



Scope of Qualifications

Consulting Services – Fletcher Landing Improvements

Prepared for

City of Bainbridge Island Bainbridge, WA

Submitted by

AECOM Technical Services

7-9-2014

July 9, 2014

Mr. Mark Epstein
Capital Projects Coordinator
City of Bainbridge Island
280 Madison Avenue North
Bainbridge Island, WA 98110

Dear Mr. Epstein,

Request for Qualifications: Consulting Services for Fletcher Landing Improvements

Gary Maynard, Senior Associate and colleague at AECOM, discussed your request for qualifications with the coastal group and it is definitely of interest to us, and we are pleased to submit this response to your request.

The enclosed qualifications information describes our team and engineering background for this project. William Gerken, our project manager, is the contact for this submittal.

William Gerken, PE – Senior Project Manager – william.gerken@aecom.com
Tel 206.403.4266 | Fax 206.623.3793 | Cell 206.491.6350

Mr. Gerken has 23 years experience specializing in coastal and marine design and construction, including project management, planning, permitting, cost estimating, coastal processes and design.

To assist Bill in this project, he has selected a highly experienced team that includes Jeremy Mull, PE and Kerri Bridges, PE as Project Engineers. Both engineers are currently working in similar roles on projects that Bill is managing. They have an excellent understanding of shoreline projects and a strong work ethic, which enhances project value for you.

AECOM has over 30 years of comprehensive experience in the design and rehabilitation of coastal protective structures including breakwaters, jetties, seawalls, revetments, submerged barriers, and some of the newer techniques of protection using soil bioengineering and “green” beach technology. The design of shoreline protection requires a strong understanding of the project site winds and waves, tides, and sediment transport mechanisms. AECOM’s coastal engineering staff possesses extensive experience in research, design, and construction management for the development of coastal protection and restoration projects.

Our qualifications statements and project team will be fully available as offered for 45 days following the submittal of this document. On behalf of the AECOM team, thank you for your consideration.

Best Regards,



Allen Bennett
Senior Manager
Authorized Signatory
AECOM Technical Services, Inc.



William Gerken, PE
Project Manager
AECOM Technical Services, Inc

Section 2

Team

Background

AECOM is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water, and government. With approximately 45,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and technical excellence in delivering solutions that create, enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in approximately 150 countries. More information on AECOM and its services can be accessed at www.aecom.com.

Top 100 Pure Design Firm

We are proud to be recognized in *Engineering News-Record's (ENR)* 2013 top 500 Design Firms rankings where AECOM maintained its robust position, ranking No. 1 in the top 100 Pure Design Firms for the fifth consecutive year.

Also in 2014, AECOM was named one of the world's most ethical companies by Ethisphere for the fourth straight year.



Local Capability

AECOM's project manager, William Gerken, will lead, manage, and coordinate the work from our Seattle office, located within a ferry ride to the Fletcher Landing project site. AECOM has over 80 professionals in our Seattle office, as well as more than 3,000 additional staff members along the west coast. Jeremy Mull, PE, recently transferred from the AECOM San Francisco office and brings beach erosion and sea level rise expertise to this project. Kerri Bridges, PE brings to this project, expertise in waterfront small structures and shoreline design.

Team Introduction

We have assembled a team of individuals with the right combination of knowledge, experience, skill, and problem-solving ability to meet the City of Bainbridge Island's needs. Brief bios for the AECOM team members follow along with one-page resumes. Full resumes are available and will be forwarded upon request.

William Gerken, PE – Project Manager

Experience: 23 years	Mr. Gerken will be the Project Manager for the project.
Location: Seattle, WA	Mr. Gerken is a coastal/civil engineer with 23 years
Education: BS, Ocean Engineering	experience specializing in coastal and marine design and construction, including project management, planning, permitting, coastal processes and design, dredging, facility design, cost estimating, and site and fabrication inspection.
Registrations: PE, WA #34802	Bill's experience, gained as both a contractor and consultant, has given him a unique understanding of marine and coastal conditions, along with the experience of interacting with clients, government agencies, and the public planning process. Bill has spent extensive time working in the field throughout the coastal United States including Alaska. His field work experience covers a variety of activities, including bathymetric and topographic survey, dredging, project planning and supervision, geotechnical sampling and investigation, and construction management. Bill will be the primary contact with the Capital Projects Coordinator.

Kerri Bridges, PE – Project Engineer

Experience: 9 years	Ms. Bridges has 9 years of national and international
Location: Seattle, WA	experience in coastal and structural engineering for port and coastal engineering projects. Kerri's professional career began in South Africa where she worked as a civil/coastal engineer on the Durban Harbor Entrance Widening and Deepening project and other projects in Southern Africa. More recently, she has been supporting bridge construction on the North Slope of Alaska and doing numerical modeling and design for coastal projects in the U.S. and Russia. Kerri has been a coastal engineer for numerous coastal shoreline projects in Washington involving beach design for recreation and kayak launching, revetments and low profile rock breakwaters.
Education: MS, Coastal & Ocean Engineering BS, Civil Engineering	
Registrations: PE, WA #51059	

Jeremy Mull, PE – Project Engineer

Experience: 3.5 years	Mr. Mull has 3.5 years of consulting experience and a diverse background in coastal engineering, physical oceanography, and coastal geomorphology. At AECOM, he has participated in a variety of projects focused on coastal vulnerability to flooding, erosion, long-term shoreline change, and sea level rise. His technical work has included statistical analysis of wave and water level data, modeling of storm-induced dune erosion and structure overtopping, coastal flood mapping, and terrain modeling. He also has experience in the design of offshore breakwaters and flood protection levees.
Location: Seattle, WA	
Education: MS, Coastal & Ocean Engineering MS, Oceanography BS, Environmental Studies	
Registrations: PE, CA #C82163	

Section 3

Similar Projects

AECOM Direct Experience

Table 1. Team Relevant Project Experience

Project Information	Project Summary
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Duwamish River CERCLA Site Shore Protection	
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Terminal 117 is part of the Lower Duwamish River Superfund Site in Seattle, Washington. In early 2011, two stretches of riverbank were found to be at a point of incipient failure due to saturation over-steepening. The site is a former asphalt plant and the soils are highly contaminated. Because of that, any bank failure would introduce adverse chemical impacts to the river. Therefore, the Port asked AECOM to provide a design for a temporary bank repair. The constraints included not only the necessity to minimize the disturbance of the existing bank soils but also the need to protect existing intertidal habitat. It was also necessary to complete the design before the winter floods and avoid working below the Ordinary Highwater (OHW) line. These constraints imposed severe geometric and time limitations on the project.

AECOM responded with a passive wedge design composed of armor base and cobble surface minimizing habitat disturbance, minimizing excavation of substrate soils, and provided a level of protection extending beyond the time horizon for site remediation. The design also minimized the amount of clean material placed to ease the impact to future site remediation plans. The project was performed in close cooperation with Port staff and involved continuous involvement of regulatory agency staff from the EPA. The project was put together so that Port Construction Services could perform the work and was accomplished in November 2011.

Project Information	Project Summary
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Crane Cove Park Master Plan, San Francisco, California	
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The Port of San Francisco retained a team of consultants led by AECOM to complete a Park Master Plan and Schematic Design for initial park improvements for Crane Cove Park, an 8-acre waterfront open space within the historic Pier 70 district on San Francisco Bay. AECOM provided coastal engineering for the project, including an analysis of the range of feasible shoreline edge treatments and how to adapt these for sea level rise. Edge treatments included a perched wetland, perched beach, gravel beach for launching small watercraft, timber/concrete bulkheads supporting promenades, and enhancing existing deteriorated shipyard structures such as drydock slips. Some treatments were more adaptable to sea level rise than others and were afforded stronger consideration thereby. In addition, large sea level rise magnitudes at the 50- and 100-yr ranges were considered when locating essential park amenities so that a shrinking park footprint could still accommodate public use. Finally, due to the contaminated materials

underlying this former shipyard, AECOM took into account disturbances that might be required for different edge treatments and how and where disturbed areas might be affected by temporal changes in water levels over the life of the project due to sea level rise.

Meydenbauer Bay Park and Land Use Plan EIS, Bellevue, Washington



AECOM worked with the City of Bellevue to transform Meydenbauer Bay, Bellevue's only waterfront park into an inspiring urban waterfront that will provide connections between the water and downtown Bellevue. AECOM prepared a Master Plan and Environmental Impact Statement (EIS) for the park and adjoining properties.

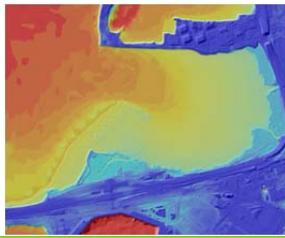
The Meydenbauer Bay site presented a number of challenges, including steep topography and limited size, as well as many nearby residences and marinas owned and occupied by highly interested stakeholders who are passionate about how the park and neighborhood will evolve. The project was a major endeavor by the City of Bellevue that has already drawn considerable public and stakeholder attention. As such, AECOM conducted a process to strategically integrate design and environmental services. Key stakeholders and the broader public have been actively included in each stage of the planning process.

The plan was informed by design and ecology; an approach that strives to integrate ecological and cultural function and values. Alternative programs and site design options were screened relative to defined goals, guiding principles, and evaluation criteria. The final design included form and functional elements that address community needs within the context of an integrated park design.

AECOM integrated the SEPA EIS process with the master planning process to analyze three action alternatives and a no action alternative. All alternatives included some level of park improvement, marina use, and upland redevelopment. Environmental issues of concern included traffic and accommodation of diverse uses (e.g., park, marina, residential, and commercial), water quality, shoreline armoring, stream daylighting, wetland restoration, overwater coverage, land use, and aesthetics. AECOM also provided strategic advice and communications support to the City on potential amendments to the Comprehensive Plan, Land Use Code, and Shoreline Management Program that might be necessary to implement its preferred plan.

Project Information Project Summary

MTC Climate Adaption – Oakland, CA



The California Metropolitan Transportation Commission (MTC) and San Francisco Bay Conservation and Development Commission (BCDC) requested that AECOM provide a detailed analysis of potential inundation under several sea level rise scenarios. AECOM developed inundation and flood maps, identified vulnerable assets in the Oakland area, and developed potential adaptation strategies that could protect critical assets. These strategies included an offshore breakwater, which would protect a site near the Bay Bridge from increased wave overtopping, and two living levees. Using detailed wave and water level data, AECOM developed the designs for the offshore breakwater and living levees. The levees were designed to afford flood protection and also enhance the intertidal marsh habitat in the Bay.

Project Information Project Summary

Fluvial and Lacustrine Geomorphology, Hydroelectric Site Assessments



AECOM was contracted by Yukon Energy Corporation to assist with the assessment and implementation of key energy development and enhancement projects near Whitehorse, Yukon Territory. AECOM provided hydrology consultations, environmental baseline, and preliminary engineering for several proposed energy projects.

Most recently, AECOM has been providing engineering and lake geomorphology assessments for several of these projects including the Marsh Lake Project, in which AECOM provided assessments related to the operating ability of the existing facility to store more water within the Marsh Lake system.

A key component of the environmental and engineering studies was a preliminary engineering study to present both conventional and soil bioengineering shoreline protection concepts that could be implemented along the lake shorelines to reduce the risk of erosion of the bank and bluff once the full supply level had been raised. This work included significant public outreach efforts for the many residents and agencies potentially affected by the proposed project.

Project Information Project Summary

Deubler Beach Expansion and Renourishment, and Bluff Stabilization, Illinois



The existing beach was adversely impacted by a prior beach nourishment project for an adjacent downdrift property. The client wanted to implement bluff stabilization to improve access and create an attractive beach environment. This reach of Lake Michigan is exposed to open coast wave attack, and required creating a segmented breakwater/groin system to form a stable beach cell.

AECOM developed an expanded and improved beach within an 800-foot long beach cell to form a stable, self-sustaining sand deposit.

- The existing 70-foot high bluff was reengineered and reconstructed to resolve the inherent instability caused by erosion and bluff seepage. The bluff was regarded and supplemented with stable crushed stone and internal bluff seepage drainage features.
- The toe of the bluff is protected with a stone revetment.
- Access from tableland to the new beach area was sculpted into the bluff with a configuration that accommodates planned access pathways including a motorized tracked surface elevator system.
- A segmented breakwater and stone groin system was designed to form the desired scalloped beach shape, and to work with existing coastal structures north and south of the site.

Relevant Team Experience

The entire project technical team has extensive experience in shoreline protection and development on the west coast and in Puget Sound. Noted below are key staff member experience highlights, which further express their unique skill set that will be used to make this project successful.

Table 2. Key Staff Relevant Project Experience

Role/Experience
Bill Gerken, PE – Project Manager

- As Project Manager, Bill provided engineering services for the Clover Island Redevelopment master planning team and led the design effort for the Clover Island Marina for the Port of Kennewick.
- Led a multidisciplinary team that developed the Marina Redevelopment Master Plan for the redevelopment of Oak Harbor’s marina. Following adoption of this master plan, Mr. Gerken led the team that provided design and permitting services for redevelopment of the 350-slip marina. The project included surveys, PSDDA sampling and analysis, permitting for 206,000 cubic yards of primarily new work dredging, a reconfigured/expanded slip mix, and development of an acceptable mitigation plan.
- Provided coastal and dredging engineering direction for the design of a new 200-slip marina to accommodate commercial and recreational vessels up to 90 ft. in length. Design included 48,000 cubic yards of dredging and a mitigation plan for placement of material on an adjacent tract of land to form a beach for mitigation purposes.

Role/Experience

Kerri Bridges, PE – Project Engineer

- Served as the Project Coastal Engineer for mitigation site for Port of Anacortes, WA. Mitigation site created an intertidal zone with gently sloped beach and revetment.
- Provided design for a beach improvement in Bellingham, WA. Beach improvements included a low rock sill and two pocket beaches.
- Serving as the coastal engineer for Crane Cove Master Plan & Final Design (project described in summary)

Jeremy Mull, PE – Project Engineer

- Serving as the Coastal Engineer for the Climate Adaption Pilot Study for Oakland, CA. Mr. Mull helped develop inundation and flood maps, identify vulnerable assets in the Oakland area, and develop potential adaptation strategies that could protect critical assets.
- Mr. Mull is helping to develop and apply a technical methodology to model increased wave runup and overtopping of natural protective features and structures with multi-decadal projections of sea level rise for a Sea Level Rise Vulnerability Pilot Study for San Francisco, CA.
- Extensive experience with statistical analysis of wave and oceanographic data and coastal structures design.

References

AECOM offers the following three professional references.

1. Patsy Martin, Executive Director
Port of Skagit County
360-757-1011
Projects: LaConner Marina Dredging, Bank Protection, Master Planning, and others
2. Roy Kuroiwa, Project Manager
Port of Seattle
206-787-3814
Project: Terminal 117 Bank Protection and Remediation CM, Seattle
3. Nancy Powell, PE, WRE
Chief, Hydraulics and Hydrology Branch
USACE, New Orleans District
504.862.2449
Nancy.j.powell@usace.army.mil
Project: IHNC Storm and Surge Risk Reduction Barrier, New Orleans

William Gerken, PE – Project Manager

Mr. Gerken is a coastal/civil engineer with 23 years experience specializing in coastal and marine design and construction, including project management, planning, permitting, coastal processes and design, dredging, facility design, cost estimating, and site and fabrication inspection. Mr. Gerken's experience, gained as both a contractor and consultant, has given him a unique understanding of marine and coastal conditions, along with the experience of interacting with clients, government agencies, and the public planning process. Mr. Gerken has spent extensive time working in the field throughout the coastal United States including Alaska. His field work experience covers a variety of activities, including bathymetric and topographic survey, dredging, project planning and supervision, geotechnical sampling and investigation, and construction management.

Experience

23 years

Location

Seattle, WA

Education

BS, Ocean Engineering, Texas A&M University, 1993

Registrations

PE, WA #34802

Professional Affiliations

American Society of Civil Engineers

Western Dredging Association

Dredging Engineer, Terminal 117 Sediments Remediation, Seattle, WA

Terminal 117 is a CERCLA time-critical removal action for PCB impacted soil at a former asphalt plant site within the Lower Duwamish Waterway Superfund site. The removal action included sediment and soil removal, capping/backfill, intertidal habitat restoration enhancement, and public access. Mr. Gerken provided design and constructability planning for dredging and disposal of 10,000 cubic yards of impacted sediments.

Project Manager, Luna Park Reconstruction, Seattle, WA

Mr. Gerken provided design and construction administration for the renovation/reconstruction of Luna Park near Alki Beach in Seattle for the City of Seattle Parks Department. The project involved replacement of a 100-year-old deteriorated concrete bulkhead and fill that was 100 feet x 90 feet. The new structure is a pile-supported pier that accommodates a large, grassy area and continues to serve as a waterfront park. The project was well received by the community, and provided an

environmentally sound solution that helps to restore the shoreline.

Coastal Engineering Technical Review, Siuslaw River Jetties Major Maintenance Report, Florence, OR

In support of the U.S. Army Corps of Engineers Portland District jetty and structures monitoring, dredging and navigation programs, Mr. Gerken provided QA/QC and technical review for a Major Maintenance Report (MMR) for the Siuslaw River jetties. The MMR included a structural evaluation of the jetties, a wave and current analysis, and a sediment transport pattern analysis using engineering analyses and numerical modeling techniques to evaluate project performance and adjacent shoreline issues. Several repair/design alternatives have been developed and evaluated as part of the analysis, a preferred alternative will be recommended based on benefit/cost factors that include environmental issues; and life cycle cost analysis.

La Conner Marina Bank Stabilization, La Conner, WA

This project involved permitting and design for stabilization of 1000 linear feet of the La Conner Marina's North Basin shoreline which had eroded since the marina was built in the 1970s. A pumped in place grout-filled mattress was selected because of its ability to be constructed on a relatively steep slope and with enough rugosity to allow the recolonization of intertidal vegetation.

Kerri Bridges, PE – Project Engineer

Ms. Bridges has 9 years of national and international experience in coastal and structural engineering for port and coastal engineering projects. Kerri's professional career began in South Africa where she worked as a civil/coastal engineer on the Durban Harbor Entrance Widening & Deepening project and other projects in Southern Africa. More recently, she has been supporting bridge construction on the North Slope of Alaska and doing numerical modeling and design for coastal projects in the U.S. and Russia. Kerri has been a coastal engineer for numerous coastal shoreline projects in Washington involving beach design for recreation and kayak launching, revetments and low profile rock breakwaters.

Experience

9 years

Location

Seattle, WA

Education

MS, Coastal & Ocean Engineering, Oregon State University, 2011

BS, Civil Engineering, University of Michigan, 2005

Registrations

PE, WA #51059

Professional Affiliations

American Society of Civil Engineers

Coasts, Oceans, Ports and Rivers Institute

Coastal Engineer, Mitigation Site, Anacortes, WA.

Ms. Bridges conducted wind wave modeling and determined vessel wakes to select the design wave for the mitigation site. The design wave was used for the rock sizing in the revetment and Ms. Bridges selected the rock sizing and geotextile for the project. Ms. Bridges took off quantities, prepared contract drawings and wrote the construction specifications.

Coastal Engineer, Little Squalicum Beach Improvement, Bellingham, WA

Ms. Bridges analyzed the wave environment for an eroding beach in Bellingham, WA using SWAN, HWAVE numerical models and RWS-CRESS software to design rock protection. Ms. Bridges determined a stable beach grain size to satisfy the design requirements and prepared contract design drawings.

Coastal Engineer, Boat Ramp & Mooring Facility, Apricot Orchards, WA

Ms. Bridges determined the design slope for boat ramp using the local topography/bathymetry, numerical wave analysis, environmental characteristics and published boat ramp design guidelines. Ms. Bridges developed the required steel reinforcement for boat ramp concrete slabs using ACI code and determined the float support pile sizing and embedments using LPILE software. Ms. Bridges prepared the design drawings and contract specifications.

Coastal Engineer, Crane Cove Park Schematic & Final Design, San Francisco, CA

The Port of San Francisco retained a team of consultants led by AECOM to complete a Park Master Plan and Schematic Design for initial park improvements for Crane Cove Park, an 8-acre waterfront open space within the historic Pier

70 district on San Francisco Bay. Ms. Bridges is providing coastal engineering for the project, including sea level rise expertise. She is also working with the environmental team to minimize impacts to the underlying contaminated materials at this former shipyard.

Jeremy Mull, PE – Project Engineer

Mr. Mull has 3.5 years of consulting experience and a diverse background in coastal engineering, physical oceanography, and coastal geomorphology. At AECOM, he has participated in a variety of projects focused on coastal vulnerability to flooding, erosion, long-term shoreline change, and sea level rise. His technical work has included statistical analysis of wave and water level data, modeling of storm-induced dune erosion and structure overtopping, coastal flood mapping, and terrain modeling. He also has experience in the design of offshore breakwaters and flood protection levees.

Mr. Mull's technical skills include programming and numerical modeling in Matlab and C++, coastal flooding and erosion analysis, statistical analysis of wave and oceanographic data, bathymetric and topographic modeling, GIS, coastal structure design, field surveys with RTK GPS, and the deployment, maintenance, and recovery of a variety of field instruments in Alaska, Washington, Oregon, and California. He is a registered Professional Engineer in California and certified in Swift Water Rescue and PADI Open Water Scuba Diving.

Experience

3.5 years

Location

Seattle, WA

Education

MS, Coastal & Ocean Engineering,
Oregon State University, 2010

M.S., Oceanography, University of Alaska, Fairbanks, 2008

B.S., Environmental Studies, University of California,
Santa Barbara, 2000

Registrations

PE, CA #C82163

Professional Affiliations

American Society of Civil Engineers
Floodplain Management Association

levees were also designed to enhance the intertidal marsh habitat in the Bay.

Coastal Erosion Hazard Area Study, Great Lakes, NY

The NY Dept. of Environmental Conservation (NYDEC) requested an assessment of multi-decadal shoreline retreat and maps of Coastal Erosion Hazard Areas and Structural Hazard Areas for the NY open coast and Great Lakes shorelines. Mr. Mull led the technical development and application of a methodology for a pilot study area in the Great Lakes. NYDEC accepted the methodology and the study was expanded to the entire coast and Great Lakes shorelines. The technical approach included extraction of a datum-based shoreline from airborne topographic and bathymetric LIDAR data, extraction of a proxy-based shoreline from historic aerial images, and calculation of multi-decadal shoreline retreat. Mr. Mull also led multiple field surveys of the Great Lakes shorelines.

Climate Adaptation Pilot Study, Oakland, CA.

The California Metropolitan Transportation Commission (MTC) and San Francisco Bay Conservation and Development Commission (BCDC) requested a detailed analysis of potential inundation under several sea level rise scenarios. Mr. Mull helped develop inundation and flood maps, identify vulnerable assets in the Oakland area, and develop potential adaptation strategies that could protect critical assets.

These strategies included an offshore breakwater, which would protect a site near the Bay Bridge from increased wave overtopping, and two living levees. Using detailed wave and water level data, Mr. Mull helped develop the designs for the offshore breakwater and living levees. In addition to flood protection, the

About AECOM

Ranked as the #1 engineering design firm by Engineering News-Record magazine, AECOM is a premier, fully integrated infrastructure and support services firm, with a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 45,000 employees — including architects, engineers, designers, planners, scientists and management and construction services professionals — serving clients in more than 150 countries around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation and technical excellence in delivering solutions that create, enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM had revenue of \$8.0 billion during the 12 months ended March 31, 2014. More information on AECOM and its services can be found at www.aecom.com.

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