FLEIS&VANDENBRINK
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June 12, 2014

Ms. Missy Luick
Planning and Engineering Assistant
City of Traverse City
2nd Floor Governmental Center
400 Boardman Avenue
Traverse City, MI 49684

RE: Proposal to Provide Professional Services for Traverse City Public Pier

Dear Ms. Luick,

We understand the unique nature of the City's proposed fishing pier to be constructed in West Grand Traverse Bay at the mouth of the Boardman River. That is why we are excited to have teamed with world-renowned marine engineering firm W. F. Baird Associates, Ltd (Baird) for this landmark project. By creating this project team, we are offering the City the best of both firms: the local connection and strong project management of Fleis & VandenBrink and the world-class marine design of Baird.

We are excited at both F&V and Baird for the opportunity that this project represents. One doesn't have to look far to realize that there are few public access and fishing piers in the Great Lakes, and even fewer of the magnitude proposed by the City. The opportunity to be involved in this innovative and challenging project is what motivates the professionals on our team.

Our team is unique in that our partnership will deliver the skills needed to make this project a success.

- Marine Engineering: Baird has expertise with many types of innovative structures including open piled, various sheet pile configurations, prefabricated caissons, and rubblemound. Baird also has extensive experience with the studies and permitting requirements associated with marine construction.

- Strong Project Management: Whenever there are multiple disciplines or firms involved in a project, excellent project management and communication are keys to keeping the project on track. Both F&V and Baird understand these challenges, as both firms have multiple office locations and are accustomed to working on diverse project teams on a regular basis. F&V will be the lead firm for this assignment and John DeVol, PE, Manager of our Traverse City office, will be the overall Project Manager and your primary contact.

- Local Presence & Experience: F&V has maintained a Traverse City office for 15 years, and most of our staff members have lived in the Traverse City area their entire lives. We are involved with the community and understand local concerns. Baird, although being located in Madison, WI, is also familiar with Traverse City and this project. Baird conducted some of the initial feasibility studies for the Boardman River Dams removal project and has an ongoing river modeling assignment within the current work that is being performed. They also participated in the 2010 Bayfront study, conducting an overall coastal feasibility review.

- Creativity: Our team will approach this project with an open mind and seek to provide a solution that meets Traverse City's needs and aspirations. Although this will be utilized as a fishing pier, it will inevitably also provide tremendously unique access to Lake Michigan. As such, we understand that the

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design will need to accommodate multiple types of users, present a unique iconic appearance and identity to and for the community and withstand the forces of time and the challenging environment. We will work with the City to develop a solution that balances functionality, creativity, longevity, safety and cost.

- Sustainability: Completing a project that will minimize the ongoing maintenance costs for the City will be very important. Our team is committed to exploring solutions that will hold up for decades and have minimal impact to the City's operating budget. We intend to incorporate other sustainable features into the project by considering design elements such as LED lighting and other careful material selections and construction methods.

- Accessibility: One of the unique challenges in the proposed pier location at the mouth of the Boardman River is the limited access afforded along the shoreline. There is very limited public parking in the vicinity. Our team understands that the shore-based features are just as important as the pier to make this project accessible and useful to the entire population. We have tremendous experience in designing accessibility to enhance user experience into similar projects.

- Public Engagement: Not only are we equipped to accommodate and respond to public input through the design process, our staff has also completed outstanding work in designing educational, interpretive, safety, and wayfinding signage. Inclusion of context-appropriate materials will only enhance the project.

We are approaching this project with a vested stake in the success of the community. Traverse City will only get one chance to do this project right. We are providing you the opportunity to benefit from strong local leadership and international caliber marine design experience to knock this project out of the park.

Due to space limitations in this RFQ response, we have left out a tremendous amount of technical data and relevant experience. We look forward to discussing our capabilities and experience with you further. Please contact John DeVol, PE at our Traverse City office (address and phone numbers on this letter) or by email at jdevol@fveng.com with any questions or to discuss the next steps.

Sincerely,

FLEIS & VANDENBRINK

John DeVol, PE
Manager, Traverse City

Enclosure(s)

1. Firm Description

Fleis & VandenBrink (F&V) has maintained and grown our office in Traverse City for 15 years, providing full service, multi-disciplined consulting engineering solutions for multiple project needs. We are assisting numerous northern Michigan and lakefront communities with their enhancement and engineering projects. Our Traverse City office, and lifelong Traverse City area resident staff is invested in the community, which provides tremendous incentive to deliver a successful project.

F&V is here to work with the City and the project team. We focus on providing strong project management, leadership and creativity. Our designs are safe, creative, innovative and cost-effective.

> F&V and Baird provide Traverse City with creativity and marine experience to develop and deliver this marquee project.

Our successes are our clients' successes. Crucial to the success of any project is the desire and ability to listen to the project stakeholders, to understand their needs, and be able to respond. In our 20+ years of experience, our project delivery methods have evolved to include this as a critical and ongoing process.

Awards

At F&V, one of our goals is to turn a client community's vision into an outstanding construction project. This philosophy has led to several of our client's projects being recognized for their innovation, creativity and excellence.

Earlier this year the American Council of Engineering Companies (ACEC) – MI announced that F&V projects had won the top (first place) awards for both engineering and surveying projects.

- The Eminent Conceptor Award for Engineering Excellence recognized our West Bay County Wastewater Treatment Facility project, an $8.2 million upgrade and plant expansion that added two communities to their service area and featured several cost-saving innovations.
- A riverbank stabilization project was presented with The Eminent Conceptor Award for Surveying Excellence for our innovative approach to gathering critical data. This was crucial to quickly and accurately analyzing the site to develop effective and sustainable solutions.

F&V's efforts in the restoration of the St. Clair River near Marysville, MI were also recognized this year by the Southeast Michigan branch of the American Society of Civil Engineers. The James L. Bliskey 2014 Quality of Life Project of the Year was awarded in recognition of the shoreline restorations which eliminated steel sheet-piled retaining walls and replaced them with a more eco-friendly approach that will help improve the aquatic and wildlife habitat around the shoreline.

W.F. Baird & Associates Ltd.

A thorough understanding of this project's marine complexities is key. F&V will be collaborating with W.F. Baird & Associates Ltd (Baird). For more than 30 years, Baird has provided specialized professional services for the design and construction of marine terminals, piers, ports, breakwaters, shore protection and other coastal engineering projects for projects throughout the Great Lakes and around the world. Baird has established an international reputation for creative planning, effective design and engineering excellence.

A key element of Baird's approach is the incorporation of leading-edge marine science and engineering technologies into the design process in order to provide a detailed description of the marine environment. With this understanding, Baird is able to develop effective designs that meet clients' objectives while minimizing cost and risk.

The company consists of engineers, planners, scientists and geomorphologists. Baird's senior staff members are internationally recognized for the successful completion of innovative and practical projects they have accomplished throughout North and South America as well as many regions around the world.

2. STATEMENT OF UNDERSTANDING

UNDERSTANDING YOUR VISION: The City of Traverse City has been visionary in working to transform the waterfront along West Grand Traverse Bay for many years. From its history as an industrial area supporting sawmills, fruit packing plants, shipping facilities and a coal power plant, the Traverse City waterfront has been converted to a wonderful, contiguous public space that provides a very unique anchor that contributes greatly to the vibrancy of the community. In recent years, the City has conducted very public planning processes to determine what amenities are valued by the residents and appropriate for the context of the space.

OUR TEAM HELPS WITH IMPLEMENTING CHANGE: Many changes have been made in recent years. The Clinch Marina has been overhauled, the TART trail provides a connecting element along the waterfront from the Boardman River to Division Street, and most recently, the City has taken a large step forward with the improvements that were completed at Clinch Park coupled with the renovation of the Con Foster museum to the Bijou by the TC Film Festival. Redesign of the Boardman River boat launch is also currently underway. This process has been transformative.

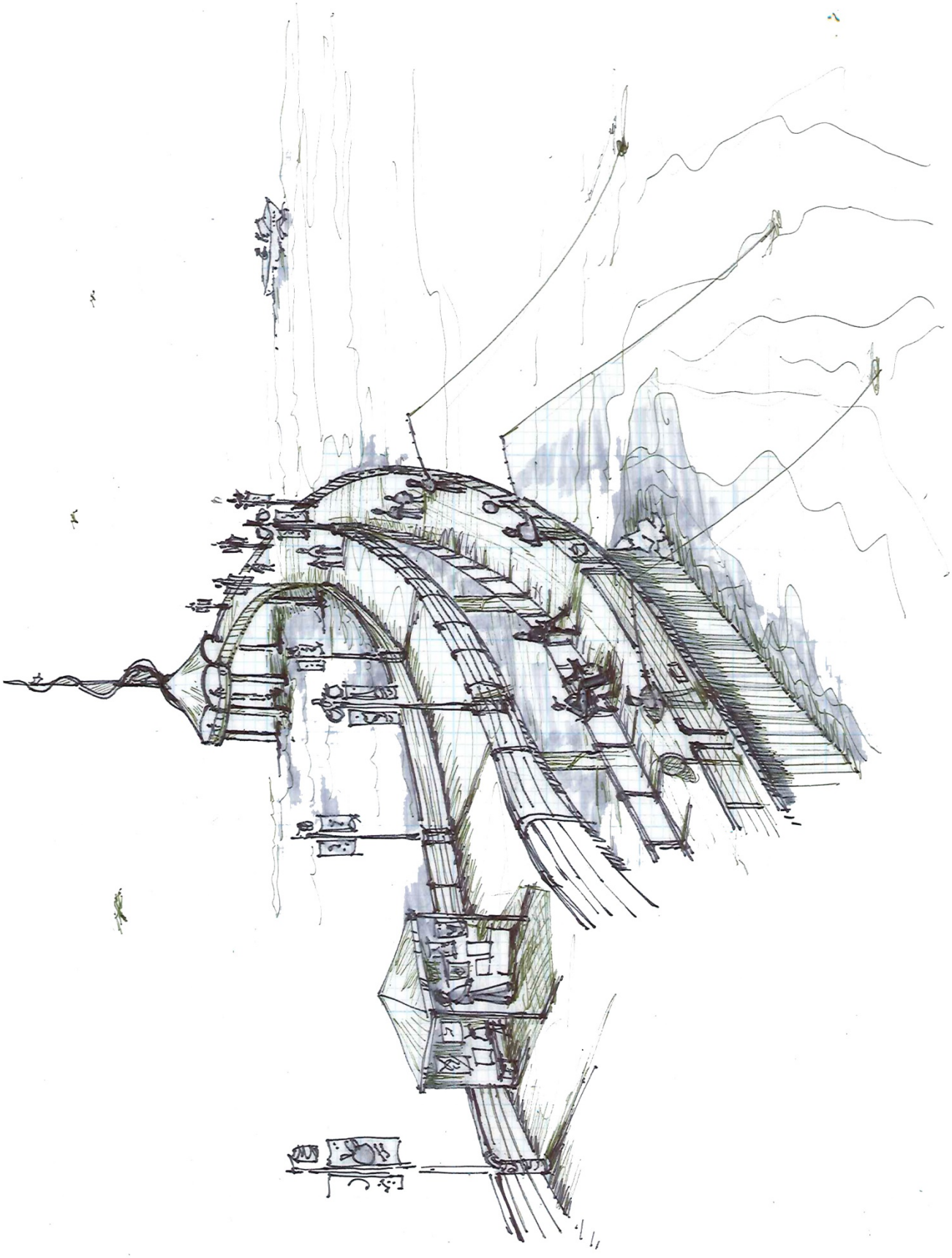
The next element the City has chosen to tackle is construction of a fishing pier at the mouth of the Boardman River. A Great Lakes Fisheries Trust grant will help the complete study, design, and permitting of the 550-foot pier to be constructed into West Grand Traverse Bay including a shore-based viewing platform and universally accessible approaches. This project will significantly change the Traverse City waterfront.

Traverse City will only get one chance to get this project right. There has already been public opinion expressed both in favor and against the project. Our team will provide opportunities for public input into the process and help the City to reach consensus on the desired concept. We will then customize a solution that best fits the City's vision. We have guided communities through many projects that incorporated significant change within their communities and have experience and success in making change a positive experience.

OPPORTUNITIES FOR THIS PROJECT: The proposed pier construction provides both challenges and tremendous opportunities for the City. Construction in the Great Lakes is always challenging from both the perspectives of designing a feature that will hold up well over time and designing a structure that will respect the natural environment to an extent that meets or exceeds permitting requirements. This goal of this project is to provide a venue for an exciting, interesting and universally accessible pedestrian experience that includes enhanced fishing opportunities, environmental and stewardship educational opportunities, and a strengthened presence and association of the Downtown to the waterfront in an innovative, uniquely identifiable structure.

RELEVANT EXPERIENCE: It is imperative that the consultant team has relevant experience in design and permitting structures in the Great Lakes environment. In addition, the team must be able to provide meaningful interaction with the public and conduct necessary oceanic studies. They must consider life-cycle operation and maintenance costs in selecting construction types and materials. The design must be an amenity that be accessed and enjoyed by all members of the community and should develop and communicate educational materials. Most importantly, the design must culminate all of these tasks into a high quality set of construction plans and specification that can be used by the City for permitting and project bidding.

DELIVERING THE PROJECT: In addition to all of these tangible deliverables, this project offers a more intangible opportunity. This pier will serve as a major feature of the Traverse City waterfront when completed. Because of its location, it will complement the waterfront, providing one more destination along the shore that will become just as important as Clinch Park, the Marina and the Open Space. It is important that the consultant consider this throughout the design process and include design elements that will treat this pier as the jewel it will invariably become.

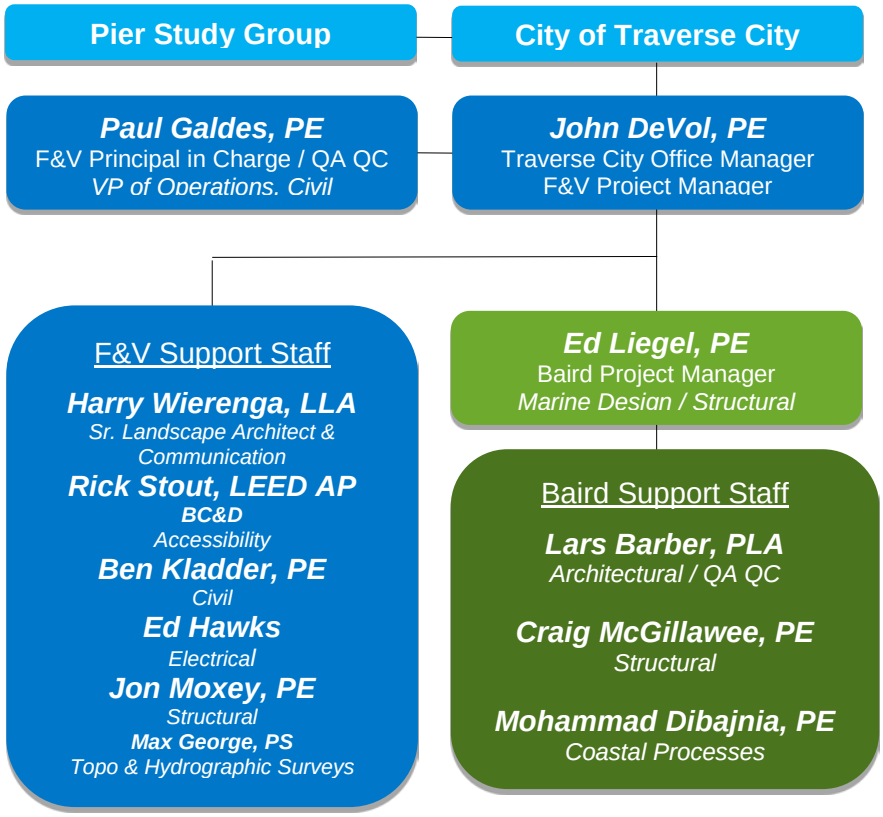


3. PROJECT TEAM & TEAM ACCOUNTABILITY

You will benefit from our team's experience including:

- Locally-led project management.
- Baird's tested design matrix for maritime projects.
- Expertise in grant funding implementation.
- Expertise in permitting with local, state and federal agencies.

Our local presence and understanding of the Traverse City area in concert with our world-class coastal partner Baird make our team the best value and the perfect choice for this project. Our team consists of professionals with the training, certifications and experience to fulfill your project goals.



John DeVol, PE

B. Sc., Civil Engineering, Michigan Technological University

Mr. DeVol provides project leadership and guidance as the manager of the Traverse City office. With a strong background in project management and engineering design, John will be the key contact with the City and provide team direction, client management and technical assistance. He has served in nearly every capacity of civil engineering and construction management during his career. He is an expert in administering multiple grant programs through many different funding agencies and has written and administered several grants for project design through construction.

John will work closely with the rest of the project team to inventory and evaluate existing information and conduct the City and public participation meetings. He will coordinate the design efforts, orchestrating and managing the team to complete individual tasks efficiently and within time constraints.

Paul Galdes, PE

B. Sc., Civil Engineering, Michigan State University

Mr. Galdes is a principal with our firm and leads F&V's Municipal Design Group with more than 30 years of experience. As the Engineer of Record for numerous communities, he is regarded as a trusted advisor for his leadership in the study, design and construction engineering of streets, storm sewer and watermain, sidewalks and bike path systems. Paul will provide Quality Assurance / Quality Control support for our work product.

Harry Wierenga, RLA

B. Sc., Landscape Architecture, Michigan State University

Mr. Wierenga will provide project planning and design. He has over 45 years of creative experience regarding public use facilities, including shorefront parks and trail ways. His innovative yet practical approach has blended existing infrastructure and natural features with educational and functional components, providing the user with a stimulating experience. He specializes in project facilitations and project

completeness which expedite project completion. Harry has a background in green and sustainable design and will help provide creative direction through the completion of this project.

Rick Stout, LEED AP, RLA

B. Sc., Landscape Architecture, Michigan State University

Mr. Stout will serve as the Landscape Architect for this project. As a LEED AP professional, he has been involved in the design, preparation of plans and specifications, and construction of site development projects for more than 20 years. His projects have included waterfront recreational areas, parks, streetscapes, trail ways, and commercial and residential developments. Rick envisions projects which complement a community's vision, while balancing construction costs with a social responsibility to protect our natural environment.

Ben Kladder, PE

B. Sc., Civil Engineering, Michigan Technological University

Mr. Kladder will provide civil engineering support for the project. Ben has assisted numerous communities on their park improvement projects and has been involved in the design of trail improvement projects. He has performed hydraulic analyses and scour computations for bridge projects. Ben creates design plans and specifications for a wide range of projects and is in regular contact with local regulatory agencies to obtain needed permits.

Assisting John and the F&V team will be electrical designers, structural engineers and survey technicians.

Ed Liegel, PE

B.Sc. Civil Engineering, Emphasis-Structural Engineering, University of Wisconsin-Madison, USA

As an engineer with Baird & Associates, Mr. Liegel has been involved in a variety of multi-disciplinary projects in the Great Lakes, Caribbean, Australia, and Africa. The majority of his work involves studies related to the design and operation of marine ports, terminals and navigation structures. Related to these studies he is skilled in the design of marine structures, geotechnical analysis, preliminary and final cost estimating, contract document preparation and project delivery planning. He has also spent considerable time abroad as an onsite project representative on various projects.

Lars T. Barber, PLA

B.Sc., Landscape Architecture, University of Wisconsin - Madison

Mr. Barber is the Principal-in-Charge of the Madison office for day-to-day operations and directs all business development activities. He has worked on a variety of projects over the past 34 years involving numerous aspects of waterfront planning and design. His key skills include site analysis, master planning, and feasibility studies. Mr. Barber has participated in and directed public participation workshops dedicated to waterfront planning and design and has extensive experience in working with agencies to obtain regulatory approval.

Craig McGillawee, PE, P.Eng.

B.Sc. in Civil Engineering, University of Calgary, Canada, Minor in Structural Engineering
Graduate Studies in Structural Engineering, North Carolina State University, United States

Mr. McGillawee has extensive marine structural engineering experience obtained through projects worldwide in such locations as the Great Lakes, Caribbean, Africa, and Australia. He has led the structural design for numerous projects including ports, harbors, mega-yacht marinas, dry-stack facilities, and cruise ship destinations. In addition, he is proficient in construction administration and is knowledgeable of marine construction methods and materials.

Mohammad Dibajnia, Ph.D., P.Eng.

Ph.D. in Coastal Engineering, Department of Civil Engineering, the University of Tokyo, Japan.
M.Sc. in Coastal Engineering, Department of Civil Engineering, the University of Tokyo, Japan.
B.Sc., Civil Engineering, University of Tehran, Iran.

Dr. Dibajnia is an internationally recognized expert in coastal processes and has developed state-of-the-art models for sediment transport and morphology analysis. He has 28 years of experience as a coastal engineer with strong academic background allowing him to solve challenging problems through an understanding of the underlying processes. After completing his Ph.D, Dr. Dibajnia worked for the Design and Engineering Dept., Penta-Ocean Construction Co. Ltd., Tokyo from 1991 to 1993. During this period he worked on problems of harbor shoaling, design of harbor layout and structures, conducting field measurements and numerical modeling. He was invited to join the Department of Civil Engineering, University of Tokyo in 1993 as an Associate Professor of Coastal Engineering Laboratory, and moved to the Department of Civil Engineering, Nagoya Institute of Technology, in 1998. During this period, Dr. Dibajnia taught a variety of Hydraulic, Hydrodynamic and Coastal Engineering courses and developed research programs, while continuing to be an advisor to Japanese organizations and consultant companies. Dr. Dibajnia focused his research activities on the solution of real engineering problems.

Since joining Baird in 2001, Dr. Dibajnia has managed several projects encompassing harbor sedimentation, field investigations of nearshore hydrodynamics and sediment transport, numerical modeling of coastal processes, erosion control and beach protection design, beach nourishment, coastal zone management and environmental assessment. Dr. Dibajnia is a Registered Professional Engineer in the Province of Ontario Canada and he has two post-graduate degrees in Coastal Engineering and Processes.

TEAM ACCOUNTABILITY

Accountability starts with strong project management. John DeVol will be assigned as the Project Manager for the consultant team. We expect that John will provide leadership, continuity, and clarity to the direction of the team. John has extensive experience managing multi-discipline teams and will use that experience to coordinate team activities and communication between the City team, the F&V staff involved in the project, and the Baird staff.

We use several techniques and tools to foster team accountability. One technique is focused startup meetings. We will conduct one with the City team and another with our internal project team. The meetings will focus on developing a communication plan, defining roles, responsibilities and expectations, and beginning to assign tasks to individual team members. John will continue to be responsible for assigning and monitoring roles, responsibilities, and budgets for the duration of the project. One key to project success is providing our client with proper communication, such as regular reporting on decisions reached, decisions to be made, problems encountered and progress.

Our Project Managers, including John, are provided training from various professional industry sources regarding successful project management. We utilize formal, monthly meetings between a Senior Manager and each Project Manager to discuss individual projects. We have found that our investment in this training, coupled with implementation of a strong supervision and feedback process has elevated our Project Management among the best in the business.

One of the most important tools we use in maintaining team accountability is our QA / QC process. We utilize regular formal and informal review of project progress by senior staff on a consistent basis from proposal stage through construction. Our process provides review at critical stages of project development, ensuring that we do not wait until final deliverables to have a thorough review of our product, when it is often too late to make many changes.

4. STATEMENT OF QUALIFICATIONS

A. PRIOR EXPERIENCE

F&V and Baird together have the qualifications and project experience that the City of Traverse City is looking for to complete this pier. A brief look at our relevant experience follows here.

Michigan Island & Isle Royale Dock Assessments, Lake Superior

Baird completed studies which involved the replacement and extension of two existing piers. In addition to a comprehensive field investigation and structural assessment, a substantial team effort took place with respect to wave climate and sediment transport to support the conceptual structural design.

2016 Olympic Games, Chicago, IL

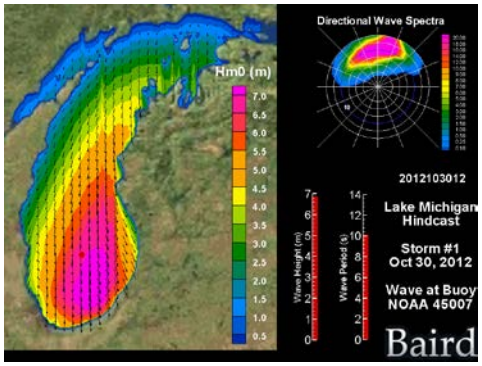
Baird was responsible for preparing a feasibility study related to the modification of existing coastal structures in the Chicago area to support the 2016 Olympic bid. The study determined the cost of upgrading the existing breakwater in Monroe Harbor into a media access pier, fabricating and installing floating grandstands, and various other items related to the rowing, sailing, kayaking, and triathalon venues. Estimated costs were approximately $80 million.

City Deck Fox Riverfront Development, Green Bay, WI

Baird was responsible for cost estimating a $13 million urban waterfront improvement project for the City of Green Bay. The project consisted of extensive improvements along 800 meters of shoreline including: a public fishing pier, pile-supported overlooks, floating dockage, a seasonal marina, a public promenade, and extensive landscaping and site amenities.

Super Yacht Harbor, Bridgetown, Barbados

Baird completed structural engineering for this project, which includes a 500-meter parallel sheet pile breakwater / public pier and approximately 500 linear meters of anchored bulkhead to support a land reclamation and development program. The estimated construction budget exceeds $70 million.



Port Oshawa Wharf Expansion, Ontario

This Baird project called for a 200-meter lakeward expansion of an existing wharf structure. The project features a socketed steel pipe combiwall designed with articulating rock anchorages to accommodate high settlement potential. Currently under construction, the expanded wharf will facilitate Seawaymax vessels.

Sugar Point Cruise Terminal, Bridgetown, Barbados

Baird was responsible for the front-end engineering and design of the cruise terminal, which consists of a 15-acre land reclamation and two open-piled piers capable of

facilitating cruise ships to 360 meters in length in 12 meters of water. Estimated construction costs exceed $100 million.

Harriet Island Public Dock, Saint Paul, MN
Baird accomplished the planning and design of a 600' long by 26' wide floating public pier on the Mississippi River in downtown Saint Paul. Responsibilities included project management, design development, regulatory coordination, preparation of construction documents and construction administration. Total project cost was approximately $1.5 million.

Port Hope Dock Wall Rehabilitation, Ontario
Baird was part of a multi-disciplinary team tasked with cleaning up low-level radioactive waste in the Port Hope harbor. Baird performed the structural / geotechnical analysis of existing sheet pile and timber crib walls enclosing the harbor to determine if dredging operations would affect their stability. An initial structural analysis developed options for the replacement of the walls when their stability was found to be unsatisfactory.

Topinabee Park, Mullett Township, MI
F&V provided grant writing and design assistance on the Township's primary park facility located on 1.25 acres adjacent to the Township Library and the North Central State Trail. Park elements for the project included ADA barrier-free walkways, an observation / fishing pier, an improved beach area, a play area, native plantings, shoreline stabilization, retaining walls and an overlook plaza. The Township applied for the MDNRE Michigan Natural Resources Trust Fund Grant to assist with the $350,000 construction costs.

Cross Lake Ferry Terminal, Muskegon, MI
F&V was involved from conception of the Cross Lake Ferry initiative and advised the prospective developers on site selection options, natural resources and wetland impacts for each site and outlined development planning alternatives. A site was vetted and selected by the team, after which F&V conducted site plan approvals, design and construction administration. The project involved facilitation of the City, funding agencies, ferry owners and the developers.

Thornapple Yacht Club & Pocket Park, Grand Rapids, MI
F&V prepared a comprehensive Master Plan for the yacht club and pocket park area, which consists of 2.8 acres along the Thornapple River. Design elements were intended to provide overall improvements to the grounds, including site grading and restoration to provide lawn parking areas, improvements to the entrance to the park, boat docks, a fishing pier, a beach area, a restroom building, a picnic pavilion as well as barrier-free access to the entire park.

Waterfront Park, Northport, MI
The Northport waterfront park and marina are the centerpiece of Village activities and have long attracted boaters and tourists to the area. F&V assisted the Village with concept refinement and multiple grant applications for a waterfront improvement project that included a trail system to promote connectivity, beach and stream restoration, a new boater facility, an improved harbor promenade and a new marina dock house. The project had extensive community involvement and utilized four separate grant programs to maximize local funds.

Hart Commons on the Lakefront, Hart, MI
The City of Hart had long envisioned improving access to Hart Lake. Downtown Hart lacked a gathering place for summer concerts and other events. F&V assisted the City with the design and construction administration of the one-acre lakefront site. An active gathering space was created next to the downtown core. The ADA accessible park includes a performance area, chess tables, seating shelters, an observation deck, concrete retaining walls, decorative concrete paving, signage, amphitheater-style seating, wire cable railing and public restrooms.

St. Clair River Shoreline Restoration, Marysville, MI
F&V collaborated with CARDNO JFNew on this award-winning project and performed topographic, vegetative and geotechnical surveys to assess the existing soils and their stability both landward

and riverward of the existing seawall. The failing seawall and sidewalks were replaced with 2.7 acres of beautiful, living shoreline. Wave breaks helped to eliminate erosion. A multi-use pathway includes passive and active amenities that encourage public use.

Muskegon Lake Shoreline Restoration, Muskegon, MI
F&V performed topographic survey of areas along Bear Creek, surveys for upland areas along pond edges to determine water depths and pond bottom contours, as well as sediment sampling to see if the sediments were inert or solid wastes. The information allowed prime consultant CARDNO JFNew to design, permit and implement successful wetland restoration and shoreline softening measures at 12 locations along Lake Muskegon while incorporating hydrologic and ecosystem dynamics.

B. Engaging the Public

The key for the success of the conception and implementation of projects requires the involvement of diverse users and interests. The process must have the potential for unique, iconic imagery as well as extraordinary technical and aesthetic innovation which is the basis for multifaceted accessible, thorough and honest engagement of everyone who will be impacted or influenced in some way by the project. Public engagement must be:

- Multifaceted in that both outreach and information must include programmed news media events for participation solicitation and information dissemination.
- Making appropriate information available electronically on a designated website.
- Providing a project question and answer internet site for an ongoing community information exchange that will engage the City and the region directly with the design team.
- Conducting frequent participation meetings with the client, and stakeholder presentations for direct interaction.
- Conducting timely, milestone town hall style meetings with the general public for review, input and consensus building.
- Placing continually updated materials for viewing at strategic gathering places throughout the City for sustained dialogue and interest promotion.

Our team has successfully utilized all of these techniques as somewhat routine procedures. These methodologies are supplemented with oral and graphic response and input techniques for individuals and group participation during the design process for concept development and resolution. The team has a proven process that **INFORMS** the community, **EXPLORES** diverse attitudes and opportunities, thoroughly **ANALYZES** and balances technical and aesthetic alternatives and recommends **ACTIONABLE** solutions that carefully consider all aspects of environmental impact, cost, technical accountability, innovation, iconic/attraction significance, economic value and the quality and diversity of the user experience opportunities. All of these elements are thoroughly presented to the community in clear, simple, understandable terms and graphics in a manner that respects their involvement and encourages sustained engagement throughout the design process.

C. Responding to Questions

In addition to media management and town hall meetings, we anticipate two other methods to inform and interact with the community.

i. The placement of concept plans and sketches in strategically located storefronts, businesses, and/or public buildings with opportunity for written questions and comments to be left at the site.

promoting input and an ongoing response dialogue

ii. Second, we propose to manage a project website that will post plans and documents as they are developed and encourage electronic questions and answers. The team will review the written and electronic input, comment on a regular schedule and post responses on the web site.

We anticipate promoting input and an ongoing response dialogue with Traverse City and related and impacted surrounding communities.

D. Best Practices

We recognize that the overall management of this project is the key component of the project.

From the onset of the project, we will incorporate and expand on Baird's project decision-making matrix. This looks at each phase of the project, assigning tasks and decision making responsibilities. This document will guide the team throughout the project.

The document will focus on maintaining best practices on topics including:

- Design Alternatives & Analysis
- Public Input
- Design & Permitting Concerns
- Construction Documents
- Construction Materials & Methods
- Ecosystem & Environmental Concerns
- O&M Costs & Project Longevity

E. Identifying Permits

The F&V / Baird team has decades of experience working with the regulatory agencies that will have jurisdiction on this project. Required permits will be discussed early in the design process and again as the design progresses. Our team has experience in developing construction plans and studies that will be needed to complete permit applications.

F. Coastal Studies & Assessments

The permitting and public approvals process on the Great Lakes generally requires that numerical studies be conducted to understand the coastal processes that exist at the site prior to construction. These processes include the wind, wave, current, littoral drift, and river sedimentation regimes. A second numerical assessment is usually conducted which compares pre-project and post-project conditions in an attempt to define consequences of structure demolition or installation.

The coastal processes and data that Baird would normally investigate/obtain/model as part of a pier development project typically includes: water levels, bathymetry, geotechnical, benthic and aquatic species, ice, deepwater wave climate, wave transformation to site, nearshore hydrodynamics and sediment transportation and morphiolic change.

In addition to use in the permitting and public approvals process, the investigations will also provide critical data for structure design. For instance, extreme wave, waver level, and current conditions will be utilized to set the deck elevation of the pier, establish foundation loading parameters, and size necessary shore protection associated with the boardwalk.

The investigations will also be used to develop consensus between the owner, engineer, and public as to the risk tolerance for structure damage. This is important as it is generally impractical from a cost perspective to design the structure to completely withstand storms or ice loads with excessively large return periods.

While F&V has worked with numerous lakeshore communities on their enhancement projects and can provide the local interface, Baird is a leader on the Great Lakes and internationally in the field of coastal process assessments and the interaction of coastal processes with marine structures. Baird has completed hundreds of projects throughout the world with its primary service being the definition of coastal processes. In addition, Baird has been called upon by the US Army Corps of Engineers to complete regional sand management studies on the Great Lakes and to develop tools to evaluate flooding and erosion.

G. Consideration of Options

Our team of experienced marine, graphic communications, structural and environmental engineering, planning and design professionals propose to stretch the envelope in every regard for this project. Not only is it a complex biophysical engineering and environmental management project, it is an extraordinary opportunity to enhance Traverse City's presence and relationship to

one of the most beautiful areas on the Great Lakes. In that context, the open and thorough exploration of every structural, aesthetic, economic and cultural option is essential. All of the options are to be "information based" and will rely on the data gained from specialized land survey and geotechnical mapping and analysis in conjunction with the hydrologic wind and ice formation and movement analysis.

Once the base data is formulated, we will aggressively explore, share, present and collectively develop the environmental / confluence enhancement options, structural design alternatives and aesthetic opportunities for the project. Considerations such as modifications to the existing seawall to create a low level fishing venue that ramps to a higher main bridge/pier system will be part of the initial discussions.

Access to and from the pier and connectivity with other venues and elements along the shoreline will also weigh heavily in the options analysis. Parking, access to TART and the trail network, entry identity elements and clear articulation of the "pier zone" are all essential to the success of the project.

Not only is it a complex biophysical engineering and environmental management project, it is an extraordinary opportunity to enhance Traverse City's presence and relationship to one of the most beautiful areas in the Great Lakes.

In light of the potentially lineal nature of the pier experience; changes in direction, variations in width incorporation of features and the creation of pedestrian space options will be considered in conjunction with the various structural options. Elements such as varied overhead arch members can provide a sense of containment/enclosure while providing a unique and interesting framework to support state-of-the-art lighting banners and shade elements.

Such options could:

- Provide a varied and interesting walking experience.
- Define and separate varied uses.
- Create revenue opportunities.
- Create an exciting, unique and iconic structural form that could be illuminated into an extraordinary visual night-time feature and experience.

The incorporation of nodes for events, commercial opportunities and attraction zones (such as art or kite flying), shaded areas and potentially elevated viewing venues will add to the "draw" of the pier project.

In addition, to the mentioned somewhat detail oriented options, the larger issue of the "where" and to "what extent" of the pier construction must also be resolved. Is it behind or incorporated into the existing seawall; is it located on the east side of the river; is it an arcing structure the ties to both the east and west sides of the river mouth with a final pier out into the bay? All of the options should consider improved sediment control, enhanced littoral current flows, sediment transport conditions and enhancement of the aquatic habitat. Each potential scenario will have its merits, weaknesses, costs, iconic identity, tourism / economic benefit and environmental conditions that must be analyzed, understood, communicated and reacted to by the community and the design team to achieve real lasting structural and artistic success.

H. Universal Design & Access

Our diverse experience with public places, family entertainment destinations and the unique requirements of cruise ship docking piers and international waterfront developments demands an almost excessive incorporation of compliance and universal access augmentation in all of our projects. Range of motion, distance to rest nodes, gradients, material selection and comfort areas for restrooms, shade and hydration are all integral to our work procedures. Wayfinding and information signage, tactile delineation and warnings, and fully accessible features are not just requirements for our team; they are objectives to be employed in every aspect of our work.

Universal design goes beyond just simple ADA requirements. Universal design strives to go to the next level by creating a holistic way to approach design and accessibility by thinking about what users' needs will be in different situations. By thinking deeper about providing the enjoyment and experience of the public space for all users' regardless of someone's physical, mental, emotional, developmental or sensorial limitations, the overall design is better able to serve a wide range of people by allowing them to have the same level of the human experience we all come to enjoy.

I. USER SAFETY

Most offshore operations generally strive to keep risks to personnel "as low as reasonably possible" (ALARP). This policy implies that some level of risk is generally accepted as all risks can't be reasonably mitigated. Keeping risks ALASP in marine facilities is accomplished partly through conscientious design (life rings, emergency ladders, anti-slip surfaces, appropriate grades, railings, firefighting equipment, etc.). However, a much greater degree of risk reduction can be accomplished by establishing operational procedures and continuously training personnel on said procedures. For instance, many offshore operations require that personnel wear life jackets at all times and that operations be halted when sea conditions exceed a specified threshold.

In developing the public pier the City will likely have to balance the desire of fishermen to have close, unimpeded access to the water with the inherent risk issues associated with doing so. The City could take a similar approach as the offshore industry and attempt to keep these risks ALARP while recognizing that some level of risk will always be present in order to provide an enjoyable fishing experience. This could be accomplished through:

- Application of the conscientious design items noted above.
- Signage indicating that there is risk associated with the use of the public wharf.
- Signage that defines general risks and recommendations for which these risks may be personally mitigated (proper footwear, life jackets, avoidance of the wharf during high wind events).
- Establishment of operational limitations such as closing the wharf in the winter months to prevent slipping due to ice build-up.

Baird is familiar with incorporating conscientious design items into piers and quay walls and is able to draw on a number of marine best practices and guidelines to establish recommended spacing, elevations, etc. In addition, Baird is familiar with a number of the operational procedures normally implemented by the offshore industry that may benefit the project.

Another practice that is generally followed by the offshore industry is to conduct a risk review early during the design stage. The purpose of this review is to gather various parties (engineers, personnel, etc.) into a single room in an attempt to brainstorm risk items (construction, operational, etc.). Risks are tabulated along with possible mitigation measures. The risk register is then carried through the design process with an eye towards reducing risks to an ALARP level. This method may benefit the Traverse City Public Pier Project.

In addition to the above Baird has carried out investigations to determine the frequency of occurrence of excessive splash or green water overtopping associated with marine work platforms. This information allows facility owners to understand the inherent level of risk that might be associated with a particular operation. A similar investigation could be conducted if the public pier incorporated low freeboard or floating elements.

At the extreme end of the opinion between the user experience and security debate, some even go as far as saying the user experience overrides security.

- For user "experience designers," the question is: How do you design the security experience to fit the needs of the individual without detracting or greatly diminishing our basic human need for enjoyment and experience?

- For “security” design professionals, the question is: How do you enable the users in an environment, where environment, speed and comfort override the traditional understanding of security?

The art of striking the right balance between user experience and security is still evolving but our team brings a blend of project experience to balance these potentially competing goals.

J. Passive & Active Recreation

In addition to the preservation, enhancement and access to the fishery at the mouth of the Boardman River on West Bay, a pier project such as is proposed must be encouraging, diverse and inclusive to justify the investment and potential environmental and structural risks that are inherent in such a challenging environment. Fishing opportunities must be functional, accessible, appropriate and provide access to the desired “honey holes” of the resource. Additionally, opportunities for special events, concerns, refreshments, relaxation, photography, viewing, concessions and variations in the pier experience itself (such as changes in materials, direction and size of the pier) will be explored with staff, stakeholders and the community as the process unfolds. Striking the perfect balance of user comfort, safety and enjoyment while creating a project that fits seamlessly into the surrounding environment are all critical to the success of the project and are integral with community identity, place-making and the community. Our team has decades of experience in the planning, design and construction of parks, zoos, family entertainment centers, art installations and public gathering and event places and venues in addition to waterfront experience and will apply those skills and that understanding to all aspects of the pier planning and design process.

User comfort, safety and enjoyment are critical to success

K. Using Forms of Media & Other Resources to Educate Users

A charge of the grant funding source is to promote, enhance, preserve and educate regarding Michigan’s rich coastal ecosystem and the attendant fishery. Our team has diverse experience in wayfinding and information systems, physical feature and wildlife interpretation, programs, durable and attractive sign technologies, crowd behavior management strategies and educational content, location and character management. Techniques such as banners, signage, surface texture, electronic information systems, recorded narrative, and symbolic form recognition will be evaluated for the appropriateness, cost and operational demands for various purposes and locations on the pier. Educational opportunities should be offered for people of all physical and cognitive abilities.

Focused “learning stations” may be strategically placed along the pier that relate to safety, stewardship, fishery, views, historic context, upcoming events and proper use of the facility. Incorporation of static, interactive, seasonal and periodic experience options will also be considered. Illustrations of the pier with the surrounding shore and lake / river confluence areas with queues for things to be aware of and/or watch for are inherent in the development of the pier project information. Consideration should be provided to allow information and interpretation areas to be adjustable to accommodate seasonal changes weather, habit and fish population locations, migrations and activities.

L. Design & Construction Options

In general, marine piers have historically taken one of the following forms:

a. *Open piled piers:* Spaced concrete or steel pile bents driven or socketed into the lakebed supporting a concrete or steel deck.

Burlington, Ontario, Canada

b. *Parallel sheet pile piers:* Two rows of parallel sheet pile walls driven into the lakebed, which are tied together, contain crushed stone fill material, and are capped with concrete.

Grand Bend, Ontario, Canada

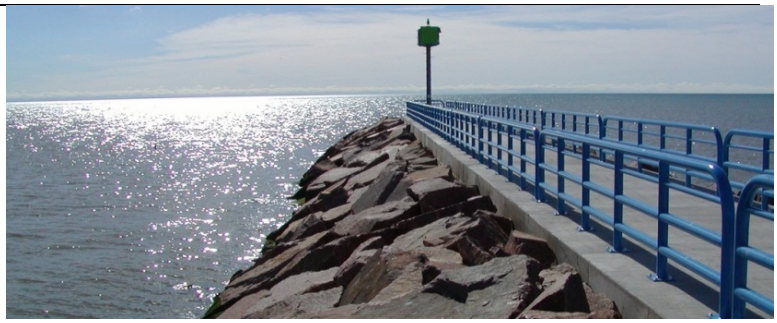
c. *Cellular sheet pile piers:* Cellular sheet pile structures, which are driven into the lakebed, filled with crushed stone, and capped with concrete. The cells can form an interconnected continuous pier or they can be used as spaced foundations, which are spanned by bridge elements.

Oscoda, Michigan

d. *Prefabricated concrete piers (caissons):* Large prefabricated concrete elements that are floated out and ballasted down onto a prepared seabed. These elements can be made continuous or can be used as spaced foundations, which are spanned by bridge elements.

Cowes, U.K.

e. *Rubblemound piers:* Piers constructed of piled stone rubble with side slopes that extend away from the crest a considerable distance to the lakebed. These structures are capped with concrete for public access.



Port Austin, Michigan

f. *Steel Binwalls: Prefabricated steel bins placed onto a prepared lakebed and filled with stone.* These structures are capped with concrete for public access.

Photo by Roen Salvage, Sturgeon Bay, Wisconsin

g. Floating piers: Floating elements constructed of steel, foam filled polyurethane, or tensioned concrete that are anchored to the seabed.


West Palm Beach, Florida

h. Combinations: It is possible to combine a number of the elements listed above to construct a pier. However, multiple construction methods tend to come at a cost premium.

Baird has considerable experience conceptually designing each of the alternatives listed above and has completed detailed designs, specifications, and contract documents for items A, B, C, E, and F. As such, Baird can quickly develop a list of advantages, disadvantages, and relative costs for the City so that an assessment can be made and undesirable alternatives can be eliminated at an early stage.

In addition to structural design capacity, Baird also has a thorough understanding of marine equipment, marine construction methods, and the general capabilities of the Great Lakes marine contractor base. This is a significant item as marine construction is subject to a high degree of risk due to the complexities associated with the marine environment (wind, waves, cold, etc.) and the high cost of specialized equipment generally required to work efficiently over the water. Baird's practical knowledge in this area has the following advantages:

1) The cost and schedule associated with marine projects are highly dependent upon the construction methodology chosen by the Contractor. As such, it is important that the Engineer considers various construction methodologies when preparing engineering estimates and schedules.
2) Knowing the capabilities of the marine Contractor base reduces the propensity to produce overly simplistic designs due to fear that the base does not have the requisite experience, and also the propensity to produce extremely novel designs that may limit competition for the work.
3) It allows for efficient prequalification of Contractors and the ability to spot significant risks associated with a Contractor's bid.
4) It reduces the occurrence of difficult design details that substantially slow Contractor progress.

M. Specifications & Drawings

F&V takes pride in the quality of plans and specifications we produce. We track our as-bid pricing versus as-constructed costs closely and are proud to boast that we consistently deliver projects within 1% of bid price, less owner-requested changes. We feel this speaks strongly to the quality of our design processes and the plans and specifications that we produce. We employ a formal QA/QC process throughout the design process, which begins in development of our proposal and continues throughout project development. We incorporate early input from senior staff and principals as well as both ongoing and formal reviews of work product at numerous stages in the design development.

When a project includes multiple design specialties, and particularly multiple consultants, it is imperative that there are processes in place that address the inclusion of all of the design elements. Our company culture is one of strong project management leadership. We will work hard to make sure that all members of the consultant team are engaged in the process so that a complete product is developed. We will accomplish this through regular team project meetings, strong communication, and utilization of our QA/QC processes.

Our philosophy includes assigning a project manager that will have the responsibility of overseeing the project team and their activities. The project manager will also be responsible for maintaining communication with the client team to make sure their concerns are being met. The project manager has responsibility over the design budget and schedule. Our project managers receive training in project management and communication to enhance their abilities to meet our internal and client expectations. For this project, we are assigning John DeVol, PE to fill this project manager role. John leads our Traverse City office and has 15 years of experience in successfully managing design and construction projects.

N. Meeting Project Deadlines

F&V recognizes that the commitments we make to our clients in regards to project deadlines are important. Our Project Management experience helps us meet those obligations. A successful project starts by having meaningful discussions with the client to identify key project milestones, develop and agree upon an achievable project schedule, and dedicate proper resources. Once the schedule is set, we track our progress in much the same way we track the quality of our plans, with prescribed processes.

have meaningful discussions with the client

Since our firm's inception, principals and project managers have made it a company policy to continuously improve the process we use to take a project from design through construction. Having proper processes in place allows team members to meet their individual goals and deadlines while the project as a whole continues to move forward in an efficient and responsible manner. At F&V we are continuously updating and improving our firm's standards, guidelines and checklists based on what we learn from each project so that the services provided to our clients are complete, accurate and useful. This philosophy applies to each project's work plan, budget and schedule.

As noted, F&V and Baird will utilize a project matrix from the onset which will identify major tasks. Regular project meetings and communication with the City will reinforce project progress.

O. Identifying Asset Management Costs

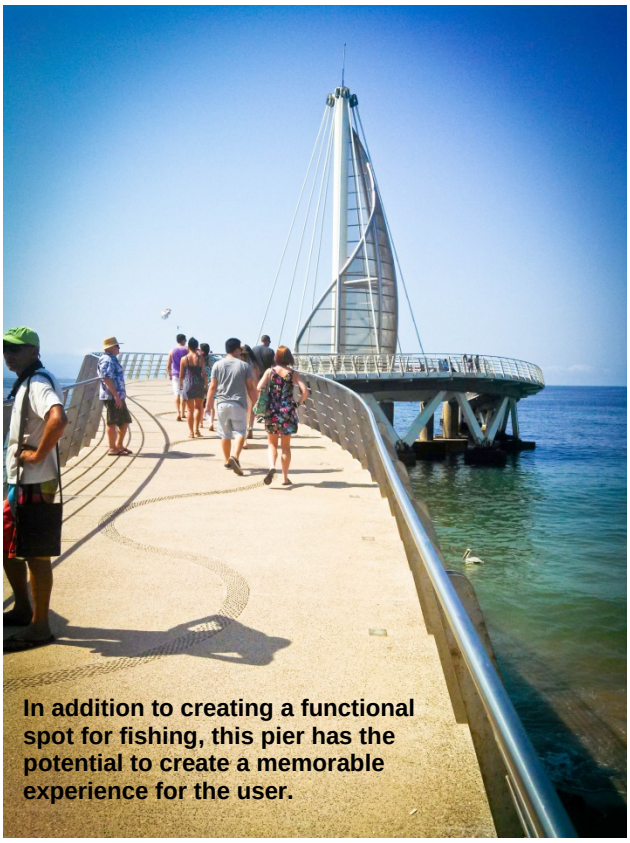
Our design development process is driven by cost-benefit analysis from beginning to end. All aspects of the type of construction, cost of materials, difficulty or ease of construction, anticipated longevity and risk of damage or deterioration from extreme lake or weather events will be considered for every option for the project. As options are evaluated, portions or elements of one or more options may be found to be of particular preference or value and incorporated with other alternatives. Through the course of the design process, a winnowing of best choice options will take precedence over less suitable choices for the collective reasons listed above. A principal factor in being designed and constructed to stand the test of time is minimizing maintenance and asset

management costs. Operation costs will be determined as the use parameters and features to be included on the pier are resolved.

Options that might involve concessionaire or vendor agreements, specialty lease arrangements and similar provisions that provide user amenities and comfort could include refreshment kiosks, bait and light tackle, t-shirts and souvenirs, or fish-cleaning facilities. These arrangements could help relieve the City of operating responsibilities, maintenance costs and a measure of liability.

Operation and maintenance requirements and on-going and deferred cost considerations along with risk analysis and management are fully incorporated into our design process. Our team consists of experienced, senior project and corporate business managers that understand and communicate the elements of coastal design and construction as well as the specific O&M consequences of each design option. Our process is structured around a merits and weakness matrix approach that analyzes, documents and preserves for future reference each option and related consequences of each of those options. The final accepted design solution will have a manual that records the process and documents all anticipated O&M and asset management needs and schedules for future direction and project accountability.

5. REFERENCES



In addition to creating a functional spot for fishing, this pier has the potential to create a memorable experience for the user.

As a team, F&V and Baird would be honored to provide the technical excellence and creativity Traverse City is seeking for this milestone project.

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9. Signature Page

TITLE: **Traverse City Public Pier RFQ**

DUE DATE: **June 12, 2014 at 4:00 p.m.**

Having carefully examined the attached RFQ and any other applicable information, the undersigned proposes to furnish all items necessary for and reasonably incidental to the proper completion of this RFQ.

The undersigned understands and agrees that they must be licensed to do business as Professionals in the State of Michigan.

The undersigned submits this proposal and agrees to meet or exceed all requirements and specifications listed on the RFQ, unless otherwise indicated in writing and attached hereto, and acknowledges a thorough understanding of the City's Great Lakes Fisheries Trust grant agreement.

The undersigned certifies, as of the date of this RFQ, not to be in arrears to the City of Traverse City for debt or contract or is in any way a defaulter as provided for in Section 152, Chapter XVI of the Charter of the City of Traverse City.

The undersigned understands and agrees, if selected to be awarded this work, to enter into an agreement with the City to supply this work.

The undersigned understands that the City reserves the right to accept any or all proposals in whole or in part and to waive irregularities in any proposal in the interest of the City. The RFQ will be evaluated and awarded on the basis of qualifications and best value to the City. The decision criteria to be used, but will not be limited to, is qualifications, technical expertise and experience, key staff, past similar work, firm's understanding of the project scope, quality of the firm's project approach and overall capability to meet the needs of the City.

The undersigned agrees that the RFQ may not be withdrawn for a period of 60 days from the actual date of the opening of proposals.

Submitted by:

(Signature)	John DeVol, P.E. (Name & Title - print)	231.932.8600 (Telephone Number)
Fleis & VandenBrink (Company Name)	603 Bay Street, First Floor, Traverse City, MI 49684 (Company Address, City, State, Zip Code)	