



REQUEST FOR QUALIFICATIONS

City of Shelton

TECHNICAL & PROFESSIONAL CONSULTING SERVICES FOR THE ENVIRONMENTAL RESTORATION OF THE SHELTON CANAL, HISTORIC PRESERVATION OF THE SHELTON CANAL LOCKS & ESTABLISHMENT OF PUBLIC ACCESS TO THE SHELTON CANAL LOCKS PARK & RIVERWALK

RFQ # 41-06

August 27, 2021

Employee owned. Client driven.





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SECTION II	Firm Overviews
SECTION III	Project Approach / Understanding
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LETTER OF INTEREST & SIGNED ADDENDUM FORMS



September 26, 2021

Mr. Gene Sullivan
Purchasing Agent
City of Shelton, CT
54 Hill Street
Shelton, CT 06484

RE: RFQ# 42-06 – Engineering Services - Shelton Canal Locks Park

Dear Mr. Sullivan:

BL Companies Connecticut, Inc. (“**BL Companies**”) is enthusiastic about the opportunity to continue assisting the City of Shelton in bringing the long sought-after vision of the Shelton Canal Lock’s rehabilitation to reality and pleased to submit our qualifications in response to the Shelton Canal Locks Park RFQ. Our team brings expertise in all facets of developing a comprehensive master plan to include the historic lock feature within your northern Canal Street Brownfields area, and engineering to rehabilitate the historic locks and further enhance the Canal Street Corridor and riverfront of the Housatonic River. We look forward to continuing our successful collaboration to further the City of Shelton’s prosperity and define a strategic, comprehensive master plan that is exciting, celebrates the history of the Canal Locks and realistic in vision, scope and implementation strategy. American history, such as the Shelton Lock should be preserved, we applauded the City’s effort to do so. BL Companies is the appropriate multidisciplinary, Connecticut based firm to lead and management every facet of this project:

- BL Companies is a multi-disciplinary firm providing ASMEP, Civil Engineering, surveying, environmental, and construction administration services to numerous Connecticut municipalities and state agencies. Our firm is also one of the leading firms in the state has extensive experience and expertise in this type of project. The combined public and private experience of our firm will provide a great benefit to the City on this contract.
- Of our nearly 400 employee owners, BL Companies has over 210 employees based in our Connecticut Meriden and Hartford offices, located a short distance away. We are committed to partnering with the City on completion of its important infrastructure, historic preservation, downtown / Canal Street conductivity, and related projects.
- Ranked among the Top 500 Design Firms in the US by Engineering News-Record (#158) and ranked #7 on The Zweig White 2020 Hot Firm List for multidiscipline firms. Our growth, success and commitment to our clients is driven by the fact that BL Companies is employee owned. Our employee owners have a vested stake and interest in the completion of each of our client’s projects.

Dennis Goderre, PLA, AICP CUD, will be the assigned project manager for this project. Mr. Goderre is a licensed Connecticut Landscape Architect, member of AICP and Certified Urban Designer. He brings over 25 years of experience in the municipal and private consulting sector. Dennis’s experience with “sitting behind both desks” during his career brings an understanding to the success of managing municipal projects that few can compete with. Prior to joining BL Companies, Dennis was Planning Director for the City of Groton, Town of Waterford and Chief Staff Planner/Project Manager for the City of Hartford. During Dennis’ tenure in public service, as well as a private

consultant, Dennis has worked closely with boards, commissions, and organizations on the preservation of Connecticut's historic, cultural, and natural resources. Furthermore, Dennis brings a balanced approach between understanding the municipal sector's responsibilities of long-term planning with his abilities to manage diverse multidisciplinary teams throughout the implementation phases of a project.

Our Team understands one of the fundamental challenges of this project is securing the necessary funding to implement a phased approach of construction. Discussed further in our Approach, from the onset we will work to identify funding's sources and assist with securing grants by helping to prepare applications and outreach with source agencies or organizations. Dennis Goderre is experienced in grant writing. While a city planner, Dennis was instrumental in securing millions of dollars in grants through various sources including, Urban Act, DECD funds, Long Island Sound Futures Fund, private corporations, DEEP, SHPO and The CT Trust for Historic Preservation. We look forward to bringing this service to our Team's expertise.

Dennis will be supported by a multi-disciplinary team of experts. While our team is more comprehensively described in Section VI, we bring every aspect of planning, lock restoration, environmental sciences, historic preservation, geotechnical engineering, landscape architecture, urban design, engineering and public outreach to develop a realistic and implementable plan. In addition to the team members listed in the organizational chart, working closely with Dennis is Matthew Robillard, PE and Timothy Myjak, LEP. Both individuals are very familiar with this project and, along with the BL Companies principal in charge Derek Kohl, have recently collaborated with the City of Shelton to initiate this project. Tim Myjak will head up our environmental assessment activities. Tim has worked on several Canal Street projects and brings his knowledge of the area to the team. Matt Robillard will lead the technical team of engineering. Matt is experienced in permitting, stormwater, flood control and site engineering. Derek heads up all things engineering here at BL, across the country. When he heard about this project from Tim, he could not wait to get involved. Why are we so interested and enthusiast, because it is projects like this that make a difference to communities. We look forward to knowing that our expertise will benefit others for decades to come.

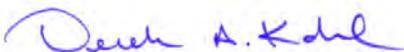
BL Companies, as the lead and prime consultant, is locally headquartered in Meriden with offices throughout the eastern United States. We are comprised of many of the A/E disciplines necessary to lead and develop the Master Plan. To complement our services, we have teamed with:

- **Bergmann Architects, Engineers & Planners** - Experts in in lock design and engineering, including historic lock restoration;
- **Archaeological and Historical Services, Inc** - The recognized leader in cultural resource management. Having completed archeological research and conducted field work on the canal and locks, AHS is intimately familiar with the site and canal assets; and
- **Down to Earth Consulting, LLC** - Geotechnical engineering and DBE/SBE/WBE certified consultants.

BL Companies has a proven working relationship with each firm and collectively our team's experience will develop a strategic area and park master plan that will successfully restore the locks, celebrate and preserve their history and further reconnect the community to the riverfront. This is an exciting and critically important project for the City of Shelton, and we look forward to the opportunity to assist your community in developing a comprehensive plan that complements and enhances the investments already made along the riverfront.

Sincerely,

BL COMPANIES

A handwritten signature in blue ink that reads 'Derek A. Kohl'.

Derek A. Kohl, PE

Executive Director of Engineering, Principal



City of Shelton

54 Hill Street

Shelton, Conn. 06484

203-924-1555

Fax: 203-924-4273

August 4, 2021

ADDENDUM # 1

BID# 42-06: RFQ Engineering Services For Shelton Canal Locks Park

Please note a date change on the 12th page into the bid packet (last page prior to the pictures), which read that:

"Letters of interest and corresponding documents must be received no later than 11:00 AM on **Thursday September 2, 2021**. Responses received or postmarked after this date will not be considered."

The correct date is **Friday, August 27, 2021**, no later than 11:00 AM local time. Please complete and sign below and submit this Addendum # 1 with your sealed Bid to the City.

Sincerely,

Paul H. Hiller, Director of Finance

City of Shelton

203-924-1555 x 1318

p.hiller@cityofshelton.org

I have received Addendum # 1 to Bid # 42-06

Company Name: BL Companies Connecticut, Inc.

Contact name (PRINT): Katherine M. Rodo

Contact Signature: Katherine M Rodo

Date: 8/4/2021

FIRM OVERVIEWS



BL Companies, an employee-owned firm, is a leader in delivering high-quality, integrated architecture, engineering and related services to public and private clients for land development, building design, and infrastructure projects.

Founded in 1986 as a small transportation planning and civil engineering firm, BL Companies has grown to become a leading multi-discipline firm sought for our quality, creativity and expertise in producing successful project outcomes. We are dedicated to total client satisfaction. Our success is founded in our employee owners and a culture that inspires, challenges and insists on nothing short of professional excellence.

Consistently listed in the Top 500 Design Firms in the country by Engineering News-Record, BL Companies has offices in twelve states, including Connecticut, Florida, Maryland, Massachusetts, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Tennessee, and Texas.

As an employee-owned company, we advocate a team approach and strive to formulate long lasting relationships with our clients and business partners. We believe there is no limit to what a team can do when working in a true partnership. Supplying clients with creative solutions based on a collaborative process assures a result that is greater than the sum of its parts.

The employees at BL Companies are the foundation of our existence as a firm and a professional community. We help support our employees in finding the right balance between work and life. We are pleased to be an employee-owned, team-oriented company where every individual shares in each other's successes.

DELIVERING INTEGRATED SERVICES:

- Architecture
- Structural Engineering
- MEP Engineering
- Civil Engineering
- Transportation Engineering
- Landscape Architecture
- Planning
- Land Surveying
- Subsurface Utility Engineering
- Environmental Sciences
- Construction Inspection & Administration



Meriden, CT (Corporate Headquarters)

355 Research Parkway
Meriden, Connecticut 06450-7100
Tel: 203.630.1406
Toll free: 800.301.3077
Fax: 203.630.2615

Hartford, CT

100 Constitution Plaza, 10th Floor
Hartford, Connecticut 06103-2403
Tel: 860.249.2200
Fax: 860.249.2400



Integration is not merely a word. At BL Companies, it describes the way we do business. Our civil engineers work collaboratively with our engineering teams to coordinate and integrate architectural, structural, MEP and civil engineering elements and address a client's requirements, visions, schedule and budget. In this process, we ensure high quality, practical, seamless, cost effective project solutions.

BL Companies provides civil engineering services for an expansive range of building types and sizes and clients in all phases of site design or renovation. Whether interpreting land use regulations, meeting zoning requirements or value engineering a multi-site program, the Civil Engineering Group at BL Companies understands the importance of thorough research and planning, technical skill and innovative thinking. Just as important, our expertise in local, state and federal permitting allows our clients to strategize the most effective ways to resolve issues. Our civil engineers are often involved in projects from the beginning of design to the completion of construction. This enables the team to gain valuable lessons learned and to incorporate these into our designs. BL Companies has more than 60 professionals providing civil engineering services to a broad clientele.

WE SPECIALIZE IN:

- Feasibility/assessment studies
- Site design
- Low impact development design
- Drainage and hydrology design
- Utility systems coordination and design
- Public land use permitting
- Sanitary and septic design
- Roadway design
- Subdivision infrastructure design
- Construction services
- Stormwater management and permitting
- Playscape design
- Trail design



At the start of a project, it's important for a landscape architect to ask and answer the questions: what is the purpose of this space and what should it reflect? Landscape architecture—the planning, management, preservation and rehabilitation of land and the planning and design of that land—lays the foundation for the project and helps characterize the project's identity. BL Companies' landscape architecture professionals work with clients to shape their visions of a project site to unveil its best possible uses.

BL Companies provides landscape architecture services to private and public sector clients. We use creative design solutions to guide change. A detailed design process creates the project's image and character and helps transform the project's visions into reality. Our expertise ranges from the creation of public parks and parkways to site planning for corporate office buildings, from the design of residential communities to the design of civil infrastructure and the management of recreation areas. We tailor our creative development strategies and design solutions to each client's project, vision, goals and budget. This is vital to maintaining the integrity of the past while moving into the future.

WE SPECIALIZE IN:

- Streetscape enhancements
- Public spaces and courtyards
- Site analysis and master planning
- Educational facilities
- Corporate development
- Residential communities
- Irrigation design
- Parks and open space planning
- Athletic field design
- Playscape design
- Trail design
- Sustainable design strategies
- Permitting
- Construction documentation



Environmental issues, whether contamination or resource assessments, often shape a project's schedule or budget. They may even control the feasibility of the project. BL Companies offers a complete range of environmental science resources, combined with technical knowledge and expertise, to develop creative, cost-effective, responsible solutions that bring a client's project to completion. Our diverse expertise in transaction-based problem solving, assessing and securing environmental permits, and navigating the myriad environmental resource assessment and permitting issues provides our clients with a single resource for environmental needs typically not found under one roof.

The Environmental Team at BL Companies has substantial experience performing single-site to multi-site assessments for a wide array of public and private clients. Based on the needs of each project, we bring together a team of professionals from various environmental disciplines to address the needs of the client and the project. We understand the complexity and time sensitivity issues and can grasp a client's objectives, identify problems, solve critical site issues and provide solutions.

Site Assessment and Remediation

- Site Remediation & Closure
- Brownfields Redevelopment
- Hazardous Building Materials Inspection
- Environmental Compliance Audits
- Environmental Permitting & Compliance
- Phase I, II & III Environmental Site Assessments
- UST/AST Compliance
- Geophysical Investigations
- Water Quality Testing

Environmental Resources Management and Permitting

- State and Federal Wetland Identification & Delineation
- Jurisdictional Determinations
- Local, State & Federal Permitting
- Ecological & Habitat Evaluations & Restoration
- Threatened & Endangered Species Coordination & Studies
- Wetland Mitigation Design, Construction Oversight & Monitoring
- Stormwater Management
- National & State Level Environmental Policy Act (NEPA) Compliance
- Expert Testimony

Cultural Resource Management

- Consultation Under Section 106 of the National Historic Preservation Act
- Archaeological Surveys & Investigations
- Historic Architectural Resources Surveys
- Tribal Consultation
- Geomorphology Studies
- Cultural Resource Desktop Review

Water Supply Management and Permitting

- Water Supply Development and Aquifer Testing
- Water Quality Testing and Monitoring
- Water Diversion Permits
- Wastewater Discharge Permits



BL Companies' Natural Resources Group focuses on environmental resource studies related to land development, transportation, energy, infrastructure, telecommunications and regulatory compliance activities. Our professional staff includes ecologists, wetland scientists, soil scientists, wildlife biologists and environmental planners who address the comprehensive range of resource management issues that may arise on any large or small, public or private project.

BL has a team of diverse scientists that are capable of collecting and processing field data for a variety of simple to complex projects. Our team of resource and permitting experts routinely coordinate with project designers and engineers early on in project development to identify sensitive resources and develop avoidance, minimization or mitigation strategies when required. This coordination translates into financially responsible project management with minimized project delay.

The team's collective expertise helps clients through the environmental documentation and permitting processes with sensitivity to schedules, budgets and public opinion. Our environmental professionals are keenly familiar with the processes in their respective regions and understand the intricacies of funding sources, and the various required reviews that different actions will trigger. Their relationships with regulatory agencies and knowledge of requirements provide our clients with clear and concise navigation in the regulatory arena.

BL Companies employs the latest technologies including the use of Geographic Information Systems (GIS) and Global Positioning Systems (GPS).

WE SPECIALIZE IN:

- State and federal wetland identification & delineation
- Jurisdictional Determinations
- Local, state and federal permitting
- Ecological & habitat evaluations & restoration
- Threatened & endangered species coordination & studies
- Vernal pool surveys
- Bat habitat assessments
- Floodplain assessment and permitting
- Coastal Resource identification and permitting
- Wetland mitigation design, construction oversight and monitoring
- Stream assessment, stabilization & restoration
- Soil evaluations and infiltration testing
- Environmental inspection for construction
- Stormwater Management
- National Environmental Policy Act (NEPA)
- State level Environmental Policy Act Compliance
- Expert testimony



An accurate, detailed land survey is essential to the success of all planning, design and property development. Since the inception of BL Companies in 1986, we have completed surveys for all aspects of planning and construction.

Our experienced survey team, under the direction of multiple licensed surveyors, brings abundant resources and extensive experience in the area of land surveying and mapping. We have a strong history of providing these services to our clients in real estate, energy, transportation, government and building design. From ALTA land title surveys, to construction layout, to utility mapping in conjunction with our utility locating and designating services, our team has the ability to be very responsive and flexible in serving the diverse need of our clients.

The BL Companies team is committed to a philosophy of continually upgrading our resources to employ the advantages of the most technologically advanced hardware and software. We possess GPS, 3D Laser Scanning and Drone Mapping technology and employ state of the art robotic total stations on a daily basis, which not only increases accuracy and efficiency; it means the successful completion of projects in a timely and cost effective manner.

At BL Companies, we make safety a high priority on all of our projects. All Team members share the responsibility of securing a safe work environment. From start to finish, we give the same level of expertise and attention to each of our clients. Our experienced team upholds the highest standards of professionalism to our clients and the industries we serve.

WE SPECIALIZE IN:

- GPS services
- Property/boundary surveys
- ALTA/NSPS land title surveys
- Topographic surveys
- Construction layout
- Photogrammetric control
- Railroad and bridge surveys
- Right of way determination
- Utility surveys
- Hydrographic surveys
- Flood elevation Certificates
- Pipeline surveys
- 3D Laser Scanning
- UAV (Drone) Mapping



Transportation affects people in one way or another and that includes highways, roadways, bridges, traffic signals, intersections, parking, pedestrian routes and bicycle paths. These transportation issues are sometimes troublesome for people. However, they are routine issues for the Transportation and Infrastructure Engineering Team at BL Companies. That's because transportation is about more than getting from place to place. At BL Companies, our transportation engineers work in collaboration with our clients to address their requirements, visions, schedule and budget.

Safety issues, capacity requirements, last minute design changes and navigating the permitting process can be cumbersome. BL Companies' experience working with municipalities, state agencies and developers provides clients with a unique perspective and advantage in solving traffic and transportation issues. We understand the entire process, from roadway and bridge design, build and no-build options and traffic studies to permitting and construction bids. Our diverse portfolio, along with extensive municipal and DOT experience and a seasoned transportation engineering team enable BL Companies to provide practical and effective solutions for people to ultimately achieve project success.

WE SPECIALIZE IN:

- Structural design and inspection (bridges, culverts and retaining walls)
- Highway and roadway design
- Traffic signal analysis & design
- Traffic management plans
- Transportation planning
- Hydrologic and hydraulic analysis & design
- Site access
- Trail design
- Traffic impact feasibility studies
- State and local permitting
- Environmental permitting
- Parking and traffic circulation
- Streetscape enhancement
- Subsurface utility engineering
- Context sensitive solutions
- Construction administration and inspection



The future development of **OUR COMMUNITIES** needs to reflect the current and future needs of its residents, stakeholders and partners. Public planning projects require consistent collaboration between the planning team and the community to ensure a transparent process that aligns current project goals with future visioning; this collaboration needs to happen from beginning to end.

BL Companies provides Public Outreach and Engagement services that vary depending on project and community needs. An Outreach and Engagement Plan is developed by our professionals working directly with the Client and/or steering committees to create an effective approach that will work for the project and the community.

The Public Outreach and Engagement Plan is a key element for all successful community planning projects and initiatives. Often the main goals include raising awareness of key project issues and opportunities, educating communities and stakeholders of various project aspects and providing opportunities for public input and decision making. The extent of the plan is to be flexible and is to appropriately accommodate the specific planning project.

WE SPECIALIZE IN:

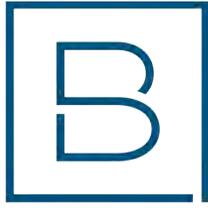
- Community Planning Workshops
- Public Site Walks
- Community Surveying
- Social Media Project Campaign
- Website Creation & Management
- Pop-Up Informational Events



BL Companies has added Unmanned Aerial Vehicles (UAV) mapping technology to its latest technology toolbox. Utilizing aerial drone technology, we create high-resolution photogrammetry and develop geo-referenced orthomosaic maps of our sites. Coupled with GPS and the setting of ground control points (GCPs), the imagery is referenced to a real-world coordinate system, capable of being reproduced again and again over time. The UAV technology can be used for a wide variety of survey related applications including existing conditions mapping, DTM and contour development, volume computations, and as-built documentation. In addition, we utilize the technology for infrastructure inspection, utility line and utility facility inspection, and project timeline monitoring. Deliverables can range from digital still photos and oblique imagery to video. Our UAVs are operated by one of our multiple licensed FAA pilots.



**BERGMANN ARCHITECTS, ENGINEERS & PLANNERS-
FIRM OVERVIEW**



BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Meet Bergmann

A national Architecture, Engineering & Planning firm with strong local connections.

Atlantic Region

CONSHOHOCKEN, PA | CRANBERRY, PA | JACKSONVILLE, FL | PHILADELPHIA, PA
TREVOSE, PA

Bergmann's Atlantic region stretches up and down the Eastern seaboard. Projects in this region include exciting entertainment spaces, inviting hospitality facilities, vital waterfront structures and rail connections that bring us together.



All Aboard Florida-Brightline | Ft. Lauderdale, FL



AC Hotel by Marriott | Philadelphia, PA

Who We Are

Bergmann Architects, Engineers & Planners have been delivering solutions for clients across the United States and Canada for nearly four decades. From humble beginnings in Upstate NY, Bergmann has grown into a national firm.

- 400 professionals and technical staff with the knowledge and skills to create dynamic, creative and cost effective designs.
- Advocates for functional and environmental sustainability on every project.
- Working hand in hand with communities, partners and clients on efforts that range from major buildings and commercial developments to critical transportation infrastructure and community planning.
- An employer of choice for the top professionals in our industries.

Midwest Region

GRAND RAPIDS, MI | LANSING, MI | SOUTHFIELD, MI | TOLEDO, OH

In the Midwest region, Bergmann has been designing safer roads and highways, upgrading critical bridges and designing buildings that enhance the community while meeting the needs of our clients for more than 20 years.



Diverging Diamond Interchange | Auburn Hills, MI



DART Corporate Headquarters | Mason, MI

Infrastructure

From roads, bridges and rail to waterway structures and energy, Bergmann's infrastructure projects lay a strong foundation for communities across the US and Canada.

Buildings

Bergmann's buildings teams produce projects from the inside out, serving markets from the commercial & retail sectors to the municipal & education markets as well as the research & manufacturing disciplines.

Northeast Region

ALBANY, NY | BINGHAMTON, NY | BUFFALO, NY | HORSEHEADS, NY | ROCHESTER, NY
SYRACUSE, NY

Communities across the Northeast benefit from Bergmann's integrated approach to architecture, engineering and planning. Bergmann designs dynamic, creative solutions that will stand the test of time, while promoting environmental and functional sustainability.



Genesee Arch Bridge Replacement | Portageville, NY



Brookhaven National Laboratory | Upton, NY



BERGMANN

ARCHITECTS ENGINEERS PLANNERS

450+

EMPLOYEES

Bergmann employs over 450 people in all areas of expertise across the firm.

>95%

REPEAT CLIENTS

More than 95% of our work is from repeat clients.

#213

ENGINEERING NEWS RECORD RANK

We ranked in ENR's Top 500 Design Firm rankings for 2021.

#110

ARCHITECTURAL RECORD RANK

We ranked in Architectural Record's Top 300 rankings for 2020.

#60

BUILDING DESIGN + CONSTRUCTION RANK

We ranked #60 in BD+C's Top 100 Architecture/Engineering Firms nationally in 2020.

www.bergmannpc.com



Adopt-a-Family Holiday Gift Stockings | Buffalo, NY



Foodbank Day-of-Giving | Horseheads, NY



Lawrence Tech Career Fair | Lansing, MI

Four decades of dedicated, client-focused service!

Bergmann is a nationally recognized architecture, engineering and planning firm with offices throughout the Northeast, Midwest and Atlantic regions. With more than 450 talented professionals who pride themselves on the highest level of integrity, dependability, ethics and quality of work, Bergmann has long been recognized as a trusted partner and advisor on projects ranging from commercial/retail to municipal/civic, education, transportation, research & manufacturing, water resources and workplaces.

Our Vision

Delivering client success, creating opportunities for our people, and building our future.

Our Values

- Our People
- Excellence
- Integrity & Ethical Service
- Teamwork & Collaboration

Contact Us

800.724.1168

marketingteam@bergmannpc.com

NATIONAL FIRM. STRONG LOCAL CONNECTIONS.

ARCHAEOLOGICAL AND HISTORICAL SERVICES, INC.-
FIRM OVERVIEW



COMPANY PROFILE

I. INTRODUCTION

AHS is based in Storrs, Connecticut. The firm is an affiliate of the nonprofit 501(c)(3) organization Public Archaeology Survey Team, Inc., established in 1976 at the University of Connecticut in Storrs. PAST is one of New England's oldest and most respected archaeological and historical research organizations. By 1995 PAST's commercial projects had begun to outnumber its grant-funded research projects. In that year, PAST's managing director, Mary Harper, incorporated a separate for-profit company, AHS, which would assume most of PAST's commercial business, while PAST focused on its original mission of research and public education. Ms. Harper is the sole owner of AHS, which has been classified as an affiliate of PAST by the State of Connecticut because both firms are managed by Ms. Harper and the firms share staff and office space. AHS and PAST now occupy their own office building located one half mile from the University of Connecticut campus.

AHS was certified as a Disadvantaged/Women-Owned/Minority Business by the Connecticut Department of Administrative Services and Connecticut Department of Transportation in 1995, and by the Rhode Island Department of Administrative Services in the same year. In 2007 AHS was certified as a DBE/WBE by the State of Massachusetts (SDO/SOMWBA). AHS is self-certified with the CCR (Cage #4KSK9) as a Small Disadvantaged Business and Women-Owned Business under NAICS codes 541790, 541720 and 712120. AHS staff have over 30 years of experience in performing cultural resource management studies. Our clients include state and federal agencies, municipalities, engineering and design firms, and other entities. Our public-sector work has required a full range of services: archaeological reconnaissance, intensive and data recovery surveys; state and federal-level documentation of parks, landscapes, bridges, and residential, industrial and engineering structures; Native American cultural heritage research and consultation; preparation of Environmental Assessment, Environmental Impact Statement, Section 4(f), and *de minimus* impact documentation; archaeological and architectural preservation planning; heritage planning; preparation of technical reports, and the writing and design of public-oriented booklets, web sites and interpretative signage.

II. QUALIFICATIONS

Key elements of our work are familiarity with state and federal regulations and practices, the experience and skill to handle effectively any type of cultural resource management project, the capacity to respond quickly and to develop solid innovative survey and impact mitigation designs to avoid project downtime, the ability to handle multiple simultaneous task orders at various locations, a strong track record of producing exemplary products, and administrative competence in maintaining tight control of fiscal and project records to ensure no management-related delays. AHS presents exceptional qualities that allow it to expeditiously fulfill project responsibilities regarding archaeological and historic resources:

- *Knowledge of Relevant Regulatory Procedures.* AHS staff are thoroughly familiar with relevant Northeast state and federal regulations, practices and procedures, including the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act of 1966, Section 4(f) of the US DOT Act, the eligibility criteria of the National Register of Historic Places regarding all cultural

resource types, and Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) program standards. We are well-versed in USACE review and operational procedures, having worked directly with USACE personnel on various projects.

- *Breadth and Depth of Experience.* In each of the categories of our work — Phase I archaeological reconnaissance (intensive/locational) surveys, Phase II intensive (site examination) archaeological surveys, Phase III data-recovery programs, industrial archaeology, National Register of Historic Places and National Historic Landmark documentation of historic buildings, structures and landscapes, research and data gathering, heritage/preservation planning, laboratory processing, report writing, and electronic media presentations — AHS can point to not just one or two examples but dozens and even hundreds, from the recent past to 30 years ago, that have been successfully completed.
- *Exemplary Products.* AHS work products are known for their quality. No product of any kind has failed to readily pass state or federal review. The National Park Service regularly uses our National Register of Historic Places inventory forms as workshop model examples, as does the HAER. Our Rochambeau/Revolutionary War Route project in Connecticut and New York was recently used by the National Park Service as the model for expansion of the study into other states.
- *Advantageous Size and Facilities.* AHS is a mid-sized firm, which has several advantages. We own our 16-room building, which houses office space, laboratories, library, and specialized storage. Our full time staff of 20 archaeologists, historians, and laboratory technicians are all based in our Storrs office. Seasonal staff is drawn from the nearby University of Connecticut. We are large enough to handle virtually any size or type of cultural resource management project in-house and respond quickly, but we are small enough to maintain tight quality control and keep our overhead low.
- *Efficient Project Management.* AHS has a strong corporate conscience and understands that the public expenditure for cultural resource management deserves the highest-quality product at a reasonable price. We work very efficiently and have repeatedly proven our ability to complete projects on time and within budget, on multiple task orders in various locations.
- *Multiple Task-Order Capability.* AHS is accustomed to simultaneously handling numerous survey assignments, in different areas of New England. Often the parallel assignments have been quite large, but our flexible staffing arrangement is designed to accommodate multiple task-order demands.

III. EXPERIENCE AND SERVICES OFFERED

AHS staff have completed over 600 archaeological and historical projects for state and federal agencies, municipalities, museums and private parties. We regularly team with architects, landscape designers, and engineers to handle multi-faceted jobs. AHS has repeatedly demonstrated its ability to handle every conceivable type of archaeological or historical project, to complete projects efficiently under tight schedules, and to handle numerous projects simultaneously, while maintaining high quality.

- *Archaeological Assessment Survey.* AHS combines historical document research, archaeological site file and cultural resource management report research, environmental context review and walkover inspection to assess the potential of a project area for containing significant prehistoric or historic-period archaeological resources. This sometimes involves the evaluation of engineer-derived soil borings to assess below-ground soil conditions, and in some urban cases we have hired Geoprobe rigs to conduct continuous soil borings that maximize our ability to determine whether intact deep-soil pockets have survived development. In the downtown-Hartford Adriaen's Landing development project, AHS successfully used Geoprobe sampling to identify intact areas of potential early prehistoric

soils; it was effective and efficient because it permitted the rapid development of impact-avoidance and mitigation plans.

- *Archaeological Reconnaissance (Intensive/Locational) and Intensive (Site Examination) Surveys.* Our Phase I and II survey projects range from small-lot studies to large and complex projects. For example, one archaeological survey of a proposed multi-alternative cross-country eight-mile-long highway extension involved the excavation of over 7000 test pits and identification of over 40 pre-Colonial Native American archaeological sites determined to be eligible for the National Register of Historic Places. In addition to a technical report, we prepared a cultural resource management plan for preservation or mitigation of impacts to over three dozen sites, including an archaeological district composed of the remains of an 18th and 19th-century village. The project was compressed into a 16-month time frame. For an example of a multi-site pre-Colonial Native American site project, see AHS's website on a cluster of sites identified along the Quinebaug River (www.ahs-inc.biz/Quinebaug).
- *Archaeological Monitoring.* We have also undertaken many industrial, commercial and urban archaeology projects in which the archaeology has been interleaved with demolition/construction to expedite the project. In many of these projects, standard subsurface testing was precluded by pavement, traffic or demolition/construction schedules and issues. On-site monitoring of pavement and fill removal substituted for typical archaeological testing.
- *Phase III Data Recovery.* In instances in which avoidance of impact to a National Register-eligible archaeological site was neither prudent nor feasible, AHS has conducted extensive excavations of a wide variety of prehistoric and historic-period sites. Examples include Late Archaic-period pit-houses and early colonial-period houses. For an example of the latter, see AHS's website on the Phase III excavation of a 1705 house buried in the path of a highway in Andover, Connecticut (www.ahs-inc.biz/Sprague/).
- *Laboratory Processing.* All artifacts and ecofacts are cleaned, catalogued and curated in AHS's laboratory facilities. Items of exceptional importance are conserved in our dedicated conservation laboratory. Botanical analysis is conducted by our own staff expert Katharine Reinhart.
- *Remote Sensing.* AHS staff capably conducts high-end metal-detecting, which was the ideal instrument for identifying, with minimal intrusion or damage, the locations of Revolutionary War army camps as well as World War II plane crash sites, where the debris fields were large. For identification of possible graves and other buried features we use Ground Penetrating Radar, with our own state-of-the-art equipment.
- *Underwater Remote Sensing/Archaeology.* AHS staff has used traditional methods of low-tide observation via kayak/canoe to identify and document submerged 18th-century wharves, dikes and other structures. Three staff members are certified SCUBA divers and have identified underwater resources. We use our GPR in flat-bottomed boats for shallow water. For deep underwater remote sensing or more sophisticated archaeology, we would rely on the experts at Fathom Research, LLC, who specialize in New England underwater cultural resource management.
- *Technical Report Writing.* Our projects have required AHS to prepare professional technical reports that formed the basis for review by the USACE, FHWA, National Park Service, various State Departments of Transportation, Environmental Protection, Economic and Community Development, Public Works, State Historic Preservation Offices, and other regulatory agencies. AHS prepares technical reports geared to the appropriate state or federal agency, ranging from end-of-fieldwork memoranda to comprehensive reports on Phase I, II and III archaeological surveys. We also write the

relevant sections on archaeological and historical resources for NEPA/Section 106 and Section 4(f) documents.

- *National Register of Historic Places Documentation of Archaeological Resources.* AHS has prepared successful National Register of Historic Places documentation for over 150 archaeological properties, including large thematic prehistoric and historic districts, as well as individual sites. Properties range from a prehistoric rockshelter in western Connecticut to ironworks and mill sites. Our archaeological nominations are regularly used by National Park Service staff as models in instructional seminars across the country.
- *National Register of Historic Places and National Historic Landmark Documentation.* AHS personnel have undertaken dozens of documentation projects in a variety of formats: National Register of Historic Places nominations of historic bridges, mill sites, dams, water wheels, and lighthouses, the latter for the U.S. Coast Guard. We have also prepared historical documentation of a number of state parks, including the National Register-listed Putnam Memorial State Park in Redding, Connecticut, and the National Historic Landmark Spring Grove Cemetery and Arboretum in Cincinnati, Ohio. AHS's Director of Historical Services Bruce Clouette co-authored, with Boston National Park Service staff, the National Historic Landmark documentation for the Coltsville complex in Hartford, Connecticut. He also wrote the National Register of Historic Places documentation of the Hartford Union Station. In addition, AHS completed the National Historic Landmark nomination for the U.S. Coast Guard cutter *Eagle*.
- *Traditional Cultural Properties Documentation.* PAST cultural anthropologist and historian Mary G. Harper, along with archaeologists Brian Jones and Ross Harper, prepared an exhaustive documentation of Fort Hill, a cultural property critical to the Mohegan Tribe that was threatened by a private developer. The documentation has served as a model for other states' State Historic Preservation Offices and for the National Park Service.
- *HABS/HAER Documentation.* AHS has completed dozens of HABS and HAER documentations. Examples include houses (HABS No. CT-439 in Wallingford, HABS No. CT-462 in Plainville), the Connecticut State Pier (HAER No. CT-141), and many railroad and highway bridges.
- *Historic Preservation Planning/Impact Mitigation Planning.* AHS has worked closely with state agencies, municipalities and private firms to create development plans that provide measures for avoiding and/or mitigating impacts on archaeological and historical resources. Our plans meet the U.S. Secretary of Interior's *Standards for Preservation Planning* and are sympathetic to archaeological, historic architectural and engineering resources, and to historic rural or designed landscapes. For the 500-acre former Norwich State Hospital property in Preston, Connecticut, we developed a cultural resource management plan for the State of Connecticut that encompassed dozens of prehistoric and historic archaeological sites, as well as historic resources ranging from the former Hospital buildings to remnants of the Norwich and Westerly Railroad, Thames River Dikes, and components of the Norwich State Hospital water-supply system.

For a large prehistoric site along the Pootatuck River terrace in Newtown, Connecticut, we worked with designers of a sewer system to avoid the most significant portions of the site, and we undertook Data Recovery at the few portions that could not be avoided. We then designed a six-panel two-kiosk educational exhibit on the site, which is permanently on display in Newtown.

- *Historic Structure Reports and Evaluations.* AHS has collaborated with architects and engineers as the preservation consultant on many historic structure evaluations. The goal of these projects has been to assess the architectural integrity, code compliance, and structural condition of historic buildings and

recommend appropriate modern uses. Examples include a Historic Structure Report (HSR) for the Bolton Heritage Farm, a town-owned house and barn, the Tahara House in Waterford, and the Willington Tavern (all in Connecticut). We also worked on the award-winning restoration of the pavilion at Putnam Park in Redding, and a feasibility study for the Webb-Deane Stevens Museum in Wethersfield (also in Connecticut). Other evaluations include a barn on the Prudence Crandall museum property in Canterbury, Connecticut, and four historic houses as part of Connecticut Department of Economic and Community Development's Resident Curator Program: the Worthen House in Granby, the Ostrom Enders House in Waterford, the Averill House in Pomfret, and the Forster House in Killingworth.

- *Historic Building Rehabilitation and Historic Tax Credits.* AHS staff have participated as preservation consultants on over \$100 million worth of historic-building rehabilitations. Projects include large-scale conversions of former factories, schools, commercial and office buildings, a U.S. Post Office, and a downtown hotel to new, economically viable uses. In each case, the project required identifying character-defining features and working with the developer, architect, and government reviewer, creating appropriate solutions that would both preserve the essence of the historic building and allow it to serve a modern purpose. Architectural historians Marguerite Carnell and James Sexton have extensive experience with federal and state historic tax credit projects for a wide range of building types.
- *Historic Landscapes.* AHS has extensive experience documenting and evaluating historic landscapes. Clouette prepared National Historic Landmark designation documentation for the Grove Street Cemetery in New Haven, and the Philip Johnson estate in New Canaan, both of which had landscape-design significance. Many of the properties for which he has prepared National Register of Historic Places registration forms also had important historic-landscape components, including the Bush Hill Historic District in Brooklyn, Connecticut, listed as a rural historic landscape; Eolia, the Harkness Estate in Waterford; Rockwell Park in Bristol; and the Norwich State Hospital in Norwich and Preston.

Cultural landscapes which are considered rural historic/archaeological landscapes have also been documented at the National Historic Landmark 18th-century Samuel Huntington House in Scotland, Connecticut, and at the c. 1814 Sylvester Judd Jr. House in Westhampton, Massachusetts.

- *Historic Bridge Studies.* AHS historian Bruce Clouette was the co-director of statewide historic bridge surveys in Connecticut, Vermont, and Rhode Island, and he compiled a complete inventory of historic resources in Connecticut, Rhode Island and Massachusetts for AMTRAK's Boston-New Haven electrification project (1993). Clouette completed evaluation and documentation of over 170 bridges and railroad resources in 2011/2012 as part of the New Haven-Hartford-Springfield High-Speed Rail Project. In a recent nationwide evaluation of state historic bridge plans, the Transportation Research Board cited four plans as notable; Clouette's plans were three of the four. He wrote three books on the surveys, two for Connecticut and one for Rhode Island. In addition, he prepared National Register nominations for groups of Berlin Iron Company bridges and open-spandrel bridges; see our website www.past-inc.org/historic-bridges/ for a presentation on one bridge survey.

Clouette also has extensive experience in advising on historically appropriate/sympathetic repairs and renovations of historic bridges. Currently, Clouette and architectural historians Marguerite Carnell, James Sexton, and industrial historian Edward Connors are updating Connecticut's 1991 Statewide Historic Bridge Inventory for the CTDOT. Clouette and Connors recently completed a stateside update of Rhode Island's historic bridges as well.

- *Heritage Planning.* AHS regularly works with state agencies, municipalities and private organizations to develop plans to inform the public about historic buildings, landscapes, and archaeological sites. We

are working with RIDOT to design the content (text and graphics) of signage regarding the Revolutionary War route of Rochambeau's army across Rhode Island. Currently, we are also developing interpretive exhibits to be installed in rail stations and wayside locations for the New Haven-Hartford-Springfield Rail Project. We are also working with a number of historic house museums.

- *Public-Oriented Writing and Electronic Media Presentations.* AHS staff have produced dozens of public-oriented books and electronic media presentations (web sites). AHS historian Bruce Clouette is the co-author of the book *Connecticut's Historic Highway Bridges*, and the sole author of its recent companion volume on movable bridges, *Where Water Meets Land*. Clouette and AHS principal Mary Harper are also co-authors of a book on the Revolutionary War march of the French army in New England and New York. AHS Senior Historic Archaeologist Ross Harper and Clouette have produced several public-oriented booklets, including the *Cady-Copp Homestead*, *World War II "Hellcat" Sites*, *Peter Grohman House and Cigar-Making Shop Archaeological Site*, *The Clark Farm Tenant House Archaeological Site*, and *The Ebenezer Story Homestead and Tavern Site*, among others.
- *Websites.* AHS staff have prepared website presentations for many archaeological/historical projects, including a mill town (www.past-inc.org/Willimantic), the Peter Grohman Cigar Shop (www.past-inc.org/Grohman/), the Clark Farm Tenant House Site (www.past-inc.org/TenantHouse/) and the Daniels Homestead Site (www.ahs-inc.biz/Daniels/).
- *Museum Exhibits.* AHS co-wrote and designed a permanent museum exhibit in Fort Trumbull State Park in New London, Connecticut, about 19th-century torpedo boats discovered in an archaeological survey along the Thames River (we used remote sensing to identify the submerged and buried hulls). Clouette designed an exhibit on Connecticut's legislative history at the state capitol, another on the history of mental health treatment, and one on immigrant/factory labor, all permanent installations.
- *Native American Coordination.* AHS staff have maintained excellent working relationships with the local Native American community. For over 15 years we conducted all of the archaeological research for the Mashantucket Pequot Tribal Nation. Director Mary Harper and Senior Historic Archaeologist Ross Harper were responsible for assembling the Mashantucket Pequot Museum and Research Center's large collection of Woodland Indian material culture. We work frequently and directly with the Mohegan, Gay Head and Mashpee Tribes and with the Narragansett Tribe, and have earned their respect. Director Mary Harper and Senior Historic Archaeologist Ross Harper wrote their theses on New England and Northeast Native American cultures and understand Native American traditions and concerns regarding archaeological sites and Traditional Cultural Properties. We also understand and keep up to date with the concerns of United South and Eastern Tribes (USET).

IV. PERSONNEL

AHS's staff structure has four components: 1) a strong and diversely talented group of 16 full-time specialists in Northeast prehistoric and historic archaeology and historical research and documentation; 2) full-time field, laboratory and conservation staff; 3) a cadre of 4-12 seasonal field workers made up of University of Connecticut undergraduate and graduate students who have been trained by and have worked for AHS for years; and 4) management which permits AHS to conduct numerous projects simultaneously and efficiently.

- *Senior Staff.* AHS president and owner Mary G. Harper, RPA, has extensive experience in cultural resource project management, having directed over 600 projects in her 33 years with AHS/PAST. The

Director of Archaeological Research at AHS, she holds a Master's degree in archaeology and cultural anthropology from the University of Connecticut and is a National Park Service 36 CFR 61-certified prehistoric and historic archaeologist, historian, and cultural anthropologist. Ms. Harper, a working principal, directly oversees all archaeological projects, working with the Senior Archaeologists to develop, implement and complete archaeological surveys. She has also written hundreds of technical reports, National Register nomination forms and public-oriented books and articles; supervised the in-house preparation of numerous web sites; and prepared the text and design for several museum exhibits, including a permanent installation at Fort Trumbull State Park in New London, Connecticut. As an administrator, Ms. Harper has a long track record of efficient project management, with the proven ability to handle many diverse projects at a time, keep overhead costs low, and yet produce award-winning products.

Historian and Director of Historical Research Bruce Clouette holds a Ph.D. in history from the University of Connecticut. His doctoral dissertation was on Hartford's immigrant population. Dr. Clouette is a National Park Service-qualified historian, architectural historian, and industrial archaeologist. He has produced hundreds of cultural resource management products, has written or contributed to several books on New England history, and has designed numerous museum exhibits. In addition to his 35 years of experience in documenting historic buildings and properties, Dr. Clouette is an expert in evaluating and documenting historic landscapes, bridges, industrial and railroad structures, and waterpower and maritime features.

Ms. Harper and Clouette coordinate closely with AHS's Senior Historic and Senior Prehistoric Archaeologists, crew chiefs, and lab technicians, and are assisted by clerical staff that perform data entry and report-production tasks. A project management schedule is maintained and meetings are held regularly to ensure that all projects area on track.

Senior Historic Archaeologist Ross Harper, Ph.D., RPA, is a former staff archaeologist at Colonial Williamsburg and the Mashantucket Pequot Museum. A National Park Service-qualified historical archaeologist, historian and curator, he is an expert in the colonial-period history, archaeology, and ethnography of Native and Euro-Americans. Dr. Harper is responsible for designing and directing AHS's historical archaeology surveys and data recovery projects. His work overseeing the excavation and analysis of 18th-century homestead sites is widely respected. He has authored numerous reports and articles on historic-period archaeology in New England, and is co-author of a new book on 18th-century domestic lifeways based on the data recoveries. He is certified in hazardous waste operations and emergency response (HAZWOPER) for the investigation of archaeological resources in hazardous environments.

Senior Archaeologist and GIS Specialist David E. Leslie, Ph.D., holds a B.A. in Anthropology and Sociology from West Virginia University, an M.A. in Anthropology from Florida Atlantic University, and a Ph.D. in Anthropology from the University of Connecticut. Prior to working at AHS, Dr. Leslie was a staff archaeologist at the Mashantucket Pequot Museum, Research Scientist at the University of Connecticut, and Adjunct Instructor at Manchester Community College, the University of Connecticut, and Southern Connecticut State University. He is a National Park Service-qualified archaeologist, 40-hour OSHA-HAZWOPER certified, and serves as the firm's Health and Safety Officer. Dr. Leslie has over 10 years of geoarchaeological and environmental archaeological experience, collaborating on academic projects in the Northeastern United States, Kenya, and Europe. Dr. Leslie's academic work has been published in anthropological and geological journals, integrating environmental, geological, and archaeological datasets. At AHS, he manages projects that involve significant components of GIS, geoarchaeological, and environmental data sets, such as our intensive study of the paleoenvironment in areas in Connecticut, Massachusetts and Rhode Island. Dr. Leslie is also an expert in Ground Penetrating Radar.

Senior Historian Marguerite Carnell, M.Phil., brings additional expertise in architectural history and historic preservation to AHS as a National Park Service-qualified architectural historian and historian. Following her passion for design and architecture, she graduated summa cum laude from the University of Connecticut with a B.S. in Design and Resource Management. She went on to receive her M.Phil. in American Civilization from the George Washington University, with interdisciplinary studies in architectural history, material culture, religious history, and women's history. She also completed coursework in architectural conservation at Columbia University. With over 20 years of experience, Ms. Carnell has spent much of her career documenting, preserving, and restoring historic buildings and structures. She has worked on historic commercial and institutional buildings, mills, factories, houses, churches, theaters, schools, and bridges. Since joining AHS in 2014, she is responsible for researching and writing cultural resource management reports, historic resource surveys, environmental compliance reviews, National Register nominations, and historic tax credits.

Architectural Historian James Sexton, Ph.D. has over 20 years of experience in the investigation and documentation of historic properties, and has an excellent understanding of the regulatory environment for above-ground cultural resources and the necessary skills to perform survey and documentation studies. He is a National Park Service-qualified architectural historian and historian. Dr. Sexton holds a B.A. and Ph.D. in the History of Art from Yale University, with a dissertation focusing on changes in community structure as reflected in the buildings of seventeenth- and eighteenth-century Guilford. He has completed many nominations to the National and Connecticut State Register of Historic Places, as well as Historic District Study Commission Reports for proposed historic districts. He also prepared the National Historic Landmark nomination for the Harriet Beecher Stowe House in Hartford, CT. Dr. Sexton has extensive experience with historic building assessment, with more than 20 Historic Structure Reports. He also has experience with large-scale survey projects and environmental compliance reviews.

- *Crew Chiefs.* AHS's three senior crew chiefs have been with the company for between 10 and 20 years. They work closely with the Senior Historic and Senior Prehistoric Archaeologists, as well as with Ms. Harper, to direct our field archaeologists, and frequently operate parallel crews on different projects. The crew chiefs maintain daily contact with the Senior Historic or Senior Prehistoric Archaeologists, who report to Ms. Harper. The crew chiefs are responsible for cross-checking field paperwork to minimize the possibility of errors.
- *Laboratory Staff.* Our dedicated laboratory staff at our Mansfield office have extensive experience processing and curating New England artifacts. The inventorying, conservation, and curation of artifacts at AHS are overseen by laboratory supervisor James Poetzinger and conservator Robyn Beausoleil. Mr. Poetzinger, National Park Service-qualified as a curator, supervises the artifact processing in our wet and dry laboratories, overseeing the field archaeologists who are cross-trained as laboratory workers, maintaining the site database on our server, and referring identification challenges to the appropriate senior staff. Ms. Beausoleil, National Park Service-qualified as a conservator and curator, is responsible for implementing technical procedures in our conservation laboratory, to clean and stabilize fragile artifacts, assuring their long-term preservation.
- *Field Crew.* AHS maintains a core staff of southern New England-specialized field archaeologists as permanent employees, rather than relying on contract labor or people hired for one or two projects or pulled in from another part of the country. As a result, AHS has a very low turnover rate; most of the field-crew archaeologists have been with the company for ten years or more. The low turnover is a key factor in quality and efficiency because our experienced people know how to coordinate their efforts. Accustomed to working closely together, the staff tackle tasks quickly and smoothly, with no down time or duplication of effort. To augment our staff of 7 full-time field archaeologists (exclusive of crew

chiefs), we maintain a pool of four to 12 UConn student interns and part-time/seasonal employees who are trained one-on-one by an AHS staffer to ensure that they fit in seamlessly and that quality is maintained.

- *HAZMAT Training.* Staff archaeologists have completed the OSHA 40-hour HAZWOPER course, and three staffers are Supervisor-trained. David Leslie serves as the company Health and Safety Officer. Our Health and Safety Plan was completed by consultant Andre Chiardia, in consultation with AHS staff. Mr. Chiardia also conducts our update training.

V. FACILITIES

AHS maintains extensive office, laboratory, and curation facilities in the Storrs section of Mansfield, staffed by our core employees and supplemental archaeologists. The facilities, housed in a 4,000-square-foot building set on two acres, include all that is needed for fieldwork, artifact processing and conservation, site research, data analysis, report preparation, and short- and long-term storage of archaeological materials:

- *“Wet” Laboratory.* The 1,000-square-foot wet lab is where artifacts are washed, dried, and rebagged after being brought in from field projects. The wet lab is equipped with large washing sinks with specialized silt traps, as well as custom-made drying and sorting racks and other necessary tools. A specially-built concrete flotation area is attached to a large outbuilding on our 2-acre property, allowing for the recovery of very small artifacts and ecofacts from soil samples. The flotation area is suitable for cold-weather flotation.
- *“Dry” Laboratory.* Artifacts are identified, catalogued, inventoried and then packed for permanent curation in the 1,000-square-foot dry lab. Computer work-stations in the lab allow personnel to enter detailed information about each artifact into our exclusive artifact inventory program. The program, developed specifically for New England prehistoric and historic-period artifacts, incorporates a custom user-interface that greatly increases the speed and reliability of inventory processes. Directly linked to AHS’s GIS and other software, it enables flexible and precise spatial analysis of archaeological data and other relevant geospatial information, and it promotes accuracy, speed and efficiency.
- *Conservation Laboratory.* A dedicated conservation lab allows AHS to ensure that artifacts discovered in the course of the work will be processed to the highest professional standards. The lab is equipped with a stereoscopic microscope, digital scale, vacuum chamber, digital conductivity meter, wax-impregnation equipment, rotary and air abrasion tools, a dual-channel pH/ion meter, and other specialized apparatus that permits AHS to conserve a wide range of materials.
- *Computer Network.* A network of 16 computers provides all staff members with access to Internet resources and to AHS’s site-based artifact database; the computer network also allows multiple staff members to collaborate in data analysis and report preparation, creating significant advantages in efficiency and quality control. Engineering data from other consultants can be imported and exported in a variety of GIS and CAD formats. Other computer-based capabilities include web-development tools and publication software (Adobe InDesign™).
- *Storage Facilities.* AHS has over 1,000 square feet of curation space, in which we house, in secure and climate-controlled conditions, artifacts collected in surveys until permanent repositories are designated. In addition to extensive shelving for storing standard-sized acid-free waterproof boxes, facilities include long-term refrigerated storage for core samples. A three-car garage and loft, plus two barns, permit storage of our large custom-built winter-weather excavation tent, screens, shovels, sheet plastic, and safety cones/barrels/signs.

- *Field Equipment.* AHS owns a fleet of three field trucks, all of which can accommodate both gear and crew. In addition to the usual tools, field crews are equipped with Total Station surveying equipment, GIS locators, and digital cameras.

VI. CONTACT INFORMATION

For additional information, contact Mary Harper, President, at 860-429-2142, mharper@ahs-inc.biz or 569 Middle Turnpike, P.O. Box 543, Storrs, CT 06268.

DOWN TO EARTH CONSULTING, LLC-FIRM OVERVIEW



**DOWN TO EARTH
CONSULTING, LLC**
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

FIRM PROFILE

Down to Earth Consulting, LLC specializes in geotechnical and geoenvironmental engineering for infrastructure, commercial, residential, industrial, and institutional projects. We use state-of-the-art techniques and procedures to analyze and develop designs for both routine and complex projects and take pride in developing innovative, practical, and cost-effective solutions that advance our client's projects.

Our engineers have been consultants for hundreds of projects in the Northeast. Projects include bridges, high-rise buildings, health care facilities, commercial/industrial buildings, schools, highways, dams, flood control systems, deep excavations, dewatering, geotechnical instrumentation and monitoring, blasting evaluations, and sites requiring environmental restoration. We specialize in evaluating soil and rock design parameters, foundations, retaining walls, slope stability, subsurface hydraulics, earthquake engineering, and environmental remediation.

We are experienced and exceedingly focused on investigating and evaluating the risk and uncertainty of geotechnical and environmental issues. We have experience navigating through complex local, state, and federal codes and regulations to help avoid costly delays and unnecessary work. Our field engineers work with contractors during construction to address variations in subsurface conditions, perform necessary testing, and document compliance with project and code requirements.

We are a diverse company with leading experts in geotechnical and environmental engineering. Our entrepreneurial nature and commitment to success provides variety and opportunities for all our team members. Our employees are our number one asset and we actively promote a safe and engaging work environment.

We are an Affirmative Action/Equal Opportunity Employer and certified through the Connecticut Department of Transportation as a Disadvantaged Business Enterprise (DBE). We are also certified as a Small Business Enterprise and Minority Business Enterprise (SBE/MBE) through the Connecticut Department of Administrative Services.

PROJECT APPROACH / UNDERSTANDING

PROJECT UNDERSTANDING

The construction of the Ousatonic Derby-Shelton dam and canal along the Housatonic River was one of the state's largest late 1800's engineering projects and the reason the City of Shelton strengthened its development into a small industrial city. Within a few years of the dam and canal's completion, Shelton had more than two dozen major factories in which hundreds of workers produced pins, bolts, silverplate, textiles, and paper. The Derby-Shelton dam, the headgates and canals on either side of the river, the several tailraces, the retaining wall along the bank on the river's west side, and the remaining historic industrial complexes are all contributing elements of the area's historic context. In totality, they create an opportunity to tell a story of Shelton, the Region and the unique civil engineering niche of how technology and innovation harnessed and tamed the power of water to expand commerce and transportation.



A view north of the lock, canal and dam (source: HEAR)

Complementing the historic assets and architectural characteristics of the canal is the presence of the Housatonic River. The relation of people and water is strong and offers the exciting possibilities for recreation such as fishing, boating, walking, hiking, cycling and picnicking. Combined with the historic and scenic resources, nearby residential neighborhoods, park infrastructure and commercial centers, the future Shelton Canal Locks Park can be a unique experience for visitors and residents offering a variety of interests and activity levels.

The City of Shelton has long recognized the significance of the historic and natural resources of this area and the importance they play in the vibrancy of the City. With millions invested to date, and time resources dedicated to the efforts to

reinvigorate this once thriving industrial area along Canal Street, the City diligently seeks to create a comprehensive and achievable strategy for the Shelton Canal Locks Park.

To accomplish this goal, the issues and opportunities presented by the physical, natural, cultural and manmade assets must be researched, understood and evaluated. Also, funding sources and implementation requirements/hurdles identified and methods to overcome and minimize them determined. Then, strategies established to integrate them into an overall Park plan. This includes but may not be limited to:

- Area Context & Connectivity: How the Park plan integrates into the overall community, capitalizes upon the assets of the River and connects to the recreation and neighborhood fabric.
- Funding and Implementation. From the onset, determine all possible funding sources available through local, state, federal and non-profit and for profit resources.
- Historic and Cultural Resources: Ensure the resources are documented and understood, and how they will be integrated into an overall plan.



A view northeast of the dam today from a pedestrian vantage point.



A view south from the northern reaches of the canal and final lock. (Source: HEAR)

- Natural and Ecological Resources: Evaluate such features as wetlands, watercourses, habitat areas and floodplains to avoid/reduce impacts and enhance ecological functions.
- Environmental Remediation and Resource Mitigation: Sample, characterize, test and develop a strategy to remediate contamination of River/stream sediment and soils.
- Canal and Lock Conditions/Structural Evaluations: Evaluate conditions of the canal and locks, understand and prioritize rehab of structural features and extent of preservation associated with the future use.
- Geotechnical Attributes: Subsurface explorations to understand the soil characteristics and impact upon improvements for the canal, locks and park plan.
- The Park Plan and Implementation: Create an overall phased strategy based upon the comprehensive research completed, understand costs of construction, permitting timelines and identify and secure funding.

PROJECT APPROACH

Overview

BL Companies' team's approach will assist the City through all facets of the project and is comprised of five phases with two common threads carried throughout the project lifecycle - **Project Management** and **Engagement**. The threads are essential to maintain consistent communication, accurate contract management and build and maintain project support and community enthusiasm. Overarching all stages of the project is our Team's ability and commitment to provide a consistent presence to advance the project forward.

Funding, Grant Writing and Implementation

If there is a single, most significant challenge this project must address, it is funding and implementation. Our Team from the onset will identify and prepare a list of all funding sources. We will utilize this list immediately and as a guide to track deadlines if rolling submission dates are not applicable. We will ensure that the Team and City is aware of the submission requirements so we can adapt our planning as required to submit a comprehensive and competitive application. There are several opportunities for funding including Urban Act, and economic development funds via DECD and the US Economic Development Agency, the later often with excess funds that support economic growth projects, and which may be tied to the efforts of the Park project. SHPO and the 1772 Foundation are other options that can assist in historic preservation, both bricks and mortar and planning/design. If the City of Shelton is not a Certified Local Government with the State, we encourage the City to do become a CLG to qualify for other historic preservation funds. In addition, we will think outside the box - for instance, the Long Island Sound Futures Fund often opens for grant requests. Tying the planning and testing efforts of the Park to preservation of Long Island Sound is a very viable option.

Project Management

Dennis Goderre is the designate project manager and will work closely with Derek Kohl on staffing, resource planning and communication with the City and partners. Dennis' close technical advisors will be the Matt Robillard, PE and Timothy Myjak, LEP, both professionals in the fields of civil engineering and environmental sciences. Along with Dennis' municipal, planning and landscape architecture background the trios complementing expertise will be an asset to the City and scope of work we conduct. To that end, it is Dennis' responsibility to ensure contractual matters are maintained, scope deviations that may arise are clearly identified, and regular communication to the City is clear, frequent, and accurate. He will be the point of contact for the City and available throughout the project. This means, Dennis will be available as

needed to answer questions or address concerns. We value our clients and seek to provide the highest level of service and client care possible.

Engagement

Engagement spans numerous interest groups, often with different or competing needs and areas of focus. However, it is essential to engage constituents early, often and throughout the life of the project. This is very important for the Shelton Canal Locks Park project because bringing the entire vision to reality will require diligence and incremental successes over a timeframe dependent upon funding and permitting requirements. We will work with the City to identify participants that should be engaged. But these will most likely be City staff and leaders, local non-profits, boards and commissions, local businesses and business organizations, state agencies (SHPO, DECD, DEEP), community groups, and residents, to name a few. Engaging community members in envisioning the future of the Park will help to create a shared and cooperative agenda of success. More specifically, these meetings may take place through a combination of methods. For instance:

- Public meetings would be in a workshop format and may be complemented by online surveys and ‘crowdsourcing’ utilizing online maps or other methods (i.e. wikiMapping);
- Private property owners and businesses, while welcome to every public forum, might benefit from one-on-one meetings so open and candid conversations can take place;
- Working sessions and interviews with staff will also play an important role in understanding policy, opportunities and public sentiment;
- Open one on one dialogue with elected officials will help the Team understand the sentiment of their constituents;
- Meetings with state agencies will assess the willingness to implement ideas and understand challenges that need to be overcome.



We have the technical abilities to host online workshops for hundreds of participants at a time. We are aware these are uncertain times and we will remain flexible on the format engagement takes to protect the safety of everyone during the pandemic. Online meetings can be effective and are proving to be convenient. We will work with the City to determine the most effective and safe method to bring all parties together. We will remain flexible and provide, if needed, several methods of engagement to capture voices from all groups. Through the upfront effort of our team on research, data gathering and some initial planning, we are able to propose a draft scope of work for the City to contemplate for the initial planning phase.

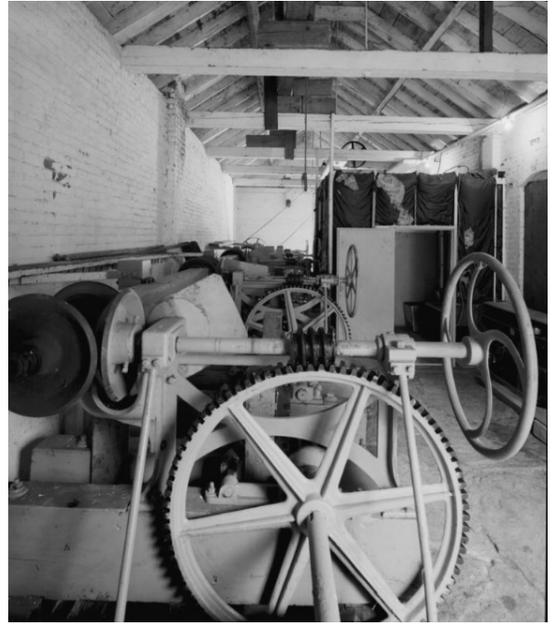
We propose five phases with the initial two phases identified as ‘Recommended’, which means these are the minimal initial tasks that should be undertaken to help establish a vision, engage the community and outline an overall strategy to guide funding and implementation.

Outlined within each Phase are general descriptions of tasks that should be considered for completion to reach the purpose of the corresponding phase. The ability to complete each task will be dependent upon available funding.

Phase I: Initiation and Investigations (Recommended)

We begin **Initiation and Investigations** by kicking off the project with the City to identify the full scope of work. We will then conduct field investigations and desktop research associated with the various aspects of the project. This establishes the necessary baseline information to inform and guide the planning process of Phase II. At this stage we will work with the City to prioritize the tasks necessary based upon funding availability, schedule, and priorities and may include:

- Kick Off Meeting and Scoping
- Funding (Sustained effort)
 - Evaluate and identify possible private, state and federal funding sources and requirements
 - Begin grant applications based upon submission deadlines
 - Consult with state agencies on funding options
- Team Meetings
 - Ongoing biweekly/monthly as work progresses and findings obtained
- Site Visits, AUV and Photo documentation
- Establish and Commence with initial Public Outreach Process
 - Meet with key stakeholders
 - Prepare outreach materials/themes/branding
- Historic/Archeological Review
 - Record review
 - Field and visual investigations
 - Meet/engage SHPO and local organizations
- Compile Existing Base Mapping Data
 - LIDAR Topography
 - Parcel Lines
 - GIS Information
 - Research current Projects, existing surveys for properties
- Environmental Compliance Evaluation
 - Develop conceptual site model for potential environmental concerns.
 - Limited sediment sampling within Canal area to identify potential areas of environmental concern
- Natural Resource Evaluation
 - NDDDB Request for Review
 - Identify Inland Wetland Areas if available from GIS or other public mapping (confirm via visual site inspection)
 - Review Potential Impacts to natural resource areas
- Geotechnical Review
 - Review Existing Site Plans and collection of publicly available data
 - Evaluate and provide preliminary recommendations associated with potential bridge and lock restoration improvements
- Evaluation of Existing Structures (Bridges, Locks, Walls, Slopes)
 - Data collection of existing bridge inspection and/or structural reports.
 - Review existing plans of Locks and Walls, and Canal
 - Evaluate coherency with other redevelopment activities in the area.
 - Perform Preliminary Field Investigations
 - Identify Potential Structure improvements for maintenance, and or rehabilitation.
 - Project plan and permit evaluation.
 - Funding evaluation.
 - Evaluate potential access considerations and future easements.
- Mapping
 - UAV Drone Flight to obtain updated aerial orthographic imagery and supplemental topography
 - Limited field topographic survey to evaluate elevations and key features.
 - Additional Land Record research on property ownership and potential easement identification
 - Survey Wetland Delineation



The interior mechanisms of the lock are the hidden gems of early engineering and should be considered when telling the story of the lock restoration. (Source: HEAR)

- Environmental Compliance Evaluation
 - Additional sediment, soil, and water sampling.
 - Ecological risk assessment.
 - Evaluate teaming opportunities with vested organizations for potential overdue fish ladder around dam.
 - Delineation pursuant to permit requirements
- Natural Resource Evaluation
 - Soil Scientist flag all Wetland Areas
 - Review Impacts and Identify potential Mitigation alternatives
 - Canal / lock waterbody quality assessment for future use.
- Geotechnical Review
 - Desktop Reviews and field observations to inform the need of field testing during master plan development (see next Phase)
- Perform Bridge and Structure Inspections (Bridges, Locks, Walls, Slopes)
 - Obtain historical structural documentation
 - Preliminary Bridge and Structure evaluations and recommendations
 - Laser scan lock features for structural and rehabilitation evaluation.
 - Preliminary layout for Pedestrian Bridge (Structure Type Study Report)

Phase II: Goal Setting, Planning and Visioning (Recommended)

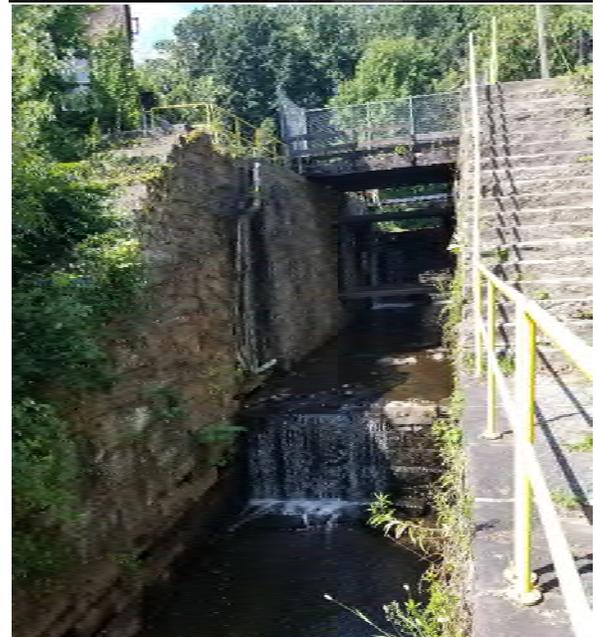


PROJECT UNDERSTANDING & APPROACH

Our approach continues with **Goal Setting, Planning and Visioning** during which we will utilize the findings of the prior phase and begin formulating the opportunities that lead to a vision for the Shelton Canal Locks Park - establishing realistic, attainable, and affordable goals. For instance, an important goal to determine will be if the lock should be restored for full or part navigation or demonstration purposes only.

Specific tasks may include:

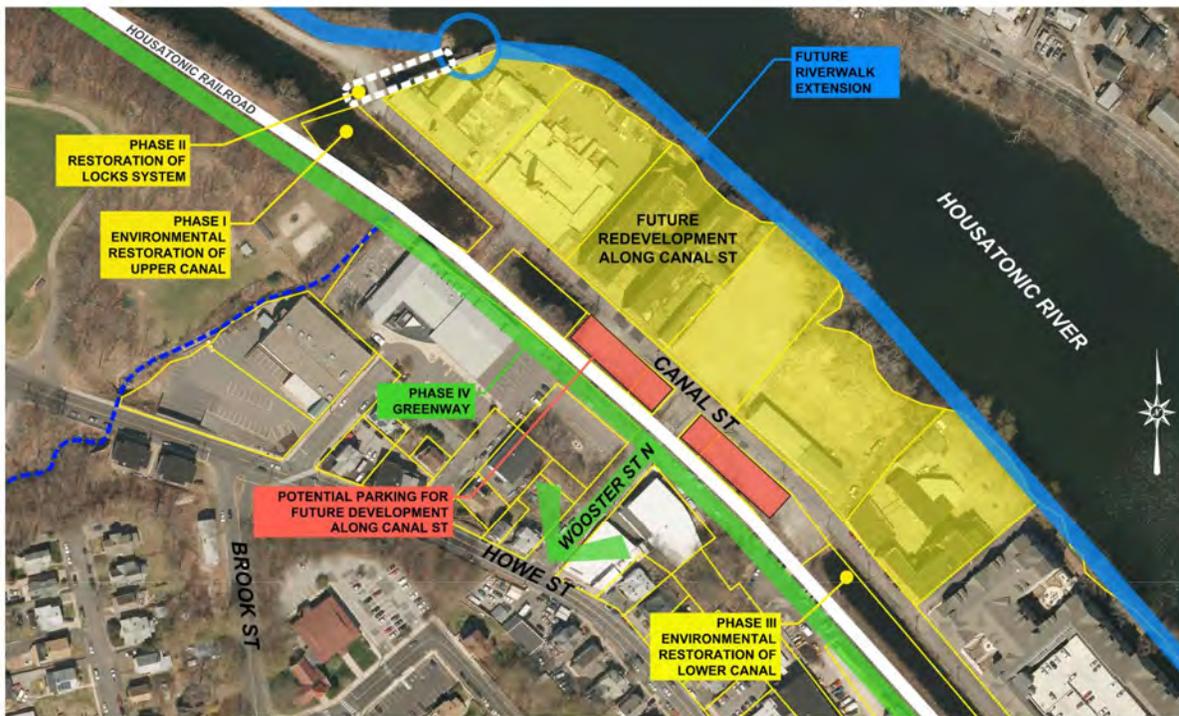
- Public Outreach
 - Stakeholder Engagement
 - Public Workshops and Open Houses
 - Design Charrettes
 - Walkabouts (public site tours)
 - Pop up events
- Funding (Sustained effort)
 - Evaluate and identify possible private, state and federal funding sources and requirements
 - Begin grant applications based upon submission deadlines
 - Consult with state agencies on funding options
- Master Planning
 - Conceptual Site Design
 - Integrate master plan into existing community fabric
 - Interactive process to test scenarios
 - Develop 2-3 options for Riverwalk/locks
 - Determine appropriate Master Plan and likely phasing
- Set Goals and Priorities
 - Determine lock rehabilitation level (demonstration v. operational)
 - Extent of canal restoration/remediation
 - Uses, operations and management/maintenance requirements
- Additional Survey Work to support plan development
- Lock Design and Planning
 - Outline options and requirements for rehabilitation
 - Review feasibility of full operation v. demonstration
 - Outline needs/requirements of further engineering
- Geotechnical Investigations
 - Limited test program including test pits and borings in areas of concern
- Additional Environmental Testing
 - Characterization of environmental media for reuse



Restoration of the locks will require research from photographs and other documents. They can also contribute to the overall design of the park, inspiring an overall theme for site amenities, railings and other features.

PROJECT UNDERSTANDING & APPROACH

- Delineation of environmental impacts for soil/sediment and water
- Media sampling for ecological risk assessment
- Historic/Archeological Context
 - Maintain communication with SHPO, other organizations
 - Conduct additional field investigations/research to support master plan development
- Property ownership
 - Evaluate property ownership
 - Consider Property accusation requirements (if necessary)
- Outreach to local, state, federal agencies
 - Meet with DEEP/SHPO/ACOE
- Discuss redevelopment options, permitting strategies
- Maintain lines of communication
- Phasing and cost estimating
 - Identify reasonable phasing approach
 - Develop preliminary high level cost estimates for construction per phase
- Deliverables:
 - Master Plan Report outline key findings
 - Outline next steps and engineering requirements to advance/support priority phases
 - Public Presentations to public/City leadership/organizations



SHELTON CANAL & LOCKS GREENWAY

EXHIBIT 2
SEPTEMBER 11, 2020



BL Companies has already begun substantial investigations, research, and planning for the Shelton Canal Locks Park project. Our initial plan depicted above, helps to formulate a vision, and outline the opportunities that exists. We are prepared to start immediately and seamlessly.

Phase III: Preliminary Design and Engineering

Based upon the master plan developed during Phase II, **Preliminary Design and Engineering** addresses technical, programmatic and permitting requirements. This is an intensive phase and will require financial resources to conduct detailed testing, analysis, and preliminary engineering. This is an important step as it will help refine more accurate development, remediation and rehabilitation costs and further understand permitting timelines and requirements. The exact scope of this work will depend upon fiscal resources to support the prioritized phase, but may include one or more of the following:

- Topographic and Boundary Surveys
- Geotechnical borings and analysis
- Archeological research and field work/documentation
- Lock engineering and design
- Preliminary engineering of Riverwalk and other site improvements
- Ongoing communication with regulatory agencies

Phase IV: Ecological Mitigation/Remedial Action Plan, Detailed Design and Permitting (Per Project Phase)

Detailed Design and Permitting would be conducted based upon each identified phase and funding available/anticipated. It will consist of all the associated engineering and additional field testing as required, mitigation and remediation plans to address environmental contamination (i.e PCBs in sediment) and preparation of site plans, reports, and applications to be submitted to the respective regulatory agency(s).

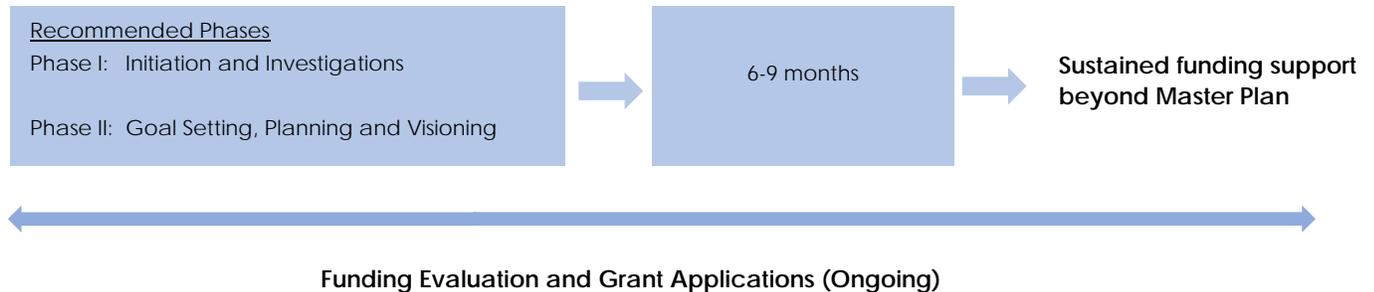
Phase V: Construction Plans and Administration.

Once permits are received, construction level drawings and specifications will be prepared to successfully bid and construct the project. BL Companies can provide all bid phase and construction administration services necessary to realize a successful project.

Meeting Attendance, Presentations and Project Schedule

During each phase, our Team will meet with the City to report progress and discuss key findings. Each meeting will be strategically scheduled to maximize communication with clearly defined agendas. As appropriate we will present key findings to boards, commissions, the public and elected leaders to inform each on progress and solicit input.

The timeframe for each phase of the project will depend upon the final scope of work of each development phase. However, reasonable durations for each phase could be anticipated as follows:



Additional Phases

Phase III: Preliminary Design and Engineering: 3-6 months

Phase IV: Ecological Mitigation/Remedial Action Plan, Detailed Design and Permitting

Mitigation/RAP: 3 months

Detailed Design: 6 months (depending upon testing requirements, if any)

Permitting: 6-12 months

Phase V: Construction Plans and Administration

Plan and Specification Preparation: 2-4 months

Bidding: 2-3 months

Construction: TBD

CLIENT REFERENCES

Project: Harbor Brook Channel Improvements, Meriden, CT

Mr. Howard Weissberg, PE, Director of Public Works

City of Meriden

142 East Main Street, Meriden, CT 06450

Phone: (203) 630-4022

hweissberg@meridenct.gov

Project: Pameacha Pond Sediment & Reuse Evaluation, Middletown, CT

Mr. Christopher Holden, PE, Deputy Director of Public Works

City of Middletown

245 deKovan Drive, Middletown, CT 06457

Phone: (860) 638-4857

Chris.holden@middletownct.gov

Project: West Dayton Hill Pond Dam, Wallingford, CT

Mr. Robert Baltramaitis, PE, Director of Public Works

Town of Wallingford

45 South Main Street, Wallingford, CT 06492

Phone: (203) 294-2205

Project: Connecticut River Access, Enfield, CT

Mr. Nelson Tereso, Deputy Director of Economic and Community Development

Town of Enfield

820 Enfield Street, Enfield, CT 06082

Phone: (860) 253-6391

ntereso@enfield.org

Project: Multiple Projects with the City, Groton, CT

Mayor Keith Hedrick

City of Groton

295 Meridian Street, Groton, CT 06340

Phone: (860) 446-4103

hedrickk@cityofgroton-ct.gov

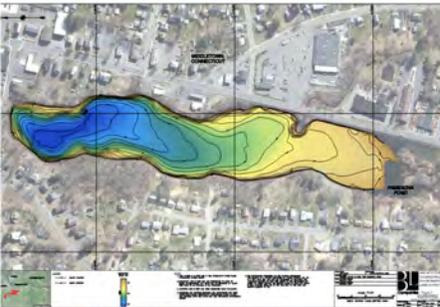
LIST OF SIMILAR PROJECTS



PRELIMINARY PLAN FOR INFORMATIONAL PURPOSES ONLY

Potential Public Park Amenities & Features

1. Multi-Use Paths (Pedestrians / Bikes)
2. Bench / Park Seating
3. Community Pavilion / Gazebo
4. Picnic Areas
5. Public Art
6. Native Meadows / Nature Gardens
7. Educational / Historic Displays
8. Landscaping including Shade Trees
9. Memorial Tree Grove
10. Public Parking Area(s)
11. Wetland Boardwalk
12. Pedestrian Stream Crossings
13. Outdoor Fitness Equipment
14. Pond Overlook / Viewing Platform



BL Companies recently completed an assessment to evaluate potential environmental impacts to sediment which may be disrupted and / or exposed during the future removal of the dam, draining of the pond, rerouting of the Round Hill Brook stream channel which drains into the pond, and potential reuse of the area for passive recreation. The existing dam impounding the pond water is currently failing. BL Companies provided preliminary hydraulics and permitting, public outreach, and conceptual master planning for the eventual reuse of the pond area once the dam is removed in the future.

The design team produced a morphologic survey to aid in determining a proposed brook channel once the dam is removed. An extensive outreach program is required to formulate the preferred masterplan layout of the use for the former pond area. Preliminary alternatives developed during this public outreach phase were presented at several public meetings. Preliminary Engineering level plans for the preferred alternative will be developed and provided to the City. A management strategy will also be developed to control the invasive Northern Snakehead fish that currently inhabits pond. Final design and permitting for the restoration of the pond area will be developed at a future date.

LOCATION

Middletown, Connecticut

SERVICES

Land Survey, Planning, Environmental Sciences, Engineering, Out Reach

Ash Creek Pedestrian Bridge & Park Improvements EXPERIENCE



BL Companies is providing design services to the City of Bridgeport in collaboration with the Greater Bridgeport Regional Council and the Town of Fairfield to design a landmark pedestrian bridge to span Ash Creek in the vicinity of Fox Street, as well as provide streetscape and trail amenities at the approaches.

The objective of this LOTCIP and CTDOT oversight project is to enhance the connectivity between the recently completed Metro Center and Black Rock community on the east side of Ash Creek by constructing a pedestrian bridge that will be a 225' prefabricated steel truss superstructure on reinforced concrete abutments supported on micropiles. The structure will provide a safe attractive passageway for the current residential community to take advantage of the opportunities offered by the transit facility as well as the planned future expansion in the area. Army Corps of Engineers Pre-Construction Notification and a CT DEEP application for Structures, Dredging, Fill and Tidal Wetlands were required for environmental permitting.

The project will also include site improvements along Fox Street as well as along the existing Creek Trail.

LOCATION:
Bridgeport, Connecticut

SERVICES:
Bridge / Structural Engineering, Civil Engineering, Landscape Architecture, Planning, Environmental Sciences, Land Surveying



BL Companies provided design and construction services for Waterwheel Park, a public park, in Plymouth, Connecticut. The park is located adjacent to the Terryville Waterwheel, a non-working iron and wooden industrial wheel housed on the site of the former Eli Terry Lock Company. The Terryville Waterwheel is listed on the National Register for Historic Places.

In the nineteenth century, the growth of the Town of Plymouth was fueled by the presence of two industries – clock and lock manufacturers. The Terryville Waterwheel powered the Lewis Lock Company, the forerunner of the Eagle Lock Company. The Waterwheel will act as an anchor to Waterwheel Park as it functions as a monument to the past and incorporates the history of the park into an exciting visitor experience.

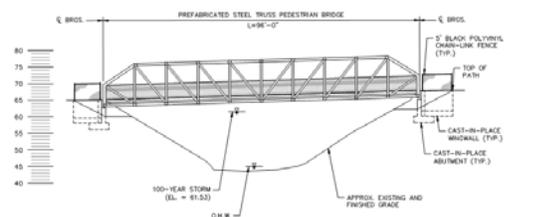


The site for the park posed a number of challenges including ongoing environmental contamination, a failed dam structure and the Waterwheel itself, which was unmoored by the absence of the original factory. These challenges presented an exciting opportunity to help bring the past to the present through interpretation and design.

BL Companies provided integrated services including land surveying, landscape architecture, planning, archaeology, civil engineering and environmental sciences. The firm provided historical architectural and master millwright services via sub consultants.

LOCATION
Plymouth, Connecticut

SERVICES
Civil Engineering, Environmental Sciences, Land Surveying, Landscape Architecture



This project involves design and construction of an accessible multi-use path connecting Freshwater Pond at the center of the Enfield Culture and Arts District with an overlook of the Connecticut River at the west end of Main Street. The path will be roughly 2,000 feet in length and will provide a safe and attractive connection between these community nodes and improve pedestrian connectivity between the Connecticut River and the Thompsonville Historic District. Improvements proposed under this project include construction of a paved multi-use path, 80 foot pedestrian bridge, associated grading, intersection treatments, lighting, furnishings, landscaping, and signage. The path is proposed to be a paved surface and will vary in width from 6 to 10 feet wide along its route. Care has been taken to weave the path through the area in an efficient, aesthetic and safe fashion.

BL Companies is currently providing inland surveying, wetland delineation and assessment, archaeological investigations, environmental land use evaluation, public involvement, civil, transportation and traffic engineering, planning, and landscape architecture for the project.

The project also included coordination with Amtrak, various Town departments and consultants, and the Connecticut Department of Transportation as a result of Federal and State funding, proximity to other State projects, and the close proximity of Amtrak's New Haven to Springfield railroad line.

LOCATION
Enfield, Connecticut

SERVICES
Civil Engineering, Environmental Sciences, Land Surveying, Landscape Architecture, Planning, Structural Engineering, Transportation Engineering



The City of Norwich, CT retained Dennis Goderre to develop a master plan to celebrate the history of Uncas Leap Falls (formerly Indian Leap), a scenic dam and industrial site located upon the Yantic River. This is well known for the conclusion of the battle of The Great Plains, fought between the Mohegan and Narraganset Tribes September 17, 1643. The master plan is playing a significant role in the site becoming known today as the Mohegan Heritage Center at Uncas Leap. Long enjoyed by city residents for its scenic beauty amongst the gorge's cliffs, moss and mist created by the nearby historic dam, early settlers thrived on the locations natural resources and industrialists prospered from the hydro power harnessed from the gorge's topography. Working closely with the City of Norwich, Mohegan Tribal representatives, and complemented by a robust public outreach process, a master plan vision was created. Ultimately, this master plan has led to several grants and funding opportunities to remediate a former mill, purchase nearby property and construct on site parking for the frequent visitors that enjoy the property and resources of the Yantic River. A continued work in progress, the site is a testament to community commitment and perseverance.

LOCATION

Norwich, Connecticut

SERVICES

Planning, Landscape Architecture, Public Outreach, Economic Development

PERSONAL EXPERIENCE

Dennis Goderre, PLA, AICP-CUD, City Planner prior to joining BL Companies



BL Companies provided landscape architecture, civil engineering and structural engineering services for improvements to the Hoppers / Birge Pond Nature Preserve. The Hoppers / Birge Pond Nature Preserve is located near downtown Bristol. Featuring dramatic, glacially influenced geologic formations and rich in archeological and historical resources, the preserve is a unique area and is undiscovered by many residents.

Improvements included enlarged parking areas on either side of the existing dam and accessible pedestrian paths between the lots. Amenities included an ADA-accessible fishing platform, timber guiderail, lighting, benches and picnic tables and native plantings along the water's edge. These improvements have increased community awareness of the preserve and the adjacent trail systems throughout the preserve.

Future improvements will include trail enhancements, ecological restoration, interpretive and regulatory signs and updated trail maps and brochures.

LOCATION

Bristol, Connecticut

SERVICES

Civil Engineering, Environmental Resources, Landscape Architecture, Structural Engineering, Transportation Engineering



BL Companies performed site design for the City of Ansonia to reimagine the City's nature center parking lot, entry experience, and pond resource area. The existing parking lot sits in close proximity to a vernal pool and services both the nature center and an adjacent athletic recreational field complex. The project incorporated Low Impact Design (LID) strategies with reduction of impervious surface and introduction of vegetative swales along with natural process interpretative educational areas. Vehicle and pedestrian circulation was separated and organized to afford safe navigation of the site by visitors. Transition nodes were incorporated from the nature center to walking and hiking trails. Universally accessible drop off, parking and walking paths were incorporated along with outdoor instructional spaces for nature center activities, demonstrations, and informal inclusive instruction.

The Pond area (Redwing Pond) of the site which sits to the south of the parking lot is slated to be selectively dredge to incorporate a more diverse ecosystem and to mitigate invasive plant species. As part of the pond work, an existing boardwalk will be renovated and extended to be made universally accessible to the building and parking areas.

BL Companies has worked with the City of Ansonia in the phasing of this project to allow for fiscal flexibility in bringing the entire project into reality.

BL Companies provided topographic survey of the area along with pond bathymetry, civil engineering, landscape architecture, environmental engineering, low impact parking lot design solutions, boardwalk system design alternatives and informational sign panel graphics.

LOCATION

Ansonia, Connecticut

SERVICES

Landscape Architecture, Civil Engineering, Environmental Engineering, Land Surveying



BL Companies has completed design services and is currently entering the Construction Inspection phase of a multi-faceted flood control and multi-use trail project connecting recent improvements to the Meriden Green to Hanover Pond in South Meriden. The project was an additional piece to the overall program to improve the corridor between Baldwin's Pond, through the Green to Hanover Pond, via the Harbor Brook Corridor. The project involves the complete clearing and grubbing of existing overgrowth and invasive plants, embankment and flood storage improvements, replacement of an aging sewer force main truss structure, sedimentation removal, impacted soils remediation, a new traffic signal, and a 5,300 linear foot multi-use path with extensive landscape architecture improvements. The project encompasses approximately 8,500' of the brook through primarily residential areas.

BL Companies is the designer of record for the project and has been retained by the City to provide Construction Engineering and Inspection services, which encompass contract administration and environmental inspection in addition to traditional recordkeeping and project financial oversight customary to CEI.

The project is jointly funded through a CT DEEP grant, City bond funding, and Eversource funding for impacted soils remediation related to a former manufactured gas plant property abutting the site.

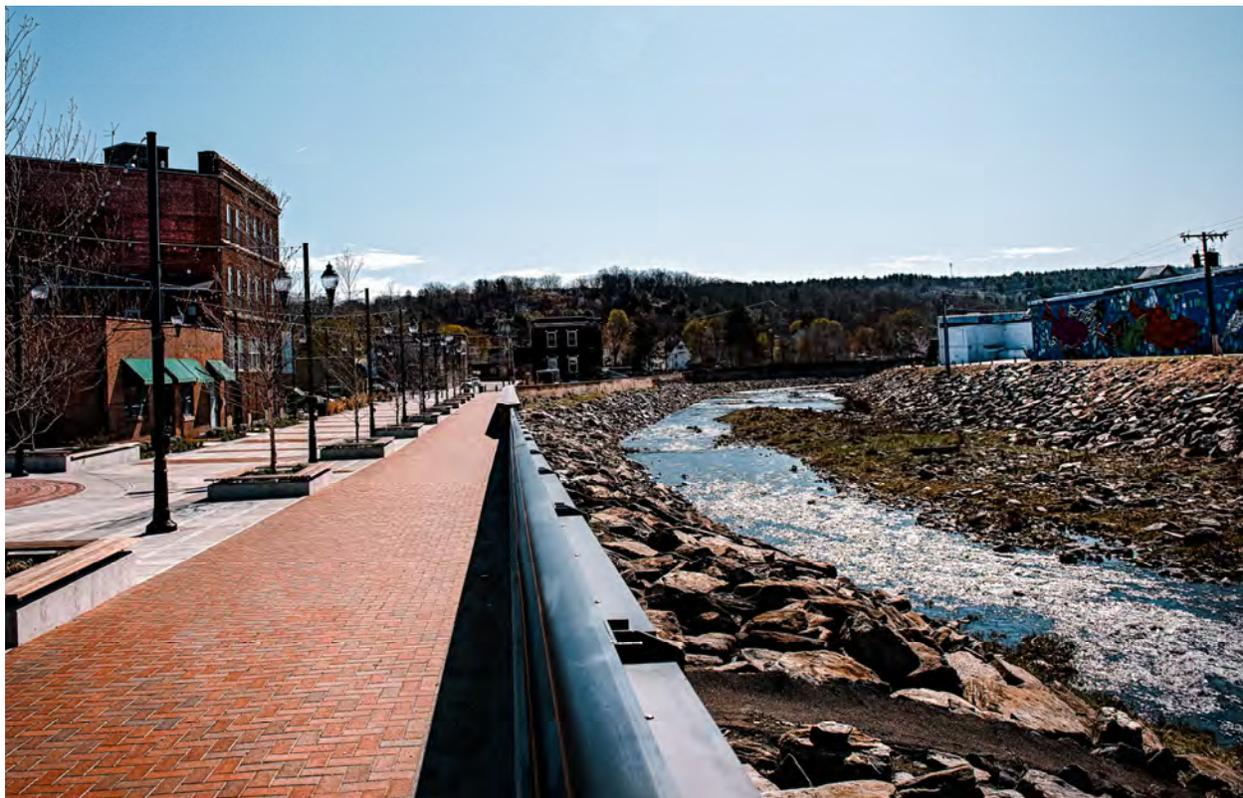
The construction value of the project is estimated at \$12-14M.

LOCATION

Meriden, Connecticut

SERVICES

Traffic, Transportation, Construction Engineering & Inspection, Environmental



The City of Torrington engaged BL Companies to provide planning and design services under the State of Connecticut Brownfield Area Revitalization (BAR) grant to develop a strategy for the future redevelopment of brownfield sites in the City. Included within this strategic planning initiative was the enhancement of the Franklin Street corridor linking the downtown core with multiple brownfield sites, with the goal of increased connectivity and redevelopment potential for these properties. In addition this site is located at the intersection of two planned trail creation & improvement projects that will circulate through the downtown area. The City of Torrington had previously envisioned improvements to this area including the conversion of Franklin Street to a pedestrian only street. Our design team working with the City of Torrington, local residents and business owners was able to move the City's vision forward by developing a site concept plan that was informed by input and feedback from all interested parties. The concept plan was highlighted by a pedestrian only street that included a large linear plaza, a flexible downtown event space, a designated bike-lane, bench seating throughout, café style overhead lighting and the expansion of the existing Patterson Park along East Main Street. Ultimately our design team advanced the Franklin Street & Patterson Park Concept Plan to construction level documents. Construction of this critical downtown public space was completed in Fall 2020.

LOCATION

Torrington, Connecticut

SERVICES

Landscape Architecture, Civil Engineering, Land Surveying, Planning, Public Outreach

AWARD

Connecticut Chapter of the American Planning Association
2020 Placemaking Award





BL Companies performed design and engineering services for the reconstruction of the dam including survey, hydrologic / hydraulic analysis, dam breach analysis, environmental resource assessment/delineation, geotechnical engineering, structural inspection and coordination with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Dam Safety Unit.

The work also included the preparation of environmental permit applications (Local IW, CTDEEP, and Army Corps of Engineers), Construction Documents including plans, specifications, estimates and construction administration & inspection.



BEFORE

The reconstruction improvements included the removal of the existing dry stacked stone spillway and training walls and the construction of a new reinforced concrete gravity section spillway. Additional improvements consisted of riprap stabilization of the earthen embankments, the installation of a new draw down structure in the pond and the installation of steel sheet-piling upstream of the embankments to prevent future seepage.

BL Companies provided Construction Engineering and Inspection services for this project. Inspection included sedimentation and erosion controls to ensure adherence to the Environmental Permitting requirements, structural dimensions, reinforcing steel, draw-down structure components, and coordinating materials sampling and testing for the concrete spillway and embankment caps.

LOCATION

Wallingford, Connecticut

SERVICES

Civil Engineering, Hydrologic / Hydraulic Analysis, Structural Engineering, Construction Engineering & Inspection





The Willimantic River Linear Park in Willimantic, Connecticut, is a 10-acre rural waterfront property comprised of Waterfront Park, In-River Whitewater Park and three greenways — East Coast, Airline Trail and Veterans. Waterfront Park is a new component of Willimantic River Linear Park. BL Companies is providing master planning, schematic design and cost estimating services for Waterfront Park. The goal is to carefully integrate Waterfront Park within Linear Park.

Waterfront Park will feature a resource center, ample parking, a 90-foot pedestrian bridge to connect both sides of the Willimantic River, interpretive trails, a pathway network, textile mill reclamation, historic bridge renovations and various public spaces. The design will be integrated with a Phase III Remediation Action Plan and includes a formal lawn, which will lead to an architectural pavilion. This pavilion is expected to draw people into the site as it overlooks a dramatic setting of exposed rock faces.

Though a recreational hub, Waterfront Park is also the State Route 32 gateway into the historic downtown of the Town of Willimantic. A focal point of the design for Waterfront Park is a 3.5-acre Brownfield site. This vacant property is crucial to providing public river access, ecological restoration and passive recreation amenities for the community.

Additionally, the Willimantic River is a vital ecological and recreational resource for the region. Public access is severely limited by steep slopes and the lack of public spaces along the riverfront. Waterfront Park will be the catalyst to overcome these challenges and assist in the economic development of the community.

LOCATION

Willimantic, Connecticut

SERVICES

Civil Engineering, Environmental Sciences, Land Surveying, Landscape Architecture, Planning, Structural Engineering, Transportation Engineering



Riverfront South is a revolutionary plan that creatively puts energy issues at the forefront of a major urban renewal initiative in the City of Hartford, and represents an energy independent development that offers incentives for businesses and residents and brings revenue and vitality to the area. This visionary plan incorporates residential, retail, entertainment and business uses as well as a new waste-to-energy power source for Riverfront South and the region. The Connecticut River will be a prominent element, and increasing its accessibility as a public recreation amenity will be a priority. BL Companies is pleased to be in the forefront of this proposed cutting-edge venture and to be the leading planning, design and engineering consultant for this visionary project.

LOCATION

Hartford, Connecticut

SERVICES

Architecture, Civil Engineering, Landscape Architecture, Planning, Transportation Engineering



Torrington is a growing suburban community in western Connecticut. BL Companies was retained to perform planning and design services for the redevelopment of about 100 acres in the heart of the city. The primary focus of the design process was to provide a natural and logical regeneration of Torrington. Historical buildings were catalogued and integrated into the design. New buildings were introduced, based on the scale and texture of the fabric of the city. The streetscape was accentuated to improve pedestrian circulation and viability of the retail shops. Existing roadways were analyzed and realigned to improve vehicular and pedestrian traffic throughout the area and all existing utilities were evaluated for capacity and availability for expansion. BL Companies performed a preliminary environmental assessment of about 180 properties within the study area. This helped develop an estimate of the potential costs necessary to address impacts to soil and ground water from hazardous or regulated substances on site.

LOCATION

Torrington, Connecticut

SERVICES

Architecture, Civil Engineering, Environmental Sciences, Land Surveying, Landscape Architecture, MEP Engineering, Planning, Transportation Engineering



Thames Street, overlooking the Thames River in the City of Groton, was the soul of the City of Groton, bustling with activity and small businesses that provided the daily essential for residents and visitors. Like many main streets, the dynamics changed as malls and suburban retail centers developed. With a new change in focus by the consumer, walkable mixed-use centers, the City sought to reinvent Thames Street to capitalize upon the changing demographics, consumer sentiment and the expansion of Electric Boat. Funded by a grant from CT Next in support of the Thames River Innovation Place District, Dennis Goderre managed the redevelopment plan for the Thames Street Corridor.

As a Riverfront mixed-use district and where the Thames River meets Long Island Sound, redevelopment plans needed to be sustainable to protect natural resources, resilient to respond to storm events and flood hazard zones, while being flexible to respond to the private development community. Research of the current market dynamics and a series of public outreach events helped to facilitate the conversations, including numerous one on one interviews with landowners and the private development community. This proved vital to understand hurdles such as barriers established by zoning and the approach to land use administration and enforcement. Results of the plan included building consensus throughout the community, demonstrating there is great opportunity for more development despite challenges of numerous parcels and coastal hazards, and a solid framework for the City to build upon and implement. These efforts garnered substantial interest from the development community, local and regionally, to invest or reinvest in the area.

LOCATION

City of Groton, Connecticut

SERVICES

Civil Engineering, Planning, Public Outreach

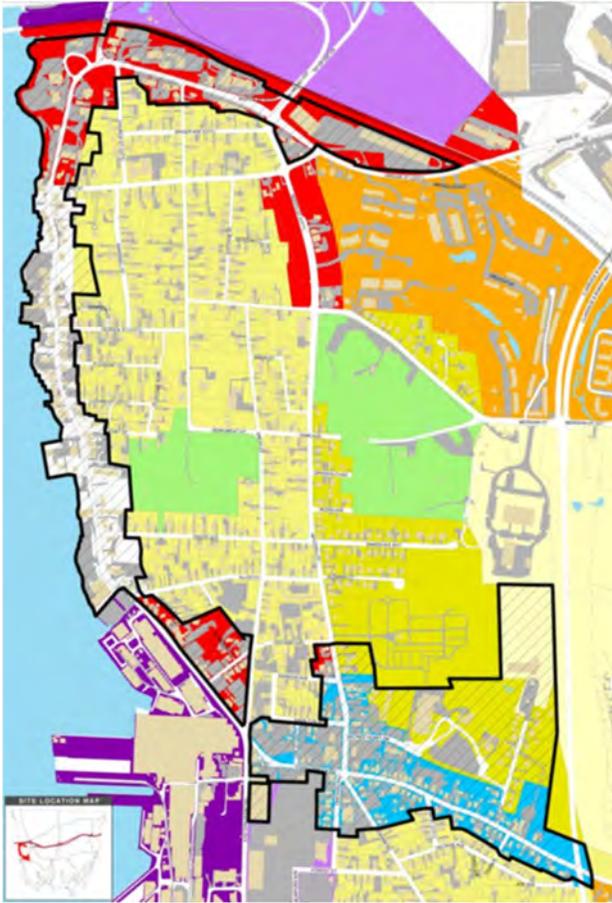
PERSONAL EXPERIENCE

Dennis Goderre, PLA, AICP-CUD, City Planner prior to joining BL Companies

CONTACT

Cierra Patrick | patrickc@cityofgroton-ct.gov | 860.446.4066





BL Companies has assisted numerous municipalities and the private development communities with the development of zoning strategies. This includes overlay districts, planned development districts, and design guidelines. Specifically, Dennis Goderre, Project Manager, created new zoning to facilitate the redevelopment of the City of Groton's waterfront, capitalizing upon the expansion of the Electric Boat and a growing interest in small businesses seeking to relocate into the scenic waterfront neighborhoods overlooking the Thames River. The planned development district was a flexible tool to reduce developer risks by merely approving a master plan through a public hearing, legislative decision process, followed by a staff level site plan approval. This facilitated the interest of the private development community as it reduced the risks involved during the initial phases of their planning. Additional zoning revisions included sustainable approaches to reduce improvement coverage, promote LID, reduce heat gain and promote the use of renewal resources.

Furthermore, Dennis drafted, and navigated the approvals of a TIF district within the City of Groton, capitalizing upon the revised TIF statutes enacted by the State of Connecticut. Required approvals included, Economic Development Commission, Planning and Zoning Commission, Town of Groton Town Council, and City of Groton City Council, a lengthy process, yet successful. By statutes, TIF district formation is flexible in order to respond to each municipality needs and comfort levels. City of Groton opted to capture 50%, rather than 100%, of the realized tax increment based upon the recent certified grand list, allow for flexibility to enter into development agreements with developers by reimbursing taxes, as two examples.

LOCATION

City of Groton, Connecticut

SERVICES

Civil Engineering, Planning, Public Outreach

PERSONAL EXPERIENCE

Dennis Goderre, PLA, AICP-CUD, City Planner prior to joining BL Companies

CONTACT

Cierra Patrick | patrickc@cityofgroton-ct.gov | 860.446.4066

Lock Projects

Bergmann has developed innovative and cost effective solutions for lock owners, using in-the-wet construction, precast panel resurfacing and hands-free mooring systems across eastern U.S. and Canada. The projects listed below provide examples of lock projects we've completed across the eastern U.S and Canada.



WELLAND CANAL TIE-UP WALL REPLACEMENTS
ST. LAWRENCE SEAWAY MANAGEMENT CORP

U.S. Army Corps of Engineers

Buffalo District

- Black Rock Lock Miter Gate Repair & Painting (NY)

Huntington District

- London Lock Extension & New River Wall Design/Construction
- Greenup Lock - Design of Bypass Culvert Alternatives

Nashville District

- Kentucky Lock - Design of Portions of New 1200' Lock & Site Planning
- Chickamauga Lock - Design of Cofferdam & Landside Lock Wall for New 600' Lock

New York District

- Troy Lock Rehab Design with Precast Panels & CIP Concrete

Pittsburgh District

- Braddock Lock & Dam - New Float-in Dam Design & Construction Support
- Charleroi Locks - Design of Portions of New Twin 84'x720' Locks
- Emsworth Locks - Evaluations of Miter Gates & Lock Monoliths
- Montgomery Locks - Evaluations of Miter Gates & Lock Monoliths
- Dashields Locks - Reliability Studies for Lock Monoliths & Miter Gates
- Allegheny Lock 4 - Technical Assistance for Precast Panel Resurfacing

Rock Island District

- LaGrange Lock Alignment Design & Alternatives Studies
- Mississippi River Lock #22 Extension Study & 3D Video Model

St. Louis District

- Mississippi River Lock #24 Monolith Rehabilitation Design
- Mississippi River Lock #27 Sill Improvements



LAGRANGE LOCK CONCEPT STUDIES
USACE ROCK ISLAND DISTRICT



FLIGHT OF FIVE LOCKS RESTORATION
CITY OF LOCKPORT, NY



MASSENA LOCKS HANDS-FREE MOORING
GREAT LAKES SEAWAY

Great Lakes Seaway

St. Lawrence Seaway Development Corp.

- Massena Locks - Eisenhower & Snell: Hands-Free Mooring Installations; Mechanical & Electrical Improvements

St. Lawrence Seaway Management Corp.

- Welland Canal Locks 1-8: Tie-up Wall Replacements; Hands-Free Mooring Installations

Local & Regional Dam Owners

Kentucky River Authority

- Locks 1 & 2: Inspections & Repair Estimates
- Locks 5-8: Miter Gate Inspections
- Lock 10: Rehab Design & Temporary Closure Structures
- Locks 3 & 4: Condition Evaluation & Rehab Study
- Full Rehab Design for Locks 1-4 & Construction Support
- Locks 1-8 & 11-14: Reliability Evaluation & Repair Priorities

State Agencies

Illinois Department of Natural Resources/OWR

- Stratton Lock Expansion

Florida Department of Environmental Protection

- Inglis Lock - Major Rehabilitation & Design of New Recreational Lock
- Buckman Lock - Design of Full Dewatering & Major Rehabilitation
- Rodman & Inglis Spillways - Design of Manatee Protection Systems

New York State Canal Corporation (Erie Canal)

- Flight of Five Locks Restoration Design
- Lock O-6 & Dam Rehab Design
- Lock O-7 & Dam Rehab Design
- Lock C&S 1 Tainter Gates Rehab Design
- Lock E-10 Spillway & Stability Analysis, Rehab Design

Ohio Department of Natural Resources

- Muskingum River Locks 3-11
Condition & Stability Evaluations & Rehab Costs



STRATTON LOCK EXPANSION
ILLINOIS DEPARTMENT OF NATURAL RESOURCES



CHICKAMAUGUA LOCK REPLACEMENT
USACE NASHVILLE DISTRICT



OSWEGO LOCK O-7 REHABILITATION
NYS CANAL CORPORATION



CHARLEROI LOCK REPLACEMENT
USACE PITTSBURGH DISTRICT

Stratton Lock & Dam Rehabilitation & Expansion Project

McHENRY, ILLINOIS

CLIENT

Illinois Department of Natural Resources
Ted Montrey, PE - 217.782.4439

COMPLETION DATE:

Design: 2014
Construction: 2015

CONSTRUCTION COST:

\$4.3M

HIGHLIGHTS (LOCKS NOS. 1-4)

- Innovative Navigation Design
- Lock Gate Rehabilitation
- Lock Stability Analysis
- Hydraulic Steel Structures
- Condition Survey and Evaluation Reports

DESCRIPTION

Bergmann was tasked to perform an engineering study and design for improvements to the Lock at Stratton Lock and Dam, formerly known as McHenry Lock for the Illinois Department of Natural Resources (Office of Water Resources).

The lock facilitates recreational boating traffic on the Fox River and, prior to its expansion, did not have the capacity to meet the demand for boating passage at peak use. The lock consists of horizontally framed steel miter gates with gate monoliths constructed of reinforced concrete, founded on a grid of timber piles. The lock chamber, between concrete gate monoliths, consists of steel sheet piling tied back to continuous anchor walls on either side of the lock. The usable chamber of the former lock measured approximately 18x60 feet.

The study evaluated several feasible alternatives for primary purposes of increasing the lockage capacity of the facility, including expansion (extension) of the lock downstream (top figure) and construction of a new lock to the side of the existing (double lock, bottom figure). The alternatives were compared, weighting various advantages and disadvantages and considering primary factors such as cost, construction schedule, flexibility and ease of operation, ingress and egress times for boaters, and ability to facilitate potential future renovations and maintenance needs. Evaluated specialty filling and emptying systems to facilitate lock expansion alternatives. Construction cost and life-cycle cost estimates were developed for each alternative.

Design included stability analysis of new pile-founded gate monolith, retrofit of existing miter gates, layout of lock filling and emptying systems. Plans, specifications, and opinion of probable construction cost were also completed. Construction of the expanded lock alternative was completed in May 2015.



Rehabilitation of Locks 1, 2, 3, 4 & 10 KENTUCKY RIVER, KENTUCKY

CLIENT

Kentucky River Authority (KRA)
David Hamilton – 502.564.2866

COMPLETION DATE:

2012 (Locks 3 and 4 Rehabilitation Project) - Construction
2014 (Locks 1 and 2 Rehabilitation Project) - Construction
2017 (Lock 10 Rehabilitation Project) - Design Completion

CONSTRUCTION COST:

\$4.0M (Locks 3 and 4 Rehabilitation Project)
\$3.5M (Locks 1 and 2 Rehabilitation Project)
\$10.0M (Lock 10 Rehabilitation Project) - Estimated

HIGHLIGHTS (LOCKS NOS. 1-4)

- Rehabilitation of 1840's stone masonry locks (38-foot by 145-foot chamber).
- Hands-on inspection, field investigation, and information gathering to support rehabilitation design.
- Stability analysis of lock land and river walls (stone masonry walls founded on rock).
- Miter gate analysis and rehabilitation design (steel horizontally-framed gates).
- Preparation of lock rehabilitation alternatives and prioritized repair scenarios.
- Development of rehabilitation plans, specifications and construction cost estimates.
- Miter gate steel repair, gate anchorage replacement, pintle replacement, upgrades to gate machinery, and wall improvements.
- Bid phase support services.
- Construction support including on-site inspections and repair plan development.

DESCRIPTION

Locks 1 through 4 were originally constructed in 1840 on the Kentucky River as part of the development of a commercial navigation system. As commercial navigation declined in recent decades, the locks were closed due to structural and mechanical deficiencies. The Kentucky River Authority decided to rehabilitate the locks for purposes of recreational boating use. As part of the design development, a field investigation and study was conducted to report the existing condition for the facilities, identify structural deficiencies, estimate various repair alternatives, and prioritize repair recommendations. A stability evaluation of the rock-founded masonry lock walls identified that dewatering of the lock chamber was prohibitive and in-the-wet construction techniques were incorporated into the design to address repair of normally submerged lock features (sill, pintles, quoin, etc). The projects were largely focused on miter gate improvements, including anchorage replacements, steel repairs, and painting.



Lock No. 3 Site



Lifting Lock 4 Lower Miter Gate after Repairs



Lifting Lock 3 Lower Miter Gate after Repairs

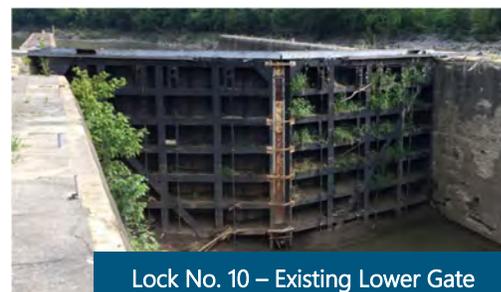


HIGHLIGHTS (LOCK NO. 10)

- Rehabilitation of early 1900's concrete lock (52-foot by 145-foot chamber).
- Hands-on inspection, field investigation, and information gathering to support rehabilitation design.
- Stability analysis of lock land and river walls (monolithic concrete walls founded on rock).
- Miter gate analysis and design (steel horizontally-framed gates).
- Preparation of lock rehabilitation alternatives and prioritized repair scenarios.
- Development of rehabilitation plans, specifications and construction cost estimates.
- Miter gate steel repair, gate anchorage replacement, pintle replacement, upgrades to gate machinery, and wall improvements.
- Concrete repairs to existing monolith and thickening of walls.
- Bid phase support services (anticipated 2017).
- Construction support including on-site inspections and repair plan development (anticipated 2017-2021).



Lock No. 10 Site



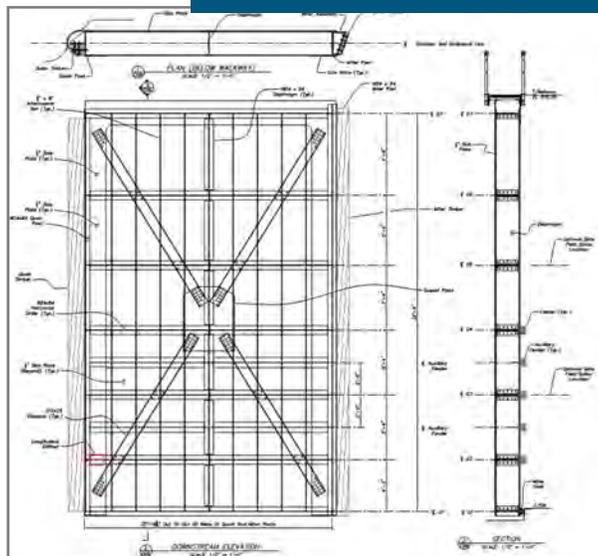
Lock No. 10 – Existing Lower Gate (To be Replaced)

DESCRIPTION (LOCK NO. 10)

This project includes the replacement of the existing dam (both a main dam and auxiliary dam) and a full lock renovation. Lock 10 was originally constructed in the early 1900's on the Kentucky River as part of the development of a commercial navigation system. As commercial navigation declined in recent decades, the lock was closed due to structural and mechanical deficiencies. The Kentucky River Authority decided to rehabilitate the lock for purposes of recreational boating use.

As part of the design development, a field investigation and study was conducted to report the existing condition for the facilities, identify structural deficiencies, estimate various repair alternatives, and prioritize repair recommendations. A stability evaluation of the rock-founded concrete lock walls was also performed. Because the project was to include extensive concrete repair and gate replacement, a dewatering system was designed to facilitate dewatering of the lock chamber to conduct the majority of the lock rehabilitation in-the-dry.

Each of the existing concrete walls is to be thickened by seven feet to improve the stability of the walls, which reduces the chamber with from 52 feet to 38 feet. The miter gates are to be fully replaced and new steel horizontally-framed gates were designed and detailed for construction. The design is scheduled for completion in 2017 and construction of the lock and dam is anticipated from 2017 to 2021.



Lock No. 10 – Replacement Miter Gate Leaf Details

Erie Canal Flight of Five Lock Restoration LOCKPORT, NEW YORK

CLIENT

City of Lockport
Anne McCaffrey, Mayor – 716.638.1119
Dave Kinyon, Committee Chairman - 716.638.1119

COMPLETION DATE

Design: 2013
Construction: 2016

HIGHLIGHTS

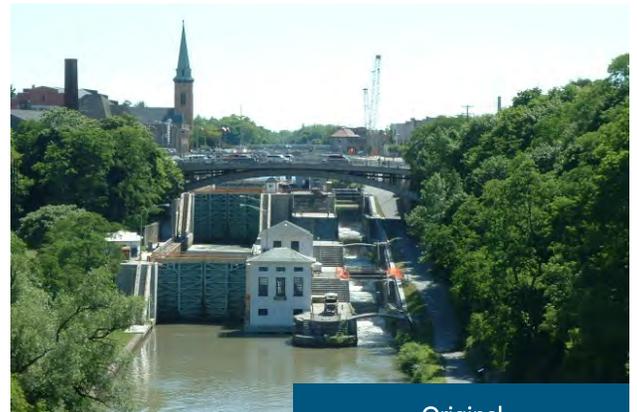
- Restoration of Historic Locks
- Site Investigations
- Historic Lock Rehabilitation
- Hydraulic Steel Structures
- Condition Survey and Evaluation Reports
- Unsteady HEC-RAS Dam Breach Analysis

DESCRIPTION

Bergmann is currently providing comprehensive design services to the City of Lockport to repair and rehabilitate the historic Flight of Five Locks back to their original working condition, allowing visitors to experience how those Locks appeared and operated in 1862 (date of historical significance). The Flight of Five Locks is being designed to become a historic landmark and a key attraction for visitors to the Niagara Region.

The Flight of Five Locks is one of the most valuable and important historic resources still in existence on the original Erie Canal route. Located in the heart of Lockport, the Flight of Five was central to the founding of Lockport and played a critical role in the development of this canalside community. Upon its completion in 1825, the double set of five locks was considered to be one of the most significant engineering triumphs of its era. The locks were subsequently enlarged in the 1860s to accommodate increased traffic and larger barges. In 1975, the Flight of Five was placed on the National Register of Historic Places as part of the Lockport Industrial National Register District.

The northern set of five locks still remains as a symbol of Lockport and Erie Canal history. Since the Erie Canal was enlarged in 1910, the remaining Flight of Five has been used as a bypass spillway for the adjacent more modern set of two locks. The Flight of Five has received little maintenance in the past century; sediment and debris have collected, gates have been replaced by concrete headwalls, lock walls have shifted, stone masonry blocks have cracked and deteriorated, handrails and stone arch bridges have fallen into disrepair.



Original



New Wooden Gate



Dam Breach Hydraulic Analysis

Dam breach analyses were performed to evaluate compliance with the NYSDEC dam safety regulations, including:

- Site investigation, field measurements and condition inspections at waste weirs and overflow structures
- Analysis of historic flows and hydraulic conditions to produce an input hydrograph
- Determination of upstream and downstream boundary conditions based on hydraulic properties and operations of the Erie Canal
- Analyses of overflow weir discharge capacities
- Sunny day dam failure analysis

Rehabilitation

A phased approach has been used to advance the project as funding permits, including:

- Coordination with the City and State agencies and community outreach
- Development of rehabilitation concepts, along with construction cost estimates
- Investigations to evaluate existing conditions and potential alternative bypass flow routes
- Detailed inspections to determine the extent of repairs needed
- Sampling and testing of existing materials to determine engineering properties for final design
- A pilot project conducted in 2009 to spark local interest and demonstrate construction techniques and material compatibility
- Preparation of a Design Report to establish detailed arrangements and criteria for full rehabilitation by studying historic and modern construction documents and canal operations
- Prepared construction documents for initial rehabilitation of two locks that was completed in 2014.
- Preparing construction documents for the second phase to rehabilitate one more lock.

The overall concept successfully melds existing operations with redevelopment of the historic locks.



Project Status

The Bergmann Team has designed and overseen the restoration of Locks 69 and 70 including one set of timber miter gates between the two locks. Currently we are completing the design, plans and specifications for Lock 68 rehabilitation and the replacement of timber miter gates between Locks 68 and 69. Construction for that phase will be performed in 2017, again with Bergmann support.

Muskingum River Locks & Dams 2-11 Inspection and Evaluation Study VARIOUS LOCATIONS IN OHIO

CLIENT

Ohio Department of Natural Resources
Jerry Reed – 614.265.6978

COST

\$450k (Fee)

COMPLETION DATE

Assessment: 2000
Construction: 2006

HIGHLIGHTS

- Stability Analysis
- Concrete Analysis
- Seepage Analysis
- Meets OAC Dam Criteria
- State Interaction

DESCRIPTION

As part of the Ohio Department of Natural Resources (ODNR's) mission of safe operation and maintenance of the Historic Muskingum River Waterway, they are undertaking a series of projects to renovate these ten locks and dams. Bergmann Associates was tasked with performing a condition assessment and evaluation, as part of ODNR's long-term maintenance program to identify existing issues and potential future improvements and renovations. The scope of work included:

- Detailed hands-on structural facility inspection
- NDT gate inspection and evaluation
- Machinery inspection and evaluation
- Geotechnical investigation
- Electronic data gathering
- Electronic inventory of drawings tied to a project GIS
- Lock seepage evaluation
- Dissimilar metals analysis
- Bathymetric analysis of locks and dams
- Field survey and displacement measurements
- Lock wall stability analysis
- Dam stability analysis
- Evaluation of the potential use of precast panels for lock wall reconstruction
- Detailed structural evaluation of wood miter gates
- Estimation of repair and maintenance costs
- Numerical ratings for all lock and dam components
- Prioritization of repair needs
- Development of rehabilitation alternatives
- In-depth report for each lock and dam



Surveyed Baseline for Wall Movements



Masonry River Wall and Fixed Crest Dam
(Lock Gate to the Right)

Phase I Reconnaissance Survey: Shelton River Walk Shelton, Connecticut

In connection with a proposed multi-use trail along the Naugatuck River, AHS conducted a Phase I Reconnaissance Survey of historic and archaeological resources that potentially could be impacted by trail construction. Although archaeologically the area was found to be too disturbed to merit further investigation, numerous features of historic interest were photographed and described in the report.

This tailrace arch, one of many still in place on the river side, was associated with the Star Pin Company's factory.



The construction of the Derby-Shelton dam and canals, one of the state's largest 19th-century engineering undertakings, was the reason Shelton developed into a small industrial city after completion of the project in 1870. Today significant industrial remains include the dam, headgates and canals on either side of the river, several tailraces on the Shelton side, a retaining wall along the bank on the river's west side, and several historic factory complexes in Shelton. The proposed River Walk lies within the Shelton Canal Industrial District, which has been determined to be eligible for the National Register of Historic Places.



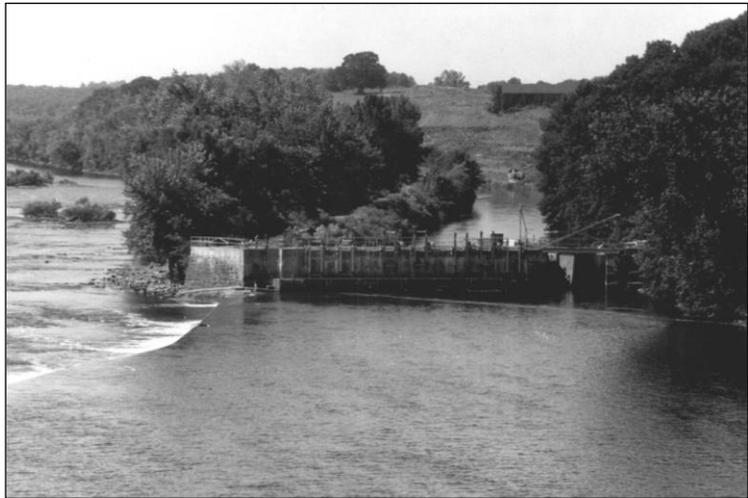
The canals provided 22 feet of fall for the factory sites along the river banks and enough water to generate 2,400 horsepower during all but two months of the summer, when the available power dropped to 1,725 horsepower. At one time, more than 1,000 workers were employed making flatware, textiles, corsets, fasteners, and other products in the Shelton-side factories.

The canal was primarily conceived as an industrial-power facility, but two locks on the Shelton side allowed small vessels to bypass the dam and thereby continue navigating the Naugatuck River. In addition, a basin was constructed at the southern end of the canal to accommodate waiting vessels.

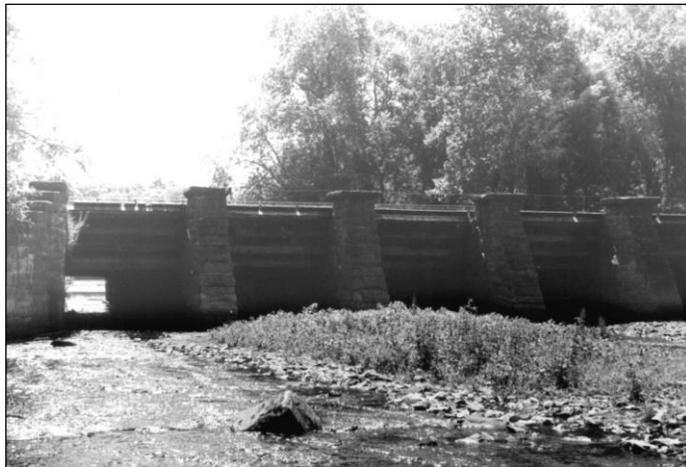
Wooden gate still in place at one of the locks, folded back into its mortise.

National Register Nomination: Windsor Locks Canal (Enfield Canal) Suffield and Windsor Locks, Connecticut

As part of an ongoing contract to prepare documentation for nominating Connecticut properties to the National Register of Historic Places, AHS Senior Historian Bruce Clouette researched, photographed, and wrote a descriptive essay and statement of significance for the Windsor Locks Canal, more formally known as the Enfield Canal (because its purpose was to bypass the Enfield Rapids that impeded navigation in the Connecticut River).



The Hartford merchants that made up the Connecticut River Company, the entity that built the canal, were eager to improve their access to upriver trade, especially because of a competing canal that went from New Haven to Northampton, Massachusetts. The company sent a scout to England to assess an alternative emerging technology, locomotive-hauled carriages on rails, but concluded that a canal would be more practical. Construction took place between 1827 and 1829, using some of the first immigrant labor in Connecticut (from Ireland). Unusual for its day, the canal was entirely lined with stone set in hydraulic cement, a factor that allowed not only horse-drawn canal boats but faster steam-powered ones as well. In addition to traditional freight-carrying flatboats, the canal accommodated passenger packets; according to Charles Dickens, who published a scathing description of traveling the canal in 1842, the passenger canal boats were extremely uncomfortable.



The Stony Creek aqueduct, 1975, as included in the National Register nomination document; the aqueduct is no longer extant.

From the outset, the proprietors envisioned using the water from the canal to power factories sited between the canal and the river, a function that long outlived the 15 years or so of profitable navigation.

Phase I and Industrial Fish and Kayak Passage Feasibility Study Bridge Street Dam Willimantic (Windham), Connecticut

A local nonprofit organization received funding for studying the feasibility of modifications to the Willimantic River for the purposes of improving fish passage upriver and developing recreational opportunities, specifically, a whitewater canoe and kayak course. The chief activity anticipated by the project was the partial or entire removal of the stone dam just downstream from Bridge Street, a structure generally known as the Smithville Dam. Access areas would also be created at points along the riverbanks.



Smithville Dam.



Adjacent mill foundation with arch for headrace.

AHS Historian Bruce Clouette and Historical Archaeologist Ross K. Harper began the assessment with historical background and site file research and then conducted an on-site inspection in order to identify existing and potential historical and archaeological resources. Extensive foundation remains associated with early textile manufacture were found immediately adjacent to the project area, as well as headrace and waste-gate structures at the north end of the dam. The dam, including the associated structures, was judged to be eligible for listing on the National Register of Historic Places based upon its local significance in recalling the importance of textile manufacture in the economic development of Willimantic. The report further recommended that the removal of the dam be preceded by state-level recording of the existing structure, as well as the associated mill ruins. Finally, it was recommended that the design phase should consider the economic feasibility and public-safety implications of leaving portions of the dam along the two riverbanks intact, which would at least partially retain the historic resource.

The background research and field inspection showed that nearly all of the river's steep, rocky banks, which have been extensively disturbed by quarrying, mill construction, and erosion, had minimal archaeological sensitivity.

Bird's-eye view of the project area, 1876.



National Register of Historic Places Nomination Form Occum Hydroelectric Plant and Dam Norwich, Connecticut

As part of a re-licensing process, the City of Norwich, working with the Connecticut State Historic Preservation Office, arranged for AHS Senior Historian Bruce Clouette, Ph.D., to prepare a National Register of Historic Places nomination form for its hydroelectric facility located in the Occum section of Norwich. In addition to a small early 20th-century brick powerhouse, the complex included a stone dam and headgate structure that had been built in 1865 to power a nearby textile mill. The dam's spillway is 450 feet in length and is constructed of large granite blocks; some 170 feet were washed away by the Hurricane of 1938 and rebuilt using reinforced concrete.



The Occum dam (1865), with the portion rebuilt in concrete after the 1938 Hurricane on the right.



Powerhouse, 1934.

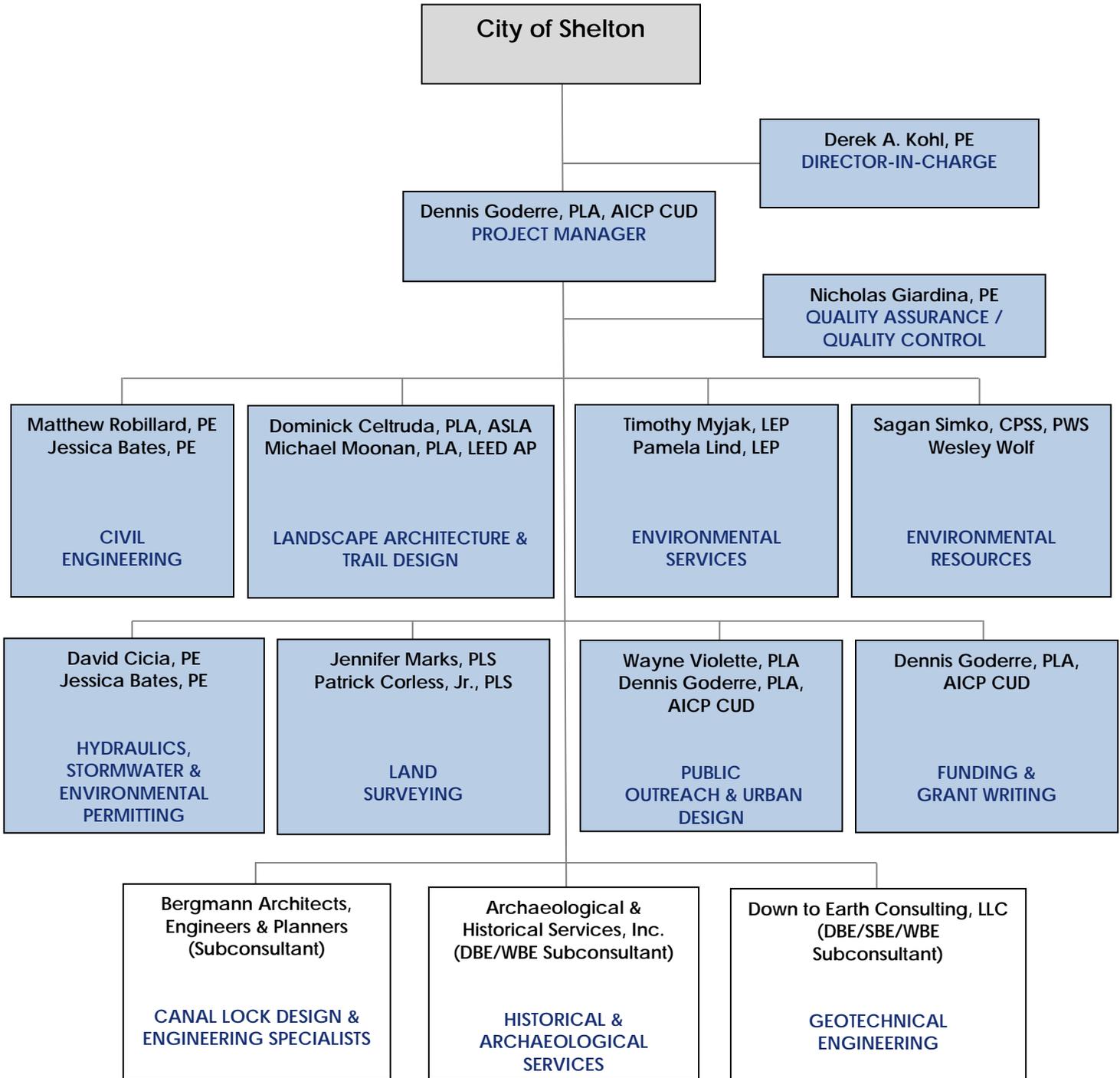
The National Register document explains the property's significance as an example of 19th-century civil engineering by a prominent Connecticut engineer, Henry T. Potter (1821-1897); as a historic resource that recalls the all-important role played by the textile industry in the economic history of eastern Connecticut; and as an example of early 20th-century hydroelectric engineering practice.

Following approval of the nomination by the Connecticut State Historic Preservation Board, the property was listed on the National Register on December 6, 1996 as a complex that included the dam, headgates, powerhouse, and internal machinery and fixtures.



The powerhouse contains a single generating unit, an 800kw alternator made by the Electric Machine Manufacturing Company of Minneapolis.

RESUMES OF KEY PERSONNEL



**PROJECT ROLE**

Executive Director of Engineering
Principal

EDUCATION

Bachelor of Science, Civil Engineering, University of Connecticut, 1995

REGISTRATION

Professional Engineer: Connecticut, Arizona, Florida, Idaho, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Washington

PROFESSIONAL MEMBERSHIPS & TRAINING

NCEES Record Holder, American Society of Civil Engineers, Connecticut Society of Civil Engineers, American Railway Engineering and Maintenance-of-Way Association (AREMA) Full Member, Central Connecticut State University Civil Engineering Program Advisory Board

SUMMARY OF QUALIFICATIONS

Mr. Kohl is the Executive Director of Engineering and a Principal at BL Companies with 26 years of experience on state, municipal, development and energy/utility infrastructure projects including planning, design and construction. He is responsible for the management and technical oversight of the division which provides engineering and related services for public and private sector clients on transportation, utility infrastructure and site development projects.

Services for the division include highway and roadway design, civil/site development, structural design (bridges, culverts and retaining walls), grant and funding support services, traffic signal analysis and design, streetscape design/enhancement, Context Sensitive Design / Solutions, transportation planning, hydrologic / hydraulic analysis and design, Rights of Way Involvement, storm water management design, site access, traffic impact feasibility studies, State and local permitting, environmental permitting, parking and traffic circulation and subsurface utility engineering.

RELEVANT EXPERIENCE**Hoppers/Birge Pond Nature Preserve, Bristol, Connecticut**

Served as Director-in-Charge responsible for the improvements to the Hoppers/Birge Pond Nature Preserve. The Hoppers / Birge Pond Nature Preserve is located very close to Downtown Bristol. Featuring dramatic glacially influenced geologic formations and rich in archeological and historical resources, the preserve is a unique area as yet undiscovered by many residents. The City has owned the property since 1973. Birge Pond is largely a man-made impoundment of approximately 14 acres; the current dam and spillway were constructed approximately 75 years ago. The pond is clearly a visual and recreational amenity to the preserve. Improvements included an enlarged gravel parking areas on either side of the existing dam and an accessible pedestrian path between the lots. A pedestrian bridge now spans the dam to complete the linkage. Amenities included boardwalks, timber guiderail, lighting, benches and tables complement the major program elements.

Connecticut River Access, Enfield, Connecticut

Served as Director-in-Charge for this project, which will provide public access to the riverfront and promote the recreational potential of the Connecticut River while preserving the unique, natural, historic and scenic areas along the northernmost point of the river. It will also offer facilities for a variety of activities and will serve as an area of passive recreation for the public, including individuals with physical disabilities. The project included linear trails and paths, pedestrian bridge/tower, an observation deck, a fishing pier and dock, and parking facilities.

Channel Improvements and Trail Design from Bradley Avenue Bridge to Cooper Street Bridge, Meriden, Connecticut

Serves as Director-in-Charge for the design and development of construction documents and specifications for flood channel improvements along a portion of Harbor Brook. These improvements include lowering and widening the Harbor Brook channel for approximately 6400 linear feet, installing scour countermeasures, restorative native landscaping, constructing passive recreational spaces, and 4,900 linear feet of multi-use trail. The project also includes trail signage, traffic signal design, subsurface investigations, parking lot designs, and Environmental Assessments of the contaminated soil, groundwater, surface water and channel bed sediment. The restoration of this floodway is occurring in phases, this is the second phase and includes work between Bradley/ Coe Avenue Bridge to the Cooper Street Bridge.

Engineering Design Services, Fort Trumbull State Park, New London, Connecticut

Served as Senior Engineer responsible for the engineering design services for the transformation of the Fort Trumbull Naval facility into a historical waterfront state park. Design components included site demolition including asbestos abatement and lead paint removal, rehabilitation of Piers 4 and 7, site utilities including underground electrical and communications, site drainage, park restrooms, a central park maintenance facility serving several state park properties, circulation roads/parking, and site lighting. Pier renovations included the above- and below-water inspection of both the Pier 4 timber foundation piles and the steel H pile foundations of Pier 7.

Bloomfield Greenway Multi-Use Trail, Bloomfield, Connecticut

Served as Director-in-Charge for the trail and amenity design of this 2.2-mile segment of multi-use trail within the Town of Bloomfield. The project was constructed on land owned and managed by Northeast Utilities and the Town of Bloomfield. The Greenway is a key component for the multi-use trail system of the Farmington Valley and the East Coast Greenway. Trail features included layout conforming to AASHTO trail design criteria, parking facilities, rest areas, planting and site restoration design, pedestrian bridge, fencing and street crossings.

Farmington Canal Heritage Trail, Southington, Connecticut

Serves as the Director-in-Charge for the development of design and construction plans, specifications, and cost estimates for the construction of a portion (approximately 1.36 miles) of the Farmington Canal Heritage Trail. The multi-use paved trail will begin at Lazy Lane in the south then run north, passing under Interstate 84, bisecting a few roadways and terminating at West Queen Street. The trail will follow the old canal / rail bed route. This trail will be added to the overall regional trail project that, when complete, will span 80 miles from New Haven, CT, to Northampton, MA, as well as link to other region trail systems.

Hammonasset Beach State Park Utility Replacement, Madison, Connecticut

Served as Director-in-Charge responsible for design services for the State of Connecticut Department of Administrative Services (DAS), formerly known as the Department of Construction Services. The services included engineering design, landscape architecture and construction administration services for the Hammonasset Beach State Park Combined Major Utility Replacement Project. BL Companies worked with the CTDAS to prepare design plans for a \pm 2.5-mile Beach Recreational Trail (BURT) system that serves as a utility corridor. The utility corridor accommodates a water main system, underground primary electrical replacement system conduits and a small diameter natural gas pipeline. Additionally, the design plans for branch service connections were required. The project included approximately five thousand (5,000) feet of water main services, thirteen thousand (13,000) feet of electrical conduit and five hundred (500) feet of 2" diameter gas service lines.

Summer Street Drainage Study, New Canaan, Connecticut

Served as Director-in-Charge of the Summer Street Drainage Study. Mr. Kohl oversaw the project team that performed a drainage study and an existing drainage facility condition inventory for the Town of New Canaan. This project involved Summer Street, Hoyt Street, East Maple Street, Raymond Street, Cherry Street, and Main Street. The focus of this drainage study was on Summer Street where there was a possible collapsed culvert. BL Companies performed an existing drainage facility condition inventory in accordance with the Connecticut Department of Transportation, Drainage Manual, Revised 2002. The inventory included all existing drainage facilities including pipes, catch basins, manholes, junction chambers, sedimentation/gross particle separators, cross culverts and ditches/swales with this area.

Coppermine Brook Flood/Drainage Improvements, Bristol, Connecticut

Served as Director-In-Charge to provide engineering services for the design and permitting of improvements along Coppermine Brook just upstream of Farmington Avenue (Route 6). BL Companies performed the hydraulic analysis and developed design plans for channel and flood storage improvements. The channel improvements involved widening, embankment protection and the removal of a private bridge near Route 6. Further upstream, flood storage improvements were made by the construction of a berm to attenuate flood flows in a large, undeveloped area within Bristol. The project also required the submission of environmental permits to the City of Bristol, the Department of Public Health, the CT Department of Energy and Environmental Protection and the U.S. Army Corps of Engineers.



PROJECT ROLE
Project Manager

EDUCATION
Bachelor of Science in Landscape Architecture, University of Connecticut, 1995
Associate of Science in Chemical Engineering, Thames Valley State Technical College, 1992

REGISTRATION
Professional Landscape Architect: Connecticut (1997), Tennessee (2021)
American Institute of Certified Planners - Certified Urban Designer, October 2004, #019184

PROFESSIONAL MEMBERSHIPS
American Planning Association
American Institute of Certified Planners

SUMMARY OF QUALIFICATIONS

Dennis has over 26 years of experience in the fields of planning, landscape architecture, and engineering, with expertise in the areas of municipal government, management and budgeting, long range planning, public policy, site development, sustainability, permitting, urban design, and project management.

Dennis has served as planning and economic development director for various Connecticut Municipalities in such a capacity that required his close collaboration with local leadership. This includes CEOs, city councils and subcommittees, boards and commissions and volunteer organization. His responsibilities also included the review of site plans for consistency with Plans of Conservation and Development, municipal and state codes, regulations. As a Senior Project Manager with BL Companies, Dennis leads teams in the development of plans and designs that respond to clients' specific programmatic goals while being actively involved in the planning and design process. Dennis enjoys working closely with clients and staff to ensure a successful project is achieved and understands the need for thorough assessments to assist towns and cities in creating capital plans and annual budgets.

RELEVANT EXPERIENCE

Planning and Economic Development Director, Waterford, City of Groton and Hartford, Connecticut

Dennis acted in several capacities as a municipal employee, leading planning and zoning departments for major metropolitan locals in Connecticut. In this capacity, Dennis was responsible for capital planning, budgeting, strategic planning, zoning and working closely with CEOs, elected officials, numerous boards and commissions. This has offered him the opportunity to understand and appreciate the dynamics of municipal sector opportunities and challenges. Employer: Various

Historic Jordan Village and Waterford Town Center Strategic Plan, Waterford, Connecticut

Waterford received a grant from the CT Trust for Historic Preservation through the Vibrant Communities Initiative to fund a town center study that capitalizes upon the Jordan Village National Register Historic District. The village is a quaint, small scale village with restaurants, sole proprietors and residents. Adjacent to the 'Civic Triangle' The Town's 'center', the Triangle has lacked sense of place for years. The project developed a strategy to further enhance the architecture and community, leading to POCD updates and the establishment of a design review board. Employer: Town of Waterford; Planning Director

Uncas Leap Master Plan, Norwich, Connecticut

Uncas Leap embodies a culturally rich story of how Sachem Uncas, founding chief of the Mohegan Tribe, became to be as a tribe and persevered to become one of the most successful Indian Nations in the United States. The project included the collaboration with local businesses and leaders, helping to tell the story of Sachem Uncas and his role in the establishment of the United States. Dennis provided public outreach and master planning services to create a vision for a small 1.5 AC site overlooking Yantic Falls. The project led to additional grant funds for remediation of a dilapidated mill building and additional engineering services. Firm of Record: Goderre and Associates, LLC

Groton Gateways and Multi Use Trail, City of Groton, Connecticut

Oversaw the conceptual planning and design of two of the main gateways entering the City of Groton, the home of Pfizer Pharmaceuticals R&D headquarters and Electric Boat, charged with the construction the US Navy's next generation of submarines. With employment expected to exponentially grow, substantial improvements will be required on the local street networks to address volumes, calm traffic and provide bike/pedestrian options to address the needs of a young and diverse workforce. The project explored 5 miles of new multiuse path connecting major employers with various destinations, creating gateways into the City that included road diets, landscaping, bike paths and pedestrian amenities and on street parking. Employer: City of Groton; City Planner

Waterfront Historic District Master Plan: CTNext Innovation District: Thames River Reconnection, Groton, Connecticut

In 2017, CTNext launched the Innovation Place program, of which Groton and New London is part. As a HUB of nautical innovation, the District received a grant to enhance placemaking for catalyzing redevelopment in the two communities. As Manager, Dennis oversaw the creation of a redevelopment plan along Thames Street, the historic city center of Groton and along the Thames River. The plan explored new zoning, entailed substantial public outreach, traffic engineering, and urban design/placemaking solutions. Employer: City of Groton; City Planner

Waterfront Redevelopment – Mago Point, Waterford, Connecticut

Manager responsible for working with local businesses and developing a redevelopment vision for this waterfront destination along the Niantic River. In early 1990, CT DOT rebuilt the Niantic River Bridge in an alignment that removed all traffic from this waterfront business district. Through engaging CT DEEP, DOT, DECD and local businesses, the project has seen new development in the amount of \$1 million dollars and a \$500,000 Small Town Enhancement Assist Program grant, which funded a new fishing pier and dock. Employer: Town of Waterford; Planning Director

Thames View Park and Marina, Groton, Connecticut

Manager responsible for overseeing the creation of a new city park and marina along the Thames River. The park creates public waterfront access for a developed area with limited access to the waterfront. The park include amphitheater, passive recreation and an eight-slip transient boating dock with kayak launch. The park, located on a hillside of the River, is fully handicap accessible, including the marina and kayak launch. Employer: City of Groton; City Planner

POCD Implementation and Updates: City of Groton 2018

Dennis oversaw the final drafting, public outreach and adoption of the City of Groton's 2020 Plan of Conservation and Development. This included ensuring consistency with local policy and long-term goals and objectives of the City, review, evaluation and approvals as required by the CT Statutes including City Council and Planning and Zoning Commission. Dennis was responsible for implementing various aspects of the plan including, revitalization of Thames Street, increasing bike and pedestrian facilities, streamlining permitting processes and encouraging communication between various City departments. Employer: City of Groton; City Planner

POCD Implementation and Updates: Waterford 2012

Dennis drafted updates to the Town's POCD to further implement and refine the adopted plan. This included the establishment of a Town wide design review board and policies for the revitalization of the commercial waterfront overlooking the Niantic River and Long Island Sound. Work included close collaboration with local businesses and residents in the form of workshops, direct communication and one-on-one meetings. Employer: Town of Waterford, Director

POCD Implementation: City of Hartford

As Chief Staff Planner and Project Manager of economic development initiatives, Dennis worked closely with the Mayor's office and Planning Commission to implement and oversee policy and bricks and mortar initiatives. This included grant applications, streetscape implementation to revitalize neighborhoods, and promote investment by the private development sector. A vital component to these efforts was working closely with the local neighborhoods and businesses, each having unique challenges, interests and priorities. Balancing their needs and desires with overall planning objectives was an important aspect of all implementation efforts. Employer: City of Hartford, Chief Staff Planner/Project Manager

Main Street Revitalization, Hartford, Connecticut

Main Street through the City of Hartford spans three key neighborhoods, including downtown's central business district. As Project Manager, Dennis developed a complete streets vision plan in collaboration with city officials and department leaders. The plan envisioned a separated, contra flow bike/pedestrian path and floating islands for bus stops. The vision was used to draft and file a grant application with the CT DECD, which the City was awarded a \$250,000 grant to commence further studies to help implement plan's vision. Employer: City of Hartford; Project Manager/Chief Staff Planner

Historic Pawcatuck Village Streetscape, Stonington, Connecticut

Project team member responsible for the design of this Connecticut Department of Transportation High Priority improvement project. The streetscape improvements include new and renovated sidewalks, compliance with the Americans with Disabilities Act (ADA), landscaping, roadway medians, curbing, special paving, period decorative lighting, town signage, and other amenities. Particular attention has been paid to the historic character and existing details and scales of the environment to maintain the current aesthetic qualities while enhancing the pedestrian experience and improving vehicular safety through traffic calming techniques.

Bridgeport Landing, Bridgeport, Connecticut

Project Manager for the initial site/civil work on this \$700 million mixed use waterfront redevelopment at Steel Point, Bridgeport, CT. Work included due diligence for the 40 acre development area for environmental remediation, utilities, zoning, traffic, and waterfront permitting. Coordinated all disciplines which included coastal engineering, civil, geotechnical, environmental and traffic engineering services.

Meriden City Center Initiative Master Plan, Meriden, Connecticut

Planner for the development of the Meriden City Center Initiative Master Plan, a comprehensive plan for the redevelopment of the downtown Meriden area. Currently in the initial feasibility study phase, input will be generated from City staff and a variety of groups and individuals representing the varying interests of merchants and residents. The master plan of development and feasibility report will be generated to explore and initiate funding opportunities. Detailed feasibility analysis will include evaluation of critical zoning issues, reviewing existing utilities and infrastructure, initial environmental review and developing a preliminary opinion of total project cost.

Georgetown Streetscape, Redding, Connecticut

Landscape Architect and Planner for this streetscape enhancement project located in the historic Georgetown section of the Town of Redding. The project had dual funding sources including a DECD administered STEAP grant for underground utilities, and funding from CTDOT's Streetscape Enhancement program for constructing streetscape enhancements. The primary goal of the project is to promote a more thriving downtown area that will reflect Georgetown's unique nature but will also be conducive towards the future redevelopment. Project challenges involved working with CTDOT to implement streetscape enhancements such as landscaped medians and decorative pavements on CT Route 57 and 107.

Downtown Torrington Redevelopment, Torrington, Connecticut

Planner responsible for management support for every level of production for the initial feasibility study produced for the redevelopment of 100 acres of the downtown Torrington Connecticut area. Responsible for the production of the overall master plan of development and feasibility report submitted to the Connecticut state legislature to initiate state funding. Detailed feasibility analysis included evaluation of critical zoning issues, reviewing existing utilities and infrastructure, initial environmental review and developing a preliminary opinion of total project cost.



PROJECT ROLE

Quality Assurance / Quality Control

EDUCATION

Master of Business Administration, Finance, University of Hartford, 1994
Bachelor of Science, Civil Engineering, University of Connecticut, 1986

REGISTRATION

Professional Engineer: Connecticut, Massachusetts, New Jersey, New York, Ohio, Rhode Island

PROFESSIONAL MEMBERSHIPS & TRAINING

Connecticut Association of Street and Highway Officials, Inc. (CASHO) Associate

SUMMARY OF QUALIFICATIONS

Mr. Giardina has more than 35 years of significant experience in transportation engineering, including highway and site design, and has in-depth knowledge of Connecticut Department of Transportation (CTDOT) policies, procedures and guidelines. He is the Director of Transportation and Public Infrastructure at BL Companies and is the Client Manager for the CTDOT State Bridge Program and Highway Program and is responsible for the oversight of dozens of projects in both regards. Mr. Giardina also served as project engineer for the CTDOT's highway design unit for over ten (10) years. His responsibilities included the design, development and preparation of plans, specifications, permits and cost estimates for various projects that involved roadway design plans for intersection improvements, interchange modifications, bridge replacements, at-grade railroad crossings, maintenance and protection of traffic plans, roadway realignments and reconstructions, highway resurfacing and safety improvements.

RELEVANT EXPERIENCE

Channel Improvements and Trail Design from Bradley Avenue Bridge to Cooper Street Bridge, Meriden, Connecticut

Serves as QA/QC Manager for the design and development of construction documents and specifications for flood channel improvements along a portion of Harbor Brook. These improvements include lowering and widening the Harbor Brook channel for approximately 6400 linear feet, installing scour countermeasures, restorative native landscaping, constructing passive recreational spaces, and 4,900 linear feet of multi-use trail. The project also includes trail signage, traffic signal design, subsurface investigations, parking lot designs, and Environmental Assessments of the contaminated soil, groundwater, surface water and channel bed sediment.

Pedestrian Bridge over Ash Creek, Bridgeport, Connecticut

Serves as the Quality Manager for this landmark connection between Fairfield and Bridgeport. The bridge will be key to providing connectivity to the Fairfield Metro Center train station in Fairfield. The project will also provide streetscape and trail amenities at the approaches. Responsibilities include oversight of the design and documentation conforming to CTDOT guidelines and report writing, preparing and presenting.

Shoreline Greenway Trail, East Haven, Connecticut

Serves as Project Director for the design and construction of approximately 4,600 linear feet of the Shoreline Greenway Trail (State Project No. 43-129) beginning at the intersection of Cosey Beach Avenue and Coe Avenue. The project then heads north along Coe Avenue to Austin Avenue, turns along Henry Street and terminates on Elliot Street at the D C Moore School. The proposed improvements include new PROWAG compliant 5' wide concrete sidewalks and associated grading, delineation of pedestrian crossings and other intersection treatments, signage, a pocket park and bus stop. The Project is administered through the Surface Transportation Program which involves working closely with the Town, abutters, USPS and CLE Liaison. Additionally, DEEP Recreation Trails funding was secured to construct the project for this piece of the Shoreline Greenway Trail.

Farmington Canal Heritage Trail, Southington, Connecticut

Serves as the Quality Manager for this 1.36 miles of trail design between Lazy Lane and West Queen Street. The project will also provide streetscape and trail amenities. Responsibilities include oversight of the design and documentation conforming to CTDOT guidelines and report writing, preparing and presenting.

Bloomfield Greenway Multi-Use Trail, Bloomfield, Connecticut

Served as the Project Manager for this 2.2-mile segment of multi-use trail within the Town of Bloomfield. The project was constructed on land owned and managed by Eversource Energy and the Town of Bloomfield. The Greenway is a key component for the multi-use trail system of the Farmington Valley and the East Coast Greenway. Trail features included layout conforming to AASHTO trail design criteria, parking facilities, rest areas, planting and site restoration design, pedestrian bridge, fencing and street crossings. Responsibilities included oversight of the design and documentation conforming to CTDOT guidelines and report writing, preparing and presenting.

Connecticut Department of Transportation (CTDOT), Two Bridge Replacements over Route 8, Shelton, Connecticut

Served as Project Engineer for the replacement of the superstructures for the Coram Avenue and Prospect Street Bridges over Route 8. The town roads were closed during construction. Designed the drainage and the horizontal and vertical alignments for this project. Prepared and held several meetings with the town, department personnel and the utility companies. Prepared the plans, detour routes, specifications and cost estimate for this project. Coordinated and monitored the maintenance and protection of traffic plan.

Town of Fairfield, New Access Road, Fairfield, Connecticut

Served as Project Manager for improvements to the intersection of Kings Highway East #2 at the New Access Road. This project includes the creation of preliminary and final design plans for the new signal and intersection modifications at the intersection for the proposed new Commerce Drive rail station project and commercial development.

Fairfield Train Station at Commerce Drive, Connecticut Department of Transportation (CTDOT), Fairfield, Connecticut

Served as Project Manager for the preliminary and semi-final design for civil/site and roadway work associated with the design of a new train station on Metro-North Railroad's New Haven line. Prepared the preliminary design report which includes the complete project description, alignments, plans and preliminary cost estimates. Coordinated meetings with CTDOT, the utility companies and the design team.

Connecticut Department of Transportation (CTDOT), Route 176 Culvert Replacement, Newington, Connecticut

Served as Design Engineer for the replacement of a concrete box culvert under Route 176 in Newington. The project had to be staged for maintenance and protection of traffic. Prepared the plans, specifications and cost estimate.

Wexford Skate Park Structural Analysis and Encroachment Permit, Hartford, Connecticut

Served as Project Manager for a structural analysis and Connecticut Department of Transportation (CTDOT) Encroachment Permit assistance for the Wexford Skate Park in the City of Hartford. The skate park is located on top of the I-84 tunnel between Main Street and Trumbull Street. The park consists of an old basketball court that skateboarders use to do various activities. A grant received by the City of Hartford was utilized to add features to the skate park. BL Companies analyzed the existing bridge deck and provide guidance on load restrictions to the selected design/build firm. BL will also assist the City in the CTDOT Encroachment Permit Process.

LOTICIP Municipal Engineering Design & Construction Phase Assistance, Capital Region Council of Governments (CROG)

Provides Quality Assurance/Quality Control on the CROG LOTICIP Municipal Engineering Design and Construction Phase Services On-Call contract. Duties involve engineering design services for the municipally funded design phase of LOTICIP projects. These designs included complete streets approaches to roadway reconstruction and rehabilitation, multi-use paths, sidewalks and other pedestrian facilities within transit corridors. These projects also include traffic calming elements, as well as, new and enhanced traffic signals and equipment.



PROJECT ROLE

Civil Engineering Lead

EDUCATION

Bachelor of Science in Civil Engineering, University of Rhode Island, 2011

REGISTRATION

Professional Engineer: Connecticut, Massachusetts, New York, Rhode Island

PROFESSIONAL MEMBERSHIPS

NCEES Record Holder

SUMMARY OF QUALIFICATIONS

Mr. Robillard has over 10 years of civil engineering experience on a wide variety of infrastructure and development projects in the State, municipal, commercial, residential, and retail markets. Specifically, he has provided project management and oversight of multidisciplinary teams associated with the preparation of various projects. Mr. Robillard has expertise in program and project management for various clients, site engineering and development, storm drainage, hydraulic and hydrologic design, horizontal and vertical road alignment, subsurface sewage disposal system design, and a comprehensive knowledge of local and State permitting processes. As a Project Manager at BL Companies, Mr. Robillard's responsibilities include complete project oversight of the design and entitlement process, scheduling and construction management.

RELEVANT EXPERIENCE

Millbury Town Center Revitalization – Phase 2, Millbury, Massachusetts

Served as Roadway task lead for this streetscape improvement project. BL Companies is working with the Town of Millbury representatives to prepare design documents for the Phase 2 Town Center Revitalization project. The plan for creation of a dynamic, attractive town center at the heart of the Millbury community includes roadway/intersection repaving, reconstruction of the municipal parking lot, parking improvements, energy-efficient street lighting, drainage improvements, ADA-compliant sidewalks/crosswalks/ramps, and a series of attractive streetscape enhancements. The strategy includes planning and community outreach to implement a series of infrastructure and green infrastructure/ Low Impact Development (LID) improvements. The project consists of conducting a site survey and preparing a baseplan, producing preliminary designs, meeting with town representatives and residents to gather feedback, developing designs from the preferred alternative, and preparing contract documents for construction. Throughout the project, the team is assisting the town with facilitating the community process through workshops/meetings with residents, business owners, town representatives, and other stakeholders. The project builds off of the phase 1 effort which received a Municipal Vulnerability Preparedness (MVP) program grant and additional funding for project implementation.

Stormwater Pollution Control Plan, Various Sites, Connecticut

Served as Project Manager and senior technical advisor during the preparation of a Stormwater Pollution Control Plan (SWPCP) for various sites within the state of Connecticut. The work consisted of preparing the paperwork, drainage calculations and reports needed for submission to the Connecticut Department of Energy and Environmental Protection (DEEP) Stormwater for the General Permit during construction and commercial activities. Work also consisted of generating comprehensive operation and maintenance plans for each site in harmony with the state and local regulations.

On-Call Scoping and Preliminary Engineering Design Program, Rhode Island Department of Transportation, Rhode Island

Served as Quality Control Professional for this design program that included the design of highways, maintenance and protection of traffic, horizontal and vertical alignments, and drainage for the highway. Worked consisted of preparation of plan, specifications and RFP documents.

Warren Avenue Revitalization Phase II & Kent Heights SRTS Project, East Providence, Rhode Island

Served as Project Engineer for the Warren Revitalization project which included replacement of sidewalks, driveways, curbing, landscaping and a mill and overlay of the existing roadway. Project responsibilities included design during construction and construction inspection. Construction Engineering and Design services were completed in 2013. Firm of Record: Geisser Engineering Corporation

Eversource Red Horse Hill Road Drainage Improvements, Sharon, Connecticut

Served as Design Engineer responsible for design and plan preparation for drainage improvements and roadway reconstruction on a private drive. This project required utility relocations and coordination with multiple parties. Prepared design plans including plan and profiles, miscellaneous details, grading, erosion control, utility relocation, drainage calculations, cost estimate, and project specifications. Firm of Record: AI Engineers

CTFastrak Commuter Parking Lot, Connecticut Department of Transportation, Farmington, Connecticut

Served as Engineer for the design of a CTFastrak parking lot in Farmington, CT. Responsibilities included the design of the parking facility, as well as coordination with CTDOT. Design of the parking lot included drainage design, site grading, parking layout and erosion and sedimentation control design. All the design for this lot was in accordance with the CTDOT Highway Design Manual, CTDOT Drainage Manual and CTDEEP Guidelines for Soil Erosion and Sediment Control. Mr. Robillard oversaw preparing all construction documents including plans, estimate and specifications. Firm of Record: HNTB Corporation

Ed's Drive Design Services, Enfield, Connecticut

Served as Project Engineer for this project involving the complete design for the repair of a failed drainage system off Ed's Drive in Enfield. The failed portion of the system is located between 5 and 7 Ed's Drive and consists of a dislodged corrugated metal drainage pipe laid on a steep grade and severe erosion caused by drainage system discharge in the area of the dislodged pipe. Design included a series of drop manholes connected by pipes set at shallower grades, which helped to dissipate the energy and control velocities within the system. Firm of Record: AI Engineers

VA Medical Center Providence Air Force Drive and Parking Lot Improvements, Providence, Rhode Island

Served Assistant Project Manager for the design of Air Force Drive realignment and parking lot repairs. It was my primary responsibility to prepare design plans in accordance with RIDOT Standard Specifications and Highway Design Manual, VA Physical Security Design Manual, VA Signage Design Manual and the VA Site Development Design Manual. Engineering design on this project included horizontal and vertical alignments, profiles, cross sections, parking lot and drainage design. Erosion and Sediment Control Plans were also designed utilizing the RI Soil Erosion and Sediment Control Handbook. In addition to the engineering design, prepared cost estimates and specifications for this project. Firm of Record: AI Engineers

Green Manor South Design Services, Enfield, Connecticut

Served as Assistant Project Manager for the design of sidewalk and for the full-depth reconstruction and full-depth reclamation with Portland cement (FDR-C) of approximately 1.2 miles of existing roadway in a residential subdivision in Enfield. Several of the roadways were realigned to accommodate the creation of snow shelves and the complete replacement of sidewalks and ADA curb ramps throughout the project. Firm of Record: AI Engineers

Park Street & Taylor Road Design Services, Enfield, Connecticut

Served as Assistant Project Manager for this project that involved the complete design for the rehabilitation and reconstruction of Park Street and Taylor Road in Enfield, CT. The total length of the town roads is approximately 8,300 ft. The proposed alignment for Park Street and Taylor Road remained in same as existing. The roadway exhibited severe pavement distress noted by potholes, rutting, block cracking, and fully developed alligator cracking. Design included new catch basins with deep sumps and pipe hoods to settle solids and prevent floatable debris from discharging from the system. Additionally, plunge pools were designed at culvert crossing inlets to provide for settlement of particles. Firm of Record: AI Engineers

DASNY NYS Institute for Basic Research (IBR) South Parking Lot Repaving, Staten Island, New York

Served as Project Manager for the reconstruction of the IBR South Parking Lot. The parking area on the south side of the IBR facility was distressed and in need of repair. The facility was constructed in 1964, and there are no records for the parking lot design or records of previous pavement maintenance work at the site. To determine the best approach for the design, full-depth construction, or mill and overlay, and was involved with several investigations. A soil-boring program was completed to determine the overall pavement profile (thicknesses of bituminous concrete surface, base, and subbase) and subgrade materials and to investigate for the presence of pollutants. Testing for pollutants will help to determine if special handling or disposal material will require during construction. Conducted a visual evaluation of the drainage system to determine if drainage improvements were required. Was responsible for designing the site layout, grading, demolition and project details. Prepared a cost estimate and specifications. Firm of Record: AI Engineers

**PROJECT ROLE**

Principal Engineer

EDUCATION

Bachelor of Science in Civil Engineering, Merrimack College, 1997

REGISTRATION

Professional Engineer: Connecticut (2007, #26280), Massachusetts, (2006, #46822)

PROFESSIONAL MEMBERSHIPS

American Society of Civil Engineers

SUMMARY OF QUALIFICATIONS

Ms. Bates has 23 years of experience in civil engineering. Jessica has expertise in the areas of storm drainage design for highways and urban/suburban sites, hydraulic modeling of sites, streams and waterways, civil/site work design, site utilities, roadway design, pump station design and sanitary sewer design. She has extensive experience in the permitting of many types of projects, geometric design of roads and sites, hydrologic and hydraulic analysis for site development and implementation of environmental mitigation measures, including, but not limited to, subsurface retention, groundwater recharge and best management practices of stormwater quality and quantity measures.

RELEVANT EXPERIENCE**West Dayton Pond Dam, Wallingford, Connecticut**

Served as Civil Engineer for the design and engineering services for the reconstruction of the dam including survey, hydrologic / hydraulic analysis, dam breach analysis, environmental resource assessment/delineation, geotechnical engineering, structural inspection and coordination with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Dam Safety Unit. The work also includes the preparation of environmental permit applications (Local IW, CTDEEP, and Army Corps of Engineers), Construction Documents including plans, specifications, estimates and construction administration & inspection.

Harbor Brook Trail and Channel Flood Mitigation Improvements, Meriden, Connecticut

Served as Senior Engineer responsible for the trail design including stormwater drainage design, permitting documents and report preparation for proposed flood improvements to reduce impacts of Harbor Brook flooding. The design also incorporated a ±4,900 linear foot multi use bicycle trail.

Coppermine Brook Flood Mitigation, Bristol, Connecticut

Served as Project Engineer responsible for the development of design plans for the modifications needed to eliminate flooding conditions during storm events in the center of Bristol, Connecticut. The Coppermine Brook frequently floods, but is bound by existing retail establishments, so plans were created to mitigate the flooding conditions to the maximum extent possible without impacting the surrounding areas.

Route 20 Flood Study, Trenton, New Jersey

Served as Project Engineer in charge of the hydraulic analysis of a portion of roadway directly adjacent to the Delaware River. The project involved the installation of duckbill backflow valves within the existing stormwater system to prohibit the surcharge of the Delaware River into the adjacent residential areas. These measures would limit the flooding to the times in which the Delaware River actually breaches its banks which will allow the residents of the low-lying areas time to evacuate in advance of a major flooding event.

Silas Deane Highway Streetscape Improvements – Phase II, Rocky Hill, Connecticut

Served as Senior Engineer responsible for assisting in the developing construction documents including site layout, grading, drainage, pavement, signing and pavement marking, and typical cross sections.

FEMA Flood Plain Study, Erie County, New York

Served as Project Engineer in charge of the river modeling to determine the 100- and 500-year flood plain along rivers in western New York for the Federal Emergency Management Agency. The river modeling used contours and base mapping to determine the stream flow and the flooding levels of the river for the 100-year and 500-year storm events. Design services were completed in 2009.

Ansonia Nature and Recreation Center Site Improvements, Ansonia, Connecticut

Served as Senior Engineer responsible for the conceptual site layout, hydrologic and hydraulic analysis. Work included site investigation and inspection, stormwater drainage system design and analysis, and the development of permitting plans and reports for site plan approval. Special consideration has been given to the development to create an environmentally sensitive parking lot and outdoor educational grounds areas that conform to all local and state regulations. The current site design includes the use of a modular concrete permeable paver system for a portion of the parking area as well as a rain garden for the stormwater management basin.

Hammonasset State Park - Beach Utility Recreational Trail, Madison, Connecticut

Served as a Senior Engineer for the design, permitting and construction administration of a multi-use trail as part of a complete utility system upgrade for the 300+ acre park. The design included the design of a 2+/- mile multi-use trail and utility upgrades to the infrastructure of the park, and special consideration given to the numerous sensitive wildlife and environmental features on the site. The project required extensive coordination with the various state entities and numerous individual utility companies. Project responsibilities included the production of construction documents.

Riverfront Streetscapes, East and West Columbus Avenue, Springfield, Massachusetts

Served as Project Engineer in charge of the development of the design plans for the streetscapes project to be completed around the new Basketball Hall of Fame in Springfield Massachusetts. The work had to be designed to coordinate with the adjacent project currently under design that called for the reversal of various exit ramps along adjacent Interstate 91.

Reconstruction of I-95 over the West River, New Haven, Connecticut

Served as Project Engineer for the development of the permanent drainage system as well as a temporary drainage system for the maintenance and protection of traffic of one mile (1.6 kilometers) of highway together with adjacent access ramps. Design services were completed in 2013.

Route 34, New Haven, Connecticut

Served as Project Engineer responsible for the roadway, utility and drawing design for the reconstruction of a roadway system to replace a divided highway with an urban boulevard system meant to encourage pedestrian movement through the city. Design services were completed in 2013.

Rehabilitation of Railroad Avenue at Fieldpoint Road Culverts over Horseneck Brook, Greenwich, Connecticut

Served as Project Engineer responsible for the roadway plans and environmental permitting for the rehabilitation of multiple culverts due to the deterioration of the structures. Design services were completed in 2012.

Parking Lot Renovations, 424 Chapel Street, New Haven, Connecticut

Served as Project Engineer for the development of the various parking lot phase plans needed due to the adjacent highway work that is part of the new Interstate 91 and 95 interchanges. Project responsibilities included parking lot layout, coordination of utilities and revisions to a drainage truck line that goes through the site. Design services were completed in 2010.

Connecticut Airport Authority On-Call, New Parking Lot 1, Bradley International Airport, Windsor Locks, Connecticut

Served as Senior Engineer responsible for design, construction document development, and stormwater drainage design, site utility design, and earthwork calculations for the parcel of land at Bradley International Airport that previously contained the "Terminal B" building (The terminal building was demolished under a separate contract). Work included the development of site plans and drainage improvements for a 794-vehicle parking space surface parking lot including coordination with revenue generation equipment vendor and prefabricated building vendors to be installed on site.



PROJECT ROLE

Lead Landscape Architect

EDUCATION

Bachelor of Landscape Architecture, SUNY College of Environmental Science and Forestry, 1997
Associate of Applied Science, Landscape Development, SUNY College of Agriculture and Technology, 1994

REGISTRATION

Professional Landscape Architect: Connecticut, Massachusetts, New Hampshire, New Jersey, Ohio, Rhode Island

PROFESSIONAL MEMBERSHIPS

Commissioner, State of Connecticut, Landscape Architecture Board; Member, American Society of Landscape Architects; Member, CT Chapter American Planning Association; Member, American Sports Builders Association; Member Advocacy Committee, Connecticut Chapter American Society of Landscape Architects; Member, Mystic Fire Department (B.F. Hoxie Engine Company) - Mystic, CT
Certified Hazardous Material Technician, Emergency Medical Responder: Connecticut

SUMMARY OF QUALIFICATIONS

Dominick Celtruda has over 25 years of experience in planning, design and construction experience. Mr. Celtruda possesses a strong background in planning, design, construction and maintenance of corporate, institutional, educational and municipal campuses. He has performed studies identifying factors that can be recognized, quantified and utilized during the planning and design process to provide a better understanding of how spaces can be shaped to provide optimal use by the intended inhabitants (social cultural interaction). Mr. Celtruda has expertise in site analysis, concept analysis, schematic design, design development, contract documents, construction development and detailing, bidding, construction administration, project management, presentation graphics, and design guideline creation. Dominick serves as Lead Landscape Architect and Project Manager at BL Companies, providing professional landscape architecture services to a variety of public and private clients.

RELEVANT EXPERIENCE

Harbor Brook Trail and Channel Flood Mitigation Improvements, Meriden, Connecticut

Served as Technical Landscape Architect responsible for the trail design of a 4,900 lf trail including stormwater drainage design, permitting documents and report preparation for proposed flood improvements to reduce impacts of Harbor Brook flooding.

Connecticut River Access, Enfield, Connecticut

Served as Landscape Architect for this project, which will provide public access to the riverfront and promote the recreational potential of the Connecticut River while preserving the unique, natural, historic and scenic areas along the northernmost point of the river. It will also offer facilities for a variety of activities and will serve as an area of passive recreation for the public, including individuals with physical disabilities. The project included linear trails and paths, pedestrian bridge/tower, an observation deck, a fishing pier and dock, and parking facilities.

Fort Trumbull State Park, New London, Connecticut

Served as Landscape Architect responsible for design coordination of Connecticut's newest State Park. Responsibilities included historical research, site analysis, and conceptual development of the overall park design, layout, grading, cost estimates, and preparation of contract documents. Specific work performed in detailing the north and the south batteries, as well as the north magazine.

Sherwood Island State Park Main Pavilion Centennial Improvements, Westport, Connecticut

Served as Landscape Architect for the renovation of the existing Main Pavilion at Sherwood Island State Park. The site renovation consisted of rehabilitation of the existing pavilion service area, reconfiguration of the pavilion entrance sequence and addition of a bike respite area.

Brownfield Area-Wide Revitalization (BAR) Planning Grant, Torrington, Connecticut

Served as Landscape Architect for the analysis and preliminary concept planning of multiple brownfield sites located within the downtown area of Torrington. The first site (formerly NIDEC) is over 8 acres and located along the West Branch of the Naugatuck River. The Preliminary Concept Plan is highlighted by the potential relocation an existing city street to better connect the public to the riverfront. A planned public greenway will provide a linear amenity along the river that is easily accessed by the relocated public street. A mixed-use development including 20,000 SF of retail/commercial and 150 multi-family residential units would occupy the balance of the site with views of the greenway and the riverfront. The second site

(former Stone Container/Hendey Machine Co) is 9 acres and located along the Naugatuck Railroad rail line that currently serves freight shipping and scenic trains. The brownfield site is comprised of multiple historic manufacturing buildings that are envisioned to be repurposed into a retail, restaurant and residential destination for downtown Torrington. A portion of the site is being considered for a Connecticut DOT bus maintenance facility while the remainder of the site would be used for redevelopment. Project responsibilities included facilitating public workshops and meetings, creation of base mapping used during site analysis of the brownfield sites and development of the concept plans for each site.

Ansonia Nature Center, Ansonia, Connecticut

Served as Project Manager for renovation to the Ansonia Nature Center parking lot, pond dredging, and boardwalk renovation project. The first phase of the project is the renovation of the existing parking lot and entrance area sequence to provide the nature center with a low-impact design strategy along with safe interaction between pedestrian users and motor vehicle circulation. The project established a bus drop-off area, vegetative swales, accessible walking paths and a wetland educational viewing area. Responsibilities included overall project/design management, site analysis, layout, grading, planting, detailing, preparation of contract documents, and presentation graphics.

Hammonasset Beach State Park, Madison, Connecticut

Served as Lead Landscape Architect. BL Companies was selected by the State of Connecticut Department of Administrative Services (CTDAS) for engineering design, landscape architecture and construction administration services for the Hammonasset Beach State Park Combined Major Utility Replacement Project. BL Companies worked with CTDAS to prepare design plans for a ±2.5-mile Beach Utility Recreational Trail (BURT) system that will serve as a utility corridor below ground and a multi-use recreational trail above ground. Mr. Celtruda served as Landscape Architect for the recreational trail, which will serve as a link between the regional bikeway adjacent to the site and all of the on-site State Park amenities. The trail design blends all areas of the site in a pedestrian-friendly navigational experience. The trail considers safe routes for individuals traversing the site on foot, bicycle, stroller, or wheelchair. It provides safe identifiable interaction nodes in areas where pedestrians need to interact with standard automobile as well as recreational vehicle circulation.

Ash Creek Trail and Fox Street Streetscape, Bridgeport, Connecticut

Serves as Lead Landscape Architect for the implementation of a 1200 lf creek trail and streetscape improvement project to provide enhanced connectivity between the Metro Center in the Town of Fairfield and the Black Rock neighborhood in the City Bridgeport. The project will bring a public understanding of the environmental systems along ash creek, restore a living shoreline, and implement low impact storm water design measures. In addition to the streetscape improvements and trail implementation the project will also realize a 225-foot pedestrian bridge over ash creek.

Fort Trumbull Master Development Plan, Riverwalk, New London, Connecticut

Served as Landscape Architect for the design of a universally accessible pedestrian Riverwalk along the Thames River in New London. Responsibilities included site analysis, historical site data gathering, pedestrian and vehicular circulation analysis, layout, and presentation graphics.

Resilient Bridgeport Project, Bridgeport, Connecticut

BL Companies, as the Connecticut Department of Transportation's (CTDOT) Consultant Liaison Engineer, is tasked with oversight and coordination for the final design phase of the Resilient Bridgeport Program's Flood Risk Reduction Project (FRRP) and the pilot Rebuild by Design Project (RBD). The FRRP consists of multiple measures including elevation adjustment, flood walls, levees and raised transportation corridors to reduce risk to the South End. Other elements involve the establishment of raised dry egress access routes, identification and restoration of culturally significant housing, inundation pump station, and conversion of a portion of historic Seaside Park into a stormwater park. The RBD project showcases resilient design measures that establish affordable housing parcels along with implementation of raised dry egress routes, an innovative stormwater park, and green streets. This Program is an unprecedented collaboration between CTDOT and CTDOH. As CTDOT's liaison, BL Companies is responsible for the day-to-day administration and oversight of the design consultants and ensuring that the final design is delivered in accordance with pertinent state and federal regulations. The BL Team organizes and facilitates regular progress meetings and is responsible for coordination with both internal and external stakeholders.

**PROJECT ROLE**

Landscape Architecture

EDUCATION

Bachelor of Science in General Business Administration, University of Rhode Island, 1989

Master of Landscape Architecture, Rhode Island School of Design, 1997

REGISTRATION

Professional Landscape Architect: Massachusetts No. 1392, Rhode Island No. 334

LEED® Accredited

Professional LEED® AP Building Design & Construction

PROFESSIONAL MEMBERSHIPS

American Society of Landscape Architects, American Sports Builders Association, National Trust for Historic Preservation, Sports Turf Managers Association

SUMMARY OF QUALIFICATIONS

Mr. Moonan is a Registered Landscape Architect with more than 25 years of experience in landscape architecture and the landscape maintenance industry. His creative approach to landscape design includes the planning and design of parks, streetscapes, and school facilities, as well as site design for international resorts and hotels. He has managed all aspects of projects from master planning and conceptual design to construction document preparation, specification preparation, and construction administration through to final completion.

RELEVANT EXPERIENCE**LoPresti Park Improvements, Boston Parks and Recreation Department, East Boston, Massachusetts**

Provided design, permitting, and construction administration for this project included construction of a state-of-the-art synthetic turf field funded in large part by the United States Soccer Association, realigning pedestrian connections, rotating fields for game play and practice to allow for a more efficient use of the site, and positioning the most-used elements of play for improved park safety and access.

Parks and Recreation Projects, Fitchburg, Massachusetts

Served as Project Manager for Park Hill Park Tennis Court Renovation and assisted with the various city-wide park improvements and implementation of a "needs" analysis, including Coolidge Park master planning.

JJ Lane Park, East Park, Navy Yard Park, Natick, Massachusetts

Served as Project Landscape Architect at JJ Lane Park and Project Manager at East and Navy Yard Parks for the development of these neighborhood parks and playgrounds that involved the creation of children's play areas with seating/shelter, loop pathways, a small park support structures, new parking areas, innovative stormwater management techniques, a pedestrian bridge at JJ Lane Park, and a variety of other passive and active recreational elements. The East Park and Navy Yard park projects were generated as part of our town-wide recreation and parks master planning process. Firm of Record: (non-BL Companies)

Boothbay Harbor Whale Park, Boothbay Harbor, Maine

Brought the preliminary design of a small waterfront park in this tourist community to reality by preparing construction documents and detailing the project.

Lincoln Park, Somerville, Massachusetts

Provided technical assistance for the development and refinement of the Lincoln Park design throughout the public participation and construction documentation phases.

Millbury Town Center Revitalization – Phase 2, Millbury, Massachusetts

Mr. Moonan is the project manager for this streetscape improvement project. BL Companies is working with the Town of Millbury representatives to prepare design documents for the Phase 2 Town Center Revitalization project. The plan for creation of a dynamic, attractive town center at the heart of the Millbury community includes roadway/intersection repaving, reconstruction of the municipal parking lot, parking improvements, energy-efficient street lighting, drainage improvements, ADA-compliant sidewalks/crosswalks/ramps, and a series of attractive streetscape enhancements. The strategy includes planning and community outreach to implement a series of infrastructure and green infrastructure/ Low Impact Development (LID)

improvements. He leads a multi-disciplinary team of transportation, landscape architecture, and utilities professionals. The project consists of conducting a site survey and preparing a baseplan, producing preliminary designs, meeting with town representatives and residents to gather feedback, developing designs from the preferred alternative, and preparing contract documents for construction. Throughout the project, the team is assisting the town with facilitating the community process through workshops/meetings with residents, business owners, town representatives, and other stakeholders. The project builds off of the phase 1 effort which received a Municipal Vulnerability Preparedness (MVP) program grant and additional funding for project implementation. Governor Charlie Baker visited the town to announce the award of \$1 million in MVP grant funding for climate change adaptation. Mr. Moonan was Project Manager for the Phase 1 effort while with his previous firm.

Millbury Town Center Revitalization – Phase 1, Millbury, Massachusetts

Mr. Moonan recently worked with Town of Millbury representatives to prepare a revitalization strategy for the Town Center funded by the EPA through the New England Interstate Water Pollution Control Commission. The strategy included planning and community outreach to implement a series of infrastructure-related improvements and green infrastructure/ Low Impact Development (LID) strategies in combination with other initiatives while leveraging new, private investment and restoring relevance to Millbury Center with a more cohesive and aesthetically pleasing retail/downtown setting. The plan for creation of a dynamic, attractive town center at the heart of the Millbury community includes roadway/intersection repaving, reconstruction of lower/upper commons areas, parking improvements, pedestrian signals, energy-efficient street lighting, drainage improvements, ADA-compliant sidewalks/crosswalks/ramps, and a series of attractive streetscape enhancements. He led a multi-disciplinary team of transportation, landscape architecture, and utilities professionals conducted a site survey and prepared a baseplan, produced preliminary designs, met with town representatives and residents to gather feedback, developed designs from the preferred alternative, and prepared contract documents for construction. Throughout the project, his team assisted the town with facilitating the community process through workshops/meetings with residents, business owners, town representatives, and other stakeholders. He and his team also helped the town prepare a Municipal Vulnerability Preparedness (MVP) program grant application and secure additional funding for project implementation. Governor Charlie Baker visited the town to announce the award of \$1 million in MVP grant funding for climate change adaptation.

North Haven Town Center Enhancement Project, North Haven, Connecticut

Prepared the design development and construction documents for this streetscape enhancement. Throughout the design process, he coordinated design efforts to complete the documents.

Mill Street Corridor Master Plan, Worcester, Massachusetts

Served as Project Manager for the complete streets project involving planning for LID/green infrastructure, improved pedestrian accommodations, ADA compliance, bicycle accommodations, safety, aesthetics, stormwater management systems, utility upgrades and structural improvements to the roadway cross-section.

Brewery Parkade, Cranston, Rhode Island

Developed master plan options and led a design team to prepare landscape permitting and construction documents for a large development that included a new road. Responsible for working out the streetscape for the new thoroughway that included ornamental lighting, bus turnoff, and specialty paving.

Community Bikepath, Somerville, Massachusetts

Served as Senior Landscape Architect for a bikepath in Somerville beginning at the intersection with Cedar Street and connecting to the existing bridge at Lowell Street. All work was designed and constructed in conformance with the MassDOT Standard Specifications. The project required an extensive community participation program and coordination with key stakeholders including the existing VNA property, a residential community currently under construction (i.e. MaxPak) and the future MBTA Greenline Station currently under design. In addition, the project required permanent and temporary right-of-way acquisitions, utility coordination, and a Phase I soil investigation.

Cochituate Aqueduct Trail Improvement, Natick, Massachusetts

Served as Senior Landscape Architect for the development of construction documents for this project that entails the construction of a pedestrian and bicycle trail designed to be fully accessible and provide recreational opportunities for people of all ages and abilities.

**PROJECT ROLE**

Environmental Services Lead

EDUCATIONB.S., Natural Resource Management,
University of Connecticut, 1994**REGISTRATION**Licensed Environmental Professional: Connecticut No. 432
Licensed Asbestos Inspector / Management Planner: Connecticut No. 261**TRAINING/ CERTIFICATION**

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Training

SUMMARY OF QUALIFICATIONS

Mr. Myjak has 27 years of professional client service experience in performing environmental site assessments and investigations; environmental demolition/renovation surveys; building hazard assessments; preparation and oversight of remedial action plans; and compliance evaluations with respect to regulatory and remediation standards throughout New England and New York, including expert witness and litigation experience associated with cause of origin assessments and remedial activities. Project experience has included working with institutional, municipal, industrial, and commercial clients. Mr. Myjak has worked on: Brownfield and urban renewal projects and grant preparation; corridor and inventory assessments; delineating subsurface environmental areas of concern; evaluated, designed, and supervised remediation activities; LEP Verifications; sensitive receptor surveys; overseen CTDEEP SEH notifications and actions; TSCA PCB investigations and remediation, supervised industrial fire and disaster mitigation and cleanup operations; oversees emergency spill response activities; provided environmental hazard assessments within municipal school systems; conducted pre demolition / renovation building surveys for the delineation, abatement, and/or management of regulated substances; and worked within the environmental field on compliance and permitting issues. Mr. Myjak is experienced with the preparation of QAPPs and CTDEEP RCP protocols.

In the role of an LEP Mr. Myjak has conducted hundreds of site assessments, investigations, and regulated UST investigations, remediation's, and closure / Verifications. He has a proven history of providing professional consulting support to emergency response incidents such as the Star Pin, Latex Foam and Remington facility catastrophic industrial fires, Route 8 gasoline tanker release in Thomaston, "sick school" emergency investigations in Cheshire, Middletown, and West Haven, dam removal assessment, as well as a dozen of other spills, environmental concerns, and catastrophic events. The extent of these investigation, mitigation, and remediation activities have ranged from several hundred thousand dollars for investigation and cleanup to levels of effort to exceeding ten million dollars. Mr. Myjak has a strong working relationship with regulatory staff.

RELEVANT EXPERIENCE**Better Packages, Shelton, Connecticut**

Served as Project Manager for LEP / Transfer Act services for the investigation, conceptual site plan, and remedial design for 100 plus year-old industrial facility with history of hydro-power generation, tire reclamation, and manufacturing. Demolition RFP preparation and oversight.

Pameacha Pond Sediment and Reuse Evaluation, Middletown, Connecticut

Project Manager for stream and mill pond evaluation to support dam removal. Work included a corridor assessment to develop a conceptual site model for potential source sediment impacts, a bathymetric survey, land survey, and the development and implementation of a waterside sediment sampling plan. Coordination and remedial planning with regulatory agencies for site reuse.

Brownfield Investigation and Remedial Planning Former Cedar Hill Rail Terminal, North Haven, Connecticut

Served as Project Manager for Brownfields investigation activities for the remedial planning for redevelopment of 80-plus acre abandoned rail freight terminal, once part of a 700+ acre railyard facility, to support planning and permitting for multiple heavy industrial and commercial facilities. Project activities included: development of Conceptual Site Model, comprehensive investigative activities Phase I to III; building hazard material assessment; geophysical surveys and mapping; wetlands delineation; topographic survey; use of latest ArcGIS applications for real time logging; coordination of remedial strategies between vested parties including the municipality, tax district, developers, and investors; proficient design of investigative techniques to overcome data gaps & evaluate regulatory standards for conceptual remedial design.

19 potential release mechanisms at over 65 Areas of Environmental Concern were investigated which identified environmental hazards on the property including PCBs, heavy metals, hydrocarbon impacts, and asbestos, significant filling of lowlands to support the former rail terminal, vehicle dismantling, solid waste disposal activities, drum disposal, equipment service areas, and shipping transfer areas. Followed triad approach for real-time evaluation of data collected so as to monitor and prioritize the assessment activities, modify approach and scope as needed, so as to designate effort towards more complex release areas that would have a more significant impact on redevelopment activities. The field activities were strategically modified, while maintaining the data quality object to achieve the greatest understanding of the impacts within the prescribed grant restrictions.

Mount Higby Reservoir Stream Gaging Station, Middletown, Connecticut

Served as Project Manager and oversaw the feasibility study, design and construction of permanent stream gauging location for the Mount Higby Reservoir system. A permanent stream gauging location was required as part of the diversion permit issued by the CTDEEP.

Winchester Industrial Assessment, New Haven, Connecticut

Served as Project Manager of assessment team for transfer of a 15-acre developed 230,000-square-foot industrial facility. Project-specific tasks included RCRA closure and characterization of second-generation liabilities in comparison to 125 years of historic industrial firearms manufacturing. Work focus was the differentiation between historic, pre-1994 impacts and those associated with the most recent property tenant. The project had a transaction-driven compressed schedule for completion.

Hope Street Brownfields Project, Niantic, Connecticut

Served as Project Manager to conducted expedited Phase I through III soil and groundwater assessment activities of a 150-year old, 7-acres industrial, mill-type facility for residential redevelopment. Investigation activities focused on 150 areas of potential environmental concern. Sensitive receptors included an area domestic water supply well, surface water body, and ultimately residential use.

Facility Transfer, Northwestern, Connecticut

Served as Project Manager for LEP services to investigate 350-acre industrial mining facility associated with property transfer. Environmental concerns identified included multiple unregistered historic solid waste landfill areas and facility maintenance garage. Developed cost estimates for remedial options and transfer negotiations.

Site Assessment and Remediation South Norwalk Urban Renewal Project, Norwalk, Connecticut

Served as Project Manager for the delineation and environmental remediation oversight of a historic hat factory, vehicle auto body establishment, and gasoline service station for the redevelopment of a new municipal police station facility. Developed a comprehensive investigation scope, supervised investigation activities, prepared remedial action plan, oversaw remedial activities, placement of an environmental cap with hydraulic membrane control, and provided project management and reporting.

Route 8 Tanker Release, Thomaston, Connecticut

Served as Project Manager for emergency mitigation of a 5,200-gallon gasoline tanker release to a private property, adjacent to Route 8 within aquifer protection area. Directed and oversaw emergency investigation and removal of source soil and free product.

South Street Registered USTs and Transfer Act Services

Served as Project Manager to conduct expedited site assessment of historic release areas to develop an updated understanding of environmental liabilities associated with CTA requirements for property management and remedial planning. Oversaw UST removals and prepared documentation for closure. Evaluated previous assessment findings by others for data gaps and inconsistencies with respect to current CT DEEP regulations. Site uses, which encompassed multiple parcels, included a retail petroleum facility, automobile service facility, construction businesses, and machine shops. Environmental impacts included hydrocarbons, solvents, PCBs, and heavy metals. Because of the auditing of the previous investigations, and update assessment, it was determined that the previous extent of impacts was under emphasized as well as Significant Environmental Hazards Identified and later remediated.

**PROJECT ROLE**

Senior Project Scientist II

EDUCATION

Bachelor of Science in Natural Resource Management with a concentration In Groundwater Resources, University of Connecticut, 2008
Continued Education, Ecology, University of New Haven, 2014

REGISTRATION

Licensed Environmental Professional: Connecticut No. 639
40-Hour OSHA Hazardous Waste Operations Training, 2008 with Annual 8-Hour Refreshers
8-Hour HAZWOPER Supervisor Training, 2017
10-Hour OSHA Construction Training, 2017

PROFESSIONAL MEMBERSHIPS

Environmental Professional Organization of Connecticut

SUMMARY OF QUALIFICATIONS

Ms. Lind has over 13 years of experience in the environmental consulting field. Ms. Lind has developed expertise with a wide range of field work, data reduction, and reporting. She began her career in data validation and has had extensive experience in Connecticut's Data Quality Assessment and Data Usability Evaluation. Ms. Lind's experience with data validation has continued throughout her career, and she utilizes her knowledge and performs evaluations on each project she handles. Throughout her career in the hydrogeologic field, her vast familiarity of field work includes most techniques of drilling, soil and groundwater sampling, well installation, remediation oversight and management, and production well field testing. She is experienced in reporting on contaminated sites which include Phase I Environmental Site Assessments, Phase II Site Investigations, Phase III and Supplemental Investigations, Remedial Action Plan, and a variety of CTDEEP applications. She has extensive experience with environmental projects for industrial clients, developers, institutions, municipalities, municipal development entities, and state agencies. Her technical background includes designing and managing site characterization studies for contaminant investigations, design and management of complex site remediation and brownfields redevelopment projects, environmental permitting, groundwater exploration and development, water resource assessment, and land-use impact evaluations. She also has experience in the preparation, mapping, and reporting for Water Supply Evaluations including the study of groundwater recharge sources and aquifer yield potential from stratified drift and bedrock aquifers.

RELEVANT EXPERIENCE**Downtown Derby Redevelopment, Derby, Connecticut**

Served as Senior Project Scientist/Project Coordinator for the extensive Environmental Site Assessment (ESA) and Site Characterization study for the 22-acre Downtown Revitalization Zone (DRZ) in Derby Connecticut. This area of Derby Connecticut, south of Main Street and located at the confluence of the Housatonic and Naugatuck Rivers has long been considered the gateway to the Naugatuck River Valley. The competitive drive that powered the Naugatuck River Valley's rise to industrial prominence in the late 1800's – early 1900's led to the development of this area with factories and mills. The area currently consists of vacant lots, abandoned buildings, and some remaining industrial/commercial uses. A significant component, and one of the first steps, of the proposed redevelopment plan is to assess, remediate and remove the environmental impacts associated with the brownfield sites. BL Companies worked with the City of Derby and the Valley Regional Planning Agency to identify such environmental impacts, and to develop a remedial approach consistent and compatible with the proposed redevelopment plan for the DRZ. The scope of work included completion of a Phase I ESA and an extensive Phase II/III Site Investigation across the entire 22-acre DRZ. A preliminary Remedial Action Plan (RAP) has been prepared to achieve compliance with CTDEEP Remediation Standards, which will be revised and completed upon acceptance of the site redevelopment plan.

Confidential Industrial Site and PFAS investigation

Serving as the lead project coordinator and primary lead for an existing hardware manufacturing facility with large machine shop and plating operation. PFAS evaluations within the groundwater and soils have been the primary drive of the investigations. Groundwater investigations included the installation and sampling of shallow and deep overburden monitoring wells, and bedrock monitoring wells. PFAS were detected in the groundwater and the identification of source area(s) is still under investigation; however, several off-site sources have been investigated and determined to be unlikely sources. The project also included the evaluation and review of numerous local mapping such as topographic maps, LIDAR maps, and hydrologic mapping and drainage basins. Additionally, the project involved the investigation and closing of a Significant Environmental Hazard associated with a drinking water well contaminated with low-level detections of PFAS.

Confidential Former Plating Industrial Site, Watertown, Connecticut

Served as Senior Project Scientist/Project Coordinator for the research of Site history and Site subsurface investigations through several phases in preparation to bring the Site to verification. A review of the extensive historical manufacturing uses was performed. The research indicated that manufacturing operations at the Site includes the production of sewing notions and drapery at a portion of the facility. The manufacturing processes reportedly included metal stamping, alkaline cleaning, vapor degreasing, copper, nickel, and zinc plating, and painting. Another portion of the building included the manufacturing of flow controls, meters, and sensors including cutting, stamping, and shaping metal parts. A water-soluble coolant or cutting oil was used in association with these processes. The metal parts were initially cleaned with chlorinated solvents until the degreasing units were replaced with a sodium hydroxide solution and alkaline detergent in a 265-gallon wash tank, then rinsed. Parts finishing included blasting, grinding, buffing, lapping and painting. Solvents and chemicals stored by the manufacturer reportedly included methyl ethyl ketone, toluene, methyl isobutyl ketone, methylene chloride, 1,1,1-Trichloroethane (TCA), new machine oil, waste oil, paint strippers, and "unknown materials." Waste oil and other liquid wastes such as waste solvents were reportedly stored in drums in a flammable liquid storage room then sent off-Site for recycling or disposal. As part of the production of apparel fasteners, the manufacturer operated a wastewater treatment plant that included an earthen lagoon for collecting plating waste sludge. Subsurface Investigations have been performed at the Site with a focus predominantly on the investigation of chlorinated solvents and PFAS. A groundwater plume of both dominant constituents of concern have been discovered at the Site and investigations remain on-going. Investigations are currently focusing on the recently determined impacted wetlands located on the Site as determining the full extents of the plumes in order to bring the Site into compliance and/or determine appropriate remedial efforts.

General Electric, Bridgeport, Connecticut

Served as Project Scientist II for Site-wide soil and groundwater investigations and responsible for site characterization. The initial stages of the site investigations was a detailed review of historical data validity. Months of data quality assessment and data usability evaluations were performed in preparation for further evaluation of the Site. Oversight and directed remediation activities for LNAPL, PCB remediation and historic landfill solid waste removal. Project responsibilities included site investigations to determine the limits of remedial activities. Synchronized the site layout and site activities. Oversight and directed excavated controlled materials and solid waste from designated areas and backfilling and restoration of the site to specified conditions. Performed daily safety briefings, promoted safe work practices, delegated work activities and submitted daily work sheets. Communicated project progress with the client and project manager as needed.

Phase I Environmental Site Assessments, Various Locations, Connecticut

Served as a Project Scientist responsible for completing site assessment projects in accordance with ASTM Standards for various clients, including land developers, lending institutions, and private property owners. Projects entailed evaluation of commercial sites such as automotive repair facilities, car dealerships, commercial/industrial properties, multi-family residential sites, manufacturing operations, and undeveloped agricultural lands, thereby providing a broad range of experience with differing site characteristics, requirements, and locales.

Data Validation, Various Locations, Connecticut

Compilation and review of data for Quality Assurance and/or Quality Control from various sampling protocols. Review includes the compilation of Data Quality Assessments and Data Usability Evaluations of the laboratory results including laboratory control samples, matrix spikes, duplicates, trip blanks, field blanks, etc.

Aquifer Testing, New York

Assisted in the organization of the data collection plan for long term aquifer tests encompassing both on-site and off-site groundwater and surface water monitoring of wetlands, streams and private domestic wells. Conducted step testing of wells and collected water level data for multiple aquifer tests for the calculation of aquifer yield. Construction supervision of drive and wash monitoring wells installation. Production well investigations including water supply evaluation reporting and ArcGIS mapping, 72-hour pump tests, step-tests, slug tests, stream gauging, piezometer installation and monitoring, surface water, and sediment sampling.



PROJECT ROLE

Senior Project Scientist II

EDUCATION

Bachelor of Science (Environmental Resource Management), The Pennsylvania State University, 2005; Master of Science (Biology), Bloomsburg University of Pennsylvania, 2015

REGISTRATION

Certified Professional Soil Scientist (CPSS), 2012, #36359; Professional Wetland Scientist (PWS), 2012, #2284; API 1169 Certification, 2019, #91498

PROFESSIONAL MEMBERSHIPS

Soil Science Society of America, Society of Wetland Scientists

SUMMARY OF QUALIFICATIONS

Mr. Simko has approximately 15 years of experience in performing an array of wetland delineations and site assessments, including vernal pool surveys. His wide array of experience encompasses soil morphological evaluations, infiltration and percolation testing, wetland mitigation design and monitoring, Bog Turtle habitat identification, as well as threatened and endangered species surveys. In addition, he has completed carbonate geology site evaluations, identification of asbestos-containing material, and underground storage tank removals and investigations. Mr. Simko's computer skills include ArcGIS 10 and GPS Pathfinder Office. As a Senior Project Scientist II at BL Companies, Mr. Simko's responsibilities include wetland investigations, vernal pool surveys, soil investigations, ground water investigations, Phase I site assessments, remediation related activities, remediation system monitoring and maintenance, engineering compliance inspection for natural gas pipeline projects, and construction field inspection duties for electric transmission line projects.

RELEVANT EXPERIENCE

Connecticut Department of Transportation State Project No. 108-189 – Moosup Valley State Park Trail, Plainfield to Sterling, Connecticut

Served as Senior Project Scientist to investigate the presence or absence of vernal pools along the Moosup Valley State Park Trail. Vernal pools were identified utilizing available mapping, aerial photography and field investigation. Evidence of obligate amphibian species presence and breeding was noted in the field via inspection beyond visual and aural, including trapping and dip-netting.

Metro North Milvon Substation – West River Substation Vernal Pool Assessment, Milford to New Haven, Connecticut

Served as Senior Project Scientist to investigate the presence or absence of vernal pools along a portion of the commuter train route. Any vernal pool areas were noted and recorded with GPS coordinates to submeter accuracy. Vernal pools were identified utilizing available mapping, aerial photography and field investigation. Evidence of obligate amphibian species presence and breeding was noted in the field via visual and aural inspection.

Consultant Liaison Engineering Services for the State and Federal Local Bridge Program, Connecticut Department of Transportation, Statewide, Connecticut

Served as Senior Project Scientist for several bridge rehabilitation and replacement projects for CTDOT across the state. Responsibilities included performing wetland delineations, function and values assessments, and bat habitat assessments at each bridge location where natural resources were identified as being within the proximity of proposed work. Additional responsibilities included attaining environmental permitting for the CTDEEP and U.S. ACOE, identifying invasive species, and coordination for listed species.

Simmonsville Bridge Replacement, Rhode Island Department of Transportation, Johnston, Rhode Island

Served as Senior Project Scientist, with responsibilities including wetlands delineation, function and values assessment, bat habitat assessments, and close coordination with the bridge designer in order to submit environmental permit documentation on a fast-track basis.

Route 37 Bridge Rehabilitations and Replacements, Rhode Island Department of Transportation, Warwick and Cranston, Rhode Island

Served as Senior Project Scientist, with responsibilities including wetlands delineation, function and values assessment and close coordination with the bridge designer in order to submit environmental permit documentation on a fast-track basis.

SWEPI (Shell), Various Counties, Pennsylvania

As an Environmental Scientist, Mr. Simko conducted wetland screenings, delineations, permitting, and mitigation design and monitoring for 130 miles of natural gas pipeline projects for the Krause and Wellsboro pipelines. Services were completed in 2015.

Hilcorp & Cabot Natural Gas, Various Natural Gas Well Pads & Pipeline Projects, Various Counties, Pennsylvania

As E&S inspector, Mr. Simko conducted E&S inspections at various natural gas well pads and gathering pipeline projects located in the northern tier and southwestern portions of Pennsylvania. His duties involved preparing inspection reports and photo documentation. Services were completed in 2014.

PVR Natural Gas Gathering, Various Natural Gas Well Pads & Pipeline Projects, Susquehanna & Wyoming Counties, Pennsylvania

Served as the Environmental Scientist responsible for wetland screenings and delineations for another company to install a gas pipeline at their facility, as well as various other natural gas pipeline and well pad projects throughout northern Wyoming County and Susquehanna County in Pennsylvania. Services were completed in 2013.

Williams (Access) Midstream Company, Various Natural Gas Well Pad Sites, Columbia County, Pennsylvania

Served as the Environmental Scientist responsible for wetland screenings and delineations, as well as threatened and endangered species habitat assessments, for various natural gas well pad sites within Columbia County, Pennsylvania. Services were completed in 2013.

PP&L Susquehanna to Roseland 500 KV Electric Transmission Line, Pennsylvania

Served as the Environmental Scientist responsible for wetland delineations, as well as threatened and endangered species habitat assessments, for a large segment of electric transmission line within Pennsylvania of the PPL Electric Utilities project known as the Susquehanna-Roseland Line. Firm of Record: Woodland Design Associates, Inc., Honesdale, Pennsylvania

PSEG Long Island, Western Nassau Transmission Project, Valley Stream to Garden City, New York

Serves as Construction Field Inspector for a 7.5 mile underground electric transmission line in Nassau County, NY. As Construction Field Inspector I am tasked with day-to-day inspection of the project site with respect to contractor activities constructing, installing, testing and placing in service an underground 138kV circuit.

Williams, Transco Pipeline, Atlantic Sunrise Pipeline Project, Various Counties, Pennsylvania

Served as Senior Engineering Compliance Inspector within Columbia County, PA. Served as Senior Project Scientist for the completion of soil test pit evaluations and stormwater detention basin infiltration testing for compressor station sites throughout the state.

Kinder Morgan, Utopia Pipeline, Various Counties, Ohio

Served as Senior Project Scientist for an approximately 225-miles ethane/propane pipeline through northern Ohio. Responsibilities included conducting wetland, soils and natural resource studies.

Dominion Energy, Atlantic Coast Pipeline, Various Counties, West Virginia & Virginia

Served as an Environmental Scientist and conducted wetland screenings, delineations, permitting, and mitigation design and monitoring for 130 miles of natural gas pipeline projects for the Krause and Wellsboro pipelines.



PROJECT ROLE

Environmental Resources

EDUCATION

BS, Biology, 1992, West Chester University

CERTIFICATIONS / TRAINING

PA Fish & Boat Commission Scientific Collector's Permit

PA DCNR Wild Plant Management Permit

OSHA 40-Hour Hazardous Waste Site Training CFR29 1910.120, 1986

OSHA 8-Hour Refresher Training for Hazardous Waste Sites, 1987-2021

PA DEP Certified Drinking Water Laboratory Director 1996-2007

Pollution Biology, Penn State University, 2002

Environmental Law, Penn State University, 2001

Wetlands Ecology, Penn State University, 2001

SUMMARY OF QUALIFICATIONS

Mr. Wolf specializes in building client trust and enduring relationships within the environmental studies and permitting sections across multiple disciplines of the engineering field. His overall experience is focused on natural resources evaluations to include wetlands and aquatic resources, overseeing groups conducting wetland delineations, permitting, mitigation, and plant and animal surveys. Additional responsibilities include managing large scale projects with multi-disciplined teams to accomplish client permitting and site evaluation goals. Technical background includes experience with studies in terrestrial ecology and botany, environmental compliance monitoring, and construction oversight during and after completion of construction projects.

Mr. Wolf has extensive experience leading teams that interface with the multiple state, local and federal regulatory agencies, including the U.S. Army Corps of Engineers (USACE), state environmental protection departments, the US Environmental Protection Agency (USEPA) Inland Wetland Commissions (IWC) as part of ongoing project coordination for multi-faceted development, energy generation and transmission projects. Team lead and project manager for linear energy siting and routing projects over thousands of acres throughout the northeast down through Florida and into the Midwestern states.

RELEVANT EXPERIENCE

Pameacha Pond Sediment and Reuse Evaluation, Middletown, Connecticut

Conduct dam and natural resources assessment and developed a containment plan to ensure that the invasive northern snakehead fish was contained within the impoundment area of the Pameacha Pond. Work with stream restoration team to develop a post dam removal restoration strategy including evaluating an upstream reference reach using horizontal surveys and channel evaluation.

Metro North Railroad Catenary Bonnet Replacement Project, Fairfield to Bridgeport, Connecticut

Oversee and lead natural resources (NR) investigations along the Metro North Railroad as part of electric transmission line support upgrades. NR investigations included vernal pool surveys and identification of obligate species or eggs present in pools as indicator species, inland wetlands delineations and tidal wetlands delineations using both high, high tide lines coupled with vegetative transition demarcations as identified in the field.

Thin Layer Placement Marsh Restoration, Old Lyme, Connecticut

Lead mitigation options discussion, research methodologies and present white paper to the USACE - New England District, the Connecticut Department of Energy and Environmental Protection (CTDEEP) and Office of Environmental Protection within the CTDOT. Prepare research teams to conduct onsite testing, locate potential dredge material sources, interface with multiple state, federal and private entities to corroborate feasibility of restoration design.

Multiple Solar Sites, Connecticut

Oversee and direct natural resources team to conduct wetland delineations, functions and values assessments and habitat surveys for multiple sites located throughout Connecticut. Field delineations are conducted utilizing the US Army Corps of Engineers 1987 Wetland Delineation Manual (Environmental Laboratory, 1987) along with the appropriate Regional Supplements. The CT hydric or poorly drained soils delineation line is included in the final report mapping to align with both

state and federal guidance in mapping wetland areas. Interface with various Inland Wetland Commission (IWC) within different local jurisdictions.

Natural Gas Transmission Installation, PG&CE, Maryland

Oversaw and conducted stream and wetlands field surveys, forest stand delineations, cultural resources surveys, mitigation site investigation and permitting assistance through a high-density residential area of Laurel through Waldorf MD of a proposed natural gas transmission line. Interfaced with MDE and the Baltimore Districts of the USACE to complete the field review of a jurisdictional determination for the pipeline route.

Natural Gas Transmission Line Replacement, Virginia and Maryland

Oversaw and conducted stream and wetlands field surveys along the VA and MD transmission line segments. T&E species clearances interfaced with Norfolk and Baltimore Districts of the USACE to document Nationwide Permit (NWP) and State Programmatic General Permit (SPGP) 5 Permit applicability for the projects. In-place state memorandums of agreements (MOAs) for ongoing maintenance activities within the transmission line right of way.

Gas Fired Power Generation Plant, Southern Virginia

Lead permitting for natural resources assessments including streams and wetlands, permitting for impact to streams and wetlands and mitigation bank identification and credit secure for wetlands and stream impacts. Oversaw field crews that conducted habitat surveys to provide documentation for clearance of U.S. Fish and Wildlife Service (USFWS) identified T&E species at the location and successfully permitted roadway impacts to the site.

Pipeline Replacement and Relocation Projects, Northwest Pennsylvania

Project manager for multiple pipeline replacement projects within several Exceptional Value (EV) and wild trout streams located adjacent to wetlands. Oversaw and assisted field teams in delineating water resources, collecting Level Two Rapid Assessment (L2RA) data and compilation of the environmental assessment. Manage surveyors conducting rare, threatened or endangered species surveys for endangered plant and reptiles known to occur within the project boundaries. Facilitate, oversee preparation and final review for submittal of Joint Permit Application (JPA) and associated restoration plan in lieu of mitigation for impacts to water resources on the project. Interface with PA Department of Environmental Protection (PADEP) and USACE representative to conduct a jurisdictional determination (JD) for routes and permit successful JPA or general permit submittal. The projects' scope also included stream restoration, cultural resources clearances, NPDES permitting, construction monitoring, environmental inspections and post construction monitoring of restored resources and impacted wetlands and streams.

12 Mitigation Sites, Northeast Pennsylvania

Served as project manager on inception to monitoring for 12 mitigation sites located in northeast Pennsylvania. Wetlands mitigation and stream restoration was required for 12 different pipeline projects located in Wyoming and Susquehanna County, PA. Oversaw and conducted site identification, met with landowners and secured approvals from the PADEP and USACE to construct the sites. Installed groundwater monitoring wells, performed initial assessments of the water resources and then designed the mitigation sites for construction. Selected the construction contractor and conducted oversight during construction. Performed post construction monitoring for each of the 12 successful mitigation and stream restoration locations.

**PROJECT ROLE**

Hydraulics, Stormwater & Environmental Permitting

EDUCATION

Bachelor of Science, Civil Engineering, University of Connecticut, 1998

REGISTRATION

Professional Engineer: Connecticut, Massachusetts

SUMMARY OF QUALIFICATIONS

Mr. Cicia has significant design experience in all aspects of transportation engineering, hydraulic engineering, drainage design and environmental permitting. His experience includes over 23 years in hydrology and hydraulics, stormwater drainage design, roadway design and environmental permitting with State, local and private development projects. He is responsible for the development and reviews of hydrologic, hydraulic and scour analyses, storm sewer analysis, FEMA Floodplain and Floodway Analysis and permitting for transportation projects. This includes the selection of appropriate design criteria, analysis/design assumptions, modeling approaches and methodology.

RELEVANT EXPERIENCE**Harbor Brook Trail and Channel Flood Mitigation Improvements, Meriden, Connecticut**

Served as Principal Hydraulics Engineer responsible for the hydraulic analysis and report preparation for the channel widening and lowering project designed to reduce impacts of Harbor Brook flooding. The design also incorporated a ±4,900 linear foot multi use bicycle trail. Responsibilities also included the submission of a CT DEEP Flood Management Certification application.

Dayton Pond Dam, Wallingford, Connecticut

Served as Hydraulics Engineer for the replacement of the Dayton Pond Dam. The dam replacement was required per a consent order issued by the Connecticut Department of Energy and Environmental Protection (CTDEEP). BL Companies was responsible for the design, permitting, cost estimating, and construction engineering and inspection of the new dam, which was constructed in 2020. Responsibilities included the hydraulic modeling of the baffles and the primary and secondary spillways, as well as the analysis of the riprap channel protection proposed downstream of the dam.

Ash Creek Pedestrian Bridge Replacement, Bridgeport, Connecticut

Serves as Principal Hydraulics Engineer for the analysis of a new 225-foot long single span steel truss pedestrian bridge over Ash Creek, from the existing Fairfield Metro Center, to the Black Rock Neighborhood in the City of Bridgeport. New multiuse trails on both the Fairfield and Bridgeport sides will provide an alternative mode of transportation and are in sustainability goals by lessening reliance on automobile transit. Responsibilities include the preparation or oversight of hydraulic and scour reports, assisting the submission of an ACOE Pre-Construction Notification Form and a CT DEEP Coastal permit application.

Connecticut River Access, Enfield, Connecticut

Served as Principal Hydraulics Engineer for this project, which will provide public access to the riverfront and promote the recreational potential of the Connecticut River while preserving the unique, natural, historic and scenic areas along the northernmost point of the river. It will also offer facilities for a variety of activities and will serve as an area of passive recreation for the public, including individuals with physical disabilities. Responsibilities included hydrologic and hydraulic engineering of Freshwater Brook, scour analysis and oversight of permitting development.

Deadman's Brook Watershed Analysis and Myrtle Avenue Bridge Replacement, Westport, Connecticut

Served as Principal Hydraulics Engineer for the analysis of the Deadman Brook watershed and Myrtle Avenue Culvert Replacement. The Deadman Brook watershed analysis resulted in recommendations for future improvements to the stream throughout Westport. The analysis included the hydrological macro-analysis of the whole stream, a planning level hydraulic analysis of required stream improvements along the course of the stream in Westport and a comprehensive list of recommendations for channel and structure improvements. The analysis and design of the Myrtle Avenue Culvert replacement

will include the analysis, design, permitting and preparation of bid documents and associated roadway approaches, stream channel improvements, utility relocations.

Consultant Liaison Engineering Services for the Federal Local Bridge Program, Connecticut Department of Transportation

Serves as Principal Hydraulics Engineer for the Connecticut Federal Local Bridge Program. BL Companies is responsible for administering the contracts of Consulting Engineers retained by the State and/or Municipalities to provide projects under the Federal Local Bridge Program. Primary responsibilities include the review of hydraulic and scour reports as well as environmental permit applications produced by the Consulting Engineers.

Northfield Road Bridge Replacement, Wallingford, Connecticut

Served as Hydraulics Engineer for the replacement of the Northfield Road Bridge over Wharton Brook. The project involved the replacement of Bridge #148017 to increase the hydraulic conveyance through the crossing and improve roadway geometry. A larger, skewed culvert was selected to improve the channel geometry. Work tasks included the review of the hydraulic model, designed scour countermeasure, associated reports and permit applications.

Improvements to the Merritt Parkway (Route 15) Interchanges with Route 7 (Interchange 39) and Main Avenue (Interchange 40) (State Project #102-358), Norwalk, Connecticut

Serves as Principal Hydraulics Engineer for the project, which consists of the design of a full-directional interchange between U.S. Route 7 and Route 15 (Merritt Parkway) in the Town of Norwalk. BL Companies is responsible for evaluating several alternatives for the Main Avenue interchange which include a diverging diamond interchange and double roundabouts. The design will then be advanced through Final Design, to include all permitting. The project will involve extensive public outreach effort in the development of the final alternate. Responsibilities include the hydrologic and hydraulic analysis of the Norwalk River, size design of the new structures and permitting assistance.

Wilmot Road Bridge Replacement (Br. No. 04892) over Wintergreen Brook, New Haven, Connecticut

Served as Senior Hydraulics Engineer for the replacement of the Wilmot Road Bridge (Bridge No. 04892) over Wintergreen Brook for the City of New Haven under the Connecticut Department of Transportation's Federal Local Bridge Program. This project will replace a twin cell box culvert with a single three-sided precast concrete box culvert. Responsibilities include hydraulic analysis and design, scour design and the preparation of the CTDOT Flood Management MOU permit application.

On-Call Hydraulic and Drainage Engineering Services, U.S. Route 1 Drainage Study, Darien, Connecticut

Served as Technical Manager and Engineer for this on-call contract with the Connecticut Department of Transportation. This project focused on the flooding of the U.S. Route 1 area in Darien near Stony Brook. Responsibilities included an analysis of the existing U.S. Route 1 storm sewer network, the design of four alternates and the recommendation of a preferred alternate to alleviate flooding along the roadway and surrounding properties. The study report included an analysis of the history of development along the U.S. Route 1 corridor, utility impacts, required permits and a cost estimate for each alternate.

On-Call Hydraulic and Drainage Engineering Services, List 21 Culverts, Connecticut Department of Transportation

Served as Senior Hydraulics Engineer for the hydrologic and hydraulic analyses of List 21 Culverts. Responsibilities included performing hydrologic analyses using methods including the NRCS (SCS) Method, the Rational Method and USGS Regression Equations to determine the design flows for each culvert. Flows determined in the hydrologic analyses were then used to perform hydraulic analyses in HEC-RAS for existing, natural and proposed conditions. Preliminary and final hydrologic and hydraulic reports for submittal to CTDOT were also completed for each culvert.

Coppermine Brook Flood Control Improvements, Bristol, Connecticut

Served as the Hydraulics Engineer providing engineering services for the design and permitting of improvements along Coppermine Brook, just upstream of Farmington Avenue (Route 6). BL Companies performed the hydraulic analysis and developed design plans for channel and flood storage improvements. The channel improvements involve widening the watercourse and installing gabion walls to lower water surface elevations and decrease the potential of flooding. Further upstream, a flood study was prepared detailing the construction of a berm to attenuate flood flows in a large, undeveloped area within Bristol. The project also required the submission of environmental permits to the City of Bristol, the CT Department of Energy and Environmental Protection and the US Army Corps of Engineers.



PROJECT ROLE
Land Surveying

EDUCATION
Bachelor of Arts in Geology, Boston University, 1983
Massachusetts School of Survey

REGISTRATION/TRAINING
Licensed Land Surveyor: Connecticut, Maine, Massachusetts, New Hampshire, Ohio, Pennsylvania, Rhode Island, Vermont, North Carolina

PROFESSIONAL MEMBERSHIPS / AWARDS
NCEES Record Holder; Past President, Connecticut Association of Land Surveyors (CALS); Massachusetts Association of Land Surveyors; Professional Women in Construction; Past President CREW - CT; Woman of Achievement - PWC (2015); Land Surveyor of the Year - CALS (1996); PWC Board of Directors - Mentorship Chair (2020 - 2023)

SUMMARY OF QUALIFICATIONS

Ms. Marks has more than 38 years of professional experience in land surveying and mapping. As the Executive Director of the Land Surveying department, Ms. Marks manages field crews and reviews surveying documents produced by the department. She is experienced in boundary and topographic surveys, pipeline and related facility surveys, hydraulic studies, right-of-way and easement mapping, underground utility locating and construction stakeout. Ms. Marks is extremely familiar with the process of determination of unknown boundaries through careful examination of the field and record evidence. She has been active in developing the firm's quality control/quality assurance processes.

RELEVANT EXPERIENCE

Pameacha Pond Sediment and Reuse Evaluation, Middletown, Connecticut

Principal-in-Charge for land surveying services including UAV flight operations and aerial deliverables for stream and mill pond evaluation to support dam removal. Work included a corridor assessment to develop a conceptual site model for potential source sediment impacts, a bathymetric survey, preparation of an existing conditions land survey, and the development and implementation of a waterside sediment sampling plan.

Waterwheel Park, Plymouth, Connecticut

Served as Survey Director for the land surveying and mapping required to support the design of a new public park. The park is located adjacent to the Terryville Waterwheel, a non-working iron and wooden industrial wheel housed on the site of the former Eli Terry Lock Company. The Terryville Waterwheel is listed on the National Register for Historic Places. Survey was performed to identify boundary lines and to provide topographic information around an existing dam and waterway and the Waterwheel itself.

Derby Junction to Ansonia Substation Electric Transmission Line Re-Conductor Project, Shelton / Derby / Ansonia, Connecticut

Served as Principal-in Charge for the land surveying and mapping services for the Right of Way re-establishment of the existing overland electric transmission easements and rights of way along the 4-mile project within Shelton, Derby, and Ansonia. Specific tasks included overall project management, client communications, record research, supervision of field survey efforts, office calculations and mapping of the existing electric transmission easements and right-of-way along the project corridor, establishment of horizontal and vertical control, UAV services providing background orthomosaic imagery, right of way sketch plans, multiple individual property surveys, aerial based topography, and 3D laser scanning models of 34 existing lattice tower structures within the existing easements and rights of way.

Pocasset Mill, Johnston, Rhode Island

Served as Survey Director responsible for the survey of a former mill constructed in 1898. The mill is currently in use as a commercial site and is located on 3 acres abutting the Pocasset River. Detailed topography was taken on-site for the design and redevelopment of the mill as residential use. Locations and elevations along the riverbank were critical to establish the floodway and limits of private property.

Ash Creek, Bridgeport-Fairfield, Connecticut

Served as Survey Director responsible for the hydrographic survey of the channel bottom along Ash Creek. Channel bottom elevations were taken at several different locations both upstream and downstream of the CTDOT bridge over the creek. The purpose of the survey was to accurately depict the existing conditions, bottom contours, and any observed obstructions potentially affecting the design of the new transmission line crossing.

Housatonic River, Pequonnock River, Saugatuck River, Connecticut

Served as Survey Director responsible for the Post Construction Hydrographic As-Built Surveys required by the US Army Corp of Engineers after the installation of the Middletown-Norwalk 345-kV transmission line across the Housatonic, Pequonnock, and Saugatuck Rivers. The final mapping submitted to the US Army Corp of Engineers depicted both the pre and post-construction bottom contours at one-foot contour intervals, areas of potential obstructions observed, shoreline and roadway detail, and the Federal Channel Limits.

Gardner Falls Hydroelectric Facility, Gardner Falls, Massachusetts

Served as Survey Director responsible for the land surveying services required to support the design of new improvements at the hydroelectric facility. The project included the preparation of an existing conditions survey including detailed topography along several sluiceways and outfalls from the facility. During construction, survey crews monitored several large generators inside the facility as well as perimeter walls for movement and prepared as-built plans required for the removal and replacement of one of the main generators at the facility.

Pawtucket Falls Overlook Trail, Lowell, Massachusetts

Served as the Survey Phase Manager and the surveyor of record for this project involving the design of a new multi-use trail south of Route 113/VFW Highway along the Merrimack River for a much-needed pedestrian and bicycle connection to Lowell's popular canal walkway system. The project lies entirely within the boundary of the Lowell National Historical Park. In addition to the trail design, the project includes the design of a new pedestrian bridge, revisions to existing retaining wall structures, wetland delineation, environmental permitting, survey, rights-of-way plans, floodway mitigation and landscape architecture.

Phelp's Dam/East Dike Nepaug Reservoir, Canton, Connecticut

Served as Survey Director responsible for the construction layout of new improvements at the MDC reservoir property. Layout included providing line and grade for two new dike walls at the site. Work also included the layout for supporting riprap.

West River Flood Control Plan, New Haven, Connecticut

Served as Survey Director responsible for the base survey for the channel and drainage improvement project surrounding the West River. Cross-sections for hydraulic studies were performed. Also, extensive property research was performed for taking / easement map preparation.

**PROJECT ROLE**

Land Surveying

EDUCATION**REGISTRATION/TRAINING**Licensed Land Surveyor: Connecticut, Florida, New York
OSHA 10-Hour Training**PROFESSIONAL MEMBERSHIPS**

Member of Connecticut Association of Land Surveyors (CALS), New York State Association of Professional Land Surveyors (NYSAPLS), National Society of Professional Surveyors (NSPS), current President of Surveyors Proprietor's Council – South Central (SPCSC)

SUMMARY OF QUALIFICATIONS

Mr. Corless has more than 33 years of professional experience in all phases of land surveying and mapping covering public and private sector, commercial and residential markets. Mr. Corless has expertise in the areas of ALTA/NSPS Land Title Surveys for commercial interests and project management. As a Project Manager at BL Companies, Mr. Corless' responsibilities include overseeing boundary and topographic surveys, construction project stakeout, survey calculations, deed/title research, ALTA/ACSM Land Title Surveys, project management services and all related survey mapping. Mr. Corless focuses on operations within the northeastern US as well as spearheads the development of 3D Laser Scanning.

RELEVANT EXPERIENCE**Channel Improvements from Cedar Street Bridge to Center Street Bridge, Meriden, Connecticut**

Serves as Survey Project Manager for the land surveying and mapping required to support the design and development of construction documents and specifications for flood channel improvements along a portion of Harbor Brook. The project included the establishment of horizontal and vertical control, property research, boundary survey and determination, topographic survey, and underground utility investigation along approximately 800 linear feet of an existing channel through residential and commercial development.

Channel Improvements and Trail Design from Bradley Avenue Bridge to Cooper Street Bridge, Meriden, Connecticut

Serves as Survey Project Manager for the land surveying and mapping required to support the design and development of construction documents and specifications for flood channel improvements along a portion of Harbor Brook. The project included the establishment of horizontal and vertical control, property research, boundary survey and determination, topographic survey, and underground utility investigation along approximately 6400 linear feet of an existing channel.

Case Mountain Park, Manchester, Connecticut

Served as Surveyor of Record. Property and Topographic Survey for a portion of the 640-acre park for trail improvements.

South Main Street Bridge Replacement, Plymouth, Connecticut

Served as Survey Crew Chief. Right of Way Surveys, Easement and Taking Maps for various properties involved in the replacement of the bridge.

Forbes Avenue Bridge, New Haven, Connecticut

Served as Survey Crew Chief. Review of control work for bridge construction.

Pawcatuck Sidewalk Improvements, Stonington, Connecticut

Serves as Project Manager for the land surveying and mapping required to support the design and development of sidewalk enhancements to South Broad Street (U.S. Route 1) between Spellman Avenue and Mayflower Avenue in the Pawcatuck neighborhood of Stonington. The project included the establishment of horizontal and vertical control, property research, boundary survey and right-of-way determination, topographic survey, and underground utility investigation along approximately one mile of South Broad Street (U.S. Route 1).

Hop River Multi-Use Trail, Coventry & Columbia, Connecticut

Served as Senior Surveyor responsible for the QA/QC for the trail and amenity design of a 0.8-mile segment of a multi-use trail within the towns of Coventry and Columbia. Working with the Connecticut Department of Transportation, the project will be constructed on land owned and managed by CTDEEP and will be a key link in completing the off-road portions of Connecticut's segment of the East Coast Greenway. Responsibilities included the establishment of horizontal and vertical control, determination of the original railroad right-of-way, topography and utility investigation along the corridor.

Moosup Valley Multi-Use Trail, Bloomfield, Connecticut

Served as Project Manager for the trail and amenity design of a 6-mile segment of multi-use trail within the towns of Sterling and Plainfield. Working with the Connecticut Department of Transportation, the project will be constructed on land owned and managed by CTDEEP and will be a key link in connecting the off-road portions of Connecticut's segment of the East Coast Greenway to Rhode Island. Responsibilities included the establishment of horizontal and vertical control, determination of the original railroad right-of-way, topography and utility investigation along the corridor.

Pedestrian Improvements, Naugatuck, Connecticut

Served as Senior Project Manager for the land surveying and mapping services for the existing conditions mapping of several downtown blocks to support the improvement of pedestrian and bicycle traffic in Naugatuck. Project responsibilities included review and quality control of horizontal and vertical control and the existing conditions plans and utility investigations.

Silas Deane Highway (Route 99) Streetscape, Rocky Hill, Connecticut

Served as Survey Project Manager providing oversight of the land surveying and mapping services required to support the streetscape planning and design services for a portion of the Silas Deane Highway (Route 99) in Rocky Hill, Connecticut with funding administered by the Connecticut Department of Economic and Community Development. The project involved the establishment of horizontal and vertical control, right of way establishment, topographic survey, and underground utility investigation.

Bloomfield Greenway and Trail, Bloomfield, Connecticut

Served as Survey Project Manager responsible for the preparation of a topographic survey to support the new trail design. The project included the establishment of horizontal and vertical control, topographic survey, and the preparation of easement maps.

University of Connecticut, Avery Point, Connecticut

Served as Survey Crew Chief. Photogrammetric control for aerial survey of the campus.

Silas Deane Highway Streetscape (Route 99) – Phase III, Rocky Hill, Connecticut

Served as Survey Project Manager for this intersection improvement and community enhancement project. The project reconfigured crosswalks and sidewalks and introduced upgraded signalization for improved safety and aesthetics. The project included the establishment of horizontal and vertical control, property research, boundary survey and determination, topographic survey, underground utility investigation and management of DBE subconsultant.

**PROJECT ROLE**

Public Outreach

EDUCATION

Bachelor of Science, Landscape Architecture, University of Connecticut, 2003

REGISTRATION

Professional Landscape Architect: Connecticut, New York, North Carolina, Ontario (CA)

SUMMARY OF QUALIFICATIONS

Mr. Violette has 17 years of experience in the field of Landscape Architecture in the athletic fields, community and urban development, education, healthcare facilities, mixed-use developments, public infrastructure, residential and retail markets. Specifically, he has been providing Landscape Architecture services associated with the design of commercial and residential developments, open space and recreational communities and streetscape improvements. Mr. Violette has expertise in the areas of site analysis, master planning, site layout and grading, preparation of construction documents and construction administration.

RELEVANT EXPERIENCE**Hoppers/Birge Pond Nature Preserve, Bristol, Connecticut**

Served as Landscape Architect responsible for improvements to the Hoppers/Birge Pond Nature Preserve. Project responsibilities included development of an overall concept plan for the improvements of public access to the nature preserve including an enlarged gravel parking area, accessible pedestrian paths and picnic areas, a pedestrian bridge, an accessible fishing platform, canoe & kayak launch areas, multiple bio basins, and native planting along banks of Birge Pond.

Milford Train Station Conceptual Development Plan

Served as Senior Landscape Architect for this project involving planning, architectural, engineering and market analysis services for the creation of a conceptual development plan for the vicinity of the train station in downtown Milford. The project included transit-oriented development, community planning and design, placemaking, City center revitalization, connectivity, streetscapes, corridors and complete streets, community outreach and Involvement, workshop facilitation and consensus building, graphic design and visualizations, and strategic communications/market research/web technology.

Meriden City Center Initiative Master Plan, Meriden, Connecticut

Served as Staff Landscape Architect for the development of the Meriden City Center Initiative Master Plan, a comprehensive plan for the redevelopment of the downtown Meriden area. Responsibilities included summary site analysis, master plan progression, and the development of the Meriden Green and Commercial Center booklet. The booklet highlights areas such as Conceptual Land Use Planning and Design Guidelines for the City of Meriden.

Thames River Development Master Plan, Montville, Connecticut

Served as Staff Landscape Architect for a mixed-use development on a 200-acre site located along the Thames River in Montville, Connecticut. The development contains over 1,200 various residential units, over 300,000 SF of commercial/retail space and is highlighted by a high-density mixed-use waterfront district. Project responsibilities included assisting in creating an overall master plan including site analysis and concept planning.

Riverfront South Master Plan, Hartford, Connecticut

Served as Staff Landscape Architect for mixed-use community master plan on a 300-acre site located along the Connecticut River in Hartford, Connecticut. The master plan's overall theme is to create a mixed-use community completely dependent on sustainable energy. The plan includes commercial, industrial, residential, recreational, and energy producing components. Project responsibilities included site analysis, conceptual planning, and graphic presentation development.

Milford Transit Oriented Development Study, Milford, Connecticut

Served as Project Manager / Planner for the site analysis of downtown Milford and the conceptual planning of multiple sites across from the Milford Train Station. Site analysis was focused on reviewing the downtown area as a walkable community that could potentially be primed for transit-oriented development (TOD). A series of public workshops were conducted to receive data, opinions and recommendations from the community relating to potential improvements within downtown and to determine the appropriate scale of development the community would like to see around the train station. Utilizing feedback from the community and information gathered from a Market Assessment, concept plans were created for multiple city-controlled properties adjacent to the train station. The Concept Plans included a mix of residential, retail and commercial uses along with a structured parking garage that would not only provide spaces for this TOD development but also to train commuters and the downtown area.

Brownfield Area-Wide Revitalization (BAR) Planning Grant, Torrington, Connecticut

Served as Project Manager / Planner for the analysis and preliminary concept planning of multiple brownfield sites located within the downtown area of Torrington. The first site (formerly NIDEC) is over 8 acres and located along the West Branch of the Naugatuck River. The Preliminary Concept Plan is highlighted by the potential relocation an existing city street to better connect the public to the riverfront. A planned public greenway will provide a linear amenity along the river that is easily accessed by the relocated public street. A mixed-use development including 20,000 SF of retail/commercial and 150 multi-family residential units would occupy the balance of the site with views of the greenway and the riverfront. The second site (former Stone Container/Hendey Machine Co) is 9 acres and located along the Naugatuck Railroad rail line that currently serves freight shipping and scenic trains. The brownfield site is comprised of multiple historic manufacturing buildings that are envisioned to be repurposed into a retail, restaurant and residential destination for downtown Torrington. A portion of the site is being considered for a Connecticut DOT bus maintenance facility while the remainder of the site would be used for redevelopment. Project responsibilities included facilitating public workshops and meetings, creation of base mapping used during site analysis of the brownfield sites and development of the concept plans for each site.

Farmington Center Study, Farmington, Connecticut

Served as Landscape Architect to interpret the existing and proposed physical conditions and artfully create a workable concept for the redevelopment of a key parcel in the gateway to Farmington Center. Project responsibilities include the development a conceptual site plan that effectively incorporates the Connecticut DOT improvements already under construction, application of complete street and Universal Design principles, and inclusion of developer/end user considerations, while protecting the distinctive characteristics, landmarks and places of architectural, cultural, historical and environmental significance that characterize the Farmington Center area. Design Guidelines are developed to ensure desired consistency of construction and materials within the Farmington Center area.

Burlington Town Center, Burlington, Connecticut

Served as Landscape Architect for the preliminary site planning of a Neighborhood Mixed-Use Village within the Burlington Town Center Master Plan. The mixed-use village includes a grocery market and approximately 30,000 SF of retail/office space. As part of the Burlington Town Center Master Plan, the mixed-use village is designed to integrate into the small town-main street vision with buildings anchoring the street with on-street parking and additional parking in the rear of the buildings. Each of the three proposed roadway intersections within the Burlington Town Center is highlighted with crosswalks, outdoor seating and architecture details that help enliven the space.

Patterson Park & Franklin Street Improvements, Torrington, Connecticut

Served as Lead Landscape Architect for the design and construction of the conversion of an existing City street into a pedestrian-oriented, multi-transit downtown open space amenity. This critical future downtown open space is located within the downtown core of the City and is at the intersection of two planned regional greenway projects. Responsibilities for this project included design development and leading an interactive public engagement process with City officials, downtown business owners and residents. The public engagement process included community site walks, visual preference surveys, social media project communication and pop-up events on-site to review design considerations and proposed amenities for this public destination.



William Miles, PE

PRINCIPAL FOR US WATERWAYS

Bill has experience in civil and structural engineering, independent technical review, and program and quality management for lock and dam, flood control, waterfront and other civil works projects. He is currently the Manager of the Waterways Business Group and the Technical Leader of the National Navigation Practice for Bergmann. He has completed numerous flood control and navigation projects for the US Army Corps of Engineers, NYS Canal Corporation, and other State and Canal Authorities. He has extensive experience with navigation, flood control and dam safety facilities on some of the largest and most innovative civil works projects in the US and Canada, including in-the-wet, lift-in, and float-in designs. The following are projects Bill has completed with Bergmann.

EXPERIENCE:

Total: 40+ Years
Bergmann: 30 Years

EDUCATION:

- BS, Civil Engineering, Syracuse University, 1973

LICENSES

- New York
- Florida
- Illinois
- Kentucky
- Louisiana
- Maryland
- Michigan
- Texas

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- Association of State Dam Safety Officials
- Society of American Military Engineers
- Permanent International Association of Navigation Congresses (PIANC)
- International Waterways Institute (IWI)

Project Experience

City of Lockport | Erie Canal - Flight of Five Locks Rehabilitation | Lockport, NY | Principal and Navigation Specialist. Responsible for the technical oversight for the on-going restoration of one half of the Erie Canal's only set of twin step locks (circa 1842). Currently acting as an auxiliary spillway for Erie Canal Locks 34 and 35, which were constructed as part of the Barge Canal System, the original north five (5) locks are under design to rehabilitate them to their original operating condition. The project includes new manually-operated wooden miter gates, lock wall and foundation repairs, evaluation of a central bypass culvert to pass flow, restoration and modifications of railings and lamp posts, new access bridges, public access and safety, culvert valve replacements, modification of lock house, operations and maintenance access, maintenance and emergency bulkheads, and various site improvements. Cost: \$10M Design: Ongoing | Construction: Ongoing with 2 Locks Completed.

City of Rochester | West River Wall Improvements | Rochester, New York | Waterways and QC Manager. Riverwall and flood protection improvement project on the Genesee River just south of Corn Hill Landing to the Ford Street Bridge. The project was designed to improve the wall structures for approximately 2,200 feet of flood wall and improve the viewing and access for the residents of the historic Corn Hill neighborhood. The design was completed to the 50% design level; and included topographic and bathymetric surveys, land and river side inspections, wall corings, flood analysis, FEMA LOMR applications, CAD drawings and the design of master plan alternatives for the landside improvements. Oversaw the designs, provided coordination with the City and NYS Canal Corporation, and provided QA/QC reviews of the major project submittals. Design: 2015.

NYS Office of General Services, Clear Lake Dam Rehabilitation Design | North Collins, NY | Principal and Quality Control Manager for the rehabilitation design of an existing earth dam and concrete spillway (founded on rock) to



comply with NYS DEC dam safety criteria (Part 673). Prepared report to reclassify the high hazard (Class C) dam to an intermediate hazard (Class B) dam, based on the findings of a detailed H&H evaluation of the dam site and downstream impacts. Prepared contract documents to perform a full-scale rehabilitation of the dam including, anchoring of the concrete spillway, stabilization of an existing displaced chute wall (concrete gravity), restoration of an existing intake structure and low-level-outlet system, flattening of earthen dam embankment slopes, and several site improvements. Cost: \$750k (fee) Assessment: 2014 | Design: 2016 | Construction: 2019

St. Lawrence Seaway Management Corporation | Welland Canal Hands-Free Mooring Design | St. Catharines, Ontario | Principal and Quality Control Manager for the design of 3 Hands-Free Mooring Slots in the walls of 9 locks on the Welland Canal. The work is designed for the wall modifications in Locks 1, 2 and 7 to be constructed during the navigation closure of the locks in early 2015 and for the modifications in the common walls of twin locks 4, 5 and 6 for the 2016 closure period. The work includes survey of topography and material conditions, concrete coring and testing, FEM analysis of impacted monoliths, design of Cavotec System installation, plans and specifications for construction and construction phase services. Cost: \$850 (fee); \$25M (est. construction cost) Design: 2015 | Construction: 2017

FDEP | Cross Florida Barge Canal, Inglis Lock Study and Final Designs | Inglis, Florida | Project Manager. Manager for the inspection, alternatives study, and final design of the replacement and modernization of the 84' x 660' Inglis Lock on the Cross Florida Barge Canal for the Florida DEP. The final design was based on providing a new smaller lock structure to be constructed inside the existing lock. The new 40' x 164' innovative lock will save 90% of the fresh water used for each downstream lockage and will provide all required recreational benefits and protection for endangered manatees. Work also included the inspection and rehabilitation evaluations for gated spillways at Inglis Main and Bypass Spillway and manatee protection systems (sonar and fixed/removable gratings) for the lock, channel and spillway gates. Costs: Inglis Lock - \$15M, Manatee Gratings - \$500k (+) Design: 2003 | Construction: New Small Lock not funded yet.

Kentucky River Authority | Kentucky River Lock No. 1, 2, 3, 4 & 10 Rehabilitation | Frankfort, KY | Principal and Quality Control Manager for the inspection, study, design, and construction for the rehabilitation of Lock Nos. 1 through 4 and 10 on the Kentucky River. Developed documentation reporting the existing condition of the facilities, identified structural deficiencies, estimated various repair alternatives, and prioritized repair recommendations. The lock rehabilitation progressed with in-the-wet methods primarily to address repair of the miter sill, pintle, and quoin areas. Provided construction administration support, including review of submittals, performing interim structural inspections, developing gate repair plans, and provided oversight for gate installation, adjustment, and testing. Cost: \$8M (for 4 Locks) \$500k (fee) Design: 2007-2011 / Construction: 2012-2014

NYSTA Canal Corp. | Utica Tainter Gate and Dam Rehabilitation | Utica, NY | Principal and Quality Control Manager for rehabilitation and modification of a combination fixed crest and tainter gated dam on the Mohawk River. The number of tainter gates was reduced from 3 down to 2 and a new concrete fixed crest section added. Deteriorated concrete piers and abutments were also rebuilt, Cofferdam Impact Studies, in-depth inspections, design of new steel gates and foundations were also provided. Costs: \$900k (fee), \$15.3M (Constr.) Design: 2013 | Construction: 2016

USACE, Nashville District, Chickamauga lock Replacement – Segmental Cofferdam and Integral Landside Lock Wall Design and Construction Documents | Nashville, TN | Principal-in-Charge and ITR Coordinator. Provided an independent team that reviewed the evaluation and concept design of cofferdam and lock wall options using innovative in-the-wet construction methods. Concepts developed addressed clearance issues between the existing operational lock and the new construction, and foundation design issues associated with difficult geotechnical conditions. Bill's team provided ITR reviews and design guidance for final design phase and production of contract drawings, specifications, cost estimate, schedules, and design report for both an in-the-wet (lift-in construction) for the landside cofferdam boxes and for the integral lock wall. EDC services were then provided followed by a review of cofferdams secant pile wall analysis and drilled shaft revisions in 2019. Fee: \$6.2M



REX POWELL, PE

STRUCTURAL / MECHANICAL ENGINEER

Rex has many years of experience in design and analysis of structures, as well as mechanical, geotechnical and hydraulics design. Responsibilities have included the design of all structural aspects of hydropower plants and dams, and structural designs for industrial plants and transportation projects. He is experienced in the design of concrete gravity dams and structures, including pre-stressed and post-tensioned elements, structural steel, timber and masonry design. Rex has also been the Independent Consultant on several FERC Part 12 dam safety inspections. Recent work has included repair and rehabilitation of existing locks and dams and other concrete and steel hydraulic structures.

EXPERIENCE:

Total: 40 Years

Bergmann: 15 Years

EDUCATION:

- BS, Civil Engineering, Rensselaer Polytechnic Institute, 1981
- AS, Engineering Science, SUNY Delhi, 1979

LICENSES

- New York

PROFESSIONAL AFFILIATIONS

- American Institute of Steel Construction
- Society of American Military Engineers (SAME)
- Association of State Dam Safety Officials (ASDSO)

TRAINING

- FERC Potential Failure Modes Analysis (PFMA) and Facilitation

Project Experience

St. Lawrence Seaway Management Corporation | Welland Canal Tie-up Walls Reconstruction | St. Catharines, ON, Canada | Sr. Structural Engineer.

Evaluated options for reconstruction of four deteriorated tie-up walls used to guide ships into locks and moor along the canal. Directed fast-track design of the selected alternative for each of the approximately 0.5-km long walls. Walls incorporate precast coping and deck panels with composite CIP concrete supported on steel H-piles and framing. Sheet piles retain the adjacent slope during construction and act structurally with the tie-up wall to resist ship berthing and mooring forces. In-canal construction is restricted to less than the 3-month winter non-navigation season. Resident Engineer during construction. Cost: \$2.4M (fee) | \$90M (construction). Design: 2013 | Construction: 2013-2017

St. Lawrence Seaway Development Corporation | Eisenhower and Snell Locks Hands-Free Mooring Design | Massena, NY | Structural Design and Analysis Manager

for the design of 3 Hands-Free Mooring Slots in the walls of 2 locks on the St. Lawrence River. The work was designed for the wall modifications in the locks to be constructed during the navigation closure of the locks in the winter closure periods. Performed FEM analysis of critical monoliths impacted by the new wall slots and impacted by previous concrete repairs and reinforcing anchor bars. Reviewed contractor submittals and addressed issues that arose during construction, including temporary gallery closure for extension into a second construction season. Cost: \$450k (fee) | \$15M (construction). Design: 2015 | Construction: 2016-2018

Kentucky River Locks 3 & 4 Rehabilitation | Frankfort & Monterey, KY | Sr. Structural Engineer

for the inspection, study, design, and construction for the rehabilitation of Lock No. 3 and Lock No. 4 on the Kentucky River. Developed documentation reporting the existing condition of the facilities, identified structural deficiencies, estimated various repair alternatives, and prioritized repair recommendations. The lock rehabilitation progressed with in-the-wet methods primarily to address repair of the miter sill, pintle, and quoin areas. Provided construction administration support, including review of submittals, performing interim structural inspections, developing gate repair plans, and



provided oversight for gate installation, adjustment, and testing. Cost: \$4M (for 2 locks) Design: 2007 | Construction: 2012

New York State Canal Corporation | Lock O-7 Rehabilitation | Oswego, NY | Sr. Structural Engineer / Mechanical Coordinator for arrangement and design of the structural rehabilitation of Lock O-7 on the Oswego River. The existing lock was analyzed using finite element analyses (FEA) to establish the causes of observed distress. Results were used to develop the requirements for demolition, repair and reconstruction to extend the useful life of the project. Repairs included refacing of deteriorated concrete, post-tensioned anchorage, full reconstruction of gate and valve monoliths, new gates, etc. Coordinated mechanical equipment and provided guidance to mechanical designers to develop culvert valve and miter gate machinery arrangements and designed anchorages for gate operating machinery. Modified standard details to facilitate alignment of gate embedments and operating machinery during construction. Construction Cost: \$30M

NYS Canal Corporation | Post-Irene Improvements to Movable Dams 4-11 | Mohawk River, NY | Sr. Structural Engineer. Performed structural design and analyses for evaluation and upgrades of existing gate operation systems at eight movable dam sites following the damages to the dam from Hurricane Irene and Tropical Storm Lee during the summer of 2011. Developed new operation rule curves for lifting and lowering dam gates at each site based on new limiting strengths of structural components and measurable water levels. First contract was developed and let approximately 4 months after start of work. Additional two contracts let approximately 3 months later with coordinated construction schedules limited to winter work over three years. Used and shared information between multiple analysis programs including HEC-RAS, STAAD, SAP2000, and custom analyses developed in MS Excel and MathCAD for atypical elements. Construction work was partially funded by the FEMA program. Total awarded cost of all three contracts \$15.8M. Design: 2012 / Construction: 2015

USACE Nashville District | Chickamauga Lock Replacement | Chattanooga, TN | Project Manager and Structural Design Manager. Responsible for the design of the integral landward lock wall monoliths. The design involved integration of the innovative segmental concrete cofferdam monoliths into the completed lock wall structures. The cofferdam monoliths and portions of the cast-in-place concrete lock wall monoliths were founded on drilled concrete shafts. The new 110-ft by 600-ft lock chamber will be constructed riverward of the existing lock while it remains in operation, ultimately replacing the smaller lock. Design of the lock involved non-linear finite element analyses of the integrated structures, taking into account the sequence of construction and hydraulic loading. Design included interface with miter gate, culvert valve and tow haulage equipment, Operations Building, guide wall, access bridge and other ancillary works. Results of non-linear analyses were post-processed to evaluate forces for design of concrete elements, including the interface between the cofferdam and cast-in-place lock wall concrete. Cost: \$365M Design: 2009 | Construction: Ongoing.

USACE Nashville District | Chickamauga Lock Replacement | Chattanooga, TN | Project Manager and Structural Design Manager. Responsible for the design of the Integral Lock Wall monoliths to tie into the segmental lift-in Landside Cofferdam for the new 110' x 600' lock replacement project. His designs included SAP 2000 Finite Element Analysis of both rock and drilled shaft founded monoliths, reinforcement designs, lock feature detailing, full construction document production, and coordination with several teaming consultants, the Nashville District and the TVA. His work also included the analysis for the revised secant pile wall changed foundation conditions in 2019. Costs: \$4.5M (Fee) / \$365M (Construction)

City of Lockport | Erie Canal - Flight of Five Locks Rehabilitation | Lockport, NY | Sr. Structural Engineer. Responsible for the on-going restoration of the Erie Canal's most outstanding engineering achievement. Currently acting as an auxiliary spillway for the main lock, which was constructed as part of the Barge Canal System, the original five (5) locks are under design to rehabilitate them to their original operating condition. The project includes new manually-operated wooden miter gates, lock wall and foundation repairs, evaluation of a central bypass culvert to pass flow, restoration and modifications of railings and lamp posts, new access bridges, public access and safety, culvert valve replacements, modification of lock house, operations and maintenance access, maintenance and emergency bulkheads, and various site improvements. Cost: \$10M Design: Ongoing | Construction: Ongoing



Joshua M. Repp, PE

PROJECT MANAGER / STRUCTURAL ENGINEER

Josh has Structural Engineering experience on various multidisciplinary waterfront, navigation, hydraulic, transportation, and building projects. Josh has expertise in condition assessment of existing structures, planning, alternative analysis investigation, structural design, contract document preparation, bidding phase services, construction administration, and project management. He has completed numerous inland waterway projects for the US Army Corps of Engineers, NYS Canal Corp. and other State and Canal Authorities. Rehabilitation and restoration of navigation, water retention, and waterfront facilities has been a highlight of his experience in recent years. The following are projects Josh has completed with Bergmann.

EXPERIENCE:

Total: 18 Years
Bergmann: 18 Years

EDUCATION:

- ME, Engineering (Civil-Structural), SUNY Buffalo, 2003
- BS, Civil Engineering, SUNY Buffalo, 2002

LICENSES

- New York
- Kentucky

CERTIFICATIONS

- OSHA 10-Hour Training Course
- FRA 214 // E-Rail Safe

PROFESSIONAL AFFILIATIONS

- Association for Advancement of Cost Engineering (AACE)
- Association of State Dam Safety Officials (ASDSO)
- Association for Bridge Construction and Design (ABCD)
- Deep Foundation Institute (DFI)
- International Concrete Repair Institute (ICRI)
- PIANC
- Society of American Military Engineers (SAME)
- United States Society on Dams (USSD)

Project Experience

New York State Canal Corporation | Rehabilitation of Oswego Lock O-7 | Structural Engineer for the major rehabilitation project at Lock O-7 on the Oswego Canal (part of the Erie Canal system). Project involves detailed condition assessment of circa 1914 lock including detailed structural analysis to determine cause of extensive cracking and the appropriate repair methods. Suspect structural cracking of the unreinforced concrete monoliths due to foundation conditions and monolith geometry coupled with expansion of trapped water during the winter. Extensive concrete rehabilitation was required to stabilize lock and prevent further deterioration. Nondestructive testing and innovative repair methods were necessary to keep rehabilitation cost within the allocated budget. Work included relocation of lock control house and upgraded mechanical and electrical systems. Cost: \$30M (est. construction) Design: 2016 | Construction: 2020.

City of Lockport | Flight of Five Lock 69 & 70 Rehabilitation | Lockport, New York | Project Engineer for the rehabilitation of two of the original five locks. The rehabilitation of Locks 69 & 70 will allow the City to demonstrate the passage of vessel from one lock to another. The project work involves repair of historic railing, addition of new modern railing, repair of stair and ramp stone, reconstruction of a stone arch bridge, construction of new timber miter gates, timber lock floor repair, and masonry repairs. Construction services will include inspection and office support. The remaining three locks will be rehabilitated in future phases of work. Design: 2012 | Construction: 2013

Illinois Department of Natural Resources (IDNR) - Office of Water Resources (OWR), Stratton Lock and Dam Improvement Project, McHenry, IL Project Manager for this engineering study considering improvements to the Lock at Stratton Lock and Dam, formerly known as McHenry Lock. The current lock is functional and provides lockages for recreational boating traffic on the Fox River, but does not have the capacity to meet the current



demand for recreational boat passage at peak use. This study evaluated several feasible alternatives for primary purposes of increasing the lockage capacity of the facility, including expansion (extension) of the lock downstream and construction of a new lock to the side of the existing (double lock). The final design and construction document preparation utilized the lock extension alternative, adding approximately 70' to the usable length of the lock and reducing greatly the future boating delays at the lock. Cost: \$4.3M (construction) Design: 2012 | Construction: 2014

Kentucky River Authority | Kentucky River Lock No. 1, 2, 3, & 4 Rehabilitation | Frankfort, KY | Project Manager for the inspection, study, design, and construction for the rehabilitation of Lock Nos. 1 through 4 on the Kentucky River. Developed documentation reporting the existing condition of the facilities, identified structural deficiencies, estimated various repair alternatives, and prioritized repair recommendations. The lock rehabilitation progressed with in-the-wet methods primarily to address repair of the miter sill, pintle, and quoin areas. Provided construction administration support, including review of submittals, performing interim structural inspections, developing gate repair plans, and provided oversight for gate installation, adjustment, and testing. Cost: \$4M (for 2 Locks) \$500k (fee) Design: 2011 / Construction: 2012-2014 (COMBINED)

Kentucky River Authority | Kentucky River Lock and Dam No. 10 Rehabilitation Study and Design | Lexington, KY | Project Manager. Project manager in charge of providing study and design phase services for an existing 100+ year old lock structure on the Kentucky River. Several options for lock rehabilitation were evaluated including modifications to the existing lock chamber (width reduction) and miter gate replacement to restore the lock to an operable condition for recreational use. Stability of the existing lock walls was assessed and stability improvements were investigated. Designed replacement steel miter gates (horizontally-framed) and lock wall concrete repairs, including precast concrete panel wall facing. The rehabilitation also included design of lock filling and emptying systems, dewatering bulkheads, and lock appurtenances. Design: 2016 | Construction: 2018-2019

USACE | Rock Island District | LaGrange Lock Alignment Study | LaGrange, Illinois | Design Engineer. Navigation design engineer for the study to determine the preferred methodology to choose the final alignment of the replacement lock. As part of the Navigation and Ecosystem Sustainability Program (NESP), a new 110-foot wide by 1200-foot long lock was determined to be economically feasible and has been recommended for construction at the La Grange site. This new lock will be built to function as the primary lock with the current 600-foot long lock acting as an auxiliary lock. The new lock will be located landward of the existing lock requiring excavation behind the existing landward lock wall for the manmade channel. The existing lock must remain operable during the construction of the new lock. The purpose of the lock alignment study was to document a process for determining the final alignment of the new landside lock at La Grange. Design: 2006

USACE | Nashville District | Chickamauga Lock Replacement – Segmental Cofferdam and Landside Lock Wall Design and Construction Documents | Chattanooga, Tennessee | Cost Engineer. Cost Engineer responsible for the development of a detailed MCACES (MII) cost estimate and project schedule (Primavera Project) The estimate was based on developing cost detail for constructing a new lock built to the river side of an existing structurally deficient lock. The land wall of the new lock was integrated with a shaft-founded segmental cofferdam constructed in-the-wet. Mobilization, site access restrictions, and means and methods of concrete delivery and placement were large factors in developing costs figures. Design and site development for the completed lock is ongoing. Total construction cost for the replacement lock is approximately \$500 million. Design: 2008



Todd R. Mueller, PE
COST / SCHEDULING ENGINEER

Todd has structural engineering experience and costing experience on various multidisciplinary navigation, hydraulic, and dam safety projects. He has expertise in condition assessment of existing structures, structural design, contract document preparation, preliminary and bidding phase cost estimation, bidding phase services, and engineering during construction support services. He has completed numerous inland waterway projects for client-owners including the New York State Canal Corporation, the Saint Lawrence Seaway Management Corporation and Development Corporation, US Army Corps of Engineers, the Kentucky River Authority, and other State and Local Dam Owners and Canal Authorities. He has also performed hydropower project inspections and evaluations for private owner-operators. Evaluation, rehabilitation, and restoration of navigation and water control structures have been predominant of his experience in recent years.

EXPERIENCE:

Total: 15 Years
Bergmann: 15 Years

EDUCATION:

- BS, Civil Engineering, Bucknell University, 2007 - Minor, Creative Writing
- SUNY Buffalo; 12 Graduate Credits in MEng (Civil-Structural), 2008-2010

LICENSES

- New York
- Pennsylvania

CERTIFICATION

- SPRAT Level 1 Rope Access Technician, May 2014 – May 2017
- Part 12D FERC Training, 2015
- OSHA 10-HR, August 2012
- MCACES (MII) Training, August 2008

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers - Secretary ASCE Mohawk-Hudson Section Board
- Association of State Dam Safety Officials

Project Experience

New York State Canal Corporation | Rehabilitation of Oswego Lock O-7 | Assistant PM and Structural Engineer for the rehabilitation of Lock O-7 on the Oswego Canal. Led and oversaw design of wall repairs including structural analysis to determine cause of extensive cracking and evaluating the repair methods. Coordinated architectural, mechanical, and electrical specialties with lead structural design team including subconsultants. Performed and oversaw design of concrete removals and overlays as well as full monolith demolition and replacement. Work included full miter gate replacements, relocation of lock control house, upgraded mechanical and electrical systems, 3-year construction sequencing allowing full lock operation during navigation seasons, development of special specifications and cost estimates. Performed shop drawing submittal reviews through construction. Cost: \$30M (construction low bid) Design: 2016 | Construction: 2020.

St. Lawrence Seaway Development Corporation | St. Lawrence River Locks, Hands-Free Mooring Design | Massena, New York | Specification Writer for the construction of three Hands-Free Mooring Slots in the lock chamber walls for both the Eisenhower and Snell Locks. Developed technical specifications for the specialty work using reference to and supplementation of NYSDOT standard specifications requirements. Included special considerations for slot demolition, P-T anchor installation, coordination of Cavotec rails and mechanical systems installation, winter work inside the lock, and multi-site execution during the 11-week navigation closure period. Cost: \$450k (fee); \$15M (construction). Design: 2015 | Construction: 2017

The St. Lawrence Seaway Management Corporation | Four Tie-Up Walls Reconstruction Program | St. Lawrence Seaway Canal/ St. Lawrence, Canada | Structural/Project Engineer, Cost Engineer, Specification Writer. The



following project work was performed with considerations for the requirement that construction at the four Canadian project sites be completed during four consecutive construction windows of January through March. Performed preliminary concrete panel design for initial options evaluations and comparisons. Completed initial design of sheet pile walls and anchor walls along landside of tie-up walls in CWALSHT. Provided review and checking of tie-up wall FEAs. Lead development of cost estimates for primary structural features and provided oversight to subconsultants for site work and specialty mooring features estimating. Lead development of project technical specifications with oversight to same subconsultants as for estimating. Provided coordination of technical project aspects with front-end contract documents. Produced advanced purchase contract documents for pre-purchase of sheet piling, fenders, and bollards. Preliminary design started March 2013. Tender Construction Documents issued August and September 2013. Costs: \$2.4M (fee); \$90M CAD (Construction)

Kentucky River Authority | Kentucky River Lock Nos. 3 & 4 Full Rehabilitation | Frankfort, Kentucky | Design Engineer and Cost Engineer. Scope of design included the rehabilitation of two miter gate lock structures. The project evaluated multiple designs for different bidding options including rehabilitating one or both locks as well as additionally replacing the steel miter gates at one or both locks. All the possible rehabilitation/replacement work was bid as additive alternates to the prime contractor's base work of constructing a new dam across the Kentucky River at Lock 3. No alternates were awarded with the base bid due to funding constraints. Analysis and design included the following work; performing stability calculations for the 160-year-old limestone masonry walls, redesigning the existing lock gates for rehabilitation or for replacement, designing new miter gate anchorages, and designing a unique wall strutting and bulkhead system to ensure stability of the land wall during the dewatered construction process. The potential work of full rehabilitation and replacement of both locks is \$6.5 million supplemental to the dam work. Cost: Construction \$4-6M. Design 2007.

Illinois Department of Natural Resources – Office of Water Resources | Stratton Lock and Gate Structure Improvements | McHenry Illinois | Design Engineer, Specification Writer, and Cost Engineer. Developed lock expansion contract documents (plans, specifications, and estimates) to provide increased lockage capacity with preferred alternative from Study Phase. Performed design and detailing for new lock monoliths, lock sheet pile wall extensions, existing miter gate retrofits, revised approach walls, lock culvert modifications for filling and emptying, and construction sequencing to maintain in-season operations. Coordinated lock expansion with the associated dam's rehabilitation and upgrade design completed by other consultants for same overall project. Design: 2014, Construction: 2015, Cost \$4.3M (estimated).

City of Lockport | Flight of Five Locks | Lockport, NY | Design Engineer and Specification Writer. Developed custom specifications in DOT format for use by the City of Lockport with oversight by NYS DOT and NYS Canal Corporation. Custom specifications required for partial rehabilitation of five lock system. Features include rehabilitation of existing stone masonry, custom railing with horizontal cable infill, dredging and excavation, and directing subconsultant developing specifications for wooden miter gates. Design 2012.

USACE Nashville District ID/IQTC | Chickamauga Lock Replacement | Integrated Lock Wall Replacement | Chattanooga, TN | Cost Engineer. Cost and Quantity Estimating for all four project design milestones. Developed and performed MCACES cost estimate for an innovative lock wall to be constructed in limited access region on previously designed integrated precast cofferdam. Coordinated in multi-firm cost estimation procedures while obtaining current and forecasted unit prices. Work required special considerations for volatile item pricing in long-term costing forecasts, including specialized breakouts for taxation and delivery adjustments on steel and concrete constituents. These adjustment items allowed for future renegotiation of costs between client and contractor throughout the project's progression. Design: 2019, Construction: 2019. Costs: \$1.4M (fee), \$365M (Constr.)

Marguerite Carnell, M.Phil.
Senior Historian/Architectural Historian
Archaeological and Historical Services, Inc.

Professional Licenses/Registrations: NPS (36 CFR 61)-qualified Architectural Historian; Connecticut and Massachusetts SHPO-approved consultant since 2013, and New Hampshire and Rhode Island SHPO-approved since 2015.

Experience and Qualifications:

A native of coastal Connecticut, Ms. Carnell brings expertise in architectural history and historic preservation to AHS. Following her passion for design and architecture, she graduated summa cum laude from the University of Connecticut with a B.S. in Design and Resource Management. She went on to receive an M.Phil. in American Civilization from the George Washington University, with interdisciplinary studies in architectural history, material culture, religious history, and women's history. She has also completed coursework in architectural conservation at Columbia University. Professional affiliations include the National Trust for Historic Preservation, Association for Preservation Technology, Connecticut Trust for Historic Preservation, and the Hartford Preservation Alliance. She is the Chair of the Simsbury Historic District Commission, on which she has served since 2013, and she received a community service award from the town in 2017. She was appointed to the Connecticut Historic Preservation Council in 2018 and to the Council's Executive Committee in 2019.

Ms. Carnell's professional experience and qualifications include:

- Over 20 years of experience in historic resource assessment, restoration, and rehabilitation. Services include historical research, identification of character-defining features, analysis of construction sequence, and development of preservation strategies. Projects involve dozens of properties on the National Register of Historic Places, including single-family dwellings, multi-family housing, churches, libraries, performing arts facilities, civic buildings, and cultural landscapes such as parks and cemeteries.
- Highly skilled in the analysis and documentation of historic buildings, with experience in a wide variety of building types, including single and multi-family housing, industrial buildings, churches, libraries, performing arts facilities, schools, and commercial and civic buildings.
- Knowledge of state and federal regulations, practices, and procedures for historic properties in Connecticut. Excellent working relationship with the Connecticut State Historic Preservation Office (CTSHPO) and Preservation Connecticut.
- Preparation of nominations for the National Register of Historic Places, including the South Willington Historic District in Willington, CT; the American Thread Mill in Willimantic, CT, a large 19th-century industrial complex; and Hampton National Historic Site in Towson, MD, an early 19th-century estate plantation. Currently preparing a nomination for the Oil Mill Historic District in Waterford, CT, which includes architectural and archaeological resources.
- Extensive experience regarding cultural landscapes, including environmental compliance review and advising on the current Resilient Bridgeport project's effects on Seaside Park and other cultural resources in the South End Bridgeport, Connecticut. Designed by Frederick Law Olmsted and Calvert Vaux, Seaside Park is slated for modifications related to storm-surge protection. Other cultural landscape projects include review of proposed renovations to Harkness

Memorial State Park in Waterford, CT; and documentation of cemeteries in Chelmsford and Peabody, MA.

- Evaluation of NRHP eligibility of a historic cemetery and surrounding buildings and features (bridges and retaining walls) in Norfolk, CT, including extensive research in related African American and abolitionist history.
- Extensive experience with federal and state historic tax credit programs. Projects include dozens of rehabilitations of historic houses, apartment buildings, hotels, and industrial and commercial buildings, from early 19th-century vernacular through mid-20th-century Modern buildings.
- Identification and evaluation of impacts on the pending replacement of the 19th-century National Register-eligible Norwalk River Railroad swing bridge, including resource-dense historic districts, bridges, and character-defining elements such as retaining walls. Prepared sections of EA/EIE and coordinated public outreach and stakeholder contact.
- Project manager for three successive on-call historic preservation contracts for the Connecticut State Capitol. Projects involved an inventory of historic building archives, comprehensive building assessment, ADA accessibility, lighting upgrades, and design for a major exterior masonry cleaning and restoration project.
- Townwide inventory of architectural and historic resources for Stow, MA. Updates and expansion of a 1980s historic resource inventory, including archival research and writing property histories.
- Lead architectural historian for historic building and district assessment and impact evaluation on the 2017 Cape Cod Canal transportation improvement feasibility study.
- Preparation of Massachusetts Historical Commission documentation Form A for areas in Bridgewater and Chicopee; Form B for buildings in Bernardston and Northampton, and Form E for cemeteries in Chelmsford and Peabody, all for the MA Department of Transportation.
- Environmental review experience includes CT Green Bank/CEFIA, a program for residential solar panels and energy upgrades. Prepared and reviewed reports for over 1,000 properties. Current work includes Section 106 and 4F compliance project for the 1896 Norwalk River Railroad Bridge and the Route 7/15 interchange, both in Norwalk.
- Successful grant applications for a variety of historic preservation projects, including Connecticut SHPO's Historic Restoration Fund (HRF) grants and CTHP's Historic Preservation Technical Assistance Grants (HPTAG).
- Architectural conservation experience includes hand-on finish analysis and preparation of conservation reports and treatment plans for architects, conservators, owners, and contractors. Projects include many National Register-listed properties, such as the Waterbury, CT, City Hall, Gasson Hall at Boston College, South Church on Nantucket, the Waterville, ME, Opera House and City Hall, and National Historic Landmark finish conservation projects includes the Eisenhower Executive Office Building and United States Capitol in Washington, DC.

Bruce Clouette, Ph.D.

Director of Historical Services

Archaeological and Historical Services, Inc.

Professional Licenses/Registrations: NPS (36 CFR 61) qualified Architectural Historian, Historian, and Industrial Archaeologist; Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and New York SHPO-approved consultant since 1976.

Experience and Qualifications:

A New Hampshire native, Dr. Clouette has been involved in research and writing about New England architectural history and history since 1975, first as an independent consultant, then as a principal in Historic Resource Consultants, Inc., and since 1998 as Senior Historian with AHS. He holds a Ph.D. in History from the University of Connecticut, where he was inducted into Phi Beta Kappa. Although not a full-time academic, he has taught college-level courses at the University of Connecticut, Eastern Connecticut State University, and Mattatuck Community College, as well as numerous teacher-training institutes.

Dr. Clouette's activities as a historic-preservation professional include:

- National Register of Historic Places nomination forms for hundreds of individual buildings, structures, objects, historic districts, landscapes, and archaeological sites, as well as dozens of multiple-property submissions. Included are numerous buildings of outstanding architectural significance, as well as properties with industrial, engineering, transportation, and social-history significance. Dr. Clouette has prepared National Register nominations for properties in New Hampshire, Massachusetts, Connecticut, New York, New Jersey, and Delaware.
- National Historic Landmark studies for the Philip Johnson Glass House, Grove Street Cemetery, Oliver Ellsworth House, Coltsville Historic District, and U. S. Coast Guard cutter *Eagle*, all in Connecticut, and the Spring Grove Cemetery in Cincinnati, Ohio.
- Preparation of cultural resource management components of dozens of state and federal-level Environmental Assessment and Environmental Impact Evaluation studies, for several governmental agencies including the Federal Railroad Administration, the Federal Aviation Authority, and departments of transportation in Massachusetts, Rhode Island and Connecticut.
- Evaluation and documentation of historic engineering structures and features for dozens of projects, including electrical-generating stations in Maine, Massachusetts, and Connecticut, and dams, railroad lines, and bridges in New Hampshire, Maine, Massachusetts, Connecticut, and Rhode Island.
- Historic building assessment studies. Working with teams that include architects, engineers, and landscape specialists, Dr. Clouette has provided historical research, identification of character-defining features, analysis of building sequence, and development of preservation strategies for a number of historic Connecticut buildings, including the Old State House restoration in Hartford.
- Lead historian for dozens of trail projects, inclusive of industrial and railroad feature identification and assessment, including the New Haven-Hartford-Springfield rail project.

- Historic-preservation consulting for projects that rehabilitate historic buildings for new uses.
- Historic American Building Survey (HABS) and Historic American Engineering Record (HAER) documentations for more than two dozen properties in Maine, Massachusetts, and Connecticut.
- Specialized surveys of historic resources to identify eligible properties and devise preservation/mitigation strategies, including statewide historic-bridge surveys in Connecticut, Rhode Island, and Vermont; historic lighthouses in three states for the U.S. Coast Guard; and historic factory buildings in Bridgeport, Connecticut.
- Connecticut state-level recording of over 100 historic properties.
- Townwide surveys of architectural and historic resources, as well as specific-area surveys, for numerous Connecticut municipalities.

Among the book-length publications of which Dr. Clouette is the author or co-author are *Connecticut: An Inventory of Historic Engineering and Industrial Sites* (1981); *Bristol, Connecticut: A Bicentennial History* (1984); *The Historic Highway Bridges of Rhode Island* (1988), *Connecticut's Historic Highway Bridges* (1991); *Hartford Hospital, the first 150 Years* (2004), and *Historic Movable Bridges of Connecticut* (2004). He wrote the introductory essay for *Carriages and Clocks, Corsets and Locks: The Rise and Fall of an Industrial City, New Haven 1850-1950* (2004), *Pathways to the Past: Transportation, Heritage and the Twenty-First Century* (2010), and *Highways to History* (2014). Dr. Clouette also is the author of several public-oriented educational booklets on historic sites such as *Clark Farm Tenant House Archaeological Site* (2009), *Peter Grohman House and Cigar-Making Shop Archaeological Site* (2009), and *Ebenezer Story Homestead and Tavern Site* (2010). Articles by Dr. Clouette have appeared in *CRM - Cultural Resource Management*, *Connecticut History*, *Connecticut Medicine*, and the Society for Industrial Archaeology Newsletter.

Public-education activities include scripts for Connecticut's 350th anniversary aired on Connecticut Public Radio and several museum exhibits, such as the permanent installation on the history of the Connecticut Legislature in the Legislative Office Building in Hartford. He wrote text for and supervised the preparation of eight Web sites in connection with cultural resource management projects, such as Willimantic's Frog Bridge (www.past-inc.org/Willimantic/).

Dr. Clouette is a frequent speaker at local historical societies and museums, where he has delivered presentations on 18th-century colonial homesteads, turn-of-the-century farm work, railroad roundhouse archaeology, Connecticut River crossings, industries of the agrarian economy, historic bridges, the Central Vermont Railroad, and other topics. He has given papers at the conferences of the Vernacular Architecture Forum, Society for Industrial Archeology, the Association of American Geographers, the New England Archivists, the Association for the Study of Connecticut History, and other organizations of professional scholars.

James Sexton, Ph. D.
Architectural Historian
Archaeological and Historical Services, Inc.

Professional Licenses/Registrations: NPS (36 CFR 61) qualified Architectural Historian; Connecticut SHPO-approved consultant since 2005, Maine-SHPO approved since 2008, and New Hampshire SHPO-approved since 2012. Also worked as lead architectural historian on projects in California, Delaware, Florida, Illinois, Kansas, Louisiana, Massachusetts, Minnesota, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Texas, Virginia, West Virginia (states that do not have lists of approved architectural historians).

Experience and Qualifications:

A native of coastal Connecticut, Dr. Sexton has spent much of his professional life pursuing research in New England, with a concentration on Connecticut. A college career at Yale College introduced him to the excitement of architectural history. While there he received the A. Conger Goodyear Award for his Senior Essay on the cultural exchange between the Dutch and English cultural hearths, as demonstrated by timber framing techniques in eighteenth-century coastal Connecticut. After that he spent a year receiving a practical education in architectural history while disassembling and moving historic buildings for the New Jersey Barn Company. He then returned to Yale University to receive a Ph. D. in the History of Art, with a dissertation focusing on changes in community structure as reflected in the buildings of seventeenth- and eighteenth-century Guilford. With more than twenty-five years of experience in the investigation and documentation of historic properties, he has an excellent understanding of the regulatory environment for above-ground cultural resources and the necessary skills to perform survey and documentation studies. Professional affiliations include the National Trust for Historic Preservation and the Vernacular Architecture Forum.

Dr. Sexton's professional experience and qualifications include:

- Highly skilled in the analysis and documentation of historic buildings, with experience in a wide variety of building types, including single and multi-family housing, industrial buildings, churches, rural buildings, military installations, and commercial and civic buildings.
- Knowledge of state and federal regulations, practices, and procedures for historic properties in Connecticut. Excellent working relationship with the Connecticut State Historic Preservation Office (SHPO) and the Connecticut Trust for Historic Preservation (CTHP).
- Preparation of individual and district nominations for National Historic Landmarks, the National Register of Historic Places, and the State Register of Historic Places. Properties include the NHL nomination for the Harriet Beecher Stowe House, Hartford, CT, home of the world-renowned author in Hartford; the Wall Street National Register Historic District, Norwalk, CT, a city center district in coastal Fairfield County, with residential, commercial, and ecclesiastical buildings; the Five Mile River Landing Historic District, Rowayton, CT, a small village district in coastal Fairfield County that includes residential, commercial, and ecclesiastical buildings; Mystic Bank, Old Mystic, CT, a nineteenth-century bank in New London County; Bethel A.M.E. Church, Greenwich, a historically black church in coastal Fairfield County, the Elam Ives House, Hamden, CT, a small late eighteenth-century house with unusual design and construction elements in New Haven County; Trinity-on-Main, New Britain, CT, a large historic church in a city center designed by Amos P. Cutting using the Akron Plan; the Abijah Comstock House, New Canaan, CT, a late eighteenth-century house with a well-documented history of housing enslaved

people. He has also completed a State Register nomination for the Twitchell Homestead, Oxford, CT, a rural complex with a late eighteenth-century house and two nineteenth-century barns; the St. Thomas Aquinas School, New Britain, CT, a complex that grew from a small nineteenth-century public school into a large parochial school and convent by the early 1960s; and the Jonathan Selleck House, New Canaan, CT, an early nineteenth-century house that was demonstrated the early twentieth-century trend of New Yorkers moving to Fairfield County to restore and improve historic buildings; Uncasville Mill, Montville, CT, a historic district including twelve industrial buildings, industrial infrastructure, and company housing. He has assessed the National Register and State Register eligibility of thousands of buildings in ten states.

- Successful completion of both state and federal tax credit applications. These applications have supported the rehabilitation of industrial, commercial, residential, and educational buildings in both urban and rural settings throughout Connecticut. Projects have included large-scale redevelopment of multiple building factory sites, the renovation of an entire city block, and the repurposing of a parochial school complex for housing.
- Extensive experience in large-scale survey projects. He has undertaken historic resources inventories for the Towns of Clinton, East Windsor, Lyme, New Fairfield, and Redding, and updated the photographic portion of the Town of Madison's town-wide survey. He served as the lead architectural historian for the initial phases of the Connecticut Trust Barns Survey and the Connecticut Trust Greens Survey. Outside of Connecticut he has served as the sole investigator for large-scale historic building surveys in California, Kansas, Maine, New Jersey, New York, and Pennsylvania, which have documented more than 5000 buildings over the course of twelve years.
- Successful completion of Historic District Study Commission Reports for proposed districts in Greenwich, Hamden, Madison, New Haven, and Norwalk.
- Decades of experience in historic building assessment, with more than 20 Historic Structures Report for buildings with many of these located in coastal Connecticut. He also served as the architectural historian for the New Canaan, Norwalk, and Madison Historical Society plaque programs, where he provided non-invasive assessments to support documentary research undertaken by others.
- Recent environmental review experience includes CT Green Bank/CEFIA, a program for residential solar panels and energy upgrades, and Section 106 reviews prepared in support of disaster recovery programs in New Jersey funded by CDBG-DR grants awarded under the Disaster Relief Appropriations Act, 2013 (Pub. L. 113-2, enacted January 29, 2013) for Hurricane Sandy, Hurricane Irene, and Tropical Storm Lee. He also prepared Tier 2 reviews of historic-age properties in New York state that were slated to undergo rehabilitation, reimbursement, buyout, and acquisition but required review to meet HUD's Section 106 requirements.



EXPERIENCE:

Down To Earth Consulting, LLC – 2017 to the Present

Nobis Engineering, Inc. – 2015 to 2017

GeoDesign, Inc. – 2009 to 2015

EDUCATION:

MS, 2009, Geotechnical Engineering, Massachusetts Institute of Technology, Cambridge, MA

BS, 2007, Civil Engineering, University of New Haven, West Haven, CT

REGISTRATIONS:

Registered Professional Engineer (Connecticut, New York, New Hampshire, Rhode Island)

OSHA 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

OSHA 8-hour HAZWOPER Annual Refresher

OSHA 10-hour Construction Safety

PUBLICATIONS:

Technical Reviewer, Rock Mechanics and Rock Engineering, Springer

Janeiro, R.J., and Einstein, H.H. (2010). "Experimental Study of the Cracking Behavior of Specimens Containing Inclusions (Under Uniaxial Compression)." International Journal of Fracture, 164(1), 83-102.

SUMMARY OF EXPERIENCE:

Mr. Janeiro has over 13 years of experience in many aspects of geotechnical, environmental, and construction engineering throughout New England. He has designed and managed numerous geotechnical horizontal and vertical structure projects, railways, flood control system projects, and environmental investigation and remediation projects. He recently served as an adjunct professor (teaching the Undergraduate Soil Mechanics course) at the University of New Haven.

SUMMARY OF REPRESENTATIVE PREVIOUS PROJECTS & RESPONSIBILITIES:

Farmington Canal Heritage Trail, Southington, CT – Geotechnical project manager for the approximately 3-mile-long shared use path extension along portions of a former railway. Geotechnical engineering services included: reviewing project plans, observing test borings, characterizing subsurface conditions within the project limits, performing geotechnical engineering analyses, and providing geotechnical design and construction recommendations for the proposed shared use path and pedestrian bridge.

Ansonia Riverwalk (Segments 3, 4 and 8), Ansonia, CT - Project manager for geotechnical engineering evaluation of the proposed Riverwalk along the City of Ansonia Flood Damage Reduction System (AFDRS). In addition to providing geotechnical design and construction recommendations for the proposed project, a detailed geotechnical evaluation was required to assess whether the proposed project would negatively impact the intended performance of the AFDRS. The evaluation was prepared to support the regulatory review process by the U.S. Army Corps of Engineers and CTDEEP Office of Dam Safety.

Main Street (Route 34) Reconstruction, Derby, CT - Responsible for the coordination and performance of geotechnical subsurface investigations and development of geotechnical design and construction recommendations for the proposed Main Street improvements project in Downtown Derby. Improvements will consist of over 3,700 linear feet of existing roadway widening, construction of a new parking lot, and a new bike path. The proposed parking lanes and bike path will be constructed with a porous pavement structure.

Naugatuck River Greenway and Pedestrian Bridge, Waterbury, CT - This project involved geotechnical services for the proposed riverwalk and pedestrian bridge along the Phase I portion of the Naugatuck River Greenway project in Waterbury, CT. Project included coordinating field work with private property owners, performing subsurface investigations, and completing geotechnical analyses for the micropile supported pedestrian bridge and design recommendations for proposed retaining walls (including slope stability analyses).

Harbor Point Development, Stamford, CT - A large private development required review of impacts on an existing hurricane protection barrier. Was responsible for several coastal engineering design aspects of the project, including wave run-up analyses, overtopping, and scour protection design in accordance with US Army Corps of Engineers design guidance and regulations. Performed field inspection and documented installation of pressure injected footings for several multi-story buildings.

Valley Transit District, Derby, CT - Geotechnical project manager for the proposed improvements to the Valley Transit District (VTD), Bus Maintenance and Storage Facility in Derby, Connecticut. The facility improvements included additions to the north and south sides of the existing building, construction of a new wash bay, and relocation of utilities. Developed and performed a geotechnical subsurface investigation program consisting of test pits, borings, and infiltration tests. Provided geotechnical design and construction recommendations for the proposed structures and roadways.

CT River Academy at Goodwin College, East Hartford, CT - Managed the ground improvement program for the proposed academy built over 150 feet of varved fine-grained deposits. The program included installing prefabricated vertical drains, placement of surcharge load, and instrument monitoring during the waiting period. The settlement control measures allowed the structures to be supported on shallow foundations. Responsible for providing on site construction recommendations and managing field technicians during foundation construction observation of the proposed structure and multi-level parking garage where contaminated and unsuitable fill were encountered below footing levels. Reviewed field reports generated from each site visit.

Harbor Point Development, Stamford, CT - A large private development required review of impacts on an existing hurricane protection barrier. Was responsible for several coastal engineering design aspects of the project, including wave run-up analyses, overtopping, and scour protection design in accordance with US Army Corps of Engineers design guidance and regulations. Performed field inspection and documented installation of pressure injected footings for several multi-story buildings.