

## **FRANKLIN COUNTY COMMISSIONERS MEETING AGENDA**

**LOCATION:** Franklin County Commissioners Conference Room 2<sup>nd</sup> Floor

**DATE AND TIME:** April 9, 2024 @ 3:30 PM

**The Franklin County Commissioners' meetings are open to the public.** This meeting is also available virtually via Video Conferencing, Cloud Phone, Webinars, Chat, Virtual Events | Zoom. Here is the meeting ID# 492 510 0482 passcode 030621.

**Executive Session 1 MRSA 405 (6) (A) Personnel Matter: Opioid Settlement Committee**

**APPOINTMENTS:** None

**NEW BUSINESS:**

- 1. Clerk's Report**
- 2. Treasurer's Report**
- 3. Reserve Accounts**
- 4. State Claims Commission**

**OLD BUSINESS:**

- 1. Courthouse Security**

**MISCELLANEOUS:**

**Executive Session 1 MRSA 405 (6) (A) Personnel Matter: Road Supervisor**

**Executive Session 1 MRSA 405 (6) (A) Personnel Matter: County Administrator Annual Review**

**WARRANTS:** AP

**ADJOURNMENT:**

## **County Commissioner's Meeting**

### **Agenda Discussion and Analysis**

**April 9, 2024**

#### **Appointments:**

#### **Agenda Item: Clerk's Report**

**Comments:** Minutes from the April 2, 2024, meeting

- There is a sinkhole on Cook Hill Road near a culvert that was washed out during the last flood.
- Interviews are scheduled this week for the SO Secretary, Road Supervisor, and Custodian positions.
- Sue Pratt and Amy had a USDA webinar regarding the congressional direct spending award. We will be working to submit our application as soon as the state USDA office responds to us. Sue will assist with this process.
- Sugarloaf met with us regarding their Caribou Pond project and has informed us they will be submitting a revised project plan for TIF funding.
- The county courthouse and DA's office employees completed mandatory fire safety training on Tuesday last week.

**Motion:** Recommended: Motion to approve and sign the minutes from April 4, 2024.

#### **Reserve Accounts**

**Comments:** In your packet, there is a list of reserve accounts to be funded with undesignated fund balance. The total amount is \$520,000. As of June 30, 2023, the FC undesignated fund balance was approximately \$1,695,000. To keep within the state-required 20% in the undesignated fund balance, we need to move these funds into the listed reserve accounts.

**Recommendation: Motions:** Motion to move undesignated funds to the appropriate reserve funds totaling \$520,000.

## **State Claims Commission**

**Comments:** The State Claims Commission requires the appointment of a Franklin County Commissioner to participate in their board, and is having a meeting on June 12<sup>th</sup> from 10a-2:30p.

**Recommendation: Motion: Appoint a Commissioner to the State Claims Commission**

## **Old Business:**

### **Security at the Courthouse**

**Comments:** We received word from A3 Communications that the county will receive an \$8,000 discount on security equipment on a 5-year contract for partnering with the local schools.

**Recommendations: Motion: Motion to authorize up to the original quoted amount of \$75,570.38.**

**FY 25 Reserve Account Budget:**

It Reserve Fund: \$100,000

**Summary:** Project is to over the next year and half get our server into the cloud. Working with System's Engineering to develop and migrate our email and server into their Cloud network.

Benefit Liability Fund: Fund it with \$40,000.00.

**Summary:** This fund is for the use of the commissioners to pay for underfunded personnel lines in the budget without burdening the taxpayers.

Unemployment Fund: \$40,000.00

**Summary:** The County is self-funded for unemployment insurance. The last several years the County had negative balance for unemployment. I have recommended we fund this through undesignated funds and continue to budget \$5000 to accumulate in the fund until it.

Court House Reserve Fund: Fund this with \$160,000.00

**Summary:** This fund is for the replacement of the Courthouse roof and heating system along with upkeep of the building. This year the Commissioners have agreed to install a formal security system in the building. A3 Communications system gave the County a quote for 10 years at 98,480.38. I recommend we fund this project with an undesignated fund balance. Remaining \$60,000

Sheriff Vehicle Reserve Fund: Fund this with \$140,000.00

**Summary:** These funds are set aside for future purchases of Cruisers. Last year we reduced the capital outlay by \$100,000, however when we rotate through and need five cruisers these funds will be needed. The Sheriff asked for an additional \$40,000 in his budget this year and I moved it to the reserve to be funded by undesignated fund balance.

\*\*\* ESTABLISH\*\*\*Sheriff Equipment Reserve Fund: Fund this with \$ 40,000.00

**Summary:** I recommend the County establish a Sheriff's Equipment Reserve Fund to assist with saving funds for camera systems for Deputies and Cruisers, along with guns, tasers, body armor, ect... These costs are not included in the Sheriff budget. The last time we purchased body and cruiser camera for the sheriff's office it was over \$120,000, those cameras are now 18 months

old and are expected to be obsolete in another three years. This is why I recommend we use undesignated funds to save for these purchases.

Total reclassified amount of Undesignated Fund Balance: \$520,0000

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**Amy Bernard**

**From:** Estabrook, Richard <Richard.Estabrook@maine.gov>  
**Sent:** Friday, March 29, 2024 3:24 PM  
**To:** Amy Bernard  
**Subject:** Request for the appointment of a Franklin County commissioner and for the use of a room on Wednesday June 12th

Dear Amy:

I am writing in order to request that a Franklin County commissioner be appointed to be the third member of the State Claims Commission for a hearing on June 12<sup>th</sup>, and (if possible) for the use of a room in the courthouse on the same day. We would need the room beginning at 10:00 AM. We would need the room until about 2:30.

You may recall this case. It was originally scheduled for June 28<sup>th</sup> 2023, and then again for September 27<sup>th</sup>, but was continued both times.

The highway project is Kingfield, MDOT # 18245.0.

For purposes of determining if there is a conflict of interest, the property owner is:

MJC Realty, LLC; Attn: Martin Capewell. The current address I have for Mr. Capewell is 244 Main Street, Box 7 in Kingfield. An earlier address I have for Mr. Capewell is 819 West Freeman Road, Freeman Twp., 04983.

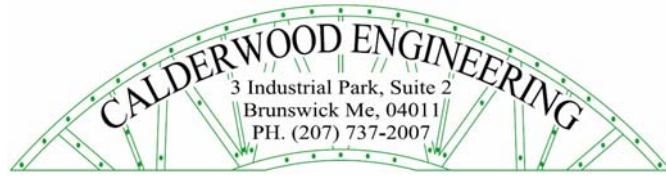
Thank you for your attention to this. If you have any questions please feel free to contact me at any time.

Sincerely,

Richard Estabrook  
Clerk, State Claims Commission

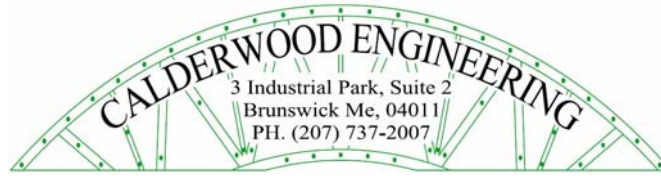
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Franklin County, Maine  
Calderwood Engineering  
Statement of Qualifications  
for  
Bridge Inspection, Analysis & Design, and  
Project Construction Management

Calderwood Engineering  
3 Industrial Parkway, Suite 2  
Brunswick, Me. 04011



March 27<sup>th</sup>, 2023

Franklin County  
Commissioners  
140 Main St. Suite 3  
Farmington, ME 04938

**RE: Reeds Mills Bridge Inspection, Load Rating, Design & Construction  
Documentation Maine Bridge Number 5929**

This statement of qualifications, SOQ, for the Calderwood Engineering team for the Franklin County engineering services required for this Bridge Inspection, Analysis, Design and Construction Oversight project. We hope the following summary will show why we are the best team to perform all the required engineering for Franklin County. Calderwood Engineering's proposal is attached as Appendix A, Our resume file as Appendix B, and a short list of additional projects done by the Calderwood Engineering team as Appendix C.

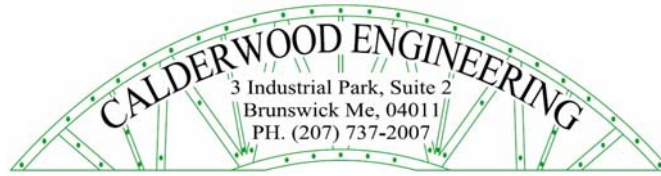
**Proposers Experience:** (Safety Inspection and Load Rating)

Calderwood Engineering was founded in 2006 by Eric and Lyn Calderwood. After 15 years of engineering experience at the Maine Department of Transportation, Eric and Lyn created Calderwood Engineering to provide practical solutions to residential and commercial building owners, bridge owners, and construction contractors. Calderwood Engineering has evolved over the 18 years and now operates in four divisions; bridge and building safety inspection, final design/construction plans, construction engineering, and construction inspection. Calderwood Engineering feels we have a unique perspective on construction due to our experience working with contractors. This unique perspective allows us to provide cost effective solutions to the constructability side of bridge projects.

Calderwood Engineering performs Safety inspections for public and private bridges for MaineDOT and other bridge owners on a regular basis. Jim Foster, former MaineDOT Bridge Management Engineer, and who is also currently MaineDOT's Bridge Ranger, heads up Calderwood Engineering's Bridge Inspection program. Although Jim performs most of the inspections himself, Eric, Greg, Peter, and Carl are also certified to perform bridge safety inspections. Eric, Jim, and Carl are also certified to perform fracture critical bridge inspections.

Calderwood Engineering performed over 68 Bridge safety inspections last year, including the full development of the inspection report, recommendations for repair, and load ratings where they were required. Calderwood Engineering is in the process of performing 24 bridge safety inspections for MaineDOT so far this year, including several load ratings. While much of this work is for MaineDOT, Calderwood Engineering has





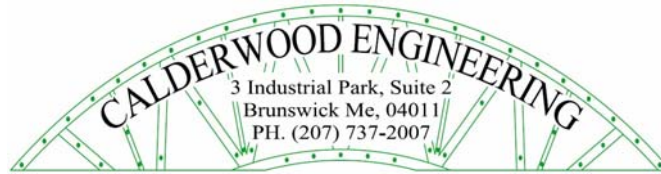
done several privately owned bridge inspections for owners and has developed inspection reports for them that are explained in a way that the owners can better understand the condition ratings and component ratings of their bridge.

For Reeds Mills Bridge Calderwood Engineering has already performed a safety inspection of the bridge in January of 2024. Calderwood Engineering has also developed a load rating for the bridge in February of 2024. These were both done for MaineDOT. Replication of this effort is not likely necessary. We would consider performing another safety inspection, but there is little point in performing an additional load rating. The load rating that we developed included all Legal Vehicles, EV2's EV3's, and SHV-SU4 Vehicle types as well as the standard design loading, and while the Rating Factor for the standard design loading is less than 1.00 all of the legal vehicles including the EV's and SHV were  $> 1.0$  indicating no need for posting. The bridge superstructure is in good condition and is unlikely to have deteriorated significantly in the few months that it has been in place. The bridge substructure consists of a steel plate founded very closely behind pre-existing stone masonry abutments widened with concrete abutments. These pre-existing abutments are rated a 5, fair condition, but are scour susceptible. Failure of these abutments would very likely result in failure of the slope and new steel bearing plate abutment. Any subsequent safety inspection should be done to measure and monitor the scour depth at the abutments.

For load ratings all of our staff is well versed in Load and Resistance Factor Rating (LRFR) using the AASHTO Bridge Manual for bridge evaluation. Calderwood Engineering had developed load ratings for MaineDOT based on field inspection and field measurements or existing plans for many bridges over the course of the last 18 years. In addition to that Calderwood Engineering develops design load ratings with every new bridge design or rehabilitation project that is designed by Calderwood Engineering. Should we be selected as the most qualified firm there is no reason for us to develop a new load rating for the existing temporary replacement structure unless the county intends to save the existing temporary replacement structure as a temporary bridge to be used in other locations as required, and if the county intends to replace the timber crane mat decking with precast concrete decking which is expected to raise the capacity of the temporary bridge. A new load rating would be developed for the new replacement bridge design.

**Proposers Experience: (Design of new and rehabilitated bridge structures)**

The Calderwood Engineering design team performed all the required engineering for the development of bridge plans for the replacement of the Rte 140 over Seven Mile Stream bridge in Jay, Maine. This work was done for MaineDOT and consisted of the preliminary design report development, development of geotechnical engineering, preliminary and final design for the bridge. Construction of this bridge was completed by Wyman & Simpson in 2021. During construction, very few issues arose. The final bridge is exactly what was intended by the design team and the owner. The new structure



is made up of weathering steel girders on integral abutments on driven h-pile foundations, with a concrete deck reinforced with a combination of fiberglass and stainless steel reinforcement. This design is expected to meet a 75-year life and was constructed within the owner's budget. The site was restrictive and it was challenging to develop the roadway horizontal alignment required and the site was further challenging due to the proximity of the confluence with the Androscoggin River and the resulting flood levels. Contact: Kim Suhr of Wyman & Simpson (207) 939-2357

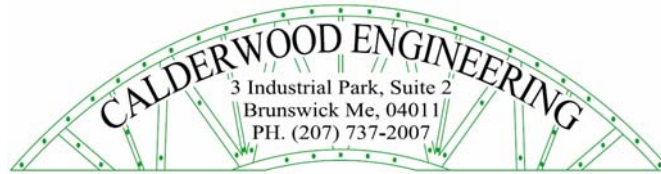
Calderwood Engineering developed the full plans required for the replacement of Middle Branch Bridge over Kaylor Brook in Centerville, Maine for Washington County Unorganized Territories. This bridge was completed in 2021 and consists of integral abutments on drilled pipe piling foundations. The bridge is a weathering steel superstructure bridge with a 35-foot span and a composite concrete deck with galvanized steel stay in place forms. This project was designed with both a precast prestressed slab superstructure and a rolled steel beam superstructure to help increase competition and allow the owner to have a choice upon completion of bidding. An off-alignment detour was incorporated using the existing temporary bridge to allow traffic to remain open during the construction of the bridge.

Contact: Dean Preston, Washington County Unorganized Territories (207) 255-8919

Calderwood Engineering is currently in the process of providing the construction inspection stage for Fish Bridge in St. Albans. This project has a short existing span that does not currently meet the span requirements needed to obtain a permit from the Army Corps of Engineers. The existing site has extremely steep embankments and the abutments are constructed of dry laid stone. We are proposing to increase the span to 60ft to meet the 1.2x bankfull width requirement from the Army Corps of Engineers and alleviate the steep slope; using the stones from the existing abutments to reduce cost. The bridge design uses integral abutments on driven h-pile, weathering steel, fiberglass and stainless-steel reinforcement in the bridge deck. We should note that for this project we also provided the survey component using Falla & Sons land surveying out of Palermo. Contact: Matthew Drost, MaineDOT (207) 441-1879

Calderwood Engineering developed the full design for a design-build bridge replacement project in Mason Township for Oxford County. Our builder team member on this site was Reed & Reed. The final bridge design is a weathering steel integral abutment bridge design with integral abutments and driven h-piling. This project involved the development of Right of Way plans and some right of way Acquisition that was accomplished between the county and the landowner. Falla & Sons land surveying provided the required deed descriptions, and the County and Landowner were able to negotiate the transaction. This allowed the alignment of the roadway to be greatly improved.

Contact: Jeff Bailey, Reed & Reed (207) 536-9403



Calderwood Engineering has also recently completed the final design and construction phase for the Coos Bridge over Coos Canyon in Byron. For this project we developed a full preliminary design report and full set of plans including approach plans. The unique challenge on this project was that the previous abutments consisted of a mortared stone abutment that suited the site very well and are very attractive. Geotechnical work during the preliminary design phase revealed that the construction of these abutments was insufficient to re-use for the new bridge. We designed a replacement structure that is founded on pipe piling which was installed directly to bedrock by excavating and uncovering the bedrock at discrete locations. The new abutments are self-supporting and do not rely on the previously existing abutments for stability, however the pre-existing abutments were saved for their aesthetic appeal. This project construction was completed in 2022 by CPM Constructors.

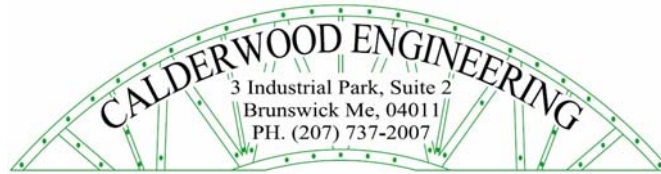
Contact: Dan Loring, MaineDOT (207) 592-4757

Somerset County UT, Moxie Gore Road over Mile & A Quarter Brook. Calderwood Engineering developed a rehabilitation for this bridge structure, including significant work to the wing walls, new headwalls, new smoother better roadway profile, and new guardrail treatments. This bridge was brought so the existing concrete culvert structure was brought back to a condition 6, fair condition in 2016 from a condition 4, poor condition in 2015. In large part this was done by adding some structural capacity to the wings using a deadman and refacing the wing walls. The roadway profile was in poor condition here as well but to further extend the life of the structure Calderwood Engineering designed the roadway profile to keep the low point of the vertical curve off the bridge structure and added a catch basin to intercept water and to direct water away from the structure as that was the cause of most of the existing degradation. As of the latest inspection report the structure has maintained a fair condition and the useful life of the structure has easily been extended by 25 years or more. Calderwood Engineering also provided all of the construction inspection work for this major rehabilitation.

Contact: David Spencer, Somerset County UT 207-858-1813

We intend to analyze the needs of the Franklin County at the project site and make the best decision as to what structure will work well, enhance the life of the repaired infrastructure, and will appropriately balance first cost, maintenance cost and service life. We will develop a relatively detailed preliminary design report showing the replacement alternatives investigated with engineer's estimate of probable construction cost and a recommended direction for the replacement. Reference Appendix A for Calderwood Engineering's Detailed proposal.

In Appendix C is a table of several other projects that Calderwood Engineering has designed over the last five years.



**Proposers Qualifications: See Resume File in Appendix B**

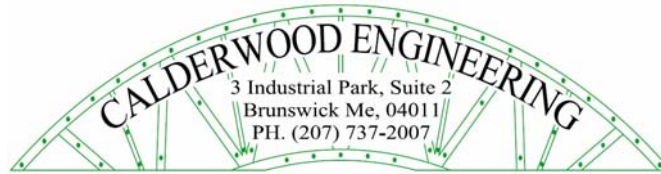
Eric Calderwood, PE - Design Quality Assurance  
Greg MacAlister, PE – Project manager, Engineering Manager  
Mike St. Pierre, PE – SW Cole Geotechnical Subconsultant  
Mike Falla, PLS – Falla & Sons Land Survey to develop deed descriptions (if required)  
Thad Chamberlain, PE – Lead Designer  
Peter Cogley, EI Maine – Designer  
Mohamed Mohamud, EI Maine – Designer  
Jesse Helms – Project Manager, Engineering Technician  
Jim Foster – Senior Bridge Engineer  
Carl Edwards – Senior Bridge Inspector

**Proposers Ability to stay on Schedule: Our Team proposes the following preliminary Schedule**

We will coordinate with the County and permit requirements, along with FEMA requirements, get existing topographic survey, locate and take test borings, perform the required preliminary design work to meet the needs of the County. Calderwood Engineering will provide a preliminary design report and set up our initial hold point where we will discuss the alternatives analyzed and the proposed recommendations with the county. We will not proceed with final design until the county approves of the proposed recommended direction.

Once final design for the replacement or rehabilitation project is begun Calderwood Engineering will keep the county informed of project progress on a regular basis – this will be done monthly throughout the design and permitting process. Once the bid package is sufficiently developed, we will discuss dates set for bid opening, road closure or maintenance of traffic, and construction timeline. We anticipate the 100% PS&E package will be completed and ready to advertise by the middle of March 2025 for construction beginning in Spring of 2025, Right of way requirements may push construction into the 2026 Construction season depending on what existing right of way is and how much right of way is necessary for the new structure. Calderwood Engineering will assist the County during the bidding process and will be available to respond to any requests for information (RFI's) and to issue any addenda that are required. We will solicit quotes from qualified contractors, including those local contractors that the County recommends, and has had previous business with as well as posting it with Construction Summary of Maine for advertising purposes.

Our team will remain available to the County to respond to any engineering needs the County may have regardless of their relationship to the bridge project, this may include additional inspections or monitoring of scour conditions at the Abutments.



Calderwood Engineering recognizes that schedule is a vital part of making a project a success. For any projects that are considered long term, Calderwood Engineering does our best to layout a proposed schedule, identify major milestones, and highlight potential problem areas before a project begins. Once the project is greenlighted, a project team is selected, and the project is kicked off. Weekly meetings are held to touch base with the team, the project progress, and any challenges that are encountered. We strive for continuous communication with our partners and clients. Written progress reports can be furnished on a regular schedule as requested. This early and often communication is the only way that we can effectively overcome any schedule related issues that may arise, and it allows the County to participate in the early stages of design. This helps us to better understand local concerns and needs sooner and prevents us from having to start over or rework our entire approach.

The project manager, Greg MacAlister, will guide this project from start to finish repeatedly referring to the schedule, budget, and key stakeholders to ensure a successful project.

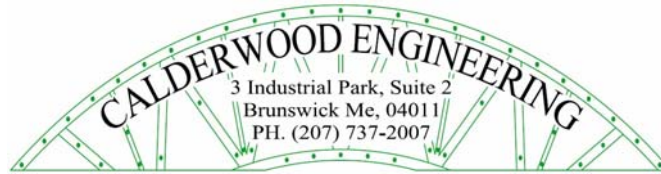
Internally Calderwood Engineering has a meeting every Monday morning to discuss weekly goals and a recap meeting every Friday morning to review what progress has been made. We feel this allows us to better allocate resources to address short term shortfalls, and to be more responsive to the needs of our clientele.

### **Proposer's Ability to Control costs and ensure quality:**

Cost control for any engineering project has two components:

Engineering costs – these are the costs of design development. All the communications that we use to keep a project on schedule and avoid re-work is also key to control engineering cost. One key point we believe in is that realistically engineering cost is a very small component of the cost of the construction itself. We do not believe in spending exorbitant amounts of time on design, but we are also very careful not to shortchange engineering at the expense of the construction or long-term performance of the infrastructure. Calderwood Engineering is aware of this consideration and consistently we provide for easy to construct and easy to maintain structures. These are things we pride ourselves on, and we will always take the time necessary to come to the right solution.

Construction and maintenance costs - these costs can be prohibitive if a project becomes overly complicated in its details or even worse if it is overly simplified. We will ensure that the right level of detail and that materials are appropriately specified. We will also ensure that the infrastructure can be practically maintained without incurring excessive ongoing maintenance expenses. One of the advantages that Calderwood Engineering



brings to the table is that we perform a lot of engineering for our bridge contractor clientele so our understanding of constructability and how bridges and roadways are constructed is enhanced by that experience. We pride ourselves on being very pragmatic and practical.

Quality Control Measures - Calderwood Engineering has the right personnel to ensure that work will be done appropriately. The quality control checks at the 50% and 95% completion stages are the formal side of that, but on an informal level the entire design team sits down together to discuss direction, issues that arise, technical or otherwise. The senior staff all weigh in on the discussion and move the project along so that quality and appropriate design is really baked into every project we do. Every project is individual and personal yet at the same time is a team effort.

Calderwood Engineering will communicate with the County via email on a regular basis we will summarize progress. If we feel communication is warranted between our regular progress check-ins we encourage communicating through phone or email separately to get specific questions answered.

### **Proposers References:**

Ron Taylor, Assistant Bridge Maintenance Engineer: (207) 446-2885

Jeff Folsom, Engineer of Design, MaineDOT: (207) 592-2476

Wayne Frankhauser, Director of Project Development MaineDOT (207) 557-8924

Chad Hanna, Town of Bristol 1<sup>st</sup> Selectman (207) 563-5270

Larry Nadeau, Town of Litchfield Road Commissioner, (207) 485-6176

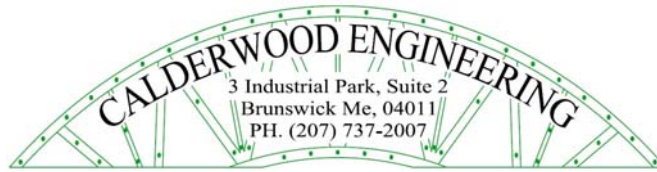
Brian MacFawn, Wyman & Simpson, (207) 446-7891

Jack Turner, Reed & Reed (207) 210-7890

Randy Butler, Dirigo Engineering (207) 453-2401

Brian Emmons, TBuck Construction (207) 212-0960

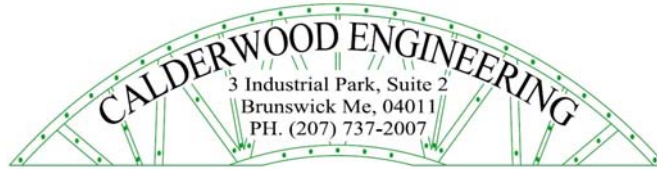
Jim Foster, MaineDOT, Bridge Ranger (207) 248-7372 (Jim is an employee of Calderwood Engineering as well)



## **Appendix A**

Calderwood Engineering  
Engineering Proposal  
for  
Franklin County  
Bridge Inspection, Analysis & Design Development and Project  
Construction Management Services

Date: March 27<sup>th</sup>, 2024



**Project Description and scope:** This Engineering proposal is for the preliminary and final design of the Reeds Mills bridge Number 5929 for repair or replacement, related periodic damage inspections, or routine inspections as they are required for the existing temporary bridge, and construction administration and construction inspection during the replacement construction. This is in response to the County's request for Qualifications.

**Scope of Preliminary Design:**

This section will include gathering the topographical survey for the bridge location, scheduling and performing soil test borings, development of a geotechnical report, Hydrologic and Hydraulic studies, development of repair and replacement options and estimated costs. This will be developed in a formal Preliminary design report and will be summarized by a recommended alternative and budgetary cost for review and comment by the County.

**Scope of Final Design:**

Calderwood Engineering will not begin final design until the County approves the recommended design direction outlined in the preliminary design phase.

Calderwood Engineering will develop full design details and specifications for the rehabilitation or replacement of the bridge. This work will consist of developing a full set of design calculations, construction plans, and a design load rating for the new or rehabilitated bridge.

Calderwood Engineering will develop special provisions and a bid package (an RFP for Construction). Calderwood Engineering will assist the County with Advertising and Soliciting Construction quotes for the construction work.

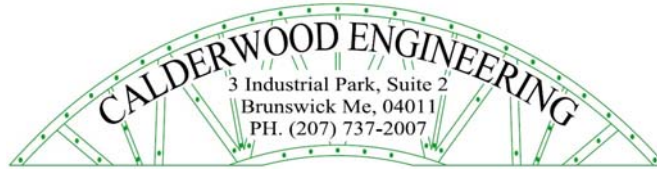
**Construction Administration:**

Calderwood Engineering will perform inspection as required during construction. Full Time inspection is not required or warranted, but inspection is required at key points in the construction, and Calderwood Engineering will ensure that inspection is provided by a qualified inspector during the construction process at those key points.

**Pertinent Design Criteria:**

- AASHTO LRFD Bridge Design Specifications 9<sup>th</sup> Edition (2020)





- AASHTO A Policy on Geometric Design of Highways and Streets
- MaineDOT Bridge Design Guide
- AASHTO Manual for Bridge Evaluation, 3<sup>rd</sup> Edition
- MaineDOT Load Rating Manual

**Project Schedule:**

Kickoff:

Schedule will be determined upon acceptance of the proposal & in conjunction with the needs of Franklin County. Survey and soil test borings will be scheduled and acquired immediately. Communications with the county will determine the need for any follow-up condition inspection required at the existing temporary bridge, including scour monitoring.

Preliminary Design report will be developed and submitted to the County for review and comment by October 7<sup>th</sup>, 2024.

Final design, details and specifications will be completed and submitted to the County for initial review by February 3<sup>rd</sup>, 2025. Final design details and specifications will be completed and prepared for advertising and construction no later than March 17<sup>th</sup>, 2025. Advertising award and construction will take place after that.

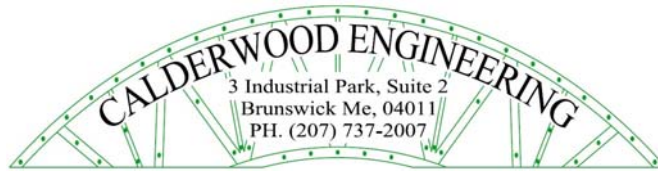
**Cost Estimate:**

Estimate to perform required work as discussed in the proposal above is an estimate only. The estimated cost is broken down by an hourly basis for each anticipated activity. This proposal is to be invoiced at the adjustable-burdened hourly rate for required work up to and including all the work outlined within the scope, and as required to develop required structural design plans.

Estimated engineering cost:

Preliminary Design .....	\$50,000.00
Final Design .....	\$40,000.00
Construction Inspection .....	\$12,000.00

The project will be invoiced the fully burdened hourly rate monthly for the hours actually worked on this project, the estimated engineering cost given above is a not to exceed engineering cost for preliminary and final design, construction administration costs will be the actual engineering costs invoiced by the hour and by the testing required, as



much of the construction schedule is dictated by the contractor and cannot be controlled by Calderwood Engineering.

**Payment Schedule:**

Invoices for the project will be sent monthly based on the number of hours actually worked on the project. Invoices will not be included with submittals of work product, but will be sent under separate cover. Terms of payment will be net 30.

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION  
CONSULTANTS' DETAILED COST PROPOSAL FORM**

**Consultant Name:** Calderwood Engineering etc, llc  
**Vendor/Customer No.:** n/a  
**Project Title/Location:** Franklin County - Reeds Mill Bridge 5929  
**MaineDOT WIN:** not applicable at this time  
**Service Area or Phase of Work:** Condition Inspection, Assessment, Phase I, II, & III design for rehab or replacement

**Orig. Date:** March 27th 2024  
**Revised Date:** n/a  
**Contact Name:** Eric Calderwood  
**Contact e-mail:** [eric@calderwoodengineering.com](mailto:eric@calderwoodengineering.com)

Consultant Positions =>

#	Task Descriptions	Eric Calderwood (Principal) Hours	Gregory Macalister (Sr Engineer) Hours	Jesse Helms (Sr. Detailer) Hours	Thad Chamberlain (Project Engineer PE) Hours	Mohamed Mohamud (Project Eng EI, Maine) Hours	Peter Cogley (Project Engineer EI, Maine) Hours	Jim Foster - (Senior Bridge Engineer) Hours	Carl Edwards (Senior Bridge Inspector) Hours	Lyn Calderwood (Clerical) Hours	TOTAL Hours
1	Preliminary Coordination	8.00	8.00								16.00
2	Hydrologic calculations	2.00					16.00				18.00
3	Hydraulic Calculations and Modeling	4.00					48.00				52.00
4	Develop Preliminary Design and details and coordinate with the County and the ACOE	12.00		60.00			16.00	4.00	4.00		96.00
5	Environmental Permit applications						16.00				16.00
6	Preliminary Report writing	4.00	8.00				8.00				20.00
7											0.00
8	Develop final design Calculations Superstructure						40.00				
9	Develop quality assurance design check for superstructure	2.00	16.00								
10	Develop abutment designs						40.00				
11	Develop QA design check for abutments	2.00	16.00								
12	Develop final structural plans			24.00			40.00				
13	Develop final approach plans			12.00			40.00				
14	Utility Coordination	4.00					8.00				
15	Construction Cost & Quantity Estimation	4.00		16.00							
16	Prep for and hold formal public meeting	4.00					4.00				8.00
17	Develop final specifications for advertising	4.00		16.00							20.00
18	Final Detail check and overall review			4.00				4.00	4.00		12.00
19	Solicit Contractors quotes (Advertise)	4.00									
20	Develop Load rating for filing with MaineDOT						24.00				24.00
21	Load Rating QA	4.00									4.00
22	Miscellaneous Clerical work									42.00	42.00
23											0.00
24	Construction Inspection Services										0.00
25	Pre Construction Meeting	4.00					4.00				8.00
26	Piling Inspection								16.00		16.00
27	Abutment formwork inspection						16.00				16.00
28	Abutment Reinforcing install						16.00				16.00
29	Abutment Concrete								16.00		16.00
30	Steel erection	6.00							6.00		12.00
31	Backfill						16.00				16.00
32	Finegrade						8.00				8.00
33	Pavement						16.00				16.00
34	Final Inspection	8.00							8.00		16.00
35											0.00
36											0.00
<b>TOTAL HOURS</b>		<b>76.00</b>	<b>48.00</b>	<b>132.00</b>	<b>0.00</b>	<b>0.00</b>	<b>376.00</b>	<b>8.00</b>	<b>54.00</b>	<b>42.00</b>	<b>468.00</b>
HOURLY RATE		\$48.18	\$47.83	\$42.78	\$41.00	\$34.50	\$34.25	\$50.00	\$0.00	\$33.98	
<b>DIRECT LABOR TOTAL</b>		<b>\$3,661.68</b>	<b>\$2,295.84</b>	<b>\$5,646.96</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$12,878.00</b>	<b>\$400.00</b>	<b>\$0.00</b>	<b>\$1,427.16</b>	<b>\$26,309.64</b>
<b>DIRECT EXPENSES</b>		<b>\$</b>	<b>NOTES:</b>								
Falla & Sons Land Survey		\$3,000.00							Overhead %	171.52%	\$45,126.29
SW Cole (Test Borings and Material Tesing)		\$20,000.00							Profit/Fee %	10.00%	\$7,143.59
Mileage (\$.46 per mile)		\$347.15							<b>Subtotal =</b>		<b>\$78,579.53</b>
Postage		\$0.00							<b>Total Direct Exp. =</b>		<b>\$23,420.47</b>
Printing		\$0.00							<b>Total Proposed Cost</b>		<b>\$102,000.00</b>
Miscellaneous		\$73.32									
<b>TOTAL DIRECT EXPENSES =</b>		<b>\$23,420.47</b>									

Proposal should include: (a) Description of Services; (b) Scope of Work; (c) DBE form; (d) Appendix A-1; (e) Certified Payroll; (f) Insurance Certificates; (g) Subconsultant Proposal; and (h) Direct Expenses.

**METHOD OF PAYMENT**

- Adjustable Burdened Hourly Rates
- Adjustable Burdened Hourly Rates - Fixed Overhead
- Fixed Burdened Hourly Rates
- Cost Per Unit of Work
- Cost Plus Fixed Fee
- Lump Sum

Consultant Name: Calderwood Engineering  
 Date: 3/22/2024

**Employee Names/Classifications & Rates**

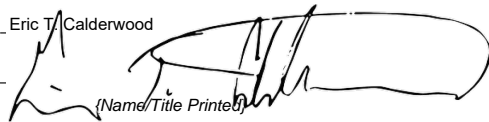
Please indicate the Employee Names/Classifications and rates that will be used to fulfill the requirements of this contract.

Employee Name & Classification	Actual Rate Paid *	Allowable Direct Labor Hourly Rate	Overhead %	Profit/Fixed Fee%	Burdened Hourly Rate
			171.52%	10%	
Eric Calderwood - Senior Engineer I	\$48.18	\$48.18	\$82.64	\$13.08	\$143.90
Gregory MacAlister - Senior Engineer/Project Manager	\$47.83	\$47.83	\$82.04	\$12.99	\$142.85
Jesse Helms - Project Engineer/Project Manager	\$42.78	\$42.78	\$73.38	\$11.62	\$127.77
Thad Chamberlain - Project Engineer	\$41.00	\$41.00	\$70.32	\$11.13	\$122.46
Lynette Calderwood - Clerical	\$33.98	\$33.98	\$58.28	\$9.23	\$101.49
Peter Cogley - Project Engineer	\$34.50	\$34.50	\$59.17	\$9.37	\$103.04
Mohamed Mohamud - Project Engineer	\$34.25	\$34.25	\$58.75	\$9.30	\$102.30
Carl Edwards - Senior Inspector	\$42.00	\$42.00	\$72.04	\$11.40	\$125.44
Jim Foster- Senior Bridge Engineer	\$50.00	\$50.00	\$85.76	\$13.58	\$149.34

\*I certify that this rate is the actual rate paid to this employee under this firm's payroll.

By: Eric T. Calderwood

Date: 3/22/2024



(Name/Title Printed)

I certify that the foregoing signature is true and accurate, and if electronic, I further certify that it (a) is intended to have the same force as a manual signature, (b) is unique to myself, (c) is capable of verification, and (d) is under the sole control of myself.

## Appendix B - Resume File



**Calderwood, Eric T.**  
**Managing Partner**

**Relevant Licensing: Licensed Professional Engineer in Maine, New Hampshire & Vermont**

Maine License #9099 (exp 12/31/23), New Hampshire License #11730, Vermont License #8711  
MaineDOT LAP Certified - expires 06/30/25

FHWA-NHI-130055 Safety Inspection of In-Service Bridges trained 10/04/19 refresher req'd in 2024  
FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges 09/02/22

**Education:**

September 1987 to May 1992 University of Maine, Orono Campus AS CET 1991 & BS CMT, 1992

**Relevant Experience:**

July 2005 - present Calderwood Engineering etc, llc.

General Partner/Structural Designer Responsible for Drafting, Detailing, & Structural Design & Oversight of required projects relevant projects: (not all projects are listed) Eric continues to serve on the PCINE Technical Committee for bridge structures, he has been intimately involved in the development of several guidelines and products such as the NEXT beam and the accelerated bridge guidelines.

Eric was the lead design Thomaston Wadsworth Street over the St. George River 2013-2014, Camden Springbrook Bridge over Spring Brook US Rte 1 2020-2022, Byron Coos Canyon Bridge over Coos Canyon 2021-2022, Jay Seven Mile Stream Bridge over Seven Mile Stream 2019, Anchor Road Bridge into Morse High School 2020, and Mason Township Meadowbrook Bridge over the Pleasant River 2021, along with many others.



Martin's Point Bridge, Falmouth to South Portland - Eric served as part of the design team to provide the original technical proposal for this design build project. Eric performed or oversaw structural design and or structural design check services as a part of the design team for the the girders, deck, piers and abutments.

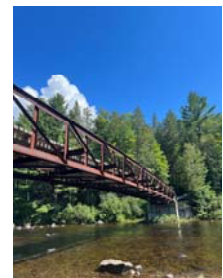
Downeast Institute Pier - Beals Island Maine: Eric designed Hybrid Composite superstructure and pile caps. Eric also designed the connection of piling cap to the Composite pilings, including temporary support during construction. This project makes the most use of composite materials in a harsh marine environment. This was done in 2011



Ludlow Vermont, Eric performed the lead design on a precast prestressed solid slab bridge with moment carrying keys and a significant flared cast in place overhang on one end resulting in significant torsional stresses in the planks. This project was designed in 2022 as a value engineered alternative to PBU's. The photo shows the sidewalk cast which indicates the degree of flare and

overhang on the fascia plank. Dates worked on 02/22 thru 09/22

Brochu Bridge & Gates Bridge – off road recreational bridges over the dead river & Spencer Stream respectively – Calderwood Engineering performed a bridge inspection and a load rating for these important snowmobile bridges as well as a pier and abutment retrofit design for the Brochu Bridge. Eric headed up the inspection and design team Inspected 08/2022 load rating ongoing





**Calderwood, Eric T.  
Managing Partner**

Eric also headed up the design effort to retrofit the floor of the historic Calais Firestation 2017-2018, designed several buildings including the Bowdoinham Wedding Barn 2021-2022, Bath Wash Works car wash 2022, and various residential and commercial buildings (ongoing).

Eric has also performed structural inspections and subsequent inspection reports and recommendations for several buildings including but not limited to the Cole Block Building in Bethel, The Ethel Bisbee School also in Bethel, the Enterprise Grange in Richmond, and Harmony Hall in Hampden. All of these inspections were performed over the summer and spring of 2022

*February 2001 – July 2005* Maine Department of Transportation  
Civil Engineer II – Bridge Designer Responsible for preliminary & final structural design hydraulics, hydrology & scour. Eric coordinated the assembly of all construction documents for several bridge structures. Final design projects include but are not limited to:

Covered Bridges in Machias , Moose River Bridge in Jackman, Fairfield – fish brook bridge.

*June 1999 – February 2001* Maine Department of Transportation  
Civil Engineer I – Bridge Designer Responsible for preliminary & final structural design, hydraulics, hydrology & scour design and coordinated the assembly of all construction documents for bridge structures. Final design projects include but are not limited to:

Gilbertville Bridge in Canton, Goodrich road over Jackson Brook in Bingham, Piels Bridge in Parlin Pond

*July 1993 – June 1999* Maine Department of Transportation  
Assistant Engineer – Bridge Construction Resident Engineer & Inspector performed as Resident Engineer and/or construction inspector on several projects responsibilities included the review and acceptance of contractor's erosion control plans or the creation of erosion control plans & the enforcement of those plans on a daily basis. Eric also performed all required inspections for subgrade & finegrade as well as checking horizontal alignment.

*May 1992 - June 1993* Maine Department of Transportation  
Engineering Technician I  
Performed visual inspections of weldments for structural steel fabrication related to bridge construction, performed onsite inspection of structural steel erection.

**Professional Affiliations:** PCI North East Technical Committee

**References:** Furnished upon request



**MacAlister, Gregory N. PE–  
Structural Designer/Engineering Manager**

**Relevant Licensing: Licensed Professional Engineer in Maine** - Maine License Number 14077 (exp 12/31/23) , NH License Number 16367, Mass License Number 55526  
MaineDOT LAP Certification Expires 06/30/25  
FHWA-NHI-130055 Safety Inspection of In-Service Bridges trained and certified 10/04/19 refresher required in 2024

**Education:**

University of Maine, Orono Campus BS in Civil Engineering

**Relevant Experience:**

*August 2011 - present* Calderwood Engineering etc, llc.

Project Engineer & Engineering Manager responsible for hydrology, hydraulics, preliminary and final design, horizontal and vertical alignments, development of contract plans and specifications. Greg also manages and reviews details and calculations for projects done by junior engineers.

Some of the projects Greg has been responsible for are:



Greg performed final structural design of two bridges which are innovatively mildly reinforced inverted precast concrete t-beam structures in Starks, Maine in 2013 & 2014. The photo to the left is of West Mills Road over Lemon stream, which was value engineered and existing abutments salvaged. The second structure is the Mayhew road over Pelton Brook, which necessitated a realignment and had integral abutments founded on drilled well casings.

Ripley Road over Indian Stream, Indian Bridge, St. Albans, Maine. Greg led the design effort to replace this plate arch culvert superstructure in kind with new cast in place and precast headwalls. Upon initial inspection, the existing arch was in the severe condition with the distinct possibility of failure during an ice. Greg spearheaded the effort to pre-purchase the new multi-plate structure and set up detour signs pre-covered in the event that an emergency replacement would be required. (2012)



Preliminary & Final Design of Tannery Brook Bridge on Dority Farm Road in Mariaville, ME. This project was designed and completed with only a 14 day road closure to minimize the impact on the residents living beyond the bridge. Precast abutments, wing walls, and superstructure designed to accelerate construction to allow this shortened closure. 2016 through 2018

Preliminary & Final Design of Wash Bridge on Redding Road in Sumner, ME. Greg performed final structural design of the new precast 3-sided box as well as hydraulics and scour calculations for this crossing. Greg developed final construction details, including horizontal & vertical alignments & Construction Inspection. 2015-2016





Final design & construction inspection for Chaney Bridge over Smelts Brook in Bremen Maine. New Precast, Prestressed beams were constructed off the existing roadway alignment to allow the road to remain open during construction. Inspection responsibilities included documentation of daily activities, coordination of backfill compaction testing, concrete testing, and verification of all installed elements. Final As-Built details were developed to accurately document the in place structure. 2016



Final Design and detailing for various MaineDOT Salt Storage Buildings and roofing retrofits. Greg designed the foundation for and developed salt shed construction details. Greg was responsible for reviewing construction submittals including shop details and design calculations. (Picture of Bethel Salt shed located at MaineDOT Maintenance Lot in Bethel, Maine. 2013)

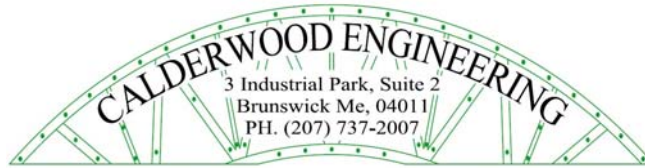
Shop Details for Precast Segmental Abutment for East Shore Expressway Bridge #475 East Providence, RI. Greg detailed the various substructure pieces including footings, abutment caps, and wing walls to be able to be spliced together using projecting reinforcement and splice couplers in the field. With tolerances of 1/8" the precast units fit together during construction without any issues. (Guardrail transition barrier with splice couplers shown during delivery.) (2016)



#### Additional Projects Include

- Final Structural Design of Steel Beams and Shop Details for the fabrication of Full Depth Precast Deck Panels in Lowell, MA.
- Final design for several Marine piling support systems.
- Final Substructure Designs for Traffic Luminaire Pole Structures in various locations.
- Final Design of Prestressed Precast Slabs and Spread Footing Abutment Substructure in Lisbon, ME.
- Final Abutment Substructure Design check for Martin's Point Bridge in Portland, ME. 2011
- Shop Details for the fabrication of Various Precast beams including: Voided Slabs for Little Pond Bridge in Fryeburg, ME, "NEXT" beams, I-91 over Maple St. in Brattleboro, VT, and Box Beams in Ludlow, VT.
- Design of various temporary support structures including work trestles, temporary bridges, and concrete falsework (ongoing)

**References:** Furnished upon request



## RESUME

*James A. Foster, P.E.*  
Senior Bridge Engineer  
Email: [jafoster1516@gmail.com](mailto:jafoster1516@gmail.com)

Registered Professional Engineer, State of Maine, #5381

## EDUCATION

B.S., May, 1978, Agricultural Engineering Tech., University of Maine, Orono.  
Continuing Education through 1983, Civil Engineering, University of Maine, Orono

### WORK HISTORY at 'Foster Bridge Management Services, LLC'

- Bridge Ranger May 2020 to present

Contract with the State of Maine - MaineDOT. This service provides free technical assistance directly to municipalities and counties to help them plan and prioritize for future bridge/ culvert maintenance, repair and improvements.

### WORK HISTORY at VHB

- Senior Bridge Engineer Oct. 2018 to Nov., 2022

Developed (CHBP) Grant application for the I-295 Bridges Project and the Franklin County Bridges Project.

Developed the Town of Vassalboro's application for the DEP 2019R2 Stream Crossing Public Infrastructure Improvements grant program.

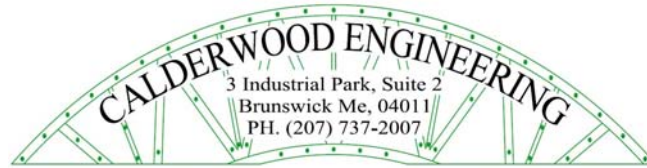
Assisted with USACE permitting, design and construction engineering for the replacement of the Field Stone Culvert in Vassalboro.

NBIS Bridge Inspections

Construction engineering for the new fish ladder at the China Lake Outlet Dam.

### WORK HISTORY at MaineDOT

- Results and Information Office 2010 to Jan. 2018 (Retired)
- Bureau of Planning 2002 to 2010



The Bridge Management Engineer leads the day to day operations of the Bridge Management Section (BMS) and coordinates and integrates with professionals throughout the Department for the purpose of optimizing bridge investments. The BMS determines funding needs and strategies for the repair, rehabilitation and replacement of Maine's bridge network. This section is responsible for the bridge portion of the Biennial Capital Work Plan and supports the Bridge Maintenance Inspection Program and the Bridge Maintenance Work Program.

- Project Development/Technical Services Oct. 1994 to Aug. 1996  
Bureau of Planning Aug. 1996 to 2002

Assistant Bridge Management Engineer responsible for activities relating to the development and operation of a computer-based network level management system, which provides direction for the Department to optimize investments in capital and maintenance expenditures on bridges. Responsibilities include quality assurance and oversight of incoming field data, data analysis, report generation, and investigations leading to analysis model revision.

This position is responsible for the administration of a team of experts from various Bureaus throughout the Department for the purpose of selecting future bridge capital improvement candidates. This team determines program scopes, priorities, and costs for future bridge projects for upcoming Work Plans, Six Year Plans, and twenty- year forecasting.

- Maintenance and Operations/Bridge Maintenance June 1989 to 1991

Bridge Inspector (topside) responsible for safety, structure inventory and appraisal ratings. In addition, researched and corrected data errors identified by FHWA's data quality program.

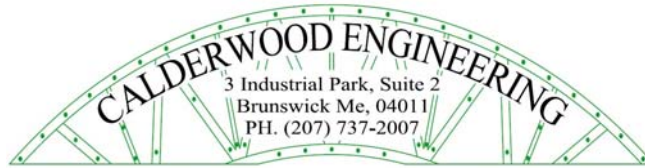
- Project Development/ Bridge Design Aug. 1981 to June 1989 and  
Jan. 1991 to Oct. 1994

Project Engineer responsible for design and preparation of reports, plans, estimates, permits and specifications for bridge construction projects in compliance with applicable design standards and policies. Project Leader responsible for completing projects in a cost-effective manner by setting and tracking project costs and schedules.

- Project Development/ Right-of-Way Nov. 1979 to Aug. 1981

Right-of-Way Agent responsible for researching records and contacting property owners for the purpose of establishing ownership and boundaries for various proposed construction projects. The duties included drafting of Right-of-Way maps and plans.

## EXPERIENCE



1986 Registered as Professional Engineer, State of Maine, #5381

### MaineDOT

1990-98 Team Leader, MaineDOT Dive Team.

1994 Served as a member of the committee responsible for updating the "1990 Standard Specification Highway and Bridges" book.

1995 Panel Coordinator for University research entitled, "Recommendations and Validation of Scour Formulae for Maine Rivers."

1996 Panel member for Project 96-7, USGS Research "Estimating the Magnitude and Frequency of Floods for Rural and Unregulated Streams in Maine."

1996 Panel member for University research, "Load and Resistance Factor Design (LRFD)."

1996 Panel member for NETC research "Buried Joints for Short Span Bridges."

1997 Assisted with the development of the "warranty" specification for the Bath-Woolwich Bridge Project.

2002-2004 Participated in the development of the "Maine Historic Bridge Management Plan."

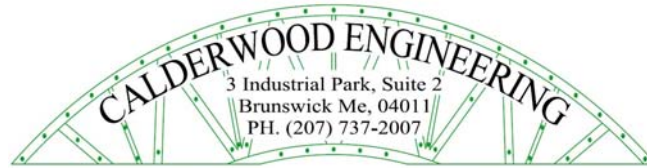
2008 President of the Pontis (Bridge Management Software) Users Group

2007 and 2014 Developed the bridge needs portion of the "Keeping Our Bridges Safe" report.

2012-2016 Developed (TIGER) Discretionary Grant applications for the Martin Memorial Bridge Replacement, the Peru-Mexico Androscoggin Bridge Replacement, and the Beals Island Project

2017 Organized and managed the (TIGER) Discretionary Grant application for the Penquis Region Rural Bridge Projects

2002 - 2018 Secretary, Bridge Posting Committee



2002 - 2018 Member, Bridge Policy Committee

VHB

Nov., 2018 Developed (CHBP) Grant applications for the I-295 Bridges Project and the Franklin County Bridges Project.

Nov., 2019 Developed the Town of Vassalboro's application for the DEP 2019R2 Stream Crossing Public Infrastructure Improvements grant program.

2019-2020 Vassalboro Cross Hill Road Culvert Replacement Project, ... USACE permitting, design and construction engineering.

2021 China Lake Fishway, ... construction engineering.

2022 NBIS - Bridge Inspections

Calderwood Engineering

2023 NBIS - Bridge Inspections



**Helms, Jesse**  
**Lead Engineering Technician**

**Education:**

Southern Maine Community College, Architectural and Engineering Design

**Relevant Certifications/Courses:**

American Concrete Institute, ACI Concrete Field Testing Technician – Grade I expired

Maine DOT, Local Project Administration Certification Exp 06/30/2025

Maine Audubon, Stream-Smart Road Crossing Workshop

**Relevant Experience:**

*June 2009 - Present* Calderwood Engineering etc., llc.

Project Manager – Responsible for coordination of survey data, final design data, application for environmental permits, development of special provisions, advertisement of projects for construction, and construction oversight.

Lead Detailer- Responsibilities include drafting & detailing various projects types, preliminary structural design & final design with oversight and input from senior engineers. Responsibilities also include quoting, scheduling, quality control, and final check of other detailer's projects.

- Madawaska-Edmunston, Maine- Shop details for the Expansion Joints, Curtain Troughs, and Downspouts. These drawings were difficult due to several different factors. Due to the Superstructure curve and the direction of expansion; each Transition Barrier required unique armor. Each Downspout was also custom to accommodate abutment layout. In addition, there were construction phasing requirement that needed to be considered when detailing the shops. 2021
- Fairfield, ME, MDOT Salt Shed & Brine Storage Building- Details for Salt Shed with a pre-engineered fabric roof on a steel truss. Design and details for a brine storage building. 2010-2011
- Ellsworth, ME – responsible for detailing foundations for the “Bridge in a Backpack” on the Rt. 180 relocation project including coordination of the MSE wall headwalls and ensuring their constructability due to the interaction of the skew and the arch and any arch deflections. 2011-2012
- Seabrook, NH- Development of shop details for Haunched plate girders designed to widen and replicate an existing haunched girder bridge. Jesse detailed the haunch shown in contract plans and realized it was not correct. Calderwood Engineering developed a new parabolic haunch detail and forwarded that to NHDOT and the designer of record, which was subsequently constructed and now matches the haunch for the other girders. 2012
- Tobin Bridge Rehabilitation in Boston, MA- Shop details for structural repairs. Jesse was the project manager for this project, which spanned multiple years and consisted of over 30 separate pay items. Field measurement and recording of measurements was required for each structural repair, resulting in spot specific piece marks for the length of the bridge. In addition, each pay item needed to be split into multiple submittals to accommodate the scheduling of the project and availability of access for field measurements. Extensive coordination between the fabricator, steel erector, and MassDOT was required to ensure that the steel was delivered to the site on time and fit properly. 2019



- Appleton, ME- Fishtown Road Culvert over the St George River, and over a Tributary of the St George River replacement, there were two bridges as a part of this project and the roadway was widened to make it a two lane road, profile grades were dramatically changed to meet reasonable standards. Jesse headed up the project management for this entire project from field survey, alignment & profile development, hydraulic study, design & detail culverts, permitting processes with MDEP and Army Corp. of Engineers/US Fish & Wildlife Jesse also headed up



construction inspection and development of change orders and requisitions for payment as required. The spring line was kept above the Q2 elevation for longevity of the structure. In an effort to keep the cost down the structure was replaced with a structure that is not 1.2x Bank full width which complicated permitting, but was necessary for this town funded project to be financially feasible. In an

effort to keep the cost to a minimum the second culvert which was already an arch structure on concrete stem walls was lengthened with a larger arch to the downstream end. The existing arch was in good condition, but the roadway geometry needed additional width and the headwalls and wing walls needed replacement. 2012-2013 Jesse performed all required construction inspection and documentation.



- Medford, MA- Development of shop details for haunched and curved plate girders. This project was and extremely difficult set of shop details. In addition to all the girders being very slightly curved; the exterior girders were haunched but the interior were not. The splice locations also varied from one girder line to the next to accommodate the erection plan. Prior to starting the shop details; Jesse met with the designer, general contractor, steel erector, and steel fabricator to develop a number of RFI questions. 2017
- Byron, ME, Coo Bridge- Abutment and superstructure replacement. Designed by Calderwood Engineering; this project consisted of constructing new concrete abutments behind the existing and maintaining the stacked stone abutment as a retaining wall. The superstructure was replaced with steel beams and a cast-in-place deck. Jesse headed up the Phase III portion of this project in accordance with Maine DOT's local administered project standards. This included documentation, shop detail review, precast inspection, field inspection, payment requisitions, and communication between the town, state, and contractor. 2020-2022



*2005-2008 Full Circle Home Restoration, Owner, Proprietor, responsible For Overall Project Management, Client Relations, Subcontracting, Bidding, and Supervision, Worked with Clients From Concept to Job Completion*

*2005 Nighthawk Design, Cabinet Maker, Trained to Read Blueprints, Fabricated Cabinets to Blueprint Design, Installation of Cabinets; Managing Client and Field Modifications*

**References:** Furnished upon request



**Chamberlain, Thad D. PE**  
**Senior Structural Designer**

**Relevant Licensing:**

Maine PE License Number - 16345 (expires 12/31/23)

MaineDOT LAP cert. expires 12/2021, ACI Field Test Tech. Gr. I expires 12/7/2024

**Education:**

University of Maine, Orono Campus BS in Civil Engineering

**Relevant Experience:**

*May. 2016- Present* Calderwood Engineering etc, llc.

Project Engineer responsible for hydrology, hydraulics, preliminary and final design, horizontal and vertical alignments, development of contract plans and specifications, and development of plans for temporary construction activities

Some of the projects Thad has been responsible for are:

Thad performed final structural design for the rehabilitation of two bridges in Piscataquis County. Both bridges carried Williamsburg road over Whetstone Brook, in Williamsburg Township, Maine. This included rehabilitation of the existing headwalls and culvert walls, as well as a grouted riprap scour countermeasure. Thad also developed a Section 7 Biological Assessment with the Army Corps of Engineers to address the short and long term impacts of the grouted riprap construction on Atlantic Salmon. The permit required on-site inspection of the fish evacuation of the project area, removal of the existing streambed material, and placement of the grouted rip-rap scour protection.

Emmons Road over Ward Brook, Pasture Bridge, Kennebunk, Maine. Thad performed a final structural design of the new prestressed solid slab bridge to replace the existing timber bridge. This included realignment of the roadway to widen the bridge to two lanes, raising the profile to alleviate seasonal flooding of the bridge approaches as well as design of integral abutments on pile. This project was a MaineDOT Local Project Administration and had to meet MaineDOT design standards. Thad performed all required inspection and construction documentation in 2018

Additional Projects Include:

- Structural design check for composite steel girder and concrete deck design for 130 foot simple span bridge in Camden Maine on US Route 1. 2020 & 2022
- Value Engineered bridge in Ludlow, VT from PBU's with Ultra-High performance concrete to CIP Concrete deck with precast, post-tensioned wingwall caps. 2022
- Temporary bridges, including multi-span bridges in Farmington and Mattawamkeag, ME. 2021
- Final design of precast 4-sided box culvert in Grand Isle, Maine.
- Onsite inspection of construction activities on various projects, including pile driving, soil compaction, concrete placement, beam erection and post-tensioning. Various projects from 2016 to the present
- Design and Detailed concrete Solid Slab and Voided Slab Beams for various projects. (ongoing)
- Developed Shop Details of NEXT beams for Middlesex Turnpike in Bedford, Massachusetts.
- Designed various temporary Trestles for construction including South Thomaston, ME.
- Design of various temporary retaining walls, including sheet pile walls and soldier pile walls.
- Design of reinforced concrete and steel structures using both LRFD and ASD methodology.
- Design of timber structural elements using both LRFD and ASD methodology.
- Developed Camber Management Plan for various prestressed concrete bridges. (Ongoing)
- Designed and Detailed bridge protection fender system in Boothbay, Maine. 2017-2018
- Design of dry laid stone retaining wall in Cavendish, VT. 2018
- Various temporary works submissions, formwork, erection plans, demolition plans. (ongoing)
- Developed sliding plan of Bridge Street Bridge in Gardiner, ME, avoiding impacts to A1 Diner and allowing for off alignment construction. 2019-2020

**References:** Furnished upon request





**Mohamud, Mohamed, E.I.**  
**Structural Designer**

**Education:**

University of Maine  
Graduated December 2020  
B.S. in Civil Engineering

**Relevant Certifications:**

Maine Board of Licensure for Professional Engineers, Engineer Intern (E.I.)  
American Concrete Institute, ACI Concrete Field Testing Technician – Grade I exp. 12/2023

**Relevant Experience:**

*July 2022 – Present:* Calderwood Engineering Etc., LLC. – Brunswick, ME

Structural Designer - Responsibilities include design of bridge superstructures, substructures, load rating of bridges, temporary earth supports and cofferdams, and completing Demolition and Jacking Plans.

Specific projects Mohamed has worked on include: (all projects here were done in 2022)

- Design of Mast Arm & Strain Pole Foundation in Scarborough, ME
- Design of Redi-Rock Abutment for Pedestrian Bridge in Conway, NH
- Design of Cofferdam for Bucknam Rd. Bridge Pier in Falmouth, ME
- Design of Earth Support for Bucknam Rd. Bridge Abutment in Falmouth, ME
- Load Rating for a 120' Span Pony Truss Snowmobile Bridge in The Forks, ME
- Design of Cofferdam for Johnson Rd. Bridge Pier in Falmouth, ME
- Design of Demolition Plan for Bridge #1445 in Pittsfield, ME
- Identified and Sampled Soils during Soil Investigation for Fish Bridge in St. Albans, ME
- Design of Jacking Plan for Bridge #1445 in Pittsfield, ME
- Design Check of Prestressed Concrete Superstructure in West Rutland, VT

*May 2020 - May 2022:* Summit Geoengineering Services – Lewiston, ME

Geotechnical Engineer - Responsibilities include aiding in the design of building foundations and retaining walls, slope stability analysis, drafting full detailed geotechnical reports, ground improvement design, identifying and sampling soils on site, settlement calculations, buoyancy calculations for wet wells and other structures, performed field tests, and assisted with drilling.

Specific projects Mohamed has worked on include, but not limited to:

- Design of Foundation and Retaining Wall for FedEx Building Addition in Lewiston, ME
- Design of Retaining Wall for New Dunkin' Building in Lewiston, ME

**Relevant Courses:**

Structural Design I & II, Intro to Structural Analysis, Strength of Materials (UMaine), Mechanics of Materials (UConn), Dynamics, Statics/Applied Mechanics, Advanced Roadway Design, Urban Transportation Planning, Transportation Engineering, Soil Mechanics, Hydrology, Fundamentals of Environmental Engineering, Hydraulics, Materials, Surveying, Physics I & II, Chemistry I & II

**References:** Furnished upon request



**Cogley, Peter**  
**Structural Designer**

**Education:**

University of Maine  
Graduated May, 2021  
B.S. in Civil Engineering, minor in Mathematics

**Relevant Certifications:**

American Concrete Institute, ACI Concrete Field Testing Technician – Grade I exp 12/2024

**Relevant Experience:**

*September 2021 – Present:* Calderwood Engineering etc, llc. – Richmond, ME

Structural Designer - Responsibilities include design of bridge superstructures, substructures, load rating of bridges, formwork design, temporary earth supports, seismic constraint design, and completing Erection, Demolition, Jacking, and Shielding Plans.

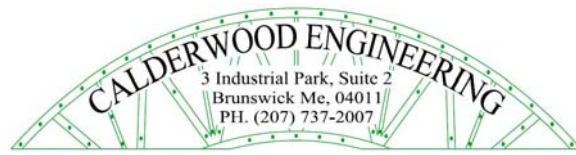
Specific projects Peter has worked on include: All these projects were actively worked on in 2021 and 2022

- Design of 50' span Steel Bridge in Litchfield, Maine
- Design of 17' span Precast Bridge in Blanchard, ME
- Design and Grant Writing for 70' Snowmobile Bridge in Pownal, Maine
- Design of Precast Composite Superstructure in Jay, VT
- Design of Precast Prestressed Concrete Superstructure in Bridport, VT
- Temporary Bridge Design with Splice Design for bridge replacement in Woolwich, ME
- Temporary Bridge and Alignment Design for bridge replacement in Jim Pond TWP, ME
- Temporary Detour Alignment for Great Farm Bridge in Denmark, ME
- Foundation Design for Salt Shed in Dixfield, ME
- Design of Rail Trail Abutments for Bridge 48 & 83 Lamoille Valley, VT
- Pole Base Design in Saco, ME
- Load Rating for Calvin Gray Bridge in Madrid, ME
- Load Rating for Mitchell Bridge in Hammond, ME
- Formwork Design for MTA Utility Vaults Contract: 2021.02
- Formwork Design for Bridge Construction in T-3 Indian Purchase TWP, ME
- Formwork Design for Bridge 102-099, 138-137, 184-138 Repairs in Meredith, NH
- Cofferdam Designs for bridge piers in Hinsdale/Brattleboro, NH/VT
- Erection Plan and Shoring Tower Design for Madawaska-Edmundston International Bridge
- Erection Plan for precast NEXT Beams for Bridge 77 & 82 Calais, VT
- Erection Plan for steel beams and Temporary Bracing Design in Canaan, ME
- Erection Plan for Curved Girders for I295 Bridge in Yarmouth, ME
- Shielding Plan, Superstructure Demolition/Removal Plans, Erection Plan, and Jacking Plan for MTA State Highway Rt. 197 Bridge in Litchfield, ME
- Seismic constraint design for Pipes in Livermore Falls Wastewater Treatment Plant

**Relevant Courses:**

Structural Design I & II, Structural Analysis, Hydraulics, Open Channel Hydraulics, Soil Mechanics, Geotechnical Engineering

**References:** Furnished upon request



**Carl Edwards: Senior Inspector**

**Calderwood Engineering Employee:** March 2024-Present

**Skills:**

Top Side and Underwater Bridge Inspections

Underwater Grout Repairs

**Experience:**

MaineDOT – June 2003 – May 2023 Dive Manager

Responsible for:

- Maintaining the Dive Team garage. Truck, 4 boats and all assigned dive gear
- Planning, conducting all underwater bridge inspections – approximately 150 per year
- Drafting and submitting all underwater inspection reports
- Planning and conducting all Dive Team training per year
- Recruiting and maintaining Dive Team roster
- Planning, coordinating and conducting all underwater grout repairs
- Maintaining several Dive Team vendor contracts
- Approximately 100 bridge “top side” inspections per year

**Education:**

High School Diploma Northmiddlesex Regional High School

College Courses, UMA – Augusta, Me

# **Michael D. Falla, P.L.S.**

201 Hostile Valley Road, Palermo, ME 04354

## **Present Occupation:**

- 2005 - Present FALLA & SONS LAND SURVEYS, INC., Palermo, Maine  
Owner, Operator & Professional Land Surveyor (#2364)  
Full service Land Surveying company specializing in Boundary Retracement Surveys, Topographic Surveys, Lot Splits, and Subdivisions.
- 1995 - Present BLACK RIVER DIVE COMPANY, Gardiner, Maine  
Owner, Operator of Dive Company, specializing in inspection and repair of underwater structural elements. Providing underwater services including: salvage, repairs, video, environmental studies.
- 2016 - Present KLEINFELDER, Augusta, Maine  
NBIS Bridge Inspector Team Leader and Dive Team Leader used nationwide.
- 2018 - Present ERSKINE ACADEMY, South China, Maine  
High School Varsity Girls Soccer Coach

## **Professional Licenses:**

- 2004 PROFESSIONAL LAND SURVEYOR, State of Maine, #2364
- 1996 PADI DIVE MASTER, #DM-156330 Specialties in Rescue, Enriched Air, Deep, Ice and Equipment
- 2013 USSF "D" Soccer Coaching License

## **Formal Education:**

- 1988-1990 VERMONT TECHNICAL COLLEGE, Randolph, Vermont  
Associates Degree in Civil Engineering Technology, graduated with honors 3.28
- 1994 -2002 FEDERAL HIGHWAY ADMINISTRATION TRAINING, Courses included: "Safety Inspection of In-Service Bridges", Stream Stability and Scour at Highway Bridges", "Demo Project 80 & 98"
- 1990-2000 UNIVERSITY OF MAINE, Augusta, Maine  
Classes included: Design of Wood Structures, Speaker-Audience Communication, Calculus II and Physics II
- 1984 -1988 GEORGES VALLEY HIGH SCHOOL, Thomaston, Maine

**Past Employment:**

1992 -2005      MAINE DEPARTMENT OF TRANSPORTATION,  
Senior Utility Technician, Bureau of Project Development  
Utility coordination on Highway Program Projects statewide, including but not limited to adjustment and relocation of utility facilities within the project limits. Writing of Specifications, Municipal Agreements and contract documents regarding utility relocation within MDOT project limits.

**Professional Memberships:**

2004 – Present      Kennebec Proprietors

**Professional Appointments and Offices:**

2014-Present      Kennebec Proprietor- Treasurer  
2007-2008      Kennebec Proprietor Vice-President  
2010-2014      Kennebec Proprietor President

**Professional Publication, Writings:**

2008      Author “In Search of Monhegan’s Letters”, condensed version, The Working Waterfront, Rockland  
2008      Author “In Search of Monhegan’s Letters”, full length article, The American Surveyor, Cheves Publishing Co., Frederick, Maryland

**Personal Appointments, Boards and Membership:**

1997- Present      Dirigo Masonic Lodge #104 A.F. & A.M., Officer, Past Master  
2001- Present      Seabasticook Masonic Lodge #146, Officer, Past Master  
2009- Present      Central Maine United Soccer Club, VP Travel, Board Member, Treasurer, Coach  
2002- 2010      Bulldog United Travel Soccer, Past President, Coach  
2003- 2010      Clinton PAL Soccer, Coordinator & Coach



## **MIKE ST. PIERRE P.E.**

Senior Geotechnical Engineer  
Sidney Office Manager

### **EDUCATION:**

**University of Maine**  
M.S. Civil Engineering  
B.S. Civil Engineering

### **REGISTRATIONS:**

**Professional Engineer (P.E.)**  
**ME & NH**

### **CERTIFICATIONS:**

- OSHA 10 Hour Safety & Health

### **AFFILIATIONS:**

- American Society of Civil Engineers (ASCE), Maine Section
- American Council of Engineering Companies (ACEC), Maine Section

### **ACHEIVEMENTS/ HONORS:**

- Graduate, Fundamentals of Professional Practice Course, Geoprofessional Business Association (formerly ASFE)
- Past-President, Maine Chapter of American Society of Civil Engineers (ASCE)
- Grand Conceptor Award, North Haven GRS-IBS Bridge, 2015 ACEC Engineering Excellence Awards

Mike St. Pierre received his bachelor's of science and master's of science from the University of Maine in Orono. After receiving his master's, he was an civil engineering instructor at the university, leading courses in materials laboratory, soils laboratory, and civil engineering graphics lecture and laboratory.

Mike has been a geotechnical engineer since 2007, and his experience includes project work in Maine, New Hampshire, Oregon and Washington. He joined S.W. Cole Engineering, Inc. in October 2010. His responsibilities include project management, coordination and supervision of subsurface investigations, geotechnical engineering analyses, preparation of proposals, technical reports and specifications, and quality assurance of computations and reports for fellow engineers. He also responsible for overseeing the implementation of design recommendations for various geotechnical tasks, some of which include pile driving, subgrade observation, foundation preparation and soil compaction.

Mike's experience includes design analyses for spread footing, driven pile and drilled shaft foundations, settlement analyses, pavement design and evaluation, analysis of slope stability and retaining walls and geotechnical monitoring of construction activities. He has worked on numerous commercial and public infrastructure projects throughout New England and the Pacific Northwest.

Mike has experience working on wind power projects in Maine and New Hampshire, providing exploration coordination and oversight, coordination of subconsultants and evaluation and development of geotechnical foundation design parameters.

Mike has worked on state and municipal bridge design projects in Maine and New Hampshire and the Pacific Northwest. He is knowledgeable in design methodology following FHWA and AASHTO standards including load resistance factor design (LRFD).



### Appendix C:

The following are the Bridge Projects that Calderwood Engineering has designed or is currently designing in the last five years, this list includes the superstructure type, substructure type, owner, and date of completion:

Town/Client:	Bridge:	Description:	Date Constructed:
Litchfield/Town of Litchfield	Whippoorwill Road	6.5' / Round Culvert	2019
Moxie Gore/Somerset County	Moxie Gore over Mile & A Quarter Brook	Culver Repair – Roadway profile modification and drainage improvements	2017
Pittston/MaineDOT	Togus Bridge	Rehabilitation and Wingwall stabilization	2019
Bremen/ Town of Bremen	Chaney Bridge Heath Road over Smelts Brook	50 ft span Precast Concrete bridge with concrete cantilevered gravity abutments	2018
Bristol/ Town of Bristol	Redonnet Mill Road over the Pemaquid River	23ft precast concrete superstructure on rehabilitated stone masonry abutments	2018
Woolwich/ Town of Woolwich	Dyke Bridge, George Wright Road over Back River	Preliminary design report developed only; Phase II final design has not been authorized – once MaineDOT's Rt. 1 Woolwich project is complete this project may take off again.	n/a PDR Done 2018
Searsmont/ Town of Searsmont	Magog Bridge over Jam Brook	Rehabilitation of existing new structure that was inadequately designed and subject to scour – complete rehabilitation plans were developed	2018
Peru/Town of Peru	East Shore Road over Worthley Brook	8' Span Precast concrete arch on Precast concrete block foundations – Calderwood developed the required hydrology & hydraulics to size an appropriate structure.	2018



Bristol/Town of Bristol	Upper Round Pond Road over the Pemaquid River	26' span 8' rise corrugated metal arch with cast in place concrete headwalls wingwalls and abutments/stemwalls, wings and headwalls are faced with stone veneer	2019
Bristol/Town of Bristol	Hatchtown Bridge – Bristol Mills Road over Mill Stream	Project is being designed currently as a design-build project	n/a anticipated 2023
Bristol/Town of Bristol	Benner Arch – Benner Road over Pemaquid River	Historic Dry Laid stone arch – currently Calderwood is in the preliminary stages of project development for this exciting project – we are setting up a joint meeting with Maine Historic Preservation Commission, MaineDOT, local historic interests, the Army Corps of Engineers, and Maine Dry Stone Conservancy to discuss the direction and get buy in for this full rehabilitation & restoration project	n/a anticipated 2023 or 2024
Williamsburg/Piscataquis County	Shirley Road over Gully Brook	Major Rehabilitation of this concrete slab on stone masonry abutments	2018
Williamsburg/Piscataquis County	Williamsburg Road over Whetstone Brook	Major Rehabilitation of two Concrete box culverts both over whetstone brook	2018
Kennebunk	Emmons Road over Ward Brook	44' span Precast Prestressed concrete superstructure on Cast in place concrete integral abutments founded on driven H-pile this bridge replaced a 20' span timber bridge on timber abutments – Calderwood Engineering developed a Preliminary design report a final design requiring Right of Way acquisition on a MaineDOT LAP funded project	2019





Roxbury Vt./town of Roxbury	Oxbow Road Bridge	Calderwood Engineering developed this design for a Cast in Place solid slab superstructure span 20'-9" span	2018
Jonesport/MaineDOT	Jonesport Beals Island Bridge	Calderwood Engineering developed a precast concrete pier cap using the concrete as a stay in place type of form for the contractor to save forming and stripping costs and to ease construction of these pier caps. Calderwood Engineering developed full design calculations to support the final pier cap design and to check the drilled shaft and pier column capacities to verify they are adequate based on the changes we proposed.	2018
Gardiner-Litchfield/MaineDOT	Tappan Bridge over Cobbosseecon tee Stream	Calderwood Engineering developed this Preliminary design Report for MaineDOT and followed by a full set of construction plans. This project was scoped for a pile jacketing project but has not been constructed	n/a
Batchelder's Grant/MaineDOT	Evan's Brook Bridge over Evan's Brook	Calderwood Engineering developed the Preliminary design report for MaineDOT and the Final design calculations and plan development. This is an interesting project because we are rehabilitating the substructure and jacking the beams to develop a new roadway profile installing new diaphragms and a new cast in place concrete deck – components of the original design were replicated due to their historic and aesthetic value but complicated design	2022-2023 Project is under construction now



Bath/RSU#1	Anchor Road over Whiskeag Creek	New 100' span weathering steel girder on integral abutments founded on rock anchored H-piling behind a Mechanically Stabilized Earth (MSE) wall Bridge forms a bit of a gateway into the new Morse High School and has a large sidewalk for enhanced pedestrian safety.	2020
Carthage/ Town of Carthage	Judkins Road over Hutchinson Brook	New 30' span precast prestressed concrete solid slab superstructure on cast in place concrete integral abutments on driven H-pile. Calderwood Engineering developed a rolled beam plans alternate and a precast prestressed alternate for the construction plan set.	2020
Frenchtown Township/Piscataquis County	Intervale Brook Bridge over Intervale Brook	Replacement of timber deck with a precast deck, superstructure strengthening with the addition of three new beams.	2020
Lovell/Town of Lovell	Foster Bridge over Kezar River	This project consisted of a set of design plans for the full replacement of the bridge with a 38' span bridge with a precast concrete deck. The project was never funded for construction	n/a
Danby Vermont/Town of Danby	Parker Road Bridge over Purchase Brook	This project consists of a solid cast in place slab 36ft span and cast in place integral abutment design on driven H-pile	2019
Vassalboro/Town of Vassalboro	Gray Road over unnamed brook	Bridge designed was a 19' span concrete span bridge on precast concrete block abutments – this bridge was constructed to replace a 6-foot culvert and was funded in part through a MaineDEP culvert replacement grant	2020



Berwick/Town of Berwick	Diamond Hill Road and Ridlon Road over the Little River	These two bridges have been designed and are prepared to bid but are waiting on funding from MaineDOT LAP program – Calderwood Engineering also designed a temporary retrofit to raise the posting level of the Diamond Hill bridge which was limiting the town’s ability to plow the bridge	n/a  2022 for temp repair
Centerville/Washington County Unorganized Territories	Mill Stream Bridge over Mill Stream	Calderwood Engineering developed a detailed preliminary design report for this large concrete cast in place box culvert structure. Cost and preservation have been emphasized and LAP funding is being sought. Calderwood’s recommended structure is an off-alignment bridge replacement project the condition of the bridge however is not such that replacement must be immediate.	n/a  2021 for the PDR
Winthrop/ Town of Winthrop	Turtle Run Bridge	Calderwood Engineering developed a design and construction plan set for the replacement of this 13’ span bridge. We effectively replaced a timber beam superstructure that had been built in 2006 with a new cast in place concrete slab bridge which will last much longer than the 14 years the timber span was in service.	2020
Litchfield/Town of Litchfield	Dead River Road Bridge	New 40’ span bridge with precast concrete deck panels and concrete block abutments. This project was partially funded by MaineDEP grant funds	2021



Litchfield/Town of Litchfield	Dead River Road Culvert	New 8' diameter culvert embedded and infilled with natural streambed material – this project was funded by MaineDEP with the culvert grant and was constructed by the town using town forces to replace the culvert.	2021
Camden/ MaineDOT	Spring Brook Bridge	Calderwood Engineering designed this 140' span steel welded plate girder bridge with a bolted field splice on US Route 1. Abutments are integral abutments and are founded on drive H-pile. This bridge is being advertised to contractors now as a part of the Camden US Rte 1 Highway project	n/a 2023 anticipated
Augusta/ Sun Communities	Sparrow Drive over Riggs Brook	Calderwood Engineering developed a temporary rehabilitation plan to strengthen and protect the girder superstructures. This plan was done to allow for resumed trash pickup and fuel delivery into the park but as a precursor to a replacement bridge to be designed in five to ten years	2021
Blanchard/ Piscataquis County	Taylor Road over unnamed tributary	This was a precast concrete superstructure 17-foot span on precast concrete block abutments. This was funded by the Maine DEP culvert grant program	2022
Anson/ Town of Anson	Pease Hill Road over Lemon Stream	This bridge was a galvanized rolled beam steel bridge superstructure with precast concrete decking and cast in place concrete integral abutments founded on drilled pipe piling	2022
Alna/Town of Alna	Ben Brook Bridge	This bridge has been fully designed and is going to replace a steel culvert pipe that has been sliplined with an aluminum liner. The designed span is a 28' span bridge. The project is currently awaiting funding	n/a



Farmington/ High Peaks Alliance	Multi use path over the Sandy River	Calderwood Engineering developed engineering estimates and preliminary designs for a multi-use bridge – Cable stayed with a panelized trussed superstructure. Bridge main span is 356-foot span from tower to tower	n/a
Harrison/MaineDOT	Bear River Bridge over the Bear River	Calderwood Engineering developed the preliminary design report for this wearing surface replacement project that involves some concrete superstructure rehabilitation and some substructure rehabilitation also. This project is between phase I and phase II design now.	n/a
Pownal/Penguins Club	Chandler Stream Bridge over Chandler Brook	This is a new steel bridge with timber decking that is to provide a crossing for snowmobiles in an area where they traditionally cross over the ice or through the water. This project is grant dependent and we are awaiting funding before beginning construction	n/a  2023 anticipated
Ludlow Vermont/VTrans	Vt Rte 103, Bridge 26 over Jewell Brook	Calderwood Engineering developed this project as a Value Engineering project where we redesigned the superstructure using a 45' span precast prestressed solid superstructure slab. This project was complicated due to a very sharp curve in the roadway due to the proximity of a heavily traveled intersection resulting in a very large flare cantilevered off the side of the concrete “planks”	2022