

TECHNICAL QUALIFICATIONS FOR:

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

January 18, 2024



GPI

TABLE OF CONTENTS

| | |
|---|-----------|
| Introduction Letter | 2 |
| Project Understanding & Approach | 3 |
| Organizational Chart | 5 |
| Project Team | 6 |
| References | 8 |
| Appendix: Resumes | 9 |
| Appendix: Project Experience | 14 |



Section 1

Introduction Letter

January 18, 2024

Tobey Reynolds, PE
Assistant Director of Project Development
Chairperson, Consultant Selection Committee
New Hampshire Department of Transportation
P.O. Box 483, 7 Hazen Drive
Concord, NH 03302-0483
Tobey.L.Reynolds@dot.nh.gov

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

Dear Mr. Reynolds:

Greenman-Pedersen, Inc. (GPI) provides highway and bridge design engineering services to local public agencies throughout New England and is seeking prequalification for LPA projects with the New Hampshire Department of Transportation (NHDOT). We recently completed designing a **replacement bridge along Valley Cross Road for the Town of Jackson**. GPI completed conceptual, preliminary, and final design in addition to construction phase services for a **Safe Routes to School project along Lafayette Road/Middle Street in Portsmouth**. This was a unique project since it represents the first protected bicycle lane installation in the State of New Hampshire, which provides a facility that caters to bicyclists with the broadest of abilities and protects children as they bike to school on a busy street. These two examples illustrate some of the wide-ranging experience we have in New England in working with LPAs to design highway and bridge improvements.

We understand that LPA assignments may vary and could involve smaller-sized roadway projects, bridge design, bridge inspection, structure evaluation, right-of-way plans, guardrail replacement, '3R' (resurfacing, restoration and rehabilitation) paving projects, culvert rehabilitation or replacement, signing contracts, and intersection safety improvement projects. The enclosed information demonstrates our ability to complete these types of projects, which we have done successfully within New England for over 40 years.

We appreciate your consideration and look forward to continuing our relationship with NHDOT and to work alongside familiar communities in addition to new ones in the future. If you have any questions, please feel free to contact me at 603-766-8259 or by email at tletton@gpinet.com.

Best Regards,

GREENMAN-PEDERSEN, INC.



Timothy Letton, PE
Executive Vice President
New England Branch Manager
116 South River Road, Building B, Suite 1
Bedford, NH 03110



Section 2
Project Understanding & Approach

PROJECT UNDERSTANDING & APPROACH

GPI has broad capabilities and experience in highway and bridge design that ranges from complicated interstate highway projects to localized sidewalk improvements. Whatever the size, we give careful attention and consideration to each assignment, seeking to improve transportation excellence in the state. We understand the limited funding that many communities in New Hampshire face and provide quality and practical designs that promote safety, mobility, value, and constructability. We are also mindful of the needs of the community and understand the care they have for the projects.

PRELIMINARY AND FINAL DESIGN AND PREPARATION OF CONTRACT DOCUMENTS

The effort that we put into producing high-quality plans, estimates, and specifications for these projects facilitates successful construction and infrastructure longevity. GPI has brought hundreds of highway and bridge design projects in New England communities from the initial concept development through the completion of punch list items.

HIGHWAY DESIGN

New Roadways and Rehabilitation of Existing Roadways:

GPI is experienced in the design of new roads, highway realignments, and the rehabilitation of existing streets. We understand the complexities and interactions between roadway geometry, stakeholder interests, utilities, drainage, roadside design, mobility, safety, and access management.

Intersection Improvements and Signalization:

We routinely provide traffic engineering solutions for communities. Intersections require careful planning since they represent a facility where the potential for conflict is greatest. Whether it is improving safety at a school crossing, optimizing a traffic signal, or designing geometric improvements to provide traffic calming, GPI engineers have extensive knowledge of all areas of intersection analysis, concept development, and design to improve safety and increase capacity.

Sidewalks, Trails, Bicycle Lanes, Alternative Transportation Facilities, and Complete Streets:

GPI continues to be very involved in the design of complete streets projects, sidewalks, trails, and bicycle lanes. We consider the context of all projects and the planning framework so that proposed multi-modal accommodations are consistent with the client's long-term goals and vision. GPI has also designed many

actuated flashing beacons to improve awareness and safety at pedestrian and bicycle crossings, and designed the first protected bicycle lanes to be implemented in New Hampshire. GPI's design of the Maplewood Avenue project in Portsmouth exemplifies our ability to deliver a complete streets design for a New Hampshire municipality within a residential neighborhood setting.

Review of Development Drive Requests and Traffic Impact Studies:

Many towns and cities throughout New England have turned to GPI for peer reviews of these items based on our in-house traffic engineering expertise. These reviews include a comprehensive assessment of the analysis, assumptions, recommendations, and mitigation proposed for the projects. In addition, GPI often provides design quality assurance and quality control of proposed construction documents for associated mitigation. We are intimately familiar with the requirements of NHDOT when it comes to a peer review of these studies.

Planning Level Corridor Studies: We regularly perform corridor studies that seek to identify the types of transportation improvements that are most effective in enhancing safety and mobility for all users while balancing these improvements with local resources, needs, and community vision. These efforts involve a range of traffic engineering and analysis, geometric design, planning, and public outreach.

BRIDGE DESIGN

Bridge Preservation, Rehabilitation, and Replacement:

We understand and follow the NHDOT processes for bridge design projects, including the type, span, and location study, the engineering report, preliminary design, and final design. The process is tailored to each project's scope, whether it be preservation, rehabilitation, or replacement. We are currently working on an LPA bridge project for the **Town of Jackson (17097)**. Our recent bridge designs for NHDOT, **Littleton 42376**, **Bedford-Manchester 40731**, and **Jackson 27709**, show our range of New Hampshire experience, from interstate highways to smaller, local bridges.

Bridge Inspection and Ratings: With certified NBIS team leaders and staff, GPI is prepared to conduct bridge inspections for local communities and NHDOT. In addition to the traditional approach, our FAA-certified pilot has performed bridge inspections

with our unmanned aircraft systems (UAS) and used thermal imaging to evaluate concrete decks. We have completed countless bridge ratings for many DOTs utilizing AASHTOWare software, hand calculations, spreadsheets, MDX, STAAD, and other tools to determine the load capacity of a wide variety of structure types.

Scour Countermeasures and Substructure

Protection: We have experience with scour analysis and countermeasure design and understand how to use engineering judgment when interpreting the scour results so that they are reasonable, do not dictate the bridge design, and are in concert with environmental restrictions. GPI is also experienced with the permitting process required to dewater streams for scour repair, which often involves placement of natural streambed material onto rip rap for restoration of the aquatic environment to pre-construction conditions.

ADDITIONAL WORK EFFORTS

Project Management Services: GPI is prepared to provide project management services to the department and municipalities. We are also comfortable providing coordination between municipalities and NHDOT as we do with non-LPA municipal design projects.

Environmental: GPI will utilize our in-house environmental expertise to provide resource identification and impact assessment, NEPA documentation, and permitting services. Coordination with resource agencies, the NHDOT Bureau of Environment, local officials, and state and federal agencies is an important part of the process and will be handled by the project manager working together with environmental staff. **Haley & Aldrich (H&A)** will assist GPI in the areas of hazardous materials and contaminated soil management.

Traffic Control Design: For the **Enfield 40526 culvert replacement study project**, GPI provided traffic analysis for alternative maintenance of traffic conditions during construction. A detour analysis and an alternating one-way analysis, both with multiple options, were developed and presented to the department to aid in the decision-making process. GPI's traffic analysis capabilities have also been critical to the recently completed **I-293 over Merrimack River bridges**. We also designed the traffic control for **Littleton 42376** and **Jackson 27709**, both of which are in construction and involve the use of traffic signals.

Hydraulic Calculations: GPI performs hydrologic and hydraulic analyses using NHDOT standard procedures described in the latest NHDOT drainage and bridge manuals, as well as guidance from FHWA.

GPI understands how to complete 1-D, 2-D, and 3-D hydraulic analyses and when each is most appropriate.

Overhead Sign Structure and Retaining Wall

Design: GPI is an industry leader in understanding overhead sign and ancillary structures, demonstrated by the fact that GPI staff teaches the **NHI 130087 Inspection and Maintenance of Ancillary Highway Structures** course. Our understanding of the in-service behavior of these structures allows us to pick up details during shop drawing review that will promote long life and low maintenance. GPI also routinely provides retaining wall designs for highway and bridge projects, ranging from small back of sidewalk walls to large slope retaining walls.

Technical Writing: GPI has recently completed writing assignments for NHDOT including an update to the **New Hampshire Rail Trail Plan (Statewide 42794)**. GPI provided technical writing support to the MassDOT Right-of-Way (ROW) Bureau for the recently issued manual titled *Plan Preparation Guidelines for Consultants Preparing Right-of-Way Plans*. We are also accustomed to preparing the engineering reports required as part of the NHDOT design process.

Geotechnical: H&A will assist GPI with geotechnical services. GPI and H&A are teamed to serve NHDOT on **Hampton-Portsmouth 26485A** to develop the Hampton portion of the Seacoast Rail Trail. H&A is a full-service environmental and geotechnical consulting firm.

Survey and Right-of-Way: GPI has the in-house capability to perform all necessary work under the supervision of a New Hampshire licensed land surveyor to produce topographic surveys, right-of-way plans, recordable property taking plans, and deed documents for the acquisition of property interests.

Public Involvement: GPI has considerable experience with public engagement and has an array of tools that can be deployed to assist the department during the public involvement process. GPI partnered with NHDOT to conduct extensive public outreach for the **New Hampshire Rail Trail Plan (Statewide 42794)**.



Section 3

Organizational Chart

ORGANIZATIONAL CHART



PRINCIPAL-IN-CHARGE
Timothy Letton, PE

PROJECT MANAGER
Mark Debowski, PE, LPA

BRIDGE ENGINEERING

BRIDGE LEAD
Stephen Langevin, PE, LPA

BRIDGE TEAM
Kimberly Armstrong, PE
Rob Sheppard, PE

HIGHWAY ENGINEERING

HIGHWAY LEAD
Kyle Higgins, PE, LPA

HIGHWAY TEAM
Michael Dugas, PE, LPA
Timothy Whitney, PE, LPA

ADDITIONAL SERVICES

SURVEY/ROW
Jeffrey Bradford, PE, LLS

TRAFFIC ENGINEERING
Steven Babalis, PE, PTOE

PUBLIC INVOLVEMENT
Carolyn Radisch, AICP

ENVIRONMENTAL
Samuel Campbell

HYRAULICS/HYDROLOGY
Valerie Hrabal, PE, PP

GEOTECH
Haley & Aldrich



Section 4
Project Team

KEY PERSONNEL

MANAGEMENT TEAM

Timothy Letton, PE - Principal-in-Charge: Regional leader overseeing multiple local public and state agency projects, including NHDOT contracts. Registered professional engineer in New Hampshire.

Mark Debowski, PE, LPA - Project Manager: Highly developed communication and project management skills. Currently managing NHDOT highway on-call projects. Registered professional engineer in New Hampshire and **holds current New Hampshire LPA certification.**

HIGHWAY/ROADWAY DESIGN

Kyle Higgins, PE, LPA - Highway Lead: Leads New Hampshire highway design team consisting of nine engineers. Broad experience includes roadway, drainage, and traffic design for NHDOT and several New Hampshire municipalities. **Holds current New Hampshire LPA certification.**

Michael Dugas PE, LPA: 33-year career with NHDOT including chief of preliminary design and state highway safety engineer. Very experienced in working with New Hampshire municipalities to solve transportation infrastructure problems. **Holds current New Hampshire LPA certification.**

Timothy Whitney, PE, LPA: Skilled in roadway design, municipal roadway work, utility coordination, and construction oversight for both local public and state agencies. Registered professional engineer in New Hampshire and **holds current New Hampshire LPA certification.**

BRIDGE DESIGN

Stephen Langevin, PE, LPA - Bridge Lead: Extensive bridge design experience on projects for local public and state agencies. A former NHDOT Bridge Bureau employee actively managing and working on NHDOT projects. Currently managing the Valley Cross Road Bridge project in Jackson, an LPA project. Registered professional engineer in New Hampshire.

Kimberly Armstrong, PE: Diverse experience in bridge design for municipalities and state agencies. Has also managed numerous bridge ratings and rehabilitation projects ranging from steel and concrete bridges to trusses and stone arches. Registered professional engineer in New Hampshire.

Robert Sheppard, PE: Experience includes bridge design, ratings, and construction services for bridges in New Hampshire and Massachusetts. Key roles on Jackson 27709, Bedford-Manchester 40731, and Littleton 42376 projects and is currently working on the Valley Cross Road Bridge project in Jackson, an LPA project.

TRAFFIC ENGINEERING

Steven Babalis, PE, PTOE: Extensive experience with traffic operations analysis, highway geometry, and traffic control plans. Excels at developing innovative solutions to complex problems. Has worked on a variety of NHDOT projects and is a Registered professional engineer in New Hampshire.

SURVEY/ROW

Jeffrey Bradford, PE, LLS: 39 years of experience performing survey and right-of-way services at GPI for both local public and state agencies. Registered land surveyor in all New England states, including New Hampshire.

HYDRAULICS/HYDROLOGY

Valerie Hrabal, PE, AICP: Expertise in floodplain hydraulics, design of stormwater management, and best management practices. Registered professional engineer in New Hampshire.

ENVIRONMENTAL

Samuel Campbell: Experienced in various environmental services required for transportation design projects.

PUBLIC INVOLVEMENT

Carolyn Radisch, AICP: Significant depth of experience in public engagement and as a certified planner.

GEOTECHNICAL ENGINEERING & HAZARDOUS MATERIALS - HALEY & ALDRICH



Section 5

References

REFERENCES

PETER NOURSE, PE | Director of City Services

City of Rochester
209 Chestnut Hill Road
Rochester, NH 03867
603-332-4096
peter.nourse@rochesternh.gov

JULIE HOYT | Town Administrator

Town of Jackson
54 Main Street
Jackson, NH 03846
603-383-4223 x101
townadmin@jackson-nh.orgs

KENNETH MAVROGEORGE, PE | City Engineer

City of Dover
288 Central Avenue
Dover, NH 03820
603-516-6454
k.mavrogeorge@dover.nh.gov





Section 6
Appendix:
Resumes & Applicable Work Experience

APPENDIX: RESUMES

Mark J. Debowski, PE



Project Experience

NH Route 28 and Stonehenge Road, Londonderry, NH; 2023-Present. Project Director. Providing preliminary and final design services for intersection improvements. The existing intersection is experiencing traffic delays and has safety concerns due to poor intersection geometry. The selected alternative is a roundabout design and will include pavement widening, curbing, profile adjustments, and closed drainage improvements to the intersection area and approaches. The project also includes the reconstruction of two large stream crossing culverts and the addition of stormwater treatment facilities to meet water quality requirements. Responsibilities include client communications, overseeing project design, and quality control. *Client: NHDOT*

Old Dover Road & Tebbetts Road Intersection Improvements, Rochester, NH; 2023-Present. Project Director. Providing preliminary engineering design for improvements to the intersection of Old Dover Road and Tebbetts Road. A single-lane roundabout alternative recommendation from the road safety audit (RSA) is being developed into a preliminary design, but other intersection types are also being considered. This project is HSIP-funded and is an NHDOT Local Public Agency (LPA) project. Responsibilities include overall project oversight. *Client: City of Rochester*

Downtown Pedestrian and Vehicular Improvements, Dover, NH; 2022-Present. Project Director. Providing design services for improvements to the vehicular, transit, bicycle, and pedestrian flow in the downtown area in the City of Dover. Several key intersections are being modified, placemaking and landscaping improvements are being implemented, and streets are being modified from one-way to two-way traffic flow. Responsibilities include design team leadership, quality control, and client communication. *Client: City of Dover*

Betts Road and Cross Road Intersection, Rochester, NH; 2021-2023. Project Director. Designed a realigned intersection to address safety issues at a high crash location. The design negotiated nearby overhead and underground utilities, residences in close proximity, and narrow right-of-way while providing substantial sight distance improvements. Responsibilities include design oversight, quality control, and client communication. *Client: City of Rochester*

Seacoast Greenway, Hampton-Portsmouth, NH; 2021-Present. Project Director. Converting abandoned railroad corridor to ten-mile multi-use trail to become part of the East Coast Greenway. The project includes extensive survey and field reviews, reestablishing the right-of-way, reconstruction of portions of the rail bed, bridge rehabilitation, culvert replacements, significant upsizing and replacement of a closed drainage system, and thorough public coordination. Responsibilities include project oversight, client and public communication, and creative problem solving for unique design challenges. *Client: NHDOT*

NH Statewide Rail Trail Plan, NH; 2020-2022. Project Manager. Updated the previous State Trails Plan to ensure the preservation and integrity of the state-owned rail corridors, provide direction for future development, define the role of the DOT in the preservation of state-owned rail corridors, determine the best way to maximize the return on investment in rail corridor assets, and determine how to engage towns, cities, and private rail-trail organizations. Managed the plan development and extensive communication and coordination with NHDOT and various stakeholders, including an advisory committee. *Client: NHDOT*

PROPOSED PROJECT ASSIGNMENT Project Manager

EDUCATION

MBA/2020/Business Administration
BS/2000/Civil Engineering
BA/2000/Liberal Arts/Engineering

REGISTRATIONS/CERTIFICATES

2005/Professional Engineer/ME #10940
2012/Professional Engineer/NH #13899
2018/Professional Engineer/MA #40086

YEARS WITH FIRM: 4

TOTAL YEARS EXPERIENCE: 18

COURSE WORK

NHDOT LPA Certification #1900
MaineDOT LPA Certification
MaineDOT ADA Compliance (Co-Taught)/ 2019
TRB Geometric Highway Design Process for the
21st Century / 2017
FHWA Performance Based Practical Design /
2016
FHWA Intersection and Interchange Geometrics
Workshop / 2016
FHWA 3D Engineered Models for Construction
Workshop / 2014

PROFESSIONAL AFFILIATIONS

NHDOT/ACEC-NH Highway Design
Subcommittee, Member

Stephen Langevin, PE, LPA



Project Experience

Route 302 & NH Route 10 over I-93 Bridge Rehabilitation, Littleton, NH; 2019-2020. Project Manager. Design and construction for preservation and maintenance of the Bridge. No. 187/065 carrying US Route 302 & NH Route 10 over I-93. Responsibilities included project management and reviewing structural design, plan production, estimate, and specifications for the bridge.

Client: NHDOT

I-293 & NH101 Bridge Rehabilitation, Bedford-Manchester, NH; 2016-2020. Project Manager. Engineering design and construction for the rehabilitation of the “red-listed” eastbound and westbound bridges carrying I-293 over the Merrimack River. Responsibilities included managing and reviewing structural design, plan production, quantity estimates, specifications, and construction services support for the bridges. *Client: NHDOT*

Route 16 Bridge over Ellis River, Jackson, NH; 2015-2022. Lead Structural Engineer. Design and construction for the rehabilitation of the “red-listed” bridge (Br. No. 144/056) carrying NH Route 16 over the Ellis River. Responsibilities included managing and reviewing structural design, plan production, quantity estimates, specifications, and construction services support for the bridge.

Client: NHDOT

Valley Cross Road Bridge Rehabilitation, Jackson, NH; 2018-Present. Project Manager. Design for the rehabilitation of the municipal “red-listed” bridge carrying Valley Cross Road over Wildcat Brook. Responsibilities include project management and reviewing structural design, plan production, and specifications for the bridge. *Client: Town of Jackson*

PROJECT ASSIGNMENT Bridge Lead

EDUCATION

BS/2001/Civil Engineering

REGISTRATIONS

2006/Professional Engineer/NH
#11933

NHDOT LPA Certification #2210
FHWA Certification for Inspection
of Fracture Critical Steel
Bridges/2009

FHWA Certification for Safety
Inspection of In-Service
Bridges/1993

Kyle Higgins, PE, LPA



Project Experience

NH Route 28 and Stonehenge Road, Londonderry, NH; 2023-Present. Project Manager. Providing preliminary and final design services for intersection improvements. The existing intersection is experiencing traffic delays and has safety concerns due to poor intersection geometry. Providing a roundabout design that includes pavement widening, curbing, profile adjustments, and closed drainage improvements to the intersection area and approaches. The project also includes the reconstruction of two large stream crossing culverts and the addition of stormwater treatment facilities to meet water quality requirements. Responsibilities include client communications, overseeing project design, leading the public presentation of the project, and ensuring the contract terms are fulfilled. *Client: NHDOT*

Downtown Pedestrian and Vehicular Improvements, Dover, NH; 2021-Present. Project Manager. Providing design services for improvements to the vehicular, transit, bicycle, and pedestrian flow in the downtown area. Several key intersections are being modified, placemaking and landscaping improvements are being implemented, and streets are being modified from one-way to two-way traffic flow. Responsibilities include development of roadway and intersection plans, client coordination, and public outreach. *Client: City of Dover*

Betts Road and Cross Road Intersection, Rochester, NH; 2021-2023. Project Engineer/Deputy Project Manager. Provided design services to realign the intersection legs and reconstruct the intersection at this high crash location. Designing a solution that negotiates nearby overhead and underground utilities, residences in close proximity, and narrow right-of-way while providing substantial sight distance improvements. Responsibilities include development of plans, specifications, and estimates as well as client and stakeholder coordination. *Client: City of Rochester*

PROJECT ASSIGNMENT Highway Lead

EDUCATION

BS/2016/Civil Engineering

REGISTRATIONS

2022/Professional Engineer/NH
#17242

2020/Professional Engineer/ME
#16547

NHDOT LPA Certification #2273
MaineDOT LPA Certification
ACI Concrete Field Testing
Technician – Grade I

Timothy Letton, PE



PROJECT ASSIGNMENT
Principal-in-Charge

EDUCATION
BS/2005/Civil Engineering

Project Experience

Statewide On-Call Highway Engineering Services, Various Locations, NH; 2019-Present. Principal-in-Charge. Providing on-call engineering for highway design and related technical/professional consulting services for various projects located throughout the state. *Client: NHDOT*

Route 302 & NH Route 10 over I-93 Bridge Rehabilitation, Littleton, NH; 2019-2020. Principal-in-Charge. Design and construction services relative to the preservation and maintenance of the Bridge. No. 187/065 that carries US Route 302 & NH Route 10 over I-93. *Client: NHDOT*

Statewide On-Call Bridge Design, Various Locations, NH; 2018-Present. Principal-in-Charge. Engineering services for bridge design and related technical and professional consulting services on demand for various projects at various locations throughout the state. *Client: NHDOT*

Michael Dugas, PE, LPA



PROJECT ASSIGNMENT
Highway Engineer

EDUCATION
BS/1987/Civil Engineering

Project Experience

NH Vulnerable Road User Safety Assessment, Statewide, NH; 2023-Present. Project Manager. This project involves conducting the inaugural Vulnerable Road User (VRU) Safety Assessment for NHDOT. The VRU Safety Assessment employs a data-driven process to identify areas of high risk for pedestrians and bicyclists and a program of projects or strategies to reduce risks in identified areas. Responsibilities include management of the development of the safety assessment as well as leading client coordination and stakeholder outreach. *Client: NHDOT*

Old Dover Road & Tebbetts Road Intersection Improvements, Rochester, NH; 2023-Present. Project Manager. Providing preliminary engineering design for improvements to the intersection of Old Dover Road and Tebbetts. A single-lane roundabout alternative recommendation from the road safety audit (RSA) is being developed into a preliminary design, but other intersection types are also being considered. The project addresses safety issues identified in the RSA and the crash history at this intersection. Bicycle and pedestrian accommodations are anticipated at the roundabout. This project is HSIP-funded and is an NHDOT LPA project. *Client: City of Dover*

Kimberly Armstrong, PE



PROJECT ASSIGNMENT
Bridge Engineer

EDUCATION
BS/2002/Civil Engineering
AS/2000/Architectural Engineering
Technology

Project Experience

Assabet River Pedestrian Trail and Bridge, Concord, MA; 2021-Present. Project Manager. Providing design and engineering services for the Assabet River Pedestrian Trail and Bridge project, which proposes a pedestrian connection between Baker Avenue and West Concord Center in Concord, MA. Work includes wetland delineation, survey, environmental permitting, geotechnical investigation, hydraulics analysis, and preliminary civil/highway and structural design. Responsibilities include overall project management and coordination with the town and MassDOT and assisting with the bridge design, including quality control (QC). *Client: Town of Concord*

Glendale Street Bridge Repairs, Easthampton, MA; 2020-Present. Project Manager. Assisting the City of Easthampton by providing repair options for the bridge that carries Glendale Street over the Manhan River. The existing bridge has structural deficiencies and severe deterioration to the edges of the deck, railing, and exterior beams. Compiled recommendations to address the deficiencies noted in the inspection report and during the site visit. Possible funding sources are also being included along with considerations of their applicability. To address an immediate need for repair, also designed and detailed a splice plate repair and provided construction oversight for the installation of the repair. Responsibilities include providing the recommendation *Client: Town of Easthampton*

Steven Babalis, PE, PTOE



PROJECT ASSIGNMENT Traffic Engineer

EDUCATION

BS/2006/Civil Engineering

Project Experience

NH Route 28 and Stonehenge Road, Londonderry, NH; 2023-Present. Senior Engineer. Providing preliminary and final design services for intersection improvements at Route 28 and Stonehenge Road. The selected alternative is a roundabout design and will include pavement widening, curbing, profile adjustments, and closed drainage improvements to the intersection area and approaches. The project also includes the reconstruction of two large stream crossing culverts and the addition of stormwater treatment facilities to meet water quality requirements. Responsibilities include roundabout design, conducting the traffic analysis, conducting performance-based design evaluation, public participation, and quality control. *Client: NHDOT*

Route 302 & NH Route 10 over I-93 Bridge Rehabilitation, Littleton, NH; 2019-2022. Highway Engineer. Design services for the highway preservation and maintenance of Bridge No. 187/065. Responsibilities included traffic control design and intersection design. *Client: NHDOT*

Timothy Whitney, PE, LPA



PROJECT ASSIGNMENT Highway Engineer

EDUCATION

BS/2013/Civil Engineering

Project Experience

Route 28 & Stonehenge Road, Londonderry, NH; 2021-Present. Project Engineer. Providing preliminary and final design services for intersection improvements at Route 28 and Stonehenge Road. The existing intersection is experiencing traffic delays and has safety concerns due to poor intersection geometry. The selected alternative is a roundabout design and will include the reconstruction of two large stream crossing culverts and the addition of stormwater treatment facilities to meet water quality requirements. *Client: NHDOT*

Seacoast Greenway, Hampton-Portsmouth, NH; 2021-Present. Project Manager/Project Engineer. Converting abandoned railroad corridor to a ten-mile multi-use trail to become part of the East Coast Greenway. The project includes extensive survey and field reviews, reestablishing the ROW, reconstruction of portions of the rail bed, bridge rehabilitation, culvert replacements, and extensive public coordination. Responsibilities include taking on assistant project management tasks during preliminary design, such as coordinating field reviews, culvert inspections, and coordinating preliminary design of two bridges with the structural team. Responsibilities also include heading up the preliminary design, cost estimate, and engineering report. *Client: NHDOT*

Robert Sheppard, PE



PROJECT ASSIGNMENT Bridge Engineer

EDUCATION

MS/2015/Civil & Structural Eng.
BS/2011/Civil Engineering
AS/2007/Computer Aided Design

Project Experience

Route 302 & NH Route 10 over I-93 Bridge Rehabilitation, Littleton, NH; 2019-2020. Structural Engineer. Design and construction relative to the preservation and maintenance of the Bridge. No. 187/065 that carries US Route 302 & NH Route 10 over I-93. Responsibilities include expansion joint design, plan production, and the review of the reinforcement schedule for the bridge. *Client: NHDOT*

Route 16 Bridge Replacement, Jackson, NH; 2015-2022. Structural Engineer. Design and construction for the rehabilitation of the "red listed" arch bridge carrying NH Route 16 over the Ellis River. Responsibilities included structural design, plan production, quantity estimates and specifications for the bridge. *Client: NHDOT*

Valley Cross Road Bridge Rehabilitation, Jackson, NH; 2018-Present. Structural Engineer. Design services for the rehabilitation of the bridge carrying Valley Cross Road over Wildcat Brook. Responsibilities include structural design, plan production, quantity estimates, and review of reinforcement schedule for the bridge. *Client: Town of Jackson*



Project Experience

Valerie Hrabal, PE, PP

US Route 4 Culvert Replacement Study, Enfield, NH; 2019-2020. Hydrology & Hydraulics Team Leader. Performed hydrology and hydraulics studies for evaluating replacement alternatives for an existing 6' x 9' box culvert using Hydro CAD, HY-8, and FHWA SMS-SRH-2D software for developing inflow hydrology/hydrographs, culvert design, and 2D stream hydraulics analysis respectively. Performed scour analysis using HEC-18, NCHRP 24-20 (abutment scour) and FHWA Hydraulics toolbox. *Client: NHDOT*

Interstate I-90 (Mass Turnpike) over Route I-95/128, MBTA/CSX and Charles River Bridge Replacements, Newton/Weston MA; 2014-Present. Hydrology & Hydraulics Team Leader. Preliminary design services for the replacement of multiple structures along I-90, most notably the bridge that carries I-90 and I-95 over the Charles River. Performed hydrology and hydraulic analysis for a new bridge over the Charles River using FEMA hydrology and HEC-RAS 1D steady-state backwater analysis. Performed scour using MassDOT scour equations and NCHRP 24-20 (abutment scour). *Client: MassDOT*

PROJECT ASSIGNMENT
Hydraulics/Hydrology

EDUCATION

MS/1983/Civil Engineering
BS/1979/Civil Engineering



Project Experience

Jeffrey Bradford, PE, LLS

Reconstruction of Maplewood Avenue & Adjacent Areas, Portsmouth, NH; 2017-2019. Survey/ROW Director. Roadway and utility reconstruction running along Maplewood Avenue from Woodbury Avenue to Cutts Street. Responsibilities included research of roadway layout, easements, and property. Placed layout, property, and easement lines in CAD with owner information and oversaw project survey. Prepared five easement plans and easement documents. *Client: City of Portsmouth*

Route 16 Bridge Rehabilitation, Jackson, NH; 2016-2019. Survey/ROW Director. Preliminary and final design for the rehabilitation of the red-listed bridge carrying NH Route 16 over the Ellis River. Responsibilities included research of roadway layout, easements, and property. Placed layout, property, and easement lines in CAD with owner information and coordinated with NHDOT on project survey. *Client: NHDOT*

PROJECT ASSIGNMENT
Survey/ROW

EDUCATION

BS/1986/Civil Engineering



Project Experience

Samuel Campbell

Tuscan Village Redevelopment; Salem, NH; 2019-Present. Environmental Scientist. Transportation engineering and consulting services for the Tuscan Village redevelopment of the former Rockingham Park racetrack in Salem. Responsibilities include preparation and submission of a Categorical Exclusion and Request for Project Review by the New Hampshire Department of Historical Resources. *Client: Joseph Faro*

Improvements to Routes 5/10, Deerfield/Whatley, MA; 2018-Present. Environmental Scientist. Provided PS&E design services for the reconstruction and related improvements of approximately 1.1 miles of Route 5. Responsibilities include the preparation and submission of a Notice of Intent in the Town of Deerfield and a Request for Determination of Applicability in the Town of Whatley. *Client: MassDOT*

PROJECT ASSIGNMENT
Environmental

EDUCATION

BS/2017/Environmental
Science



Project Experience

Carolyn Radisch, AICP

On-Call Street Design and Planning Services, Boston, MA; 2017-Present. Senior Transportation Planner. This assignment involves working with the city's team to define complete streets design improvements for reconstruction of identified city streets. Street design projects have included pedestrian amenities, traffic calming, protected bicycle lanes, enhanced transit stops, public art, and streetscape amenities. *Client: City of Boston Department of Public Works.*

Pedestrian and Bicyclist Improvements, Hanover, NH; 2010-2018. Project Manager. For several years, advised the town's Bike and Pedestrian Committee on planning and design projects, including the Safe Routes to School Travel Plan. Responsibilities included conceptual design, public presentations, plan documentation, public outreach, and coordination between the town, college, and transit agency. *Clients: Town of Hanover, Dartmouth College, and Advance Transit*

PROJECT ASSIGNMENT
Public Engagement

EDUCATION

MS/1995/City & Regional
Planning
MS/1995/Civil & Trans. Eng.
BS/1983/Environ.Design

APPENDIX: PROJECT EXPERIENCE

Municipal/Local Public Agency Projects

GPI has a long history of providing engineering, planning, and design services to local public agencies throughout New England. GPI strives to develop long-term relationships with our clients to understand and help them achieve their goals. Our project team has completed or is currently working on projects with numerous local public agency clients. Currently, GPI has 17 engineers and inspectors who hold current LPA training certifications.



Valley Cross Bridge | Jackson, NH

GPI is providing design services for this LPA project that involves the rehabilitation of the deteriorated bridge that carries Valley Cross Road over Wildcat Brook. GPI developed concepts for the town and is designing the preferred option that allows for widening the bridge, maintaining the truss structure, and providing suitable accommodation for pedestrians.

Client: Town of Jackson

Contact: Julie Hoyt, Town Administrator, 603-383-4223 x101



Lafayette Road/Middle Street | Portsmouth, NH

GPI completed the study, preliminary design, final design, project bidding assistance, and construction engineering services in support of the creation of buffered and protected bicycle lanes along Lafayette Road/Middle Street. The goal of this LPA project was to provide a safe and usable route for bicyclists in concert with the city's complete streets policies and *Bicycle and Pedestrian Master Plan*. GPI recommended that buffered and protected bicycle lanes be pursued as they provide the most flexibility to meet the needs of all users and provide a dedicated, safe facility.

Client: City of Portsmouth

Contact: Eric Eby, City Engineer, 603-766-1415



Kingston Road Survey | Exeter, NH

GPI performed the field survey and right-of-way research for this shoulder widening project along Kingston Road (Route 111). This is an LPA project, and plans were reviewed by NHDOT. GPI also prepared the required easement plans for recording.

Client: CMA Engineers, Inc.

Contact: Jason J. Beaudet, PE, 603-627-0708



Town Center Improvement Plan | Stratham, NH

GPI prepared the engineering study to assist the town with this LPA project. The report provided vehicular, pedestrian, and bicycle volumes, operation, and potential roadway geometric improvements within the town center district to address safety and intersection capacity needs. Conceptual alternatives consisted of roundabouts and signalized configurations and the impacts of each alternative were evaluated in terms of capacity, safety, right-of-way, and construction and maintenance cost while aiming to maintain the historic character by improving and balancing pedestrian and bicycle mobility and vehicular operations.

Client: Town of Stratham

Contact: Travis Austin, Town Planner, 603-772-7391

Roadway Design Projects

From simple roadway or sidewalk design projects to complex highways and interchanges, GPI continues to enhance transportation infrastructure while increasing safety for all modes of travel on roadways throughout New England. We have the ability to adjust to various types of projects and produce a design that is of the highest quality and is constructible. With a growing focus on complete streets design, the combined staff of GPI engineers, planners, landscape architects, and scientists are incorporating design elements such as bicycle lanes, green infrastructure, bus rapid transit facilities, and enhanced pedestrian zones to increase safety and foster a greater sense of community.



Maplewood Avenue Reconstruction | Portsmouth, NH

This roadway and utility reconstruction project runs along Maplewood Avenue from Woodbury Avenue to Cutts Street and includes adjacent neighborhoods for a total project length of two miles. Improvements include pavement reclamation, new sidewalk, buffered bicycle lanes, curbing, drainage, traffic calming, raised intersections, stormwater BMPs, landscaping, and water/sewer design. This \$5.9 million project was recently completed.

Client: City of Portsmouth
Contact: Eric Eby, City Engineer, 603-766-1415



Reconstruction of Route 109 | Medway, MA

GPI provided the design and prepared the preliminary and final plans, specifications, and estimate for the rehabilitation of Route 109 (Main Street). The project involved reconstruction of existing pavement, installation of new granite curbing and cement concrete sidewalks, improvements to the drainage system, upgrading and capacity improvements at several signalized intersections, and the planting of shade trees and placement of ornamental streetlights and other streetscape appurtenances along the corridor. GPI also furnished advice during the project's construction phase.

Client: Town of Medway
Contact: David D'Amico, Public Works Director, 508-533-3275



Water Street Reconstruction | Williamstown, MA

GPI assisted in the preparation of plans, specifications, and cost estimate (PS&E) for the reconstruction of a portion of Water Street (Route 43). The design widened Route 43 to provide on-street parking on one side and five-foot shoulders for bicycle traffic. Streetscape improvements included new granite curbing, cement concrete sidewalks with ADA-compliant wheelchair ramps, and pedestrian crossings at several locations.

Client: Town of Williamstown
Contact: Timothy Kaiser, Public Works Superintendent, 413-458-3500



Bruce Freeman Rail Trail | Acton, MA

GPI is providing design and construction services for an eight-mile multi-use recreational trail along a former railroad line in Acton, Concord, Carlisle, and Westford. The project includes a new variable width paved asphalt multi-use rail trail, an adjacent stone dust trail, trail pavement markings and signing, passively actuated flashing beacons at trail/roadway crossings, design of new pedestrian bridges over state routes, new prefabricated pedestrian bridge and tunnel, rehabilitation of seven existing bridges along the trail, drainage improvements, earthwork, landscaping, and environmental permitting.

Client: MassDOT
Contact: Matt Hopkinson, Project Manager, 857-368-6154

Traffic Engineering Projects

GPI has expertise in all areas of intersection analysis, concept development, and design to improve safety and increase capacity. In addition to the collection of traffic data and its analysis and evaluation utilizing Synchro/SimTraffic, VisSim, aaSIDRA, and/or HCS, we offer a variety of vehicular, pedestrian, and bicycle control solutions ranging from traditional unsignalized or signalized control to the design of modern roundabouts. GPI utilizes a variety of complete street design elements that are intended to calm vehicle travel speeds. We have experience with many design features to provide traffic calming, edge line striping, bicycle lane striped buffer, protected bicycle lanes using on-street parking, vertical curbing, curb extensions, enhanced crosswalks, driver speed feedback signs, pedestrian refuge islands, and raised intersections.



Water Street Roundabout | Plymouth, MA

GPI provided design and engineering services for Phase I improvements to Water Street. The project included the installation of a modern, single-lane roundabout at the intersection of Water Street and South Park Avenue. The new modern roundabout replaces an older traffic circle and is fully operational with three, full-access legs, with the fourth leg designated as an exit-only lane. Splitter islands were created at three of the four approaches to enhance pedestrian and bicycle access through the intersection.

Client: Town of Plymouth

Contact: Jonathan Beder, DPW Director, 508-830-4162 x12105



Sidewalk Improvements | Wilton, NH

GPI provided design services for this transportation enhancement (TE) streetscape project on Main Street along the downtown area of Wilton. The project involved sidewalk improvements with some curb realignment, streetscape features such as brick pavers, ornamental lighting and landscaping, traffic-calming devices, and layout of on-street parking along the downtown area.

Client: Town of Wilton

Contact: Paul Branscombe, Former Town Administrator, 603-487-2500 x121



Arcade Avenue | Seekonk, MA

This safety improvement project realigned the Arcade Avenue approach to the intersection and provided a new traffic control signal. The intersection had been the location of numerous accidents. The existing stone arch/concrete bridge was extended to provide additional pavement for a turning lane and bicycle use. Sidewalks, drainage, pavement markings, and signing were also part of the project.

Client: Town of Seekonk

Contact: David Cabral, PE, Town Engineer, 508-336-7407



Andrew Jarvis Drive | Portsmouth, NH

GPI provided conceptual, preliminary, and final design services for safety improvements at this intersection, which serves as the driveway to the city's high school. The project widens Andrew Jarvis Drive to have two exiting lanes and widens U.S. Route 1 to provide an exclusive right-turn lane into the school. The project includes a new fully actuated traffic signal, pavement reclamation, cold-plane and overlay, drainage upgrades, sidewalk, curbing, buffered bicycle lanes, and a 'bicycle box' at the signalized intersection. GPI also provided construction inspection services for this \$1.1 million project that was completed prior to the start of the 2018-2019 school year.

Client: City of Portsmouth

Contact: Eric Eby, City Engineer, 603-766-1415

Bridge Rehabilitation Projects

GPI has worked on numerous bridge rehabilitation projects for both state transportation departments and municipal clients. Our experience gained over a large number of projects and varied structure types enables us to propose innovative and cost-effective methods to rehabilitate structures that may have not been considered salvageable.



Route 16 Bridge over the Ellis River | Jackson, NH

GPI provided design services for the rehabilitation of the red-listed bridge carrying NH Route 16 over the Ellis River, a two-span, 140-foot-long reinforced concrete frame supported by a concrete pier. The project involved bridge inspection, material testing, traffic control during staged construction, bridge design, and design of the approach roadways. The project improves sight lines associated with side street access for overall vehicle safety. One-way alternating traffic was implemented during staged construction via a temporary traffic signal.

Client: NHDOT

Contact: Phillip Brogan, PE, Project Manager, 603-271-7408



Bridge Master Plan | Framingham, MA

GPI provided design and consulting services to complete a master plan for all town-owned bridges with spans under 20 feet. GPI inspected and provided a full NBIS-level inspection report on bridges with a span length between 10-20 feet and a preliminary review of all bridges spanning 5-10 feet, and five pedestrian bridges. GPI also provided an overall review of town-owned bridges over 20 feet that are inspected by the MassDOT but where the maintenance responsibility rests with the town. A report of the inspection findings was prepared with a narrative of the findings and recommendations for maintenance, repair, rehabilitation, or replacement.

Client: City of Framingham

Contact: Bill Sedewitz, Chief Engineer, 508-532-6040



I-293 & NH101 Bridge Rehabilitation | Bedford-Manchester, NH

GPI provided engineering design services for the rehabilitation of the eastbound and westbound red-listed bridges carrying I-293/NH101 over the Merrimack River. Completed a bridge inspection using traditional hands-on techniques, under bridge inspection units, and utilized unmanned aerial vehicles (drones). Evaluated and tested the steel bridge coatings to determine the need for investment. As a result, provided a recommendation report outlining repairs. Also investigated the traffic control issues for this roadway. Currently providing construction phase services.

Client: NHDOT

Contact: Robert Landry, 603-271-2731



Clement Street Bridge | Northampton, MA

GPI provided design services for structural repairs to the Clement Street Bridge over the Mill River. An inspection of the bridge revealed deficiencies in various truss members critical to the integrity of the truss. The work for this project entailed the replacement of the lower eye bar plates by disassembly of the truss panel points while maintaining the truss integrity. Also provided on-site resident engineering services. The actual construction involved a temporary truss support system, field drilling of holes, and miscellaneous sidewalk repairs.

Client: City of Northampton

Contact: David Veleta, City Engineer, 413-587-1574

Culvert Design Projects

GPI is experienced in designing culverts, both for structural and hydraulic capacity, and to address scour concerns. Culverts, which are typically buried structures, are critical elements of a highway in that they have the ability to safely carry water, whether from surface run-off or streams, under the roadway and without disrupting traffic. The shape and size of the culvert are typically designed to meet the structural requirements of the roadway, as well as the hydraulic requirements of the waterway that will be using the culvert as a path under the roadway.



Culvert Study | Enfield, NH

GPI provided an assessment of an open-bottom culvert conveying tributary to the Mascoma River under US-4 in poor condition as part of the Route 4 highway project. The assessment looked at various hydraulic openings, including ones to pass record storms and meet stream crossing guidelines to recommend the best solution. Profile modifications and traffic management were also included in the recommendations. The assessment determined whether the culvert should be replaced as part of the highway project or as a separate project and assisted in determining the final solution for the site.

Client: NHDOT

Contact: James Marshall, Bureau of Highway Design Administrator, 603-271-2731



Culvert Inspection | Plaistow/Kingston, NH

GPI provided two culvert evaluations under the NHDOT Statewide Highway On-Call agreement. The assessment determined if the culverts need to be replaced or if they could remain in service for another 20 years. We used our VideoRAY ROV to perform underwater inspection of the culverts and visually assess their current conditions, avoiding the need to dewater the pipe. Also provided an engineering evaluation of the culvert conditions.

Client: NHDOT

Contact: James Marshall, Bureau of Highway Design Administrator, 603-271-2731



Forge Road Bridge | Freetown, MA

GPI provided design services for the replacement of the Forge Road Bridge over the Assonet River. The bridge collapsed during the spring of 2010 when excessive rain events overtopped the adjacent dam structure and undermined the bridge foundations. The replacement bridge is a precast concrete arch structure with a span of 32 feet and a rise of 8 feet. The roadway alignment was modified slightly. Additional project elements included environmental permitting, right-of-way services, public meetings, and assisting the town with the FEMA application.

Client: Town of Freetown

Contact: Charles Macomber, Highway Surveyor, 508-664-2359



South Street Bridge | Douglas, MA

This project involved designing the repair of the existing stone arch on the bridge that carries South Street (State Route 96) over Tinkerville Brook. Floods had damaged the bridge to the extent that sections have been closed to traffic. The work included localized strengthening of the arch and the adjacent wingwall, scour remediation, and the installation of moment slabs and crash tested barrier.

Client: Town of Douglas

Contact: William Cundiff, PE, Town Engineer, 508-476-4000 x208

GPI

Greenman-Pedersen, Inc.

116 South River Road

Building B, Suite 1

Bedford, NH 03110

603-766-8257



www.gpinet.com