

SUPPORTING CLIENTS' VISIONS



INVESTING IN THE FUTURE

2019 // YEAR-IN-REVIEW



We listen. We solve.®

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Taking Bold Steps

The employee-owners of Ulteig were proud to celebrate the company's 75th year in 2019. Although we certainly took time to acknowledge our decades of achievement, our focus was very much on the future and the expected needs of our clients as they navigate new challenges in rapidly evolving markets.

Evolving markets require a constant commitment to improve. In 2019, guided by our strategic plan, we took bold steps to better position ourselves to be more effective, innovative and accessible.

With an eye toward expanding our service capabilities and geographic reach, we acquired Pacific Power Engineers, a well-established and renowned power systems engineering firm in Sacramento, CA. We also opened a new office in Austin, TX. These new locations provide us with opportunities to introduce our services to new clients and allow us to tap into hubs of highly skilled talent.

Innovation requires focus. And focus is best achieved with resources dedicated to the cause. Our clients rightfully expect us to provide solutions that increase efficiency, offer a novel approach and improve their ability to serve their own customers. In 2019, we launched an advanced technology center of excellence designed to identify and commercialize those innovative concepts that could profoundly impact the way we operate in our Lifeline Sectors®.

As you read through the following pages, you will see the range of contributions we have made in our industry, our markets and our communities. Our culture is one that encourages our employee-owners to widely share their expertise. Whether at the podium of an industry conference, visiting a classroom to encourage interest in the STEM disciplines or participating in a community volunteer activity, we are committed to stronger connections and positive outcomes.

All our work in 2019 was accomplished in the context of another year of high-water marks. With record-breaking Net Service Revenue and Orders (36% over the previous year), as well as an employee retention rate of over 90%, our 75th year was our finest to date.

I am proud of what our dedicated and engaged team accomplished in 2019 to advance our vision to be among the most highly regarded engineering and technical services firms in North America. This cannot happen without maintaining a laser focus on the expectations of our clients. We never forget the responsibility and privilege it is to serve as a strategic partner and trusted advisor.

Best,

Doug Jaeger
PRESIDENT & CEO



**In 2019, guided by our strategic plan,
we took bold steps to better position ourselves
to be more effective, innovative and accessible.**

DOUG JAEGER, PRESIDENT & CEO





Industries in Transformation

Our clients are facing unprecedented change in the industry and Ulteig is prepared to support them in meeting those challenges. Ulteig’s multi-disciplinary teams work to develop a deep understanding of these challenges and take a forward thinking approach to help our clients solve for the future.

- **Carbon-neutral goals:** Many utilities have set aggressive goals to become carbon-neutral by mid-century or sooner. Ulteig leverages our broad experience in renewables, power systems design and advanced technology to create integrated solutions for meeting these targets.
- **Energy storage:** Energy storage is critical to grid modernization and the increasing use of solar and wind energy. Ulteig helps with seamless integration of energy storage solutions for many power clients. But this issue has impact beyond corporate or household power use. Our transportation clients know that roadways could be transformed with reliable energy storage – and Ulteig is exploring the ways it will impact vehicle charging infrastructure.
- **Grid modernization:** Grid modernization can involve improving physical framework and distribution lines; improving resilience to climate impacts; and integrating with renewable energy sources such as wind and power. Ulteig is immersed in a key modernization component called “smart communication”– technology design that sends real-time information to a system that responds automatically to efficiently manage the flow of power.
- **Renewables:** The US renewable market is in the midst of annual step-downs for the Production Tax Credits (PTC – Wind) and Investment Tax Credits (ITC – Solar) through the next 4-5 years. Continued cost reductions in materials and consumer demand for low cost carbon-neutral energy will keep the industry on a growth path as it learns to operate in a non-subsidy market. Ulteig brings experience in consulting and analysis to help navigate the fast-changing landscape.
- **Transportation:** The surface transportation reauthorization bill of 2020, replacing the FAST Act, and an increase in local, state and federal funding will be critical. Ulteig is partnering with clients to help secure available funding and tackle the backlog of deficient transportation infrastructure. We’re also delving into transformational technologies like connected vehicles, electric vehicles, mobility as a service, mobility on demand and smart communities.
- **Water resources:** Aging infrastructure, population growth and changing weather patterns all challenge the nation’s water supply. Ulteig is working with municipalities, as well as the commercial/industrial sector on expanding the options for mitigating these issues.



Listening and Solving

On the surface, turning on a light, driving through a busy intersection or pouring a glass water all seem like simple tasks. But the truth is, our clients manage incredible complexity to keep these tasks appearing straightforward and routine. They rely on Ulteig to listen and develop solutions to deliver their essential services to millions.

Our core values

Throughout our 75-year history our core values have served as a foundation to our success.

- We dedicate ourselves to our clients’ success
- We pursue excellence in our work
- We act with integrity



// BOLD VISIONS FROM OUR CLIENTS

Succeeding Together

As a strategic partner, Ulteig is there to help our clients push boundaries and be more successful. In 2019, clients engaged with Ulteig in new ways. Ulteig teams collaborated with our clients to understand and prepare for the impact of new funding, new technologies, new risks and new options that go beyond creating and maintaining traditional infrastructure.

More than ever, we are partnering with cities, utilities, builders, developers and government entities at the very beginning of project planning, to ensure they receive the full benefit of Ulteig’s experience and

expertise. We are expanding our services and adding new capacities to support clients’ current and future needs.

Our clients have set bold goals for themselves and the communities they serve and Ulteig is prepared to help them succeed.

In 2019, nearly **80%** of our clients surveyed described Ulteig as a “strategic partner/trusted advisor”

// INVESTING IN A STRONG FOUNDATION

Accelerating Growth, Innovation and Technology

Our clients’ bold visions drive the investments we make. Ulteig’s strategy focuses on leveraging new ideas and technology and continually expanding our expertise to position us to be a strong partner for our clients.

In 2019:

- We **acquired Sacramento-based Pacific Power Engineers**, adding their expertise in project management and electrical engineering services, including protection and control engineering/design, relay settings studies, NERC compliance analysis and interconnection support to the grid within CAISO. Expanding our geographic reach and capacity increases our ability to serve more clients.
- We **launched an innovation technology center** dedicated to identifying new ideas, incubating emerging technologies, and bringing impactful, viable and forward-looking solutions and services to our clients.
- We **opened a new office in Austin, TX**, enhancing our regional diversification, increasing our ability to continue acquiring exceptional talent and strengthening alignment with clients in all our Lifeline Sectors®.
- We **hired more than 200 new employees**, increasing the Ulteig workforce by 39% and expanding our expertise and resources for our clients.

39%
INCREASE IN ULTEIG
WORKFORCE



// INVESTING IN A STRONG FOUNDATION

Ensuring Safety

Our clients rely on us to ensure our projects meet the highest standards for safety. Safety is the most basic tenet of engineering work, and we owe it to our clients and our employees to deliver.

National Safety Council Award

In 2019, Ulteig received the "Million Work Hours Award."

Presented by the National Safety Council, this award recognizes companies that have zero injuries or illnesses involving time away from work for at least one million consecutive work hours. Ulteig is committed to providing a safe and healthy workplace at all our facilities, offices and worksites while working to eliminate or minimize any environmentally adverse effects of our operations.



Noteworthy OSHA Rating

For the third year in a row, Ulteig's Occupational Safety and Health Administration (OSHA) Recordable Incident Rate (ORIR) was below 1.0. The lower the score, the higher the safety rating.



As a 100% employee-owned company, employee-owners at Ulteig take pride in being champions of safety. As safety owners we are empowered with a collective voice that is committed to making a difference in the workplace, not only to ensure a safe and healthy work environment for ourselves, but also for our clients, our contractors and the public.

LANCE DOCKTER, SAFETY MANAGER

Uncompromising Quality

Quality is where all projects start and finish. Year in, year out, Ulteig's promise of quality remains the same, built into everything we do. You might think we pay attention because our clients require it, but Ulteig is committed to quality because we demand it of ourselves.

No project at Ulteig can begin without a commitment to five quality standards, called our "non-negotiables." Our project teams must cover each of these requirements, vital to ensuring consistent, high-quality services and deliverables for our clients:

1. Effective Kick-Off Meeting
2. Quality Control Plan Established
3. Quality Control Dates Agreed Upon
4. Quality Control Checklists Used
5. Second Set of Eyes on All Deliverables

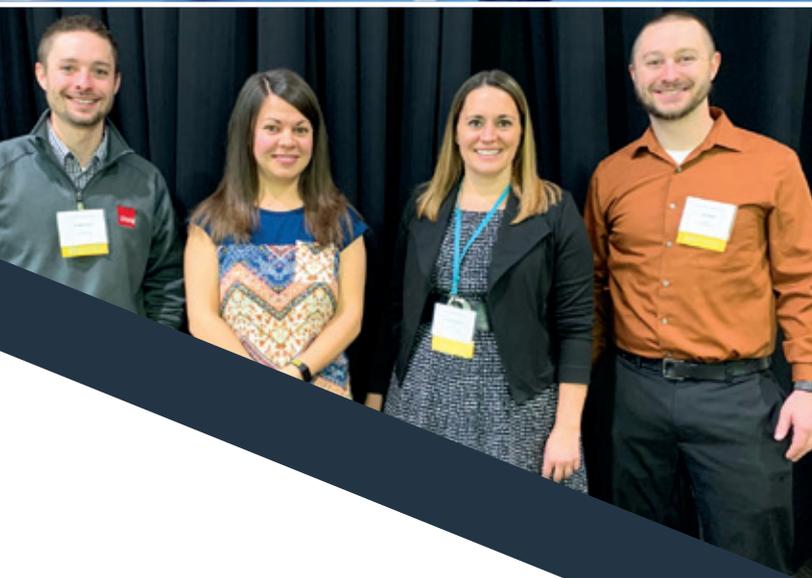
The Ulteig Quality Council

The Council establishes, manages, reviews and administers policies and programs to help maintain our reputation for quality products and services.

The Quality Council acts as the clearinghouse for all proposed quality policy additions or revisions, requested or required training programs and quality compliance.



In 2019, our clients gave Ulteig an outstanding rating of 4.5 out of 5 for overall project quality.



Helping Shape the National Conversation

In 2019, Ulteig team members took part in roundtable sessions, led panel discussions, staffed hands-on exhibits and presented papers at over 75 industry events, including:

Case Study: Substation Foundation Replacement Utilizing Helical Piles

Jordan Guck, PE, Technical Manager, presented the details of an ACEC/MN award-winning Ulteig project at the Minnesota Power Systems Conference, tackling a complicated upgrade to a substation.

Smart Work Zones and the Future of Construction

Clark Roberts, PE, Senior Engineer, co-presented a session on Smart Work Zone (SWZ) strategies (including development of guidelines for SWZs) at the Colorado Training for Transportation & Environmental Professional (TTEP) conference.

Fundamentals of Battery Storage

Joe Fox, Market Director-Power, co-taught an EUCI workshop session providing an overview of legal and regulatory issues; building a comprehensive cost-benefit analysis; evaluating technical and economic modeling; and more.

Joe was also cited as an industry source in the July/August issue of *Engineering Inc.*, extensively quoted in an article titled "Increasing Demand, New Technology Prompting Surge in Battery Storage Market."

Women in Engineering & Construction

Cassie Polman, PE, Associate Director, and **Sarah Beckman**, PE, Program Director, offered their insights as panelists at an EUCI conference on diversity and inclusion, and advancing careers of women and minorities in our industry.

History and Accuracy of NESC (National Electric Safety Code) Rule 250B

Greg Parent, SE, Senior Engineer; **Brandon Hubbard**, PE, Engineer; and **Josh Ratliff**, Design Engineer, presented Ulteig's research findings on the design load accuracy and reliability of transmission lines in front of 800 professionals at the Annual Transmission and Substation Design and Operation Symposium (TSDOS).



// BUILDING A BOLD FUTURE

Sharing Our Expertise

We continually look for ways to bring new ideas, integrate new technologies and build improvements to the services we offer.

Industry conferences and workshops offer Ulteig a valuable platform for sharing the knowledge we've gained and strategizing with colleagues about critical trends and innovations that will inform our clients' needs.

Creating a Great Workplace

The success of Ulteig lies in our investment in outstanding employees dedicated to our clients' success. We are proud to be recognized for our commitment to building a great workplace.



50 Best Places to Work

Prairie Business Magazine

Ulteig was recognized as one of Prairie Magazine's 50 Best Places to Work. With over 1,400 individual nominations, winners were selected based on employee responses to a questionnaire as well as the total number of submissions received by each organization.



National Standard Top Workplace

Minneapolis Star Tribune

For the fifth year in a row, Ulteig was recognized as a National Standard Setter "Top Places to Work" award based on employee nominations. Thousands of organizations participate, but only 150 receive the award.



Top 150 Workplace

Denver Post

In 2019, Ulteig was ranked as a Top 150 Workplace. The award is based solely on the feedback from employees through a survey they take focused on questions about organizational health such as alignment, engagement, leadership and total rewards.

Industry recognition



Top 500 Design Firm *Engineering News-Record (ENR)*

In 2019, Ulteig moved up 14 places on the Top 500 Design Firms list from ENR, which ranks the 500 largest publicly and privately held design firms, based on revenue.



Top 25 Largest Engineering Firms for 2019

Minneapolis/St. Paul Business Journal

National ACEC Award for Engineering Excellence

GIS Application Solution for Energy Distribution

ACEC/Colorado Award for Engineering Excellence

Fall River Road Bridge, Clear Creek County

ACEC/Minnesota Award for Engineering Excellence

Waterville Substation – Foundation Replacement Using Helical Piles

WTS Colorado Innovative Transportation Solution of the Year

Fall River Road Bridge, Clear Creek County

ACPA (American Concrete Pavement Association) Award of Excellence from the Colorado/Wyoming Chapter

Redlands Parkway Roundabout

2019 Project Management Award from CDOT (Colorado Department of Transportation) and the Colorado Contractors Association

Redlands Parkway Roundabout

Zweig Marketing Excellence Awards

Capabilities brochure and 2018 Year-in-Review brochure

Recognizing Excellence

First Penguins

Ulteig transforms the future by inspiring growth through innovation. Our First Penguin Award refers to the penguin who first jumps into the water so that others may follow safely. These awards recognize employees who brought forth a new solution to do something uncommon or innovative to help Ulteig better serve our clients.

Innovative use of a non-traditional technology

Angie Boisjolie, Lead Engineering Technician; **Joel Feik**, Lead GIS Analyst; **Dan Haglund**, Distribution Design Supervisor; **Tad Hase**, Engineering Technician; **Jay Johnson**, Technical Manager; **Doug Kwater**, Lead Land Surveyor; **Chuck Mathson**, PE, Senior Engineer; **Steven Poirier**, Survey Technician II; **Mike Schnetzer**, Senior GIS Analyst; **Matt Thompson**, Project Manager; and **Keith Weatherby**, PE, Director-Field Services, developed interactive Geographic Information System (GIS) applications to provide the client with real-time access to data and decreased time spent in-office. Recognized for a National Award for Engineering Excellence by the American Council of Engineering Companies (ACEC).

Creating tools to save time and money

Ethan Harvey, PE, Engineer; **Adam Hutter**, PE, Lead Engineer; **Ayrton Kuzela**, Design Engineer; and **Dane Swartz**, PE, Lead Engineer, all collaborated to develop and implement a new time-saving design tool. With this tool, the team was able to make a 60% reduction in time spent drafting – affording more engineering time to the client.

Implementing more efficient software and workflows

Casey Bekkerus, Senior Engineering Technician, and **Kory Kleinknecht**, PE, Engineer, researched innovative software programs and taught them to their teams, reducing time and costs for our clients.

Promoting employee growth and development

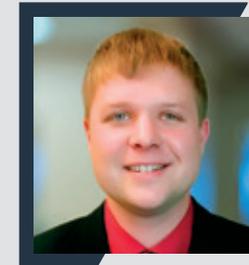
Jeff Heinemann, PE, Technical Director, designed and implemented a new technical management position at Ulteig, offering a new career path for future managers and expanding our teams' capabilities.

Facilitating public and private collaboration

Brian Riniker, PLS, Senior Survey Technician, and **Brad Stangohr**, PE, Senior Engineer, brought together a private client with public entities impacted by their project to create a collaboration process for the benefit of both.



Industry recognition

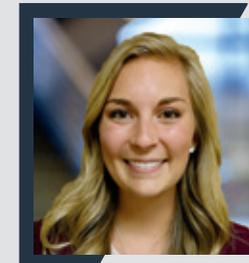


Scott Finnesand, PE, Technical Manager, was named to Prairie Business Magazine's Annual 40 under 40 list featuring young professionals in the Upper Midwest making significant impacts in their profession and communities.

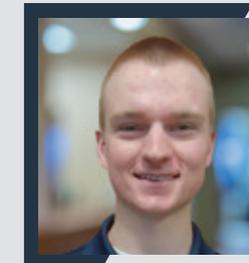


Erin Stegman, Senior Marketing Specialist, was selected as one of just 40 participants in the Leadership Fargo Moorhead West Fargo program.

Ulteig interns **Matt Stoel** and **Becca Franzen** were named Power and Energy Society (PES) scholars by the Institute of Electrical and Electronics Engineers (IEEE), given annually to outstanding electrical engineering students throughout the United States.



Becca was also awarded a RMEL Foundation scholarship, given to deserving, qualified students in a curriculum related to the electric energy industry.



Matt was also named the IEEE John W. Estey Scholar for Region 4, one of just six in the nation.

Working at Ulteig

Commitment to growth

Career development at Ulteig is the link between successful people and successful business results. Ulteig employees take advantage of leadership mentoring, special assignments, tuition reimbursement, professional licensing support and more. Our integrated approach to learning and development helps our team reach their full career potential and drive high performance business results.

100% employee-ownership

We take our own success and the success of our clients personally. As an ESOP company, all eligible employees participate in and benefit from Ulteig's financial results. The more successful our clients, the better our company performs.



I love working at Ulteig because the culture is driven by individuals who are passionate about teaching and learning from one another.

ERIC SWENSON, PE, SENIOR ENGINEER

Engaged with colleagues and community

The company-wide Culture Committee supports a positive workplace atmosphere and fosters active employee engagement through activities that benefit our business, our clients and our communities. Whether it's employee events, volunteer opportunities or charitable contributions, the Culture Committee plays a vital role in promoting internal and external connections.



Everyone at Ulteig is very engaged, open to communication and understanding that no matter your position, we all make a difference.

JOSÉ CACERES, MARKET DEVELOPMENT MANAGER



There are many reasons why people stay at Ulteig. Flexibility, a great leadership team, managers that care about their team members, great benefits and great career opportunities to name a few.

CATHY GREEN, ANALYTICS SPECIALIST



Inspiring the Next Generation

Ulteig shares our clients' focus on the future as a critical part of our mission. We support educational opportunities in STEM disciplines as an investment in future generations.

Minnesota Renewable Energy Challenge (MNREC)

The annual MNREC features students from the Twin Cities metro area competing in the KidWind Challenge. Students showcase and test their performance of handcrafted wind turbines and solar structures, present their design process to a panel of judges, and demonstrate their extensive knowledge of renewable energy. **Paul Pebler**, PE, Design Engineer, and **Charlie Gerten**, Graduate Engineer, helped judge the 2019 event.

Computers for Good Causes

Ulteig supports community and charitable causes in many ways, including donations of used laptop computers. The need comes from diverse places – as close as Bismarck, North Dakota, and as far away as Pell River, Jamaica. The University of Mary (Bismarck) received computers from Ulteig for its School of Engineering, as did the Pell River Community Center in Jamaica, where they are used by students in a homework center run by the Jamaica Area Community Enrichment Foundation.

North Dakota State University (NDSU)

NDSU's class on "Small Community Water Supply and Sanitation" had the benefit of **Brian Hiles**, PE, Senior Engineer, co-teaching and bringing real-world engineering concepts to some of the university's engineering and science students. Brian led the water supply portion of the class, organizing his lectures around the water supply and treatment improvements project Ulteig is doing with the City of Winger, MN, and included a field trip to Winger for his class.

Robotics World Championships

The Minnetonka High School Robotics Team from Minnesota competed in the Robotics World Championships for the second year in a row. Ulteig was one of the sponsors for this talented group of science students, who finished first in the Minnesota regional tournament in 2019. The team's mission is to promote an appreciation for technology, engineering and robotics through competition, events, and STEM education initiatives.



Sponsorships

Becker County (MN) 4-H program
FIRST Lego League (FLL) robotics teams

South Dakota chapter, American College
Honor Society

IEEE Denver Section #501100
Build Something Cool Event

Minnesota Independent School Forum

University of Denver - Women in
Engineering Event

Scholarships

American Council of
Engineering Companies of Minnesota

IEEE Foundation, Inc. – IEEE PES
Scholarship Plus Initiative – Region 4 & 5 Fund

North Dakota State University

Prodeo Academy (MN)

RMEL Foundation



// INVESTING IN A BOLD FUTURE

Contributing to Community

People working together toward a common goal can achieve excellence – whether it’s with client projects or within our communities. We support the people and organizations that make a difference in our communities. Here are some highlights from 2019.

Family Support Network

Uteig employees provided over 70 gifts to support the Family Support Network Christmas Drive. The organization assists over 200 area families at risk for abuse and neglect.

Reforest the Red

Uteig employees joined dozens of other volunteers to plant trees and shrubs along the Red River as part of the “Reforest the Red” event. The goal of the event is to

plant trees and shrubs along the river to maintain bank stability, encourage growth of native plants, improve water quality and provide habitat for wildlife.

Ronald McDonald House

Uteig employees volunteered for a day of clean-up at a local Ronald McDonald House, an organization supporting families whose children are receiving medical care by providing home-like comfort, support and care for families.

Prodeo Academy

Throughout the school year, Uteig employees volunteer their time as tutors on a rotating schedule to work with kindergarten and first grade students at Prodeo, a public charter school focused on addressing the achievement gap, preparing children for college and giving them the skills to be successful in life.

Habitat for Humanity

Uteig volunteers rehabbed a house for a local chapter of Habitat for Humanity, a decades-old nonprofit organization committed to building the quality of life, health and economic prosperity of the community through affordable homeownership.

Food Bank Packathon

A team of volunteers spent time packing food boxes for the Great Plains Food Bank. During their work shift, Uteig volunteers helped pack almost 4,000 pounds of food, enough to feed a family of four for 277 days.

Hope Blooms

A team from Uteig volunteered at Hope Blooms, a nonprofit that repurposes donated flowers by rearranging them into bedside bouquets and delivering them to community members in need. The Uteig volunteers created and delivered dozens of bouquets to residents at a senior living facility.

Rebuilding Together

A team of Uteig employees volunteered to demolish an old house for the Rebuilding Together organization, which will construct a new duplex house on the lot. This organization also offers home repair and renovation services free of charge to low income families in the area.

Making Communities Stronger in 2019

- | | |
|---|---|
| Albany Fire Department | North Dakota Local Technical Assistance Program/Upper Great Plains Transportation Institute (North Dakota State University) |
| Arthritis Foundation | |
| Avivo | Northern Star Council, Boy Scouts of America |
| Cannonball Chapter of Ducks Unlimited | Northwest Water Carnival |
| Central Power Electric Cooperative, Inc. | NuStar Foundation |
| Children’s Hospital–Colorado Foundation | REC Walleye Tournament |
| Cystic Fibrosis Foundation | Red River Zoo |
| City of Frazee – Turkey Days | RKC Lineman Rodeo |
| City of Williston – Economic Development Week | Sacred Heart House of Denver |
| Dunwoody Institute | Science Museum of Minnesota |
| Environmental Defense Fund | The Kurt B. Seydow Dystonia Foundation |
| Family Wellness | Sioux Falls Community Foundation |
| Feed My Starving Children | Society of Women Engineers – Denver |
| First Descents | South Dakota Association for County Commissioners |
| First Tee South Dakota | South Dakota State University Foundation |
| Helping Hand | St. Jude Children’s Research Hospital |
| International Right of Way Association, Northstar Chapter 20 | Vitalant |
| Mandan Future Farmers of America Alumni | Wildcat Sanctuary |
| Minnesota County Engineers Association | Williston Parks & Recreation District |
| Minnesota Rural Water Association | Williston Regional Economic Development Corporation |
| Minnesota Society of Professional Engineers | Women’s Transportation Seminar of Colorado |
| The Nature Conservancy | Yellowstone Valley Special Olympics |
| North Dakota Department of Transportation Construction and Product Development Conference | |
| North Dakota Society of Professional Engineers Chapter 3 | |

// PROJECT PROFILES

Adapting to Community Needs

Fall River Road Bridge

THE PROJECT

Ulteig was hired by Colorado Department of Transportation (CDOT) to complete the design of the Fall River Road Bridge project. Begun as an urgent response to improve safety for bicyclists who used the busy westbound I-70 to access the Fall River community, the project evolved to a vehicular bridge, adding an alternate route for emergency vehicles on I-70 in heavy congestion such as peak ski travel season.

LISTENING TO OUR CLIENT

The project supports CDOT's Whole System - Whole Safety initiative by improving safety conditions for all modes of transportation using I-70. The project design also accommodates future greenway trail projects from the Clear Creek County master plan, avoiding the need for future modification.

LISTENING TO THE COMMUNITY

An added challenge was revealed through stakeholder engagement with the local rafting community. Because the proposed bridge would be located almost directly above a rapid, the standard one-foot freeboard design for Clear Creek County bridges would not be adequate. Ulteig incorporated rafters' goals by modifying the original design to accommodate a vehicular bridge with eight feet of freeboard.

RESULTS

This project was a powerful reminder to go beyond the "usual" stakeholders and ensure that a transportation solution truly embraces the needs and accommodates the impacts of the whole community. Without the extensive community engagement facilitated by Ulteig, this inclusivity would not have been possible.



Ulteig received a **2019 Engineering Excellence Honor Award** for this project, from ACEC (American Council of Engineering Companies) Colorado. The project also received the **2019 Colorado Innovative Transportation Solution of the Year Award** from WTS, an international society dedicated to advancing women in transportation. Two Ulteig engineers led the project team: **Angy Casamento** and **Andi Schmid**.



The American Council of Engineering Companies (ACEC) presented Ulteig with a **National Recognition Award** for this project, recognizing work that has achieved top awards for excellence in state competitions.

Faster, More Efficient Distribution Design

GIS Application Solution for Energy Distribution

THE PROJECT

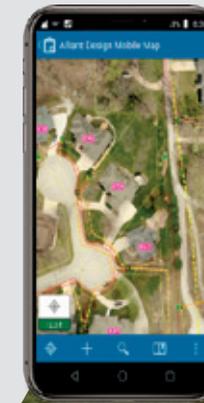
Our Client wanted an in-field design methodology applied to their energy distribution upgrades across the Cedar Rapids, IA, area.

LISTENING TO OUR CLIENT

Our Client requested an approach emphasizing design methodology in the field, versus the more traditional Global Positioning System (GPS) survey and design that uses engineering modeling software in the office. By leveraging the latest location-based technology, Ulteig provided the client with real-time access to data throughout the project. The interactive Geographic Information System (GIS) application decreased time spent in-office for survey and design.

RESULTS

The Client received a more collaborative and efficient distribution design service model during the project, as well as decreased outage times for their customers



// PROJECT PROFILES

Saving Money and Lives with Better Design

Redlands Parkway Roundabout

THE PROJECT

This \$5 million project for CDOT converted the existing signalized intersection at SH 340 (Broadway) and Redlands Parkway in Colorado to a roundabout. Ulteig provided construction management, inspection and public information services. The project's top goal was to decrease accidents at the intersection, the vast majority of which were rear-end and left-turning accidents.

LISTENING TO OUR CLIENT

CDOT asked to keep the intersection open throughout project. The Ulteig team designed a temporary roundabout, which allowed traffic to continuously flow without stopping construction. The temporary roundabout also helped expedite the project timeline.

RESULTS

By eliminating the need for short-term traffic light signals and a reduction in other traffic control devices, the temporary roundabout design saved approximately \$250,000. Most important, there were zero CDOT-reportable accidents when the temporary roundabout was in effect. The final roundabout has reduced the queue at the intersection from one minute, 35 seconds to 25 seconds.



Ulteig received a **2019 ACPA Award of Excellence** from the Colorado/Wyoming Chapter for this project; a **2019 Project Management Award** from Colorado Department of Transportation (CDOT) and the Colorado Contractors Association; and a **2018 Engineering Excellence Honor Award** from ACEC Colorado.



Ulteig received a **2019 Engineering Excellence Honor Award** for this project from ACEC (American Council of Engineering Companies) Minnesota.

Replacing Foundations While Energized

Substation Repair with Helical Piles

THE PROJECT

An existing transformer at the Waterville, MN, substation was experiencing overloaded conditions, aging, and deterioration on its 4 kV equipment. Xcel Energy requested an electrical upgrade to replace the existing 69 kV/4.16 kV transformer with a new 69 kV/23.9 kV transformer. However, the foundations for a substation box structure needed repair, reinforcement or replacement due to concrete deterioration and poor soil conditions. Plus—the entire project needed to be completed while the structure was energized.

LISTENING TO OUR CLIENT

The unique conditions led Ulteig to use an unusual technology for utilities in the region: helical piles. Advantages included the ability to replace/repair foundations while the existing structure was energized, which allowed new equipment stands to be mounted directly to the helical pile while minimizing outages. The helical piles also avoided having to tear down the substation structures to install traditional concrete piers.

RESULTS

Ulteig's creative thinking and use of helical piles were critical factors in the successful delivery of a finished project that will provide safe and reliable energy for Xcel Energy, the Waterville substation, and the communities they serve for decades to come.

Ensuring Grid Standards Hit the Mark

Municipal Utility Electric Grid Overview

THE PROJECT

The nFront Consulting group engaged Ulteig to provide technical support in reviewing a municipal utility's electric grid. Ulteig performed staff interviews to learn about their current electric system, reviewed future budgeted projects as well as construction standards and identified the existing and future role of new technology in their day-to-day operations. In addition to this review, Ulteig provided expertise and insight into another portion of this project: an organizational review.

LISTENING TO OUR CLIENT

Ulteig tailored the approach to the client's needs by shifting some of the focus from the initial project scope to address additional concerns. This approach was critical in the overall organizational review.



Ulteig exceeded the expectations of both our firm and our client.

CLIENT

RESULTS

As a stand-alone project, Ulteig was able to provide the client with important insight into the state of their current electric system and the effectiveness of established engineering processes. Direction for moving into the future and incorporating new practices were laid out as well. As part of the overall organizational review, Ulteig's expertise and findings provided valuable insight into nFront's recommendations for an organizational restructuring. This helped ensure the client had the right pieces in place to achieve its goals and to continue providing their customers safe, reliable and affordable power while meeting the needs of the changing environment.

Quality on an Accelerated Schedule

Cheyenne Ridge Wind

THE PROJECT

Ulteig was asked by Xcel Energy to perform engineering and design for a utility grade wind-powered, electric generation facility located in Cheyenne and Kit Carson counties, Colorado. Ulteig's scope of work included engineering two separate collection systems with two different wind turbine generator models – a total of 229 wind turbines producing 500 MWs; engineering two 34.5/345 kV collector substations; and SCADA integration/network design and integration.

LISTENING TO OUR CLIENT

At the kick-off meeting the client requested an accelerated schedule in order to accommodate a fast-tracked installation of turbines. Because of Ulteig's experience in similar projects, we were able to meet the new timelines and keep the project construction on schedule.

RESULTS

The majority of Ulteig's work has been completed, and we continue to provide support during the construction phase of this important project. We will complete final tasks prior to energization later in 2020. When operational, Cheyenne Ridge Wind will deliver low-cost, emissions-free electricity to the Colorado communities in the counties served and is projected to generate enough energy to meet the demands of roughly 270,000 homes.

// PROJECT PROFILES

Project Management on an Epic Scale

Williston Basin International Airport

THE PROJECT

Planning for the new \$273 million Williston Basin International Airport (XWA) began in 2012. Ulteig started working with the City of Williston in 2015 to develop solutions to manage this very high-profile project. Ground was broken on October 10, 2016, and in June 2017 Ulteig began their role as overall program manager. During the project Ulteig managed 29 active contracts, 16 prime contractors, 16 consulting companies and seven tenant projects.

LISTENING TO OUR CLIENT

Ulteig's advanced preparation of an a Federal Aviation Administration (FAA) Airport Improvement Program application resulted in \$112.4 million in funding and allowed the airport to obtain competitive bids and start projects early – thus reducing the project's timeline by roughly nine months.

LISTENING TO THE COMMUNITY

The City of Williston also hired Ulteig to provide cultural monitoring staff on the construction site. Facilitated by Ulteig, the FAA consulted with tribal historic preservation officers throughout the XWA project to understand the tribes' concerns and interests. The construction was continually monitored by Ulteig to make sure those concerns were kept in mind. The FAA will replicate this project's model for future federally-funded projects.

RESULTS

XWA opened on time, on Oct. 10, 2019. It is the first new commercial greenfield airport in the U.S. in over eight years and will greatly improve transportation access to this growing region.



Securing Funding for Big Impact

City Water Distribution System

THE PROJECT

The Minnesota Public Facilities Authority (PFA) awarded a \$2.24 million project for Fertile, MN, to improve their water distribution system – a major project for a city of 850. For years Fertile had issues with water pressure, clarity and volume. A new trunk water line from the water tower to the south edge of the city provides the needed pressure and flows, replacing an aging system of water mains, hydrants and gate valves.

LISTENING TO OUR CLIENT

Ulteig created a water model of the Fertile system and developed cost estimates for the work and recommendations for funding. We then helped the city successfully apply for the PFA grant. Ulteig has also been asked to help optimize operation of the City's water treatment plant.

RESULTS

The increased water volume and improved drinking water allows the city to meet MN Department of Health standards. It also greatly improves fire protection for the city.



Ulteig's communication with both the city and residents was impressive. Project management was timely and effective. The city council said multiple times that they have never had a project like this run so smoothly.

CITY OF FERTILE



About Ulteig

Ulteig serves a wide range of clients across the country, specializing in power, renewables, transportation and water, which we refer to as our Lifeline Sectors®.

We focus our expertise in these sectors because they matter to our clients, our industry and our communities. They comprise the infrastructure that helps people live cleaner, safer, healthier, better lives.



Power



Renewables

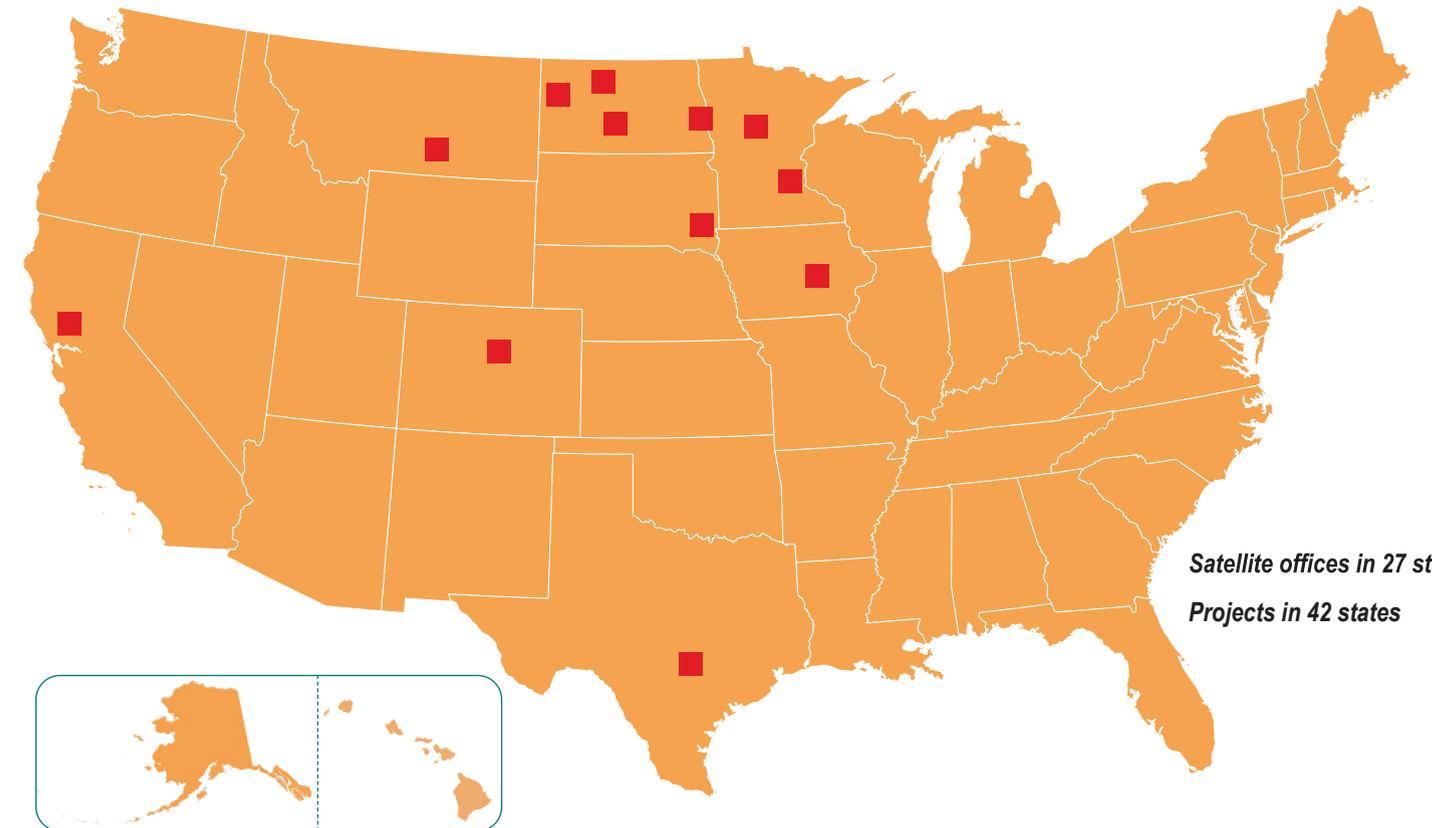


Transportation



Water

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Years



Ulteig is a leader in design engineering, program management and technical and field services. We have 75 years of experience and reputation, driving reliable solutions. Our team of forward-thinking innovative experts make critical connections, putting together the complex, multi-disciplinary strategies you need in today's changing world.