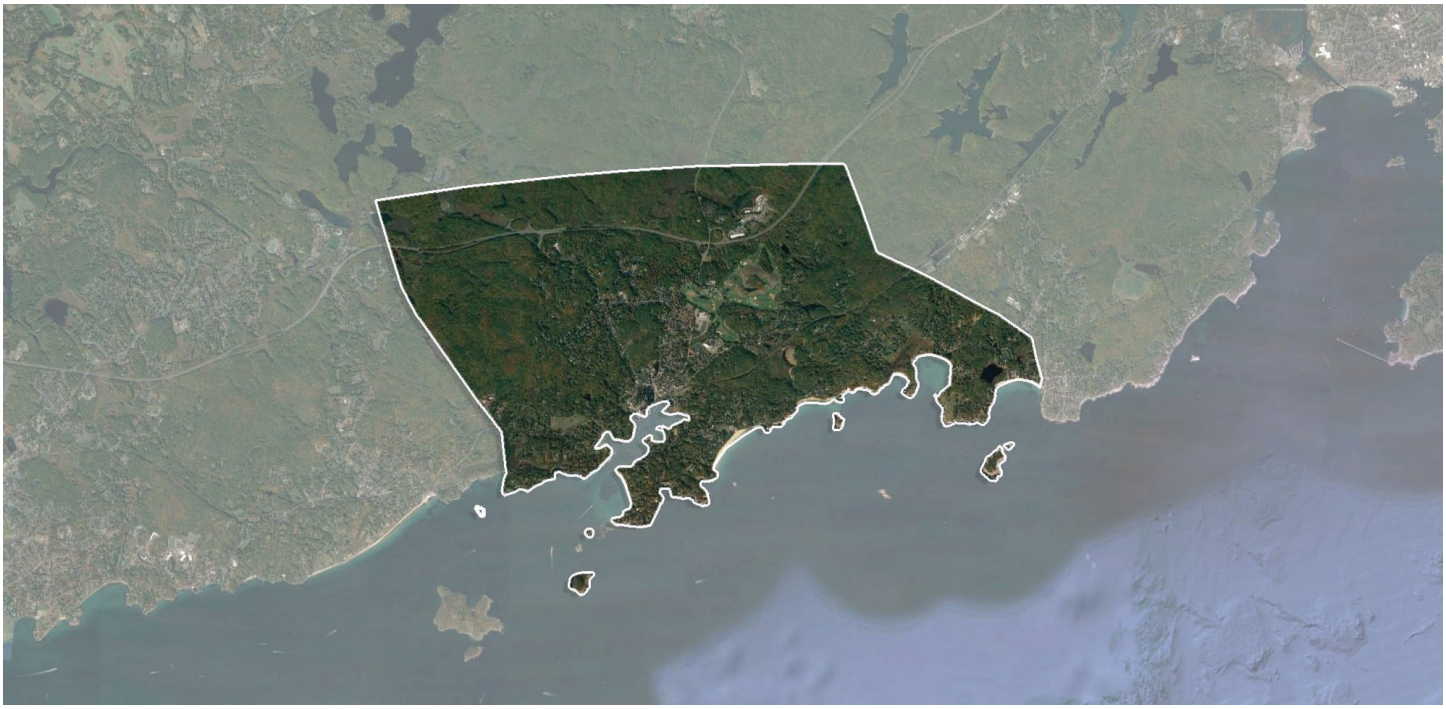
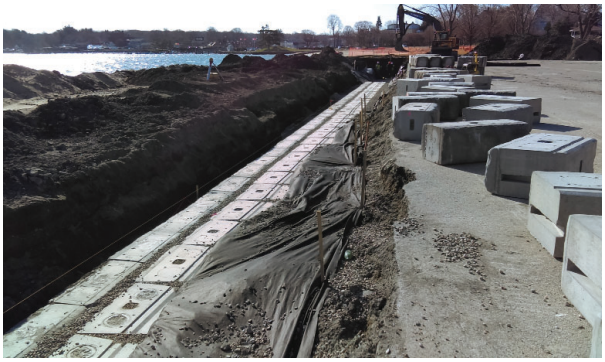


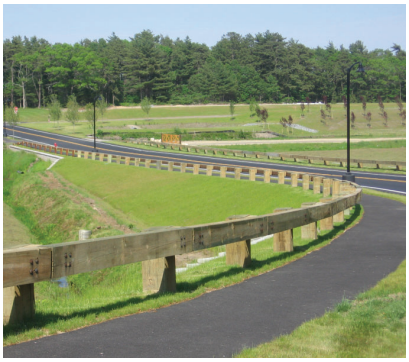
Response to Request for Proposals for:

Civil Engineering, Landscape, Site Design & Geotechnical Peer Review Consulting Services

Chapter 40B Comprehensive Permit Application - 0 School Street

Manchester-by-the-Sea, Massachusetts





prepared by:

Beals and Thomas, Inc.
144 Turnpike Road
Southborough, MA 01772

presented to:

Sue Brown, Town Planner
Town Hall
10 Central Street
Manchester-by-the-Sea, MA 01944

January 14, 2022

BEALS+THOMAS

BEALS + THOMAS

January 14, 2022

Town Hall
Attn: Sue Brown, Town Planner
10 Central Street
Manchester-by-the-Sea, MA 01944

Via: Email to browns@manchester.ma.us; smellish11@comcast.net; eglenn@mit.edu; gpucci@k-plaw.com; federspielg@manchester.ma.us; and FedEx

Reference: Proposal for Civil Engineering Peer Review Consulting Services
Chapter 40B Comprehensive Permit Application
Sanctuary at Manchester-by-the-Sea
0 School Street, Massachusetts
B+T Project No. M8901.01

Dear Ms. Brown:

Beals and Thomas, Inc. (B+T) is pleased to provide our response to the Zoning Board of Appeals (the Board) request seeking peer review consulting services for civil engineering including landscape architecture/site design and geotechnical considerations related to the "Sanctuary at Manchester-by-the-Sea" Chapter 40B Comprehensive Permit Applicant at 0 School Steet (the Project). We understand that SLV School Street, LLC (the Applicant) proposes to develop a 40B housing project consisting of 136 apartment units with associated improvements.

Firm Overview
B+T is a multidisciplinary firm with significant 40B and engineering peer review expertise. Our staff routinely addresses similar development projects, both as project design and permitting consultants as well as peer review consultants.

For 37 years, B+T has been providing professional services that support the development and conservation of land and water resources throughout New England. We are committed to preserving the integrity of the New England landscape through sound environmental design and have established a corporate identity based on a balanced perspective with the planning, development, and conservation of land and water resources.

Our mission is to advocate and assist in the attainment of project goals by providing creative and solution-oriented land planning and design services that are balanced with an environmental ethic.

We offer the combined perspectives of our civil engineers, landscape architects, wetland scientists, environmental planning and permitting specialists, and land surveyors to provide the leadership and management necessary to address the Town's needs in a comprehensive and responsive manner. We dedicate the necessary time and staff resources to meet deadlines and ensure that the Town is uniquely prepared to respond to a range of issues.

B+T maintains a depth of staff that allows us to supplement the required services as may be necessary. We currently staff Professional Engineers, Registered Landscape Architects, Professional Land Surveyors, LEED® Accredited Professionals, SITES Accredited Professionals, Licensed Site Professionals, Envision Certified Professionals, Certified Playground Safety Inspectors, Professional Wetland Scientists, and Municipal Vulnerability Preparedness Certified Providers.

Relevant Experience

B+T has extensive experience working with and assisting various municipal boards and committees on a range of development types and sizes, and our team is experienced and adept at reviewing development proposals relating to Chapter 40B Comprehensive Permits.

We currently have long-term on-call peer review and construction monitoring contracts with five municipalities, and routinely provide these services to other municipalities on an as-requested basis, as well. In total, we have provided review services for nearly forty municipalities, and hundreds of projects, including 40B proposals, road construction, subdivision, and commercial developments..

We recognize that the time of Town staff and volunteers serving on municipal Boards and Commissions is valuable, that meeting agendas are often overloaded, and that clear and comprehensive expert technical input and advice facilitates successful outcomes.

We have considerable experience from both perspectives, reviewing Chapter 40B proposals on behalf of municipal Zoning Boards of Appeal (ZBAs) as well as preparing and presenting Chapter 40B projects on behalf of applicants. This experience gives us a unique perspective of seeing the process from both sides and allows us to effectively evaluate the needs of the developer and communicate the concerns of the municipality.

Comprehensive permitting and the associated development is a complex practice requiring knowledge of the regulations, perspective of the process, and experience working with developers and municipalities. We have provided our Chapter 40B-related engineering expertise to municipalities and developers since 1992, and continue to add successful Chapter 40B projects from across Massachusetts to our resume. We have included below a list of some of the Chapter 40B projects for which we have provided services, including municipal reviews, over the last several years:

- Design and permitting services for the Cutler Heights in Holliston, Massachusetts including septic system design, grading and plan preparation
- Review of Cocasset Place Condominiums Application on behalf of the Town of Foxborough Zoning Board of Appeals
- Review of the Lodge at Foxborough Apartments on behalf of the Town of Foxborough Planning Board
- Review of West Wrentham Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals
- Review of The Lodge at Foxborough Apartments Comprehensive Permit Application on behalf of the Foxborough Zoning Board of Appeals
- Review of Eaglebrook Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals
- Review of the Foxborough Housing Authority Comprehensive Permit Application on behalf of the Foxborough Zoning Board of Appeals
- Review of a 200-unit Comprehensive Permit application on behalf of the Amesbury Planning Board
- Review of a 56-unit condominium complex at Coventry Woods on behalf of Carlisle Zoning Board of Appeals
- Permitting and site engineering for Shovel Shop Square in Easton, Massachusetts a 113-unit 40B housing project
- Review of Maplewood Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals
- Review of a definitive 40B plan for Bartlett Pond Pasture on behalf of the Plymouth Zoning Board of Appeals
- Review of a 60-unit residential 40B building at Waterview Commons on behalf of the Town of Sutton

- Review of a 180-unit residential 40B permit application at Quarry Pond Village on behalf of the Town of Milford
- Site plan preparation and permitting for Eaton Place in Franklin, Massachusetts for 50 supportive living units
- Site planning and permitting to support a comprehensive permit for rental units at Winterbury Hollow in Holden, Massachusetts along with a Definitive Plan to the Zoning Board of Appeals
- Review of the final plans for a residential 40B development at the Village at Sawmill Woods on behalf of the Plymouth Zoning Board of Appeals
- Review of the conceptual site development plan for the Comprehensive Permit Application for "Highland Ridge" on behalf of the Town of Foxborough Zoning Board of Appeals
- Review of site design and Comprehensive Permit Application for The Woods at Wrentham, a twelve (12) unit residential condominium community located in both Wrentham and Plainville
- Review of the Five Leaves at Sturbridge Comprehensive Permit Application for a three-phased 103-unit residential development
- Review of Broadstone 305 Comprehensive Permit Application for a 317-unit development on behalf of the City of Waltham

We would be pleased to provide additional information relating to our relevant experience upon request.

Peer Review Team

We have assigned the following team of professionals to address the services required by the Manchester-by-the-Sea Zoning Board of Appeals. Our services will be provided by a Professional Engineer and Registered Landscape Architect, and supplemented as needed by Professional Wetland Scientists and Professional Land Surveyors, as appropriate. As previously noted, we have a depth of staff that allows us to supplement the Project Team as may be necessary, to expeditiously address the requirements of the Town. The Project Team identified below will be dedicated to the Town on a flexible basis in order to provide services in a timely manner.

Stacy Minihane, PWS, Senior Associate

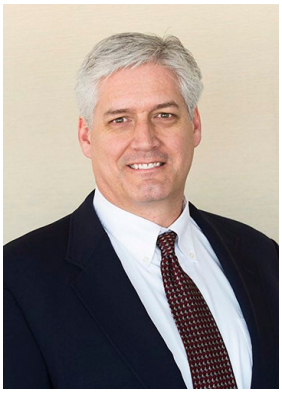
Stacy Minihane will act as the Project Director to maintain consistency with the previous environmental peer-review consulting services requested by the Town. Stacy has been with B+T for nearly 20 years, providing project oversight for a variety of development and conservation projects. Additionally, Stacy routinely provides peer review services for various Conservation Commissions and has provided reviews on behalf of Zoning Boards of Appeals for 40B projects in multiple communities.

Matthew Cote, PE, SITES AP, ENV SP, Senior Civil Engineer

Matt Cote will serve as the Project Manager and Project Engineer. Matt oversees the firm's municipal review services and has conducted peer reviews and construction observations of proposed development projects, including 40B projects, for various municipalities for over seven years.

Matt will review the technical documents and will attend site visits and public hearings as appropriate. Matt is a Senior Civil Engineer with knowledge of zoning by-law review and implementation as they relate to development projects and construction oversight. He is adept at solving complex problems with innovative solutions while maintaining high levels of client service and satisfaction.

David J. LaPointe, RLA, LEED AP, CPSI, Principal



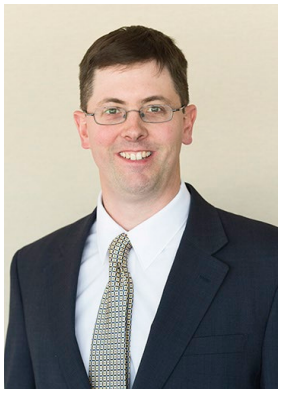
Dave LaPointe has significant experience spanning an array of project types including office buildings, institutional campuses, industrial facilities, recreational facilities and residential developments, for which he provides expertise regarding a variety of site design elements such as vehicle and pedestrian circulation, handicapped accessibility, materials selection, grading and planting design for conformance with regulations, as well as standard design principles.

Dave's experience also includes numerous park projects, as well as downtown visioning and wayfinding projects. He has also assisted multiple municipalities with the review of revisions to their Zoning Bylaws and Subdivision Rules and Regulations, and is a former member of the Norfolk Planning Board and Norfolk Design Review Board.

Support Staff

Matt and Dave will act as the responsible professionals with regard to the services provided to the Town and will enlist the assistance of and oversee our team as necessary to ensure that the review is completed in a comprehensive, efficient and timely manner. In addition to other general support staff, we anticipate that Daniel Feeney will comprise part of the core team for Manchester-by-the-Sea.

Dan Feeney, PE, LEED AP



Dan Feeney is a Vice President and Principal at B+T and provides guidance and knowledge throughout the process of civil and site design and wetland permitting for the firm's industrial, commercial and residential development projects. Dan also provides peer review services for various Boards and Commissions in multiple municipalities, including more recently multiple 40B projects in Falmouth and Waltham.

Though B+T does not employ geotechnical engineering staff, we will partner with Northeast Geotechnical Inc. Glenn Olson, PE, has over 35 years of diversified geotechnical engineering project experience. He has effectively interfaced with owners, architects, engineers, developers, government agencies, and contractors. Mr. Olson has been responsible for geotechnical engineering associated with building foundations and slabs, ground improvement, slope stability, pavement, earthwork criteria, vibration monitoring, lateral earth support, dewatering, groundwater recharge, and pipeline support. Projects have included numerous low-rise and mid-rise commercial, educational, and industrial buildings, as well as public roadway and utility improvements.

Please refer to the Resumes section herein for additional detail regarding our team's experience. We have included resumes for Stacy, Matt, Dave, Dan and Glenn named herein.

References

Mr. Lee Hartmann, AICP, Director of Planning & Development
Town of Plymouth
Department of Planning & Development
26 Court Street
Plymouth, MA 02360
Telephone: (508) 747-1620 ext. 10143
Email: lhartmann@townhall.plymouth.ma.us

Mr. Gil Hilario, Town Planner
Town of North Attleborough
43 South Washington Street
North Attleborough, MA 02760
Telephone: (508) 699-0116
Email: ghilario@nattleboro.com

Ms. Rachel Benson, Director of Planning & Economic Development
Town of Wrentham
76 South Street
Wrentham, MA 02093
Telephone: (508) 384-5441
Email: rbenson@wrentham.ma.us

Ms. Shannon Palmer, Conservation Agent
Town of North Attleborough
43 South Washington Street
North Attleborough, MA 02760
Telephone: (508) 699-0125
Email: spalmer@nattleboro.com

Scope of Services

Pursuant to the RFP, we will provide the Board with an independent professional review of the application materials, as follows (bold italics excerpted from the RFP):

1. ***Review submitted plans, studies, and supplementary materials associated with civil engineering, site design and geotechnical activities including utilities and stormwater, within materials submitted to date and the Project Eligibility Letter and associated staff, board and committee and public comments, as well as those materials anticipated by the ZBA or requested as part of the peer review process***

   We are in receipt of the Applicant's Comprehensive Permit Application materials dated September 2021. Relative to the scope of the civil engineering and site design consulting peer review services, we intend to specifically review the following:

   - Section 2 – Project Data Summary (2 pages)
   - Section 4 – Project Eligibility Letter (9 pages)
   - Section 9 – Schematic Plan Set (32 sheets)
   - Section 10.1 – Zoning Bylaw Waiver Request (2 pages)
   - Section 11 – Existing Conditions Narrative (2 pages)
   - Geotechnical Reconnaissance document (39 pages)

   In addition to reviewing the provided materials, we will review available information pertaining to site access and turning movements, utility connection and the stormwater management system, snow storage layouts, planting plans, and other civil and geotechnical engineering related matters .

2. ***Conduct independent site visit to assess site and neighborhood conditions***

   We will conduct a site visit to evaluate surrounding land use patterns, proposed site access and existing conditions with regard to the proposed development. Our site visit will focus on review of existing conditions of the site in the context of the proposed development. Preferably, the Applicant's representative(s) will be present during the site visit to be available to respond to initial questions and to provide context for the Project.

3. ***Review requested bylaw waivers and advise ZBA of (a) necessity of relief, (b) alternate methods of compliance, and (c) adverse impact of approval***

   We will review the Zoning By-Law and will comment on the need for the requested relief and the potential impact granting said relief may have on the surrounding area. Additionally, we will review the Town of Manchester-by-the-Sea regulations to evaluate Project compliance with the referenced regulations as applicable.

4. ***Provide initial memorandum with evaluation of Applicant's request for Zoning Bylaw waivers, and recommendations for additional information requests, if any***

   We will submit a letter report summarizing the results of our review, including addressing the items listed above. The report will be stamped by a Professional Engineer and Registered Landscape Architect as applicable. The review letter is intended to provide a summary of the comments for consideration by the Zoning Board of Appeals, and an opportunity for the Applicant to respond to comments prior to the public hearing during which the Project will be addressed. In our experience, this process improves the efficiency of the review.

5. ***Attend and present at up to three meetings of the ZBA***

   We will attend up to three virtual public hearings to present the results of our review and recommendations to the Board and be available to respond to questions from the Board, representatives of the Applicant, and the public.

6. ***Coordinate with other consultants, town officials, and peer-reviewers as necessary, including attendance at one or more working sessions with development team***

   We will attend a virtual coordination meeting with the Project Team and municipal representatives to discuss the Project. Additionally, we will be available by telephone and e-mail as needed.

7. ***Assist the ZBA and its consultants in responding to questions and concerns raised at the hearings***

   We will assist with the preparation of responses to questions as necessary. We will be available by telephone and e-mail as needed outside of the hearing setting as questions arise. We have included an allowance of four hours to accommodate this scope item.

8. ***Prepare draft and final recommendations for modifications, approval conditions, and/or best management practices.***

   We will work closely with the Board regarding approval condition language as needed to inform the Decision.

Additional Services

The services listed below are not included as part of the Scope of Services listed above; however, we would be pleased to provide these services under an additional services contract if necessary.

- Review of additional revised application documents/responses to comments and preparation of associated reports
- Attendance at additional public hearings or coordination meetings

Schedule of Services

We will commence services upon receipt of an executed copy of this proposal and confirmation from the Board to proceed. We anticipate providing our peer review letter within three to four weeks of notice to proceed. This proposal is valid for 30 days from issuance.

Fees for Services

We anticipate that the services detailed herein will require an estimated labor and expense budget of $17,500. This fee includes a $4,000 Allowance for geotechnical review services to be provided by North Northeast Geotechnical Inc.

Additional Services will be provided for additional mutually satisfactory compensation.

As authorization to proceed and as approval of the budget, please execute and return one copy of this proposal for our records.

We thank you for the opportunity to submit this proposal and look forward to providing services to the Town of Manchester-by-the-Sea for this Project.

Very truly yours,

BEALS AND THOMAS, INC.

Matthew Cote, PE, SITES AP ENV SP
Senior Civil Engineer

Stacy H. Minihane, PWS
Senior Associate

Enclosure: Fee Schedule
Resumes

AGREED AND ACCEPTED FOR
TOWN OF MANCHESTER-BY-THE-SEA

SIGNATURE _____

NAME/TITLE _____
(print)

DATE _____

MC/djl/shm/ggp/aak/M890101PR001

BEALS + THOMAS

FEE SCHEDULE

Effective January 1, 2022

Fees for Beals and Thomas, Inc. are based on the following time charges plus expense schedule. Invoices are due upon receipt. Beals and Thomas, Inc. retains all right, title and ownership interest in any and all plans, maps, charts, diagrams, models, specifications, studies, consultations, technical drawings, electronic files, and any other work products prepared on behalf of its clients ("Instruments of Service"). Beals and Thomas, Inc. grants to its clients a nontransferable and non-exclusive royalty-free license to use the Instruments of Service provided that payment for services rendered and expenses incurred is received in a timely manner. For all accounts remaining unpaid by the first of the month following the invoice date, Beals and Thomas, Inc. reserves the right to add a late charge of 1.50 percent per month or 18 percent per annum to each overdue invoice. This fee schedule may be revised periodically.

Time Charges

Rate Category	Hourly Rate
Senior Professional Staff I	$245.00
Senior Professional Staff II	$220.00
Senior Professional Staff III	$190.00
Senior Professional Staff IV	$180.00
Senior Professional Staff V	$165.00
Senior Professional Staff VI	$150.00
Professional Staff I	$135.00
Professional Staff II	$120.00
Professional Staff III	$105.00
Administrative Staff I	$75.00
Administrative Staff II	$50.00

Expert testimony in support of litigation and court appearances will be billed at a rate of $250.00 per hour.

Projects requiring OSHA trained personnel will be billed with a supplemental rate of $25.00 per hour in addition to the standard rate category.

Reimbursable expenses include transportation, delivery, printing costs, presentation materials, computer and field equipment, permit application fees, soil and water testing, police detail, special consultants, or subcontractors and similar costs directly applicable to the individual project. Reimbursable expenses shall be billed at the cost plus an accounting service fee of 10 percent, unless arranged otherwise. Permit application fees that are paid in advance by Beals and Thomas, Inc. will be billed at cost plus an accounting fee of 20%.

Civil Engineering ▪ Land Surveying ▪ Landscape Architecture ▪ Land Use Permitting ▪ Environmental Planning ▪ Wetland Science

Corporate Office
144 Turnpike Road
Southborough, MA 01772

T 508.366.0560 | www.bealsandthomas.com | F 508.366.4391

Regional Office
32 Court Street
Plymouth, MA 02360

Stacy H. Minihane, PWS

Senior Associate

Professional Licensure

Professional Wetland Scientist

Professional Training

Municipal Vulnerability Preparedness (MVP) Certified Provider

Professional Affiliations

Association of Massachusetts Wetland Scientists (AMWS), Vice President

Society of Wetland Scientists (SWS)

Society of Wetland Scientists New England Chapter

Environmental Business Council (EBC) Ocean and Coastal Resources Committee

EBC Diversity, Equity, and Inclusion Committee

Society for Ecological Restoration New England Chapter

Massachusetts Association of Consulting Planners (MACP)

Massachusetts Association of Conservation Commissions

NAIOP

Education

B.A., Biology and Environmental Studies, Bowdoin College, 2003

Years of Experience

Beals and Thomas, Inc.: 18

Total: 18

Stacy has extensive experience with local, state and federal environmental permitting processes, wetland science and environmental research, and she is adept at the preparation and oversight of complex reports and permitting documentation. She actively reviews and comments on proposed regulatory changes, and has coordinated extensively with various local, state and federal regulatory agencies with regard to such changes, including involvement in technical advisory committees. She is an experienced facilitator, managing the collaborative processes for a variety of projects, including long-term on-going public outreach and meetings relating to significant projects subject to the Massachusetts Environmental Policy Act (MEPA) as well as public outreach for municipal regulatory updates and open space planning. Her thorough understanding of the subject matter and dynamics of working with government agencies allows her to help participants and project applicants manage complex technical information while maintaining productive communication throughout the process.

As the leader of the Planning and Environmental Services Discipline, Stacy is responsible for educating colleagues on changes in environmental regulations and for maintaining the discipline's technical knowledge base. Stacy also provides project peer review services for various Conservation Commissions in Massachusetts and is a former member of her community's Conservation Commission. She served on MassDEP's Stormwater Management Updates Technical Advisory Committee in 2020 on behalf of the Association of Massachusetts Wetland Scientists.

REPRESENTATIVE PROJECT EXPERIENCE

MUNICIPAL PEER REVIEWS

Conservation/Natural Resources Commission Peer Reviews in Cohasset, Harvard, Kingston, North Attleborough, Plymouth, Topsfield, Walpole, Wellesley, Wrentham

Zoning Board of Appeals Chapter 40B Affordable Housing Peer Reviews in Foxborough and Sturbridge

RESIDENTIAL

Shovel Shop Square Chapter 40B Affordable Housing Project, Easton

Jefferson at Basilica Court, Boston

Jefferson at Melrose, Melrose

The Glen, Scituate

Caswell Lane, Plymouth

GOVERNMENTAL

Wetlands Protection Update, Salem

Open Space & Recreation Plans in Cohasset, Bourne, Hanover

Revere Safety Complex, Revere

Stacy H. Minihane, Senior Associate

MIXED-USE

Suffolk Downs Redevelopment, Boston and Revere

ADM Tihonet Mixed Use Development, Wareham / Carver / Plymouth

Redbrook, Plymouth

Cambridge Crossing (formerly NorthPoint), Cambridge / Boston / Somerville

Whitin Mill Redevelopment, Whitinsville

ENVIRONMENTAL / NATURAL RESOURCES

Rivers End Salt Marsh Creation, New Bedford

World's End Reservation, Hingham

Hale Reservation Natural Resources Inventory, Westwood / Dover

Tidal Shoreline Stabilization, Quincy

Contaminated Boat Slip and Landside Remediation and Mitigation, New Bedford

TRANSPORTATION

Shurtleff Brook Bridge Replacement, Southwick

Hastings Road Bridge Remediation, Spencer

Bog Road Reconstruction, Barnstable

RECREATIONAL

Tihonet Boat Launch Improvements, Wareham

Elm Park Improvements, Worcester

University Park Improvements, Worcester

Concord Country Club Golf Course Restoration and Pond Dredging, Concord

Camp Harbor View, Boston

Camp Pembroke Improvements, Pembroke

Town Park at Tihonet Road, Wareham

ENERGY / UTILITIES

Bird Machine Company Site Remediation, Walpole

Russell Biomass, Russell / Montgomery / Westfield

Pilgrim Nuclear Power Station, Plymouth

Ground-Mounted and Dual-Use Solar Projects throughout the Commonwealth

Utility Transmission Structure Maintenance/Replacement, Framingham / Natick / Sherborn

Utility Pole Replacement, Marshfield

Right-of-Way Access Road Regulatory Compliance Review, Mattapoisett

Trapelo Road Substation Expansion, Waltham

COMMUNICATIONS

AM Radio Tower, New Bedford

PRESENTATIONS AND PUBLICATIONS

Co-Chair of the Environmental Business Council "Protecting Coastal Structures, Part 2: Putting Law and Science into Practice" Program (February 24, 2021)

Co-Chair and Moderator of the Environmental Business Council "Protecting Coastal Resources and Structures, Part 1: The Intersection of Nature, Science and Policy" Program (January 27, 2021)

Moderator of the Association of Massachusetts Wetland Scientists Annual Meeting "Wetland Science in a Changing World: Addressing Climate Resiliency in a Regulatory Context" (December 4, 2020)

Co-Instructor of the Association of Massachusetts Wetland Scientists "Challenging Wetland Delineations Workshop – Coastal" at MassAudubon's Long Pasture Wildlife Sanctuary and Sandy Neck in Barnstable, MA (September 18, 2020)

Chair of the Environmental Business Council "Municipal Vulnerability Assessments for Coastal Communities" Program (October 29, 2019).

Panelist/Speaker at the Environmental Business Council "Wetlands Protection Act for the Ascending Professional – An Advanced Introduction" (October 17, 2018).

Co-Chair of the Environmental Business Council "Living Shorelines" Program (October 11, 2018).

Co-Chair of the Environmental Business Council "Climate Change Program Series Part Seven: Vulnerability and Adaptation for Habitat and Natural Resources" Program (March 15, 2018).

Chair of the Environmental Business council "EBC South Coast Program with MassDEP and CZM: The New Coastal Manual" Program (October 18, 2017).

"Northern Long-Eared Bat (NLEB)" ACEC/MA Member Briefing, January 11, 2017.

Chair of the Environmental Business Council "Living Shorelines" Program (July 22, 2016).

Mullaney, B. & **Minihane, S.** "Off-Site Wetland Delineation and Trespass Considerations" Association of Massachusetts Wetland Scientists Newsletter. Vol No 98 (July 2016): 6-7.

Panelist for the Environmental Business Council Evening Program "Colonel Barron – New England District Commander U.S. Army Corps of Engineers" (May 18, 2016).

Panelist for the Worcester Business Journal 2015 Massachusetts Energy Summit session "Is Solar right for your business? Developing the right strategy for your organization" (October 21, 2015).

Panel Moderator for the Environmental Business Council "9th Annual Ocean Resource Management Conference: Update on Dredging in New England" (October 9, 2015).

"Addressing Climate Change: Construction of a Marine Commerce Terminal and Associated Mitigation to Foster Offshore Wind Projects" Society of Wetland Scientists Annual Meeting, Providence, Rhode Island, June 4, 2015.

Minihane, S. "Design of a Pilot Wetlands Mitigation Bank in Massachusetts" Poster Presentation at the International Society of Wetland Scientists 2010 Annual Meeting. Salt Lake City, Utah (June 27-July 2, 2010).

Las, E., **Minihane. S.**, & Miley. D., "A Pilot Wetlands Mitigation Bank in the Taunton River Watershed" Association of Massachusetts Wetlands Scientists Newsletter. Vol No 59 (October 2006): 8-9. Print.

Lichter, J., **Barron, S**., Bevacqua, C., Finzi, A., Irving, K., Stemmler, E., & Schlesinger, W. "Soil Carbon Sequestration and Turnover in a Pine Forest after Six Years of Atmospheric CO2 Enrichment" Ecology Vol No 86 (2005): 1835-1847. Print.

Matthew Cote, PE, SITES AP, ENV SP

Senior Civil Engineer

Professional Licensure

Professional Engineer – MA
Envision Sustainability Professional
SITES Accredited Professional

Professional Certifications

OSHA 40-hour Hazardous Waste Operations

Professional Affiliations

Boston Society of Civil Engineers (BSCE)
American Society of Civil Engineers (ASCE)

Education

M.S., Environmental Engineering, Worcester Polytechnic Institute, 2012
B.S., Civil Engineering, Pennsylvania State University, 2000

Years of Experience

Beals and Thomas, Inc.: 8
Total: 20

Matthew has significant knowledge of best practices and industry standards as they relate to infrastructure design and rehabilitation, project management, and construction oversight. He is adept at solving complex problems with innovative solutions while maintaining high levels of client service and satisfaction.

As a senior civil engineer, Matthew is responsible for executing all phases of a project including conceptual planning, and design through construction administration. His responsibilities also include providing peer review services of proposed developments, including the associated stormwater management systems, for various municipalities.

Matthew's depth of experience is highlighted by his stormwater design expertise as well as utility research and design including water distribution, sewage collection, pump station and disposal system design. Additional skill sets include site work specification preparation, earthwork analysis, value engineering, preparation of construction cost estimates, and environmental permitting at both local and state levels.

REPRESENTATIVE PROJECT EXPERIENCE

MUNICIPAL PEER REVIEWS

Broadstone 305 40B Comprehensive Permit Municipal Review, Waltham

Five Leaves 40B Comprehensive Permit Municipal Review, Sturbridge

Domain Foxborough 40B Comprehensive Permit Municipal Review, Foxborough

Rosegate at Ledgeview 40B Comprehensive Permit Review, Wrentham

Eaglebrook Village 40B Comprehensive Permit Municipal Review, Wrentham

21 East Living, 21 East Street, North Attleborough Review

Benchmark Assisted Living, Robert Toner Boulevard Review, North Attleborough

Planned Business Development, Santoro Drive Review, North Attleborough

Lot 1 Santoro Drive NOI and Planning Board Review, North Attleborough

165 John L. Dietsch Square Review, North Attleborough

Corliss Landing Municipal Review, North Attleborough

567 South Street Stormwater Management Municipal Review, Wrentham

417 Sandwich Street Village Open Space Development Municipal Review, Plymouth

124 Hill Street Municipal Review, Topsfield

Wren Terrace Municipal Review, Quincy

Bartlett Pond Pasture, Municipal Construction Observations, Plymouth

Rolling Green, 470 Boston Street, Topsfield

999-1003 Hancock Street, Quincy

Matthew Cote, Senior Civil Engineer

1073 Hancock Street – Kendon Hotel, Quincy

143 & 147 Newbury Avenue, Quincy

1545-1563 Hancock Street – Cliveden Place, Quincy

RESIDENTIAL / MIXED-USE

Cambridge Crossing (formerly NorthPoint), Cambridge / Boston / Somerville

Gore Street Sewer Project, Cambridge / Somerville

Cambridge DPW Project 9ab, Cambridge

Jefferson at Malden Center, Malden

Ledgeview of Wrentham, Wrentham

Suffolk Downs Redevelopment, Boston / Revere

ENVIRONMENTAL / NATURAL RESOURCES

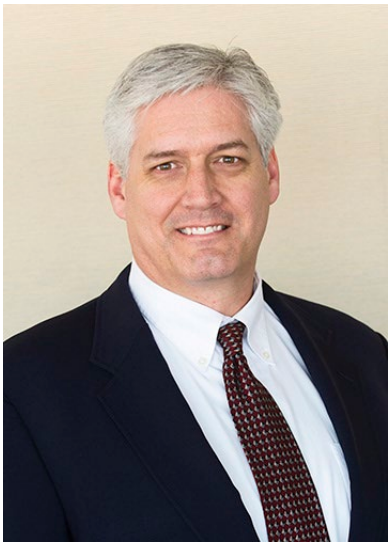
Aberjona River Daylighting Feasibility Study, Winchester

* South Transmission Main River Crossing Project, Springfield

* Denotes Relevant Experience Prior to B+T

David J. LaPointe, RLA, LEED AP, CPSI

Principal



Education

B.S., Landscape Architecture, University of Massachusetts, 1991

Professional Licensure

Registered Landscape Architect – MA, RI, CT, NH, ME, VT

LEED Accredited Professional

Certified with the Council of Landscape Architectural Registration Boards

Certified Playground Safety Inspector

Professional Affiliations

American Society of Landscape Architects (ASLA)

Boston Society of Landscape Architects (BSLA)

Leadership MetroWest Leadership Academy

Norfolk Design Review Board

Association of Massachusetts Wetland Scientists (AMWS)

Years of Experience

Beals and Thomas, Inc.: 24
Total: 24

Dave is an experienced landscape architect and serves as a project manager for an array of project types, including office buildings, institutional campuses, industrial facilities, recreational areas and residential developments. He provides leadership to the professional staff as they develop site layouts, grading and landscape design for development projects, ensuring that site designs comply with applicable regulatory provisions. Dave also supervises the preparation of permit application documents and provides technical presentations at public hearings.

Dave has developed team-building, leadership, and problem-solving skills through his participation in the MetroWest Leadership Academy, which explores regional issues such as government, economy, education, public safety, diversity, arts, environment, housing and transportation. He is a past member of the Norfolk Planning Board and Design Review Board, and is thoroughly knowledgeable in municipal permitting processes.

REPRESENTATIVE PROJECT EXPERIENCE

GOVERNMENTAL

Non-Motorized Transportation and Signage Plan, Plymouth

Obery Street Streetscape Improvements Evaluation, Plymouth

Main Street Streetscape, Southborough

Springfield Hall of Justice, Springfield

Peer Review for Waverly Oaks Development, Plymouth

East Brookfield District Court, East Brookfield

Municipal Review Services, Various, MA

RESIDENTIAL

Granite Street Apartments, Worcester, MA

Ames Shovel Works Apartments, Easton

Cutler Heights Housing, Holliston

South End Tenants Housing I (SETH 1), Boston

INSTITUTIONAL

The Home for Little Wanderers Longview Farm, Walpole

The Home for Little Wanderers Knight Children's Center, Jamaica Plain

Fay School, Southborough

Dexter School, Brookline

Bentley College, Waltham

Rising Tide Charter Public School, Plymouth

Beaumont Rehabilitation and Skilled Nursing Center, Worcester

David J. LaPointe, Principal

Emerson Hospital, Concord

West Acres Rehabilitation and Nursing Center, Brockton

Lawrence General Hospital, Lawrence

Carmelite Sisters Monastery, Danvers

Chinese Gospel Church, Southborough

MIXED-USE

Village Hill Northampton, Northampton

COMMERCIAL

Cultivation Facility, Millis, MA

Andover Companies Wellness Center, Andover

New England Business Center Amenities Building, Andover

An Unlikely Story Bookstore, Plainville

The MITRE Corporation, Bedford

Dedham Plaza, Dedham

Waverly Oaks Office Park, Waltham

Carousel Office Center, Framingham

ISO New England, Holyoke

ASTRA Pharmaceuticals, Westborough

RECREATIONAL

Winchendon Community Park Performing Art Center, Winchendon, MA

Dennett Elementary School Playground, Plympton, MA

Beech Tree Park at Village Hill Northampton, Northampton

Elm Park, Worcester

University Park, Worcester

Grant Square, Worcester

Betty Price Playground, Worcester

Shore Park Improvements, Worcester

Indian Lake Parks Master Plan, Worcester

Hadwen Park Master Plan, Worcester

Farber Field, Worcester

Goodwill Park, Holliston

Patoma Park, Holliston

Nathaniel Thayer Memorial Park, Lancaster

James Edgar Playground, Brockton

Mulberry Street Playground, Brockton

Keith Park, Brockton

Gilbert Walker Playground, Brockton

O'Donnell Playground, Brockton, MA

Sailing Camp Park Trails, Oak Bluffs

South West Corridor Park, Jamaica Plain

Pedestrian Entry to Veterans Park, Plymouth

Charles River Reservation/Barnes Pathway, Needham

Leo J. Martin Golf Course Driving Range, Weston

Streetscape Design, North Attleborough

Vision Plan, Norfolk

Mountain Park, Holyoke

Graverson Playground, Waltham

Cronin's Landing Riverwalk, Waltham

EMC Park, Hopkinton

ENERGY / INDUSTRIAL

Tracer Lane Solar Project, Lexington

Country Gardens Solar, Rowley

Newburyport Turnpike Solar, Rowley

UMASS Solar Canopies, Amherst / Hadley

GAF Materials, Millis

PRESENTATIONS AND PUBLICATIONS

LaPointe, D., Weidknecht, R. "It Takes a Team" Boston Society of Landscape Architects Fieldbook. Boston, Massachusetts (June 2016).

LaPointe, D., Cohen, J., Cohen, J., Hall, M. "Industrial Strength: A Miraculous Transformation at Ames Shovel Works" Presentation at the Southern New England American Planning Association 2015 Annual Conference. Hartford, CT (September 24, 2015).

LaPointe, D. "The Home for Little Wanderers: Making Some Progressive Moves," High Profile Monthly. Pembroke, Massachusetts (September 2011).

Daniel M. Feeney, PE, LEED AP

Principal / Vice President

Professional Licensure

Professional Engineer – MA

LEED Accredited Professional

Professional Affiliations

Civil Engineering Honor Society

495 Metro West Partnership Executive Steering Committee Private Sector Vice Chair

DCAMM/ACEC Partnership Committee

Education

B.S., Civil Engineering, Villanova University, 1994

Years of Experience

Beals and Thomas, Inc.: 26

Total: 26

As a Principal with Beals and Thomas, Inc., Dan manages several of the firm's long-term projects, many of which include stormwater management design consistent with the Massachusetts Department of Environmental Protection Stormwater Management Standards, site layout and grading, construction cost estimating, utility research and design, earthwork analyses, water supply and fire protection studies, site work specification preparation, and construction administration. Dan is also an adept leader, providing his project team with guidance and knowledge throughout the process of civil and site design, and permitting for the firm's industrial, commercial, and residential development projects. Dan also serves as Director of Operations, a role in which he coordinates the overall scheduling of the company.

REPRESENTATIVE PROJECT EXPERIENCE

MUNICIPAL PEER REVIEWS

On-call Engineering Review Services, Amesbury

On-call Engineering Review Services, Wrentham

Roscommon Open Space Residential Development, Walpole

763 Main St. & 24 Scranton Ave MGL Chapter 40B Comprehensive Permit, Falmouth

Rebecca Ann Lane MGL Chapter 40B Comprehensive Permit, East Falmouth

305 Winter Street MGL Chapter 40B Comprehensive Permit, Waltham

RESIDENTIAL

LCB Assisted Living Facility, Medfield

Brookview Housing Project MGL Chapter 40B Comprehensive Permit, Milford

Hearth Ridge Manor, Hopkinton

Private Residence, Southborough

Ames Shovel Works Apartments, Easton

Archstone North Point, Cambridge

Former Cutler School MGL Chapter 40B Comprehensive Permit, Holliston

Former Andrews School MGL Chapter 40B Comprehensive Permit, Holliston

Sudbury River Townhouses, Hopkinton

Brooksby Village, Peabody

Mahoney's Nursery MGL Chapter 40B Comprehensive Permit, Wayland

Daniel M. Feeney, Principal

GOVERNMENTAL

Expert Witness Services on behalf of the MA Office of the Attorney General, Various Towns, MA

City Hall Annex, Cambridge

Plymouth Trial Courthouse, Plymouth

COMMERCIAL / INDUSTRIAL

Life Sciences Office Building, 33 New York Avenue, Framingham

Commercial Redevelopment – Burger King, Westborough

TRANSFLO Terminal Redevelopment, Westborough

Harvard Vanguard Medical Associates Office Building, Concord

i-Park, Waltham

EMC Corporate Campus Development, Hopkinton / Southborough / Westborough / Bellingham

New England Automotive Gateway Center, Spencer / East Brookfield

Crossroads Industrial Park @ 495 Center, Northborough

Residence Inn, Concord

Panera Bread, Dedham

Raynham Woods Medical Office Building, Raynham

Society of Saint John the Evangelist, Cambridge

Schwan's Food Distribution Facility, Raynham

Cisco Systems' New England Development Center, Boxborough

Chestnut Industrial Park, Ashland

Commercial Property, Roslindale

RECREATIONAL

Mohegan Sun Massachusetts, Palmer

Athletic Complex, Marlborough

Athletic Complex, Bellingham

ENERGY

EMC Solar Project, Bellingham

CEC Solar Project, Millis

NORTHEAST GEOTECHNICAL, INC.
Delivering Practical Engineering Solutions

Glenn A. Olson, P.E.

Principal Geotechnical Engineer

Mr. Olson has been the Principal Engineer for a variety of diversified engineering projects. His experience has led him to effectively interface with owners, architects, engineers, developers, government agencies, and contractors. His particular area of expertise has been to take a project from the design phase through a successful earthwork and foundation construction phase.

Mr. Olson has been responsible for geotechnical engineering associated with building foundations & slabs, ground improvement, slope stability, pavement, earthwork criteria, vibration monitoring, lateral earth support, dewatering, groundwater recharge, and pipeline support. Projects have included numerous low-rise and mid-rise commercial, educational and industrial buildings as well as public roadway and utility improvements. Responsibilities included: design and implementation of exploration programs, data collection and reduction, and report preparation. On several projects, Mr. Olson has followed up the engineering recommendations with supervision of staff who conduct full-time field observation during the construction phases of the project.

EDUCATION

M.S. Civil Engineering (Geotechnical), Northeastern University, 1992

B.S. Civil Engineering, University of Maine at Orono, 1984

REPRESENTATIVE EXPERIENCE

- **Transflo Westborough Redevelopment Project – Westborough, Massachusetts** – Project involves redevelopment of a 22-acre former rail yard by adding new rail spurs, two buildings, light towers and repaving. The historically filled site is located in an area known as the Great Cedar Swamp. Site design requires two to six foot raises in grade which in some areas will be placed over compressible organics. Mr. Olson performed settlement predictions resulting from the site grading. The project team and owner indicated certain post-construction settlement was tolerable within rail spur and pavement areas. Soil improvement techniques and pile foundations are currently being considered for the buildings and light towers. In a ¾-acre non-building area, Mr. Olson designed a surcharge program including wick drains to expedite the predicted settlement so that post construction settlements would be tolerable.

- **North Quincy High School's Athletic Field Improvements - Quincy, Massachusetts** – Proposed improvements include a synthetic turf playing field, bleachers, light towers, a scoreboard, paved parking and flood mitigation areas. The existing field has historically settled and been periodically filled to level the field and to mitigate flooding. Our subsurface explorations revealed 3± to 30± feet of urban fill underlain in turn by 5± to 30± feet of compressible organics then natural granular soils. The proposed synthetic field is designed up to 4± feet above existing ground surface.

We developed recommendations for a surcharge program to mitigate post construction settlement of the synthetic turf field and paved parking areas and recommendations to pile support the bleachers and light towers. The City of Quincy has accommodated a period of time and excess fill to support the surcharge program. The surcharge is in place and the site has undergone settlement in the range of 1 to 2 feet in response. Construction is slated for Spring 2016.

- **Subbasement Expansion – Downtown Crossing Boston, Massachusetts** – The owner of an existing data center building in downtown Boston retained Northeast Geotechnical to assess the feasibility of expanding the subbasement level of the existing building. The existing subbasement is located approximately 20 feet below the basement level and 40 feet below adjacent Washington Street. The existing subbasement level is supported on a mat foundation constructed below groundwater. The multi-story building in the area of the expansion is supported by spread footings and underpinned caisson foundations. An MBTA subway line is located adjacent to the building's exterior wall just beyond the area of proposed expansion. We performed a week-long subsurface exploration program at night within tenant occupied space through the building's basement level. We developed recommendations including: lateral earth support to facilitate excavation, underpinning of existing foundations, instrumentation to monitor potential movements of the structure, dewatering, foundation subgrade preparation, allowable bearing capacity for a new mat foundation, design groundwater level for use in calculating hydrostatic forces and for protecting the subbasement from water infiltration, a site seismic classification and anticipate lateral earth pressures for use in wall design.

- **Retail site - Braintree, Massachusetts** – Project site was underlain by a thick loose deposit of cinder fill and underlying compressible organics. He studied means to support over 350,000 square feet of retail buildings. Recommendations provided to excavate cinders and organics, dewater the excavations, and reuse the cinders in controlled compacted lifts as structural fill. A majority of buildings supported with spread footings on compacted cinder fill. One building is supported on deep foundations where depths to natural ground prohibited full excavation and replacement.

- **Twelve-story apartment building - Quincy, Massachusetts -** The site located on the banks of the Neponset River between MBTA Red Line tracks and the Neponset River Bridge. Subsurface conditions include in succession fill soils, compressible organics, natural sand and gravel underlain primarily by silty clay and then dense glacial till with shallow groundwater. A raise in grade was proposed within building footprint and throughout the site. Recommendations were developed to support the building using 120-ton pressure injected footings bearing in the natural sand and gravel over the silty clay and the glacial till. A surcharge program was developed and implemented throughout the building and areas of site where raises in grade were proposed. Surcharge was designed to consolidate fill and organics during construction resulting in tolerable amounts of post-construction settlement. Pile installation and load testing, surcharge monitoring and earthwork construction observation and testing performed by field representatives under Mr. Olson's supervision.

- **EMC Corporation's corporate campus - Hopkinton, Massachusetts -** Developed foundation and earthwork construction recommendations for EMC's 126-acre corporate campus development consisting of 950,000 SF of office and research buildings. The site contains 1.5 miles or roads, parking lots and decks for 3,300 vehicles, a wetlands crossing and an 83,000 GPD wastewater

treatment and on-site disposal system. Recommendations were developed to utilize sensitive glacial till soils and blasted rock to create the building pads, roadway and parking lot subgrades, and slopes during four seasons of construction. In addition, worked closely with the contractors to mitigate and monitor on and off-site blast induced vibrations resulting from rock removal activities.

- **Nine-story apartment on Massachusetts Avenue - Boston, Massachusetts** - The site is underlain by a profile consisting of fill, organic silt, outwash sand and gravel and then deep soft marine clay. Building construction included a level of below grade parking on a site abutting two buildings. Recommendations were developed for foundation type and installation methods, below grade slab support, braced excavation support and protection of adjacent structures during construction. Pressure injected footings (PIFs) were the economical foundation alternative. Recommendations were developed to mitigate potentially detrimental PIF installation vibrations on abutting structures.

- **Route 27 reconstruction - Medfield, Massachusetts** - Part of the reconstruction involved installation of a new sewer line. Approximately 350 feet of the line was to be installed over a compressible deposit of peat. Studies indicated that pipe installation with the use of normal weight bedding and backfill soils would produce unacceptable settlements for both the line and the roadway. The Town requested either excavation and replacement of the peat which would require a braced excavation or a pile support system. Utilization of lightweight fill for bedding and partial backfilling of the trench was proposed as an alternative since it would result in tolerable amounts of post construction settlement. This alternative was chosen and it saved over $50,000 and up to a month in the construction schedule.

- **Veryfine wastewater treatment plant – Littleton, Massachusetts** - Project included partially dewatering an approximate one acre wastewater treatment lagoon. Geohydrologic and geotechnical engineering studies were performed to facilitate recommendations for a cost effective method to fill the lagoon with compacted structural fill. The fill was placed and compacted below the water and densified from above in a manner that allowed construction of a wastewater treatment plant on the structural fill. Full dewatering was not permitted due to the instability of the banks of the lagoon and potential impacts to an adjacent bottling plant.

- **Strip mall – Saugus, Massachusetts** –Site is underlain by over 90 feet of soft silty clay. The estimated post construction consolidation settlement necessitated support by deep foundations. The building is supported by 80 to 115 foot step taper piles terminating in underlying glacial till. Pile capacities accounted for predicted down drag forces of 10 to 20 tons per pile. Conducted pile load tests on two representative piles.

- **Wal-Mart store - Wareham, Massachusetts** – Site was observed to be underlain by clean sands considered subject to liquefaction during a design seismic event. Mr. Olson evaluated both the feasibility of deep foundation systems and ground improvement techniques which would allow the building to be supported by spread footing foundations. Vibroflotation was recommended as a ground improvement technique to mitigate the risk of liquefaction. The vibroflotation was performed under observation of field personnel supervised by Mr. Olson. Verification SPT testing was conducted

throughout the improved area to verify adequate ground improvement. Building was then constructed on spread footings.

- **AstraZeneca's Research and Development facility - Waltham, Massachusetts** - AstraZeneca purchased a vacant site and challenged the project team to create a facility that blended well with the surrounding landscape. The site was steeply graded with bedrock controlled topography. Design and construction recommendations were developed for foundations, below grade walls, groundwater control, slopes, detention basin berms, as well as soil and rock reuse for this 250,000 SF 5 level building project. Extensive controlled blasting created steep rock cut slopes and a large amount of boulder sized blast rock. Developed recommendations to create attractive walls throughout the site utilizing the blast rock boulders.

- **250,000 SF warehouse - Franklin, Massachusetts** – Site development required cuts and fills up to 30 feet in sensitive glacial till soil. Over 60,000 cubic yards of fill were placed from midwinter to late spring. Methods were recommended to judiciously reuse the cut soils to support the warehouse and surrounding parking and loading areas. Fill stabilization methods including layering the on-site soils with clean off-site sand and gravel and mixing wet soils with lime.

- **TPC Boston - Norton, Massachusetts** - TPC Boston is an Arnold Palmer designed golf course, site of the annual Deutsche Bank Championship. This par-72 course opened in June 2002 on approximately 500 acres. Mr. Olson worked with the course designers to assess the subsurface conditions throughout the proposed course layout. Recommendations were developed to mitigate costly rock excavation and impacts of shallow groundwater. Design recommendations were also provided for 5 lined water features and 3 irrigation ponds. Irrigation ponds were designed to withstand emergency drawdown as much as 7 feet while water features were restricted to fluctuations of less than 1 foot. Foundation recommendations were developed for the Massachusetts Golf Association and Hall of Fame building.

- **Wal-Mart store - Lynn, Massachusetts** – Site is underlain by a complex geological profile. Natural soil conditions vary from submerged glacial drumlins to glaciofluvial or marine deposits. These deposits are overlain by a salt marsh deposit of compressible clayey organic silt which had been filled over. Recommendations provided to construct a structural slab and to support the building on pressure injected footings installed into either the drumlins or glaciofluvial deposits. Mr. Olson recommended raising grades greater than 2 feet with lightweight fill within building where an unacceptable amount of consolidation settlement was predicted. In one area, recommended limiting use of fill and creating a crawl space instead.

- **Home Depot store - Providence, Rhode Island** - Former industrial site underlain by shallow fills and compressible organic silts which in turn are underlain by flood plain deposits of sands and silts. Excavation and replacement of fill and organics not feasible due to costs associated with other mitigating factors. Dense bearing stratum exists more than 120 feet below ground surface. Mr. Olson evaluated numerous pile alternatives and developed recommendations to support building using over 1100 14-inch precast-prestressed concrete piles (PPC) developing capacity through friction in the sands

and silts. Installation as well as static and dynamic load testing was observed by field representatives under Mr. Olson's supervision.

- **Pilot Seafood and Legal Seafoods buildings in Boston Marine Industrial Park alongside the Ted Williams Tunnel - South Boston, Massachusetts** - The 55,000 SF Pilot Seafood fish processing facility was designed on land formerly known as Subaru Pier adjacent to Boston Harbor. The site was underlain by miscellaneous fill with numerous obstructions to depths of 50 to 70 feet where glacial till and bedrock exist. Recommendations were developed to support building using 40- to 80-ton capacity drilled and permanently cased mini-piles socketed into rock. A slab on grade was constructed supported by lightweight and "normal" weight fill. The Legal Seafoods site, just west of the Tunnel, had a vastly different fill profile. Here, the site had been filled with controlled compacted structural fill placed during construction of the Tunnel. Records research supplemented by confirmatory soil test boring results, allowed the design and construction to proceed using spread footing foundations and a ground level slab on grade.

- **Hunter College building - New York City, New York -** The 37,000 SF footprint one- to eight-story building has a basement extending 16 feet below existing grades in a densely developed neighborhood. Site is underlain in succession by up to 10 feet of fill, 18 to 35 feet of loose to medium dense natural granular soils, then bedrock. Groundwater's anticipated up to 6 feet above the basement level. Mr. Olson evaluated liquefaction potential of granular soils to assess feasibility of foundations bearing within the natural granular soils. Developed recommendations for a waterproofed mat foundation designed as a pressure slab. Drilled anchors socketed into bedrock designed to provide additional resistance to hydrostatic uplift pressures.

- **Macy's – Willow Grove Mall, Willow Grove, Pennsylvania** - Provided peer review services for remedial work to mitigate water infiltration into Macy's below grade level. Remedial design measures were developed by others subject to modifications based on results of a field investigation. Initially, roof drains, which had emptied adjacent to Macy's, were rerouted to a catch basin. Mr. Olson assessed conditions once the 20-foot deep braced excavation reached Macy's foundation level exposing the: Macy's and Mall wall joint, foundation waterproofing, backfill soils, and the under drain. Part of the under drain was clogged with silt. Mr. Olson and the Mall's consultant developed plans for: additional waterproofing, removing and replacing clogged under drain sections, installing additional under drainage, placing clean backfill and for installing a manhole equipped with a sump pump. Based on a post-construction flood test, the project team decided not to add the sump pump unless future infiltration occurs.

- **Miami's Entertainment Block – Miami, Florida** - Mr. Olson provided storm water infiltration design for a 3.5± acre site which is part of a 10-building, 2.3 billion dollar multi-use development. Historical use included a railroad maintenance yard, fuel storage, light manufacturing and sea cargo container storage. Recently, dense graded silty fill soils were placed to construct a parking area. Urban fill soils underlying the recent fill, had been impacted by metals. The Florida Department of Environmental Resources Management (DERM) required the impacted urban fill soils be covered with a marker layer and then clean fill. DERM also required the site be designed to infiltrate the 25-year recurrent 24-hour rainfall event (i.e. 10 inches of rain) in 72 hours or less. Our studies

indicated the silty fill would not satisfactorily infiltrate or store the design storm. Mr. Olson developed design recommendations to remove the silty fill and then place clean off-site sand fill having both characteristic hydraulic conductivity and porosity at a given density to satisfy the infiltration design objective.

- **Ten potential multi-building development sites throughout New England** - Fairfield Realty retained Mr. Olson to perform geotechnical engineering design studies as part of their pre-purchase due diligence efforts. Assessed subsurface conditions and developed opinions regarding the ability of Fairfield to develop the studied sites. Mr. Olson focused on conditions which would represent cost premiums to assist Fairfield's assessment of projects' economic viability. In addition, Mr. Olson provided preliminary recommendations for use in design of building foundations and ground floor slabs, pavement and slope sections, subsurface waste water and storm water infiltration systems, and construction dewatering methods.

REGISTRATIONS/CERTIFICATIONS

Professional Engineer, Massachusetts, No. 36481
Professional Engineer, Connecticut, No. 18447
Professional Engineer, Rhode Island, No. 8922
ASFE Fundamentals of Professional Practice

PROFESSIONAL HISTORY

Northeast Geotechnical, Inc., President/Principal Engineer April 2010 to present
LFR Inc. / ARCADIS U.S. Inc., Principal Engineer, November 2006 to April 2010
The Geotechnical Group Inc., Vice President, February 1985 to November 2006