and establishing construction costs to repair the dams. Massachusetts-Statewide.
- **Fulton Pond Dam:** Principal-in-Charge for designing and preparing construction documents to replace the spillway with a reinforced concrete spillway capable of passing the spillway design flood required by State law. The work also included addressing other deficiencies including installing a toe drain to control seepage, removing many large trees on the crest of the dam, installing rip rap, raising the crest of the dam to a uniform elevation and re-establishing grass on the dam and downstream areas. PARE was also responsible for obtaining all environmental permits for the project. Mansfield, Massachusetts.
- **1996 Phase I Dam Inspections:** Project Manager for developing and implementing a Massachusetts Department of Environmental Management Phase I inspection program for Wallum Lake Dam. Work included preparing a report prioritizing recommendations for remedial activity and establishing construction costs to repair the dam and a hydraulic/hydrologic analysis to determine the spillway capacity. Massachusetts-Statewide.
- **1995 Phase I Dam Inspections:** Project Manager for developing and implementing a Massachusetts Department of Environmental Management Phase I inspection program for 14 high and significant hazard dams. Work included preparing a report prioritizing recommendations for remedial activity and establishing construction costs to repair the dam. Massachusetts-Statewide.
- **1994 Phase I Dam Inspections:** Project Manager for developing and implementing a Massachusetts Department of Environmental Management Phase I inspection program for 14 high-hazard dams ranging up to 105 feet in height. Work included preparation of reports prioritizing recommendations for remedial

activity and established construction costs to repair the dam. Massachusetts- Statewide.

- **Emergency Action Plans:** Project Manager for preparing Emergency Action Plans for six municipal high hazard dams, including a HEC-1 dam break analysis and preparation of an inundation map for each structure. Gloucester, Massachusetts.
- **Phase II Dam Investigations and Repairs:** Project Manager for field instrumentation (i.e., piezometers, seepage weirs, surveys, etc.) and determining slope stability, hydraulic/hydrologic analyses, preparing an Emergency Action Plan which included dam break analysis and corresponding inundation maps, and preparing operation and maintenance manuals for four municipal dams ranging in size from 40 to 85 feet in height. Fitchburg, Massachusetts.
- **Lovell Dam:** Project Manager for designing the repair of an 80-foot high earthen dam that is currently listed on the unsafe list by MADEM. The repairs included a stability berm, toe drain, blanket drain and grouting of loose zones within the embankment. The estimated construction costs are \$1,500,000. Fitchburg, Massachusetts.
- **Lovell Dam:** Project Manager for developing and implementing a monitoring program for the 80-foot-high, high-hazard earthen dam that was listed as unsafe with the MADEM. Work included the installation of inclinometers, piezometers, and seepage weirs, the development of an EAP to outline evacuation procedures for downstream residents and the development of a preliminary report outlining repair alternatives and construction costs to repair the dam. Fitchburg, Massachusetts.
- **Whiting Pond Dam:** Project Manager for inspection and evaluation of the dam which included installing piezometers. Performed stability analysis of the earth embankment and prepared a Phase II Report outlining findings. Provided geotechnical assistance for the design and development of construction documents for a new spillway system and stone rip rap to protect the upstream slope. North Attleboro, Massachusetts.
- **Falls Pond Dam:** Project Manager for inspecting and evaluating the dam and installing piezometers. Performed a stability analysis for the 15' high stone masonry retaining wall that comprises the downstream face of the dam and prepared a Phase II Report outlining repair options and costs to repair the wall and the stone riprap along the upstream slope. Also, provided geotechnical assistance for development of the construction documents for a new wall and new stone riprap. North Attleboro, Massachusetts.
- **Bickford Pond Dam Culvert Repairs:** Project Manager for inspecting the concrete spillway discharge culvert to determine the severity of cracks where it passes through the 45' high earthen embankment dam. Work also included designing and developing construction documents for bidding to repair the problem using a combination of chemical grouting and epoxy injection. Fitchburg, Massachusetts.
- **Ashby Reservoir Dam Spillway Repairs:** Project Manager for inspecting the concrete ogee overflow spillway to determine the extent of deterioration. The spillway is the primary outlet for the 30' high earth embankment dam. Work included developing construction documents for bidding to repair the deteriorated concrete using full section replacement, shotcrete and epoxy injection. Fitchburg, Massachusetts.
- **Old Pond and New Pond Dams:** Project Manager for Phase II investigation of each dam that included hydrologic/hydraulic analyses, spillway replacement/modifications, rehabilitation of the stone masonry wall at Old Pond and assessing/controlling seepage. Work included preparing a Phase II report, constructing plans to implement repair/modifications, preparing permit applications, and preparing an emergency action plan and operation and maintenance manual for each dam. Easton, Massachusetts.
- **Lower Reservoir Dam:** Project Manager for designing a new reinforced concrete spillway to replace the existing spillway and designing blanket drains to control seepage. Work included preparing construction plans and specifications and obtaining all permits required to perform the work. Westborough,

Massachusetts.

- **1987 Phase I Dam Inspections:** Project Engineer for field inspection and specification of recommendations and remedial measures for 69 dams in southeastern Massachusetts as part of the Massachusetts Department of Environmental Management Phase I dam inspection program. Massachusetts-Statewide
- **Boque Brook Dam Repairs:** Field Engineer responsible for work including shotcrete repairs to deteriorated concrete and pressure injection of epoxy mortar into cracks. New London, Connecticut.

Geotechnical Engineering and Foundation Design

Mr. Fairbanks is a geotechnical engineer with significant design and construction experience throughout New England, New York, Pennsylvania and the Caribbean. His areas of expertise include deep and shallow foundations, braced excavations, bulkheads and retaining structures, dewatering, ground improvement projects (e.g., DDC, VPC), temporary earth support, and dams. His experience includes working both for owners and contractors. Relevant project experience includes:

- **Douglas, Revere & Shrewsbury, Warehouse Developments:** Geotechnical Engineer of Record for several large warehouse buildings. Work included subsurface investigations and testing programs and preparation of Geotechnical Design Basis Reports. These included recommendations for foundation support (including deep foundations in Revere), pavement design, retaining wall design (including a soil nail wall in Douglas), utilities support, subdrains, and slope stability. Provided construction support services as requested.
- **Biddeford & Freeport, ME Developments:** Engineer of record for the geotechnical evaluation, laboratory soil testing, and design recommendations for several large apartment buildings construction at sites with a multitude of soil and groundwater issues, including dealing with issues related to the Presumpscot Clay. Work included foundation, retaining wall, utilities, roads, parking lot design, earthwork recommendations, and slope stability and settlement evaluation. Also provided construction observation services throughout the work.
- **Scarborough, ME Development:** Engineer of record for the geotechnical evaluation, laboratory soil testing, and design recommendations for 12 large apartment building construction at a site underlain by Presumpscot Clay. Work included an initial evaluation that investigated several foundation alternates including piles, mats, floating, spread footing, and lightweight fill to support the buildings. Settlement was a major concern at the site. Our work also included evaluating retaining walls, utilities, roads, parking lot design, earthwork recommendations, and slope stability evaluation. We also provided construction observation services throughout the work.
- **East Lyme, CT Development:** Engineer of record for several phases of geotechnical evaluation and design recommendations for 2 phases of large apartment building construction and adjacent commercial development preliminary evaluation. Work included foundation, retaining wall, utilities, roads, parking lot design, earthwork recommendations, and slope stability and settlement evaluation. Also provided construction observation services throughout the work. Phase I & II are complete to date.
- **IDEXX Laboratories Building:** Engineer of Record for the foundation evaluation and design for a 3-story, 100,000 sf building addition. The site is underlain by soft Presumpscot clay and consolidation was an issue due to the proposed building and fill loads. We investigated several foundation alternatives including preloading, a mat foundation, a floating foundation, and deep foundation (i.e., piles). A deep foundation system was chosen by the Owner and we designed several pipe and H-Pile alternates for use by the Structural Engineer. We also provided design for the large parking lot areas constructed on the soft clay. This required subdrains and geotextile reinforcing fabric in areas. Westbrook, ME.
- **Ballast Bay Road and Slope Stability, Tortola, BVI:** Engineer of Record for the evaluation of slope and

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road stability and design of repairs and preparation of construction plans to address 3 failure areas along Ballast Bay. The failures were the result of severe runoff from rainfall combined with slopes in excess of 50%. Repair alternates included retaining walls, reinforced slopes, and reinforced concrete pavement. Provide recommendations to control and redirect storm runoff to avoid similar failures in the future.

- **Lowe's Home Improvement Centers:** Engineer of Record for geotechnical related issues for several new center construction projects in Rhode Island and Maine. These include projects in North Providence, RI, North Kingstown, RI, North Smithfield, RI, Oxford, ME, Farmington, ME and Brewer, ME. Our work includes developing and executing subsurface investigations and laboratory testing, developing Data & Design Basis reports, and construction support as required. Also review construction documents and provide geotechnical related specifications, notes and details as required.
- **Lowe's Home Improvement Centers:** Engineer of Record for geotechnical peer reviews on projects in Thomaston, ME, Sutton, MA, Hudson, MA, Lowell, MA, Lynn, MA and Salem, NH. This includes reviewing the geotechnical reports and project construction documents for conformance with Lowe's requirements. Also investigating other means of geotechnical construction that may result in cost or schedule savings.
- **General Slope Stability Projects:** Project Manager/Engineer of Record for many slope and global stability projects throughout New England. These projects include: 1) Hudson, MA Retail Development, \$26 million site work design and construction project which included slope and bearing stability for over a mile of MSE retaining walls that ranged in height from 25 to 50 feet high, slope stability for a 50 foot high earthen dam structure, slope stability for several thousand feet of steepened slopes (ranging from 1.25:1.0 to 1.5:1.0) across the site with height ranging from 30 to 60 feet; 2) Naples, ME dam project, included stability slope, seepage and global stability analyses for a 35 foot high earth embankment after it had failed under load during the initial filling; 3) Kennebunk, ME riverbank slope, included soil sampling, testing and stability analysis to design repairs at a failure along the Mousam River during a flood stage flow; 4) Block Island, RI Seawall, perform slope and global stability analyses for a new steel sheetpile bulkhead seawall structure; and, 5) Naples, ME Development, slope stability analysis for the construction of several hundred feet of earth dams required for stormwater detention ponds onsite.
- **Hi-Mast Security Lighting Foundations:** Project Engineer for the design of the foundation system for a security lighting system at the Crown Bay Cargo Port operated by Crowley in St. Thomas, USVI. This included design of several reinforced concrete footings to accommodate a 35 foot and 60-foot high light pole structures. The soil conditions at the proposed foundation areas was up to 20 feet of dredge spoils which greatly complicated the design. St. Thomas, USVI
- **Westbrook Power Plant:** Engineer of Record for the geotechnical investigation and report, foundation design, and construction support for a new electric generating power plant located at a 28-acre parcel. The site soils were complex ranging from hard desiccated, to very soft compressible, Presumpscot Clay to granular soil to bedrock. Structures were supported on deep pile foundations at most location with a few structures that were either lightly loaded or in an area with favorable soil support conditions supported on spread footings. Steel H-Piles were designed to support all structures requiring deep foundation support. We provided WEAP analysis and pile driving criteria. Provided consultation as necessary throughout construction to ensure a proper foundation installation. Also provided assistance to the Owner related to contractor claims for differing site condition claims. Westbrook, Maine.
- **Brooks/Eckerds Corporate Headquarters:** Project Manager for the geotechnical investigation, report and foundation and site work design for the 3-story, 70,000 sf footprint, corporate headquarter building in East Greenwich, RI. The \$30 million building is located on 25 acres of land. The geotechnical issues at the site included 60,000 cyds of excavation in boulder outwash and bedrock, elevated groundwater, and reprocessing of boulders, bedrock and silty soil for reuse as backfill. Also designed a subdrain system for the basement of the building which is located 9 feet below groundwater. The subdrain is a two-component system comprised of a blanket drain below the basement floor slab and a curtain drain located outside of the

building. We provided field observation throughout the project to assist the Owner and contractor. Provide assistance to the Owner in reviewing contractor change order requests.

- **Brooks/Eckerds Pharmacy Stores:** Project Manager for geotechnical related issues associated with all Brooks/Eckerds Pharmacy store construction throughout New England and New York. This includes due diligence (e.g., subsurface investigations and reports), design and construction support. Prepare Geotechnical Reports for all new store construction sites (more than 100 since 2001), review construction documents and provide geotechnical related specifications, notes and details as required, and provide construction observation support throughout the site work/foundation phase of construction. We also are instrumental in assisting Brooks/Eckerds with differing site condition claims. Typical building designs are spread footings and slab on grade however we have designed/specified ground improvement at several sites as a cost-effective alternative to deep foundations. This has included VibroPile Compaction (VPC) at several sites where liquefaction and/or loose fill has been identified. Design and field monitor a preload operation to remove settlement from below the floor area of a store at a site with severe contamination. Design piles to support a store at a site where severe contamination precluded the cost-effective removal of organic soil. Design and oversee construction of several subdrain systems for basements located below permanent groundwater; also design a waterproofing system at one store comprised of a membrane and multi-layer slab with sump at a site where a subdrain was not applicable.
- **Stratford Retail Development:** Project Manager for geotechnical design, construction observation, and contractor personnel training for the redevelopment of an EPA Superfund site for retail use by Home Depot, Shaw's Supermarket, and Wal*Mart. Work included capping the site and the preparing the site to accommodate approximately 500,000 SF of retail building construction in the future. Also included in the work was the development of the subsurface investigation and testing program to identify the geotechnical issues at the site. The conditions at the site included buried peat, organic soils, loose fill, and contamination of the soil and groundwater that precluded excavation of the material. Several ground improvement techniques were developed, including Deep Dynamic Compaction (DDC), DDC and surcharge, soil-cement stabilization, and a pile supported relieving platform. These mitigation methods were employed to allow spread footings to be used to support buildings, which eliminated the need to breach the cap as part of future retail site development construction. The work also included design of bituminous concrete pavement systems using the AASHTO guide for Design of Pavement Structures. The pavement design included heavy and light duty areas with equivalent axle loads (EAL's) in the heavy-duty areas in excess of 2,000,000 cycles. Stratford, Connecticut.
- **Branch Avenue Stop & Shop:** Project Manager subsurface investigation, foundation design and construction observation for a 70,000 SF building. The building site was located over an old stream channel that was abandoned during the Route 95 construction and loose fill material was present to significant depth in the channel. Ground improvement was achieved by using Deep Dynamic Compaction (DDC) to consolidate the loose fill allowing spread footings to be used to support the building, which was a significant cost savings compared to the pile foundation alternative. Monitored construction, including vibration monitoring and pre-DDC surveys of surrounding buildings. Providence, Rhode Island.
- **Manton Avenue Stop & Shop:** Project Manager for monitoring a preload to consolidate soil an outparcel strip building area proposed at the old landfill site. Compressible soils were located below the proposed building area at the former landfill site. Extensive ground improvement was required at other areas of the site including Deep Dynamic Compaction (DDC) to compact the old landfill material to allow the Stop & Shop building to be constructed on spread footings. Providence, Rhode Island.
- **Eastside Marketplace:** Project Manager for the subsurface investigation and testing program, pile design, and construction observation for the construction of an addition to the existing building. The site was underlain by a deep deposit of fill, which was placed over soft silt material that originally comprised the bottom of the Seekonk River. Designed a deep foundation system comprised of steel pipe piles to support the proposed addition. Piles were installed within a few feet of the existing operating market building. Provided field oversight to monitor pile installation and monitor vibrations and effects on the adjacent

building. Providence, Rhode Island.

- **West River Storage Conduit:** Project Manager for geotechnical investigations, design, and the development of construction documents for bidding for the installation of 4300 linear feet of storage conduit to eliminate combined sewer overflows. Work included: determining where trenchless technology was applicable or required, and determining what trenchless method was required for the project; developing an instrumentation plan; braced excavation recommendations; dewatering recommendations; protection of traffic and structures plan; and, requirements for addressing contaminated groundwater and soil. Providence, Rhode Island.
- **Valley Street Underground Storage Facility:** Project Manager for the geotechnical investigations and design for the development of a conceptual design report for the installation of a 7.8-million-gallon underground storage tank and appurtenances to eliminate combined sewer overflows. Work included: investigating and recommending a method of trenchless technology for installing an 84-inch diameter consolidation conduit below the Woonasquatucket River; developing conceptual designs for the earth support system and dewatering for the tank construction; providing foundation recommendations for the ancillary buildings associated with the tank and recommendations for addressing contaminated groundwater and soil. Providence, Rhode Island.
- **East Bay Pipeline:** Project Manager for the geotechnical investigation, laboratory testing and report development for two 30" diameter water pipelines to be tunneled below the Providence River. The pipeline installation will be undertaken using microtunneling or directional drilling methods below the Providence River. The drilling will extend through the surficial deposit (Providence River Silt) into bedrock, which consisted of the Rhode Island Formation (Shale/siltstone with quartz, granite and gneiss intrusions). Providence/East Providence, RI
- **Green State Airport Microtunneling:** Project Manager for investigating subsidence caused during microtunneling a 54-inch RCP below a runway and taxiway. Work included reviewing the tunneling operation and specification to determine the cause of the problem, designing repairs required to correct the subsidence, recommending changes to the tunneling technique that corrected the problems, and observing the runway repair work. Warwick, Rhode Island.
- **Central Landfill Pond #1, 2, & 3 Dredging:** Senior Engineer for developing and reviewing plans and technical specifications for the dredging of sediments from three ponds within an operating landfill. Work included hydraulic and mechanical dredging, constructing settlement basins, and complying with environmental regulations. Johnston, RI
- **Wolf Rocks Trail:** Project Manager for preparing a tunneling feasibility study, preliminary design plans, and construction cost estimates for elimination of an at-grade railroad crossing, along AMTRAK's busy Northeast Corridor. Cut and cover, microtunneling, and tunnel jacking tunneling methods were evaluated at the site. Exeter, Rhode Island.
- **Jamestown Bridge Replacement Project:** Project Manager for design of a 100-foot-long, pile-supported steel rail system used to move 2,200-ton, 167 foot-long, precast trapezoidal box girder bridge sections from Davisville Pier No. 2 onto barges to be transported and lifted into position at the bridge site. Work included field observation of the system construction. Jamestown, Rhode Island.
- **Jamestown Bridge Replacement Project:** Project Manager for designing a hanger system to support the below-water precast pile driving template (40' x 20'±). The hanger system replaced a proposed pile support system. The template acted as the bottom form during the placing of the 9-foot thick concrete pile cap. Work included field observation of the system construction. Jamestown, Rhode Island.
- **Montville Power Facility Expansion:** Project Engineer for designing pile foundations for a 130,000-cubic-

foot auxiliary boiler building a 230-foot stack and a 25,000-gallon condensate storage tank for Northeast Utilities Service Company. Montville, Connecticut.

- **Roger Williams Park Zoo, Elephant/Giraffe Exhibit:** Project Engineer for preparing a comprehensive soils report and specifying foundation recommendations for proposed exhibit structures and utilities to be located over a buried layer of peat. Mitigative measures utilized included lightweight fill, preloading, pile support, peat removal, and floating structures. Providence, Rhode Island.
- **Precious Blood Cemetery:** Project Engineer for designing the soil anchor tie back system utilized to stabilize a 232-foot section of concrete block retaining wall in a state of active failure. Work included field observation of the tie-back system installation. Woonsocket, Rhode Island.
- **Narragansett Bay Commission, CSO Area 2B Headwalls:** Project Engineer for designing the pile foundations for seven reinforced concrete headwalls along the Woonasquatucket River. Providence, Rhode Island.
- **Capitol Center Pump Station:** Project Engineer for designing the pile foundation for a 27- by 10-foot underground pump station along the Moshassuck River, and reviewing the contractor's cofferdam design. Providence, Rhode Island.
- **Capuano Landfill:** Project Engineer for analyzing existing slope stability for circular and sliding block failures, analyzing slope for a slippage failure between cover material and landfill liner, and designing remedial repairs to stabilize slope. Cranston, Rhode Island.
- **Melville Marine Industries Marina:** Project Engineer for analyzing the proposed slope stability of 4,500 feet of shoreline along Narragansett Bay. Both circular and sliding block failures were investigated a proposed bulkheads and riprap revetments to satisfy FEMA requirements for downgrading the flood hazard zone. Portsmouth, Rhode Island.
- **Astroline Terminal:** Project Engineer for design and construction observation of the foundation construction and the steel tank erection for a six million gallon and a one million gallon above ground, steel, oil storage tanks. East Providence, Rhode Island.

Marine and Waterfront

Mr. Fairbanks has considerable experience with marine and deep foundation structures. He has managed, and designed dredging improvement projects, facility conditions surveys, pier and seawall design and rehabilitation projects, breakwater design and construction, and marina improvements in New England and the Caribbean. He has significant experience related to construction observation of these types of projects. He is also experienced in the environmental/coastal permitting process at the local, state and federal level.

- **McAllister Towing Bulkhead, Providence, RI:** Engineer of Record for investigation, design, permitting, and construction plan development for approximately 1,000 lf of a new anchored steel sheetpile bulkhead system to replace the existing timber bulkhead. The new bulkhead is anchored to a steel sheetpile deadman system. The project also involved upgrading all of the bollards to 20-ton capacity, with three 75-ton capacity storm bollards, upgrading all of the site utilities, including water, electric, and sewer, stabilizing the failing pen structures and filling in unused pen structures, upgrading the site stormwater system, and extending the existing 42" NBC outfall system. FEC provided construction observation throughout the project.
- **Newport Onshore Bulkhead, Newport, RI:** Engineer of Record for investigation, design, permitting, and construction oversight for the replacement of approximately 600 lf of new steel sheetpile anchored bulkhead to replace the failing bulkhead system. The project included performing a condition survey of the existing

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bulkhead system including below water areas using a diver and the deadman system. Developing alternates to replace and/or repair the bulkhead system including estimating costs for each alternative. Preparing the design and construction plans for the chosen alternative. Bidding the project and developing the contracts for Owner/Contractor signature. Providing full-time construction observation. Phase I construction was completed in the spring of 2026 and Phase II is scheduled to be completed in the winter/spring of 2026-27.

- **Goodison Shipyard, North Kingstown, RI:** Engineer of Record for design of the pipe piles supporting the 160 ft long steel pier designed to support the 820 MT Travelift; this is reportedly the second largest Travelift in the country with design loads of 827 kips per corner of the Travelift. The project also required the design of a geogrid-reinforced gravel pavement section to support the wheel loads of the Travelift as it traverses the yard. Additionally, an analysis of the existing bulkhead for impacts from dredging to support the shipyard was required, and the findings were included in a report prepared for QDC. FEC developed and observed a soil boring and testing program to support design and prepared construction plans/details. FEC also developed and observed a PDA pile test program and performed periodic construction observation. This work was performed as a subcontractor to St. Jean Engineering, LLC.
- **University of Rhode Island Bay Campus Pier, Narragansett, RI:** Geotechnical Engineer of Record for the design and construction of a new pier and pumphouse at the University of Rhode Island Bay Campus. The new pier, trestle, and pumphouse were constructed to replace the existing pier and associated infrastructure that was constructed in 1963. The pier was a homeport for the R/V Endeavor. The existing pier was demolished and replaced with infrastructure to accommodate URI's new 199-foot vessel, the R/V Resolution. Borings up to 165 feet deep were completed on land and in water in Narragansett Bay. Findings from the subsurface investigation, pile design analysis, and construction recommendations were summarized into a Geotechnical Data Report and a Geotechnical Design Basis Report.
- **Kennebunk Shoreline Stabilization Project, Gooch's Beach & Beach Road, Kennebunk, ME:** Engineer of Record for the investigation, design, and construction plan development for 2720 lf of shoreline stabilization. This included 720 lf of new steel sheetpile bulkhead to replace a failing timber bulkhead along Gooch's Beach. It also included reconstruction and reinforcement of about 2000 lf of existing stone revetment along Beach Avenue. FEC provided construction observation support for the Town.
- **Shoreline Protection, Matunuck Beach Rd, South Kingstown, RI:** Project Engineer for investigation and development of several shoreline protection alternatives to stabilize about 700 lf of road and shoreline that is classified as an emergency as a result of severe erosion due to waves from several storms. This included design and cost estimates for a steel sheetpile wall and stone revetment alternatives, and preparation of a permit application for the sheetpile wall alternate. FEC provided support to the Town throughout permitting, including attendance at public informational meetings. FEC developed a subsurface investigation and oversaw borings to determine soil conditions for the sheetpile wall design and installation. Additionally, FEC prepared plans and specifications for the solicitation of competitive bids for the project and provided bid assistance and construction observation for the Town.
- **Fort Adams Oliver Perry Pier, Newport, RI:** Engineer of Record for design of the foundation piles for a 240 ft long fixed pier proposed at Fort Adams to berth the Oliver Perry. This included 18" diameter steel pipe piles driven plumb and at a batter and either socketed into bedrock or end bearing in soil. Design 14" diameter steel pipe piles to anchor the concrete float located along side of the fixed pier. Our work also included observing soil borings and classifying soil. Prepare bid plans, details, notes and technical specifications for the pile related portion of the project work. This work was performed as a subcontractor to The Louis Berger Group, Inc
- **Fort Adams Americas Cup Trials, Newport, RI:** Perform stability analysis for the area proposed to support a crane used to lift race boats in and out of the water. This included observing soil borings and classifying soil. The analysis included slope stability, bearing failure and settlement analysis. This work was performed as a subcontractor to The Louis Berger Group, Inc.

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- **Quonset Airport, North Kingstown, RI:** Perform a condition survey of about 9000 lf of existing steel sheetpile bulkhead system along the perimeter of the airport property. This bulkhead was installed in the 1940's at the time the Quonset-Davisville military base was constructed. The condition survey included a visual inspection from land and water of the exposed portions of the bulkhead system. We researched the Navy archives to gather information about the existing bulkhead system and subsequent repairs. Prepare a formal report summarizing existing conditions that included repair alternates and construction costs for a sheetpile and a stone revetment. Estimated repair costs ranged from \$23 to \$60 million. This work was performed as a subcontractor to The Louis Berger Group, Inc.
- **New Seawall, Larkin Rd, Watch Hill, RI:** Engineer of Record for design and permitting for the construction of 185 lf of new concrete seawall damaged during hurricane Sandy in Little Narragansett Bay. This is a 17 ft high reinforced concrete seawall that incorporated colored and textured concrete. The project also included the repair of the stone groin adjacent to the seawall. Coordinated work and obtained CRMC permits for the project. Provided bid services and construction observation to support the repair work. The overall project construction cost is \$0.5 million.
- **Seawall and Revetment Repairs, Watch Hill Lighthouse Property, Watch Hill, RI:** Engineer of Record for storm damage assessment, design and permitting for repairing about 200 lf of concrete seawall and over 1000 lf of stone revetment damaged during hurricane Sandy in Block Island Sound. Our work includes a condition survey to assess damage and develop repair alternates for the seawall and revetment areas. A reinforced concrete seawall is proposed to replace the damaged stone masonry seawall. The new seawall may include color and texture concrete to match the historic seawall it replaces. The project also includes temporary revetment repairs that allowed the museum to open for the summer of 2013. The permanent repairs are scheduled for the winter of 2013/14. Coordinated work and obtained CRMC permit extensions for the project. Provided bid services and construction observation to support the repair work. The overall project construction cost is \$0.5 million.
- **New Revetment, 75 Surfside Ave, Charlestown, RI:** Engineer of Record for design and permitting replace 150 lf of existing concrete seawall with a stone revetment along Block Island Sound damaged during hurricane Sandy. The new revetment is comprised of 7-10 ton stone and is constructed in accordance with the USCOE requirements. Obtained CRMC permit for the project. Provided bid services and construction observation to support the repair work. The overall project construction cost is \$150,000.
- **Cliff Walk Seawall, Rock Cliff Mansion, Newport, RI:** Engineer of Record for design and permitting to construct a new reinforced concrete seawall and walkway structure. This 450 ft long structure would provide a safe, elevated walkway for a portion of the Cliff Walk that currently extends along the shoreline. The structure is located in a high wave energy area with design waves in excess of 30 ft just offshore. The structure will be founded on, and pinned to bedrock and will include a re-entrant face. The adjacent earth slope which has eroded significantly over the years will be reinforced with geogrid and vegetation to provide a more robust system. The project is currently in the feasibility stage but we will prepare CRMC and USCOE permits upon the Owner's approval of the design concept. If the project moves forward we will provide bid services and construction observation to support the repair work. The overall estimated project construction cost is \$4 million.
- **New Revetment, 89 Surfside Ave, Charlestown, RI:** Engineer of Record for design and permitting replace 75 lf of existing concrete seawall with a stone revetment along Block Island Sound damaged during hurricane Sandy. The new revetment is comprised of 7-10 ton stone and will be constructed in accordance with the USCOE requirements. Obtained CRMC permit for the project. Provided bid services and construction observation to support the repair work. The overall project construction cost is \$75,000.
- **Clambake Club, Middletown, RI:** Engineer of Record for design and permitting to install shoreline protection system to protect the historic Clambake Club building. The building, reconstructed after the 1938 hurricane, is located on a plateau overlooking Eastons Bay (Atlantic Ocean). The earth slope adjacent to the building has been eroding due to coastal storm wave impacts for years. The design waves at this site are up

to 22 ft high which has caused significant damage to the earth slope; about 15 ft of land was lost during hurricane Sandy which undermined portions of the building. We designed temporary repairs to stabilize the building to allow use during the summer of 2013. The permanent design repair is comprised of 250 lf of reinforced concrete seawall up to 25 ft high with a re-entrant face. The seawall is founded on, and secured to the bedrock using drilled piles to resist the tremendous forces from the design waves. A soil nail wall and underpinning system is required to protect the building and allow for the seawall to be constructed. The seawall is buried behind an earth slope that is reinforced and vegetated to match the surrounding earth slope areas. Prepare necessary CRMC and USCOE permit applications (pending). Provide construction bid and observation services once project permits are obtained. The overall estimated project construction cost is \$3 million.

- **Terrance B Lettsome International Airport, Beef Island, BVI:** Project Engineer for portions of the coastal modeling and marine structures engineering associated with the Environmental Impact Study (EIS) for a \$70 million dollar airport expansion project. Specifically, developed preliminary geotechnical conditions and associated seismic design requirements. Develop preliminary design and section details for the stone revetment required to protect the exposed exterior perimeter from hurricane/cyclone wave forces. Investigate and provide recommendations to perform ground improvement (DDC & VPC) to densify liquefiable soils that will result from placement of dredged sand materials below water in the runway expansion area. Investigate available borrow areas that can provide necessary sand and stone borrow materials for the project. Preliminary investigation into canals, a pile supported runway section, and installing culverts below a portion of the runway to improve current flow and water quality in Trellis Bay. Develop construction cost estimates.
- **Ferry & Tender Pier Project, Tortola, BVI:** Project Engineer for design of a new ferry and tender pier to expand the existing cruise ship terminal in Road Town Harbor. This included design of an anchored steel sheetpile bulkhead system to allow filling to create the new Ferry Pier area. Investigate several alternatives to allow for a cost-effective bulkhead solution to be chosen by the contractor. Completed design for the steel pipe piles required to support a new concrete Tender Pier. Undertake PDA analysis to determine required blow counts for the pile driving contractor's driving equipment. Provide design review for a new stone breakwater and revetment system to protect the new pier areas. Also provided construction support services throughout construction as necessary to clarify or redesign components as requested.
- **Revetment Repair, Whipple Ave, Warwick, RI:** Engineer of Record for design and permitting to repair 202 lf of existing stone revetment along Narragansett Bay damaged during a storm event. Obtained CRMC and COE permits for the project. Provided bid services and construction observation to support the repair work.
- **Shoreline Protection, Matunuck Beach Rd, South Kingstown, RI:** Project Engineer for investigation and development of several shoreline protection alternatives to stabilize about 700 lf of road and shoreline that is classified as an emergency as a result of severe erosion due to waves from several storms. Includes design and cost estimates for a steel sheetpile wall and stone revetment alternatives. Preparation of permit applications for the sheetpile wall alternate. Support Town throughout permitting including attendance at public informational meetings. Undertake borings to determine soil conditions for sheetpile wall installation. Prepare plans and specifications for solicitation of competitive bids for the project.
- **Crowley Port Facility Security Lighting, St. Thomas, USVI:** Project Engineer for foundation design associated with installation of 9 light poles to provide improved operating and security lighting. The poles range in height from 35 to 100 feet. The foundations alternates investigated and designed include reinforced concrete spread footings and helical pile foundations. Prepared construction plans, details and notes for bidding. The project funding was through the US Department of Homeland Security.
- **Crowley Port Facility Crane Improvements, St. Thomas, USVI:** Project Engineer for the design of several foundation improvement alternatives required to support the new crane being purchased by Crowley. The proposed Gottwald Mobil Harbour Crane, Model HMK 260E will increase loads substantially on the

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existing anchored steel sheetpile bulkhead. Our analysis indicates the bulkhead system is at maximum capacity and cannot support the added load from the proposed crane. We investigated and performed preliminary design for several alternates including: 1) pile supported relieving platform, and 2) a combination pile supported rail system below the crane outriggers with stone columns and geotextile reinforced soil in the crane travel lane between the rails. The crane improvement area is about 65 ft wide and 400 ft long.

- **O'Neill Properties Weaver Cove Project:** Engineer of Record for the preliminary design of a 4500 LF breakwater system to protect a 1500 slip marina. Responsible for the pile design for a steel A-frame, concrete panel, wave fence type breakwater system. This breakwater system includes the use of mini-piles, drilled through the pipes of the A-Frame, into bedrock to develop the uplift capacity necessary to resist the wave loads. Also performed failure testing on a scale model of the breakwater system and developed/oversee a wave tank study performed by the University of Rhode Island to better determine loads on the breakwater and wave transmission characteristics. The estimated breakwater cost is \$30 million.
- **O'Neill Properties Weyerhaeuser Marina Project:** Engineer of Record for the preliminary analysis of the pile and/or anchor systems for a floating breakwater system to protect a proposed marina.
- **Block Island Town Dock Replacement:** Engineer of Record for the design of a replacement steel sheetpile bulkhead system to replace a failing existing system and also the design of the timber pile systems required to support the fixed timber dock systems. Also responsible for construction observation and management through completion including the addition of a new Harbor Master's Building to the overall project construction contract. The overall project construction cost is \$2.5 million.
- **Kvaerner Philadelphia Preliminary Geotechnical Investigations and Design:** Project Manager for geotechnical investigations and studies for extensive facility improvements at the former Philadelphia Naval Shipyard. In order to create a modern, world-class shipbuilding facility, Kvaerner is upgrading two existing 1,100' x 150' dry docks, outdoor crane runways, and all utility infrastructures within a 114-acre parcel of the former Navy Shipyard. New construction includes six buildings totaling 670,000 SF for ship construction activities, several new cranes (the largest is a 200-foot-high gantry crane with a 400-foot span and a lifting capacity of 800 tons), an internal road network, two parking areas, and several at-grade outdoor storage areas. Work included directing the performance of site research and reviewing available geologic and geotechnical data; developing and executing soil boring and test pit investigations; field and laboratory testing of soil, rock and concrete samples; preparing Geotechnical Data and Design Reports; designing pile foundations; and developing a pile load test program. Philadelphia, Pennsylvania.
- **Pfizer Inc. Shoreline Protection Project Investigations:** Project Manager for a comprehensive boring and testing program to determine subsurface conditions on land and in the Thames River; a wave study to determine the design wave height for revetment design; slope stability and settlement analyses for existing and proposed construction sections; installing inclinometers and developing a program to monitor sections currently moving; mitigative repair alternatives for structures damaged by previous movement; developing procedures for constructing the remainder of the revetment without causing damage to existing structures; and preparing comprehensive reports outlining the findings and recommendations from the monitoring, testing and analyses performed. Groton, Connecticut.
- **Pfizer Inc. Shoreline Protection Project Design:** Project Manager for designing and developing construction bid packages for protecting approximately 1500 linear feet of shoreline using a stone revetment with a concrete bulkhead at the top. Work included determining construction sequence to place revetment stone in areas with marginally stable slopes, and protecting shoreline structures and utilities from an anticipated 2 feet of settlement. A test section area was designed and instrumented to determine actual field reaction during revetment construction which was used to refine the construction procedure for the remainder of the work. In addition, the area of construction is over previously reclaimed river bottom, filled mostly with blast rock from past building construction. Due to tidal action and surface runoff, sinkholes plagued the area frequently rupturing utilities. Work also included specifying methods to excavate the

roadway, choke the stone, and stabilize the road area. Secondary land side walls were designed to protect critical structures and tanks inland of the revetment. Construction bid documents were prepared for each of the following: test section revetment; revetment stone; revetment concrete bulkhead and piles; road rehabilitation; and protective walls. Groton, Connecticut.

- **Pfizer Inc. Shoreline Protection Project Construction:** Project Manager for construction observation and monitoring during construction of the shoreline protection system. Work included stone placement and quantity tracking, pile installation for the concrete wall, concrete wall construction, extension of a 24" outfall pipe, and protection of an existing pump station, outfall structure and pipe, pipe racks and utilities. During construction continual monitoring and evaluation of inclinometers, structures, and utilities was performed. Groton, Connecticut.
- **Mobil Oil Rehabilitation of Dock Facility:** Project Manager for design and preparation of plans and specifications for replacement of tie rods for 1,000 feet of anchored bulkhead, installation of new sheetpile bulkhead at south end of berth, repairs to deteriorated sheeting and piles, and coating of all exposed sheeting, piles and loading platform framing above and below water. Work also included obtaining permits from the RICRMC and USACOE. East Providence, Rhode Island.
- **Galilee Ferry Terminal Rehabilitation:** Project Manager for condition surveys of two timber piers, steel bulkhead and timber cluster dolphins. Designed fast track, two pier replacement structures, a 210- by 50-foot timber pier capable of carrying supply trucks serving the Block Island Ferry and a 130- by 6-foot timber access pier. Designed an anchoring system for the existing steel sheetpile bulkhead and new cluster dolphins. Also responsible for obtaining RICRMC and USACOE permits. Narragansett, Rhode Island.
- **South Quay Port Development:** Project Manager for preparation of numerous investigations, designs and cost estimates, over a 10-year period, for the proposed \$40 million facility. Work included preparation of plans and specifications for hydraulically dredging 300,000 yards of material, preliminary design and cost estimates for numerous configurations of a 1900' long relieving platform, dolphin design, stability analyses and obtaining permits from the RICRMC and USACOE. East Providence, Rhode Island.
- **Dow Chemical Company USA, Allyn's Point Plant:** Project Manager for the design of dredging 100,000 cubic yards at Dow's Ship Berth along the Thames River and the design of 4 cluster breasting dolphins, to replace deteriorated dolphins. Work also included obtaining CTDEP and USACOE permits. Connecticut.
- **United Illuminating Bulkhead:** Project Engineer for performing a condition survey and preparing a report to determine the condition of 260 feet of anchored steel bulkhead along the Mill River to resist proposed loads from a future control switchgear building. The condition survey included ultrasonic readings to obtain steel thicknesses, diver's inspection below low water, and an inspection and assessment of the cathodic protection system. The report included recommendations and cost estimates to repair the bulkhead and cathodic protection system. New Haven, Connecticut.
- **Rehabilitation of Pier 1:** Project Engineer for undertaking a condition survey of the timber pile supported concrete deck pier structure. Designed shotcrete repairs to the underside of the concrete deck, concrete encasement of damaged wood piles, installation of new piles, and rehabilitation of expansion joints in the concrete deck. Davisville, Rhode Island.
- **Repair of Exxon Oil Terminal:** Project Engineer for undertaking a condition survey and design of repairs to timber deck and substructure, dock fenders, installation of new piles, and underwater wrapping of borer-damaged piles. Work also included obtaining MA and USCOE permits. Everett, Massachusetts.
- **Narragansett Electric Seawall Rehabilitation:** Project Engineer for undertaking a condition survey of the waterfront structures along the Providence River at the South Street Station. Designed and prepared construction documents for the proposed removal of an existing timber pier and the construction of three types of bulkheads along the waterfront to stabilize failing areas containing important structures.

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Providence, Rhode Island.

- **Wilkes-Barre Pier:** Project Engineer for undertaking a condition survey of the CIRCA 1880 pier on the Providence River. Designed an anchored sheet pile bulkhead to reinforce a failing granite bulkhead and repairs to loading platform pile substructure and timber relieving platform structure. Work also included obtaining RICRMC and USACOE permits. East Providence, Rhode Island.
- **Gulf Oil Company Upgrading of Petroleum Off-Loading Facility:** Project Engineer for a feasibility study including cost estimates for two options; Option 1, lengthen the existing berth, upgrade two cofferdam-type breasting dolphins and incorporate a third breasting dolphin, removal of 800 cubic yards of rock by blasting , and relocate two separate pipe manifolds; Option 2, realign the berth, install two new cofferdam breasting dolphins, install a new timber pier, relocate two off loading pipe manifold systems, and dredge the berth to -40 MLW. South Portland, Maine.
- **Melville Marine Industries Marina:** Project Engineer for designing a 4,000-foot-long breakwater to protect a proposed 1,500-slip marina in Narragansett Bay. Two separate breakwater designs were undertaken: a Green-heart timber pile system composed of a soldier and a batter pile; and a 54-inch-diameter Raymond cylinder pile cantilever system. Portsmouth, Rhode Island.
- **Warren Commercial Fishing Pier Facility:** Project Manager for designing a \$1.5 million commercial fishing facility on the Warren River that included a 12,500-square-foot filled sheet pile pier, 420 linear feet of anchored sheet pile bulkhead, 60 floating slips, and 13,500 cubic yards of dredging. Work also included RICRMC and USACOE permits. Warren, Rhode Island.

PROFESSIONAL AFFILIATIONS

Rhode Island Professional Engineering Board – Emeritus Board Member
NCEES

PUBLICATIONS

Co-Authored "So You Think Your Dam Is Covered By Insurance? Think Again"
Proceedings 1998 ASDSO National Dam Safety Conference, Las Vegas, Nevada

Co-Authored "Full Scale Footing Load and Settlement Response Case Study" Geo-Frontiers 2011 Conference
Proceedings, Dallas, Texas

Co-Authored "Coastal Shoreline Protection Using Hard Structures" Public Presentation in 2014 during CRMC's sea-level rise informational session