Response to Request for Qualifications

Statewide On-Call Preliminary Engineering Prequalified List of Consultants for LPA Qualifications-Based Selection Contracts

New Hampshire Department of Transportation

December 20, 2024

IMPROVING COMMUNITIES TOGETHER

December 20, 2024

Tobey Reynolds, PE
Assistant Director of Project Development
Chairperson, Consultant Selection Committee

RE: Request for Qualifications
Statewide On-Call Preliminary Engineering Prequalified List of Consultants for LPA

Dear Mr. Reynolds,

BETA Group, Inc. is pleased to provide our qualifications for the Preliminary Engineering Prequalified List for locally administered Local Public Agency (LPA) projects.

Improving Communities Together

At BETA, we believe the most successful projects are those developed in close collaboration with the community we are serving. As such, we work closely with municipal staff to understand their issues and understand their goals; and we work closely with the community at large through public engagement designed to gain input from, and inform all, of the project stakeholders.

The LPA Process

Assisting municipalities under the LPA program involves providing a wide range and variety of services on highway, traffic, and bridge projects. BETA has a deep knowledge of the LPA program processes as we have current and past experience with projects receiving funding from TAP, CMAQ, HSIP, and MOBIL grants and with State Aid Bridge projects. With this deep experience we can successfully guide a municipality through the process.

Our Team

BETA has been providing roadway, bridge, traffic, and permitting services to our municipal clients throughout New England for over 40 years. In addition to highway and bridge engineers, our team includes a large in-house traffic team. This team works closely with our highway engineers on intersection improvement, signalization, safety, and pedestrian/bicycle projects.

Our team will be led by John Byatt, PE who is LPA certified and has been developing bridge and transportation projects with New Hampshire municipalities for over 30 years. Christopher Turgeon, PE also manages LPA projects, is our Highway Lead Engineer and is LPA certified. They will have the support of our 170 professional engineers, planners, environmental scientists, and other professional resources.

We are confident the Department will find our extensive experience, expertise, depth of resources, and specialty consultant team members more than qualified to be included on the list of qualified LPA consultants. Please let me know if you have any questions or require any additional information.

Sincerely,
BETA GROUP, INC.

John Byatt, PE
Project Manager/Vice President
JByatt@BETA-Inc.com
603.264.1129

Mark R. Gershman, PE
Principal In Charge/CEO, President, & COO
MGershman@BETA-Inc.com

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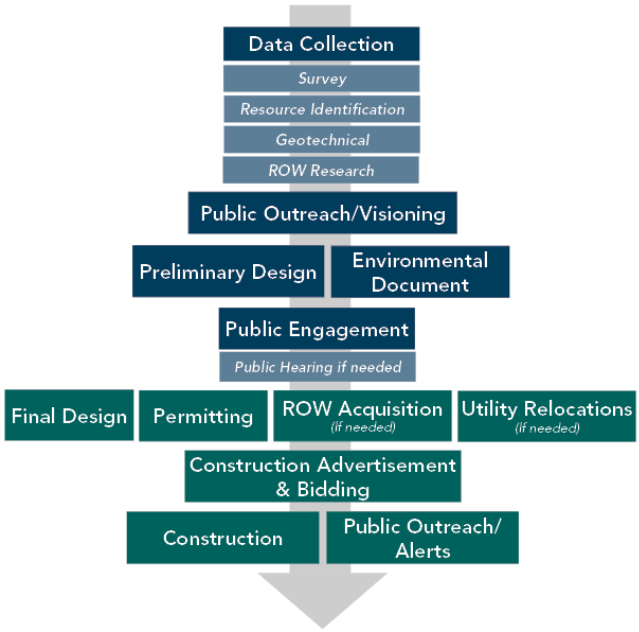
2. Project Understanding & Approach

Our approach is based on BETA's experience and understanding that the most successful projects are a collaborative effort between the client, their consultant, and the community.

The focus of our project approach is:

- Close collaboration and communication with our client.
- Leadership to drive the project development.
- Comprehensive and effective public engagement.
- Identification and addressing of issues early in the project development process.
- Meeting the project schedule and adhering to the project budget.
- Close coordination with NHDOT.
- Quality plans, documents, estimates, reports, and permit applications.

The figure to the right shows the basic steps we would take for a project regardless of the funding source.



LPA Program and Expertise

Projects receiving federal funding through NHDOT will need to follow the Local Public Agency (LPA) project development guidelines. State Aid Bridge (SAB) projects follow a similar but less extensive process. BETA staff are very experienced and knowledgeable in these processes and can help navigate the municipality through them. BETA staff has experience with the different types of funding programs under the LPA program including Congestion Mitigation and Air Quality (CMAQ), Transportation Alternatives Program (TAP), Highway Safety Improvements Program (HSIP), State Aid Bridge (SAB), and Municipal Off-system Bridge Replacement and Rehabilitation (MOBRR). All transportation projects developed under these programs will be led out of our Manchester, NH office.

NH Communities Recently Served or Serving:

Claremont
Enfield
Epping
Hooksett
Laconia
Lebanon
Manchester
Merrimack
Plaistow
Rye
Salem
Somersworth
Swanzey

Highway Design/Bicycle and Pedestrian Improvements/Stormwater

A wide variety of municipal highway projects can be developed with LPA and other state funding. These projects improve our communities by enhancing safety, providing for non-vehicular transportation, and improving the conditions of existing infrastructure. BETA has significant experience and expertise in all of these types of projects and can develop them from initial planning studies to final contract plans, right-of-way plans and contract documents. These projects include:

- New and rehabilitation of existing highways
- Alternative transportation facilities such as bike lanes, multi-use trails, sidewalks, and sharrows
- Roundabouts
- Safety improvements
- Intersection improvements
- Drainage improvements and stormwater treatment
- Planning level corridor studies
- ADA improvements

Traffic and Safety

There is typically a traffic component associated with most highway design projects, and there are also stand-alone traffic projects. Additionally, there are projects specifically related to improving safety on highways and at intersections. BETA's Traffic group includes 17 professionals with a primary focus on traffic design and analysis

who work closely with our Highway team to develop these improvements. Traffic and safety project types and tasks we are adept at include:

- Traffic impact studies
- Road Safety Audits (RSA)
- Traffic signal evaluation, coordination, and upgrades, including Adaptive Signal Control and Peer-to-Peer Systems
- Redesign of intersections to address design, safety, or capacity deficiencies
- Upgrades of highway signing and guardrail replacements
- Horizontal curve evaluations

Bridge Design

BETA's extensive bridge design experience includes everything from box culverts to large multi-span bridges. We have performed full bridge replacements, superstructure replacements, rehabilitation and preservation projects, load ratings, and seismic analyses. We also perform bridge inspections with our NBIS-certified bridge inspectors. Many of our projects carry high volumes of traffic, thereby requiring complex staging and traffic management. Accelerated bridge construction (ABC) techniques and the use of precast concrete components have been used in many of our projects to reduce the construction duration and impacts to the public. BETA also has in-house hydraulic engineers who perform hydrologic and hydraulic analyses, scour analyses, and countermeasure designs for our bridge projects using Hec-Ras and other software.

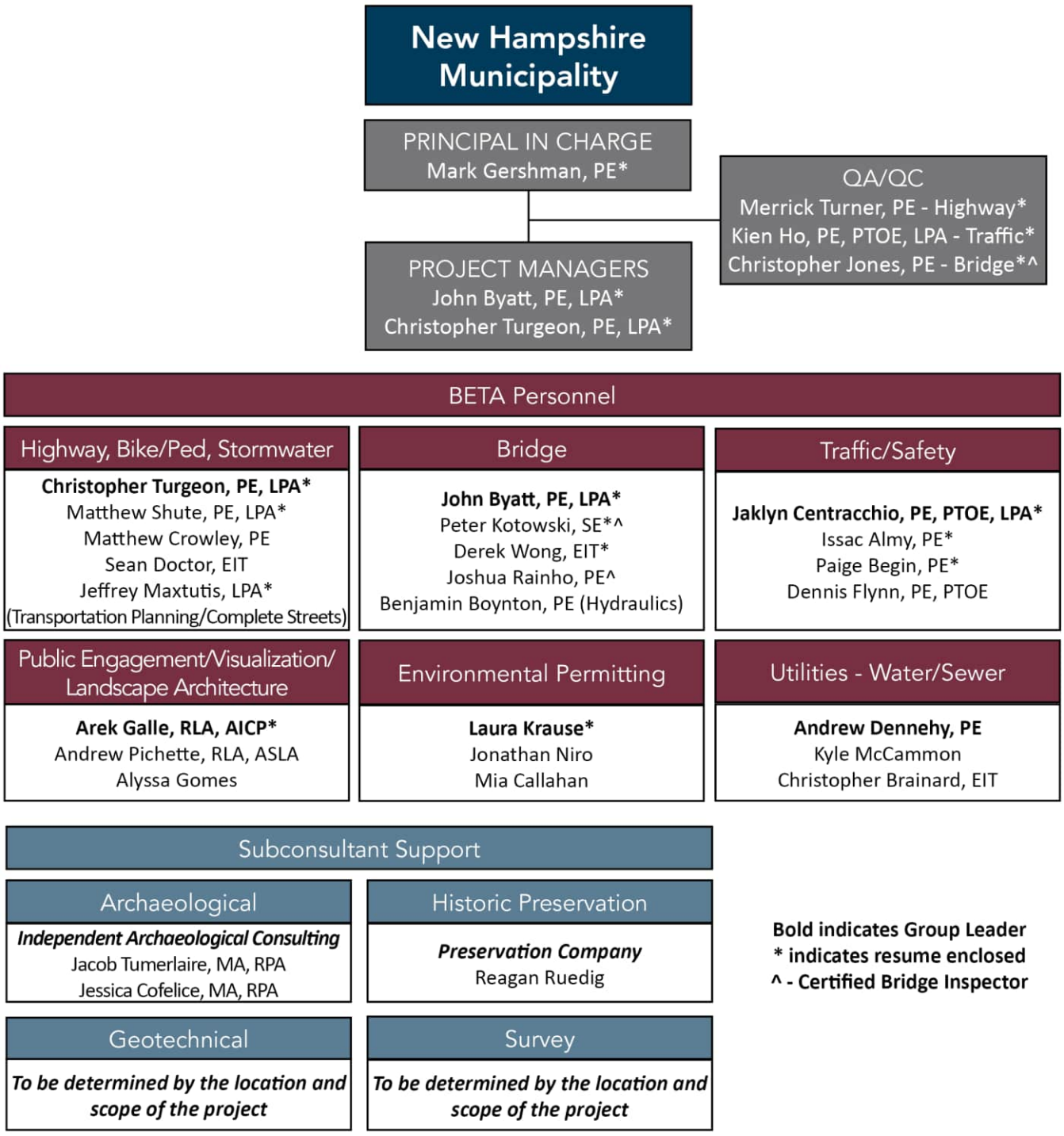
Public Outreach and Visioning

It is important to gain stakeholder input early in a project and to provide stakeholders with information throughout the development of the project. Our appreciation for the importance of effectively communicating a project's goal to all stakeholders has allowed us great success. Our team has experience engaging with large stakeholder groups in public halls, addressing public officials and the general community, as well as one-on-one meetings with a concerned citizen who might be affected by construction. BETA's graphic capabilities for communicating design ideas generate a wide base of public enthusiasm and support while energizing the entire design process. We can produce advanced three-dimensional drawings, or wireframe models and visualizations to allow us to study the designs being developed and present them to the public. We can use our in-house 360-degree video camera to develop drive-through visualizations of a project.

Environmental Coordination and Permitting

Our in-house environmental team can provide all the necessary environmental document preparation and permitting for municipal projects. Early in the project, our team will identify all environmental and cultural resources through field investigation and coordination with regulatory agencies. Impacts to these resources are evaluated and minimized where possible then presented to at the NHDOT Natural and Cultural Resource Agency Meetings for input. Applications for NHDES Dredge and Fill, Shoreland, and Alteration of Terrain permits will be developed as needed.

3. Organizational Chart



LPA – Indicates certification for LPA projects from NHDOT.

4. Project Team

Company Overview

For over 40 years, BETA has provided integrated solutions that improve the communities where we live and work. Our multi-disciplinary approach offers the ability to take projects from ideas to implementation under one roof. We have over 170 engineers, landscape architects, planners, construction managers, and support personnel. Ranked as a "Top 500 Design Firm" by *Engineering News Record*, BETA has a strong track record of working successfully with state DOTs and our municipal clients. Our technical services include traditional roadway/highway design, bridge/structure design, and traffic engineering services. Our clients include both municipalities as well as Departments of Transportation throughout New England.

Our Team

The multi-disciplined team put forth by BETA was developed to address the variety of potential projects that may arise from the LPA Program, State Aid Bridge (SAB), or any other projects receiving State and/or Federal funding. BETA has **seven LPA-certified** engineers and project managers. BETA will also utilize the services of subconsultants for specific services. Historic resource inventories and archaeological surveys, if required, will be performed by the **Preservation Company** and **Independent Archaeological Consulting**, respectively. Qualified survey/ROW and geotechnical subconsultants, experienced in the LPA process, will be selected on a case-by-case basis. Factors in selecting these subconsultants will include project location and area of expertise of the subconsultant in relation to the specific scope of the project. The combination of in-house staff and specialized subconsultants provides a team that can undertake any potential assignment.

Key Personnel

The BETA team will be led by **John Byatt, PE** who has over 32 years of bridge and transportation experience, including working with New Hampshire municipalities. John will also lead the bridge design aspect of the projects. He is currently project manager of the **Enfield – Shaker Boulevard Bridge** project and has been the project manager on many other municipal bridge projects. **John is LPA certified**. John will be assisted on bridge design projects by several highly qualified and experienced bridge engineers, including **Christopher Jones, PE**, **Peter Kotowski, SE, Derek Wong, EIT,** and **Joshua Rainho, PE. Benjamin Boynton, PE** will perform the hydraulic and scour analysis for the bridge projects.

Christopher Turgeon, PE, ENV SP will be the lead highway engineer and also serve as a project manager. Chris has over 15 years of relevant roadway, bicycle/pedestrian, and stormwater design experience and is currently the lead highway engineer on the **Epping Route 125** project and project manager on the **Wire Road Intersection** project. **Chris is LPA certified**. Chris will be assisted by **Matthew Shute, PE** who is **LPA certified** and has a significant amount of experience in on-trail and on-road bicycle and pedestrian accommodations. **Jeff Maxtutis**, a transportation planner, has over 38 years of experience in complete streets projects that develop facilities and increase safety for bicycle users and pedestrians. **Merrick Turner, PE** has over 39 years of roadway design experience and will provide QA/QC services for our highway projects, and **Matthew Crowley, PE,** will lead the drainage and stormwater treatment design.

Our traffic team will be led by **Jaklyn Centracchio, PE, PTOE,** who is **LPA certified** and led the traffic effort on the **Wire Road Intersection** project. She will be assisted by **Isaac Almay, PE, Paige Begin, PE,** and **Dennis Flynn PE, PTOE,** who have worked on NHDOT and New Hampshire municipal projects including the **Claremont – Washington Street Signal and the Wire Road Intersection** projects. **Kien Ho, PE, PTOE,** who has over 40 years of experience in traffic analysis and is **LPA certified,** will perform QA/QC services for traffic assignments.

Laura Krause has over 12 years of experience in developing environmental documents and permit applications and will lead our environmental team. Laura's team recently performed the environmental document preparation for our **Claremont – Washington Street Signal Project** and the **Valley Street Complete Streets** project. They are currently working on environmental documents for LPA projects in Enfield and Rye.

The table below depicts the engineering services to be provided and the individuals who will provide those services for potential projects.

Highway and Bridge Design Engineering Services in Support of LPA Projects		Years of Experience	Years with Firm	LPA Certified	Project Management	Highway Design	Bike/Ped/Complete Streets	Intersection Improvements	Traffic Analysis	Road Safety Audits	Bridge Design	Bridge Inspection	Bridge Load Ratings	Hydraulics/Drainage/Stormwater	Environmental/Cultural	Landscape Architecture/Visualizations	Public Engagement	Water/Sewer Design
Key Personnel	**Project Role**																	
BETA Group, Inc.																		
John Byatt, PE, LPA	Project Manager/Bridge Lead	32	3	X	X						X	X	X		X		X	
Christopher Turgeon, PE, LPA	Highway Lead Engineer	15	15	X	X	X	X	X						X	X		X	
Jaklyn Centracchio, PE, LPA	Traffic/Safety Lead Engineer	22	17	X	X			X	X	X							X	
Mark Gershman, PE	Principal-In-Charge	38	17		X						X	X	X				X	
Merrick Turner, PE	QA/QC	39	16		X	X	X	X									X	
Kien Ho, PE, PTOE, LPA	QA/QC	40	22	X	X				X	X							X	
Christopher Jones, PE	QA/QC	31	23								X	X	X				X	
Matthew Shute, PE, LPA	Highway/Bike/Ped. Engineer	28	10	X	X	X	X	X										
Jeff Maxtutis, AICP, LPA	Transportation Planner	38	6	X	X		X	X	X	X							X	
Matthew Crowley, PE	Highway Drainage/Stormwater	22	12			X								X				
Sean Doctor, EIT	Highway/Bike/Ped. Engineer	20	9			X	X	X										
Peter Kotowski, SE	Bridge Engineer	15	14								X	X	X					
Derek Wong, EIT	Bridge Engineer	9	9								X	X	X					
Joshua Rainho, PE	Bridge Engineer	11	7								X	X	X					
Benjamin Boynton, PE	Bridge Hydraulics Engineer	15	15				X							X				
Isaac Almay, PE	Traffic/Safety Engineer	12	2					X	X	X								
Paige Begin, PE	Traffic/Safety Engineer	7	1					X	X	X								
Dennis Flynn, PE	Trafffic/Safety Engineer	26	4		X			X	X	X							X	
Laura Krause	Environmental Scientist	12	6												X			
Jonathan Niro	Environmental Scientist	8	4												X			
Mia Callahan	Environmental Scientist	7	2												X			
Arek Galle, RLA, AICP	LA/Public Engagement	33	12		X											X	X	
Andrew Pichette	LA/Public Engagement	11	8													X	X	
Alyssa Gomes	LA/Public Engagement	5	5													X	X	
Andrew Dennehy, PE	Utilities - Water/Sewer	23	23		X													X
Kyle McCammon	Utilities - Water/Sewer	8	1															X
Christopher Brainard	Utilities - Water/Sewer	4	4															X
Subconsultant Support																		
Reagan Ruedig	Preservation Company - Historic	17	14												X			
Jacob Tumelaire, MA, RPA	IAC - Archaeological	19	14												X			
Jessica Cofelice, MA, RPA	IAC - Archaeological	19	15												X			

5. References

There is no better benchmark on the quality of services provided by our staff than feedback and testimonials from our clients. BETA is pleased to provide the following list of references for your consultation.

Dawn B. Tuomala, PE, LLS, CWS
DPW Director
Town of Merrimack
6 Baboosic Lake Road
Merrimack, NH 03054
603.424.5137
dtuomala@merrimacknh.gov

Avery Hallbauer
Project Manager
Planning & Development
14 North Street
Claremont, NH 03743
Direct 603.504.0350
Cell 603.443.3777
ahallbauer@claremontnh.com

James L. Taylor
Public Works Director
Town of Enfield NH
603.632.4605
jtaylor@enfield,nh.us

Appendix: Resumes

Appendix: Resumes

Years of Experience
BETA: Since 2021
Total: Since 1990

Education
MSCE, U. of New Hampshire
BSCE, U. of New Hampshire

John Byatt, PE, LPA
Project Manager / Bridge Lead Engineer

Mr. Byatt is a Vice President and Manager of BETA's Manchester, NH office. He possesses 32 years of experience in operations, project management, and transportation and structural engineering within northern New England. John is also a Bridge Engineer, where he is a project manager, senior engineer, and QA/QC manager. **John is a registered PE in NH and is LPA certified.**

Project Experience

- Shaker Boulevard Bridge – Enfield, NH
- Washington Road Improvements – Rye, NH
- Route 125 Upgrade/Reconstruction (NHDOT) – Epping, NH
- Manchester Street over Pennichuck Reservoir – Merrimack-Nashua, NH
- 2nd NH Tpke. over South Branch Piscataquog River – Francestown, NH
- Charcoal Road over Charcoal Brook – Dublin, NH

Years of Experience
BETA: Since 2010
Total: Since 2010

Education
BSCE, U. of New Hampshire

Christopher Turgeon, PE, LEED Green Associate, LPA
Highway Design/Project Manager

Mr. Turgeon has over 15 years of experience and is the lead highway engineer in our Manchester, NH office. He has a wide variety of highway engineering experience including highway design, drainage calculations, bike and pedestrian facility design, preparation of project plans and reports, development of Right of Way (ROW) plans, development of traffic management plans, construction observations and preparation of assorted environmental permit application. **Chris is a registered PE in NH and is LPA certified.**

Project Experience

- Wire Road Intersection Improvements – Merrimack, NH
- Washington Road Improvements – Rye, NH
- Monadnock Park & Broad Street Improvements – Claremont, NH
- Spencer Street Roadway Improvements – Lebanon, NH
- Union Avenue Roadway and Intersection Improvements– Laconia, NH
- Route 125 Roadway Improvements – Epping, NH

Years of Experience
BETA: Since 2007
Total: Since 1986

Education
MBA, Bryant University
BSCE, Wentworth Institute of Technology

Mark Gershman, PE
Principal in Charge

Mr. Gershman is BETA's CEO, President, and COO. Mark will prioritize NH municipal projects within the company to ensure the necessary resources are provided to complete the projects on schedule and that QA/QC measures are provided. Mr. Gershman also has 38 years of experience performing structural engineering for the design of numerous vehicular and pedestrian bridges. **Mark is a registered PE in NH.**

Project Experience

- I-95 NB & SB Design/Build Bridge Superstructure Replacement Project over Toll Gate Road & Centerville Road – Warwick, RI
- Blackstone Street over Blackstone River – Sutton, MA
- Route 122 over Muddy Pond Brook – Oakham, MA
- Route 2A (King Street) over Route 495 NB & SB – Littleton, MA
- Danforth Street over Sudbury River – Framingham, MA
- Central Street over Sudbury River – Framingham, MA

Years of Experience
BETA: Since 2007
Total: Since 2002

Education
BSCE, University of Rhode Island

Jaklyn Centracchio, PE, PTOE, LEED Green Associate, PLA
Traffic/Safety

Ms. Centracchio has over 22 years of experience in traffic engineering and has developed a diverse background in many phases of transportation engineering. Her background includes traffic analysis, traffic calming, traffic design, and design for roadway. Jaklyn is proficient in VISSIM, HCS, SYNCHRO, AutoCAD, Petra, and Quest applications. **Jaklyn is a registered PE in NH and is LPA certified. She is also a certified IMSA Traffic Signal Inspector.**

Project Experience

- Wire Road Intersection Improvements – Merrimack, NH
- Adaptive Traffic Signal Project on Route 109 – Westwood, MA
- Route 140 and Route 106 Traffic and Safety Improvements – Mansfield, MA
- Lake Street at Pulaski Boulevard Signalization – Bellingham, MA
- Mechanic Street, Maple Street, and South Maple Street Intersection Improvements – Bellingham, MA
- Quincy Shore Drive & Sea Street Traffic Improvements – Quincy, MA
- Route 106 Corridor Project – Mansfield, MA

Years of Experience
BETA: Since 2006
Total: Since 1985

Education
BSCE, University of Surrey, England

Merrick Turner, PE
Highway QA/QC

Mr. Turner has over 39 years of experience in the civil engineering field, specializing in highway engineering. He is responsible for the planning and design of projects for BETA's state, municipal and private clients. He also performs QA/QA reviews for highway and other transportation projects.

Project Experience

- Commonwealth Avenue Roadway Reconstruction – Boston, MA
- Monroe Street Downtown Streetscape Improvements – Lynn, MA
- Safety Improvements at Lynnfield/Millard – Lynn, MA
- Reconstruction of Glenn/Union – Natick, MA
- Surface Roadways South Boston Seaport – Boston, MA

Years of Experience
BETA: Since 2002
Total: Since 1984

Education
MSCE, Northeastern U.
BSCE, Cleveland State U.

Kien Ho, PE, PTOE
Traffic/Safety QA/QC

Mr. Ho has over 40 years of experience specializing in all aspects of highway and transportation design and engineering. Kien performs the designs for and manages various transportation projects, preforms QA/QC reviews, constructability reviews, construction staging/ sequencing, traffic management plans, and installation of Intelligent Transportation Systems.

Project Experience

- Route 125 Roadway Improvements – Epping, NH
- Washington St. Signal Optimization – Claremont, NH
- Route 125 Signal Timing Improvements – Plaistow, NH
- Massachusetts Statewide Traffic Engineering Advisory On-Call Services
- On-Call Transportation Services – Lexington, MA
- On-Call Transportation Services – Wellesley, MA

Years of Experience
BETA: Since 2001
Total: Since 1993

Education
BSCE, Worcester Polytechnic Institute

Christopher Jones, PE
Bridge QA/QC

Christopher Jones is the manager of BETA's Structural Engineering Services Group. With 31 years of experience specializing in structural engineering, Chris is versed in the inspection, design, load rating and QA/QC review of a wide range of bridge types which have ranged from simple culvert replacements to complex covered bridge rehabilitations.

Project Experience

- North Poland Road Bridge over Poland Brook – Conway, MA
- Pedestrian Bridge over Woonasquatucket River – Providence, RI
- Atlantic Avenue Bridge over Little Harbor Inlet – Cohasset, MA
- Central Ave / Elliot Street Bridge over Charles River – Needham & Newton, MA
- Ashley Street Culvert over Silver Stream – West Springfield, MA

Years of Experience
BETA: Since 2014
Total: Since 1996

Education
BSCE, Worcester Polytechnic Institute

Matthew Shute, PE, LPA
Highway/Bike/Ped. Engineer

Mr. Shute has 28 years of experience in civil engineering including transportation engineering and highway design. He also has extensive experience in the development of bicycle and pedestrian accommodation projects such as rail trails and on-street facilities and in complete street projects for numerous municipalities.

Project Experience

- Complete Streets Prioritization Plans (Tier 2) – MassDOT Complete Streets Funding Program
- Cochituate Rail Trail – Natick/Framingham, MA
- Rail Trail Extension – Norton and Mansfield, MA
- Union Avenue Reconstruction – Framingham, MA
- Broadway (Route 138) Reconstruction – Taunton, MA

Years of Experience
BETA: Since 2018
Total: Since 1983

Education
MCP, Boston University
BS, State University of New York

Jeffrey Maxtutis, AICP
Transportation Planning/Complete Streets

Mr. Maxtutis has more than 38 years of experience as a project manager and senior transportation planner responsible for transportation projects in the northeast United States and across the nation. His responsibilities have focused on producing and overseeing traffic and transportation studies ranging from small developments to large-scale projects including traffic, highway, transit, and pedestrian and bicycle and multi-modal projects.

Project Experience

- Washington Road Improvements – Rye, NH
- Valley Street Corridor Complete Streets – Manchester, NH
- NH Rt. 10 Corridor Improvements Concept– Swanzey, NH
- Master Plan (Transportation) – Derry, NH
- Safety Action Plan – Merrimack Valley Planning Commission
- Vision Zero Safety Action Plan – Berkshire Regional Planning Commission
- Commonwealth Ave Bicycle Lane Design – Newton, MA

Years of Experience
BETA: Since 2010
Total: Since 2009

Education
BSCE, UMass Dartmouth

Peter Kotowski, SE
Bridge Engineer

As a Senior Structural Engineer for BETA, Mr. Kotowski has been involved in a variety of bridge design projects where he has gained experience over a wide range of responsibilities including preliminary and final vehicular bridge design, seismic, fatigue, and stability analysis and reinforced concrete, steel, and timber design.

Project Experience

- Cochituate Rail Trail Bridges – Natick/Framingham, MA
- Atlantic Avenue Bridge Replacement – Cohasset, MA
- Elliot Street Bridge Rehabilitation – Needham/Newton, MA
- Menauhant Road Bridge Replacement – Falmouth, MA
- Wales Street Bridge Rehabilitation – Newton/Wellesley, MA

Years of Experience
BETA: Since 2015
Total: Since 2015

Education
BSCE, Wentworth Institute of Technology

Derek Wong, EIT
Bridge Engineer

Mr. Wong has worked on a variety of projects such as bridge replacements, bridge rehabilitations, retaining walls, and other heavy infrastructure. He performs tasks such as preparing reports, performing inspections, structural design calculations, quantity take-offs, and estimates, drafting plans, writing specifications, reviewing shop drawings, and providing construction support services. He has experience working in MicroStation and AutoCAD.

Project Experience

- Shaker Boulevard over Knox River Bridge Replacement – Enfield, NH
- Meadowbrook Bridge (MaineDOT) – Wilton, ME
- North Poland Road over Poland Brook (MassDOT) – Conway, MA
- Weaver Street over Mass Coastal R.R. (MassDOT) – Fall River, MA
- Bussey Street over Mother Brook (MassDOT) – Dedham, MA

Years of Experience
BETA: Since 2023
Total: Since 2013

Education
MS, Northeastern University
BS, University of Maine, Orono

Isaac Almy, PE
Traffic/Safety

Isaac is a Senior Traffic Engineer at BETA specializing in traffic simulation and modeling. With extensive experience in highway interchange redesign, traffic impact analysis, and corridor evaluation, Isaac excels in providing accurate traffic analysis and developing effective solutions. His expertise includes utilizing tools such as Vissim, Synchro, and SimTraffic to assess traffic alternatives and generate detailed technical reports.

Project Experience

- Wire Road Intersection Improvements – Merrimack, NH
- Route 125 Signal Timing Improvements – Plaistow, NH
- Safety Action Plan – Merrimack Valley Planning Commission
- On-Call Traffic Calming Contract – Milton, MA
- Route 107 Reconstruction – Lynn/Salem, MA
- Route 1 Roadway Improvements – Malden, Revere, and Saugus, MA

Years of Experience
BETA: Since 2024
Total: Since 2017

Education
BSCE, U. of New Hampshire

Paige Begin, PE
Traffic/Safety

Ms. Begin graduated from the University of New Hampshire with a degree in civil engineering and a minor in architectural studies. During her time as a student, she completed engineering internships with the Goffstown, NH Department of Public Works and a private company based in Concord. Paige is an active member of the Northern New England Chapter of the Institute of Transportation Engineers and is also on the Programs Committee for the WTS-NH Chapter.

Project Experience

- Route 125 Signal Timing Improvements – Plaistow, NH
- Washington Road Improvements – Rye, NH
- Market Square Master Plan – Portsmouth, NH
- Turner Intersection Improvements – Turner, ME
- SS4A – Springfield, MA
- Highway Traffic Cameras – Statewide, ME

Years of Experience
BETA: Since 2012
Total: Since 1991

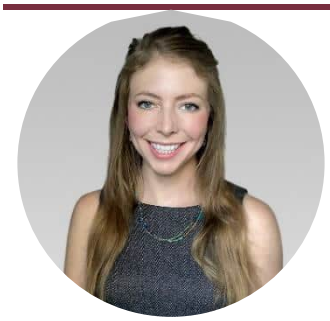
Education
BSLA, U. of Rhode Island

Arek Galle, RLA, AICP
Planning/Public Engagement

Mr. Galle, a licensed Landscape Architect and Certified Planner, is an Associate at BETA. With over 33 years of experience, Arek has worked with many communities across New England to identify and interpret their project needs into transformative work that builds lasting value and emphasizes 'Quality of Place'. Arek's body of work reveals his ability to bring great detail and technical expertise to unify hardscape and landscape elements within a project.

Project Experience

- Route 125 Roadway Improvements – Epping, NH
- Market Square Master Plan – Portsmouth, NH
- Maine Street Station Redevelopment Plan – Brunswick, ME
- Broadway Streetscape Improvements – Newport, RI
- Water Street Promenade Phase I Improvements – Plymouth, MA
- Phase I/II Complete Street Inventory & Master Planning – Clinton, MA



Years of Experience
BETA: Since 2018
Total: Since 2013

Education
BA, Chemistry, Reed College

Laura Krause
Environmental Document and Permitting Lead

Ms. Krause possesses 12 years of experience working as an environmental professional. She has permitted many transportation-related projects ranging from roadway improvements and bridge replacements to rail trails. Laura's strong background in environmental regulations under local, state, and federal jurisdiction allows her to efficiently and successfully handle a variety of projects.

Project Experience

- Washington Road Improvements – Rye, NH
- Shaker Boulevard Bridge – Enfield, NH
- Valley Street Complete Streets project – Manchester, NH
- Souhegan River Trail – Merrimack, NH
- Route 79 Corridor Improvements – Fall River, MA
- Longfellow Bridge Approach Viaduct – Boston, MA

Appendix:
Applicable Work Experience

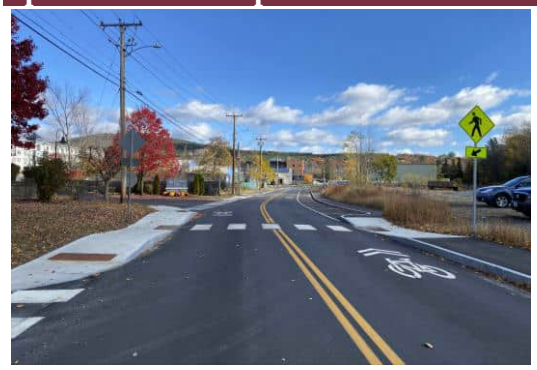
Appendix: Applicable Work Experience

Washington Street Signal System Optimization – Claremont, New Hampshire

Washington Street is a prime example of a corridor that is experiencing "typical" traffic problems that accompany retail and commercial development demands placed on a roadway network. Recognizing the need to address these concerns, the City was awarded a **Congestion Mitigation Air Quality (CMAQ)** Grant from the New Hampshire Department of Transportation. These funds are being administered through their Local Public Agency (LPA) Program.

The City's signal optimization of the Washington Street corridor will consist of optimizing 10 intersection signal systems coupled with the implementation of remote access availability from the fire station which will serve as the central operational command center. Improvements will entail upgrading/retrofitting existing traffic signal control equipment, communication, GPS emergency vehicle pre-emption and traffic software at the ten existing signalized intersections located along Washington Street. The implementation will include traffic signal controller upgrades, data communication interfaces, remote central operation capability, advanced traffic management system software, system level vehicle detection, and a full peer-to-peer traffic control system. Video feed of live traffic conditions will be included as part of the remote traffic monitoring center at the fire station. For communication interface, wireless communication technology is proposed for the signal system.

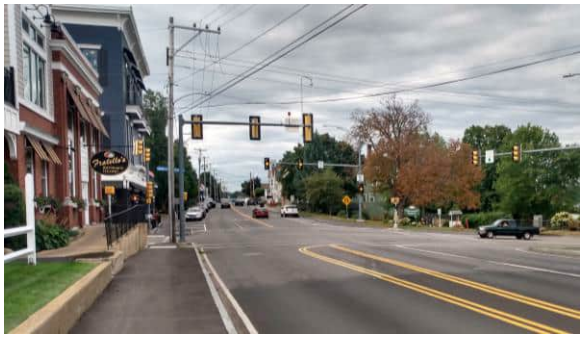
Spencer Street Improvements and Northern Rail Trail – Lebanon, New Hampshire



Significant growth with the construction of several commercial and multi-unit residential developments have necessitated a significant upgrade to the Spencer Street corridor. As part of the Preliminary design, BETA incorporated a "Complete Streets" approach and developed and evaluated several design alternatives to accommodate the multitude of users of the roadway. We prepared three design options (complex, intermediate, and simple) for review by the City. Each option included various design elements including: sidewalk material type, location of sidewalks, pavement/subbase treatment, and streetscape elements. After conducting several public meetings, a design alternative was selected. Visualizations prepared by BETA for the public meetings helped the public envision what the reconstructed corridor options would look like. The option selected included a complete roadway reconstruction, new drainage, new utility connections, sidewalks, and landscaping. BETA then prepared the Final Design Plans, specifications, and estimates. BETA also acquired all necessary permits.

The project also included 1.5 miles of the Northern Rail Trail. Originally a gravel trail, BETA has designed this as a 12-foot-wide paved multi-use trail with over the shoulder drainage and ADA accessibility. Additionally, an enhanced at grade crossing was developed at the intersection of Taylor and Spencer Street to include high visibility rapid flashing beacons with push buttons and a decorative paver crosswalk.

Union Avenue Improvements – Laconia, New Hampshire



The Union Avenue corridor in Laconia is a major part of the City's business district. Over the past several years, the City has undertaken the reconstruction of various portions of the corridor in an effort to preserve the serviceability of the roadway. The three-lane segment between Lakeport Square and Stark Street has fallen into a state of disrepair. The roadway was experiencing fatigue and cracking due to poor subbase material and inadequate drainage. Additionally, there were substandard pedestrian facilities and a collapsing retaining wall along this portion of the corridor. To improve safety and longevity of the roadway, BETA designed the reconstruction of Union Avenue. The project included the rehabilitation of the pavement (reclaim and full depth), upgrade of the sewer, upgrade of pedestrian facilities, installation of new signing, and repair of the water and gas utilities.

The Lakeport Square intersection was upgraded to improve traffic flow and increase safety. These improvements included reconstruction of the pedestrian facilities for conformance with ADA standards, modification to the traffic signal parameters, installation of preemption with the nearby railroad crossing, and revision to lane geometry. The Stark Street intersection at the project's northerly limits has large radii that encourages faster travel speeds from Union Avenue on to Stark Street. Improvements were developed to alleviate vehicle safety deficiencies by reconfiguring the intersection and improving sight lines.

Traffic Signal System Improvements – Merrimack, New Hampshire

As part of a land development project in Merrimack, NH, BETA prepared off-site traffic signal improvements to reduce long delays and vehicular queueing between intersections along the Amherst Road and Continental Boulevard/Greeley Street corridors. During peak time periods, eastbound and westbound vehicles could not progress through the closely-spaced intersections due to the presence of queued vehicles at downstream traffic signals. Additionally, the Executive Park Drive and Amherst Street signalized intersection experienced delays due to the adjacent backups on Continental Boulevard.

The traffic signal systems designed by BETA provided continuous traffic flow and thereby reduced travel times, delays, and fuel consumption that can improve air quality. A Coordinated Traffic Signal System was incorporated at four intersection. This type of system enables multiple intersections to be synchronized to enhance the operation of one or more directional movements in a network. In addition, a Peer-to-Peer Responsive Traffic Signal System was installed. This Peer-to-Peer Responsive Signal System was the first of its kind in New Hampshire and has been found to operate more efficiently for closely spaced signalized intersections by allowing queues to be better managed between the intersections. Significant communication and coordination with the Town and NHDOT was required throughout the project development process.

NH Route 125 Improvement Project – Epping, NH

Carrying upwards of 19,000 vehicles per day, NH Route 125 in the vicinity of Exit 7 of NH Route 101 plays a key link in the area's transportation network. This corridor is the main access for commuters to NH Route 101 and also serves the major commercial development in the area. The intermixing of retail/commercial traffic with through traffic results in congestion and delays that greatly impede traffic operations. This 2.8-mile portion of NH Route 125 includes many intersections (signalized and un-signalized) and is abutted by residential and commercial properties.

The objective of the project is to develop an alternative that will improve the safety and mobility of all users by applying "Complete Streets Principles". The goal is to achieve an appropriate balance between the needs of motorized, non-motorized, and transit users of the corridor. Various alternatives for the corridor have been evaluated and are undergoing a thorough review and analysis of their impact to traffic operations, right-of-way, and environmental resources.

In conjunction with the overall corridor improvements that will be developed based upon the Traffic Study, specific intersections have been studied to determine appropriate safety and capacity improvements. One of the main considerations of the design alternatives will be to increase the operational efficiency and safety along the corridor. This may be accomplished through a variety of design options including the addition of lanes, development of a consistent cross sections along segments, intersection reconfigurations, and access management (i.e., consolidation or elimination of access points).

Wire Road Intersection Improvements – Merrimack, NH

Wire Road, in the Town of Merrimack, NH, is a major collector that intersects Daniel Webster Highway (US Route 3) at a skewed angle from the northwest. This skewed angle reduces sight distance thus makes turning onto US Route 3 difficult and dangerous. The high volumes of traffic on US Route 3 also make turning onto it from Wire Road difficult. US Route 3 also has discontinuous sidewalks between Wire Road and Baboosic Lake Road. BETA group is evaluating alternatives to improve safety and traffic efficiency at the Wire Road/US Route 3 intersection. The options being evaluated include a re-aligned Wire Road entrance to US Route 3, a signalized intersection and a two lane roundabout. Signals will be coordinated with other signals in the area to improve traffic efficiency. This evaluation requires a detailed traffic analysis and evaluation of project impacts and costs for each alternative. In order to improve pedestrian safety, sidewalks will be added on US Route 3 within the project limits. BETA is performing public engagement to gain public input on the issues at the project area and to gain input on the possible solutions.

This project is received state and federal funding through the **Highway Safety Improvement program.**

Washington Road Improvements – Rye, New Hampshire

The objective of the Washington Road Improvements project is to improve safety along the corridor for pedestrian and bicycle traffic. This will be accomplished through the implementation of sidewalk additions, bike lanes, and complete streets efforts. The need for this project is emphasized by the close proximity of a middle school within the project area, which generates a significant amount of bicycle and pedestrian traffic. Traffic calming measures and improvements to the intersection with Lang Road are also being evaluated to improve safety in the corridor. Safety devices such as speed feedback signs, rectangular rapid flashing beacons, and raised crosswalks are being assessed.

BETA is currently developing an engineering study that evaluates the safety improvement options noted above. The study will also evaluate the need for a signal or three-way stop at the intersection with Lang Road. This project is receiving state and federal funding through the **Transportation Alternatives Program (TAP).**

Cochituate Rail Trail – Natick, Massachusetts

BETA provided design services for the Cochituate Rail Bike Trail (CRT) project in Natick, which extends from Route 30 at the Natick/Framingham Line, a distance of 2.4 miles to the MBTA Commuter Rail Station in downtown Natick. The trail runs adjacent to Lake Cochituate and Cochituate State Park, crosses over Route 9 on an existing railroad bridge and continues along the Saxonville Branch railroad right of way into Natick center.

The CRT includes five (5) at-grade intersection crossings, sections of new retaining walls, development of parking areas, as well as, the refurbishment of the former railroad bridge over Route 9 and a stone arch bridge over Lake Cochituate.

Shaker Boulevard Bridge over the Knox River – Enfield, New Hampshire

In 2011, Tropical Storm Irene washed out the existing bridge that carried Shaker Boulevard over the Knox River. The existing substructures were removed and the bridge was replaced by a temporary steel truss bridge with concrete foundations. The channel slopes at the bridge were regraded to form an approximate 15-foot-wide channel with rip-rap-covered slopes. The temporary bridge is approximately 72 feet long and spans beyond the top of the new channel slopes.

The travel lane of the temporary bridge is just 14 feet wide, which only allows one car at a time to pass over the bridge. The approach roadway leading to the bridge is approximately 19 feet wide. The roadway profile was raised a few feet to accommodate the temporary bridge.

BETA is currently developing an engineering study that explores options for completely replacing the existing truss with a new permanent bridge. An approximate 60-foot span bridge will widen the channel at the existing bridge in order to restore the natural bank's full width of the river. A hydrologic and hydraulic analysis is being performed to determine a proposed bridge opening size that will meet NHDOT standards. Soils at the site are soft and may require pile foundations. A jointless integral abutment bridge on piles is being evaluated as part of the study. The superstructure will consist of steel or precast concrete stringers. This project is receiving funding through the **State Aid Bridge Program and federal MOBIL funding.**

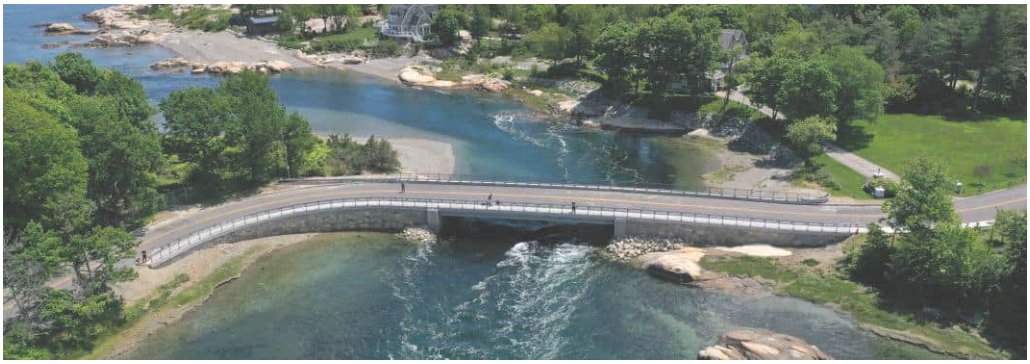
Mirimichi Street Bridge Replacement – Plainville, Massachusetts

Mirimichi Street in Plainville crosses Lake Mirimichi on a narrow earthen causeway. An 11-foot-span bridge in the center of the causeway allows water to equalize in the two halves of the lake. The original bridge had become structurally deficient, resulting in the Town placing steel roadway plates over the superstructure to keep the bridge in service.

BETA assisted the town with preparing a grant application for MassDOT's Small Bridge Program, which resulted in an award of $500,000 for the design and construction of a replacement structure. BETA performed a hydraulic study of the lake confirming the adequacy of the existing bridge's hydraulic opening. The new structure maintained the original opening with a three-sided precast concrete bridge with cast-in-place concrete footings. A subsurface investigation revealed underlying layers of peat and silt, which would require deep foundations. Because overhead utilities could not be relocated due to the narrow causeway and could not be de-energized due to the isolated section of town on the east side of the lake, driven piles were not applicable. The decision was made use concrete-filled drilled micropiles, which could be installed using low-overhead equipment beneath the overhead utilities.

BETA prepared permitting applications including a Notice of Intent, DEP Chapter 91 Waterways License, and ACOE Preconstruction Notification.

Atlantic Ave. over Little Harbor Inlet Bridge Replacement – Cohasset, Massachusetts



Replacement of this 86-foot single-span bridge along the scenic Cohasset coastline presented several challenges. Construction was subjected to the significant tidal currents generated in "the cut", as this inlet into Little Harbor is known locally. The roadway could not be closed during the summer tourist season, so the construction would need to be performed quickly, and much of the work would need to be performed during the winter months and be subject to the severe cold and wind environment of this shoreline location. The near-surface bedrock would complicate the installation of cofferdams and water control measures for the substructure construction. The project would need to minimize impacts to the adjacent salt marsh.

To meet aesthetic requirements, MassDOT requirements for substructure facades subject to tidal flows, and to reduce construction duration, the abutments were designed with an innovative technique that combined precast and cast-in-place concrete construction. The abutment face was built using precast concrete panels that were cast integrally with a granite veneer. These panels were then set in place and used as one side of the formwork for the cast-in-place concrete that was poured behind the panels to create the abutment stems.

The wingwalls were designed using cast-in-place concrete that was be faced with a thick stone veneer using oversized dovetail anchors. The wingwall veneer consisted of stones from the original bridge wingwalls that were be cut to a thickness of 18 inches. Re-use of the existing stones was an important element of the project to area residents.

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