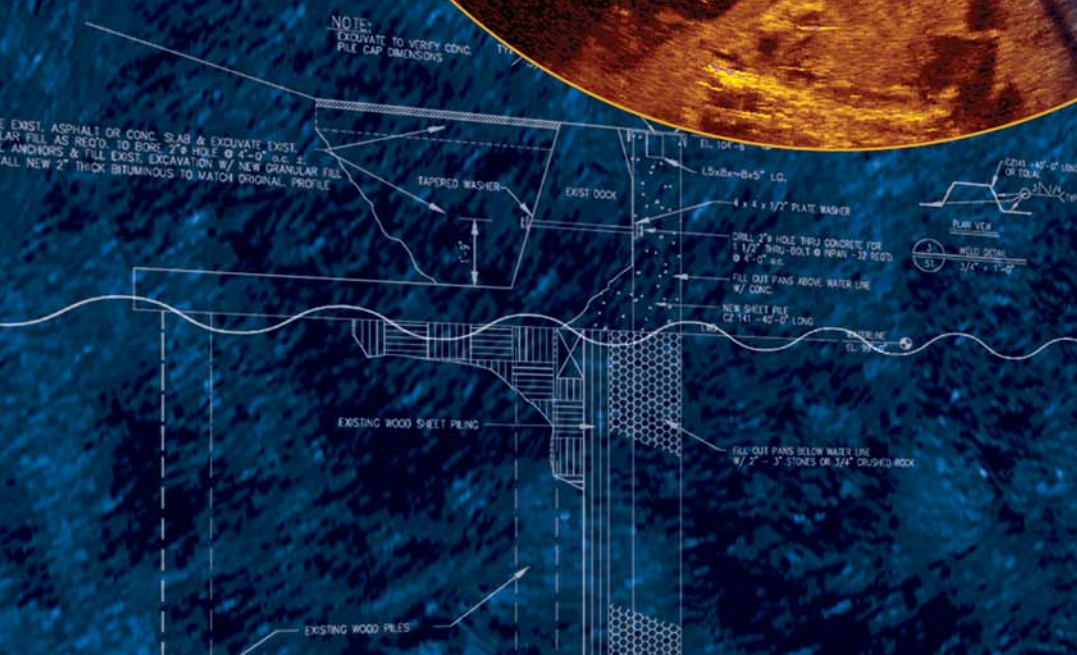


synergy

Spring 2008

Krech Ojard & Associates Newsletter



MARINE ENGINEERING

In-Depth: Sector Scan Sonar
(cover story)

KO Marine Leadership
Recent Marine Projects

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The New Nett Lake Store

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nett lake convenience store

*Necessity Breeds Convenience:
The New Nett Lake Store*

A fifty-mile round-trip expedition to pick up groceries isn't what most people would characterize as "convenient access." Nevertheless, that was the scenario that members of the Bois Forte community of Nett Lake Village endured prior to the development of the new Nett Lake Convenience Store.

Nestled in a remote area on the Nett Lake Reservation in northern Minnesota, the Nett Lake Village is a community without local restaurants or a public laundromat. A multi-service center was built in the 1970's to provide gas and essential food items, but the aging building was in desperate need of replacement and functioned in a very limited capacity.

The new 6,000-square-foot convenience store isn't just a gas station along a random stretch of road; it's a much-needed facility providing expanded services to the surrounding community, including gasoline and diesel services, a deli, convenience store, fast food restaurant, and a laundromat.



Krech Ojard's multi-disciplinary team provided planning, land surveying, civil and structural engineering, and architectural services for the project.

The resulting facility is a wood-frame construction with glue-laminated timber roof framing. The exterior materials are a combination of stone, asphalt shingles, and cement fiber siding.

Krech Ojard also bid and coordinated the petroleum package on behalf of the Bois Forte Development Corporation.

The new Nett Lake Convenience Store is a welcome development and will function as the center of the Nett Lake Village community, serving the needs of local residents well into the future.

-enriching young minds

*Scouts Explore the Finer Points of
Gingerbread Design*

Questions flew fast and furious like spatters of gingerbread house icing, as members of Cub Scout Pack 25 Webelos, from Elim Lutheran Church in Duluth, built graham cracker and candy structures under the guidance of Krech Ojard's Architectural Group staff.



The fourteen boys visited the firm's Duluth location in mid-December in order to earn their "engineering activity" badges. To gain these much-coveted awards, troop members were required to visit an office, talk with architects to learn about what they do, and build a model of a structure.

After touring the office and looking at architectural plans and 3-D renderings, the boys spoke excitedly with architects Kane Tewes, Tim Meyer, and Kris Pederson, then broke into small groups to construct their gingerbread house models.

Walls were erected with excited trepidation, roofs were situated, and icing was stealthily sampled as the group, their architectural supervisors, and den leaders enjoyed a fantastic learning experience.

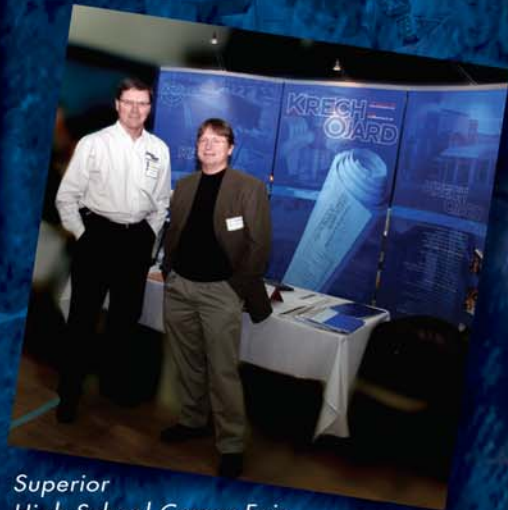


Job Shadowing ~ An Illuminating Experience

If experience is the best teacher, then high school students seeking to forge their own path in life may feel a drought of tangible guidance.

Krech Ojard architect Kane Tewes recently spent a day as a job shadow mentor for a local high school student.

Job shadowing offers young people an opportunity to be immersed in the world of work- to observe and interact in an environment that reveals the dynamics and nature of a job in a particular field of employment. This experience helps provide students with the ability to establish a critical link between education and future success.



*Superior
High School Career Fair*

It may seem that teenagers often live for the drama of the moment, but as attendance at the Superior High School Career Awareness Fair indicated, many young people are engaged in and preparing for their futures.

Mike Metso and Tim Meyer represented Krech Ojard and Associates at the event. They were pleased to participate in the experience, offering students a chance to learn

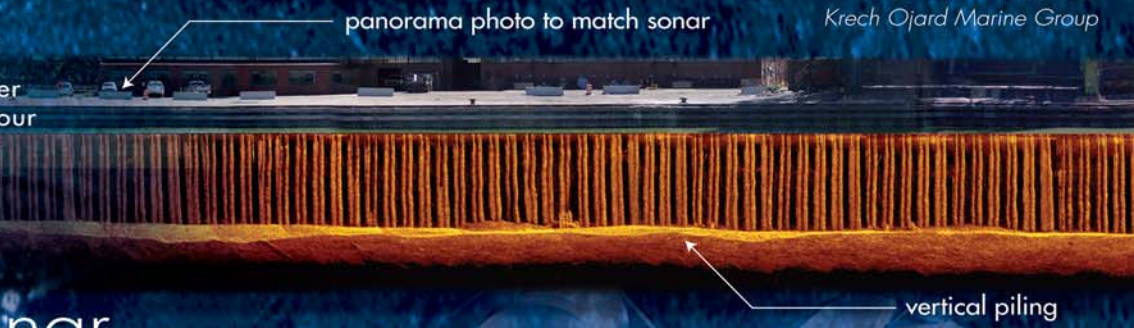
first-hand from professionals about the exciting employment opportunities that exist in the fields of architecture and engineering, right in their own backyards.

Krech Ojard's Marine Group provides nationwide services for the design and rehabilitation of marine facilities and waterfront infrastructure. Our certified, commercially trained divers are also licensed, practicing structural engineers with experience in salt and fresh water environments.

“ It’s rewarding to go back to a client and see them really appreciate what we’ve done.”

~ Dave Gillson
Krech Ojard Marine Group

Krech Ojard specializes in underwater inspections, construction QA/QC, scour assessments, and marine design. We utilize state-of-the-art equipment and engineering experience to identify problems and design and implement solutions in a cost-effective manner.



sector scan sonar

Exciting new technology facilitates the rapid and effective diagnosis of marine-related problems, enabling the prompt development of cost-effective, real-world solutions. Krech Ojard's Marine Engineering Group is using cutting-edge sector scan sonar technology to provide exceptional diagnostic analysis and comprehensive services.

How it works

Sector scan sonar creates an image of large areas of the seafloor. It allows us to map the seabed for numerous applications from the creation of nautical charts to the detection and identification of underwater objects and bathymetric features. Sector scan sonar is often employed in surveys for

maritime archaeology; when performed in conjunction with seafloor sampling methods, it allows us to distinguish the differences in material and texture comprising the seabed.

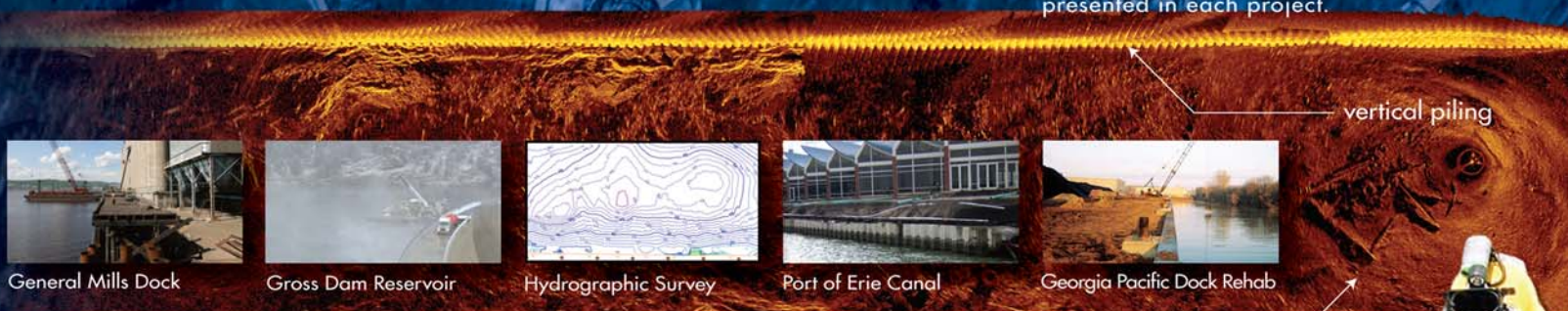
What makes it so effective?

Images provided through the use of sector scan sonar can be obtained easily, even in zero-visibility water with strong currents. Accurate information is difficult to procure using only diving as a source for underwater inspections. Sector scan sonar allows us to efficiently view and document information, enabling us to focus diving inspection tasks on damaged areas, areas of concern, and any anomalies indicated during the sector scan phase of inspections. When compared

with its technological predecessor, side scan sonar, which only visualized the general presence of objects, sector scan sonar can indicate with superior precision what the objects are. Understanding what exists below the surface of the water enhances our opportunities to quickly and effectively address marine-related issues.

Providing complete solutions

Coupled with the expert analysis and insights of our professionally certified engineer/divers, marine staff and GPS positioning, sector scan sonar allows us to provide clients with comprehensive inspections, reports, recommendations and designs to address the unique needs presented in each project.



General Mills Dock



Gross Dam Reservoir



Hydrographic Survey



Port of Erie Canal



Georgia Pacific Dock Rehab

recent marine projects

The Southport Terminal project required the design of a new 1250-foot bulkhead wall and dry dock basin for a new terminal structure developed for the St. Paul, Minnesota Port Authority.

A new slip and marine travel lift was the focus of a project undertaken in Cleveland, Ohio for Great Lakes Towing.

For the Williamsfork Dam project in Parshall, Colorado, Krech Ojard's acted as the owner's representative and provided QA/QC during construction for the installation of a new trash rack and slide gate.

After Hurricane Katrina destroyed a dock and unloading structure in New Orleans, the marine group designed a 1,000-foot replacement structure for USG Corp.

CN Railway retained Krech Ojard for sector-scan sonar and diving inspection services at several of their dock locations across the country.

At the Brandon Shores power plant facility in Baltimore, Maryland, the Marine Group performed sector scan sonar and diving inspections on existing cells and structures. We provided improvements for a limestone and gypsum handling system, and designs for two 40-foot-diameter cells with bollards, marine supports for conveyor bent structures, modifications to the dockline, and demolition plans.



new-employees



David Oakes has returned to head the Mechanical Engineering/Materials Handling Group. Oakes graduated from the University of Minnesota with a degree in mechanical engineering.



Chris Smith has joined Krech Ojard & Associates as a civil technician. Smith graduated from Lake Superior College with an A.S. degree in civil engineering technology.



Lara Wilkinson has joined Krech Ojard as a communication intern. Wilkinson is a student at the University of Minnesota Duluth.



Richard Kresky has joined Krech Ojard & Associates as a technician for the Structural Group.



Jim Gampetro, EIT has joined the firm as an engineer-in-training with the Mechanical Group.



Kevin Ehrenreich has joined Krech Ojard as a senior structural engineer.



David Franseen, PE has joined the Krech Ojard staff as a senior structural engineer/project leader. Franseen graduated from UMD with a degree in civil engineering.



Michael Severson has joined our staff in the Bellingham, Washington office as a structural technician.



Kane Tewes, AIA, LEED AP, of Krech Ojard's Architectural Group was recently certified as a Leadership in Energy and Environmental Design Accredited Professional (LEED AP). Tewes' work is at the forefront of effective environmental design.



William Armstrong has rejoined the firm as a senior technician in the Duluth main office.



Joseph Maki is working as a senior technician with Krech Ojard's Civil Engineering Group.



Corey Pranger, a structural engineer in Krech Ojard's Eau Clair office was recently certified as an ADCI, Nitrox, TDI and PADI diver.

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