



**REGISTRATIONS AND
CERTIFICATIONS**

Professional Engineer –
Massachusetts,
Rhode Island,
New Hampshire, New York

**PROFESSIONAL
AFFILIATIONS**

American Society of Civil
Engineers

Association of State Dam
Safety Officials

EDUCATION

University of Rhode Island:
M.S., Civil Engineering 2001
B.S., Civil & Environmental
Engineering, 1992

**PUBLICATIONS AND
PRESENTATIONS**

Bellisle, J.M., Chopy, D,
and Guglielmino, P.,
2013, "Regulating for
Small Dams and Small
Dam Owners".
Proceedings of the 2013
ASDSO Dam Safety
Conference, Providence,
RI

Bellisle, J.M., "Protecting
Your Dams: Inspection,
Maintenance, and
Emergency Response"
Presentation given at
RISPE Conference,
October 2012, Newport,
RI

Bellisle, J.M. and Orsi, A.,
2011, "Evaluations and
Design of Spillway Repair
in a Changing
Environment".
Proceedings of the New
England Waterworks
Association 2011 Spring
Joint Regional
Conference, Worcester,
MA

RELEVANT EXPERIENCE

Mr. Bellisle possesses more than 20 years of experience working on a variety of geotechnical, foundation, civil, and dam engineering projects. He has acted as principal-in-charge, project manager, and project engineer for assignments involving geotechnical design, site investigations, testing, instrumentation, and construction monitoring. His experience also includes over 500 Phase I inspections and Phase II design services for earthen and concrete dams. Relevant project experience includes:

His experience includes value engineering of alternate foundation systems, ground improvement methodologies, and temporary construction support. Mr. Bellisle has also developed environmental permit applications and presented at public hearings in support of public and private projects.

Dam Engineering

- **Natural Resources Conservation Services (NRCS):** Principal-in-Charge/Project Manager for various stability analyses and reports to assess long-term performance of vegetated emergency spillways.
 - Hop Brook Floodwater Retarding Dam – Emergency Spillway Evaluation
 - George H. Nichols Multipurpose Dam – Conceptual Design of an Armored Spillway
 - Lester G. Ross Floodwater Retarding Dam – Emergency Spillway Evaluation
 - Cold Harbor Floodwater Retarding Dam – Emergency Spillway Evaluation
 - Delaney Complex Dams – Emergency Spillway Evaluation
- **Hobbs Pond Dam:** Principal-in-Charge/Project Manager for the design and development of construction documents of a new armored auxiliary spillway and new primary spillway to repair a filed embankment and increase discharge capacity. Weston, MA.
- **Horseshoe Pond Dam Repairs:** Principal-in-Charge of construction phase engineering, pre-construction inspection, and vibration monitoring during demolition of the existing dam and its reconstruction. Hope Valley, RI.
- **Curtis Pond Dam Removal:** Principal-in-Charge for the design and execution of this dam removal project to restore natural stream flow. Middleton, MA.
- **Bartlett Pond Dam Removal:** Principal-in-Charge for the evaluation and design of this dam removal to restore natural stream flow. Lancaster, MA.
- **Bellingham Dam Removal:** Principal-in-Charge for the evaluation and design of this small dam removal to address regulatory and maintenance concerns. Bellingham, MA.
- **New York Dams:** Principal-in-Charge for the inspection and evaluation of three concrete dams utilized by local industry for power generation. Inspections and evaluations were completed in accordance with the State of New York requirements and have assisted the dam owner in developing a much year improvement program. Greenwich, NY.

PUBLICATIONS AND PRESENTATIONS

Bellisle, J.M., 2006, "Whittenton Mill Pond Dam: The Rest of the Story". Presented at the FEMA Technical Workshop No. 13. Emmitsburg, MD

Bellisle, J.M., Misslin, M., and Ferreira, R., 2006, "Effective Emergency Response at Whittenton Dam: A Real Eye Opener". Proceedings of the 2006 ASDSO Dam Safety Conference, Boston, MA

Bellisle, J.M., and Russell, J.B., 2000, "The Cost of Repairing a Dam: Information for Dam Owners". Proceedings of the 2000 ASDSO Dam Safety Conference, Providence, RI.

Fairbanks, R.W., and Bellisle, J.M., 1998, "So You Think Your Dam is Covered by Insurance? Think Again". Proceedings of the 1998 ASDSO Dam Safety Conference, Las Vegas, Nevada

- **Massachusetts Water Resources Authority:** Principal-in-Charge for the seepage and stability analysis, as well as physical inspection of the Authority's water supply dams inclusive of the Quabbin Reservoir and Wachusett Reservoir Dam. Statewide, Massachusetts.
- **Dam Rehabilitation Projects:** Principal-in-Charge for the design of remedial repairs to address various structural deficiencies inclusive of stability, seepage, hydraulic capacity, and structural deterioration:
 - Upper and Lower Highland Lake Dam, Goshen, MA
 - Robin Hollow Pond Dam, Cumberland, RI
 - Barney Pond Dam, Lincoln RI
 - Nagog Pond Dam, Concord, MA
 - Center Pond Dam, Beckett, MA
 - Iron Hill Dam, Weymouth, MA
 - Paradise Pond Dam, Northampton, MA
 - Townsend Harbor Dam, Townsend, MA
 - Terry Brook Reservoir Dam, Freetown, MA
- **RIDEM Dam Inspections (2010, 2011, 2012, 2013):** Principal-in-Charge for the completion of visual inspections of dams in Rhode Island for the RIDEM Dam Safety Program. State-Wide, RI.
- **Upper Curran Reservoir Dam:** Principal-in-Charge for the completion of stability and hydraulic analyses that lead to the development of conceptual repairs that included a new low level outlet and spillway system. Cranston, RI.
- **Ben Smith Dam:** Principal-in-Charge/Project Manager for the design of modification to the canal and to the powerhouse in accordance with FERC procedures. Maynard, MA.
- **Regulating Reservoir Dam:** Principal-in-Charge for embankment modifications and low level outlet repairs for this significant hazard structure within the water supply system for the City of Providence and surrounding communities. North Scituate, RI.
- **Private Dam Decommissioning:** Principal-in-Charge/Project Manager for the design of a breach of the dam as the permanent solution to mitigate safety concerns at the dam. The decommissioning of the dam is designed to retain a remnant pool for habitat retention and sufficient capacity to maintain downstream flood profiles. Southern, RI.
- **SuAsCo Dam Evaluations:** Principal-in-Charge/Project Manager responsible for visual inspection and collection of survey data for this evaluation of the dams and control structures within the SuAsCo Watershed. Prepared inspection and recommendations for the report utilizing current NRCS format and assisted in the completion of prioritization analysis. Advanced the evaluations to detailed Phase II analysis for 2 of the structures which are currently in conceptual design phases. Marlborough, Northborough, and Berlin, MA.
- **Pawtucket Water Supply Dams:** Principal-in-Charge/Project Manager for the inspection, evaluation, and development of Phase I report for the water supply dams within the Pawtucket Water Supply System. Project included an assessment of the hydraulic adequacy, structural stability, and the

overall condition of the dams. The project has progressed to include the design of a new spillway and embankment repairs for the Robin Hollow Pond Dam. Pawtucket, RI.

- **Fall River Water Supply Dams:** Principal-in-Charge for the inspection of several City-owned dams in accordance with the state regulations. This project included the visual inspection of the structures, development of emergency action plans (EAPs), recommendations for maintenance and repairs, and coordination with the City to establish a maintenance and repair program. Currently the scope of our services has expanded to include the design and permitting of repairs for six of the dams within the City's system. Fall River, MA.
- **DelCarte Conservation Area:** Principal-in-Charge/Project Manager for the evaluation of a water system that includes seven dams. The study evaluated potential dam removals, wetland restorations, and dam repairs to provide a healthy resource area that meets the Towns needs. Franklin, MA.
- **MassDOT Bridge Preservation Contract Dams:** Geotechnical Project Manager for evaluation and recommendation of repairs for four MassDOT-owned dam, spillway and bridge structures, as well as final design of the Mill Pond Dam (Rte 28) spillway, and bridge structure located in Wareham, MA.
- **Irish Dam Concrete Repairs:** Principal-in-Charge/Project Manager for the design of repairs to deteriorating concrete along the spillway piers and ogee spillway, and installation of a hydraulic operator for the existing bascule gate. The project included full permitting, development of construction documents, and construction phase services to assist DCR in monitoring the construction process. Grafton, MA.
- **Lake Hiawatha Dam:** Principal-in-Charge of completion of Phase II Evaluations to assess the 250-foot long, 10-foot high dam carrying a roadway. Completed design of spillway replacement and embankment repairs subsequent to Phase II Evaluation. Blackstone, MA.
- **Design of Remedial Measures and Repairs:** Project Manager/Principal-in-Charge for the design of remedial measures and repairs to address deficiencies observed during routine inspections. The projects include the evaluation of alternatives and the development of construction documents to support competitive bidding.

Hobbs Pond Dam, Weston, MA
Whiting Pond Dam, North Attleboro, MA
Butterfly Pond Dam, Lincoln, RI
Irish Dam, Grafton, MA
Lake Hiawatha Dam, Blackstone, MA
Silver Lake Dam, Bellingham, MA
Holly Pond Dam, Hingham, MA
Lake Gardner Dam, Amesbury, MA
Norton Reservoir Dam, Norton, MA

Rice City Pond Dam, Uxbridge, MA
Chartley Pond Dam, Norton, MA
Falls Pond Dam, North Attleboro, MA
Sandra Pond Dam, Westboro, MA
Neponset Reservoir Dam, Foxboro, MA
Ben Smith Dam, Maynard, MA

- **Blackstone Canal Hydraulic Study:** Principal-in-Charge/Project Manager for the completion of a detailed hydraulic analysis utilizing HEC-RAS to evaluate changes in channel velocities as a result of proposed modifications at the canal entrance. Lincoln, RI.

- **Salisbury Tide Gate Repairs:** Principal-in-Charge of emergency evaluation of a tide gate damaged from several storms and subsequent final design to address flooding and improve the health of the marsh. PARE prepared design documents for the repairs which included embankment reconstruction and installation of two concrete box culverts and combination tide gates. Salisbury, MA.
- **Holmes Playground Dam Flood Study:** Principal-in-Charge/Project Manager for the evaluation of downstream flooding in the event of a dam failure to assist in determining the spillway design flood requirements for this high hazard potential dam. Plymouth, MA.
- **Norton Reservoir Flood Study:** Principal-in-Charge/Project Manager for the evaluation of downstream flooding during usual, unusual, and extreme storm events in assessing potential flood impacts due to modifications to the primary spillway. Norton, MA.
- **Municipal and Private Phase I Dam Inspections 2003 - 2013:** In response to the orders by MADCR Office of Dam Safety served as Principal-in-Charge/Project Manager for dam inspections for a variety of public and private entities including public and private water companies. Statewide.
- **Emergency Action Plans and Inundation Mapping Projects:** Project Manager/Principal-in-Charge for numerous studies and evaluations to assist dam owners and regulators evaluate hazard potential classification as well as prepare for response in the event of a dam safety emergency.
 - Hopkinton Reservoir Dam, Hopkinton, MA
 - Rice City Pond Dam, Uxbridge, MA
 - Ashmere Lake Dam, Hinsdale, MA
 - Lake Cochituate Dam, Framingham, MA
 - Otis Reservoir Dam, Otis, MA
 - Lake Gardner Dam, Amesbury, MA
 - Norton Reservoir Dam, Norton, MA
 - Chartley Pond Dam, Norton, MA
 - Falls Pond Dam, North Attleboro, MA
 - Whitings Pond Dam North Attleboro, MA
 - Fulton Pond Dam, Mansfield, MA
 - Neponset Reservoir Dam, Foxboro, MA
 - Crackrock Pond Dam, Foxboro, MA
 - Ashland Reservoir Dam, Ashland, MA
- **Emergency Action Plan Field Exercise – Gainer Memorial Dam:** Working with the Rhode Island Emergency Management Agency (RIEMA) and the Federal Emergency Management Agency (FEMA), provided classroom instruction to all state and local emergency responders regarding the use and interpretation of dam break inundation mapping for the Gainer Memorial Dam. With a maximum height of 109 feet and a length of 3,200 feet, this earth dam is the largest dam in Rhode Island. It is the primary structure impounding the Scituate Reservoir, the largest inland body of water in RI with a surface area of 7.2 miles and a capacity of 39 billion gallons of drinking water. During the second phase of the exercise – a dam break field exercise simulating a complete failure of the dam – provided observation of the owner’s command center and developed an After Action Report which was incorporated into the complete exercise report developed by FEMA. Scituate, RI.
- **MADCR Phase I Dam Inspections 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2003, 1999, 1998, 1995:** Principal-in-Charge/Project Manager for the implementation of Phase I dam inspections for various significant and high hazard potential state, municipal, and privately owned dams. The project included detailed hydrologic/ hydraulic (H+H) analyses, dam break analyses and the development of formal Emergency Action Plans. Statewide, MA.

- **Limerock (Manton Pond) Dam:** Principal-in-Charge/Project Manager for the inspection and evaluation of this high hazard potential dam. The evaluation included the review of removal alternatives, including decommissioning to provide a remnant pool and flood attenuation, the development of opinions of cost and a discussion of permitting and design efforts. Final design of reduced pool to provide reduced hazard while maintaining flood attenuation is in progress. Lincoln, RI.
- **Whittenton Mill Dam Emergency Actions:** Principal-in-Charge/Project Manager, on-site and lead engineer for the emergency evaluation, response, design, and implementation of remedial measures for this 120-year old timber crib dam that threatened downstream Taunton and forced a temporary evacuation of the downtown area. In this role, completed on-site assessments of potential emergency actions, designed the implemented remedial measure, coordinated with the local and state emergency response personnel, and provided timely updates and recommendations to the emergency command structure and dam owner. Taunton, MA.
- **Emergency Phase I Dam Inspections 2005:** Principal-in-Charge of the completion of 31 dam inspections by three inspection teams within a 48-hour period of time in response to an order from the Governor following nine days of rain in October of 2005. Once the inspections were completed, summary reports that included site plans, photographs, and inspection data were completed and forwarded to the state within three business days. Southeastern MA.
- **On-Call Emergency Dam Evaluations 2005, 2010, 2011:** Principal-in-Charge/Project Manager for on-site evaluations of developing conditions at various dams in response to requests for emergency response from the Office of Dam Safety. During the evaluations, coordinated with local emergency response personnel, MEMA, and the Office of Dam Safety to assess the potential for failure of the structures, the need for road closures, and further actions to be taken upon recession of the floodwaters. State-Wide, MA.
- **Rice City Pond Dam Emergency Slope Repairs:** Principal-in-Charge/Project Manager for the emergency evaluation of a slope failure at this high hazard potential earthen embankment dam as a result of the heavy rains in October of 2005. The dam, which supports a well-traveled roadway along its crest, is located immediately upstream of a heavily developed area and within the Blackstone Historic Corridor. Coordinated a subsurface investigation program to evaluate the observed failure, completed an evaluation of alternatives, undertook the design of remedial measures within three weeks, and prepared contract documents to facilitate the solicitation of bids for construction. Uxbridge, MA.
- **Sandra Pond Dam:** Principal-in-Charge of an initial Phase I dam inspection and design of repairs to remove trees and restore the embankment for this dam, PARE prepared contract documents for the Town to solicit competitive bids to address deficiencies at the dam. In an effort to work within available budgets, PARE designed a phased construction approach which allowed the work to be spread over two years. Westborough, MA.

- **Yawgoo Mill Pond Dam:** Principal-in-Charge/Project Manager for the development of plans and specifications for the implementation of upstream slope protection and the installation of a low level outlet at this 100-year old mill dam. Exeter, RI.
- **Westconnaug Reservoir Dam Improvements – Providence Water:** Project Manager for completion of design analyses/reporting and preparation of plans and specifications for the rehabilitation of a 300-foot-long by 17-foot-high earth and stone-masonry dam within the Scituate Reservoir Watershed. The results of a field investigation were presented in a Design Concept Report that included hydrologic and hydraulic analyses, stability analyses, and presentation of remedial alternatives to accommodate the spillway design flood, address decayed timber, and address seepage conditions. The scope of work also included filing permit applications, preparing contract plans and specifications, providing bidding and contract award services, providing construction administration services, and providing a resident engineer-inspector full-time during construction. Foster, RI.
- **Barden Reservoir Dam:** Reviewed geotechnical investigations, slope stability analyses for slope rehabilitation designs, and quantity calculations for a proposed downstream retaining wall. Scituate, RI.
- **Boone Lake Dam Repairs:** Principal-in-Charge/Project Manager for the Phase II evaluation of this significant hazard potential earthen dam and the design of subsequent repairs to address advanced piping and internal erosion concerns. The project included full stability analysis, the development of construction documents, and construction phase services including construction observation. Exeter, RI.
- **Phase I Dam Inspections 2003:** Principal-in-Charge/Project Manager for the implementation of Phase I dam inspections for four high hazard potential state-owned dams. The project included detailed hydrologic/hydraulic (H+H) analyses, dam break analyses and the development of formal Emergency Action Plans. Western Massachusetts.
- **Flood Retarding Dam Inspection:** Project Manager for the detailed Phase I inspection and hazard rating evaluation for six flood control dams constructed by the NRCS in accordance with NRCS standards. The evaluation included the use of the SITES program to evaluate the storage capacity of the structure and compliance with current design requirements. SuAsCo Watershed, Central Massachusetts.
- **Mattapoisett Dam Repairs:** Principal-in-Charge/Project Manager for the design of concrete repairs to stabilize the stainless steel gates at the control structure, which were considered to be in an active state of failure. This fast track project included concrete design, temporary water diversion structures, the development of construction documents, bid assistance and construction phase services for the MADEM Office of Dam Safety. Mattapoisett, MA.
- **Sudbury Reservoir Dam Repairs:** Principal-in-Charge/Project Manager for the design of repairs to remove and replace deteriorated mortar along the upstream face of the spillway, gatehouse and training walls for this large size, high hazard water supply dam. West Boylston, MA.

- **Neponset Reservoir Dam:** Principal-in-Charge/Project Manager for the visual inspection and evaluation of this 10-foot high, significant hazard potential, earthen embankment dam. The project included the completion of hydrologic/hydraulic (H&H) analysis, a dam break analysis, the development of a downstream inundation map, and the completion of a stability analysis under various loading conditions. Foxboro, MA.
- **Underwater Engineering Inspection Program:** Project Manager for the underwater inspection of five water supply structures owned and operated by the Massachusetts Metropolitan District Commission (now MADCR). These inspections were summarized in detailed reports which presented repair alternatives, priority items and budget level opinions of probable cost. Eastern Massachusetts.
- **Tuxbury Pond Dam Improvements:** Principal-in-Charge/Project Manager for the design and development of construction documents to remove the deteriorating concrete and timber spillway and construct a new concrete structure with a series of slide gates to facilitate the operating needs of the Town's water system. The project included design, permitting, bidding, construction phase services, and maintaining the water supply during construction. During construction PARE provided resident observation and technical assistance to the Town of Amesbury. Amesbury, MA.
- **Falls Pond Dam Improvements:** Principal-in-Charge/Project Manager for the development of construction documents to replace the existing 15'x 6' radial arm gates with multiple aluminum slide gates and improve the erosion protection along the embankment utilizing articulating concrete blocks. The project included the installation of a blanket drain and weir monitoring system along the downstream toe of the dam to monitor apparent foundation seepage. North Attleboro, MA.
- **Chartley Pond Dam Improvements:** Principal-in-Charge/Project Manager for the design of improvements to improve regulation of discharges and address seepage. The project includes the design of a new gate system to be fitted to the existing control structure, the development of construction documents and the completion of construction-phase services. Norton, MA.
- **Norton Reservoir and Chartley Pond Dam Evaluation:** Project Manager for the Phase II evaluation of these two high hazard earthen embankment dams to assess stability and hydraulic concerns. This project included developing alternative approaches to address the deficiencies present at both locations and provide budget guides to assist the Town in allocating funds. As part of the project comprehensive Operation and Maintenance (O&M) Manuals and Emergency Action Plans (EAPs) were prepared for the Town. Norton, MA.
- **Ashland Reservoir Dam Repairs:** Principal-in-Charge/Project Manager for the design of repairs to this 60-foot high 1,800-foot long earthen embankment. The project included the design of slide gates to replace the existing controls at the low level outlet, design of a toe drain to collect seepage water from the toe of the dam and convey the discharges to the outlet channel and stone masonry repairs. The project also included significant tree and vegetation removal as well as erosion repair, all to be undertaken while maintaining near full pool conditions. PARE prepared construction documents and provided technical assistance to MADCR Office of Dam Safety throughout construction. Ashland, MA.

- **Holly Pond Dam, Emergency Repairs:** Project Manager for evaluation and design of repairs to address the failure of the spillway and enable a re-impoundment of the pond. This fast track project, which included an evaluation of alternatives, hydrologic/hydraulic evaluations, design of a new spillway and the preparation of construction bid documents was completed in a two-month timeframe. In support of the design, PARE provided on-site technical assistance to the contractor and owner's representative throughout construction. Hingham, MA.
- **Ashland Reservoir Dam Evaluation:** Project Manager for the evaluation of this large-size, high-hazard, state-owned dam. The project included evaluating the stability of the embankment and the condition of the low-level outlet control. As part of this project, recommended repairs and the estimated cost to implement those repairs were presented to enable the owner to budget those repairs necessary to gain control of the structure. The project included hydrology and hydraulics (H&H) and dam break analyses to prepare inundation maps, an Emergency Action Plan (EAP) and an Operations and Maintenance (O&M) manual. The project progressed to include the design of remedial repairs at the dam to address the identified deficiencies, and provide the owner with a means to regulate discharges at the structure. Ashland, MA.
- **Hopkinton Reservoir Dam Evaluation:** Project Manager for the evaluation of this 58-foot-high, 1,500-foot-long, high-hazard, state-owned dam. The project included evaluating the stability of the embankment, observed downstream seepage, and the condition of the low-level outlet control. As part of this project, recommended repairs and the estimated cost to implement those repairs were presented to enable the owner to budget for those repairs necessary to gain control at the structure. The project included hydrology and hydraulics (H&H) and dam break analyses to prepare inundation maps, an Emergency Action Plan (EAP) and an Operations and Maintenance (O&M) manual. Hopkinton, MA.
- **Lake Gardner Dam:** Project Manager for the construction of repairs to this large, high hazard dam. The project included coordinating the contract and providing communication between the dam owner and the regulatory agencies. The \$1.2 million project included embankment and spillway repairs to address seepage and stability concerns. Amesbury, MA.
- **Chestnut Hill Road Bridge Repair:** Dam Project Manager for the design of a stop log controlled concrete gravity spillway to replace an existing timber structure that was to be impacted during the replacement of the highway bridge immediately downstream. The design incorporated a sluiceway to provide low level control and removable stop logs to provide discharge capacities of approximately 850 cfs. Supervised the design of the pedestrian bridge spanning the 60-ft wide spillway. Prepared technical specifications and plans associated with the spillway replacement portion of the project. Gloucester, RI.
- **Tuxbury Pond Dam:** Project Manager/Engineer for the Phase II investigation of this drinking water supply structure. The project included field investigations, stability and hydraulic/hydrologic evaluations of the gravity spillway section and earthen embankment portions of this significant hazard, drinking water supply dam. The findings of the evaluations were

summarized into a report, which included the evaluation of repair options including cost estimates. Amesbury, MA.

- **Miscellaneous Dam Inspections:** Project Engineer/Manager for the evaluation of several high and significant hazard dams and appurtenant structures within Massachusetts and Rhode Island. The evaluations included conceptual designs for the modification of the existing spillway system to pass the required spillway design flood and recommendations for hazard classifications, additional studies, remedial measures and preliminary construction cost estimates. Massachusetts and Rhode Island – Statewide.

Box Pond Dam, Bellingham, MA	St. Marks Pond Dam, N. Attleboro, MA
Green Hill Pond Dam, Worcester, MA	Rodman Mill Dam, N. Kingstown, RI
Mowry Paine Dam, Gloucester, RI	Wallum Lake Dam, Burrillville, RI
Assawampsett Pond Dam, Taunton, MA	Ellis Pond Dam, Norwood, MA
West Pond Dam, Gloucester, MA	Lake Hiawatha Dam, Blackstone, MA
Boone Lake Dam, Exeter, RI	Yawgoo Mill Pond Dam, Exeter, RI
Russells Mill Pond Dam, Plymouth, MA	Howe Pond Dam, Spencer, MA
Neponset Reservoir Dam, Foxboro, MA	Lower Pillings Pond Dam, Lynnfield, MA
Centerville Pond Dam, W. Warwick, RI	Blue Pond Dam, Hopkinton, RI

- **Silver Lake Dam:** Project Manager/Engineer for the design, permitting and construction of repairs to this intermediate sized, significant hazard earthen dam. The repairs were to address seepage and stability concerns along the 250 ft. long earthen embankment. Bellingham, MA.
- **Drinking Water Supply Safe Yield Analysis:** Principal-in-Charge of Safe Yield Analysis for municipal drinking water supply from a parallel pond and lake system consisting of Lake Attitash, Meadowbrook Pond, and Tuxbury Pond. Included historical research of hydraulic and operational issues, HEC-5 modeling, and a Phase II Dam Study of surface water drawn. Amesbury, MA.
- **Phase I Dam Inspections 1999:** Project Engineer for the implementation of a MADEM (now MADCR) Phase I inspection program for dams owned by the Division of Forests and Parks. Performed the visual inspections, evaluations, and prepared individual formal inspection reports with recommendations for hazard classifications, additional studies, remedial measures and preliminary construction cost estimates. As part of this project, presented a seminar on dam inspections for state personnel responsible for monitoring and operating the state-owned structures. Massachusetts-Statewide.
- **Emergency Repairs, Copicut Reservoir Dam:** Project Engineer for the design of emergency repairs to a large size, high hazard dam within the water supply system for the city of Fall River. The project included evaluation of severe upstream erosion, design of repairs, the preparation of construction documents, and the evaluation of downstream seepage. Fall River, MA.
- **Phase II Inspection and Emergency Repair Design, Sunset Lake Dam:** Project Engineer for the implementation of a Phase II investigation of Sunset Lake Dam to evaluate seepage and stability concerns at the site and present temporary and long-term remedial measures to address observed deficiencies. Foxboro, MA.

- **Phase I Dam Inspections 1998, 1995:** Project Engineer for the implementation of a MA Department of Environmental Management (now MADCR) Phase I inspection program for 93 publicly and privately owned dams. As project engineer performed the visual inspections and evaluations, and prepared individual formal inspection reports with recommendations for hazard classification, additional studies, remedial measures and preliminary construction cost estimates for a variety of significant and high hazard structures. Massachusetts-Statewide.
- **Lake Gardner Dam Spillway Evaluation:** Project Engineer for the evaluation of the overflow spillway for this large size, high hazard dam, after the structure was damaged during a storm in 1996. The evaluation included a stability analysis of the structure to evaluate compliance with current Office of Dam Safety Regulations and the development of conceptual repair options. Amesbury, MA.
- **Wallingford Dam:** Project Engineer for the design of a 12-foot high, significant hazard earthen embankment for use in a 23.8 acre-foot storm water detention system. The design included stability analysis and embankment design to meet State requirements. Wallingford, CT.
- **Lake Gardner Dam Phase II Investigation:** Project Engineer responsible for implementing a field investigation and instrumentation program and developing recommendations and remedial measures for this large size, high hazard earthen embankment. The project required the design of improvements to the embankment to address stability, seepage, and erosion. Prepared technical specifications, plans, bid documents for the implementation of the improvements, and the permit applications as required by MADCR and the local conservation commission. Amesbury, MA.
- **Ocean State Power Dam:** Project Engineer for the design of a high hazard dam. Performed slope stability analyses and developed the zoned embankment design for the earthen embankment forming a 20-million gallon impoundment for water storage as part of a design-build project. The project included implementing a field investigation program, preparing construction plans, and supervising the construction oversight. Burrillville, RI.
- **Rocky Brook Hydraulic System Dam and Culvert Inspections:** Project Engineer for emergency evaluations of four downstream dams and dikes and five downstream culverts. The inspections were performed following the failure of California Jim's Pond Dam and included recommendations to address observed deficiencies. South Kingstown, RI.
- **Fulton Pond Dam Rehabilitation Project:** Senior Engineer for the preparation of the required local, state, and federal permits for the implementation of a complete spillway replacement, and embankment rehabilitation project. Mansfield, MA.
- **Camp Cookie Dam:** Project Engineer for the implementation of a Phase II subsurface evaluation and inspection of an earthen dam to evaluate the condition of the retention structure and determine the extent of the observed deficiencies. Prepared an inspection report presenting observations, remedial measures, recommendations and alternative repair options. Gloucester, RI.

- **Lovell Pond Dam:** Project Engineer for the evaluation and design of remedial measures for a large size, high hazard dam within the water supply system for the city of Fitchburg. The evaluation included a field exploration program consisting of test borings, test pits and instrumentation to determine the extent of previously identified deficiencies. Performed slope stability analysis and designed embankment repairs to meet current minimum state requirements. Designed a blanket drain and toe drain collection system for the structure. Developed technical specifications and construction plans for the implementation of the repairs. Fitchburg, MA.
 - **Falls Pond Dam and Whitings Pond Dam:** Project Engineer for the implementation of a Phase II investigation which included field inspection of borings and instrumentation at both dams, stability analyses, and repair design recommendations for the existing structures. North Attleboro, MA.
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REGISTRATIONS AND CERTIFICATIONS

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

OSHA Hazardous Waste
Operations 40-Hour Health
and Safety Training

Nuclear Testing Equipment
Training

PROFESSIONAL AFFILIATIONS

Association of State Dam
Safety Officials

EDUCATION

Lafayette College:
B.S., Civil Engineering, 2000

PRESENTATIONS

Bellisle, J.M. and Orsi, A.,
2011, "[Evaluations and
Design of Spillway Repair in
a Changing Environment](#)".
Proceedings of the New
England Waterworks
Association 2011 Spring
Joint Regional Conference,
Worcester, MA.

RELEVANT EXPERIENCE

Mr. Orsi has more than 15 years of experience on a variety of dam engineering and geotechnical engineering projects. His experience includes performing resident engineering tasks, pre- and post-construction site inspection, construction inspection, stability analyses, bathymetric and topographical surveys and plans, numerous laboratory analysis programs, specifications, and opinions of probable cost. Mr. Orsi is proficient in using computer-aided design and analysis techniques and computer-aided drafting in his engineering work. Representative project experience includes:

Dam Engineering

- **Emergency Action Plans and Inundation Mapping Projects:** Managing Engineer for numerous studies and evaluations to assist dam owners and regulators evaluate hazard potential classification as well as prepare for response in the event of a dam safety emergency.

Nagog Pond Dam, Acton, MA
Framingham Reservoir No. 1 Dam, Framingham, MA
Framingham Reservoir No. 2 Dam, Framingham, MA
Unionville Pond Dam, Holden, MA
Clarks Mills Lower Dam, Greenwich, NY
Center Falls Dam, Greenwich, NY
Clarks Mills Upper Dam, Greenwich, NY
Tremont Dam, Wareham, MA
Parker Mills Pond Dam, Wareham, MA
Muzzy Meadow Pond Dam, Spencer, MA
North Watuppa Pond Dam, Fall River, MA
Rivulet Village Pond Dam, Uxbridge, MA
Smelt Brook Dam, Braintree, MA
Hebronville Pond Dam, Attleboro, MA
Copicut Reservoir Dam, Fall River/Dartmouth, MA
Noquochoke Lake Dam, Westport/Dartmouth, MA
Mill Pond Dam, Ashland, MA
Terry Brook Reservoir Dam, Freetown, MA

Houghton Pond Dam, Holliston, MA
Lake Maspenock Dam, Hopkinton, MA
Sugden Reservoir Dam, Spencer, MA
Old Grist Mill Dam, Seekonk, MA
Neponset Reservoir Dam (Inundation Mapping),
Foxboro, MA
Lake Cochituate Dam, Framingham, MA
Otis Reservoir Dam, Otis, MA
Ashmere Lake Dam, Hinsdale, MA
Rice City Pond Dam, Uxbridge, MA
Falls Pond Dam, N. Attleboro, MA
Whitings Pond Dam, N. Attleboro, MA
Lake Gardner Dam, Amesbury, MA
Chartley Pond Dam, Norton, MA
Norton Reservoir Dam, Norton, MA
Ashland Reservoir Dam, Hopkinton, MA
Hopkinton Reservoir Dam, Hopkinton, MA
Fulton Pond Dam, Mansfield, MA

- **Copicut Reservoir Dam Rehabilitation:** Project Manager for the design of repairs to a 3,700-foot long, 40-foot high earthen embankment utilized for water supply purposes. Design components included stabilization of the downstream toe, installation of a pre-engineered access bridge, installation of seepage monitoring devices, and restoration of failed upstream slope protection. Fall River/Dartmouth, MA.
- **Quequechan Control Structure Improvements:** Project Manager for the design of improvements to the outlet control systems that convey the Quequechan River below the City of Fall River. Designs included replacement of two 10-foot wide by 16-foot high roller gates, installation of fall protection devices, and other repairs/facility improvements. Scope of services included initial response to a failed gate, evaluations and alternative development, permitting, development of plans and specifications, bidding services, and construction administration. Fall River, MA.
- **Curtis Pond Dam Removal:** Project Manager for the design of a dam removal to restore natural flow through this reach of the river. Middleton, MA.
- **Bartlett Pond Dam Removal:** Project Manager for the evaluation and design of a dam removal to restore natural flow and address dam safety deficiencies. Lancaster, MA.

- **Bellingham Dam Removal:** Project Manager for the evaluation and design of a dam removal to address regulatory issues with this small dam.
- **Hollingsworth & Vose Company Dam Inspections:** Project Manager for the evaluation of three dams inclusive of visual inspections, inspection and maintenance plans, and emergency action planning. Greenwich, NY.
- **RIDEM Dam Inspections:** Project Engineer for the completion of visual inspections of dams in Rhode Island for the RIDEM Dam Safety Program. Statewide, RI.
- **Terry Brook Reservoir Dam:** Project Manager for the development of plans and specifications to stabilize the embankment, construct a new dike, and improve discharge capacity of this high hazard potential dam. Freetown, MA.
- **MWRA Dam Safety Consultation:** Senior Project Engineer/Managing Engineer responsible for the management of a contract with the Massachusetts Water Resources Authority (MWRA). The project included evaluation of 11 earthen embankments and gravity dam structures. Evaluations included the completion of seepage and stability analyses utilizing finite element analysis software. Scope of work also included the underwater inspection of ancillary structures, regulatory Phase I Inspections, wave run-up/freeboard evaluations, tail water impact evaluation, and construction observation services. Included in the project were an hydraulic analysis of the Quabbin Reservoir Dam Spillway and the evaluation of alternative gate systems to facilitate additional regulation of the impoundment level. Various locations, MA.
- **NRCS Quaboag Dams:** Senior Project Engineer for the visual inspection and development of assessment reports for four Natural Resources Conservation Service (NRCS) flood control dams within the Quaboag Watershed. The project included interaction with NRCS personnel, review of NRCS documentation, and comparison of original design consideration to current design procedures and requirements. Central Massachusetts.
- **Erikson Dam:** Senior Project Engineer for the evaluation and development of construction plans to stabilize this run-of-the-river rockfill dam. Acton, MA.
- **Nagog Pond Dam:** Project Manager for the Phase II Dam Inspection/Evaluation of a significant-hazard-potential aging concrete dam and the development of alternative repair approaches. Providing design of selected repair alternative and permitting services. Concord, MA.
- **Lake Maspenock Dam:** Project Engineer responsible for coordination and completion of Phase II Inspection and Evaluation of an 800-foot long, 18-foot high stone masonry, high-hazard potential dam. Project services included completion of subsurface investigations, stability evaluations, hydrologic and hydraulic studies, dam break modeling and inundation mapping, Emergency Action Plan preparation, Operations and Maintenance Manual development, and work plan preparation. Milford, MA.
- **Town of Spencer Dams:** Project Engineer for the completion of Phase I Dam Inspections of four dams owned/operated by the Town of Spencer including the Sugden Reservoir Dam, Lake Whittimore Dam, Cranberry

Meadow Pond Dam, and Muzzy Meadow Dam. Responsibilities included coordination and completion of inspections and development of Phase I Inspection/Evaluation Reports for each of the dams and preparation of an Emergency Action Plan with Inundation Mapping for the Sugden Reservoir Dam. Spencer, MA.

- **Barney Pond Dam:** Provided Project Engineer services to coordinate and complete Phase I and Phase II Inspection and Evaluation of this 320 foot long, 20 foot high earthen embankment dam. Subsequent to identification of deficiencies during the Phase I visual inspection and evaluations, project responsibilities included project coordination, visual inspections, underwater inspections, subsurface investigations, stability analyses, and conceptual design of repairs to address stability, seepage, and hydraulic capacity deficiencies. Lincoln, RI.
- **Irish Dam:** Senior Engineer responsible for design of repairs to the concrete spillway, bascule gate, and embankment for this 17-foot high, 430-foot long flood control structure. Responsibilities included design, preparation of contract documents, and providing construction phase services. Grafton, MA.
- **Lake Hiawatha Dam:** Senior Engineer/Project Engineer responsible for completion of Phase II Evaluations to assess the 250-foot long, 10-foot high dam. Completed design of spillway replacement and embankment repairs subsequent to Phase II Evaluation. Blackstone, MA.
- **Phase I Dam Inspections (2006):** Project Engineer/Lead Engineer for the inspections and evaluation of various municipal, state and privately-owned dams in response to orders by the MADCR Office of Dam Safety. Statewide – MA.
- **MADCR Dam Inspections (2000 – 2013):** Project Engineer for the inspection and evaluation of state-owned dams throughout the Commonwealth for the Massachusetts Department of Conservation and Recreation (MADCR). Responsibilities included field inspections, report development, and evaluation of recommendations. Statewide – Massachusetts.
- **MADCR Dam Evaluations:** Senior Engineer for evaluations of state-owned, high-hazard dams that included Otis Reservoir Dam, Lake Ashmere Dam, Rice City Pond Dam, and Lake Cochituate Dam. Responsibilities included visual inspection, performing site and downstream survey, preparation of inundation maps, and preparation of Phase I Inspection reports. Otis, Hinsdale, Uxbridge, and Framingham, MA.
- **Emergency Phase I Dam Inspections 2005:** Senior Engineer for the coordination of 31 dam inspections by three inspection teams within a 48 hour period of time in response to an order from the Governor following nine days of rain in October of 2005. Completed 13 dam inspections as part of the inspection program and within three business days submitted summary reports that included site plans, photographs, and inspection data. Southeastern, MA.
- **Rice City Pond Dam Emergency Slope Repairs:** Senior Engineer for the emergency evaluation of a slope failure at this high-hazard potential earthen embankment dam as a result of the heavy rains in October of 2005. The

dam, which supports a well-traveled roadway along its crest, is located immediately upstream of a heavily developed area and is located within the Blackstone Historic Corridor. Completed subsurface investigations, evaluations of alternatives, design of remedial measures, and the preparation of contract documents to facilitate the solicitation of bids for construction within a three-week timeframe. Uxbridge, MA.

- **Mowry Paine Pond / Camp Cookie Dam:** Senior Engineer responsible for visual inspection and report and recommendation preparation. Ensuing project responsibilities included design of a spillway replacement, preparation of construction plans and specifications, processing of construction shop drawings, and part time construction observation. Gloucester, RI.
- **Boone Lake Dam:** Senior Engineer for visual inspection, evaluation, and repair of this 21-foot high, 265-foot long dam in response to emergency condition identified by cloudy water discharging from the downstream wall of the dam. Responsibilities included undertaking a site survey, implementing a subsurface investigation, and performance of stability and seepage analyses. Evaluation resulted in additional project responsibilities including design of repair alternatives, preparation of construction plans, specifications, and opinions of probable costs, and construction phase on-site observation. Exeter, RI.
- **Russell Mill Pond Dam:** As a Senior Engineer undertook a visual inspection and prepared recommendations and a report for this 26-foot high, 400-foot long dam. Responsibilities also included review of proposed modifications to dam for reconstruction of a fish ladder, undertaking subsurface investigations in support of this review, and preparation of recommended design modifications and approach. Plymouth, MA.
- **SuAsCo Dam Evaluations:** Senior Engineer responsible for visual inspection and collection of survey data for this evaluation of the Lester G. Ross, Barefoot Brook, and Brewer Brook Floodwater Retarding Dams within the SuAsCo Watershed. Prepared inspection and recommendations for the report utilizing current NRCS format. Marlborough, Northborough, and Berlin, MA.
- **Yawgoo Mill Pond Dam:** Senior Engineer for inspection and evaluation of portions of the embankment. Provided part time construction observation and engineering recommendations during repairs including installation of upstream riprap protection. Subsequent project responsibilities included evaluation of a failing downstream wall and preparation of construction notes and sketches for repair of the wall and installation of a low level outlet system. Exeter, RI.
- **Miscellaneous Dam Inspections:** Staff Engineer/Senior Engineer for the evaluation of multiple dams and appurtenant structures within Massachusetts and Rhode Island. Evaluations included visual inspections and report, recommendation, and opinion of cost preparation.

Ashland Reservoir Dam, Ashland, MA
Blue Pond Dam, Hopkinton, RI
Chartley Pond Dam, Norton, MA
Ellis Pond Dam, Norwood, MA
Hollingsworth & Vose Co. Dam,
Groton, MA

Howe Reservoir Dam, Spencer, MA
Lake Hiawatha Dam, Blackstone,
MA
Neponset Reservoir Dam, Foxboro,
MA
Norton Reservoir Dam, Norton, MA

Holly Pond Dam, Hingham, MA Sandra Pond Dam, Westboro, MA
Hopkinton Reservoir Dam, Hopkinton, MA Townsend Harbor Dam, Townsend, MA
Howe Pond Dam, Spencer, MA West Pond Dam, Gloucester, MA

- **Mattapoissett Dam Repairs:** Senior Engineer responsible for preparation of contract documents for concrete repairs to Mattapoissett Dam. Duties included data collection, analysis of existing conditions, preparation of construction drawings, and preparation of technical specifications. Mattapoissett, MA.
- **West Pond Outlet Dam Investigation:** As Senior/Field Engineer, responsibilities included collection, interpretation, and analyses of site information. Performed a visual inspection of the dam, a subsurface investigation, and prepared an inspection report containing analysis results and repair recommendations. Gloucester, MA.
- **Neponset Reservoir Dam:** Senior Engineer for the visual inspection and evaluation of this 10-foot high, significant hazard potential, earthen embankment dam. As part of the inspection, completed a downstream survey, liquefaction analysis, and slope stability analysis. Based upon the results of the stability analysis, evaluated alternative slope stabilization methodologies and prepared a summary report of the findings. Foxboro, MA.
- **Chartley Pond Dam Improvements:** Senior Engineer responsible for preparation of contract documents for improvements to Chartley Pond Dam. Duties included data collection; design of required improvements; preparation of construction drawings, technical specifications, and an opinion of probable cost; and construction observation. Norton, MA.
- **Phase II Investigation, Norton Dams:** Staff/Field Engineer responsible for implementation of Phase II investigation of Norton Reservoir Dam and Chartley Pond Dam. Duties included coordination and inspection of test borings, topographic site survey, slope protection design, stability analysis and liquefaction potential analysis. Prepared Emergency Actions Plans and Operations and Maintenance Manuals, opinions of probable cost, recommendation and summary reports. Norton, MA.
- **Holly Pond Dam Repairs:** Staff/Field Engineer responsible for preparation of construction documents for the fast-track repairs to Holly Pond Dam. Duties included cost estimating, bathymetric survey, topographic site survey, preparation of technical specifications, and construction observation. Hingham, MA.
- **Tuxbury Pond Dam Improvements:** Staff/Field Engineer prepared environmental permit applications, construction drawings and technical specifications for improvements to the spillway at Tuxbury Pond Dam. Duties included collection of data, spillway and training wall design, preparation of documents, and construction observation. Amesbury, MA.
- **Ashland Design Services:** Staff Engineer responsible for preparation of an Emergency Action Plan (EAP) and Operations and Maintenance (O&M) Manual for this large high-hazard structure. Duties also included an embankment stability analysis and preparation of technical specifications for the construction phase of the project. Ashland, MA.

- **Lake Gardner Dam Rehabilitation:** Field Engineer responsible for construction observation of this \$1.2 million dam rehabilitation project. Duties included daily logs, pile driving inspection, concrete testing, slope protection placement inspection, and daily interface with the Owner and Contractor. Amesbury, MA.
 - **Phase I Dam Inspections 1998, Massachusetts Department of Environmental Management:** As Staff Engineer, assisted in the implementation of a Massachusetts Department of Environmental Management Phase I inspection program for 79 publicly and privately owned dams. Duties included providing assistance in the visual inspections, report preparation, and evaluations for a variety of significant and high-hazard structures. Statewide – MA.
 - **Phase II Investigation, Assawompsett Pond Dam:** Staff Engineer responsible for analysis of the existing structure. Duties included slope protection design, embankment stability analysis, spillway stability analysis, liquefaction potential evaluation, and cost estimation. Lakeville, MA.
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**REGISTRATIONS AND
CERTIFICATIONS**

Professional Engineer –
Rhode Island,
Massachusetts

Nuclear Testing Equipment
Training

Providence and Worcester
Railroad Safety Training

OSHA Construction Safety
10-Hour Training

OSHA Hazardous Waste
Operations 40-Hour Health
and Safety Training

OSHA Hazardous Waste
Operations 8-Hour Refresher
Training

MCIB:
Concrete Inspector
Certificate, 1996

**PROFESSIONAL
AFFILIATIONS**

Association of State Dam
Safety Officials
Chi Epsilon

EDUCATION

Northeastern University:
M.S., Civil Engineering, 2000

University of Rhode Island:
B.S., Civil Engineering, 1993

Troxler Electronics, Inc.:
Troxler Density Gauge
Training, 1993

RELEVANT EXPERIENCE

Mr. Matheson is a Project Engineer with over 20 years of diverse experience on geotechnical, waterfront, dam, bridge, and construction engineering projects. This includes geotechnical site investigation, geotechnical analysis, dam inspection and repair design, and construction monitoring. Due to his tenure with a pile-driving contractor, Mr. Matheson also has construction experience including estimating, supervision, and shop drawing submittal development. Relevant project experience includes:

Dam Projects

- **RIDEM Dam Inspections (2010, 2011, 2012, 2013, 2014):** Project Engineer for the completion of visual inspections of dams in Rhode Island for the RIDEM Dam Safety Program. Statewide, RI.
- **Barney Pond Dam Repairs:** Project Engineer for the evaluation and design of repairs to address spillway and embankment stability concerns. The project included the development of full construction plans and specifications. Lincoln, RI.
- **Norton Reservoir Dam Repairs:** Project Engineer for the evaluation and design of repairs to address embankment stability concerns. The project included full construction document preparation and construction administration. Norton, MA.
- **Wakefield Pond Dam Evaluation:** Project Engineer for the evaluation of seepage and the development of alternatives to remediate an earthen embankment dam. Wakefield, MA.
- **RIDEM Dam Inspections:** Project Engineer for the completion of visual inspections of dams in Rhode Island for the RIDEM Dam Safety Program. Statewide, RI.
- **Robin Hollow Pond Dam:** Developed construction plans and specifications to improve hydraulic capacity, improve stability and provide overtopping protection for this water supply project. Cumberland, RI.
- **Regulating Reservoir Dam:** Developed construction plans and specifications to repair the embankment dam through earthwork, concrete repairs, and the replacement of inoperable components. Scituate, RI.
- **Barden Reservoir Dam:** Observed the drilling of borings, performed slope stability analyses on existing slopes and for slope rehabilitation designs, and completed quantity calculations for a proposed downstream retaining wall. Scituate, RI.
- **MADEM Dam Safety - Phase I Dam Inspections:** Conducted Phase I dam inspections consisting of visual on-site inspections, interviews with owners, a review of existing construction and past inspection documents, and development of inspection reports containing findings, repair alternatives and recommendations, photos, and opinions of probable construction costs. Specific projects include:
 - Big Bearhole Pond Dam; Taunton, MA
 - Borderland Dam Nos. 1, 2, and 3; Easton, MA
 - Indian Brook Dam; Plymouth, MA

- Puds Pond Dam; Sharon, MA
 - Quequechan River Dam; Fall River, MA
 - Lake Rico Dam; Taunton, MA
 - Route 25 Dam No. 1; Wareham, MA
 - Sunset Lake Dam; Foxboro, MA
 - Upper Leach Pond Dam; Sharon, MA
 - Washington Street Pond Dam; Pembroke, MA
 - West Meadow Dam; West Bridgewater, MA
 - Box Pond Dam; Bellingham, MA
 - Crack Rock Pond Dam; Foxboro, MA
- **Bowdish Reservoir Dam:** Observed drilling of borings and performed slope stability analyses for the rehabilitation design. Gloucester, RI.
 - **Wachusett Reservoir Dam:** Provided field observations and a summary report for underwater inspections of a stone masonry dam that is approximately 900 feet long and up to 129 feet in height. Clinton, MA.
 - **Sunset Lake Dam:** Performed slope stability analyses of the dam embankment using the computer program XSTABL as part of a Phase II dam inspection. Foxboro, MA.
 - **Fulton Pond Dam:** Provided several aspects of construction services including submittal and invoice review, construction monitoring, change order development, and various correspondence for the reconstruction of the spillway and rehabilitation of the dam embankment. Mansfield, MA.
 - **Silver Lake Spillway Replacement:** Performed structural design, developed drawings and specifications, reviewed submittals, and monitored construction for the proposed spillway replacement project. Bellingham, MA.
 - **Stevens Pond Dam:** Performed construction observation for the rehabilitation of the dam and spillway including the installation of a concrete cutoff wall, low-level gate repairs, and resetting of a granite block masonry retaining wall. Sutton, MA.
 - **Stillwater Reservoir Dam:** Performed geotechnical subsurface explorations, slope stability analyses, and construction cost estimates during a study of the structural integrity of the reservoir's dam, dikes, and spillway. North Smithfield, RI.
 - **Jordan Pond Dam:** Designed a stop log control structure that will replace an existing system. Scituate, RI.



**REGISTRATIONS AND
CERTIFICATIONS**

Engineer in Training

Troxler Nuclear Density
Gauge Training

OSHA 10 Hour Construction
Safety Training

**PROFESSIONAL
AFFILIATIONS**

Association of State Dam
Safety Officials

American Society of Civil
Engineers

EDUCATION

University of Colorado:
M.S., Civil Engineering, 2010
B.S., Civil Engineering, 2010

RELEVANT EXPERIENCE

Mr. Rosenberg is a graduate of the University of Colorado where he completed both a bachelor's degree and a master's degree in civil engineering. While at the University, Mr. Rosenberg formulated testing methods for investigating thermal effects on soil-structure interactions in geothermal foundations. Since graduating, Mr. Rosenberg has served as an engineer providing engineering analysis, data collection, and field observation. Relevant project experience includes:

- **Paradise Pond Dam Repairs:** Senior Engineer responsible for Hydrologic & Hydraulic evaluations utilizing NRCS curve number methodology and design rainfall events. Responsibilities included obtaining rainfall data, development of curve numbers and watershed data and model development. Princeton, MA.
- **Jamestown Dam Evaluation and Engineering:** Senior Engineer responsible for Hydrologic & Hydraulic evaluations utilizing NRCS curve number methodology and design rainfall events. Responsibilities included obtaining rainfall data, development of curve numbers and watershed data and model development. Jamestown, RI.
- **Upper and Lower Highland Lake Dams Phase II:** Engineer responsible for inspection of test borings, analysis of the existing structures and report preparation for two high hazard dams in series. Duties included embankment stability analysis, slope protection design, spillway capacity analysis, liquefaction potential evaluation, development of design repair plans and cost estimation. Goshen, MA.
- **MADCR Dam Inspections:** Engineer during the inspection of multiple high hazard and significant hazard potential dams performed in compliance with current state regulations as stated in 302 CMR 10.00. Massachusetts.
- **Municipal Dam Inspections:** Engineer during the inspection of ten high and significant hazard potential dams inspected in compliance with current state regulations as stated in 302 CMR 10.00. Massachusetts.
- **Terry Brook Reservoir Dam:** Provided construction observation during the construction of spillway and embankment repairs to a 30-foot high hazard potential dam. Freetown, MA.
- **Framingham Reservoir Number 1 Phase II:** Senior Engineer responsible for inspection of test borings, analysis of the existing structure, and report preparation. Duties included a detailed review of existing information, embankment stability analysis, spillway stability analysis, liquefaction potential evaluation, development of design repairs and cost estimation. Framingham, MA.
- **Norton Reservoir Dam Repairs:** Field Engineer responsible for construction observation during embankment repairs, setting of upstream slope protection, toe drain installation, blanket drain installation and project close-out. Norton, MA.
- **Framingham Reservoir No. II Phase II:** Engineer responsible for inspection of test borings, analysis of the existing structure, and report preparation. Duties included a detailed review of existing information, embankment stability analysis, spillway stability analysis, liquefaction

potential evaluation, development of design repair and cost estimation. Framingham, MA.

- **Goodnough Dike Tail Water Evaluation:** Senior Engineer responsible for completing field reconnaissance inclusive of survey and inspection, and detailed report preparation. Duties included a detailed review of existing conditions, layout of hydraulic flow sketches, analysis of existing data, and development of potential alternatives. Ware, MA.
- **Copicut Reservoir Dam Repairs:** Senior Engineer currently responsible for designing/planning a proposed access bridge across the spillway channel, designing proposed flow measurement weir boxes for the core wall drainage system, completing field reconnaissance inclusive of survey and inspection, and ongoing plans and specifications development. Fall River, MA.
- **Easton Mill Intake Structure Design.** Senior Engineer responsible for design options for the landside and support structure improvements for the new trash rake system. This was inclusive of slope and sheet pile stability analysis, tie back anchor design and layout, foundation bearing capacity and slope protection. Greenwich, NY.
- **Farnham Reservoir Phase II Stability Analysis Peer Review.** Senior Engineer responsible for review the stability analysis presented in the Phase II Report for completeness, appropriateness of assumptions, loading criteria, and conclusions reached. In addition, duties included a development of a geomembrane alternative, a hydraulic and structural review, and developed recursive opinions of probable cost.
- **Clark Mills Upper Dam Engineering Assessment:** Engineer responsible for seepage gallery inspection, analysis of the existing structure, and report preparation. Duties included reviewing the spillway stability analysis and conclusions, a compliance review, hydraulic calculations and report generation. Greenwich, NY.
- **Center Pond Dam Rehabilitation:** Senior Engineer responsible for construction observation during embankment repairs, setting of upstream slope protection, concrete spillway reconstruction, project coordination and project close-out punch list inspection. Becket, MA.
- **MADCR Dam Inspections:** Engineer during the inspection of multiple high hazard and significant hazard potential dams performed in compliance with current state regulations as stated in 302 CMR 10.00. Massachusetts.
- **Municipal Dam Inspections:** Engineer during the inspection of fifteen high and significant hazard potential dams inspected in compliance with current state regulations as stated in 302 CMR 10.00. Massachusetts.
- **Terry Brook Reservoir Dam:** Provided construction observation during the construction of the spillway and embankment repairs to a 30-foot high hazard potential dam. Freetown, MA.



EDUCATION

Concordia University
Montreal, Quebec
B.Eng., Civil Engineering, 2008

Dawson College
Montreal, Quebec
Diploma of College Studies
Civil Engineering Technology,
2004

Troxler Nuclear Density
Testing

OSHA Construction Safety 10
Hour Training

RELEVANT EXPERIENCE

Ms. Judge performs a variety of engineering assignments for geotechnical projects associated with new building construction and renovation, waterfront structures, bridges and dams. Inclusive in Ms. Judge's experience are geotechnical analysis, collection of field data, observation of subsurface explorations, and laboratory testing. Relevant project experience includes:

- **Massachusetts Water Resources Authority Dam Engineering Services (Several Dams):** Completed seepage and stability analyses of several existing dam structures using existing subsurface information. Analyses were completed using state of the practice computer modeling software. Various Locations, MA.
- **Massachusetts Department of Transportation Phase II Evaluations, Balch Pond Dam:** Developed soil parameters based on previously completed subsurface investigations, completed seepage and dam embankment stability evaluations, evaluated liquefaction and overtopping potential, completed an updated visual inspection of site conditions, developed alternatives to address deficiencies at the dam including probable costs. Ayer, MA.
- **Massachusetts Department of Transportation Phase II Evaluations, Studleys Pond Dam:** Observed subsurface investigations, developed soil parameters, completed seepage and retaining wall stability evaluations, evaluated liquefaction and overtopping potential, completed an updated visual inspection of site conditions, developed alternatives to address deficiencies at the dam including probable costs. Rockland, MA.
- **Robin Hollow Pond Dam Repairs:**
 - Construction Phase: Resident Engineer providing construction observation, reviewed submittals, coordination with the Contractor for the approximately \$1,500,000 rehabilitation project.
 - Design Phase: Completed the evaluation of the stability of the earthen slope, and gravity spillway. Designed remedial measures to improve stability to meet current design criteria. This task included the development of Construction Documents. Cumberland, RI.
- **Paradise Pond Dam Repairs:**
 - Construction Phase: Resident Engineer providing construction observation, reviewed submittals, coordination with the Contractor for the approximately \$1,500,000 rehabilitation project.
 - Design Phase: Evaluated alternatives and designed remedial measures to improve earthen slope stability to meet current design criteria. Designed flashboards, flashboard pins, toe drains in accordance with current design criteria. Northampton, MA.
- **Whittings Pond Dam:** Resident Engineer providing construction observation, shop drawing review, coordination with the Contractor, pay requisition review for the rehabilitation project. North Attleboro, MA.
- **Various Phase I Dam Inspections (Rhode Island):** Completed visual field inspections as part of the Phase I evaluation of a variety of dams with appurtenant structures ranging from concrete and stone masonry spillways, to gated sluice structures and by pass channels.

- Ponaganset Reservoir Dam– Gloucester, RI
- Bowdish Reservoir Dam– Gloucester, RI
- Clarkville Pond Dam– Gloucester, RI
- **Barney Pond Dam:** Resident Engineer providing construction observation for the approximately \$850,000 rehabilitation project. Lincoln, RI.
- **Greenville Water District:** Utilized collected subsurface information for the foundation design of a proposed one million gallon tank; evaluated the potential for settlement and liquefaction. Greenville, RI.
- **Bartlett Pond Dam:** Completed sediment survey and sampling and computed sediment volumes in support of the development of a preliminary feasibility study for removal. Lancaster, MA.
- **Howe Pond Dam:** Field Engineer providing construction observation during emergency spillway and low level outlet repairs. Spencer, MA.
- **Jenks Pond Dam Phase II Evaluation:** Completed a slope stability evaluation of the earthen embankment dam to evaluate conditions under static, dynamic and maximum pool conditions. Bellingham, MA.
- **Curtis Pond Dam Phase II Evaluation:** Completed a stability evaluation of the dam to evaluate conditions under static, dynamic and maximum pool conditions. Middleton, MA.
- **Terry Brook Dam Remedial Design:** Completed the evaluation of the earthen slope and designed remedial measures to improve stability to meet current design criteria. This task included the completion of field survey and the development of an Opinion of Probable Cost. Fall River, MA.
- **Paradise Pond Dam Phase II Evaluation:** Completed a slope stability evaluation of the earthen embankment dam to evaluate conditions under static, dynamic and maximum pool conditions. Northampton, MA.
- **Neponset Reservoir Dam Repairs:** Provided onsite construction observation during installation of a grout curtain cutoff wall along the alignment of the earthen dam. Foxboro, MA.
- **Various Phase I Dam Inspections:** Completed visual field inspections as part of the Phase I evaluation of a variety of dams with appurtenant structures ranging from concrete and stone masonry spillways, to gated sluice structures and by pass channels.
 - Conway Electric Dam – Conway, MA
 - Sugden Reservoir Dam – Spencer, MA
 - Iron Hill Dam – Weymouth, MA
 - Whitmans Pond Dam – Weymouth, MA
 - Kelleher Dam – Kingston, MA
 - DelCarte Dams – Franklin, MA
 - Chartley Pond Dam – Norton, MA
 - Bound Brook – Norwell, MA
 - Whittings Pond Dam – North Attleboro, MA
 - Spot Pond Dam - Stoneham, MA
 - Somerset Reservoir Dam – Somerset, MA
 - Smelt Brook Dam – Weymouth, MA