



# Look to Lakehead

## BILLINGS PARK *Bridge Repair*

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## Spartan Sports Complex

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## Greetings, All,

Welcome to our fourth issue of *Look to Lakehead*. As always, I would like to extend a big thank-you to our valuable trade partners, suppliers and subcontractors for their contributions. Without them, this publication would not be possible.

For nearly a century, Lakehead Constructors Inc. has been providing construction services to the upper Midwest. We are leading the way in safety, quality, innovation and service to our customers by continually investing in people, equipment and technology. By repeatedly investing in people and programs — such as the Zero Injury safety program, the ISO 9001 quality program and the AISC Steel Erector program — we enhance the overall worthiness of our projects, making Lakehead a clear choice for our quality- and value-minded customers. In this very competitive business, the dedication of our quality employees and highly skilled tradespeople is necessary to achieve our goal of becoming the contractor of choice for our customers. Our good relations with owners and labor allow us to form alliances on significant projects to benefit all parties.

In this issue, you will find several articles on some of our recent projects from this year. A handful of the projects highlighted in this issue are located right here in Superior: the bridge repair project in Billings Park, the train positioner project at the BNSF Allouez facility and the new Spartan Sports Complex at Superior High School. This year's magazine is completed by several other projects and department articles, all of which I hope you find interesting and informative.

As we near our 100-year anniversary, it's worth noting that not many companies have the honor to say they have been in business for that long. Times have changed; customers and their expectations have changed ... resulting in the need for Lakehead to change with them. As we move forward in the next year, we can only continue to be successful with employees who are willing to go above and beyond the norm and our performance that exhibits a spirit of exceptionalism. These types of employees, coupled with the diverse and dynamic abilities we have shown as a contractor, will lead us into what we hope to be another 100 successful years.

In closing, I would like again to thank our employees, suppliers, subcontractors, unions and associates who make Lakehead Constructors the great company it is.

Best regards,



Brian Maki  
Chairman, President and CEO

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### Mission Statement

The mission of Lakehead Constructors is to provide innovative, reliable and high-quality services to clients throughout the upper Midwest. We treat our clients honestly and provide services that represent an excellent value. We fulfill our mission by developing highly trained and loyal employees who work as a team to anticipate, identify and respond to clients' needs.

### Vision Statement

Lakehead Constructors' vision is to be the contractor of choice for our clients. Our exceptional employees allow us to partner with clients to continually identify ways to improve existing services and to build on Lakehead's experience and quality innovation to adapt our expertise.

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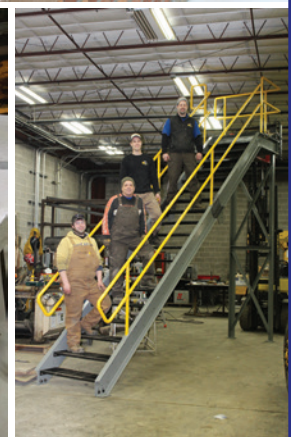


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**Core Values**

In support of LCI's objective of being the most admired contractor, we are building on a framework of strong corporate values.

**Safe Production**

- Record production with lack of injuries
- Good housekeeping and orderly work areas
- Well-maintained equipment, proper training and procedures
- Looking out for and correcting each other
- Safe conditions, safe behavior

**Customer Focus**

- Listening to the customer
- Being responsive and on time
- Meeting quality expectations
- Help the customer succeed

**Creating Economic Value**

- Doing the right things right the first time
- Elimination of waste and inefficiency
- Breakthroughs in productivity and technology

**Bias for Action**

- Getting things done
- Reduced red tape
- Barrierless
  - Call anybody you want
  - Management by fact
  - Plan the work – work the plan

**Trust, Respect and Open Communication**

- Open access to information
- Constructive conflict
- Delegation to the appropriate level
- Tolerance of failure in pursuit of business success
- Encouraging the acceptance of different opinions
- Feeling an obligation to explain your actions to those they affect
- Gender and racial diversity

**Group/Individual Accountability**

- Behaving in line with our core values
- Being responsible for our actions
- Providing plans/standards/expectations
- Holding yourself and/or the group to a high standard of performance
- Walk the talk

**Integrity**

- Doing what you say you're going to do
- No hidden agendas
- Doing the right thing
- Being truthful
- Zero tolerance – not walking away from a situation
- Be credible

**Teamwork**

- Actively involve others in decision-making
- Know when to take a leadership role and when to be an active member
- Recognize the value of teamwork and the synergy it creates

**Recognize and Reward Achievement**

- Celebrating successes
- Stress training and development
- An effective appraisal of performance
- Giving a simple thank-you

**Environmental Stewardship**

- Going beyond compliance
- Being socially responsible
- Anticipating and addressing potential impacts before they occur
- Personal accountability
- Operating to conserve the environment for future generations

These core values are important to our future.

Everyone will be judged on his or her support of and commitment to them.

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# LCI SUPERVISOR DEVELOPMENT

## The AGC Supervisory Training Program (STP)

by Stephen Jones, Vice President, Safety/Field Resources



- Unit 9: Productivity Improvement
- Unit 10: General and Specialty Contractor Dynamics

The STP curriculum provides a learning experience for participants, with courses that are activity-based with discussions, case histories, problems and exercises. Participants in STP courses draw upon their field experience and learn by interaction with others from all areas of the construction industry. Each of the 10 STP units is a 15-hour course, accounting for 150 hours of instruction. Each unit is divided into five sessions, each with three hours of instruction presented once a week over a five-week period.

Lakehead Constructors has participated in the program through the AGC of Minnesota (AGC-MN) chapter since January 2012, with our initial class of six participants. Those employees — Randy Koenen (Carp), Jeremy Browen (Carp), Joe Sobolik (Lab), Shawn Vickerman (Lab), Conn Mattfield (IW) and Robb Wake (IW) — have all recently completed the two-year process and graduated from the program in January 2014.

The AGC-MN chapter has had 214 graduates from the program since 1989. This group of six supervisors is the first to complete the entire program using the AGC-MN webinar participation option. Congratulations to all on a job well done.

LCI believes this program provides our project leadership exposure to skills that supplement and complement the development and practical experience gained through traditional methods of learning to be a superintendent “on the job.” 2014 also introduced a second class of future leaders into the program to continue the company’s efforts to support and create high-quality project leadership.

**H**ow prepared are your personnel for the high-level responsibility and role they assume when they are assigned supervisory positions? Having asked ourselves that question, and in an increasingly more sophisticated workplace, we came to the conclusion that traditional methods of developing supervision, which leaned heavily on learning by doing, weren’t enough to ensure our most critical project leaders were being given the best opportunity to succeed. Transitioning from a craft-worker mindset to a supervisory mindset requires additional knowledge and training to supplement existing technical excellence.

The Associated General Contractors of America’s (AGC) Supervisory Training Program (STP) is a construction-specific training curriculum developed, updated and field-tested by and for contractors. The comprehensive 10-course program focuses on the knowledge and skills that every supervisor must have to be a quality, safe and effective manager of people, time, equipment and materials. The program curriculum includes:

- Unit 1: Leadership and Motivation
- Unit 2: Oral and Written Communication
- Unit 3: Problem Solving and Decision Making
- Unit 4: Contract Documents and Construction Law
- Unit 5: Planning and Scheduling
- Unit 6: Understanding and Managing Project Costs
- Unit 7: Accident Prevention and Loss Control
- Unit 8: Managing the Project – The Supervisor’s Role



# Quality Corner Update

by Shawn Rojeski, Manager, Corporate Quality

Over the last several issues of this magazine, I have written about a couple significant company milestones regarding the implementation and subsequent status of programs across the company: initially our July 2010 ISO 9001:2008 certification, and then, more recently, our recognition in March 2013 as an Advanced Certified Steel Erector.

Lakehead was fortunate to have a successful ISO quality program and a Zero Injury safety program both up and running before we started the steel erector certification process. Both of these programs are foundations of the steel erector certification, and since we had proven successes in each, we were able to quickly and efficiently complete the process and achieve this latest certification. In each program, processes and procedures were already well defined and in place, and therefore, we didn't need to create them.

Currently, Lakehead is at a point with each program where we are over the initial implementation stage and now need to focus on maintenance and continual improvement in each of the respective programs. How can we get better, how can we perform better, and how can we be better than the competition?

This question can be tied back to the President's Message on page 3 of this issue, when the concept of "spirit of exceptionalism" was mentioned. As times, customers and expectations change, so must the contractor. Status quo, good enough or just being average seems to no longer be acceptable in business, and thus continuing with that thought process gives

the customer no good reason to continue business with you. Some company is likely cheaper than your company is. You need to be above and beyond the competition. Find a way to be better than the rest. Something, above and beyond everybody else, is needed. Accomplishing this can be done in a number of ways, with some of them being easy and some of them requiring serious planning and commitment from the top management of your company. Things like state-of-the-art equipment, technological improvements, exemplary employees willing to go the extra mile or any type of value-added service offered are all potential solutions.

One of the ways to gauge the success of something — in this case, one of our company certifications mentioned above — is to measure and monitor progress through an internal audit program. Currently, Lakehead has seven different people who serve as internal auditors in addition to their normal duties and responsibilities. To be overly simplistic, this group of people is responsible for reviewing a process or procedure and comparing it to what we are actually doing. This can be done by in-person discussions, reviews of records or maybe actually watching some-

thing be done. Based on what is found, a summary is made, and appropriate actions are then taken in any area that is found to be not following our own rules. The process is not meant to be punitive, but rather to serve as an avenue to continually improve what we do. One of the basic concepts of the ISO program — continuous improvement — is just one small aspect of any of the above programs that need to be effective on a daily basis.

*Currently, Lakehead has seven different people who serve as internal auditors in addition to their normal duties and responsibilities.*

In order for the company to continue on the path of success, it will take a conscious effort by all employees to focus their attention on what we are already doing well ... and try to do it just a little bit better. The "spirit of exceptionalism" type of mentality will not only help us continually improve but will also provide more foundation in our continued effort to fulfill our vision of becoming the contractor of choice.







# Billings Park – *Bridge Repair* Superior, Wisconsin

by Brian Hubbard, Project Manager

I am guessing, if you were to categorize services or core sectors of Lakehead Constructors you might be thinking: industrial, commercial, heavy lifting, mining, power, petroleum, refining or railroads, all of which land in the private sector. I would be right there with you. However, we pick and choose projects to pursue, each and every day, based on availability of supervision, probability of success and timing. Because of that process, we found an opportunity to step outside those core sectors and pursue a heavy highway public-sector project for the city of Superior. The project, titled “Billings Park–Bridge Repair,” consisted of demolishing a 1930s-era 200-foot-long road and walkway. The structure included three 100-foot-long curved retaining walls with a culvert in the bottom of a valley. The structure was constructed of red sandstone joined by mortar on the upper 5 feet with stacked concrete slabs on the lower portion of the retaining wall.

The new construction consisted of a pair of deep staircase-spread footings on a radius, providing barring for the 18-inch-thick cast-in-place outer walls. At the deepest point of the valley, the walls were 22 feet in height poured monolithically, using a form liner to achieve a veneer stone appearance and detailed formwork to create an integral wall cap, all while making curved retaining walls from a flat concrete form. The plan also called for installation

of a 36-inch reinforced concrete pipe to be installed above the wall footings and through the wall sections with aprons projecting out each end. A third interior retaining wall was installed to delineate a walkway and replicate the original structure. Once the walls were in place and the concrete had a cure, we backfilled the structure and installed an underdrain to weep the system, allowing relief from any trapped water. We finished out the

project with fine grading, curb, gutter, site restoration, paving and staining of the concrete walls. The title “Billings Park – Bridge Repair” doesn’t do the project justice or give the workers credit for the 30 tons of rebar installed, the 540 cubic yards of concrete poured, the 3,400 cubic yards of fill excavated, the 4,000 cubic yards of backfill material placed and compacted, or the 200 tons of asphalt laid. Lakehead self-performed all the earthwork and concrete on this project.

We stepped outside our core sectors and found an opportunity to put our abilities to work. Lakehead Constructors is very well suited to step into a different environ-





ment and perform quality and safe work at a high level. I attribute this ability to our field supervision, as Lakehead employs a wide range of skilled and trained supervisors. We employ bricklayer, boilermaker, carpenter, ironworker, operator, painter, pipefitter, millwright and laborer supervisors. When the timing is right, this wide range of supervisors allows Lakehead Constructors to step into almost any construction opportunity. You will see Lakehead pursuing more heavy civil public-sector work and other opportunities outside our core sectors in the future. Many companies are facing retirees in the supervisory ranks, including Lakehead. Years ago, in anticipation of this potential problem, Lakehead was proactive and has been identifying and developing a healthy number of new supervisors in an effort to seamlessly take the place of the retirees as retirements happen. The Billings Park project was led by one of our newer supervisors, Shawn Vickerman. We matched Vickerman up with one of our veteran carpenter general foremen, Doug Berger, and the team proved to be a good mix of experience.

Even with a good team in place, most jobs have challenges, and this job was no different. On the fourth day on the job site, we got a visit from an OSHA inspector. Vickerman took the inspector through the job site work areas and reviewed our internal task planning, excavation and confined-space permits. The inspector was thoroughly impressed with our documentation, so much that he called our office and relayed his observations to one of our vice presidents.

Another challenge on this job was the physically small construction site that resulted in material being stored across public streets in the neighboring homes' boulevards and on the lawn of a city park. With material and supplies placed all around the work site, we still had to get access for dump trucks, concrete trucks, concrete pump trucks and a crane to complete the work. Vickerman did an excellent job of orchestrating this job with the cards he was dealt.

Lastly, this past summer also proved to be a challenge to find union labor locally. We filled out this job with a combination of LCI Twin Ports regulars, craft provided

by the Duluth Local halls, LCI Grand Rapids area regulars and LCI Iron Range regulars. Being a regional contractor gave us the ability to pull resources from various parts of the company to staff this project according to the jobs requirements. Once we ramped up on this project, we stayed on-site until we brought the project to completion. Todd Janigo, city of Superior assistant public works director, was very pleased with Lakehead Constructors' performance and commented on it in our job closeout meeting.

As with most construction projects of this type, it is nearly impossible to complete a project without causing some type of disruption to the immediate area. Disruptions could include traffic, access or simply construction noise in the neighborhood. However, the neighbors immediately adjacent to this project welcomed Lakehead into their neighborhood. With this welcoming approach came a mutual respect for our work area and equipment, their property and access to their homes.

Superior resident Mary Jo McKenna praised Lakehead and other partners in the Billings Park project in an article published in the *Superior Telegram*. The project "literally took place in my own front yard," McKenna wrote. "The coordination and seamless operation of all the companies involved was truly a sight to behold. From the major players, Jay Knoke, CWE project designer, Lakehead Constructors, Brian



Hubbard, project manager, Shawn Vickerman, site superintendent, his co-worker Rob and the rest of the supporting cast from Lakehead; SEH personnel, Dan Hinzmann and Jerry Haldorson, SWL&P technicians, Udeen Trucking, and heavy equipment operator Walt. All performed in a most efficient, safe and neat manner," she continued. "Thanks to all for the fabulous job."

With the neighbors at ease, Jerry Haldorson from SEH, which provided the city of Superior with construction oversight services, and the Lakehead crew were able to concentrate on the job at hand. This focus allowed us to complete the job in a timely fashion and return this quiet neighborhood to the residents with a new look and safer roadway. This project gave Lakehead Constructors the opportunity to show the city of Superior our abilities and develop new relationships that we can build on through the years to come.

#### Reference

1. McKenna, Mary Jo. "Job well done in Billings Park." *Superior Telegram*. November 11, 2014.





# BNSF ALLOUEZ TACONITE FACILITY TRAIN POSITIONER UPGRADE

by Brian Johnson, Senior Project Manager

The BNSF Allouez taconite facility located in Superior, Wisconsin, needed to upgrade its existing train positioner at the facility's southern car-dumper building. The existing positioner was installed in 1976 and had exceeded its original life expectancy. The existing positioner was a rack-and-pinion design and was driven with five onboard hydraulic motors. BNSF wanted to replace this with a wire-rope-type positioner for reliability and to avoid any environmental issues that can come with hydraulic oil spills. BNSF chose to install a Metso-designed and -fabricated positioner, and Lakehead Constructors Inc. won the bid to install it.



BNSF also chose to upgrade the car-holding system to get away from the hydraulic system it was using. To replace the car-holding system, BNSF contracted with Metso to provide an electrically driven wheel-chock system to replace the hydraulic wheel-clamping system. BNSF also wanted to be able to dump trains that utilized 42-foot-long cars and not just trains with their standard 35-foot cars. The original system could stage three cars over the dump hoppers and utilized three hydraulically driven car door openers to dump the cars. To accommodate a 42-foot car, the center opener was relocated approximately 5 feet to the north of the northernmost opener. In addition, a new opener that has the ability to move parallel to the track was installed where the center opener was. This new system can still accommodate three 35-foot cars or two 42-foot cars at the same time. The new opener system was a separate contract to LCI, and the new opener was designed and fabricated by WorldWide Machining & Welding, a local Superior-based company.

The typical taconite unit train has 180 35-foot cars and, when fully loaded, weighs 24,000 tons (18,000 tons of which is taconite). So a positioner designed to pull this load has to be

very robust to handle not only the weight but to also be able to cycle through 60 indexes per train and handle up to two trains per day, 365 days per year. In an average year, the Allouez facility will move 8 million tons of taconite through its location. As stated earlier, this new positioner is a wire type, meaning that it utilizes a large electrically driven winch to pull the positioner carriage via two 2.25-inch wire ropes and associated sheaves. As the winch spools the west cable on, the east cable spools off and, in turn, pulls the carriage to the north. Onboard the carriage, there are two large positioner arms, one of which is the main arm that is lowered between cars to engage the car couplers. This engagement allows the train to be pulled by the positioner. The second arm is only utilized to push the locomotive at the end of the train to finish indexing the last cars in front of the locomotive. The carriage itself rides on its own set of rails and is kept in alignment with guide wheels running on a horizontally mounted rail on both sides of a concrete stem wall directly underneath the carriage.

This project had two unique challenges LCI had to successfully overcome. First, due to the location of the new equipment, we were unable to utilize a large crane that is typically used to set positioner

equipment. Secondly, we had to schedule all of our work around the train schedule because BNSF's commitment to its customers took priority over the project work.

We met the first challenge by designing a large (about 40,000-pound) cart with a rotatable top that would ride the rails into the building. The cart top had to rotate to accommodate the winch, which was wider than the access door. We were able to set the cart on the rails, set the winch frame on top of the cart and then set all the winch components on the base (the total weight of the winch was about 88,000 pounds). Between the winch base and the rotating top, we had a track system with machine skates. When we moved the cart into position, we were able to rotate the top and then skate the winch off the cart onto a cribbing platform. We then lowered the winch the old-fashioned way, by jacking up the winch with hydraulic rams and removing the cribbing in about a dozen sequences. Although we had to install the main body of the carriage in a similar manner, we were able to install the smaller items with a 15-ton carry deck and telehandlers.

The second challenge took patience and a good crew that was willing to work a flexible schedule. Some days we could only work four hours, and other days we had to work 12 hours. We also had to have outages during which the crews worked around the clock for several days. The first outage was to replace the existing holding system, which required the removal of a section of track and

the demolition of concrete footings. We then had to place new footings with embedded wheel-chock frames and install new rail beams before we could reinstall the track section. The second outage was to upgrade the car openers mentioned earlier, demolish the old positioner and tie in the new positioner to the overall system.

The new system included a new MCC building and all-new electrical and control wiring that had to be integrated with the original operating station. Benson Electric Company, our electrical subcontractor, did a great job and worked very well with Metso's electrical on-site technician to make sure all the wiring and logic did what it was supposed to do.

Like all projects of this scope, it takes a team to make sure it stays on track and the work gets done in a safe and productive manner, with safety and quality being the main focus. The BNSF team, Metso's on-site technicians and LCI's crew came together to finish the project without injury and on budget.



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# SPARTAN SPORTS COMPLEX

## Superior, Wisconsin

by Brian Hubbard, Project Manager

This past summer, Lakehead Constructors had the opportunity to help build a part of the new NBC Spartan Sports Complex in Superior, Wisconsin. This new sports facility features synthetic playing surfaces throughout the baseball field, batting cages and a football/soccer field. The facility also includes a track and field venue, with the track encompassing the football/soccer field and the field events surrounding the track. The Superior School District and Rettler Corporation (construction manager and landscape architect) from Stevens Point, Wisconsin, split this \$5 million complex into four bid packages: contract "A" (general site construction), contract "B" (site electrical), contract "C" (building construction) and contract "D" (synthetic track surfacing).



Late in February 2014, Lakehead Constructors decided to pursue the bid opportunity for contract "C." In early March, we were notified that we had been awarded the contract for this part of the project. This contract was broken down into two phases. The first phase consisted of a concession/restroom building, and the second phase included the construction of two new dugouts and the scorers building at the baseball field. The first phase had a set deadline of August 15, 2014, and was driven by the desire of the school district to utilize the new buildings and facilities for the start of the high school football season.

As is common with many construction projects, after Lakehead received notifica-

tion of our winning bid, Rettler Corporation contacted us and stated that nearly all the low bids for the project were over the engineer's estimate. We were asked to review the plans and scope of our work to see if we could identify anything in the project's design for which we could propose a change order to save costs. As a company, we saw this review as an opportunity for LCI to show both the construction manager and the school district a value-added service that LCI can offer. The objective of the review is to develop value-engineering options for alternate design ideas, with the ultimate goal of lowering the overall project cost. Lakehead used this opportunity to meet with our major subcon-





tractors on the project and started a series of project reviews. These review meetings turned out to be a success. Multiple ideas were proposed, and several were later approved and resulted in approximately \$55,000 in savings to the school district. In the end, our ideas did not change the size or appearance of the structures originally proposed.

The positive of providing value engineering on this project is the cost savings were spent to further enhance the sports complex. Rettler Corporation and the school district did a very good job building alternate pricing options for add-on items beyond the base project bid packages. The contract strategy was extremely effective for this type of project. Once all the contracts were awarded, the school district then determined how many fundraising dollars it would need for the alternate/add-on items desired. The low-cost bid and value-engineering options LCI provided helped the school district achieve some of the add-on items for the project (for example, lights on the baseball field and synthetic turf on the entire baseball field). Those extras helped make this a complete project for current and future athletes in the community and around the region to enjoy for a long time to come.

Our customers are always looking for a value-added service, and for LCI to be able to measure and demonstrate that value is sometimes difficult to accomplish. This project allowed us to easily measure that value — Low bid (\$120,000) + Value engineering (\$55,000) = Value

(\$175,000) — all while fulfilling LCI's quality and safety program requirements.

Once we were able to mobilize on-site on May 19, our site superintendent Brian Waters took control of this project. He coordinated with Lakehead's nine subcontractors, not to mention the additional contractors who were responsible for the three other major bid packages, all of whom were working on-site at the same time. This was my first opportunity to work with Brian as a superintendent, and it proved to be a success, delivering a quality project on time and under budget. This success can also be attributed to the major subcontractors hired as part of this project: Belknap Plumbing and Heating, Benson Electric, and Stretar Masonry. From the first meeting we had with Rettler Corporation to the last progress meeting with the School District of Superior, everyone kept open lines of communication, with focus on completing this project with the best value for the community. Dollars saved on one contract would be spent on additional items in another contract.

In closing, we bid successfully on contract "C" for the NBC Spartan Sports Complex in Superior. We were able to measure value on this project for the owner and successfully complete the project with a highly publicized deadline. Building the NBC Spartan Sports Complex was a success on all fronts, and the Lakehead team enjoyed being a part of it. Lakehead contributes to the Superior community in many ways, and we hope to partner with you on the next project!

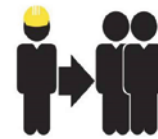


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# HIGHLAND COMMONS

## Arlington, Minnesota

by Rick Harvey, Senior Project Manager

At any particular moment, when looking at a list of current projects Lakehead Constructors is working on, a person could easily conclude that a large part of our workload focuses on routine maintenance and service work in the taconite mines and power plants of northern Minnesota. However, not everyone would realize that Lakehead also does work in the commercial side of construction, such as upgrading and remodeling multiunit apartment buildings.



For a number of years, Lakehead has been looked upon to do complete remodeling on a number of different apartment/townhouse complexes owned by Superior-based Bachand Group. Our most recent project, Highland Commons, was a three-building project located in Arlington, Minnesota. This particular project included one building with 33 individual apartment units; two townhouse buildings with four units each; commons area remodeling; and major building upgrades of electrical systems, mechanical systems, roofs and exteriors. In total, 41 individual apartment units were completely remodeled over the course of the 21-week project.

Although the project timeline may not seem significant, one of the challenges Lakehead had to deal with was successfully completing each unit while it was occupied. Work in the buildings was only done during the day shift, in order to mini-

mize the disruption as much as possible. When we were remodeling an individual apartment unit, a normal week started with complete demolition of the bathroom on Monday morning, followed by kitchen demolition on Monday afternoon. By the end of day on Monday, the bathroom was returned to functional for the tenants. The next three days were very busy, not only for Lakehead employees but also for a number of different subcontractors. Each apartment and townhome unit received an electrical upgrade; new windows, doors, cabinets, appliances, plumbing fixtures and flooring; and an air conditioner. All work was done to each unit in one week, with four to five units completed by the end of day on Thursday. In addition to all the newly installed fixtures meeting or exceeding the energy codes, approximately 35 percent of the project's waste products (appliances, concrete and cabinets) was recycled.

The apartments' commons area received paint and new flooring. One of the critical aspects of the project involved the building's elevator, which was refurbished and upgraded. With this upgrade work, including a new fire/smoke alarm system, the elevator was out of service for approximately seven weeks. In an effort to continually minimize disruptions for the tenants, Lakehead installed a temporary chairlift so any tenant unable to use the stairs was accommodated.

*In total, 41 individual apartment units were completely remodeled over the course of the 21-week project.*

Exterior upgrades were also done on some of the buildings, many of which included new roofs, entry doors, door hardware upgrades, stairways, sidewalks, driveways, decks and privacy fences. On average, 10 to 12 workers were on-site each day working in different areas of the project, highlighting the significance of good communication and coordination between all parties involved. The project could not have been successful without cooperation from the owner, the occupants, the architect, the local building supply stores and, finally, the workers on-site.



# Minnesota Power

## Laskin Energy Center Upgrade

### *Hoyt Lakes, Minnesota*

by Joe Polo, Project Manager

Being an environmental leader, Minnesota Power was one of the first utilities in the nation to install scrubbers on all of its operating units in the early 1970s. Minnesota Power is now taking another step to further reduce emissions at its facilities as it converts the Laskin Energy Center, a 110-megawatt scrubbed coal-fired power plant, to natural gas. This will be Minnesota Power's first natural gas facility as part of its EnergyForward plan.

Lakehead Constructors was hired for the first phase of the Laskin gas conversion project, which included approximately 6,000 feet of 8-inch pipeline as well as a launcher and receiver station, a water bath heater, and regulator buildings. Lakehead, along with Hoover Construction as the earthwork subcontractor, self-performed the installation of the station and building foundations, as well as the mechanical piping on the project.

The mainline portion of the project started with stringing pipe with backhoes that had a vacuum attachment. These "vac-hoes" were capable of lifting 8,000 pounds per unit with no mechanical connection whatsoever. The vac-hoes were instrumental in safely and productively unloading trucks and stringing pipe. Normally unloading a truck is a bit of a precarious task, with two men crawling onto the trailer to attach pipe hooks to lift each stick of pipe. A ground guy maneuvering skids is also needed for the operation. Utilizing a vac-hoe, the crew is reduced with the two hook men eliminated. The operator gets the rig into position and hits the vacuum button,

and within a minute or so, the stick of pipe can be safely lifted off the trailer.

Another benefit of using the vacuum attachments is the fact that it is a coating-friendly way of moving pipe. The pipe we installed on this project was FBE-coated. FBE coating, also known as fusion-based epoxy coating, is an epoxy-based powder coating that is widely used to protect steel pipe and other piping components used in the pipeline industry from corrosion. If this coating were compromised by being scraped or gouged off, it would mean the pipe is not protected in that area. Because the vac-hoes are so coating-friendly, we also used them for lowering pipe into the ditch in areas that would be tough to go back and test the coating thickness.

For the mainline welding, we used an API 1104 downhill weld procedure, which we helped Minnesota Power qualify. Our on-staff certified weld inspector, as well as project management and welders, helped develop the procedure, ran the procedure coupons and set up the weld qualification testing. This was done on three separate procedures specific to the materials, orientation and environments for each welded connection. The quality of the welding was fantastic on this job, with only one weld



repair on just under 200 welds. This virtual elimination of rework significantly helped production and flow on the job.

This project had an impeccable safety record, working over 11,000 man-hours without any documented injuries. Our crew's attention to detail, pretask cards, stretching routines and daily toolbox talks helped to ensure a safe crew that watched out for each other. We passed Minnesota Department of Transportation as well as Minnesota Office of Pipeline Safety audits and walkthroughs with flying colors and several compliments.

The completion of the Laskin gas conversion project culminated with a plant shutdown in mid-February with plans of being online in early May. Lakehead Constructors hopes to partner with Minnesota Power once again on the final stage of this project to get the plant up and running with a more environmentally friendly fuel source.





# Human Resources Update

by Justin Terch, Director of Human Resources

As a human resources director who is new to the construction industry, I have had the exciting opportunity to learn about this challenging and fast-paced industry and its unique impact on human capital. One of the first areas of initiative has been to understand the great opportunities that exist for managing human resources within the framework of an ISO 9001 organization. Helping to ensure the proper alignment of consistent standards in the managing of people is highly impactful to the success of our work and our clients' continued satisfaction.

One of the key ways that effective human resources systems can be utilized in an organization such as Lakehead Constructors Inc. is working within the philosophy of our ISO 9001 standard by fulfilling the mission of standardization. In the ever-changing environment of employee and labor relations, the ability to create standardized systems of hiring, training, transferring and outplacement is vital to the success of a business. Efficiency and consistency in our employment practices permit our organization to find cost savings that can be passed on to our client base while ensuring a consistently high degree of quality.

As a contractor that employs craftspeople from numerous trades, often for short time durations, a key challenge is managing the flow of personnel-related information. While the flexible nature of our work provides a unique opportunity, managing the flow of information and resources in that world is often difficult. As a key area in our process of improvement, information exchange will be at the forefront of our future. Integrating appropriate technologies and developing strong relationships with our labor partners has always been a hallmark of Lakehead's efforts. Moving forward will require us to continue building on those values.

The increasingly complex legal and regulatory environments provide additional challenges and opportunities to our firm. As the spiderweb of state and federal laws continues to evolve every few months, our ability to keep up with the needs of our local workforce will be key to fulfilling client demands. With operations in three different states, human resources provides Lakehead Constructors with the expertise to manage multiple and oftentimes conflicting regulations that require our management team to be flexible and creative to meet expectations while remaining compliant. This regulatory environment is projected to continue on its current trend for some time, with organizations being challenged in new ways to incorporate additional administrative burdens while still remaining flexible and nimble to meet unexpected client requirements.

The Minnesota Women's Economic Security Act, for instance, has mandated certain reasonable accommodations for employees who previously were almost unheard of in our industry. On the federal level, the Patient Protection and Affordable Care Act has required contractors to carefully examine their current benefits packages and eligibility periods to maintain compliance. Further, equal employment opportunity and affirmative action requirements create



a need for more detailed information management that needs to be regularly sourced and verified to ensure organizations are meeting the requirements of their state and federal regulators.

The changing demographic of our workforce also presents new opportunities for success. As the labor body ages, our teams have more experienced and skilled tradespeople on whom to rely for challenging projects. At the same time, however, this reality poses new challenges for our labor partners to provide additional inflow of workers who are able to fill positions as retirements of our long-term employees continue to occur at a more rapid pace.

As our workforce continues to change, the effective management of our workers' compensation and return-to-work planning will be at the forefront of risk management. Helping our employees avoid injury and effectively managing those injuries that do occur allow the human resources department the unique ability to find value-added initiatives to encourage healthy work habits and quick recovery times while limiting our risk exposure.

As a strategic business partner, human resources is a critical link between employment law, business strategy and organizational psychology. Coordinating with colleagues in our safety, field resources and construction departments creates a more streamlined and professional organization that is able to meet our clients' variety of needs and expectations. Our continuous-improvement commitment is only enhanced by the flexibility and best practices that can be engendered in a multidisciplinary model of teamwork that promotes success and ethical business practices.

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