TOWN OF TOPSHAM, MAINE

TEDFORD ROAD SIDEWALK

ENGINEERING DESIGN & PERMITTING W/ OPTION OF CONSTRUCTION OVERSIGHT

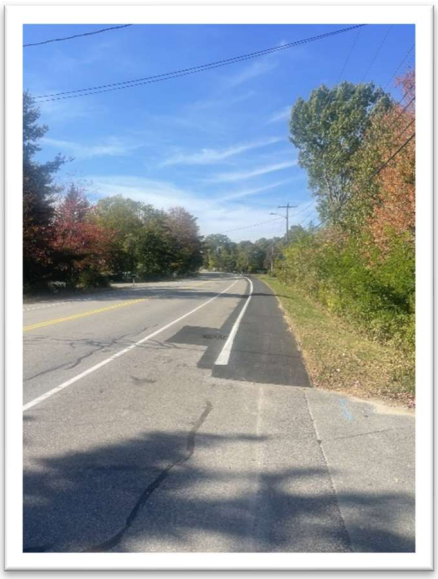
December 5, 2025

Berry Huff McDonald Milligan, Inc.
380B Main Street
Gorham, ME 04038

TABLE OF CONTENTS

SECTION 1 - BH2M BACKGROUND

Berry Huff McDonald Milligan Inc. (BH2M) is a locally owned civil engineering, planning and surveying firm, founded in 1978. BH2M is headquartered in Gorham, Maine. Our multifaceted staff of 16 include engineers, planners, project managers, construction managers, and land surveyors. Over the past 47 years BH2M has provided a broad spectrum of services including:



Surveying

- Boundary Surveys
- Topographic Surveys
- Existing Condition Surveys
- Utility Surveys
- As-Built Surveys
- Construction Stakeout
- Elevation Certificates and Letters of Map Amendment
- ALTA/NSPS Surveys
- Mortgage Loan Inspections

Engineering and Permitting

- Municipal Engineering
- Roadway Design
- Pedestrian and Bicycle Enhancement
- Shared Use Paths
- Athletic Facilities
- Vehicular Access and Parking
- Site Planning
- Comprehensive Land Planning
- Construction Cost Estimating
- Environmental and Local Permitting
- Stormwater Management
- Erosion Control
- Wastewater Collection and Pumping Systems
- ADA Accessibility

BH2M is an experienced, local mid-sized consulting firm. Our ability to offer a variety of services in-house enables us to provide efficient and cost-effective solutions to municipal infrastructure projects.

Surveying

BH2M has the benefit of offering a full-service survey department. Our survey department provides the foundation for each project we undertake. Having the ability to self-perform survey services provides us with a cohesive transition from field reconnaissance to design and then to construction. Typically, our Project Managers will accompany the survey crew early in the process. We've found this to be an effective approach that reduces the time needed for field surveys and guarantees that designers will have the critical information needed for an accurate design. Our survey staff is highly trained in property line, existing conditions, utility and topographic surveys as well as construction layout.

Civil Engineering

BH2M has provided developers, contractors, and municipalities with civil engineering services since our inception in 1978. Our Staff includes five Maine licensed professional engineers. We have provided civil engineering services for residential, commercial, municipal, institutional, and utility projects. Our Staff is highly skilled in roadway design, utility design, stormwater management design, and erosion & sedimentation control design. **BH2M** routinely supports developers, contractors, institutions, and municipalities by providing construction documents, contract documents, technical specifications, bidding support, assistance with bid selection, RFI responses, shop drawing reviews, value engineering, construction inspections, and stormwater compliance inspections. Our ability to lead a project from conceptual planning through construction is highly valued by our clients.

Planning, Permitting, and Grant Applications

Most of our projects require municipal and environmental permitting. BH2M has a long history of managing regulatory constraints for municipal projects. Our Staff has a constant dialogue with regulators at the State and Federal Levels. Our environmental and municipal permitting expertise includes:

- Stormwater Management Law
- Site Location of Development (Site Law)
- Maine Construction General Permits (USACE)
- Natural Resource Protection Act (NRPA)
- Municipal Site Plan, Subdivision, and Conditional Use
- Traffic Movement, Driveway/Entrance, and Utility Location Permits

References

Jeff Demers
Public Works Director
City of Biddeford
(207) 282-1579
Jeff.Demers@Biddefordmaine.org

Craig Chekan, PE
City Engineer
City of Biddeford
(207) 571-0636
craig.chekan@biddefordmaine.org

Keith Trefethen
Town Manager
Town of Arundel
(207) 985-4201 x115
townmanager@arundelmaine.org

SECTION 2 – ABILITY TO PERFORM

Below is a list of Municipal projects that we have been contracted to do within the last five years:

- Pine Point Road Sidewalk (Town Scarborough) *
- Main Street Sewer Separation (City of Biddeford)
- Granite Point Road Stream Crossing Replacement (City of Biddeford) *
- Elm Street Separation (City of Biddeford) *
- Alfred Street Sewer Separation Phase 1 (City of Biddeford)
- Alfred Street Sewer Separation Phase 2 (City of Biddeford)
- Bog Road Athletic Field (Town of York)
- Brimstone Road Intersection Realignment (Town of Arundel)
- New Road Construction Inspections (Town of Arundel)
- Robie Park Improvements (Town of Gorham)
- Various Stream Crossing Replacement Grant Applications Through MEDEP and MEDOT for projects by Biddeford, Arundel, and Dayton

The dropbox link below has examples of plans and specs that we have performed for three separate projects. Jobs shown above with * are included in the link below.

https://www.dropbox.com/scl/fo/qv5vq0njleihkliif0g5o/AAbEKfeIPL2f-nf9_yFeuwA?rlkey=hkgkfvdp3vrrcjkq93bmqswco&st=cznmbarx&dl=0

We also understand that the Town is interested in exploring grant opportunities to fund the project. We would propose supporting the Town with the research into various opportunities and in aiding with the application process. We have successfully written grant applications for the communities of Dayton, Arundel, and Biddeford.

SECTION 3 – KEY PERSONNEL

Project Manager, Steve Blake, PE brings over 22 years of experience in civil design, permitting, stormwater management, survey management, and project management. Steve joined BH2M in 2014 and has led the successful design and construction of a variety of roadway, utility, site development, stormwater management, renewable energy, and complex surveying projects. In additional to his licensure as a Professional Engineer in Maine, Steve is also a Maine DOT Certified Local Project Administrator, is certified in Inspection and Maintenance of Stormwater BMP's by Maine DEP, is certified in Erosion Control Practices by Maine DEP and is a partner and Vice President of BH2M.

Senior Engineer, Chris MacDonald, PE brings over 22 years of experience in civil design, permitting, stormwater management, survey management, and project management. Chris joined BH2M in 2019 and has led the successful design and construction of a variety of roadway, utility, site development, stormwater management, renewable energy, and complex surveying projects. In additional to his licensure as a Professional Engineer in Maine, Chris is certified in Inspection and Maintenance of Stormwater BMP's by Maine DEP, is certified in Erosion Control Practices by Maine DEP and is a partner at BH2M.

Other members of BH2M who will support the Town include:

- James Lowery, PE – Senior Engineer
- Blanca Monsen, EI – Staff Engineer
- Tom Springer, EI – Staff Engineer

Refer to Appendix A for resumes for key personnel. We have also included a qualifications statement from Summit Geoenvironmental Services, should there be a need for geotechnical support.

SECTION 4 – PROJECT MANAGER

Our project manager will be Steve Blake, PE. Steve has managed multidisciplinary projects for a variety of project types and clients. Some of Steve's current Clients include:

- City of Biddeford
- Town of Arundel
- Town of York
- Lewiston-Auburn Railroad Company
- Walden Renewables
- Redington-Fairview General Hospital
- UGE

SECTION 5 – EXPERIENCE

Our technical expertise and recent project experience is outlined in Sections 1 and 2 above.

SECTION 6 – TECHINCAL APPROACH

We understand that the Town of Topsham is interested in retaining an engineer to design, permit, bid, and manage the construction for a sidewalk and road reconstruction project located on Tedford Road. We understand that the project will run the entire length of Tedford Road (5,000 feet +/-) and will include new sidewalk on one side, roadway reconstruction, and storm drainage.

Phase 1 – Design

Task 1.1 – Site Investigation and Due Diligence

- Attendance at a site walk and kick off meeting with Town Staff;
- Site walk to review existing conditions and review culvert locations, driveways, road conditions, utilities, mailboxes etc.
- Schedule and attend a utility location meeting;
- Schedule and attend a neighborhood meeting;
- Prepare a conceptual plan showing the suggested location of the sidewalk and storm drainage areas;
- Prepare a written summary and recommendations of the results of the site walk, utility location meeting, and neighborhood meeting.

Task 1.2 – Preliminary Design

- Meet with Town Staff to discuss results of Task 1.1;
- Prepare an overview site plan that illustrates due diligence and schematically lays out project improvements;
- Perform hydrologic and hydraulic modelling to determine location and sizing of storm drains;
- Preparation of a Preliminary Plan Set to be used for bidding which will include:
  - Existing Conditions Plan
  - Site Layout and Grading Plan
  - Plan and Profile
  - Cross Sections
  - Grading and Drainage Plan
  - Stormwater Management Plans
  - Erosion and Sediment Control Plan and Details
  - Standard Details
- Preparation of a Preliminary Engineer's Estimate of Probable Construction Costs.

Task 1.3 – Final Design

- Preparation of a Final Plan Set to be used for bidding which will include:
  - Existing Conditions Plan
  - Site Layout and Grading Plan
  - Plan and Profile
  - Cross Sections
  - Grading and Drainage Plan
  - Stormwater Management Plans
  - Erosion and Sediment Control Plan and Details
  - Standard Details
- Preparation of a Final Engineer's Estimate of Probable Construction Costs;
- Preparation of Contract Documents (project manual and technical specs).

Phase 2 – Permitting

Based on our experience with other similar projects, we do not anticipate that permitting with the MEDOT or MEDEP will be required. Tedford Road is a local road. We anticipate that the improvements will remain within the road right of way and wetland impacts will not be required. As such, permitting direct or adjacency resource impacts should not be required.

Phase 3 – Construction Bidding

- Issue bid documents to interested bidders;
- Advertise bids at plan houses and local newspaper;
- Attendance at a pre-bid meeting (if required);
- Prepare addenda as required;
- Attendance at a bid opening;
- Review submitted bids and prepare a bid summary sheet;
- Prepare a bid recommendation.

Phase 4 – Construction Administration and Oversight

We anticipate that our scope will include the following:

- Attendance at pre-construction kickoff meeting;
- Review of shop drawings;
- Review of Requests for Information (RFI's);
- Attendance at site visits;
- Provide general verification of Contractor's adherence to the plans, specifications, and permits;
- Preparation of As-Built plans.

We do not currently have any full-time inspectors available for the 2026 construction season and have not allotted for that scope in this proposal.

SECTION 7 – FEE SCHEDULE

For our current Schedule of Billing Rates refer to Appendix B.

SECTION 8 - PROJECT SCHEDULE

TABLE 1 – PROPOSED PROJECT SCHEDULE		
	Start	**End**
Phase 1 – Design	December 22, 2025	May 1, 2026
Task 1.1 – Site Investigation & Due Diligence	December 22, 2025	January 23, 2026
Task 1.2 – Preliminary Design	January 26, 2026	February 27, 2026
Task 1.3 – Final Design	March 2, 2026	May 1, 2026
Phase 2 – Permitting	NA	NA
Phase 3 – Construction Bidding	May 1, 2026	June 5, 2026
Phase 4 – Construction Admin and Oversight	June 22, 2026	September 11, 2026

SECTION 9 - PRICE

The following are our estimated fees for the scope of work outlined above.

TABLE 2 – SUMMARY OF FEES	
Phase 1 – Design*	$40,000
Phase 2 – Permitting	NA
Phase 3 – Construction Bidding	$6,000
Phase 4 – Construction Administration and Oversight**	$9,000
Total	**$55,000**

*Geotechnical services have not been included in our fee. For budgeting purposes, two days of borings and reporting would be approximately $10,000.

**We have assumed that this will require approximately 6 hours per week of an engineer's time ($125/hour) for the duration of construction (assume 12 weeks).

APPENDIX A
KEY STAFF RESUMES

STEVEN J. BLAKE, P.E.
Senior Engineer/Vice President

Recognized Senior Civil Engineer and Project Manager with over 22 years of experience in land development, infrastructure design, stormwater management, and Municipal/State/Federal permitting. Project experience includes numerous types of land development and conservation projects including healthcare, commercial, educational, residential, municipal, transportation, and grid scale utility.

Relevant Experience

Stream Crossing Replacement Projects (Multiple Locations): Managed the surveying, design, permitting, construction management, and successful grant applications for stream crossing replacement projects for the Town of Arundel, Town of Dayton, and City of Biddeford. All projects received grant funding through the State of Maine – Department of Environmental Protection – Grants for Stream Crossing Public Infrastructure Improvements. Projects were designed in accordance with the United States Army Corps of Engineers Maine General Permit and the State of Maine - Natural Resources Protection Act (NRPA) – Permit by Rule Standards.

Bog Road Athletic Complex (Town of York): Managed the surveying, design, permitting, and construction management of the Bog Road Athletic Complex expansion for the Town of York Parks and Recreation Department. The expansion included new construction of parking areas, stormwater management infrastructure, new multi-purpose field, bleachers, concession building, maintenance and storage building, and irrigation system. The project was permitted with the Maine Department of Environmental Protection (Stormwater Management Law Permit) and the Town of York. This project was also awarded grant funding through the State of Maine Land and Conservation Fund.

Alfred Road Reconstruction (Town of Kennebunk): Responsible for the design of this Locally Administered Project (PIN #017476.00) for the Town of Kennebunk. The project consisted of reconstruction of approximately 3,400 linear feet of Alfred Road in West Kennebunk. Design included new bike lanes, pedestrian sidewalks, on-street parking, and storm drainage. Reconstruction of the roadway included full depth reconstruction, pavement reclaiming, and cement treated base.

Lower Village Improvement Project (Town of Kennebunk): Project included approximately 1,000 linear feet of reconstruction of Western Ave (from Port Road to the Kennebunkport Town Line). Design included new pedestrian walkways, roadway reconstruction, pedestrian boardwalks, lighting, new storm drainage, and utility relocation.

Various Sewer Separation Projects (City of Biddeford): Managed the design, permitting, bidding, construction administration, and inspection for several sewer separation projects for the City. Projects include Main Street, Alfred Street, and Elm Street among others)

Renewable Energy Projects (Multiple Locations): Managed the surveying, permitting, site/civil design, and stormwater management design for a variety of renewable energy projects (wind, solar, and transmission) throughout the State of Maine. Responsible for managing survey staff through field work, boundary survey, existing conditions, and ALTA/NSPS survey tasks for multiple complex projects.

Education

B.S. Civil Engineering, 2001, University of New Hampshire – Durham, NH

Professional Licenses and Affiliations

Licensed Professional Engineer, Maine, P.E. #11695

CHRISTOPHER R. MacDONALD, P.E.
Senior Engineer

Civil Engineer and Project Manager with over 22 years of experience in land development, infrastructure design, municipal systems, solid waste, transportation, renewable energy, stormwater management, and Municipal/State/Federal permitting. Project experience includes numerous types of land development and conservation projects including, commercial, residential, municipal, transportation, and grid scale utility.

Relevant Experience

Massachusetts Department of Transportation, I-93/I-95 (Rt.128) Add-a-Lane Widening Project, Wellesley, Needham and Newton, MA. Project Engineer tasked with design of a highway expansion project. I-95 (Rt. 128) is a main arterial highway on the west side of Boston. The project consists of the addition of a north and southbound lane for an approximate 4-mile section of highway and complete reconfiguration of two heavily utilized exit ramps. The project also sought to improve traffic flow for the exits and intersecting roads to comply with the latest AASHTO guidelines.

Massachusetts Port Authority, Conley Terminal Dedicated Freight Corridor and Buffer Open Space, Boston, MA. Project Engineer tasked with design of a new access road to the terminal. This project was critical to facilitating the expansion of New England's largest full-service container port while mitigating impacts of the terminal operations on the adjacent neighborhoods of South Boston. The project consisted of three distinct, but interrelated, elements: Dedicated freight corridor; buffer open space; and Conley Terminal Expansion.

Worumbo Timber Crib Rehabilitation, Lisbon Falls, ME. Project Manager tasked with design, permitting, bid document preparation, and construction observation of a dam restoration project at the Worumbo Hydroelectric facility. The project consists of a two-unit hydroelectric powerhouse and an approximately 800-foot long timber crib and concrete spillway. The project involved designing a concrete spillway replacement for the majority of the dam, analyzing hydraulics and impacts to flood staging, and providing for fish passage.

Number 9 Wind Farm, Bridgewater, ME. Project Engineer tasked with development of preliminary road layout, tower layout, and grading for a wind farm in Northern Maine. The Number 9 Wind Farm, located west of Bridgewater, Maine, proposed to develop portions of a 65,000-acre parcel with wind turbines for power production. The development has been designed to create approximately 200 MW of power.

Saxon Partners Barra Road Apartments, Biddeford, ME: Project engineer tasked with development of design plans and permit applications for a 250 unit apartment building. This project involved a 5 acre development of an existing site with ledge outcroppings, wetland areas to create access, parking, and stormwater mitigation for the apartment building. The project required meeting Maine DEP SLODA requirements, and was successfully permitted for construction by Local, State and Federal agencies.

Maine Solar Development (Multiple Locations): Project engineer tasked with siting, design, permitting, survey coordination, and construction level support for a number of solar projects across Maine. These projects have ranged in the 1 mw to 20 mw range in various terrains and conditions. The projects are located throughout the state, presenting an opportunity to work with various local municipalities, state, and federal agencies in successful permitting and construction of dozens of projects.

Education
B.S. Civil Engineering, 2001, University of New Hampshire – Durham, NH

Professional Licenses and Affiliations
Licensed Professional Engineer, Maine, P.E. #11985

SUMMIT GEOENGINEERING SERVICES

Overview

Summit Geoengineering Services, Inc. (SGS) is a Maine-based consulting firm founded on providing clients with responsive and professional geotechnical consulting. Our consulting services are supported with our in-house subsurface exploration capabilities and soils laboratory testing. At SGS, our strength is providing our clients with highly qualified professionals who are committed to personally work with the client from the project start to finish. This personal commitment ensures our engineers obtain comprehensive project knowledge, permits straightforward communication, and demonstrates our commitment to making your project our top priority.

Personnel

Personnel	Position
William Peterlein, P.E.	President & Principal Engineer
Craig Coolidge, P.E.	Vice President & Principal Engineer
Kevin Farrar, P.L.S.	Senior CADD Technician/Licensed Surveyor
Lisa Turner, P.E., L.S.S.	Senior Engineer & Licensed Soil Scientist
Erika Stewart, P.E.	Senior Geotechnical Engineer
Colleen Sullivan, P.E.	Senior Geotechnical Engineer
Ellis Dixon, E.I.	Geotechnical Engineer
Shawn Floyd	Operations Drilling Manager
Austin Manzella	Driller's Assistant/Technician
Dylan Martz	Mechanic/Driller's Assistant
Judith Metzger	Office Manager

Services

- Geotechnical Investigations
- Geotechnical Consulting
- Subsurface Explorations
- Foundation Designs
- Slope Stability/Landslide Evaluations
- Sheeting and Shoring Excavation Designs
- Pier and Pile Designs
- Geotechnical and Foundation related Forensic Investigations
- Geotechnical Instrumentation
- Retaining Wall Design

SGS provides engineering consulting and exploration services in Maine and all of New England from our office location in Farmingdale, Maine and our exploration's shop headquarters in Washington, Maine.

Please visit us on the web at www.summitgeoeng.com

SUMMIT GEOENGINEERING EXPLORATION SERVICES

Summit Geoengineering Services (SGS) is a Maine based consulting firm offering in-house subsurface exploration services using an AMS PowerProbe© drill rigs to include:

- Seismic Cone Penetration Testing ($SCPT_u$)
- Conventional Auger, Direct Push, and Rotary Wash Test Borings
- SPT Sampling using Auto-Drop Hammer
- Soil Liner Dual Tube Sampling
- Thin Wall "Shelby Tube" Sampling
- N-Rock Core Sampling
- Field Vane Shear Testing
- PVC Groundwater Monitoring Well Installations

Our fleet currently includes four drill rigs and an excavator. SGS has two AMS 9500 VTR rigs that are remote-controlled rubber track mounted ATVs capable of remote site access. These rigs are compact yet powerful with versatility for conducting quality geotechnical and environmental explorations, including CPT. Our new AMS 9580 VTR is a powerhouse rig suited for all our drilling methodologies with enhanced capability for deeper borings or wells and bedrock coring. The AMS 9630 Pro-D is a trailer mounted rig for drive up access sites and roadways. Test pits can be performed with a Kubota KX040 excavator.

The PowerProbe© rigs are equipped with controlled push for $SCPT_u$ penetration testing. The Vertek VTK cone system includes a real-time data logging system with 5 ton and 10 ton $SCPT_u$ cones. $SCPT_u$ cones are equipped with tri-axial seismic modules to provide both S and P shear wave velocity testing. $SCPT_u$ is performed with a single or dual point anchor system pushed at a controlled speed of 2 cm/s with adjustable hydraulics and monitoring instrumentation capable of applying up to 17 tons of push force. Use of $SCPT_u$ provides continuous subsurface profiling.

For more information, please visit us on the web at **www.summitgeoeng.com**

Mailing: PO Box 515, Gardiner, ME 04345
Office: 210 Maine Avenue, Farmingdale, ME 04344
www.summitgeoeng.com

APPENDIX B
SCHEDULE OF BILLING RATES

SCHEDULE OF BILLING RATES

Effective January 1, 2025

Principal/Senior Project Manager	$175/Hour
Senior Engineer	$125-$150/Hour
Project Engineer	$80 - $105/Hour
Project Manager	$125 - $150/Hour
Survey Manager	$140/Hour
Project Surveyor	$100/Hour
Survey Technician	$75 - $95/Hour
Survey Field Crew (One Person with GPS)	$120/Hour
Survey Field Crew (Two Person)	$180/Hour
Autocad Technician	$80 - $135/Hour
Construction Inspector	$80 - $105/Hour
Administrative Staff	$75/Hour

SCHEDULE OF EXPENSES

Direct Expenses ..... Cost + 10%
(Application fees (if paid by BH2M), printing, postage, advertisements, subcontractors, etc.)

Materials ..... Cost + 10%
(Iron rebar, granite monuments, grade stakes, etc.)

Mileage $0.75/Mile

PROFESSIONAL SERVICES FEE SCHEDULE
Effective January 1, 2025

Engineering Services

Principal Engineer	$250/hr
Senior Geotechnical Engineer/Geologist	$200/hr
Senior Surveyor/CAD Designer	$175/hr
Geotechnical Engineer/Geologist	$150/hr
Engineering Technician	$125/hr
Administration	$75/hr

Laboratory Tests (per sample)

Grain Size w/#200 wash	ASTM D6913	$200
Grain Size w/hydrometer	ASTM D7928	$250
Atterberg Limit	ASTM D4318	$200
Standard Maximum Density	ASTM D698	$250
Modified Maximum Density	ASTM D1557	$250
Moisture Content	ASTM D2216	$25
Direct Shear (Per Load)	ASTM D3080	$250
One Dimensional Consolidation	ASTM D2435	$500
Unconfined Compressive Strength	ASTM D2166	$200
Thermal Conductivity by Probe	ASTM D5334	$200
pH & Redox of Soil by Meter	ASTM G51	$25
Laboratory Wenner Soil Resistivity	ASTM G57	$200
Tube Report (Unit Weight/Moisture/Torvane/Description)		$200

Rates for other laboratory tests quoted on a project specific basis

Reimbursable Expenses

Mileage	$0.85/mile
Per Diem	$250/night
Other Expenses	@ Cost plus 10%

EXPLORATION SERVICES FEE SCHEDULE

Effective January 1, 2025

Exploration Services

Test Pit Explorations	$1,500 day rate (8 hrs)
Test Boring Explorations	$3,000 day rate (8 hrs)
Cone Penetration Testing (CPTu)	$2,000 surcharge per day
Overtime Drilling/Hour Rate	$250 per hour
Mobilization Travel Time Roundtrip	$250 per hour *

* Travel time is based from 64 Augusta Road Washington, Maine

Common Materials

1-Inch Schedule 40 PVC Groundwater Well	$10/LF
2-Inch Schedule 40 PVC Groundwater Well	$15/LF
Road Box/Stand Pipe w/Lock	$50/box, $150/pipe
2.5 or 3-Inch Shelby Tube Sample	$50/Tube
1.5-Inch Diameter Soil Liner	$2/LF
2.5-Inch Diameter Soil Liner	$4/LF
Rock Core (N) Diamond Bit Wear	$25/LF

Reimbursable Expenses

Per Diem	$500/night
Out of State DOT Permits	@ Cost plus 10%
Other Expenses	@ Cost plus 10%

ASTM Standard Methods

Standard Penetration Test SPT (Auto-Hammer) ASTM D1586
Thin-Walled Tube Sampling (Shelby Tube) ASTM D1587
Rock Core Drilling and Sampling ASTM D2113
Field Vane Shear Test ASTM D2573
Groundwater Monitoring Wells ASTM D5092
Cone Penetration Testing CPTu ASTM D5778
Hollow Stem Auger Boring for Soil Exploration ASTM D6151
Direct Push for Soil Sampling ASTM D6282
Direct Push Groundwater Monitoring Wells ASTM D6724
Downhole Seismic Testing ASTM D7400