Section 8: Financial and Technical Capacity

8.0 Financial Capacity

The Cedars, a non-profit organization, will be utilizing three sources of funding for the project, that include fundraising, Cedars social impact bonds and bank financing. The Cedars is working with a fundraising consultant, Steve Braverman, to guide their capital campaign which they have set a goal to raise $10 million in donations and $10 million in social impact bonds. With the help of an investment banker, the Cedars will be negotiating with their current lender Bangor Savings Bank to borrow any additional necessary funds, anticipated to not exceed $10 - $12 million. It is anticipated that the fundraising and bank lending will be in place by April 2018.

8.1 Technical Capacity

The client has obtained the services of Wright-Pierce to complete the permitting and design of the proposed improvements. Wright-Pierce is a Maine-based company with an office in Portland. Key staff for the project includes:

Jan Wiegman, P.E.: Senior project manager with over 30 years of experience in civil engineering and related fields. Mr. Wiegman has extensive experience in civil/site design and permitting, parking lot design, stormwater treatment, stormwater conveyance, traffic circulation, and client management.

Michael Guethle, P.E.: Project engineer with over 5 years of experience in civil and environmental engineering. Mr. Guethle has previously drafted plans for several development projects within the City of Portland and is familiar with the City's permitting processes and technical standards.

Matt LaPierre: Civil Technician with over 10 years of experience in civil engineering and related fields. Mr. LaPierre's experience is primarily focused on preparing civil/site development plans and completing field work.

Other Consultants:

Action Pact Design Group: Action Pact Design Group has been retained as the project architect given their extensive experience with building design for the long term care market. Alex Toye from the Kansas City, MO, office is leading the design effort for the firm.

Power Engineers, Inc.: Power Engineers, Inc. is a national firm with an office in Freeport firm with specialty services in wetland delineation and permitting. Cole Peters has delineated the wetland on the site in 2016.

Titcomb Associates: Titcomb Associated has been retained to provide survey for the project. Titcomb Associates routinely partners with Wright-Pierce to provide boundary survey and existing conditions base mapping.

Traffic Solutions: Bill Bray is a traffic engineer with substantial experience in traffic management studies and circulation design. Mr. Bray has been retained to assist in the development of a traffic assessment for the project.

MATTHEW LAPIERRE

Civil Engineering Technician

PROJECT ASSIGNMENT: **Civil Engineering Technician**

Education

A.A.S., Computer Aided Drafting, Northern Maine Technical College

Experience

15 Years

Joined Firm

2009

EXPERIENCE SUMMARY

Mr. LaPierre is a civil engineering technician at Wright-Pierce in the Civil Practice Group. He has 15 years of experience as a civil engineering technician.

RELEVANT PROJECT EXPERIENCE

Provided AutoCAD drafting and/or inspection services for the following:

Walnut Hill Road Reconstruction, Bethel, CT
This work includes a redesign for an existing roadway and intersection with updated storm drainage and sewer systems.

Bates College 55 & 65 Campus Avenue Housing, Lewiston, ME
Project includes two new student housing areas and surrounding site design for Bates College.

Water Storage Tank, Bethel, CT
Work includes the addition of a new water supply storage tank along with surrounding site improvements.

Water Storage Tank, Gardiner, ME
This project includes the addition of a new water supply storage tank along with surrounding site improvements.

Contract #11 Sewer Separation, Lebanon, NH
Project includes street renovations with new pavement and new paved walks along with new storm drainage, sewer lines and water lines.

Contract #7 Sewer Separation, Lebanon, NH
This project includes street renovations with new pavement and new paved walks along with new storm drainage, sewer lines and water lines.

Contract #4 Sewer Separation, Lebanon, NH
Project includes street renovations with new pavement and new paved walks along with new storm drainage, sewer lines and water lines.

Sewer Separation, Richmond, ME
The job includes new sewer manholes and sewer lines.

Waterfront Revitalization, Richmond, ME
This work includes renovations to the existing waterfront with new bathrooms and lift station.

Bell Marsh Drainage, Kittery, ME
Project includes new toe drain.

Summit Street Renovations, Old Orchard Beach, ME
Project includes street renovations with new pavement and new paved walks along with new storm drainage and sewer lines.

Pleasant Street Neighborhood Renovations, Westbrook, ME
Project includes street renovations with new pavement and new paved walks along with new storm drainage and sewer lines.

Eastern Maine Medical Center Infrastructure Improvements, Bangor, ME
This job includes a number of site modifications for a future building addition. Included in the modifications are relocated utilities, new retaining walls, new driveways and main entry drive.

Maine Natural Gas Service Mains, ME
Project includes the local build-out of natural gas services and mains to Freeport, Bath and Augusta, ME.

Nestle Waters North America Projects, ME
Project includes numerous upgrades and additions to existing water extraction sites in Maine.

Anaerobic Digester, Brunswick Landing, Brunswick, ME
For Village Green, project includes an entire site design for an anaerobic digester, waste to energy plant.

Southside Drainage Project, Weston, MA
Project includes new storm water infrastructure, along with a new paved roadway on Pond Brook Circle.

Northern Avenue Roadway Reconstruction and Storm Drain System Replacement, Farmingdale, ME
Project includes street renovations with new pavement and new paved walks along with new storm drainage and sewer lines.

Lebanon Sewer Interceptor, Lebanon, NH
Project includes replacement of a damaged sewer interceptor.

Wastewater Treatment Facility Upgrades, Farmington, NH
Project includes a new building addition along with new rapid infiltration basins.

Sewer Improvements, Rockland ME
Project includes sewer separation with new storm and sewer lines.

High Street Rehabilitation, Bath, ME
Project includes milling and repaving of High Street with additional sewer line improvements.

North Street Rehabilitation, Bath, ME
Project includes milling and repaving of North Street with additional sewer and drain line improvements.

Capen Road Bridge Culvert Replacement, Gardiner, ME
Project includes the replacement of a corrugated metal culvert with a concrete box culvert along with road improvements.

Megantic Fish & Game Corporation, Dam Rehabilitation Projects, Franklin County, ME
Project includes reconstruction of dams and fish pathways.

Rainbow Lake Dam Rehabilitation, Rainbow Township (T2 R11 WELS), ME
Project includes the rehabilitation and replacement of an existing dam.

Nequasset Fishway, Woolwich, ME
Project includes a replacement and reconstructed fishway.

Surry Fishpass, Surry, ME
Project includes new stone weirs with fish passes.

Fishway Rehabilitation, Barnstable, MA
Project includes replacing and rehabilitating an existing fishway.

Coastal Maine Botanical Garden, Boothbay, ME
Project includes expansion of the existing botanical garden and upgrades.

Merrymeeting Trail, Bowdoinham, ME
Project includes constructing a new bike path.

Former Naval Air Base Redevlopment, Brunswick, ME
For Midcoast Regional Redevelopment Authority, project includes demolition of existing buildings and parking areas to create new parking areas.

Red Mill Lane Culvert Rehabilitation, Rye, NH
Project includes demolition of existing culverts and being replaced with precast concrete structures.

Lubberland Creek Culvert Rehabilitation, Newmarket, NH
Project includes demolition of an existing culvert and replacing it with a precast concrete structure.

Drainage Improvements, Cranston, RI
Project includes replacing existing storm drain lines, and milling and repaving several streets.

Drainage Improvements, Fall River, MA
Project includes replacing existing storm drain lines and rehabbing drainage ways.

Greendale Avenue Drain Relief, Needham, MA
Project includes replacing storm, sewer and water lines. Milling and paving of Greendale Avenue.

Gazo Outfall, Burlington, VT
Project includes replacing a storm drain outfall and repairing embankment erosion.

Hampshire Road Culvert Replacement, Brownfield, ME
Project includes removing existing corrugated metal culvert and replacing with a steel multi-plate arch culvert, and restoring the existing stream and banking.

Londonderry Plaza 28 Pump Station, Londonderry, NH
Project includes removing the existing pump station with a new pump station.

West Side Pier Rehabilitation, Wells, ME
Project includes removing and replacing pier decking and rails.

Route 1 Shared Use Path, Kittery, ME
Project includes new construction of a bike/pedestrian path along Route 1.

Whipple Road Sidewalks, Kittery, ME
Project includes the replacing and enhancing the Whipple Road sidewalks.

Acadia Harvest Inc, Aquaculture Facility, Gouldsboro, ME
Project includes the site layout and coordination for a new aquaculture facility**.**

Damariscotta Mills Fish Ladder – Access Improvements and Shoreline Stabilization, Nobleboro, ME
Project includes improvements to retaining walls and stabilization the shoreline with riprap.

Egypt Road Culvert Replacement, Damariscotta, ME
Project includes removing the existing corrugated metal culvert and replacing with a large capacity culvert, and restoring the existing stream and banking

NWNA Kingfield Bottling Line Expansion, Kingfield, ME
Project includes site improvements for a small building addition.

The Cedars Longterm Care Facility, Portland, ME
The project includes site layout for a new building**.**

Bath, ME Waterfront
The project includes replacing existing and adding new waterfront sidewalks.

Frankfort Me Fishway/Dam study
The project studies the options for dam removal and fishway construction.

Travis Mills Foundation, Rome, ME
The project includes site layout and landscaping for the Travis Mills House.

Van Buren High Street Extension, Van Buren, ME
Project includes street renovations with new pavement along with new storm drainage and sewer lines.

JAN B. S. WIEGMAN, PE

Project Manger

PROJECT ASSIGNMENT: **Project Manager**

Education
M.S., Civil Engineering Rice University

B.S. Civil Engineering University of New Hampshire

Professional Registration
Maine

Experience
34 Years

Joined Firm
2011

Professional Certification
MaineDOT Local Project Administrator

Professional Affiliations
American Society of Civil Engineers

EXPERIENCE SUMMARY

Mr. Wiegman has over 34 years of engineering design, permitting and project management experience on a wide variety of civil, structural and transportation projects. Most recently, he has been managing several large-scale site development and transportation related projects and giving technical guidance on a wide variety of projects including the redevelopment of the Brunswick Naval Air Station for the Midcoast Regional Redevelopment Authority (MRRA).

RELEVANT PROJECT EXPERIENCE

Site Development/Permitting

- Long Term Care Facility, The Cedars, Portland, ME
- Wayfair Parking Lot Construction, Brunswick Landing, Brunswick, ME
- Acadia Harvest Inc. Aquaculture Facility, Gouldsboro, ME
- CLC YMCA Expansion Project Site Planning, Damariscotta, ME
- Bear Self Storage, Site Plan, Auburn, ME
- Commerce Way Industrial Subdivision, Brunswick Landing, Brunswick, ME
- Coastal Maine Botanical Gardens, Expansion, Boothbay, ME
- New England Tent and Awning Drying Facility, Brunswick, ME
- Pelican Street Parking Lot Reconstruction, Brunswick Landing, Brunswick, ME
- Burbank Street Parking Lot Reconstruction, Brunswick Landing, Brunswick, ME
- Subdivision Permitting Brunswick Landing, Brunswick, ME
- Residence Halls Project, Bates College, Lewiston, ME
- Greater Androscoggin Humane Society Site Plan, Lewiston, ME
- Wetlands Permitting South Oakfield Road Improvements, Oakfield, ME
- Topsham Commerce Park Subdivision, Topsham, ME
- Wetland Permitting Centerline Brook Crossing, Oakfield, ME
- Anaerobic Digester – Brunswick Landing, Brunswick, ME
- Boathouse Land Use Study, Bates College, Greene, ME
- Brunswick Landing Subdivision, Brunswick, ME
- The Lofts at No. 4 Mill, Sanford, ME

Stormwater

- Phosphorous Treatment Plan Coastal Maine Botanical Gardens, Boothbay, ME
- Willow Street Drainage Study, Bath, ME
- Stormwater Management Plan – Cobalt Court Subdivision, Windham, ME
- Stormwater Management Plan – Lilac Lane Subdivision, Gorham, ME

- Stormwater Management Plan – Laura Lane Subdivision, Gorham, ME
- Storm Drain Improvement, Pepperell Road, Kittery, ME
- Stormwater Management Plan - CLC YMCA, Damariscotta, ME
- Water Quality Treatment Unit O&M Manual, Lebanon, NH
- Stormwater Plan – Bangor Concert Venue, Bangor, ME
- Culvert Analysis - Back Narrows Road, Boothbay, ME
- Phosphorous Treatment Plan - The Lofts at No. 4 Mill, Sanford, ME
- Stormwater Infiltration Plan - Sanford Gateway Center, Sanford, ME*
- Stormwater Treatment Plan - Scarborough Gallery, Scarborough, ME*
- Stormwater Treatment Plan - Nappi Distributors, Gorham, ME*
- Stormwater Infiltration Plan - New Balance Factory Outlet, Oxford, ME*
- Stormwater Pollution Prevention Plan (SWPPP) Soil Erosion and Water Pollution Control Plans, Various Locations, ME*

Transportation

- Tufts Pond Road Reconstruction Plan, Kingfield, ME
- Admiral Fitch Avenue Lane Reconfiguration, Brunswick, ME
- Route 1 Construction Detour, Woodland Mill, Baileyville, ME
- North Street Rehabilitation, Phase 2, Bath, ME
- North Street Drainage Improvements, Bath, ME
- North Street Rehabilitation, Phase 1, Bath, ME
- Hutchins Street Reconstruction, Berlin, NH
- South Oakfield Road Improvements and Permitting, Oakfield, ME
- Roadway Reconstruction, Fitchburg, MA
- High Street Rehabilitation, Bath, ME
- Hillside Street Reconstruction, Yarmouth, ME
- Walnut Hill Road at Hoyt Road, Intersection Improvements, Bethel, CT
- Roadway Reconstruction, Hartford, CT
- Elm Street Sidewalk, Newport, ME
- Main Street Sidewalk and Street Lighting, Biddeford, ME
- South Oakfield Road Improvements Review, Oakfield, ME
- Old Alfred Road Sidewalk, Waterboro, ME
- Route 25 and 35 Sidewalks, Standish, ME
- Route 1 Weigh Station Improvements, Kittery, ME
- US Route 1/Lewis Road Intersection Improvements, Kittery, ME

Building Improvements and Funding Approvals

- Hangar 4 Building Improvements, Brunswick Landing, Brunswick, ME
- Building Demolition Contract #2 Brunswick Landing, Brunswick, ME
- Metering and Life Safety Improvements - Brunswick Landing, Brunswick, ME
- Paint Booth Project, Kestrel Aviation, Brunswick, ME
- TechPlace Building Improvements - Brunswick Landing, Brunswick, ME
- Building Demolition Contract #1- Brunswick Landing, Brunswick, ME

Sewer

- Engineered Septic System, Coastal Maine Botanical Gardens, Boothbay, ME
- Sewer Improvement Contract #2, Brunswick Landing, Brunswick, ME
- Sewer Outfall Review, Old Town, ME
- Inflow/Infiltration Removal Contract 1- Brunswick Landing, Brunswick, ME
- Sewer System Evaluation - Brunswick Landing, Brunswick, ME

MICHAEL A. GUETHLE, PE

Project Engineer

PROJECT ASSIGNMENT: **Project Engineer**

Education
B.S., Environmental Engineering and Civil Engineering, Clarkson University

Professional Registration
Maine

Experience
5 Years

Joined Firm
2015

Professional Affiliations
Maine Water Environment Association (MEWEA)

New England Water Environment Association (NEWEA)

Professional Certifications
MaineDOT Local Project Administration (LAP/LPA)

OSHA 10-Hour Safety

ACI Concrete Field Testing Technician – Grade 1

EXPERIENCE SUMMARY

Mr. Guethle is project engineer within the Civil and Infrastructure Engineering Practice Group at Wright-Pierce. His background is largely based in stormwater treatment design and maintenance, conveyance utilities, site development, dam design, and construction administration projects, ranging from small residential projects to the largest multi-modal transportation expansions in Maine. His diverse background creates a unique understanding of applicable design and construction knowledge, including experience with design tools such as AutoCAD, ArcGIS, HEC-RAS, and HydroCAD as well as construction tools such as a sub-centimeter GPS systems and contract management software. Below is a partial list of relevant projects throughout Maine and New York that he has been involved with throughout his career.

RELEVANT PROJECT EXPERIENCE

Site Development – Including Stormwater Treatment

Lyseth Lyman-Moore School Site Design, Portland, ME
Designing improvements to traffic circulation, parking, athletic fields layout, walking paths, and stormwater treatment at a combined elementary school and middle school campus. Project includes significant coordination with client and regulatory agencies. Project incorporates use of AutoCAD programs, HydroCAD design for stormwater BMPs, and additional design concerns from being within the watershed of an urban impaired stream.

Elm Street Sidewalk Construction, Damariscotta, ME
Designing grading, permitting, stormwater design, and parking layout for approx. 1,500 linear feet of new sidewalk within the Elm Street corridor, connecting an existing sidewalk from a residential neighborhood to the more urban downtown area.

Hagar Enterprises, Inc. Laydown Facility Expansion, Damariscotta, ME
Completing site design, stormwater treatment, and Site Law of Development Act (SLODA) permitting for the expansion of a laydown facility for Hagar Enterprises, Inc. in Damariscotta. This includes expanding a 2.6-acre facility to a 5.6-acre facility, expanding the existing stormwater treatment, evaluating stormwater treatment options, HydroCAD modeling, and coordinating with regulatory agencies as well as the contractor.

Inn Along the Way Site Development, Damariscotta, ME
Completing design and permitting for the redevelopment of an existing farm to an assisted living facility in Damariscotta. The work includes development of a MaineDEP stormwater permit, associated design of stormwater BMPs, and the design of roadways, parking facilities, and walking paths to meet permit requirements. Project also includes coordination with the contractor, client, and regulatory agencies.

Maine Wild Blueberry Expansion, Machias, ME
Development of a SLODA permit for the expansion of a blueberry processing facility to 5.7-acres of impervious area in Machias, Maine. The project includes development of the permit, associated design of stormwater BMPs, and the design of roadways and circulation to meet permit requirements while meeting unique client needs and expectations.

Whipple Road Sidewalk Design, Kittery, ME
Design of approximately 2,500 LF of sidewalk in a narrow right-of-way along Whipple Road. Project is a Locally Administered Project by the MaineDOT, and as such requires a significant amount of coordination between MaineDOT, the town, regulatory agencies, and project partners. Work for the project includes incorporation of utility pole relocations, development of sidewalk layout, environmental permitting and associated site drainage improvements.

Coastal Bluff Erosion Evaluation, Falmouth, ME
Design of multiple locations of eroding coastal bluff in developed residential neighborhoods in Falmouth. Project includes development of plans in AutoCAD and evaluation of multiple methods of slope stabilization to determine the preferred method of erosion mitigation.

Coastal Maine Botanical Gardens Expansion, Boothbay, ME
Designing grading, permitting, stormwater BMP design, and site layout design of the parking, roadway, landscaped, hardscaped, and building facilities for the multi-phase expansion of the Coastal Maine Botanical Gardens.

Munjoy Heights, Portland, ME*
Civil/site engineering design of a 6-building, 29-unit development on steep slopes of Munjoy Hill in the city. This includes, but is not limited to, the layout and design of sanitary sewers, storm drains, water mains, site driveway, retaining wall locations, building locations, and building drainage structures to be in accordance with the City of Portland technical standards.

89 Anderson Street Redevelopment, Portland, ME*
The project includes the civil/site engineering design of a single-building, 53-unit redevelopment of an existing underutilized lot in the East Bayside neighborhood in the city of Portland.

Knights Pond Improvements, Cumberland, ME*
Designing and permitting the layout, erosion control and potential impacts for the lowering of a dam with multiple subcontractors and interest groups. Project responsibilities included development of necessary permitting, development of plans and details in AutoCAD, and development of a project summary report.

Eagle Road Stormwater Improvements, Acton, ME*
The project included retrofit design of stormwater improvements for 1,200-LF of existing gravel roadway. Project responsibilities included assessing and obtaining information on existing conditions, creating a base plan with ArcGIS v.10 layers,

and development of plans in AutoCAD 2013 and Civil 3D 2013, as well as field visits.

Blue Heron Lane NRPA Permitting, Kennebunkport, ME*
Designed roadway and utility access to a residential development, while minimizing wetland impact and providing NRPA permitting for wetland impacts in municipal shoreland zoning locations. Project responsibilities included development of necessary permitting, development of plans and details in AutoCAD 2013, and development of a project summary report.

Wastewater Treatment Facility Upgrade, Monticello, NY*
Site layout, permitting, stormwater design, and erosion and sediment control design for the expansion of a wastewater facility.

Dam Engineering

Kotler Family/Indian Pond Dam Reconstruction, Greenwood, ME
Design and permitting for the reconstruction of a privately owned dam. Project responsibilities included development of NRPA permits, Army Corps of Engineers permits, dam design, and construction oversight and administration. Additional coordination with regulatory agencies and the client was required due to the additional need for permit extensions due to a delay in construction materials.

Kennebunk Light & Power District Dam Study, Kennebunk, ME
Compiled a cost analysis for multiple alternatives to manage 3 existing dams in accordance with regulations an upcoming re-licensing with FERC deadline. Project consisted of redevelopment of a report, coordination with the client, understanding concerns from special interest groups and abutters, and development of a 40-year cost analysis for each option.

Ladd Dam Fishway, Vassalboro, ME
Completion of a HydroCAD and HecRAS Analysis to design and model a Denil fish passage system around Ladd Dam in North Vassalboro. Responsibilities included hydraulic modeling, development of a design, and coordination with the client.

On-Site Construction Administration – Including Stormwater Treatment and Erosion and Sediment Control

Former FPL Parcel Reconstruction, Biddeford, ME
Site observation for the redevelopment of an underutilized lot owned by the city into a public park. Observation tasks included construction of gravel subgrade, granite block steps, fencing and railing, concrete, pavement, and landscaping.

International Marine Terminal, Portland, ME*
Class III chief inspector for the $8.6 million IMT rail corridor and existing laydown yard expansion. Work includes 5,000 ft. of new track, 18-acre container storage area, 2,600 CY of concrete loading slab, 1,650 ft. of Commercial Street roadway improvements and replacement of the fender system. Class III chief inspector services included the inspection, measurement, and documentation of all work

performed by the contractor and their subcontracts to document compliance with the project plans & specifications as well as Maine DOT standard details and specifications, and other appurtenant standards.

Rangeley Branch Rail Restoration, Auburn & Poland, ME*
Construction inspector for the $2.2 million restoration of 9,000 linear feet of railroad and track construction. Work includes earthwork activities, site layout, stream relocation and restoration, planting, and track construction. Class II inspector services included the inspection, measurement, and documentation of all work performed by the contractor and their subcontracts to document compliance with the project plans and specifications as well as Maine DOT standard details and specifications, and MaineDOT Rail Maintenance Standards Handbook and AREMA.

Eldredge Lumber and Hardware Intermodal Site Redevelopment, Portland, ME*
The project included construction oversight of $800,000 redevelopment of approximately 7.5 acres of existing lumberyard. Work includes significant stormwater infrastructure retrofits and intermodal improvements to facilitate the future transfer of building products from rail for statewide distribution.

Cottage Brook Subdivision, Cape Elizabeth, ME*
2,500-LF of new roadway for a development in Cape Elizabeth. Work included project oversight for civil aspects of project, including but not limited to paving, drainage infrastructure, sewer, road and retaining wall construction, as well as erosion and sediment control inspection.

Stormwater Management and Treatment

Library Park Study, Bath, ME
HydroCAD analysis and report of 2-acre parcel surrounding public monuments and artwork.

MDOT Stormwater Operation and Maintenance Plan, Statewide, ME*
Reviewed the inspection of MaineDOT's stormwater BMPs throughout the state, determining the precise location, as well as the functioning condition and maintenance needs of each BMP. The final deliverables include ArcGIS v.10-generated site specific site plans, an inspection log to record functional information for each BMP at each location, and the operation and maintenance matrix that will offer user-friendly maintenance guidance for each type of BMP.

MDOT Stormwater BMP Specification Development, Statewide, ME*
Development of new bioretention cell and underdrained trench details and specifications for the MaineDOT, as the MaineDOT does not currently have specifications for these BMPs.

Cushing Island Stormwater Improvements, Portland, ME*
The project included design of two stormwater culverts, culvert inlet and outlet protection, and an appurtenant swale based upon considerations observed from previously collected field data. Project responsibilities included development of a

HydroCAD analysis, development of plans and details in AutoCAD 2013, and development of a project summary report.

Sewer Separation and Sanitary Sewer Design

FEMA-Sewer Repair, Bethlehem, NY*
Surveyed approximately 115 sections of trunk sewer and appurtenant manhole structures in order to find sources of inflow and infiltration from hurricane damage. Permitted and designed immediate repairs that were found, and provided a report to our client indicating potential locations of future I/I from hurricane damage.

DASNY Sewer Expansion, Bethlehem, NY*
Development of permitting, plans and specification to reroute approx. 3,000 LF of sewer forcemain and approx. 10,000 LF of gravity sewer to relieve an existing pump station of anticipated future flows from a proposed development district.

MICHAEL A. GUETHLE, PE

Project Engineer

PROJECT ASSIGNMENT: **Project Engineer**

Education
B.S., Environmental Engineering and Civil Engineering, Clarkson University

Professional Registration
Maine

Experience
5 Years

Joined Firm
2015

Professional Affiliations
Maine Water Environment Association (MEWEA)

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OSHA 10-Hour Safety

ACI Concrete Field Testing Technician – Grade 1

EXPERIENCE SUMMARY

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Coastal Bluff Erosion Evaluation, Falmouth, ME
Design of multiple locations of eroding coastal bluff in developed residential neighborhoods in Falmouth. Project includes development of plans in AutoCAD and evaluation of multiple methods of slope stabilization to determine the preferred method of erosion mitigation.

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Designing grading, permitting, stormwater BMP design, and site layout design of the parking, roadway, landscaped, hardscaped, and building facilities for the multi-phase expansion of the Coastal Maine Botanical Gardens.

Munjoy Heights, Portland, ME*
Civil/site engineering design of a 6-building, 29-unit development on steep slopes of Munjoy Hill in the city. This includes, but is not limited to, the layout and design of sanitary sewers, storm drains, water mains, site driveway, retaining wall locations, building locations, and building drainage structures to be in accordance with the City of Portland technical standards.

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The project included retrofit design of stormwater improvements for 1,200-LF of existing gravel roadway. Project responsibilities included assessing and obtaining information on existing conditions, creating a base plan with ArcGIS v.10 layers, and development of plans in AutoCAD 2013 and Civil 3D 2013, as well as field visits.

Blue Heron Lane NRPA Permitting, Kennebunkport, ME*
Designed roadway and utility access to a residential development, while minimizing wetland impact and providing NRPA permitting for wetland impacts in municipal shoreland zoning locations. Project responsibilities included development of necessary permitting, development of plans and details in AutoCAD 2013, and development of a project summary report.

Wastewater Treatment Facility Upgrade, Monticello, NY*
Site layout, permitting, stormwater design, and erosion and sediment control design for the expansion of a wastewater facility.

Dam Engineering

Kotler Family/Indian Pond Dam Reconstruction, Greenwood, ME
Design and permitting for the reconstruction of a privately owned dam. Project responsibilities included development of NRPA permits, Army Corps of Engineers permits, dam design, and construction oversight and administration. Additional coordination with regulatory agencies and the client was required due to the additional need for permit extensions due to a delay in construction materials.

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Compiled a cost analysis for multiple alternatives to manage 3 existing dams in accordance with regulations an upcoming re-licensing with FERC deadline. Project consisted of redevelopment of a report, coordination with the client, understanding concerns from special interest groups and abutters, and development of a 40-year cost analysis for each option.

Ladd Dam Fishway, Vassalboro, ME
Completion of a HydroCAD and HecRAS Analysis to design and model a Denil fish passage system around Ladd Dam in North Vassalboro. Responsibilities included hydraulic modeling, development of a design, and coordination with the client.

On-Site Construction Administration – Including Stormwater Treatment and Erosion and Sediment Control

Former FPL Parcel Reconstruction, Biddeford, ME
Site observation for the redevelopment of an underutilized lot owned by the city into a public park. Observation tasks included construction of gravel subgrade, granite block steps, fencing and railing, concrete, pavement, and landscaping.

International Marine Terminal, Portland, ME*
Class III chief inspector for the $8.6 million IMT rail corridor and existing laydown yard expansion. Work includes 5,000 ft. of new track, 18-acre container storage area, 2,600 CY of concrete loading slab, 1,650 ft. of Commercial Street roadway improvements and replacement of the fender system. Class III chief inspector services included the inspection, measurement, and documentation of all work performed by the contractor and their subcontracts to document compliance with

the project plans & specifications as well as Maine DOT standard details and specifications, and other appurtenant standards.

Rangeley Branch Rail Restoration, Auburn & Poland, ME*
Construction inspector for the $2.2 million restoration of 9,000 linear feet of railroad and track construction. Work includes earthwork activities, site layout, stream relocation and restoration, planting, and track construction. Class II inspector services included the inspection, measurement, and documentation of all work performed by the contractor and their subcontracts to document compliance with the project plans and specifications as well as Maine DOT standard details and specifications, and MaineDOT Rail Maintenance Standards Handbook and AREMA.

Eldredge Lumber and Hardware Intermodal Site Redevelopment, Portland, ME*
The project included construction oversight of $800,000 redevelopment of approximately 7.5 acres of existing lumberyard. Work includes significant stormwater infrastructure retrofits and intermodal improvements to facilitate the future transfer of building products from rail for statewide distribution.

Cottage Brook Subdivision, Cape Elizabeth, ME*
2,500-LF of new roadway for a development in Cape Elizabeth. Work included project oversight for civil aspects of project, including but not limited to paving, drainage infrastructure, sewer, road and retaining wall construction, as well as erosion and sediment control inspection.

Stormwater Management and Treatment

Library Park Study, Bath, ME
HydroCAD analysis and report of 2-acre parcel surrounding public monuments and artwork.

MDOT Stormwater Operation and Maintenance Plan, Statewide, ME*
Reviewed the inspection of MaineDOT's stormwater BMPs throughout the state, determining the precise location, as well as the functioning condition and maintenance needs of each BMP. The final deliverables include ArcGIS v.10-generated site specific site plans, an inspection log to record functional information for each BMP at each location, and the operation and maintenance matrix that will offer user-friendly maintenance guidance for each type of BMP.

MDOT Stormwater BMP Specification Development, Statewide, ME*
Development of new bioretention cell and underdrained trench details and specifications for the MaineDOT, as the MaineDOT does not currently have specifications for these BMPs.

Cushing Island Stormwater Improvements, Portland, ME*
The project included design of two stormwater culverts, culvert inlet and outlet protection, and an appurtenant swale based upon considerations observed from previously collected field data. Project responsibilities included development of a HydroCAD analysis, development of plans and details in AutoCAD 2013, and development of a project summary report.

Sewer Separation and Sanitary Sewer Design

FEMA-Sewer Repair, Bethlehem, NY*
Surveyed approximately 115 sections of trunk sewer and appurtenant manhole structures in order to find sources of inflow and infiltration from hurricane damage. Permitted and designed immediate repairs that were found, and provided a report to our client indicating potential locations of future I/I from hurricane damage.

DASNY Sewer Expansion, Bethlehem, NY*
Development of permitting, plans and specification to reroute approx. 3,000 LF of sewer forcemain and approx. 10,000 LF of gravity sewer to relieve an existing pump station of anticipated future flows from a proposed development district.