

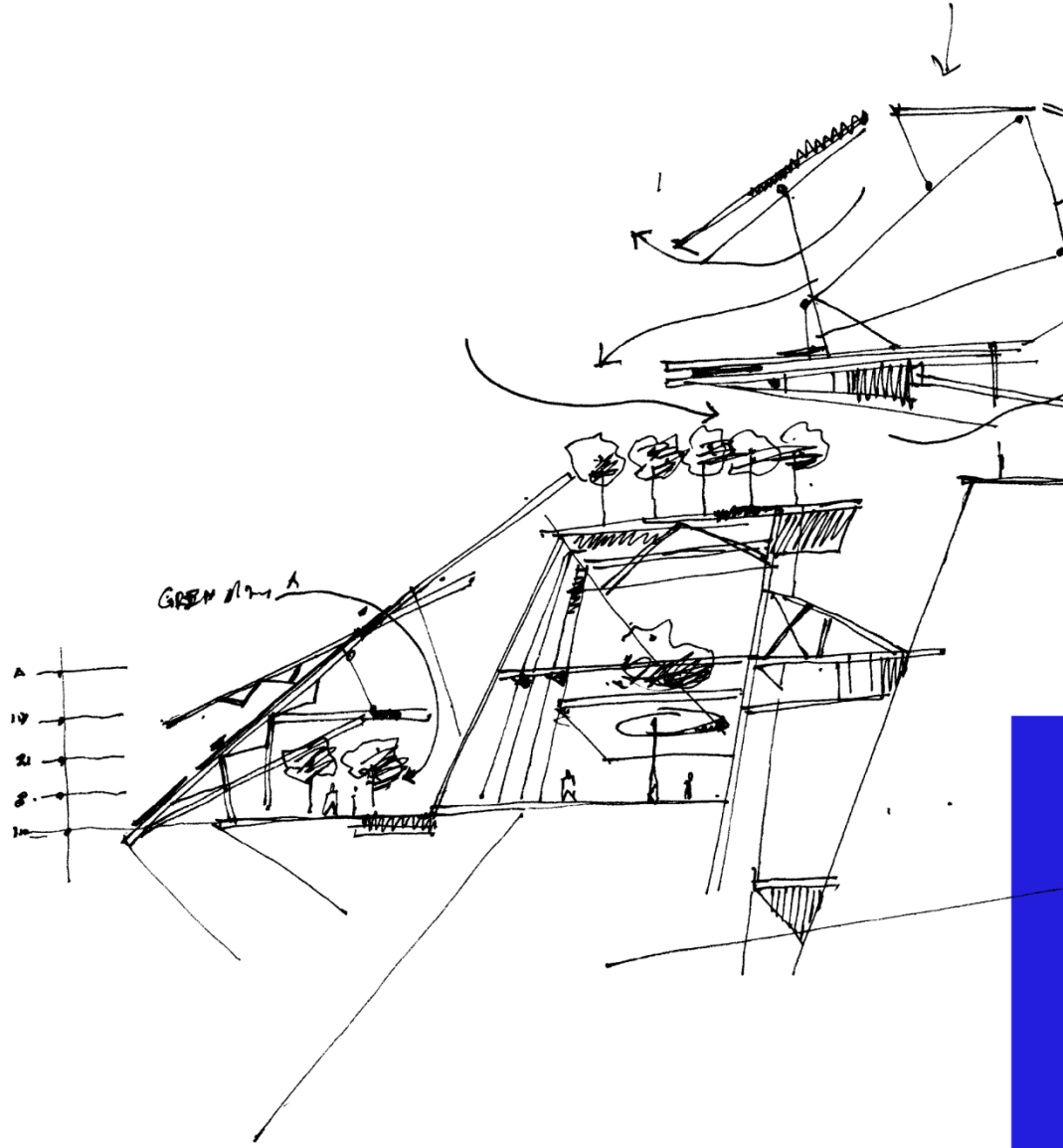


# Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency (LPA) Qualifications-Based Selection Contracts

December 20, 2024

**Jacobs**

Challenging today.  
Reinventing tomorrow.



# Introduction Letter

December 20, 2024

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Tobey Reynolds, PE  
Assistant Director of Project Development  
Chairperson, Consultant Selection Committee  
New Hampshire Department of Transportation  
7 Hazen Drive, PO Box 483  
Concord, NH 03302-0483

**Re: Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency (LPA) Qualifications-Based Selection Contracts**

Dear Mr. Reynolds:

Thank you for the opportunity to present this submittal to remain pre-qualified for providing On-Call Preliminary Engineering Services for the locally administered Local Public Agency (LPA) program in the state of New Hampshire. The Jacobs Bedford, New Hampshire office has been working with NHDOT and other local public agencies in New Hampshire for over 20 years on a variety of projects. Our comprehensive understanding and appreciation of the objectives, goals and challenges of these agencies will enable us to provide high quality services effectively and efficiently.

The Jacobs locally based team, led by Thomas (Thom) Marshall, PE, will be available on an on-call basis to provide design services for both bridge and highway projects that are described in this solicitation. Thom is LPA certified and familiar with the LPA manual and all its requirements. As the Project Manager for this effort, he brings extensive experience completing locally managed projects in the state of New Hampshire. This includes over fifty (50) projects under the New Hampshire Department of Transportation Municipally Managed Bridge Program. Under this LPA Program, Thom will continue his work in helping New Hampshire municipalities to develop, improve and enhance their transportation network, which in turn, improves the statewide transportation network.

The Jacobs Team provides the Department and municipalities with local, highly experienced staff and a deep bench of professionals representing every discipline required to deliver any project on schedule and within budget. We have a proven track record in NH and throughout New England, in fact much of our business is from repeat clients. This is a testament to our responsiveness, successes and ability to partner with the clients we serve. Doucet Survey, LLC, Normandeau Associates, Inc. and Preservation Company join the team bringing years of experience and expertise in their respective fields.

The Jacobs team appreciates your consideration to be placed on the Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency (LPA) Qualifications-Based Selection Contracts. We look forward to utilizing the experience and expertise of our locally based staff to service LPAs throughout the state of New Hampshire.

Sincerely,



**Rebecca S. Williamson, PE**

Vice President, New England Transportation Market Leader

[Rebecca.Williamson@jacobs.com](mailto:Rebecca.Williamson@jacobs.com)

Executive Park Drive, Bedford, NH 03110  
603-666-7181

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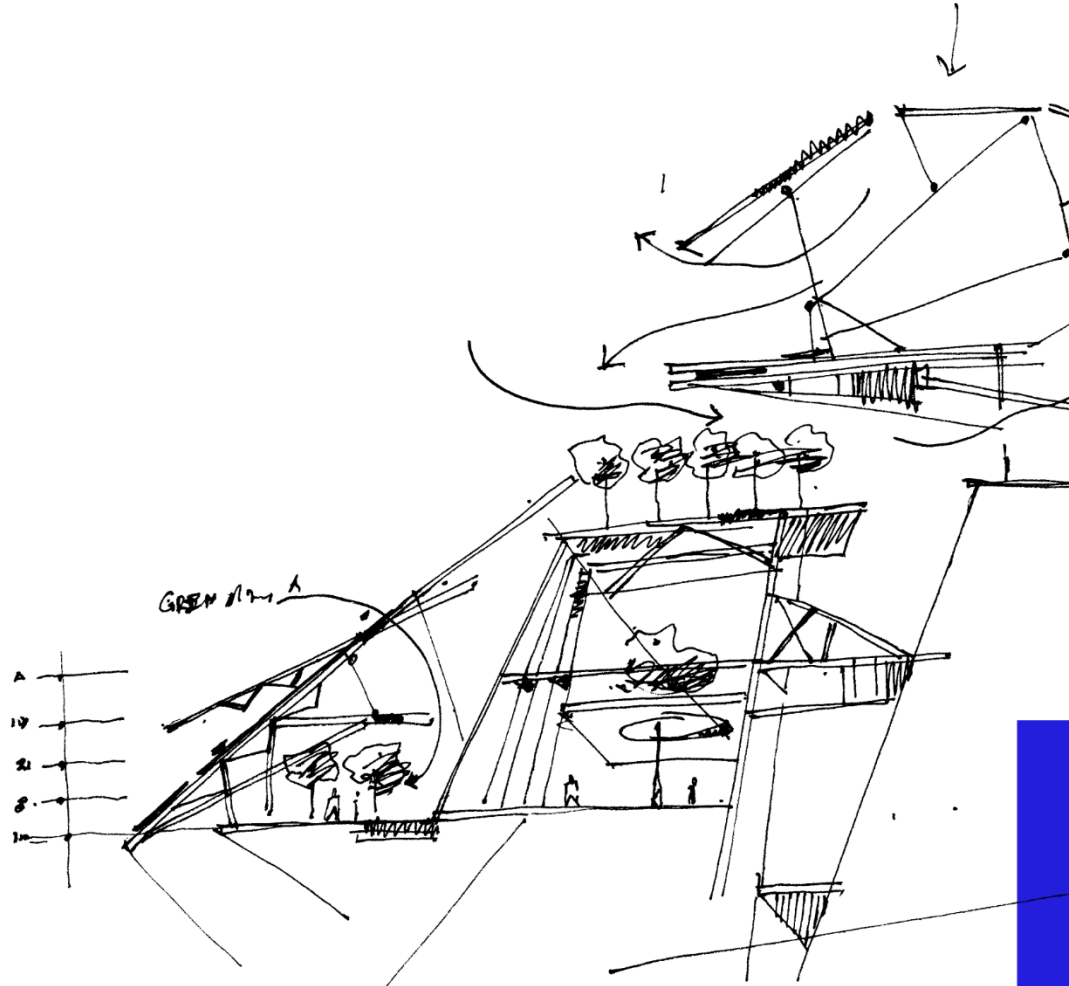
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# Project Understanding and Approach

## 1. Project Understanding and Approach

Jacobs is ranked No. 1 in Engineering News Record's list of Top 500 Design Firms and has served as a valued partner to owners and operators of state and local infrastructure for over 70 years, completing highway and bridge design projects throughout New England. Our Project Manager, Thom Marshall, PE has completed over 50 projects within the NHDOT Municipally Managed Bridge Program, is LPA certified and has a comprehensive understanding of the LPA process and NHDOT's design processes and standards. Our team has experience on projects funded through numerous programs including the Surface Transportation Program (STP), Highway Safety Improvement Program (HSIP), Municipal Off-System Bridge Replacement and Rehabilitation (MOBRR), Congestion Mitigation & Air Quality (CMAQ), and Safe Routes to School (SRTS), among others.

The Jacobs team will approach each project by ensuring that we understand the purpose of the project, the client's goals, any stakeholder's concerns, any project specific challenges and financial constraints. A thorough understanding and agreement on the scope, schedule and budget is key to the success of any project. We understand the three major steps outlined in the LPA Manual: Engineering Study, Preliminary Design and Final Design.

The Engineering Study phase is key to the success of the project as the "Proposed Action" will be selected which best meets the Purpose and Need of the project. The typical steps that Jacobs will follow in this process include meeting with the public for feedback, preparing a purpose and need statement, evaluating existing conditions, outlining design requirements, conducting a preliminary environmental review, completing an alternatives assessment to identify the preferred alternative, developing a cost estimate and holding Public Meeting to present the Proposed Action.

Once the Engineering Study is approved by NHDOT and a Notice to Proceed (NTP) is received, the Preliminary Design phase will begin and Jacobs will develop engineering drawings and environmental documentation with any other necessary studies including but not limited to traffic studies, hydraulic studies, or other environmental/historical documentation.

After the Preliminary Design is approved and NTP is received, Jacobs will proceed with the Final Design phase, address all comments and produce Plans, Specs and Estimate (PS&E) stamped by a NH professional engineer and submit them in accordance with NHDOT's Standard Specifications allowing the LPA to hold a public bidding process. We will continue to support the LPA during that process assisting with advertising, reviewing contractor qualifications, conducting a bid opening and bid review.

Jacobs' qualifications with the various scope requirements are detailed below. Resumes and relevant project experience are included in the Appendix.

### 1.1 Bridge Design

Our New England structural team has helped agencies and communities with the maintenance, preservation and design of bridges of all types and sizes. Our designs implement practical, innovative solutions that consider the site-specific issues such as capital and maintenance costs, schedule, constructability, life-cycle costs, traffic outages and environmental impacts. Our bridge engineers have proven experience in the following areas:

- Standard, In-depth, Underwater and Special Bridge Inspections
- Bridge Load Rating Analysis
- Bridge Rehabilitation Design
- Existing Foundation Analysis
- New Substructure/Foundation Design
- New Superstructure Design
- Emergency Repair/Design
- Retaining Wall Design
- Overhead Sign Structure Design
- Structures Maintenance Planning
- Bridge Hydraulics and Permitting
- Scour Analysis and Countermeasures
- Contract Documentation Preparation
- Alternatives Analysis Reports
- Bid and Construction Phase Services

## 1.2 Highway Design

Our highway team has helped clients with the design of new and rehabilitated roadways, intersections, roundabouts, drainage and stormwater management systems, traffic signals and other traffic control devices, traffic calming measures, trails, ADA improvements and complete streets. This is all done keeping client's vision and goals in mind with a focus on providing safe accommodations for all users, improving traffic flow and capacity, minimizing impacts to private property, environmental and historic resources, sustainability, capital and maintenance costs, schedule, constructability and context sensitive design. For each project, our team develops and evaluates alternatives to recommend a preferred alternative that meets the client's vision and goals. We have developed countless planning level corridor studies for clients to help identify the most effective improvements while balancing impacts, costs and community goals. With our vast experience, clients often turn to Jacobs for peer reviews to assess proposed projects and for quality assurance and quality control of final contract documents.

## 1.3 Additional Design Services

**Project Management and Coordination:** Thom Marshall, PE is very familiar with the LPA project process and is prepared to serve as project manager. He has over 20 years of experience providing the appropriate level of communication and coordination between NHDOT, municipalities and other project stakeholders.

**Environmental and Cultural Resource Specialists:** Our team includes Normandeau Associates who specialize in natural resource identification, environmental permitting and regulatory compliance. Preservation Company will identify cultural and historic resources and work with designers to help avoid, reduce or mitigate any adverse effects to the resources that are identified on the proposed project.

**Traffic:** Jacobs provides traffic engineering services to clients for roadway safety studies, roadway reconstruction projects, bridge projects and complete streets improvement projects. These services balance roadway usage and needs accounting for existing and future traffic, bicycle, pedestrian and transit volumes, crash history and proposed developments. Our team can design fully coordinated signal systems or implement other traffic control devices such as rectangular rapid flashing beacons, accessible pedestrian signals and bicycle signals. Our team is well versed in traffic simulation modeling and analyzing intersections. With our traffic expertise, we are often called upon to develop traffic impact studies to assess potential effects of proposed developments on the surrounding roadway network.

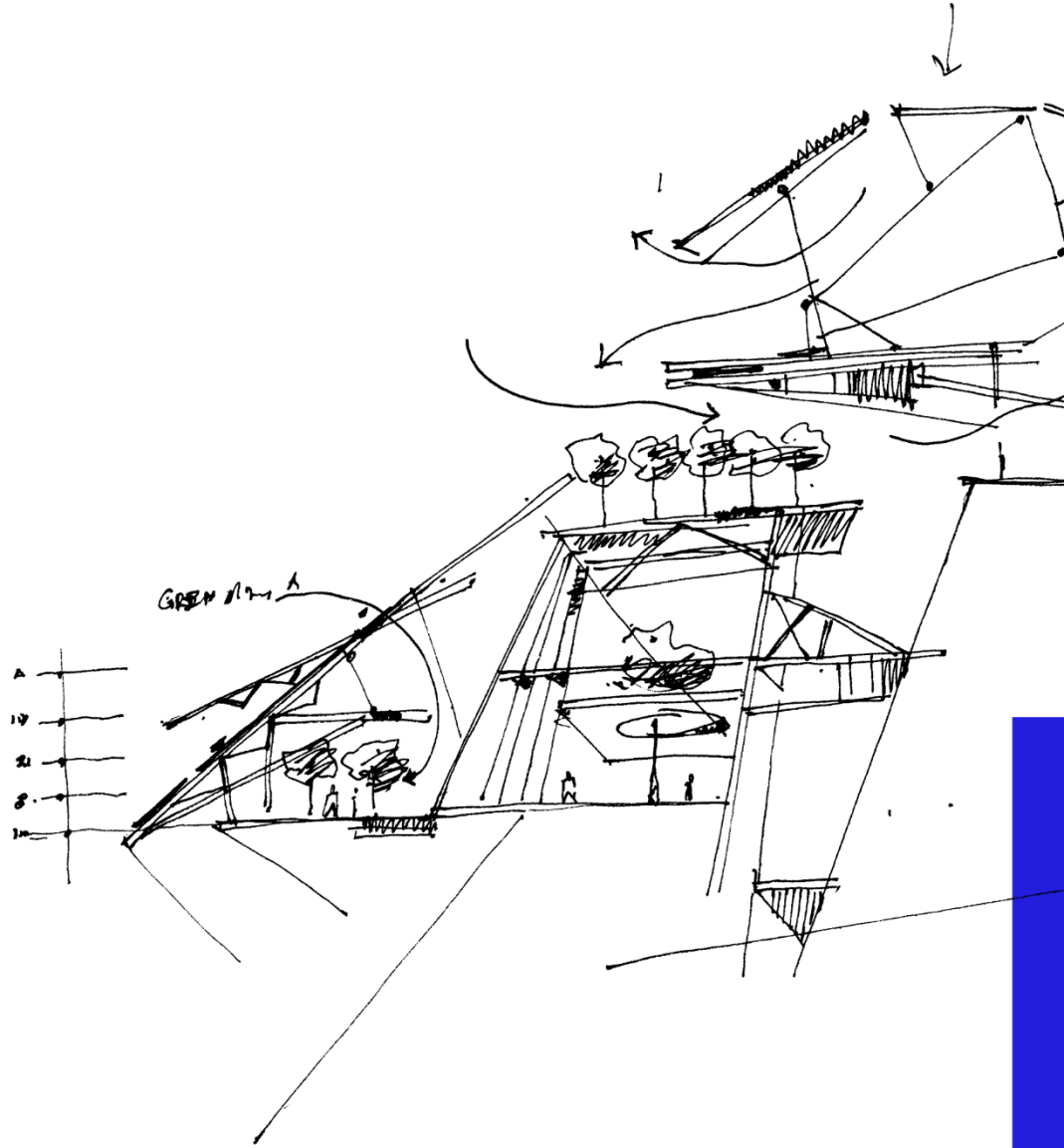
**Alternative Procurement Methods:** Since the inception of our alternative delivery program (design-build, progressive design-build, P3 and construction management at-risk), we have delivered projects with a total installed cost of over \$35 billion. Given the depth of our nationwide resources, we can assemble a technically competent, skilled, and experienced team for any type of infrastructure project.

**Hydraulics:** Jacobs is well-versed in all aspects of hydrologic and hydraulic analysis and design. We have extensive experience in the use of HEC-HMS, and HEC-RAS, HEC-GeoRAS, HydroCAD®, Hydraflow Storm Sewers Extension for Civil 3D®.

**Geotechnical Engineering:** Jacobs in-house expertise runs the full gamut of geotechnical services, and we regularly provide innovative solutions to soils and foundations challenges on complex transportation projects. We develop subsurface exploration programs that concentrate on the characterization of subsurface conditions as necessary for bridge and retaining wall design, pavement design, management of drainage and groundwater, signal foundations and earth support structures.

**Survey and Right-of-Way (ROW):** Doucet Survey, LLC has held an on-call contract with NHDOT for about a decade and can perform all work to produce topographic and ROW surveys and plans.

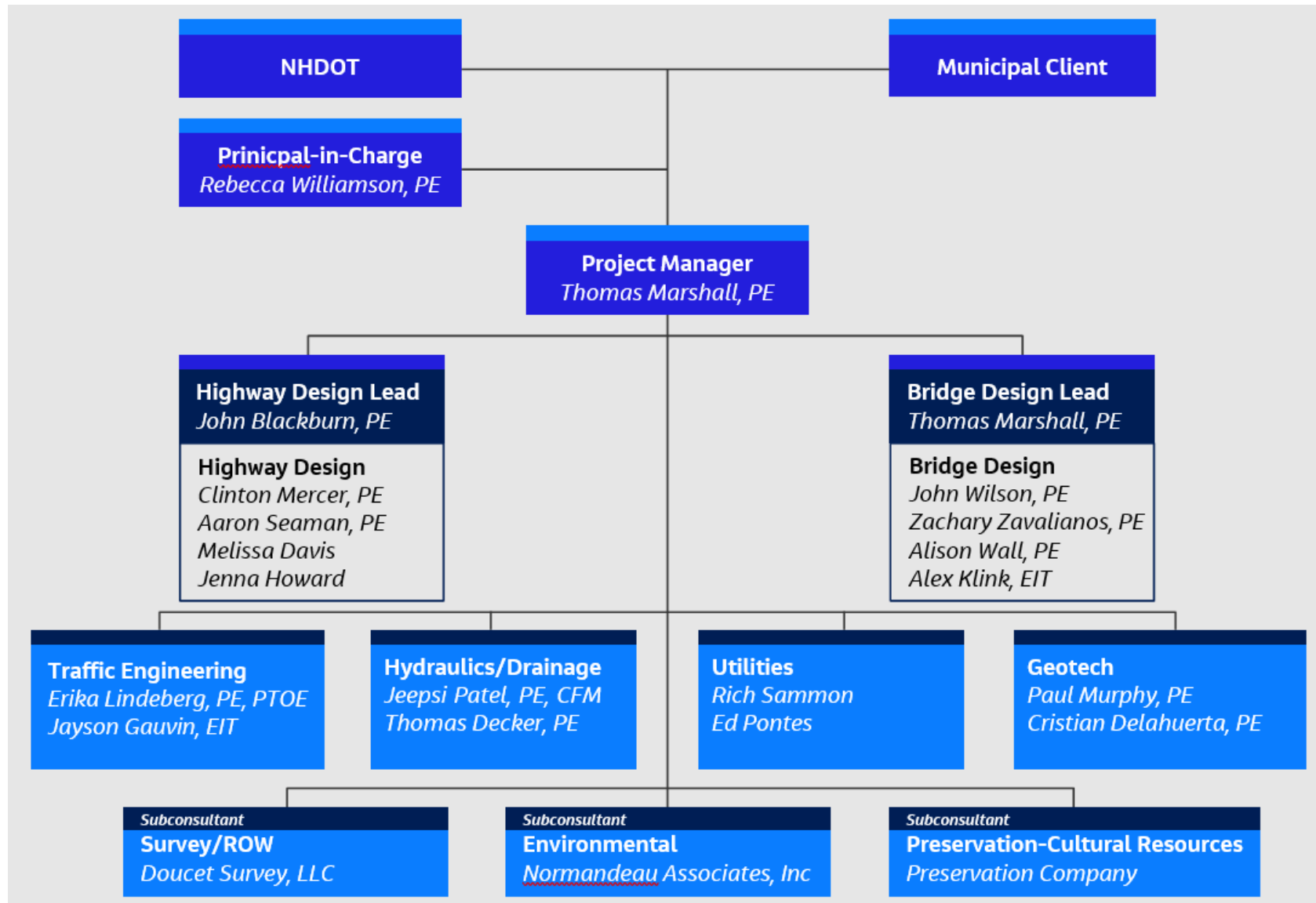
**Public Participation:** Every project is unique, and Jacobs has been very successful at developing projects that meet a community's needs and fit a specific physical setting while preserving scenic, aesthetic, historic, and environmental resources. Upfront and continuous communication is the key to that success and communication with clients and stakeholders is critical to the success of any project. We understand the importance of building consensus using dynamic public participation processes and using a combination of strategies, including in person and virtual events and online and interactive tools, to ensure feedback that reflects the diverse communities we work in.

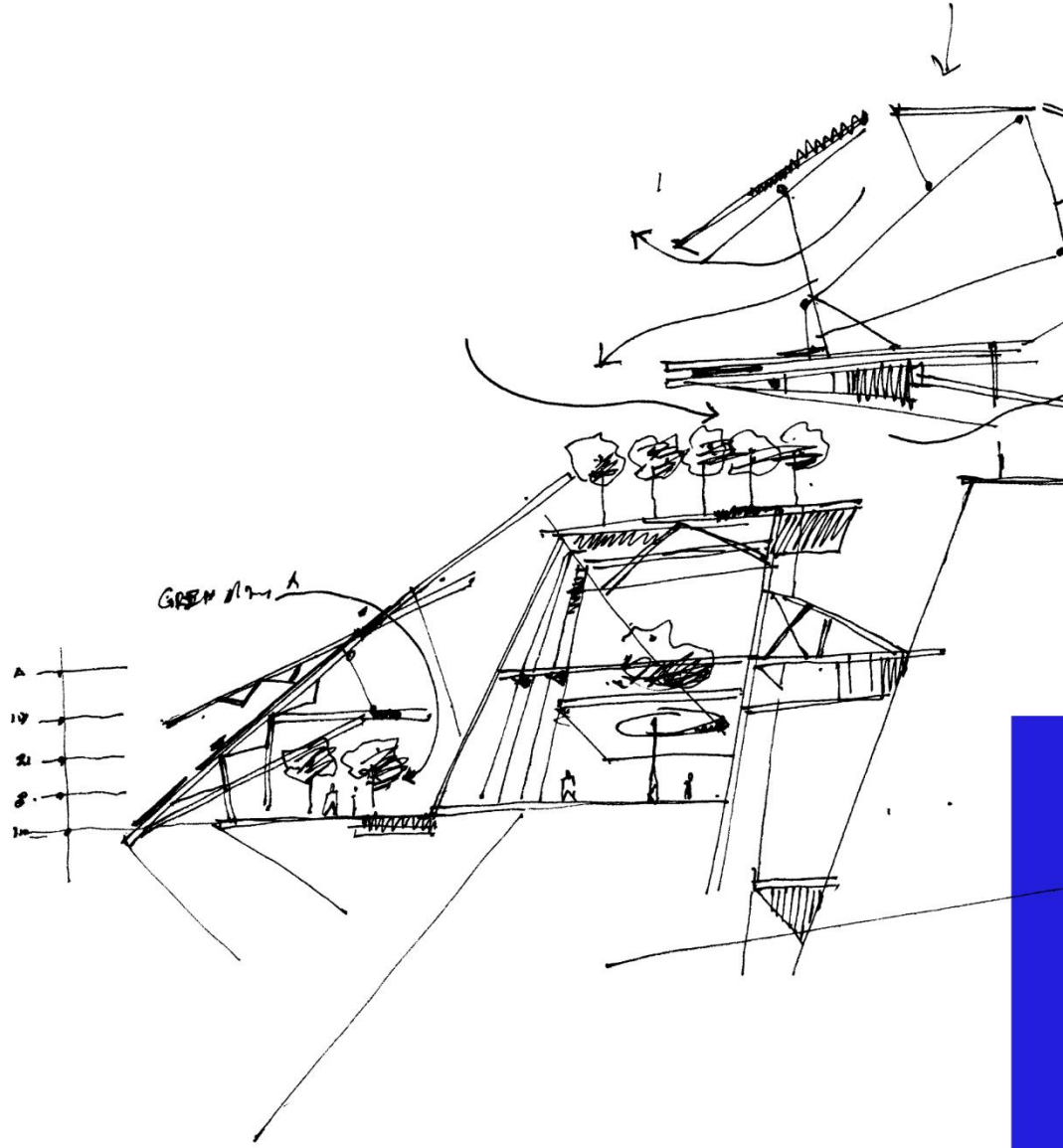


# Organizational Chart



## 2. Organizational Chart





# Project Team

### 3. Project Team

Jacobs understands that projects funded through the NHDOT LPA program may require a variety of disciplines and our proposed project team members have successfully completed all types of projects including roadway improvements, bridge rehabilitation and replacements, intersection improvements, and multi-use trail and bike/ped path projects.

Jacobs will administer the LPA projects from our Bedford office. Our staff has shown a proven ability to provide innovative and cost-effective designs and solutions. We are a full-service engineering firm with experience serving all types of governmental and public agencies.



#### Senior Leadership

**Rebecca Williamson, PE** will serve as Principal-in-Charge ensuring that the design teams are adequately staffed and have the necessary resources and expertise to successfully complete any assignments. She has over 33 years of experience as a designer and project manager on multi-disciplined projects throughout New England. She brings experience and leadership in all phases of the design work including studies, preliminary design, final design, environmental permitting and public involvement.



#### Project Manager

As the Project Manager for Jacobs, **Thomas Marshall, PE** brings over 28 years of experience on over 50 projects within the NHDOT Municipally Managed Bridge Program. He has successfully led the design of these projects including overseeing the conceptual studies, preliminary plans, final design plans and contract documents. A small sample of his many projects involving the NH transportation network include:

- River Road Bridge over the Piscataquog River, Weare
- NH Route 12 over the South Branch Ashuelot River, Troy
- NH Route 12 over the Cheshire Rail Trail, Troy
- NH Route 101 over Pulpit Brook, Bedford
- Oak Street over the Sugar River, Newport
- Peaslee Road Bridge over the Piscataquog River, Weare

#### 3.1 Subconsultants

**Doucet Survey LLC**, with three offices in NH brings more than 100 years of combined land surveying experience to the Jacobs team to provide topographic survey, and right-of-way layout and plan development.

**Normandeau Associates**, with an office in Bedford, NH is a national leader in environmental consulting services and joins the Jacobs team to prepare and complete all pertinent environmental documentation and permitting requirements.

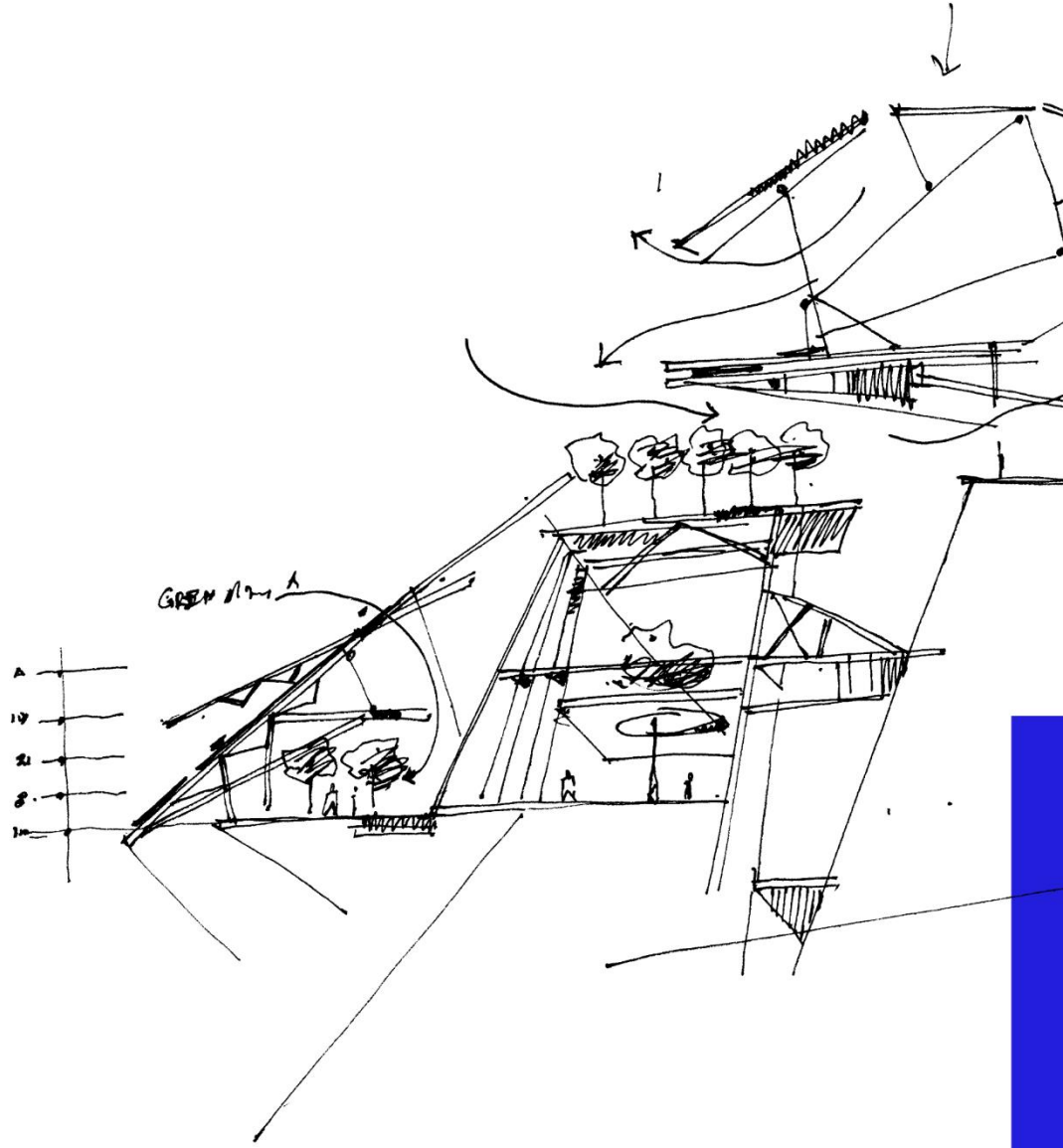
**Preservation Company**, with an office in Kensington, NH has won numerous awards in NH for their contributions and joins the Jacobs team to identify cultural and historic resources and work with designers to help avoid, reduce or mitigate any adverse effects.



### 3.2 Key Staff

Jacobs staff includes discipline specialists as shown on the chart below in the fields of bridge, roadway, traffic, hydraulics, environmental permitting, utilities and public outreach. See appendix for select team member resumes.

Project Role	Key Personnel	Years of Experience	Years with Firm	LPA Certified	Project Management	Highway Design	Bridge Design	Structural Engineer	Alternative Procurement Methods	Corridor Study Planning	Bridge Inspection	Bridge Load Rating	Hydrology/Hydraulics	Environmental	Traffic Analysis	Geotech Engineer	Survey/Right-of-Way	Public Involvement
Principal-in-Charge	Rebecca Williamson, PE	33	8		✓	✓			✓	✓								✓
Project Manager, Lead Bridge Engineer	Thomas Marshall, PE	28	3	✓	✓		✓	✓	✓		✓	✓		✓			✓	✓
QA/QC Engineer - Bridge	John Wilson, PE	31	24		✓		✓	✓	✓		✓	✓						
Senior Bridge Engineer	Zachary Zavalianos, PE	12	5				✓	✓	✓		✓	✓						
Senior Bridge Engineer	Alison Wall, PE	13	10				✓	✓			✓	✓						
Bridge Engineer	Alex Klink, EIT	12	4				✓				✓	✓						
Lead Highway Engineer	John Blackburn, PE	24	16		✓	✓			✓	✓				✓			✓	✓
QA/QC Engineer - Highway	Clinton Mercer, PE	27	10		✓	✓			✓	✓				✓			✓	✓
Senior Highway Engineer	Aaron Seaman, PE	18	18		✓	✓			✓				✓					
Highway Engineer	Melissa Davis	22	3			✓			✓									
Highway Engineer	Jenna Howard	6	3			✓			✓									
Lead Hydraulics Engineer	Jeepsi Patel, PE, CFM	15	16						✓				✓					
Senior Hydraulics Engineer	Thomas Decker, PE	39	33		✓				✓				✓					
Lead Geotech Engineer	Paul Murphy, PE	37	13						✓								✓	
Senior Geotech Engineer	Cristian Delahuerta, PE	44	7														✓	
Lead Traffic Engineer	Erika Lindeberg, PE, PTOE	30	3						✓	✓					✓			
Traffic Engineer	Jayson Gauvin, EIT	9	3						✓	✓					✓			
Utilities Engineer	Ed Pontes	39	20			✓			✓				✓	✓	✓			
Utilities Engineer	Rich Sammon	9	5			✓			✓				✓	✓				
<b>Subconsultants</b>																		
Doucet Survey Inc.		Survey/ROW																
Preservation Co.		Historic Review																
Normandeau Assoc.		Environmental																



# References



## References

**Project: River Road Bridge #110/150 over the Piscataquog River**

**NAOMI L. BOLTON**

Town of Weare, New Hampshire

Town Administrator

Interim Tax Collector

Interim Land Use Coordinator

15 Flanders Memorial Road

Weare, New Hampshire 03281

(603) 529-7535

**Project 1: Santilli Highway – Complete Street Concept Planning**

**Project 2: Third St & Vine St – Complete Street/Utility Upgrade**

**JAY MONTY**

Director

Department of Transportation and Mobility

City of Everett

484 Broadway, Rm 14

Everett, MA 02149

617-394-2225

*Jay.Monty@ci.everett.ma.us*

**Project: Complete Streets Prioritization Plan/Cut-Through Study**

**STEPHEN DOOKRAN, PE**

Town Engineer

Town of Concord, MA

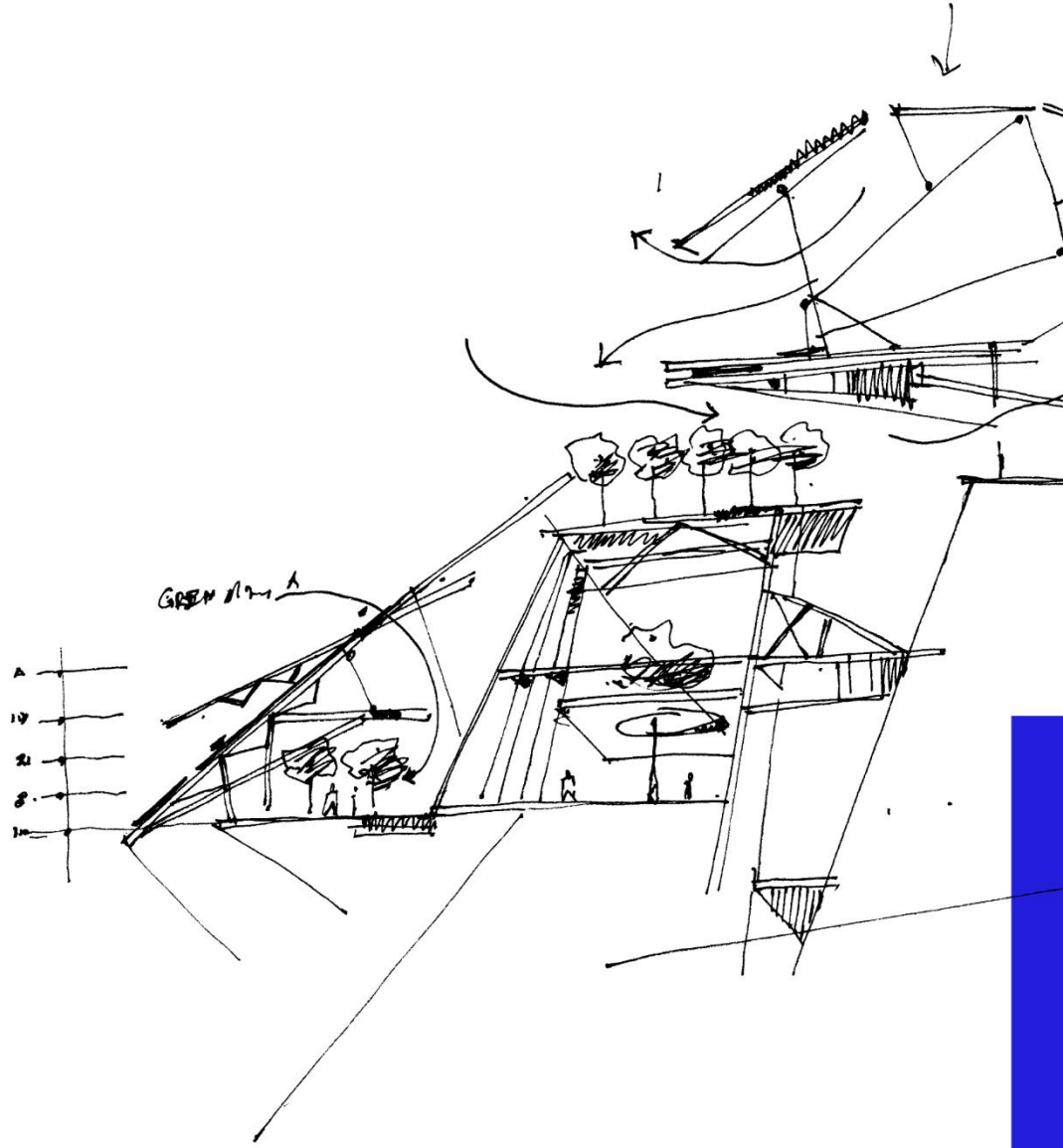
133 Keyes Road

2nd Floor

Concord, MA 01742

(978) 318-3219

*Sdookran@concordma.gov*



# Appendix

## Appendix A. Project Team Resumes



### **Rebecca S. Williamson, PE, Principal-In-Charge**

#### RELEVANT EXPERIENCE:

- Route 1 (Lafayette Road) Roadway Reconstruction Salisbury, MA
- Route 9 (Merrill Road) Resurfacing and related Work from East Street to Junction Road, Pittsfield, MA
- North End Boulevard and Beach Road, Salisbury, MA
- Route 20, Wilbraham, MA
- Route 23, Egremont, MA
- Traffic Safety Planning Study, Colrain, MA
- Bruce Freeman Rail Trail Westford, Carlisle, Acton, Concord, Sudbury, MA
- Assabet River Trail, Acton and Maynard, MA
- Milford Upper Charles Trail, Milford, MA

Rebecca has 33 years of experience as a designer and project manager on multi-disciplined projects throughout New England. She is versed in all facets of roadway reconstruction, transportation engineering, trail design, traffic and safety engineering, drainage and stormwater design and environmental permitting. She has directed and supervised all phases of design including studies, design reviews, environmental permitting and preparation of plans, specifications and estimates and provides senior leadership for transportation projects.



### **Thomas Marshall, PE, Project Manager/Lead Bridge Engineer**

#### RELEVANT EXPERIENCE:

- River Road Bridge over the Piscataquog River, Weare, NH
- NH Route 12 over the Cheshire Rail Trail, Troy, NH
- NH Route 12 over the South Branch Ashuelot River, Troy, NH
- NH Route 101 over Pulpit Brook, Bedford, NH
- Oak Street over the Sugar River, Newport, NH
- Coon Brook Road over the South Branch Sugar River, Newport, NH
- U.S. Route 3/NH Route 25 over Owl Brook, Ashland, NH
- Peaslee Road Bridge over Piscataquog River, Weare, NH
- Park Street Bridge over B&M Railroad, Exeter, NH
- Hornetown Road Bridge over the Mad River, Farmington, NH
- Concord Road Bridge over Beaver Brook, Keene, NH
- Tallant Road Bridge over Beaver Brook, Pelham, NH
- Castle Hill Road Bridge over Beaver Brook, Pelham/Windham, NH

Thomas has over 28 years of experience in bridge design and over 20 years of Project Management experience. He has been involved with over fifty (50) projects within the New Hampshire Department of Transportation Municipally Managed Bridge Program. His assignments have included work with several NH municipalities on all types of bridge rehabilitation and replacement projects, bridge inspection and evaluation projects, and construction support services projects. He also has a wealth of experience having worked with all the Departments of Transportation in New England. As a Project Manager and Senior Bridge/Structural Engineer, Thom has successfully led the design, management and construction administration of several projects and supervised other staff members in developing and assembling conceptual studies, preliminary plans, final design plans, and contract documents for numerous bridge replacement and rehabilitation projects.





**John Blackburn, PE, Lead Highway Engineer**

RELEVANT EXPERIENCE:

- River Road Bridge over the Piscataquog River, Weare, NH
- Reconstruction of NH Route 12, Walpole and Charlestown, NH
- US 3/NH 11 Improvements, Belmont, NH
- Wilder Street Bridge Replacement, Peterborough, NH
- East Main Street Improvements, Bradford, NH
- South Mammoth Road Bicycle Lanes, Manchester, NH
- US 3/NH 25 over Owl Brook, Ashland, NH
- Obery St and Main St Improvements, Plymouth, MA
- Water Street/Bolton Road Reconstruction, Clinton, MA

John has over 24 years of engineering experience on transportation design projects for Municipal, State, and Federal clients throughout New England and beyond. His strong technical background includes roadway and highway design, bicycle and pedestrian facilities, stormwater drainage, hydrologic/hydraulic modeling, traffic management, and civil/site design. His design solutions are tailored to meet the unique challenges of each project setting while minimizing impacts, delivering strong value for every construction dollar, and ensuring constructability.



**Clinton Mercer, PE, QA/QC Engineer - Highway**

RELEVANT EXPERIENCE:

- Piscataquog Rail Trail, Phase 2, Manchester, NH
- Interstate 93, Exit 2 and Exit 5 Park and Ride, Salem/Manchester, NH
- Reconstruction of NH Route 12, Walpole and Charlestown, NH
- State Route 7/Vermont Rail System Highway/Railroad At-Grade Crossing Rehabilitation, New Haven, VT
- State Route 140/Vermont Rail System Highway/Railroad At-Grade Crossing Rehabilitation, Wallingford, VT
- US Route 1 Bypass, Presque Isle, ME
- VT 100, Killington to Stockton, VT

Clinton has 27 years of experience in transportation engineering. He has designed projects including rail to trail bike and pedestrian facilities, intersection upgrades, at-grade railroad crossings, site development and roundabouts. Clint has also worked on preliminary design to develop multiple alternatives and a rating system to assist in determination of preferred alternatives. He has experience leading Road Safety Audits, public hearings and public informational meetings. Clint's experience includes a variety of roadway projects in New Hampshire with both public and private clients including several for the New Hampshire Department of Transportation.



**Aaron Seaman, PE, Senior Highway Engineer**

RELEVANT EXPERIENCE:

- Reconstruction of NH Route 12, Walpole and Charlestown, NH
- Stormwater Drainage Study, Farmington, NH
- Old Greenfield Road Over Bogle Brook, Peterborough, NH
- Sand Hill Road Culvert Extension Replacement, Peterborough, MA
- Ten Rod Road over a Tributary of Mad River, Farmington, NH
- Daniel Webster Highway Sidewalk, Merrimack, NH
- Stormwater Pollution Prevention for Construction of US 3/NH 11, Belmont, NH
- NH 9 over the B&M Railroad, Dover, NH

Aaron serves as a Project Engineer on a variety of projects that include highway design, bridge inspection and rehabilitation projects, and value engineering studies. His responsibilities include designing horizontal and vertical alignments, roadway modeling in CAD, superelevation calculations, sight distance calculations, guardrail calculations, hydrologic and hydraulic modeling, drainage design, quantity calculations, cost estimates, and permitting.



**John Wilson, PE, QA/QC Engineer - Bridge**

RELEVANT EXPERIENCE:

- Old Greenfield Road Bridge Replacement over Bogle Brook, Peterborough, NH
- Ten Rod Road Bridge Replacement over a tributary to the Mad River, Farmington, NH
- Bay Road Bridge Replacement over Cocheco River, Farmington, NH
- Gulf Road Bridge Replacement, Peterborough, NH
- Town Wide Bridge Prioritization Program, Farmington, NH
- Reconstruction of US Route 202, Peterborough, NH
- Wilder Street Bridge Replacement, Peterborough, NH
- Epping Road (NH Rte. 27) over NH Route 101 EB & WB, Exeter, NH
- Bradley Lake Road over Bradley Brook, Andover, NH

John has served as Project Manager on bridge projects for New Hampshire Department of Transportation, Massachusetts Highway Department, Vermont Agency of Transportation, Maine Department of Transportation, Connecticut Department of Transportation, and several municipal clients. His bridge engineering experience includes bridge inspections, bridge ratings, type span and location plans, bridge type studies, preliminary engineering, approach roadway design, final plans, construction plans, and construction bid documents. He has significant experience developing Accelerated Bridge Construction techniques for projects on accelerated schedules and very limited construction duration windows



**Alison Wall, PE, Senior Bridge Engineer**

RELEVANT EXPERIENCE:

- Bridge Nos. 69, 74 & 91 over Bourne Brook, Batten Kill and Roaring Brook, Coventry, VT
- Bridge No. 219 over Otter Creek, Pittsford, VT
- Bridge Nos. 305 & 306 over Winooski River, Montpelier, VT

Alison has over 13 years of experience as a structural engineer. Her focus has been in bridge designs, inspections and ratings. She has training in inspection of in-service bridges, fracture critical bridges and OSHA, and has been responsible for completing bridge inspections and ratings for various state agencies in New England. Mrs. Wall has a B.S. in Civil Engineering, an M.S. in Structural Engineering and is a licensed Professional Engineer.



**Erika Lindeberg, PE, PTOE, Lead Traffic Engineer**

RELEVANT EXPERIENCE:

- Wilbraham Route 20 Pavement Rehabilitation, Wilbraham, MA
- Signal Installation at Route 110 and I-495 Chelmsford, MA
- Wales – Bridge Replacement, W-02-002, Holland Road over Wales Brook, Wales, MA
- US1/Lafayette Road Reconstruction, Salisbury, MA

Erika is a quality-oriented Professional Engineer with over 30 years of extensive transportation engineering experience in traffic and safety engineering, highway design, and transportation research. She has 14+ years' experience in management and leadership roles supervising engineers and has mentored staff at all experience levels through regular training, evaluation and coaching.



**Jayson Gauvin, EIT, Traffic Engineer**

RELEVANT EXPERIENCE:

- I-495 Exit 15 / Route 1A Traffic Improvements, Wrentham, MA
- Signal Installation at Route 110 and I-495, Chelmsford, MA
- Us 1/Lafayette Road Reconstruction, Salisbury, MA
- Intersection Improvements at Route 1/Merrimac Street, Newburyport, MA
- Resurfacing and Related Work on Merrill Rd, Pittsfield, MA
- Intersection Improvements riverside Dr. to Burnham Rd, Methuen, MA

Jayson is a transportation engineer with 9 years of experience in traffic and roadway design. He has worked on transportation engineering projects for several municipalities and DOTs throughout New England. Jayson is involved with various project elements which include preparing Traffic Impact and Access Studies, Traffic Management Plans for construction, traffic analysis (Synchro, SimTraffic, VISSIM, SIDRA), all aspects of traffic signal design including traffic signal layout, sequence and timing and coordinated system, pavement marking and signing design and Complete Streets.



**Jeepsi Patel, PE, CFM, Lead Hydraulics Engineer**

RELEVANT EXPERIENCE:

- Bennetts Lane Bridge Replacement, Franklin Township, NJ County of Somerset, NJ
- Hydraulics Design Scour Analysis Report, I-91 Bridge Improvements Windsor, VT
- Railroad Bridge 57A over Cold Spring Brook, Shaftsbury, VT
- Superstructure Replacement/Substructure Rehab, Bridge N-16-004, Mendon Road over Abbott Run River, North Attleboro, MA
- Track Improvement Mobility Enhancement (TIME) Project, Stratford/Bridgeport, CT

Ms. Patel is a Hydraulic and Hydrology Engineer with experience in Hydrologic and Hydraulic Modeling, as well as the preparation of plans and reports for state, county, and local governmental agencies. She has conducted scour analysis using Federal Highway Administration's HEC-18. Jeepsi is experienced in dam breach analysis, including dam and spillway redesign, hydrologic and hydraulic modeling of potential dam breach scenarios, and unsteady flow modeling using ACOE HEC-RAS in conjunction with the HEC-GeoRAS software to define the downstream Inundation Mapping limits. Jeepsi, a Certified Floodplain Manager by the Association of State Floodplain Managers (ASFPM), has conducted and prepared several flood control studies. These studies included detailed field reconnaissance; historical flood record evaluation; hydrologic and hydraulic modeling and analyses; GIS mapping; aerial photographic interpretation of recent flood events; coordination with local citizens groups; and the development of flood control measures.]



**Paul Murphy, PE, Senior Geotechnical Engineer – Geotechnical Lead**

RELEVANT EXPERIENCE:

- Route 23/41 Creamery Road Reconstruction, Egremont, MA
- Bridge No. W-02-002 Replacement Holland Road over Wales Brook, Wales, MA
- I-495 Exit 15 / Route 1A Traffic Improvements, Wrentham, MA
- Methuen Rotary I-93/Route 110/Route 113 Interchange Project, Methuen, MA
- Bridge No. 64 over the Battenkill River, VT

Paul is a senior geotechnical engineer and Geotechnical Group Manager for Jacobs Boston office with over 35 years of experience working on a variety of bridge, transportation, infrastructure, and tunnel foundation engineering design and construction projects for public and private clients.

## Appendix B. Applicable Work Experience

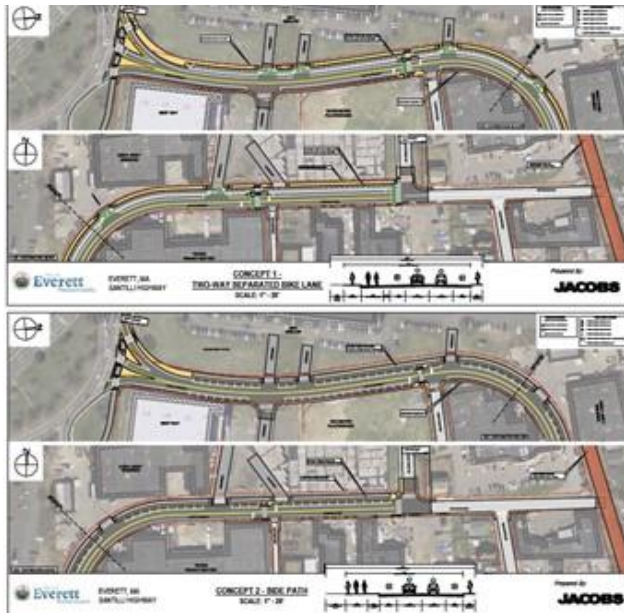


### Rehabilitation/Replacement Bridge No. 089/114 & 096/091 TROY, NH

#### Relevant Services

- Structural Bridge Design
- Highway and Traffic Design
- Hydraulic Design
- Environmental Coordination and Permitting
- Public Engagement

**Project Description** | Jacobs was retained by NHDOT for Bridge, Highway, Traffic and Geotechnical Design Services associated with two red-listed bridges in the Town of Troy. Services include Rehabilitation Study and Report, Type Span and Location Study, Hydraulic Analysis, Cultural and Natural Resources and Environmental Permitting, Right-of-Way Services, Final Design and Construction Services.



### Santilli Highway – Complete Street Concept Planning EVERETT, MA

#### Relevant Services

- Elements of Roadway design
- Complete Street design
- ADA Compliance
- Bike Lane Design
- Stormwater design
- Traffic analysis
- Public Engagement

**Project Description** | Jacobs worked with the City of Everett to develop concept designs to address sidewalk gaps and improve multi-modal access along a developed area of Santilli Highway. Accessible options for pedestrians and bicyclists were included in the options.



### Route 23/41 Roadway Reconstruction EGREMONT, MA

#### Relevant Services

- Elements of Roadway design
- Complete Street design
- Stormwater design
- Traffic analysis
- Structural design for replacement of an existing 20-foot culvert
- Public Engagement

**Project Description** | This 0.7-mile project in the center of Egremont aims to reconstruct the roadway corridor while maintaining the character and charm of the village center while also improving the

walkability for residents and visitors. The purpose of the project is improving multi-modal accommodation in the Village center while improve several geometric and utility deficiencies.



### River Road Bridge #110/150 over the Piscataquog River WEARE, NH

Relevant Services

- Structural Bridge Design
- Geotechnical Engineering
- Highway Design
- Hydraulic Design
- Environmental Coordination and Permitting
- Public Engagement

**Project Description** | The Town of Weare selected Jacobs to complete the Engineering Study Phase of this locally administered Local Public Agency project for replacement of this structurally deficient truss bridge.

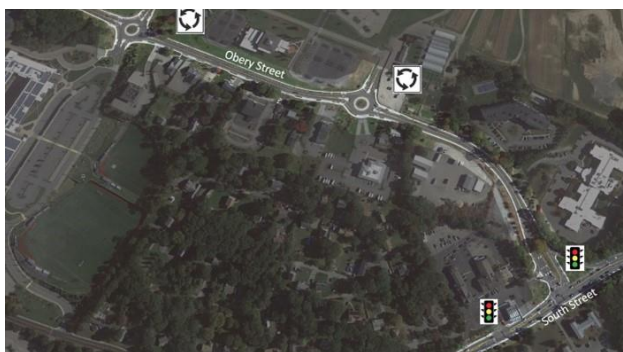


### Complete Streets Prioritization Plan/Cut-Through Study CONCORD, MA

Relevant Services

- Elements of Roadway design
- Complete Street design
- Public Engagement
- Traffic Analysis

**Project Description** | Jacobs assisted the Town with the development of a Complete Streets Prioritization Plan under the MassDOT Complete Streets Municipal Grant Funding Program. This required a strong public involvement component to determine which proposed projects aligned with the policy. The Cut-Through Traffic Mitigation Study identified existing traffic patterns through data collection and analysis to recommend actions to discourage or eliminate cut-through traffic patterns within the study area.



### Obery Street Complete Street Roadway Improvements PLYMOUTH, MA

Relevant Services

- Elements of Roadway design
- Bicycle Lane Design
- Complete Street design
- Stormwater design
- Utility Relocation
- Traffic analysis
- Structural design for replacement of an existing 20-foot culvert
- Public Engagement

**Project Description** | Jacobs was engaged by the City of Plymouth to be the designer of this project which included two roundabouts and the construction of a new signalized intersection. Also included were bicycle lanes, sidewalks, and substantial utility relocations and right of way acquisitions.



**East Princeton Rd (Route 31) over East Wachusett Brook  
PRINCETON, MA**

Relevant Services

- Elements of Roadway design
- Hydraulic/Scour Analysis
- Stormwater design
- Traffic analysis
- Structural design for replacement of an existing culvert
- Geotechnical Design

**Project Description** | This project utilized a grant to the town of Princeton under the MassDOT Municipal Small Bridge Program to replace the existing structure over East Wachusett Brook. The town selected Jacobs to design the complete replacement of the bridge and the associated roadway work. A complete hydraulic study was performed with the goal of mitigating impacts within the 100-year floodplain.



**Third St & Vine St – Complete Street/Utility Upgrade  
EVERETT, MA**

Relevant Services

- Elements of Roadway design
- Complete Street design
- Stormwater design
- Traffic analysis
- Utilities Design
- Public Engagement
- Bike/Pedestrian paths

**Project Description** | Jacobs is working with the City of Everett to develop design plans along the Third and Vine Street corridors as part of a major rezoning effort to bring more mixed-use development to the city. Work includes two-way separated bike lanes, ADA compliant sidewalks, curb ramps and traffic calming elements. New water and sewer lines are also included.



**LANESBOROUGH- Resurfacing and Related work on Route 7  
LANESBOROUGH, MA**

Relevant Services

- Preliminary design through construction phase services.
- Transportation Planning
- Highway Design
- Drainage Design
- Traffic Engineering and Management
- Environmental Permitting

**Project Description** | Jacobs was selected by MassDOT to design resurfacing and related work on approximately 1.9 miles of Route 7 in Lanesborough from the Pittsfield Town Line to Bridge Street in the Town Center. The purpose of the project is to implement an appropriate surface preservation treatment to extend service life of the pavement and to improve the safety and function of Route 20 within the project area. The project scope includes drainage, landscaping, installation of sidewalks, wide shoulders for use as bicycle lanes, granite curbing, and associated roadway work including various pavement rehabilitation treatments such as standard overlay, structural overlay and full depth construction.



### Route 20 Pavement Rehabilitation WILBRAHAM, MA

#### Relevant Services

- Transportation Planning
- Highway Design
- Drainage Design
- Traffic Engineering
- Road Safety Audit
- Geotechnical Engineering
- Structural Engineering
- Environmental Permitting
- Traffic Management

**Project Description** | Jacobs was engaged by MassDOT to design resurfacing and related work on Route 20 in Wilbraham from the Stony Hill Road intersection to the Palmer town line, for approximately 4.75 miles. The project scope includes the introduction of Complete Streets elements including sidewalks and bicycle lanes, pavement widening and overlay, intersection upgrades, signal design, Road Safety Audit and retaining walls. Jacobs' design responsibilities include functional design report, analysis of existing roadway, traffic and pedestrian infrastructure, analysis and preparation of traffic and accident-related data, design concept planning and preparation of three Road Safety Audits. Jacobs provided a collaborative approach engaging stakeholders through the preliminary phase of the project and working with the Town to agree on a preferred alternative.



### Bruce Freeman Rai Trail Structure Design SUDBURY, MA

#### Relevant Services

- Environmental Analysis and Permitting
- Multi-modal/Trail design
- Stormwater design
- Structural design
- Public Engagement

**Project Description** | Jacobs was engaged by the Town of Sudbury to provide environmental structural and geotechnical engineering services for three structures along the Bruce Freeman Rail Trail: a boardwalk structure, a bridge over Hop Brook and a bridge over Pantry Brook.



### Calamint Hill Rd over S. Wachusett Brook PRINCETON, MA

#### Relevant Services

- Bridge Inspection
- Bridge Rating

**Project Description** | The Town of Princeton engaged Jacobs to inspect and rate the Calamint Hill Road Bridge over S. Wachusett Brook. Jacobs' inspectors utilized NBIS inspection techniques and prepared the inspection report documenting findings and measurements.

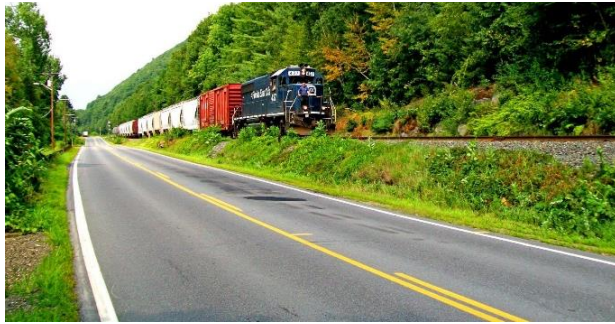


**Adams St Improvements at Hancock St & East St  
LEXINGTON, MA**

Relevant Services

- Transportation Planning
- Highway Design
- Drainage Design
- Traffic Engineering
- Roadside Safety
- Geotechnical Engineering
- Environmental Permitting
- Traffic Management

**Project Description** | Jacobs was engaged by the Town of Lexington to provide engineering design services to improve vehicular, pedestrian and bicyclist safety at the intersections of Adams Street at Hancock Street and East Street. Both residential neighborhood intersection locations are currently unsignalized and stop controlled. The goal of the project is to improve overall safety at each intersection by evaluating turning movement geometry, operational and capacity characteristics, safety and sight distance, and multi-modal accommodations.



**Reconstruction of NH Route 12  
Walpole-Charlestown, NH**

Relevant Services

- Environmental Analysis and Permitting
- Roadway design
- Traffic Engineering
- Geotechnical Engineering
- Stormwater design
- Structural design
- Public Engagement

**Project Description** | Jacobs was selected by the NHDOT to provide design services for the reconstruction of 2.8 miles of NH 12 situated between the Connecticut River and the New England Central Railroad (NECR). The project also included 2.5 miles of NECR track relocation. The purpose of the project was to increase the buffer distance between the railroad and NH 12, while relocating the roadway further away from Connecticut River. The work involved roadway design, structural design and environmental evaluation.



**Wales Bridge Replacement Holland Road  
over Wales Brook  
Wales, MA**

Relevant Services

- Structural Design
- Geotechnical Engineering
- Traffic Engineering
- Environmental Permitting
- Public Engagement

**Project Description** | MassDOT engaged Jacobs to provide design services for the replacement of the Wales Bridge which carries Holland Road over Wales Brook. The project involved analyzing existing structural, geotechnical, hydraulic and environmental information to determine the most appropriate type of bridge structure for the site. Pedestrian and Bicycle accommodations were included. The project also included drainage design, environmental permitting and roadside safety design.



# Jacobs

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