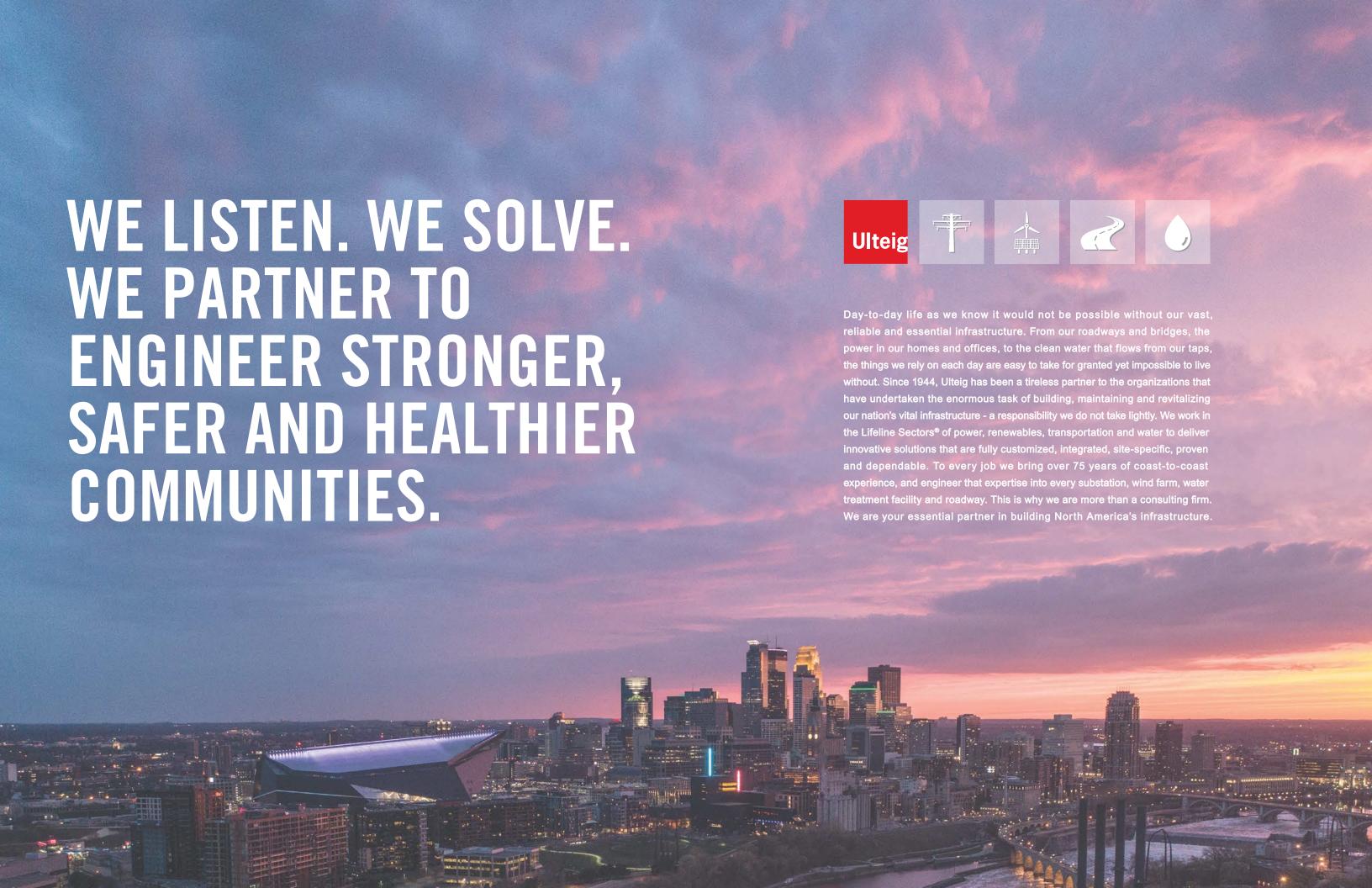


LIFELINE SECTOR CAPABILITIES

POWER | RENEWABLES | TRANSPORTATION | WATER





- ULTEIG OVERVIEW
- ULTEIG'S LIFELINE SECTORS®
- 12 POWER
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LETTER FROM THE PRESIDENT



Every one of us joined the company with the shared understanding that we have something important to contribute to Ulteig's work, mission and values.

Our industry, like most, continues to face intensified challenges, from supply chain issues to regulatory uncertainty to increased community infrastructure needs. More than ever Ulteig is asked to be a trusted partner to help maneuver clients through these challenges, and we do not take that trust lightly. Although the execution can be complicated, our process is consistent, focused and straightforward: We Listen by connecting with all stakeholders to form a clear understanding of need and We Solve, connecting answer to question and aligning problem with expert.

In the following pages, I invite you to learn more about the expertise and achievements of the skilled and committed professionals ready to work with you at Ulteig.

You will see a shared focus on what we call our Lifeline Sectors®: Power, Renewables, Transportation and Water—the infrastructure vital to everyday life. You will learn that we offer our comprehensive engineering and technical services through six areas of expertise: Land Services, Environmental, Planning & Studies, Design & Engineering, Project Delivery Services and Asset Management. Throughout the brochure, you'll find project profiles demonstrating how Ulteig has applied our expertise and partnered with our clients to collaborate, discern, adapt and get results.

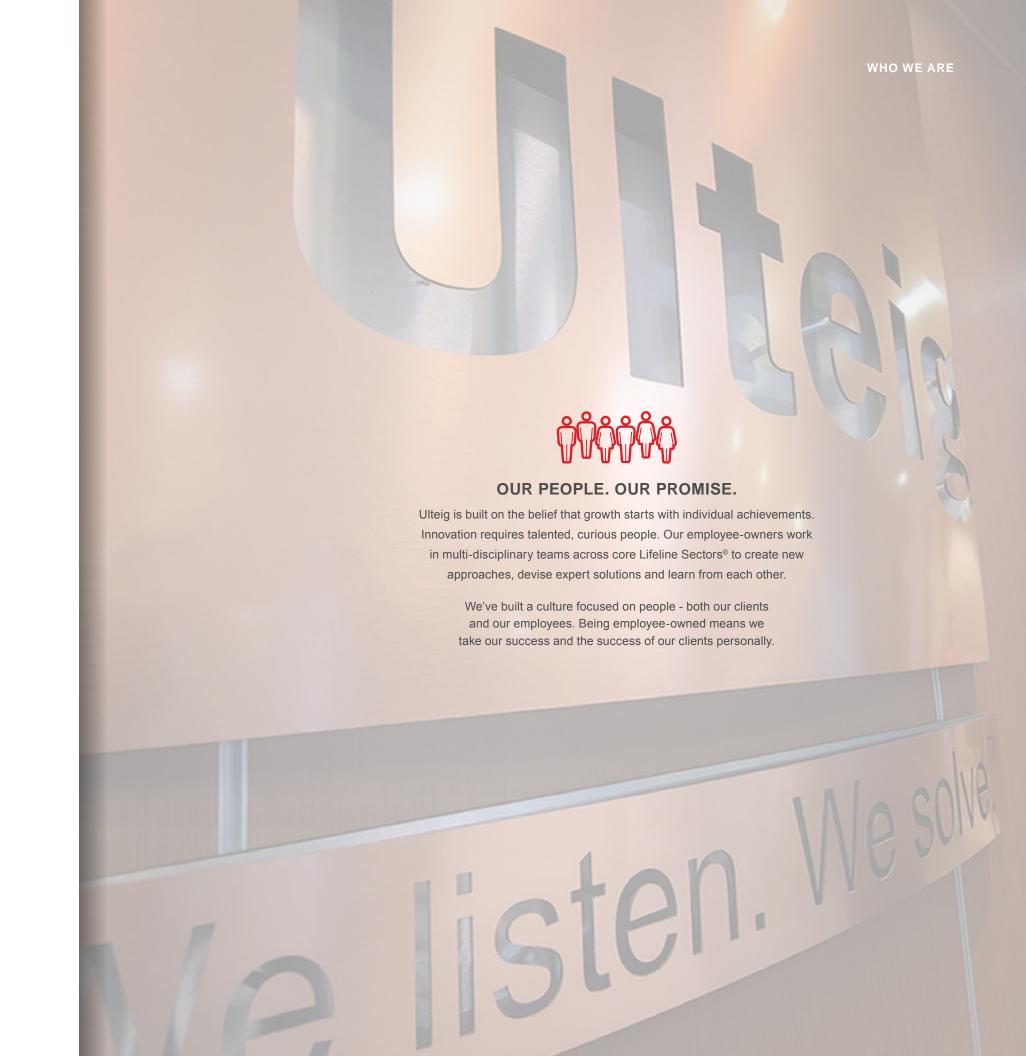
We often speak of Ulteig as a single entity: "Ulteig is responsive" and "Ulteig innovates" and "Ulteig delivers results." But who is "Ulteig"? What is the entity that, for over 75 years, has been creative, resourceful and focused on client success?

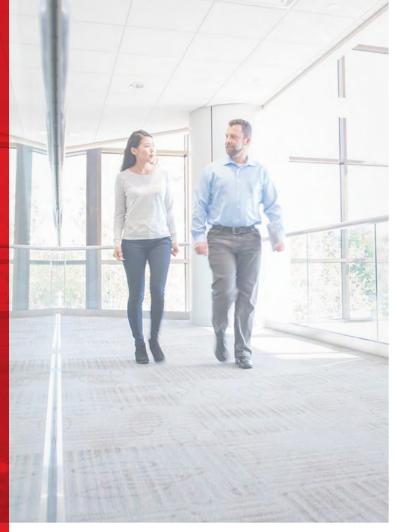
We are hundreds of individuals, of course. But every one of us joined the company with the understanding that we have something important to contribute to Ulteig's work, mission and values. And as individuals we have committed ourselves to providing our unique skills and knowledge on behalf of our clients and the communities they serve. The power behind our success lies with the team of people who come together to deliver that expertise consistently, every time, on every project.

Over the decades Ulteig has continued to adapt and thrive because of our shared, consistent commitment – it is no coincidence that our company is employee-owned. Our annual growth rate has averaged over 21% for the past five years, a remarkable result that proves the adage "when our clients succeed, we succeed."

All of us at Ulteig look forward to working with you.

DOUG JAEGER | PRESIDENT & CEO











OVER 75 YEARS OF EXPERTISE ENGINEERED INTO ALL WE DO.

We are committed to creating a positive experience for our clients throughout a project, offering the advantage of accessibility through exceptional project management, attentiveness and responsive communication. Ulteig anticipates needs and delivers results with trademark accuracy and timeliness. We proactively manage risks and project issues, constantly reassessing and strategically aligning with our clients' vision, objectives and requirements.

From concept to completion and long into the future, true partnership rooted in deep mutual respect is the working relationship we aspire to develop with every client. When respect goes both ways it opens communication channels, enables collaboration and removes the barriers to gaining trust. When we work this way, together, there's no infrastructure challenge we can't overcome. This is why, even after a project is completed, we stay connected with our clients and to the communities they serve. Because our commitment isn't bound by the timeline of a project. We are a partner for the long term, always ready to collaborate and consult to maximize the innovative solutions we've created together. This way of working helps to explain why 78% of clients define us as a strategic partner.

OUR HISTORY

In 1944 our founder Melvin Ulteig started lighting things up through his vision to bring electricity to the Upper Midwest. Today, over 75 years later, Ulteig continues to expand that vision, serving clients across North America, offering solutions across four lifeline sectors – power, renewables, transportation and water – and through the dedicated work of over 800 employee-owners. Whether 1944 or today, we have never lost sight of the deep commitment Mel had to clients, to collaboration and to solutions that make a difference.

WE LISTEN. WE SOLVE.®

Our tagline captures the essence of our unique position in the marketplace. "We listen" speaks to partnership, to becoming integrated in our clients' business and truly understanding their needs. We are constantly listening. "We solve" is the promise we make to clients and their communities – we offer comprehensive, long-lasting solutions.

THE RIGHT PEOPLE COMMITTED TO DOING THE RIGHT THING.

We have long believed that better people lead to better outcomes. This is why we surround your project with the best people in the industry. Together, they bring the highest level of expertise, commitment and passion, from start to finish and every step of the way. Because while roadways and substations are built from concrete and steel, it's the dedication of our people that helps build lasting relationships on a foundation of trust, respect and integrity.

OUR VISION

Ulteig is among the most highly regarded engineering and technical services firms in North America.

OUR VALUE PROPOSITION

Clients depend on us to deliver comprehensive engineering and technical services that strengthen infrastructure vital to everyday life.

OUR COMMITMENT TO QUALITY, SAFETY AND INNOVATION

Our commitment to quality, safety and innovation is unwavering. Naturally, it begins with safety. Because keeping our employees and clients safe is the single most important thing we can do to ensure the success of any project. Quality at every step of the process is our standard, and what every client can expect when they work with us. From the relationships we develop to the solutions we provide, quality is the common thread that holds everything together. As a future-forward company we're always looking for ways to improve efficiencies through technology and innovation. To stay ahead, we're thinking ahead, and are increasingly incorporating innovations like Remote Assist, drones and data analytics (infostructure) into solutions that give our clients the technological edge they need to succeed. Times may change, but our commitment to quality, safety and innovation never does.



DEDICATION

We dedicate ourselves to our clients' success.

We believe deeply in the goal of shared success. The outcome of every project will be good for our clients, the community and the environment.



EXCELLENCE

We pursue excellence in our work.

Whatever the challenge we are working to solve, our team creates the most efficient, effective strategy, designing and building quality infrastructure that lasts.

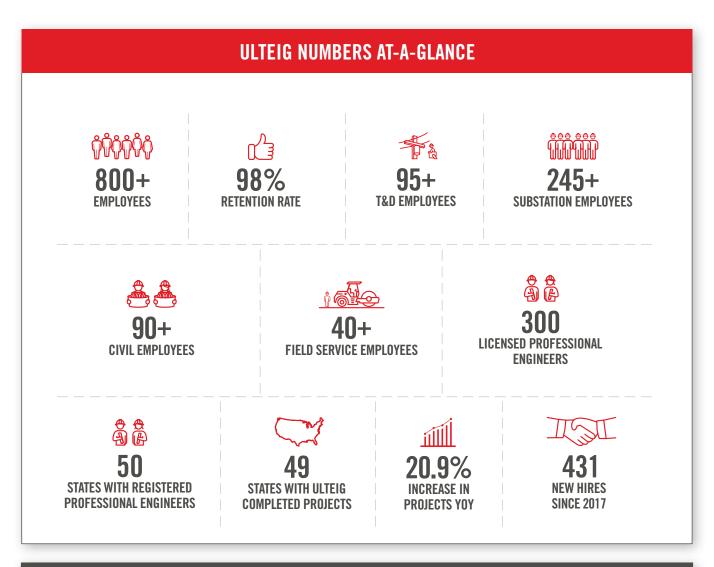


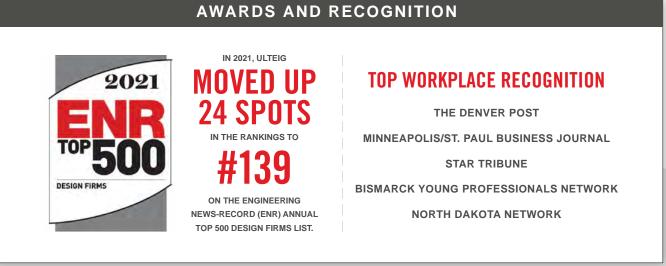
INTEGRITY

We act with integrity.

We are guided by a strong conviction to always do the right thing. We are mindful of our responsibilities to our stakeholders and the communities we serve and hold their concerns and wellbeing in the highest regard.



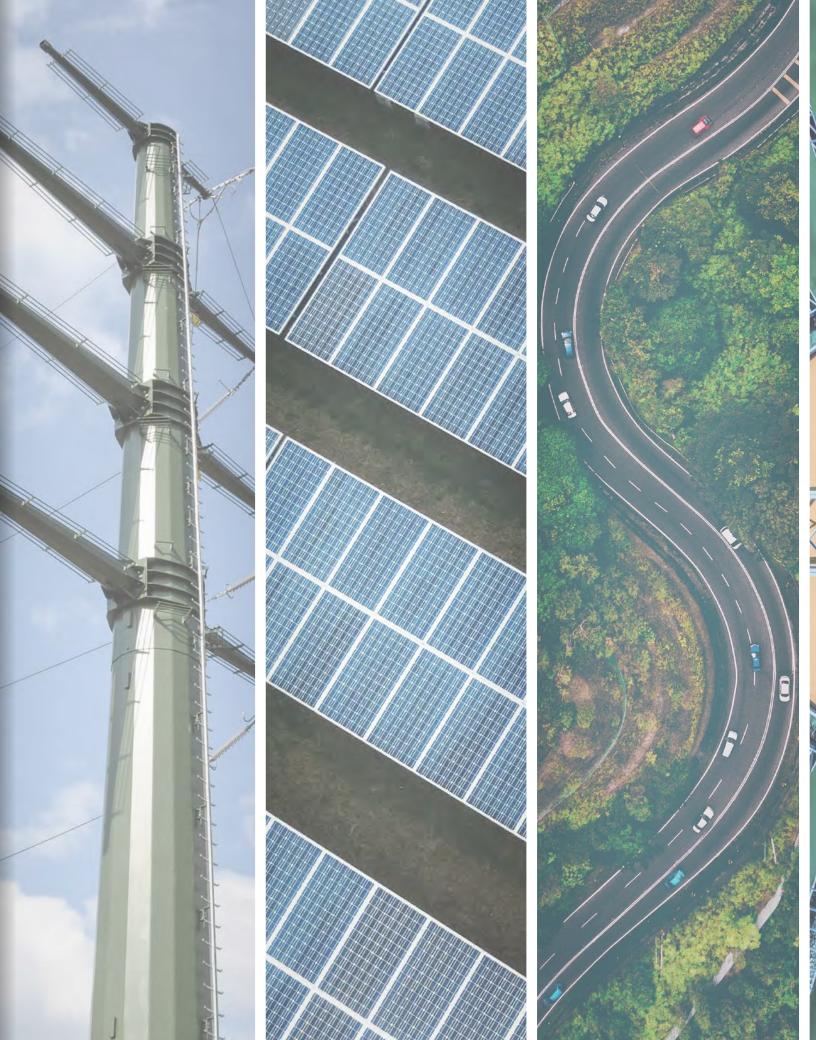




LIFELINE SECTORS.

At Ulteig, we work across North America's entire infrastructure, the foundation that sustains everyday life. We specialize in **Power, Renewables, Transportation and Water**, and call these **LIFELINE SECTORS.**

Through these key areas of focus, we are helping people live cleaner, safer and healthier lives.





FULLY INTEGRATED MODERN SOLUTIONS TO THE MOST COMPLEX POWER CHALLENGES.

AS A PROUD STRATEGIC PARTNER, ULTEIG HAS OVER 60 MASTER SERVICE AGREEMENTS IN PLACE WITH OUR CLIENTS.

Ulteig operates on the cutting edge of grid operation. We understand the complexities involved to deliver power reliably to utility customers today, and have the strategic foresight to know what will be required tomorrow. We apply this forward-thinking, proactive approach to deliver innovative integrated solutions that meet network expansion and capital improvement requirements, and exceed our client's highest expectations. As one of the nation's leading engineering consulting firms we look forward to helping our clients solve their next big challenge with an innovative solution that builds value, strength and reliability into the communities we serve.



PROJECT PROFILE



NEWPORT SUBSTATION INTERCONNECT | WAPELLO, IA

Among the cornfields in southeastern lowa, near the small town of Wapello, where the lowa and Mississippi Rivers converge, lies the Newport Substation.

In 2019, the Central Iowa Power Cooperative (CIPCO) embarked on a project to reconfigure its Newport Substation and add a line in response to a request for a solar interconnection. The substation, located slightly to the south of Wapello, Iowa, serves as an access point for generation onto CIPCO's eastern Iowa power grid.

"Based on our experience with substations and interconnects," said Patrick Deibel, P.E., a technical manager with Ulteig's substation team, "Ulteig was awarded the design to reconfigure the Newport Substation and connect it with a new solar project being built on 800 acres adjacent to the substation."

Working on the Newport Substation was familiar ground for Ulteig's engineers. Just two years earlier, Ulteig assisted CIPCO in the redesign of a 161 kV ring bus to expand the Newport Substation to provide more reliability to the overall system. During the start of design and construction in 2017 and 2018, a future line position was not needed, but the new design was added to provide for future positions to be integrated into the expansion.

CHANGE TO MEET FUTURE DEMANDS

In 2019, CIPCO agreed to purchase 100 percent of the energy and capacity output for 25 years from the 127.5 MW Wapello Solar LLC facility. Wapello is the largest solar project located in Iowa. As the engineer of record, Ulteig provided:

- Electrical physical layout and design for the major equipment, including physical section views, conduit layout, grounding design and lightning protection.
- Electrical design, which included schematics, wiring diagrams and control panel layouts for the protective relaying & SCADA equipment.
- The structural engineering, which included steel fabrication and foundation designs.
- Project management services for the design engineering portion of the project.

TERRY FETT. PE DIRECTOR OF ENGINEERING AND OPERATIONS, CIPCO

"WE'VE PARTNERED WITH ULTEIG FOR MANY YEARS. THEIR KNOWLEDGE OF OUR STANDARDS AND THEIR SUPPORT THROUGH THE ENTIRE PROJECT HELPED US MAINTAIN OUR SCHEDULE, WHICH IS ALWAYS CRITICAL DURING OUTAGE SCHEDULING AND WHEN CONNECTING TO GENERATION FACILITIES."







AWARD-WINNING PROJECT

The American Council of Engineering Companies (ACEC) of Iowa presented Ulteig with a Grand Prize Award for the Newport Substation Interconnect. This work was recognized as the top project in the energy production category of the 2021 ACEC Engineering Excellence Awards competition.

OVERCOMING CHALLENGES

Working on an existing site can be a challenge, as drawings may not always be accurate. During construction, the contractor discovered that the new substation dead-end and associated metering equipment could not be located where designed. Ulteig engineers collaborated with CIPCO engineers and the contractor to overcome this challenging new development and came up with a creative solution, which included relocating the equipment and maintaining proper electrical clearances.

Scheduling became a concern when the Generator Interconnect Agreement (GIA) and funding were not in place until Dec. 2019. The in-service date of Nov. 1, 2020, made for a roughly 10-month project schedule to execute engineering, material delivery, construction and commissioning. To meet the Nov. 1 deadline, Ulteig reduced the engineering design process from the typical eight or nine months to just six and a half.

SUCCESS: DRIVING DOWN COSTS

When the site was set up to add an additional line, the only major change required was to relocate an existing line to an open position in the substation, thus terminating the Wapello Solar line in the least expensive and most constructible position. Cost savings were implemented in the line location swap by reusing equipment and relocating it as necessary.

"By relying on an experienced team," said Deibel, "as well as the team's knowledge of the project based on its previous work at the substation in 2017, we executed a quality design in the required time frame for the solar farm to connect to the grid."

EXPERIENCE TO KNOW WHERE RENEWABLES HAS BEEN AND THE FORESIGHT TO PLAN FOR WHERE IT'S GOING.

OVER THE LAST 20 YEARS, ULTEIG HAS DESIGNED 450+ PROJECTS CONTRIBUTING TO THE GENERATION OF MORE THAN 40GW OF RENEWABLE ENERGY IN NORTH AMERICA.

Navigating the complex, ever-changing renewable energy landscape is immensely challenging. That's why developers, utilities, IPPs and contractors need an experienced development partner who is unflinching in their commitment to meeting these challenges head on. Our unique process approaches each new project on its own terms, in a site-specific manner that puts our laser-focus on bringing your project to full commercial and operational viability. We balance our been-there-done-that expertise with strategic forward-thinking to meet the constantly evolving requirements of the industry, and to identify and leverage the most state-of-the-art technologies and equipment that will optimize the value of your project. From planning and studies to full design and engineering services like commissioning, and every phase in between, Ulteig is your one-stop shop for renewables.



PROJECT PROFILE



WESTERN SPIRIT WIND PROJECT CORONA, NM

Over the course of the next few years, this rural region of New Mexico will become famous for being the center of the largest wind energy project in the United States.

In 2017, Ulteig was hired by wind energy developer and Independent Power Producer Pattern Energy to design a system to collect energy from the 377-turbine Western Spirit Wind Projects through four collection substations. Electricity would then be transmitted through 67 miles of 345 kV AC transmission lines (the GenTie Transmission) to the Western Spirit Transmission line, a massive new 155-mile transmission line running through New Mexico. Ulteig also designed a power metering system that meets the California ISO (CAISO) metering requirements, which allows power produced from the Western Spirit wind farm to be sold on the California grid.

1,050 MW of power will be transmitted from the Western Spirit Wind Project, which consists of four wind farms across 118,168ha of land, held by 40 landowners across three counties.

An incredibly complex project, the Western Spirit Wind Project involved numerous design services across multiple Lifeline Sectors. Ulteig engineers sought to drive down costs and stay on budget within the construction schedule, all while navigating the remote terrain of central New Mexico.

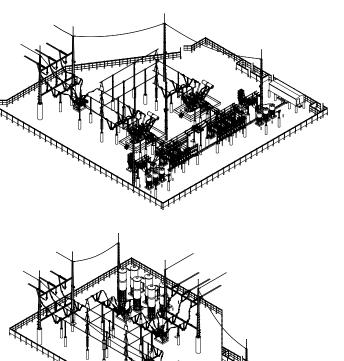
"There are very few consultants that can provide everything that was needed for this project - especially the combination of a collection system, substation, gen-tie transmission and CAISO metering - all in one place," said Greg Parent, P.E., S.E., Principal engineer with Ulteig's Transmission and Distribution team. "The fact that a client can come to us and get all these engineering disciplines from the same consultant is what sets Ulteig apart."

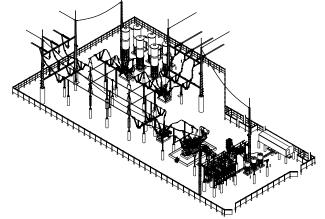
Tapping into wind-rich central New Mexico, the Western Spirit GenTie transmission lines will connect four collection substations at Tecolote, Clines Corners, Duran Mesa and Red Cloud, New Mexico. These substations support the four wind farms that make up the 377-turbine Western Spirit Wind Project.

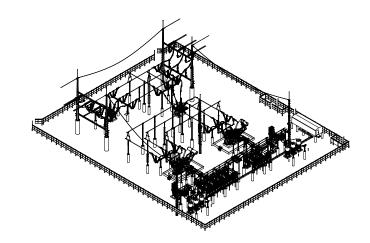
With a project so large and complex, the Ulteig Transmission and Distribution, Substation, Renewables and CAISO teams faced a number of challenges while designing and engineering this project.

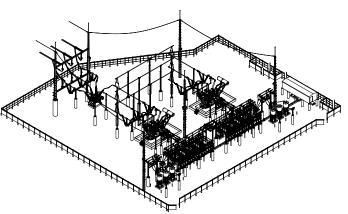
COLLECTION SYSTEM - With 377 Western Spirit wind turbines spread out over a three-county area, the Ulteig Transmission and Distribution team sought to find the most advantageous routes to lay underground collection cables. The team was able to limit trenching to 285 miles.

CAISO METERING - Based on power purchase agreements, which would involve distributing some power from the project outside of New Mexico to California, Ulteig involved its CAISO metering team, which determined that the project would require 46 meters (double the number of a typical project) based on the complexity and scale of the project.









"With multiple off-takers, it was critical to ensure accurate metering," said a technical manager with Ulteig's CAISO

TRANSMISSION LINES – With the 67-mile gen-tie transmission line system structure, the Ulteig Transmission and Distribution team faced two big challenges: designing without an identified route and contending with varying soil substrata.

"Our team also was very nimble in leveraging various geographic surveys and other sources to optimize pole placement," said Parent. "To consolidate the schedule, we worked closely with the power line pole manufacturer to select the 490 poles needed for this project from their internal library."

In this part of New Mexico, the team also contended with rocky terrain, as well as still-changing easements, which meant that some pole locations should shift as much as 150 feet either way from a proposed location.

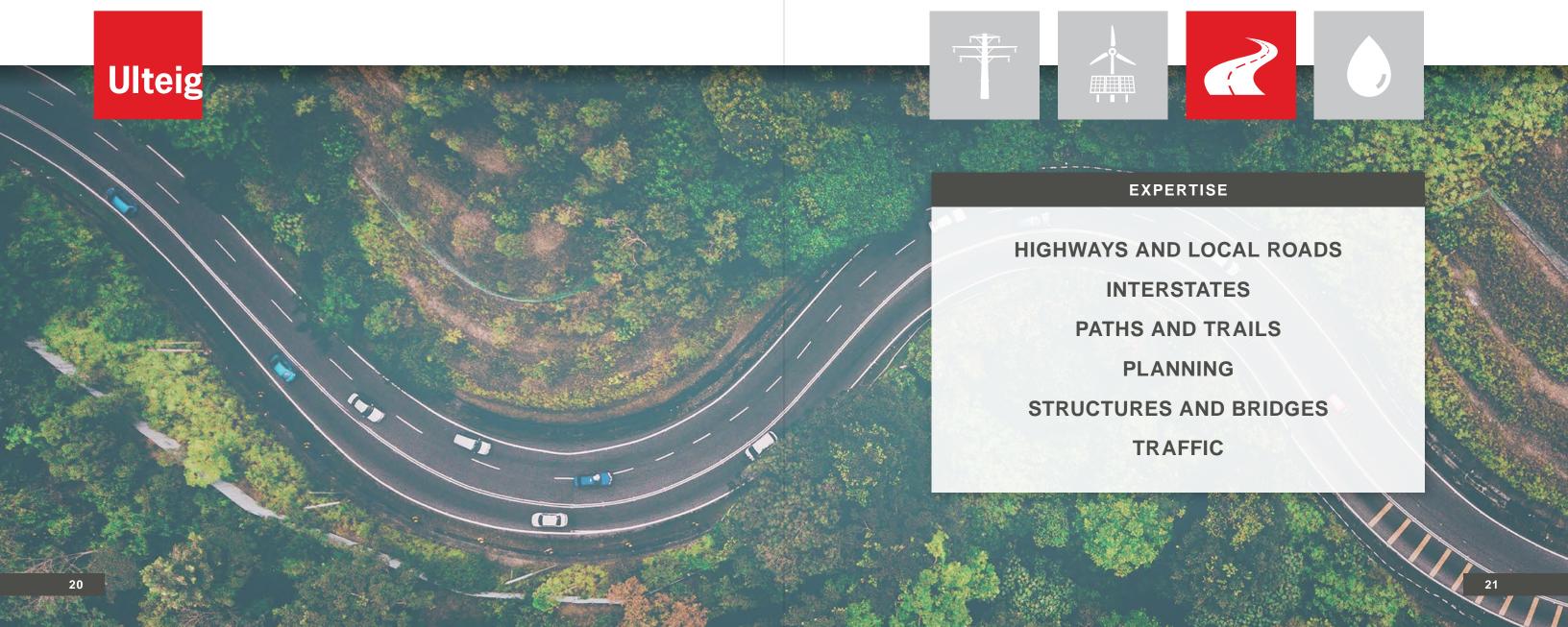
SUBSTATIONS - In designing four 34.5/345 kV collection substations, the Ulteig Substation team utilized a daisychain design to reduce transmission line, construction costs and long-term maintenance costs. The team wired together the three southern substations to reduce the gen-tie transmission line length and underground cabling between turbines..

The key to Ulteig's success on this project lies in the close collaboration between its different teams and with its clients.

LOCATED AT THE INTERSECTION OF SMART AND RELIABLE.

ULTEIG HAS COMPLETED MORE THAN \$690 MILLION IN CONSTRUCTION ADMINISTRATION FOR COLORADO'S DEPARTMENT OF TRANSPORTATION IN THE LAST FIVE YEARS.

Whether it's a rural highway or complex urban intersection, cloverleaf or corridor retrofit, we approach each transportation project we undertake as a unique opportunity to improve the connection between roadways, people and places. From experience we know what it takes to meet federal, state and regional requirements, and have a diverse portfolio of successfully completed projects to back it up. This is why the road to better connections goes through Ulteig.



PROJECT PROFILE



CDOT I-70 F13-S BRIDGE REPLACEMENT

COLORADO

It's a stretch of road you'll never forget. At slightly more than nine miles in length and rising up to 11,158-feet above sea level, the interstate between the Eisenhower Tunnel and Silverthorne, represents some of the most intense white-knuckle driving in the U.S. This is the welcome mat to Colorado's famed Summit County, home to some of the best downhill skiing in the world.

At milepost 211 is F13-S_Minor, a 200-foot-long, concrete box culvert primarily used by the Colorado Department of Transportation (CDOT) as a turnaround point for snowplows and other emergency vehicles, which allows them to avoid going all the way into Silverthorne.

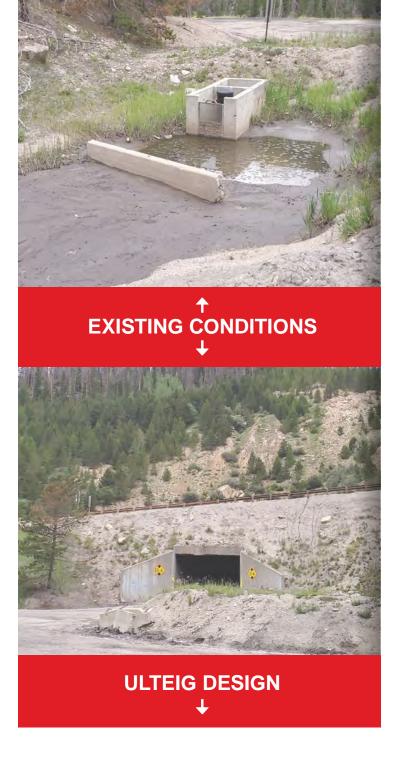
Built in the 1960s, CDOT determined it was time to replace the aging culvert with two separate bridges that meet a 100-year design life while reducing the risk of impacting an adjacent landslide area. The scope also included expanding a 20-foot-wide, single-lane underpass, which was functionally obsolete and structurally deficient, to a two-lane, 36-foot-wide underpass; and increasing the height by three feet to 16 feet, 6 inches.

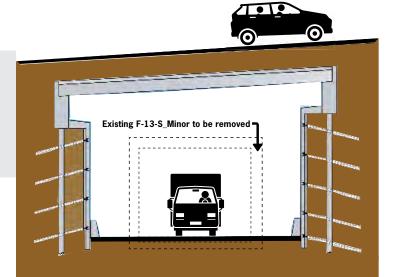
CONSTRUCTION MANAGEMENT GENERAL CONTRACTOR (CMGC) METHOD INCREASES QUALITY, REDUCES UNKNOWNS

Ulteig engineers contended with several complex issues, including a landslide-prone slope northeast of the structure. During the 1960s, six landslides above I-70 were triggered during original construction. Ulteig designed the proposed bridges for a minimum of four feet of soil (instead of the current 18 feet) to be placed on top of it to prevent icing of the roadway. The structural portions of this project included soil nail wall abutments, instead of traditional sloped abutments, to reduce impacts to I-70 during construction.

SARAH NAVARRO, PE CDOT ENGINEER

"IT WAS A CHALLENGING PROJECT, AT AN EVEN MORE CHALLENGING LOCATION. THE CMGC DELIVERY METHOD ALLOWED OUR TEAM TO COLLABORATE TOGETHER AND WORK EFFICIENTLY TO GET THE PROJECT TO CONSTRUCTION IN ROUGHLY ONE YEAR."





Considering the complexity of this project, CDOT utilized Ulteig's Construction Manager/General Contractor (CMGC) method. By involving the general contractor in the design and engineering process, Ulteig can obtain a higher quality design with fewer issues during construction. Constructability has been a facet of every conversation on the project, ensuring a product that can be built within the established design criteria.

"It was a challenging project, at an even more challenging location," said CDOT Engineer Sarah Navarro, P.E., who partnered with Ulteig engineers. "The CMGC delivery method allowed our team to collaborate together and work fast to get the project to construction in roughly one year."

ALTERING A ROADWAY THROUGH THE MOUNTAINS

One of the highest passes in Colorado, this stretch of interstate has three eastbound lanes and three westbound lanes on a maximum grade of seven percent. On one side, the mountain slope rises another 1,000 feet. On the other side, there's a heart-stopping 500-foot drop that ends in Straight Creek. There are two runaway truck ramps, the second of which receives more trucks than all other runaway ramps in Colorado combined.

Mitigating against the risk imposed by the landslide area, Ulteig and CDOT engineers determined that I-70 westbound needed to be shifted up to 10 feet to the southeast away from the landslide. This shift makes this project not only a bridge replacement but also a major roadway realignment project with high visibility due to its location. Maintaining traffic, while reconstructing the roadway and structure in just 18 months, will require complex traffic phasing due to the narrow project site with a hillside to the north and a cliff to the south.

"This is one of the most complex road and bridge projects that we've ever worked on," said John Butt, P.E., a technical manager on the Ulteig transportation team who served as project manager on the project. "With an eye toward the future, our job is to create a new bridge structure that will meet the needs of CDOT for the next 100 years."

Photos are of existing conditions.

TAP INTO OVER 50 YEARS OF INDUSTRY LEADING WATER EXPERTISE.

ULTEIG HAS DELIVERED WATER AND WASTEWATER SOLUTIONS TO A WIDE RANGE OF PUBLIC AND PRIVATE CLIENTS FOR 50+ YEARS.

Water is the building block of all life on earth. With this in mind, we approach every water project with a deep respect for its critical importance in day-to-day life. Fortunately, our experience in Water Resources, Municipal Water & Wastewater, Commercial and Industrial Water & Wastewater infrastructure runs deep as well. For over 50 years we have partnered with public and private clients to develop dependable water and wastewater infrastructure solutions through a complete range of planning, design and operational services.



PROJECT PROFILE



BRECKENRIDGE WATER TREATMENT PLANT | BRECKENRIDGE, MN

The headwaters of the Red River of the North are found where the Otter Tail River and the Bois de Sioux River meet, along the border between Minnesota and North Dakota. It's here that the small town of Breckenridge, Minnesota, serves as a center of commerce and culture for the area's sugar beet, corn, soybean and sunflower farmers.

Water is an important ingredient to the success of this region – especially to its farmers. So that's why the town selected Ulteig to redesign and engineer a replacement for its aging, inefficient 79-year-old water treatment plant.

PREVENTING A DISRUPTION TO THE CITY'S WATER SUPPLY

A huge aspect of engineering the water plant was preventing a disruption to the City's water supply. With the old plant, local farmers could purchase water from the city but, because of the aging infrastructure, the city increasingly had difficulty meeting that demand.

"Our team pointed out to the City that it was only one catastrophe away from a situation that would not only disrupt the drinking water supply to their residents, but also the water that local farmers would need to maintain their crops," said Brian Hiles, a senior engineer with Ulteig's Water and Wastewater team.

With the new water treatment plant, the City's storage capacity is 1,300,000 gallons. Of that, 1,000,000 gallons comes through the clear well at the water plant and 300,000 gallons is located in the water tower. The city has two days of water capacity in the summer and three to five days in the winter. The maximum daily treatment capacity is 1,440,000 gallons per day (gpd). The average daily use for the City of Breckenridge is 280,000 gpd in the winter and 550,000 gpd in the summer. Sixty percent of daily usage is for residential use, and 40 percent is for institutional, commercial, agricultural and industrial use.

NEIL CROCKER BRECKENRIDGE DIRECTOR OF PUBLIC WORKS

"THE CITY OF BRECKENRIDGE FINALLY HAS THE NEW WATER TREATMENT PLANT THAT WE TRULY NEEDED. IT WAS A PLEASURE WORKING WITH THE STAFF AT ULTEIG. THEY ALWAYS HAD OUR BEST INTEREST IN MIND THROUGHOUT THE ENTIRE PROJECT. "







"To enhance the efficiency of the project and further reduce costs," said Hiles, "we worked closely with PKG Contracting, a Fargo-based contractor that provides water and wastewater solutions for municipalities and rural and regional water systems." By bringing PKG into the equation early, and working closely with the city, Ulteig created a collaborative process allowing for streamlining of the plant's design. The entire project came in under budget.

BUILDING FOR THE FUTURE

The City of Breckenridge hired Ulteig to value-engineer a new, more reliable water treatment plant to provide potable water for Breckenridge residents and businesses. The 1,000-gallon-per-minute water treatment plant needed to incorporate advanced lime-softening technology and gravity filtration to remove iron, manganese and other hardening elements from the city's primary 300-foot wells, which draw water from the Wahpeton Buried Valley Aquifer.

Ulteig took the original design for the new water treatment plant, built on a new location within the city limits, and worked toward creating the necessary improvements to lower the cost of the project. Ulteig was tasked with multiple goals, including:

- Increasing the plant's efficiency.
- Using less chemicals to treat raw water.
- Improving water quality.
- Lowering electricity costs to operate the new plant.

In addition to design and engineering, Ulteig also served as the owner's representative, observing all steps during the construction of the new plant and reporting on progress to the city and, ultimately, the residents of Breckenridge.

"The City of Breckenridge finally has the new water treatment plant that we truly needed," said Neil Crocker, Breckenridge director of public works. "It was a pleasure working with the staff at Ulteig. They always had our best interest in mind throughout the entire project."

LAND SERVICES

Delivering a wide range of land services from land surveying, geographic information systems and right-of-way acquisition. Ulteig brings a unique combination of capacity and experience to your project.

ENVIRONMENTAL

Our environmental team understands the big picture of what your project intends to accomplish. We work together to find solutions that meet your needs while minimizing impacts to the environment and remaining in compliance with federal, state and local regulations.

PLANNING AND STUDIES

Our in-house experts manage all aspects of a wide range of studies in transportation planning, traffic engineering, smart work zones, transmission, grid modernization, generation interconnection, NERC/ISO Compliance, post-construction, and vendor/equipment analysis. With direct access to our team, you have more efficient, reliable and insightful analysis to support informed business decisions. We leverage our vast experience to help you plan for the future.

INTEGRATED SOLUTIONS

Clients depend on us to deliver comprehensive engineering and technical services that strengthen infrastructure vital to everyday life. We provide services in six primary areas of expertise. Ulteig solutions can be leveraged according to your project needs across all of our **LIFELINE SECTORS**.

ASSET MANAGEMENT

At Ulteig, we focus on using data, information, insight, technology and engineering to manage your day-to-day business needs as well as develop strategic long-term plans for management and investments. Our experts develop the data-driven insights critical to creating an informed and prioritized asset roadmap for your business.

PROJECT DELIVERY SERVICES

As your trusted partner, Ulteig will work with you to determine the best resources to satisfy your unique needs. Our suite of services encompasses a range of solutions related to program and project management, construction management and other consultative services.

DESIGN AND ENGINEERING

As industry leading infrastructure experts, we develop context-sensitive and cost-effective designs for every phase of the project across all Lifeline Sectors. From conceptual design through detailed design and construction support we offer detailed design work, development and review of design calculations, selection and design implementation.



LAND SERVICES

As the layout of a project takes shape, Ulteig Surveying, GIS and ROW professionals draw on their expertise to efficiently and effectively manage land surveying projects to keep a project moving forward. From surveying 30+ miles of rural highway to acquiring transmission line ROW for projects crossing three states, Ulteig's Land Services team leverages the latest technology and tools to ensure a project is successful from the very start.

EXPERTISE

RIGHT-OF-WAY

- Construction Damage Settlements
- Easement and Land Option Negotiations
- Permitting Support
- Public Outreach Support

GIS

- Design & Construction Progress Tracking & Collaboration
- Customized Solutions For Asset Management/Tracking, Project Collaboration and Other Needs
- Mobile Field Data Apps
- Project Web Mapping

LAND SURVEYING

- Cadastral surveys
- Boundary surveys
- ALTA/NSPS land title surveys
- Micrositing
- Utility locating Quality level B
- Due diligence and constraint analysis support
- Control surveys
- Land divisions and subdivision platting
- Easement surveys and land descriptions
- Mapping
- Topographic design surveys
- Construction staking surveys
- Pre & post construction haul route road scan



PROJECT PROFILE



SIGN REPLACEMENT DESIGN FOR SDDOT

SOUTH DAKOTA

Big, blue skies. Land as far as you can see. Welcome to the high plains of South Dakota. If ever there was a place where signage played a pivotal role in helping you to know where you are or where you're going, this is it.

Working with the South Dakota Department of Transportation and several local counties, Ulteig transportation engineers were brought in for a massive project to replace signage along county, state and federal roadways throughout South Dakota. Utilizing the latest in GIS mapping technology, Ulteig engineers helped SDDOT engineers mark tens of thousands of survey points along thousands of miles to pinpoint locations for existing and future signage.

MINNEHAHA COUNTY SIGN REPLACEMENT DESIGN

For Minnehaha County, Ulteig conducted an inventory of all signs, delineators, object markers and hazards in the county, township and city right-of-ways. Administered by the South Dakota Local Government Assistance Office within the SDDOT, the Ulteig Transportation team also designed sign replacements or additions to be compliant with MUTCD (Manual on Uniform Traffic Control Devices), Federal Law, State Law and SDDOT Standards. Utilizing GIS mapping as a design tool, Ulteig mapped all existing signs, delineators and object markers in the county and recorded the roadway centerline location and edge of road location and elevation as well. Ulteig collected information on the signs that included MUTCD sign code, sign size, sign height, post material, sign condition, sheeting type, date of install (if available) and anchor type. More than 60,000 survey points were collected throughout nine towns, 1,200 miles of Township roads, and 350 miles of county roads. Ulteig used the GIS map as a background for the design of new sign locations and/or to verify existing signs were of proper height above the road and located at the correct offset from edge of road. When the design was complete, Minnehaha County had more than 10,000 signs, 12,000 delineators and over 5,000 object markers identified and designed to be added or replaced.

HANSON COUNTY SIGN REPLACEMENT DESIGN

For the Hanson County Sign Replacement Design project, Ulteig conducted an inventory of all signs, delineators, object markers and hazards in the county, township and city right-of-way within Hanson County. In addition, the Ulteig Transportation team designed sign replacements or additions to be compliant with MUTCD, federal law, state law and SDDOT Standards. Similar to the Minnehaha County sign replacement project, Ulteig utilized our extremely adaptive GIS tools, enabling us to add culverts and intersections to the inventory process. While still in the design phase, the existing inventoried items were 1,187 signs, 280 delineators and object markers, 210 hazards, 78 curves, 349 intersections and 347 participating culverts.





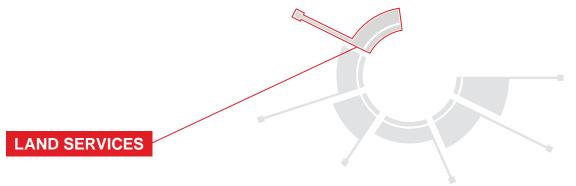
MARSHALL COUNTY SIGN REPLACEMENT DESIGN

Similar to the Minnehaha County sign replacement project, Ulteig took inventory of all signs, delineators, object markers and hazards in the county, townships and cities. Utilizing high tech GIS tools, Ulteig added culverts and intersections to the inventory process. While still in the design phase, the existing inventoried items were 1,660 signs, 332 delineators & object markers, 395 hazards, 247 curves, 415 intersections and 554 participating culverts.

SIGN REPLACEMENT CONSTRUCTION ADMINISTRATION FOR OTHER SOUTH DAKOTA COUNTIES

Ulteig has performed sign replacement construction administration (CA) for a number of South Dakota counties, including Minnehaha East, Minnehaha West, McCook, Lake, Miner, Union, Turner South and Turner North. The experience of working on these projects further enhanced the knowledge and understanding used in the design of these sign replacement projects. Working with the SDDOT area offices, Counties, Townships and Towns has given us a unique perspective on the design of projects like these.

"Inspecting the construction has taught us the real-world issues that are encountered on these projects," said Chad Stensland, P.E., project manager with Ulteig. "We used that information and experience to inform our designs. These construction administration projects have also given us the opportunity to fine tune our inventory process, systems and technology."

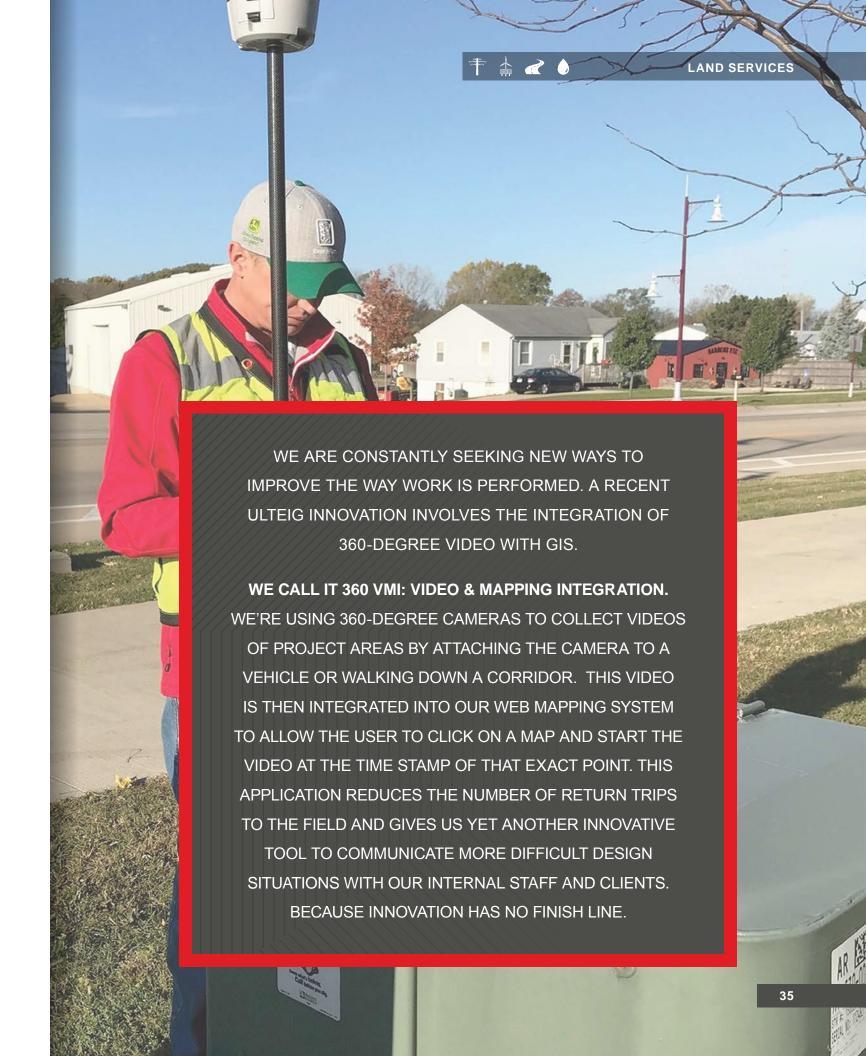


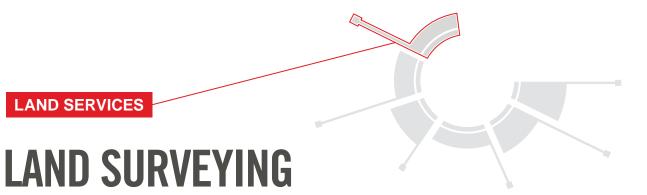
GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Geographic Information Systems (GIS) technology is one of many innovative land services Ulteig tailors to meet the unique needs of our clients. Our GIS team uses the most up-to-date GIS software to provide customized geospatial solutions built around your business requirements. Because GIS has applications across all project phases, Ulteig offers a wide range of sophisticated solutions, including data collection and custom mapping, GIS server solutions and technical support for utilities, commercial organizations and various levels of government.

EXPERTISE

- ArcGIS Online Implementation
- Construction Monitoring Real-Time Tracking Dashboards
- Data Download Hubs
- Field Data Collection (Utilities, Culverts, Bridges, ADA Ramps)
- Field Inspection Forms (Daily Logs, Swppp, Etc.)
- GIS Database Design
- Integration With Client GIS Department Data
- Project Web Maps
- Site Selection/Analysis





Ulteig has the distinct combination of capacity and experience to deliver a wide range of surveying services to meet your specific project needs. We provide a one-stop shop for our clients, which can fast track a project and reduce coordination efforts and risk. Our in-house surveying capabilities are comprehensive to support your project needs and include boundary surveys, construction staking surveys, topographic surveys, terrestrial scanning and more. To complement our in-house survey solution capabilities, Ulteig may also leverage our network of trusted subcontractors to perform specialty survey scopes of work, such as LiDAR surveying, depending on the project location.

EXPERTISE

- ALTA/NSPS Land Title Surveys
- Boundary Surveys
- Cadastral Surveys
- Construction Staking Surveys
- Control Surveys
- Design Surveys

- Easement Surveys
- Elevation Certificates
- Expert Witness Services
- Forensic Surveys
- Global Positioning System Surveys
- Surveys Highway and Road Surveys
 - Land Descriptions
 - Land Divisions
 - Mapping
 - Subdivision Platting







CUSTER PPD TRANSMISSION | CENTRAL NEBRASKA

Ulteig's land services department first performed a topographic survey of the project corridor which was incorporated into the design. "Because we understand landowner concerns over erosion caused by delicate vegetation being disturbed, the survey team walked the corridor on foot," said Jay Johnson, field services technical manager.

The team also performed other surveys, including parcel boundary retracement surveys, road right-of-way retracement surveys, and riparian rights retracement surveys. With this information, the Ulteig team prepared the documents necessary for easement acquisition.

To help facilitate this project, Ulteig also developed a customized, online, digital mapping system and construction applications that allowed Custer PPD and the general contractors to track every detail of the project, such as reroutes, access, structure install status, landowner easements, special landowner instructions, construction notes, FAA permitted structures and laydown areas for materials. "Our web-based, intuitive solution provides Custer PPD information for every detail of the project," said Mike Schnetzer, a senior GIS analyst for Ulteig.

While a large-scale transmission line upgrade project isn't anything new to Ulteig, this project proves there are always opportunities to innovate.

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ENVIRONMENTAL

At Ulteig, we built an environmental team that understands the big picture of what your project intends to accomplish and the importance of the environmental process. We have developed a team of environmental professionals with knowledge and experience that is unmatched.

Our team prepares all the environmental documentation, obtains compliance with the National Environmental Policy Act (NEPA) and applicable environmental laws and regulations, permitting and fieldwork, ensuring federal, state and local agency stakeholders are satisfied and that your project proceeds from concept to reality as quickly, efficiently and responsibly as possible. Our team's deep understanding of industries and the complexities of each project allow us to effectively navigate the NEPA process.



EXPERTISE

DESKTOP AND FIELD ANALYSIS

- Wetlands—Delineations, Mitigation, Banking, Monitoring
- Health and Safety Plans (Pre-Construction, Soil, Groundwater)
- Environmental Monitoring— Construction, Wetlands, Vegetation, Wildlife
- Environmental Management Plans (Invasive/Endangered Species, Wetlands, Habitat
- Restoration—Vegetation, Soils, Wetlands
- Environmental Remote Sensing
- Section 4(f)/6(f) Evaluation
- State Listed Species— Presence/Absence Surveys, Habitat Surveys, Agency Coordination

- Federally Listed Threatened and Endangered Species— Presence/Absence Surveys, Habitat Surveys, USFWS Consultation (Sections 7 and 10), Habitat Conservation Plans
- Floodplain Analysis
- Avian and Bat Surveys and Protection Plans & Avian Risk Assessments
- Environmental Siting and Route Studies
- Environmental Site
 Assessment—Desktop,
 Phase I. Phase II
- Viewshed Analysis Asbestos-Containing Materials (ACM) and Lead-Containing Paint (LCP) Sampling
- Wildlife Crossings
- Noise Analysis, Abatement and Reporting

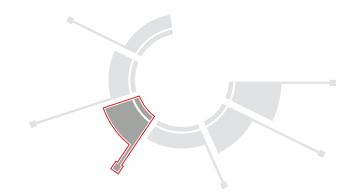
REPORTS

- NEPA (Environmental Impact Statement, Environmental Assessment, Categorical Exclusion)
- Administrative Record
- State-Level Environmental
 Documentation
- Planning and Environmental Linkage Studies
- Public and Stakeholder Involvement

PERMITTING

- Wetland Permitting (Federal, State and Local Permits, Routing/Siting Permits)
- Spill Prevention Control and Countermeasure (SPCC)
- Stormwater Pollution Prevention Plan (SWPPP)

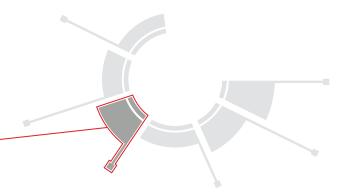
OUR TEAM IS COMPOSED OF ENGINEERS AND ENVIRONMENTAL
SCIENTISTS WHO SEE YOUR PROJECTS THROUGH BOTH LENSES. WE
POSSESS THE TECHNICAL AND PROJECT MANAGEMENT EXPERTISE
NECESSARY TO KEEP YOUR PROJECTS MOVING FORWARD. WE WORK
TOGETHER TO FIND SOLUTIONS THAT MEET YOUR NEEDS WHILE MINIMIZING
IMPACTS TO THE ENVIRONMENT AND REMAINING IN COMPLIANCE WITH
FEDERAL, STATE AND LOCAL REGULATIONS. WE ARE EXPERTS AT WHAT WE
DO AND ARE HONORED TO PLAY A KEY ROLE IN YOUR PROJECT'S SUCCESS.



Ulteig is well positioned to conduct a wide range of planning studies across all Lifeline Sectors. As always, our goal is to ensure that consensus is reached and that innovative, expert solutions are carried out, creating efficiencies and facilitating communication along the way. From transmission planning and grid modernization to community policy planning and design, these plans establish long-range vision for the community to address growth and development challenges head on.

Our highly qualified, well-integrated team of professionals provide high-quality, actionable and innovative solutions that aim to increase economic vitality and quality of life, and help to preserve and enhance the unique characteristics of communities. We manage all aspects of the studies inhouse, resulting in better efficiency and communication, and giving you direct and reliable access to our team. With our experience and knowledge of the regulatory environment, we provide insightful analysis to help in decision making, and advise of potential pitfalls and future project considerations.





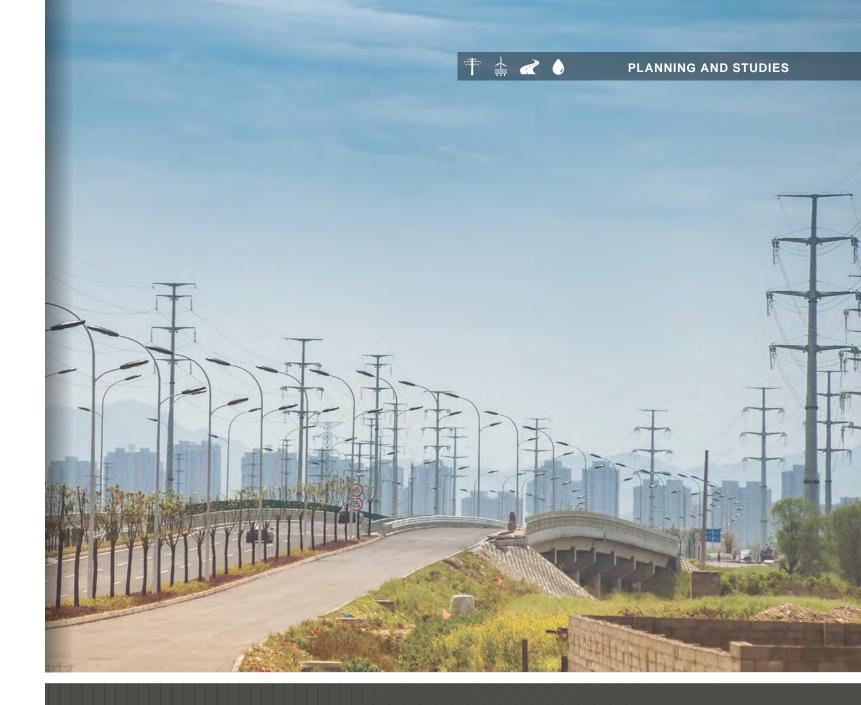
POWER SYSTEM STUDIES

Ulteig's Power System Studies team is equipped to deliver various studies within our areas of expertise. From site prospecting and generation interconnection support to NERC compliance and post-construction power analysis studies, our team adds value and decision-making insights to the entire lifecycle of a project or portfolio. We maintain several industry-leading software licenses to ensure we meet every client's system requirements.

EXPERTISE

- Generation Interconnection
- NERC/ISO Compliance
- Post-Construction Studies
- Renewable Design

- Substation
- Transmission
- Transmission Planning
- Vendor/Equipment Analysis and Optimization





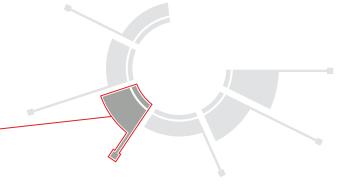
TRANSMISSION PLANNING FOR LARGE INVESTOR-OWNED UTILITY | COLORADO

Ulteig supports a large investor-owned utility performing studies for their transmission planning department.

Ulteig's scope of work includes generator interconnection studies for proposed renewable projects to the system and other transmission studies. Study details include evaluation of various system impacts such as voltage range violations, higher-queued generation, and existing generator settings. Studies performed include load flow, contingency, and/or stability analysis depending on the studied facility. A report is prepared providing recommendations for the proposed generator as well as necessary upgrades or system modifications.







GRID MODERNIZATION

As energy generation and usage demands evolve, it's imperative that utilities modernize their grids to meet present and future realities including the increased penetration of Distributed Energy Resources (DERs). Our team of grid modernization experts will work with you to develop unique solutions to achieve your strategic goals. We will partner with you to create and implement a well-designed grid modernization plan with long-lasting benefits. We maintain several industry-leading software licenses to ensure we meet every client's system requirements.

EXPERTISE

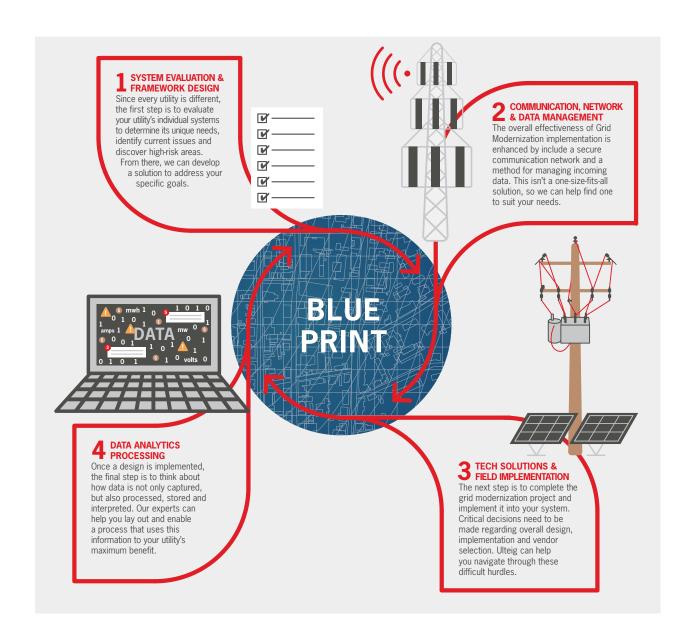
- Automated Fault Location, Isolation & Service Restoration
- Conservation Voltage Reduction
- Distribution Planning and Studies
- Electric System Model Development
- EV Impact Analysis
- Fault Current, Power Flow, Voltage Drop, Coordination, Load Balancing
- GIS Mapping of the Electric System
- Grid Modernization Road Map
 Development
- Grid Resiliency

- DER Impact Analysis
- Peak Demand Management
- Policy Changes
- Power QualitySystem Reliability
- Technology Roadmap
- Development
- Volt/VAR Optimization

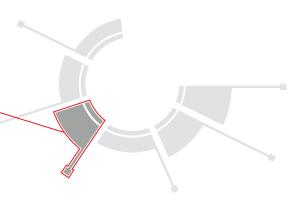
WHY GRID MODERNIZATION? As the electric grid continues to age, it is imperative to develop a holistic approach to a grid modernization strategy. This helps develop proactive solutions that maximize efficiencies and provide resilient and reliable power while adapting to ever-changing technologies affecting our nation's network. Grid modernization provides electric utilities of any size with an opportunity to address challenges associated with the evolving grid.

GRID MODERNIZATION CYCLE – We partner with electric utilities to develop future-ready modernization strategies designed to anticipate and meet the energy supply and demand challenges of the years ahead. We use a set of unique criteria, along with an electric system model, to customize a solution to meet your needs. Solutions typically include one or more of the following principles: **RELIABILITY, RESILIENCY, HARDENING, VISIBILITY, ADAPTABILITY AND SYSTEM INTEGRATION.**

Not sure where to start? Generally, we recommend the following four stages to build the blueprint for your longterm grid modernization strategy. Enter the process at whatever step makes the most sense for your utility.



TRANSPORTATION PLANNING



We help create more reliable connections through a long history of successfully completed transportation projects. We have firsthand experience and are accustomed to meeting the requirements and expectations of federally funded projects and state departments of transportation as well as regional and local levels of government.

This includes planning, design and construction services for complex urban intersections, corridor retrofits and rural highways. Ulteig is a progressive firm that stays attuned to cutting-edge practices and the community elements of transportation facility development. We understand that facility planning and design must be context-sensitive and cost-sensitive, environmentally friendly and sustainable. Our many private sector and governmental clients find us responsive and time conscientious. We are committed to effective and continuous communication with our clients and involved stakeholders to promote solutions that are supported by area staff and elected officials.

EXPERTISE

- Bicycle and Pedestrian Planning
- Community Outreach
 and Involvement
- Complete Streets
- · Corridor Studies
- Environmental Documents
- Geographic Information Systems
- Healthy Community Planning
- Long-Range Transportation Plans
- Multi-Modal Plans
- Multimodal Transportation
- Planning of Transportation, Transit and Trail Projects
- Public Participation and Consensus Building
- Traffic Analysis
- Site Impact Analysis
- Sustainable and Context Sensitive Design





I-25 AND 8TH AVENUE TRAFFIC MODEL AND TRANSPORTATION PLAN | DENVER, CO

As the City of Denver continues to grow, more pressure is being put on its major transportation routes, such as north-south Interstate I-25, which runs along the western part of the city.

Ulteig will work with the Colorado Department of Transportation (CDOT) to conduct an analysis of the I-25 and 8th Avenue interchange. Located near the city's core, 8th Avenue connects the Sun Valley neighborhood, which is more residential, with the more industrial area of Lincoln Park.

This will be a challenging project on many levels. First and foremost, this interchange is one of the busiest freeway/interchange segments in the Denver metroplex

Ulteig will perform a modeling and analysis for the critical I-25 ramps to 8th Avenue project. The focus of the study will be to identify traffic impacts to the surface street network resulting from the potential closure of the 8th Avenue ramps.

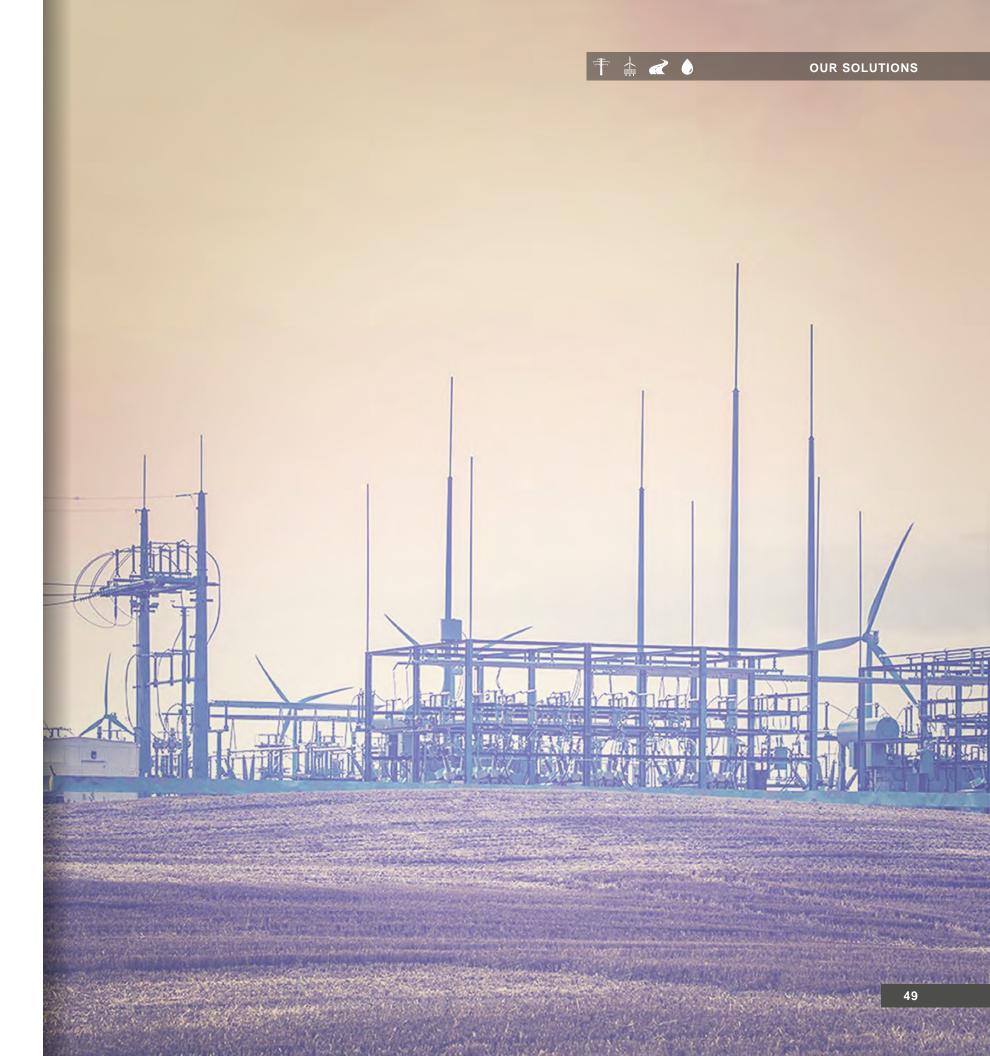
The project team will review the existing Planning and Environmental Linkages (PEL) study and will provide an updated Traffic Impact Study based on eliminating all of the 8th Avenue ramps on I-25. The study will include traffic data collection, analysis, alternatives development and recommendations for potential infrastructure improvements in association with future year scenarios for the study area.

By closing off the 8th Avenue ramps, the Ulteig planning team will seek to determine how vehicular and freight patterns could change and integrate into the existing local network.

Ulteig also will provide recommendations for cross-section/intersection, traffic calming, bicycle and pedestrian improvements on 8th Ave between Federal Boulevard and I-25 with ramp closures.



We put our vast knowledge and experience to work for you, assisting from conceptual design through detailed design and construction support. Ulteig's high quality designs are context-sensitive and cost-effective. Our designs strive to balance the competing needs and desires of the clients and end users, while building the framework for quality controls that will guide the implementation of the project. We offer detailed design work, development and review of design calculations, selection and design implementation. Our goal is to provide solid commitment through unmatched client services and create a positive experience for our clients.





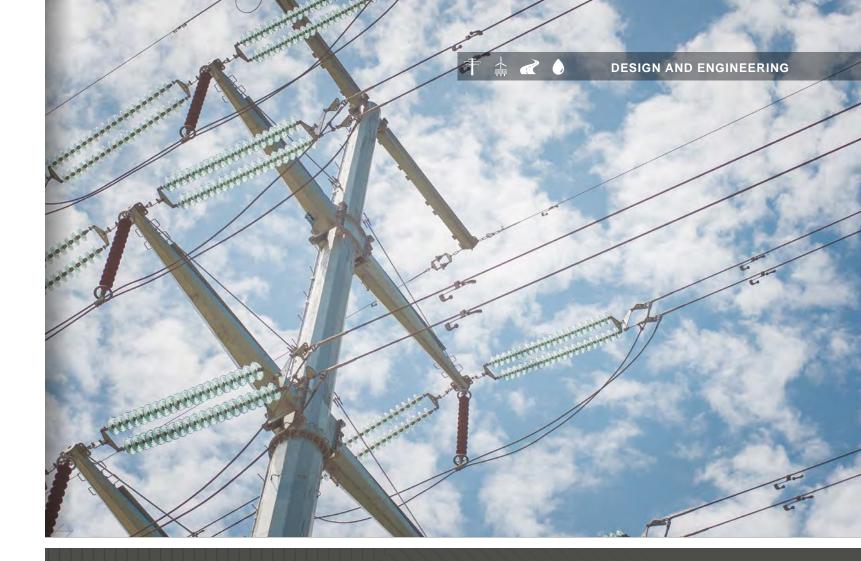
At Ulteig, no transmission line project is too small or too big for our team of engineers who are 100% dedicated to transmission line design and engineering. Based on over 75 years of experience in serving the power industry, Ulteig has surveyed and engineered more than 20,000 miles of AC and DC transmission lines for Investor Owned Utilities (IOUs), Municipals, Cooperatives, Developers and EPC Contractors across the United States. We've completed projects ranging in size from 12.5 kV distribution to 500 kV EHV transmission. With 13 regional offices, we have local, on-the-ground understanding of the particular challenges facing power customers in different parts of the country.

EXPERTISE

- Audible Noise and Radio Interference Studies
- Construction Specifications
- Construction Management
- Construction Observation
- Construction Support
- Design Criteria Preparation
- Electric and Magnetic Field (EMF) Studies
- · Environmental Studies

- Estimates
- Facility Studies
- Foundation Design
- Grounding Studies
- · Lattice Tower Analysis
- · Line Uprating Studies
- · Material Procurement Support
- Material Specifications
- Permitting Assistance, Including Photo Renderings

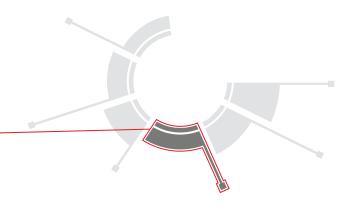
- Project Scoping
- Shielding and Lightning Performance Studies
- Steel Design
- Storm Water Pollution Prevention Plan (SWPPP)
- Structure Analysis
- Transmission Routing
- Underground Design
- Wind/Solar Farm Transmission Design





VALUE ADDED ENGINEERING - OPTIMIZING DESIGN CRITERIA - 14 MILE DOUBLE CIRCUIT 345 KV TRANSMISSION LINE

Due to the large base reactions of double circuit structures, the client requested that all the transmission line structures be supported on drilled pier foundations. The client had existing structures on drilled pier foundations that had been designed by other engineering firms with one of the main client pain points being the high-cost to construct. Ulteig was selected to design this new line and to ensure a reliable foundation design that would also reduce foundation construction costs. Ulteig reviewed the previous projects' foundation design criteria and found a number of design parameters that led to significant cost increases. Ulteig proposed to the utility, just for this one project, to use a new design criterion that modified the foundation rotation and tip deflection limits, also known as creating a "balanced" performance criteria. Ulteig implemented this new design criteria and created foundations that were 25% smaller in volume when compared to designs that followed the utility's original design criteria. On this project alone, the utility saved more than \$2.7 million dollars on the foundation construction. The utility was so pleased with the cost savings that they hired Ulteig to re-write their foundation design criteria so that similar savings could be implemented on all of the utility's future projects.



DISTRIBUTION

Today, with the onset of smart technology, distributed energy resources (DERs), more significant and frequent weather events, increasing utility customer awareness and desire for customer choice, and aging infrastructure, the need to invest in distribution is highly critical. As a company that got its start providing distribution services to rural North Dakota over 75 years ago, Ulteig has the history and expertise to support power utilities and operating companies with the design, implementation and utilization of robust distribution systems.

EXPERTISE

FIELD DESIGN & STAKING

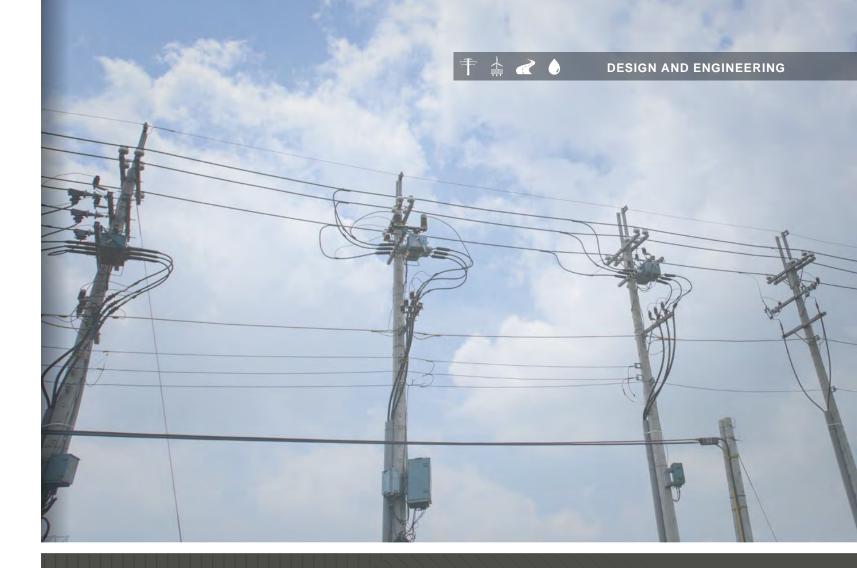
- · Basic Surveying
- · Construction Contract Administration
- Easement Acquisition
- · Joint-Use Staking and Make-Ready Surveys
- · Line Inspection
- Material Coordination
- NESC and Utility Specifications
- · Overhead/Pole-Line Structure Design and Layout
- · Permitting
- Protection/Basic Sectionalizing Design
- Sizing Transformers and Conductors
- Underground Line Design and Subdivision Layout

PLANNING & ANALYSIS

- Arc Flash Studies
- Coordination Studies
- GIS Mapping
- Interconnection Studies
- Load Flow Studies
- Loss Reduction Studies
- Power Quality Studies
- Volt/VAR Compensation

SYSTEM HARDENING

- Design Criteria Development
- Full Structure Analysis and Design
- Review of Existing System & Recommendations for System Hardening
- Review of Outage Data and Design Standards Recommendations
- Underground Design

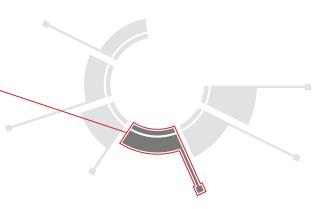




PERRY TO MADRID DISTRIBUTION DESIGN UNDERBUILD, UNDERGROUND AND OVERHEAD DESIGN | IOWA

About 40 north of Des Moines, Iowas, Ulteig Power engineers assisted an Iowa-based utility with the upgrading and rebuilding of transmission lines (34.5 kV to 69 kV upgrade and rebuild) from Perry, Iowa, to Madrid, Iowa. In tangent with this upgrade, the distribution line was upgraded from 15 kV to 25 kV. Ulteig was responsible for the transmission line design, distribution design, and right-of-way and survey services related to the distribution design. Ulteig designed 17 miles of transmission line utilizing Power Line Systems-Computer Aided Design and Draft (PLSCADD) software. The PLSCADD model was used to design six miles of distribution underbuild, and 11 miles of distribution line was converted to underground. Ulteig's award-winning GIS distribution design process also was incorporated into the planning process. Related taps serving single-phase residential customers and three-phase commercial customers were converted from overhead to underground design. Ulteig's survey department created the boundary survey and completed construction staking. Ulteig's Right-of-Way (ROW) team contacted customers to acquire signed easements. Ulteig supported this project from planning through construction.

SUBSTATION DESIGN



Ulteig's substation team has engineered and designed more than 1,000 high-voltage substations, switching stations and interconnect stations—from 5 kV to 500 kV—for investor-owned utilities, cooperatives, municipalities, contractors and developers.

Our project experience includes system studies, EHV and HV air-insulated and gas-insulated switchyards, static and dynamic VAR compensation, renewables interconnections, 3-D modeling, NERC and FERC requirements, relay settings, site development, testing and commissioning, client-specific standards and a full EPC/design build service. Our top priorities are safety, quality, constructability, efficiency, budget and schedule.

EXPERTISE

- · Access Road Design
- Arc Flash Mitigation
- Axillary Power System Design
- Construction Estimating and Support
- Control Equipment Enclosure
 Design and Specification
- Electrical Control
- Electrical Design
- Environmental Studies
- Equipment Specifications
- Event Analysis and Evaluation
- Facility Studies
- Fault Coordination Studies

- Grading Design
- Grounding
- Lightning Protection
- Material Ordering, Tracking and Expediting
- Physical Design
- Preliminary Arrangement
- Programmable Logic Controller (PLC) and Human-Machine Interface (HMI) Programming
- · Project Scoping
- Protective Relay Settings Development
- Right-of-Way

- · Site Selection
- Siting and Permitting Support, Including Photo Renderings
- Spill Prevention, Control and Countermeasure (SPCC) Plan
- · Station Battery System Sizing
- Stormwater Pollution Prevention Plan (SWPPP)
- Structural Steel Design
- Survey
- System Control and Data Acquisition (SCADA) and Communication Design
- 3D Design





FOUNDATION REPLACEMENT UTILIZING HELICAL PILES

The existing transformer at a Minnesota substation was overloaded, and the 4 kV equipment was aged and deteriorating. The project requested by the client was an electrical upgrade involving the replacement of the existing 69-4.16 kV transformer with a new 69-23.9 kV transformer. During initial site visits, however, the foundations for an existing substation box structure were clearly in severe need of repair, reinforcement or replacement due to concrete deterioration and poor soil conditions—adding time and complexity to the project scope. A design to mitigate clashing with existing foundations and underground cables was required, and the entire project needed to be completed while the equipment mounted on the structure was energized.

The unique conditions led Ulteig to use a technology somewhat rare for the utility industry in our region: helical piles. In the construction phase, while installing the helical pile foundations, other challenges were encountered, including navigating around underground cables, temporary shoring of structure with energized equipment, temporarily relocating major equipment to install the helical piles, winter construction during the 2019 Minnesota polar vortex, and spring flooding toward the end of construction. The use of helical piles was a critical factor in allowing Ulteig to successfully navigate around all the challenges, delivering a finished project that will provide safe and reliable energy for the community well into the future.



RENEWABLES BALANCE OF PLANT/SYSTEM (BOP/S)

Ulteig provides its clients full-service, turnkey engineering and survey services required from initial conceptual models through development and construction of utility scale wind and solar projects, including comprehensive, revenue-generating energy storage technologies that can be leveraged across the entire energy supply chain. Our dedicated team will work with key project stakeholders to ensure that power generation objectives and known constraints are reflected in project economics as accurately as possible at each stage in development, enabling developers, contractors and owners to prioritize spending on projects with the highest probability of success regardless of portfolio size.

Ulteig's experience and history in the BOP/S market allows us to leverage our historical knowledge of past projects with a deep understanding of new market trends in the industry. From the 34.5 kV collection system to access road design, including permitting and construction survey, we have the experience to support wind and solar projects from the initial conceptual layouts through final design, construction and operations and maintenance of the facility.

EXPERTISE

· Civil Engineering

- · Geotechnical (Advisory)
- Collection Systems (AC/DC)
- · Structural Engineering





NEW SOLAR POWER CENTER | ELORA, TN

Tennessee is known for many things—its bourbon, BBQ, Goo Goo Clusters, Moon Pies, Graceland and the Grand Ole Opry—but one thing it's not known for is solar power. Until now.

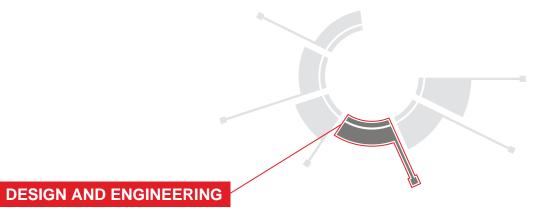
Near a small farming town in southern Tennessee, but one thing it's not known for is solar power. Ulteig designed and engineered one of the largest solar power centers in the state. Located on more than 1,700 acres near the Tennessee-Alabama border, this new 150 MW AC solar farm will interconnect with the Tennessee Valley Authority's (TVA) existing electrical grid. The TVA, under a 20-year power purchase agreement (PPA), will sell most of the output to Facebook, which built a \$750 million data center located in nearby Huntsville, Alabama.

Built with 508,147 solar panels, the solar farm will help create more economic diversity in the region by attempting to attract high-tech companies to this largely agricultural region of the state.

OPTIMIZE TO REDUCE COSTS; INCREASE PRODUCTIVITY

Ulteig was brought on board as the solar design engineer with responsibility for optimizing the preliminary project design and equipment to be selected for the project. "In designing the solar energy farm near Elora, our engineers were challenged with optimizing project plans to reduce costs while maintaining or increasing the solar farm's productivity," said Andrew Melvin, P.E., a technical manager with Ulteig's Transmission and Distribution team.

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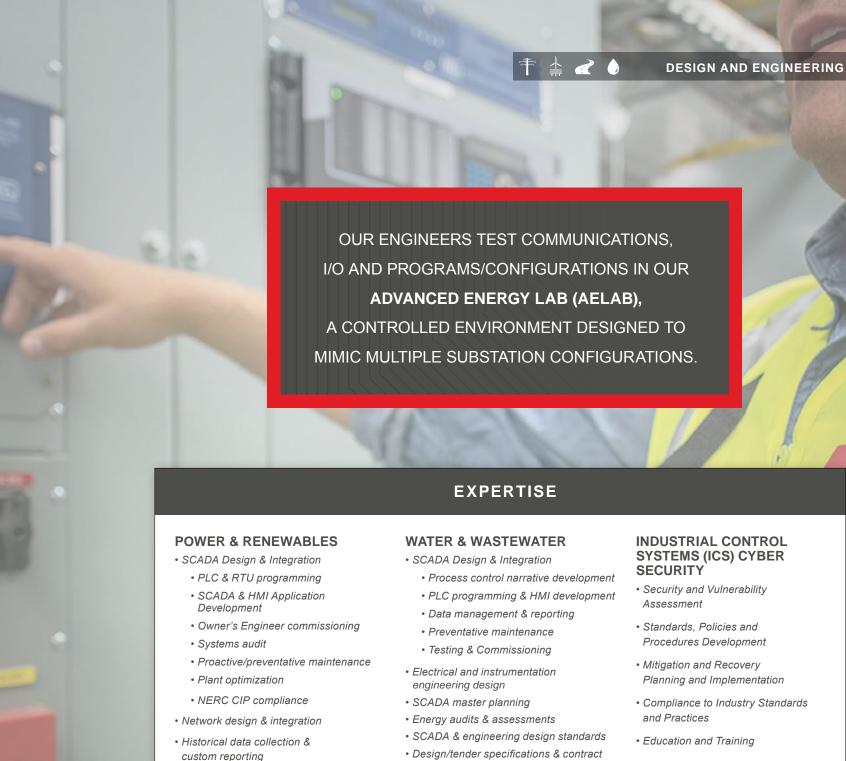


SYSTEM INTEGRATION

As an owner or operator within the renewable, power or water/ wastewater utility markets, it is important to have reliable control of your plant and process, supported by a robust SCADA system and communication network. The system should be versatile, providing customized data, monitoring and control measures that dynamically adapt to anomalies, outages, and provide early warning indication of equipment and system failures.

Ulteig defines System Integration as the ability to monitor, control and incorporate data across multiple vendors and equipment platforms and bring them together into a single unified system that meets the owner's operational and regulatory needs.

Ulteig's team of System Integration professionals offers an extensive set of Supervisory Control and Data Acquisition (SCADA) and networking design services. These services can be part of an upfront collaborative effort on a greenfield site or added to an existing facility. Our experts will work with you to deliver a customized solution that meets your specific needs.



- custom reporting
- System event alerts
- · Alarm scheme design & integration
- Data management & integration
- Custom coding
- Trending display configurations
- Synchrophasors
- Plant control for PV & BESS

- administration
- · Project management
- · Process and systems optimization
- · Local & wide network planning & design
- · SCADA server virtualization planning & implementation
- · Switch, router and VPN configuration
- · Backup and disaster recovery systems
- Electronic document management systems

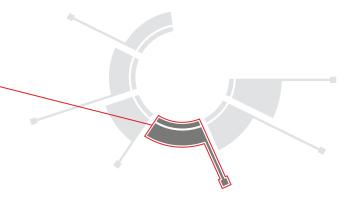
INDUSTRIAL CONTROL SYSTEMS (ICS) CYBER

- Security and Vulnerability
- Procedures Development
- Mitigation and Recovery Planning and Implementation
- · Compliance to Industry Standards



CAISO

(CALIFORNIA ISO REGULATIONS)



REMOTE INTELLIGENT GATEWAY (RIG) AND METER ENGINEERING – Ulteig is a RIG Third Party Engineering Firm and an Approved Meter Inspection Company that offers in-house CAISO Authorized Inspectors. We can design, execute and support any new and existing RIG and metering installation. Whether you're performing a QF conversion or looking to participate in the market as a Hybrid Resource, Ulteig has the skillset and qualifications to make it happen.

NEW RESOURCE IMPLEMENTATION (NRI) PROCESS MANAGEMENT – Ulteig is experienced in the CAISO NRI bucket process and requirements; our consulting services will make the process as seamless and transparent as possible. We will leverage our experience to stay ahead of issues and pitfalls, monitor the progress of your project's schedule versus the deliverables and provide on-site and remote support as your project approaches its Commercial Operation Date (COD). From your first Project Details Form to Commercial Operation we can lead the process, manage document and information retrieval and submit documents to the ISO on your behalf.

ANCILLARY SERVICES – Ulteig can assist with, or fulfill additional requirements necessary at some CAISO facilities.

EXPERTISE

- · Annual Meter Re-Certifications
- Complex Metering Schemes
- Design Compliance Review
- Energy Communication Network
 (ECN) Facilitation
- Equipment Specification
- Load Profile Data Retrieval

- Meter Design & Integration
- Meteorological (Met)
- · Milestone and Deliverable Tracking
- New Resource Implementation (NRI) Process Management
- Qualifying Facility (QF) Conversions
- Remote and In-Field Support Station Design & Integration
- Remote Intelligent Gateway (RIG) Design & Integration
- RIG Certification Renewals
- Troubleshooting and Repair
- Site Surveys
- Third-Party Monitoring System Integration





ROSAMOND CENTRAL SUBSTATION | ROSAMOND, CA

Rosemond, California – In 2020, Clearway Energy Group broke ground on a new solar farm, the 192-MW Rosamond Central, designed to interconnect with the nearby Teddy Rosamond Substation. Ulteig was contracted by Nor-Cal Controls to perform SCADA integration for the Teddy Rosamond Substation. More specifically, Ulteig performed Independent System Operator (ISO) integration based on California ISO (CAISO) regulations – the strictest in the U.S. Any generator that participates in the California open energy market must comply with CAISO requirements. The project entailed three key elements:

Metering – Ulteig provided CAISO services for both owner meters and PPA meters (five offtakers). Ulteig installed 14 CAISO meters within the boundaries of the Teddy Rosamond substation, which connected the Rosamond Central solar farm with the CAISO grid system at SCE's Whirlwind 220 kV Substation.

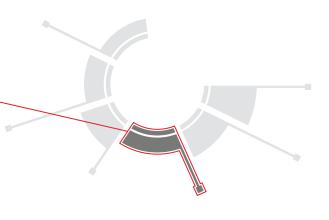
CAISO RIG integration – Ulteig installed a Remote Intelligent Gateway (RIG), a device that collects and forwards data to CAISO. CAISO pulls data every 4 seconds to keep track of generation in real time. Any generation facility that wants to interconnect at the transmission level must install and maintain a field RIG that meets CAISO requirements.

Consulting and management – Ulteig helped throughout the entire New Resource Implementation (NRI), which is a process specific to CAISO regulations.

"This project was 10 times the size of a similar project," said Ulteig's Christian Arechavaleta, PMP, technical manager. "However, this is going to become the norm as we see more and more solar and wind farms built in remote areas. We will see projects that need 50 and 100 meters, and with that, there is the need to ensure data integrity."

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ROADS AND HIGHWAYS



Ulteig is an advanced firm that stays attuned to cutting-edge practices and the community elements of transportation facility development. We understand that facility planning and design must be environmentally friendly and sustainable, and our many private sector and governmental clients find us responsive and time conscientious. We are committed to effective and continuous communication with our clients and involved stakeholders to promote solutions that are supported by area staff and elected officials.

EXPERTISE

TRANSPORTATION PLANNING SERVICES

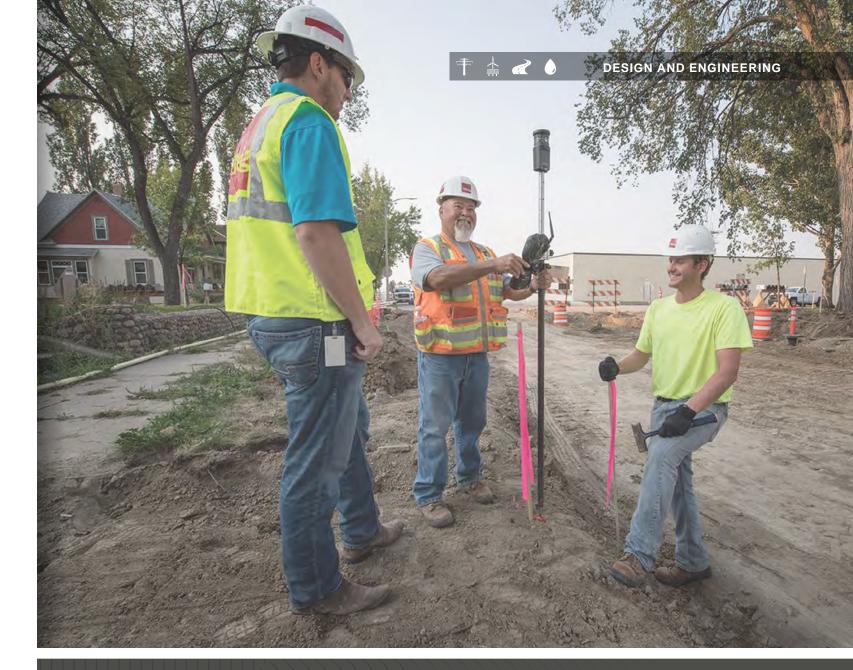
- Bicycle and Pedestrian Planning
- Community Outreach and Involvement
- Complete Streets
- · Healthy Community Planning
- Geographic Information Systems
- · Multimodal Transportation
- Planning of Transportation, Transit and Trail Projects
- Sustainable and Context Sensitive Design

DESIGN

- Alternative Delivery
- AutoCAD and MicroStation
- Construction Traffic Control and Detour Plans
- Independent Cost Estimating
- Multi-use Recreational Trails
- Reconstruction and Rehabilitation
- Roundabouts
- Streets and Highways
- · Structures and Bridges
- Traffic Signals and Lighting
- Value Engineering and Constructability Reviews
- Water Resources, Drainage and Utilities

CONSTRUCTION

- Bidding Phase Services
- On-site Construction Observation
- Project Close-out
- Project Management
- Records and As-builts
- Schedule Management
- Shop Drawing Review



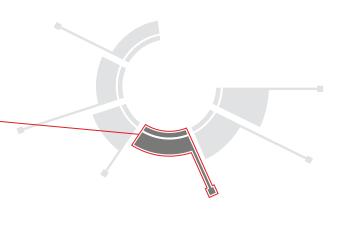


NDDOT HIGHWAY 1804 RECONSTRUCTION PROJECT | WILLISTON, ND

The project included a complete reconstruction of Highway 1804 from County Road 42 to the Red Mike Curve; a 10-mile route. The reconstruction included major realignment of the highway by redesigning several dangerous curves, lowering roadway to improve driving visibility, and adding turn lanes, passing lanes, and widened shoulders. The North Dakota Department of Transportation (NDDOT) provided certificates of title; however, additional research was required due to project scope changes. Prior to the project, landowners were contacted to verify the field title investigation. Ulteig acquired fee-taking, permanent easements and temporary construction easements, with 100 total parcels acquired. Ulteig staff prepared all DOT forms, successfully negotiated with landowners, worked with NDDOT staff on design changes and submitted the completed/signed forms to the DOT.



MUNICIPAL ENGINEERING



Ulteig helps communities develop and manage their infrastructure and resources by connecting technical expertise to the vision of community leaders and their constituents. We serve a community's municipal engineering needs by providing services that are beyond typical engineering design solutions. Our approach centers on understanding a client's vision and objectives. Ulteig works closely with communities to preserve their resources and distinct characteristics. Together, we develop a path to success.

EXPERTISE

ENGINEERING

- Capital Improvement Plans
- City Maps and Utility Records
- Construction Document Preparation
- Facility Plans
- Feasibility Studies
- Hydrology and Hydraulic Analysis
- Land Development/Subdivisions
- Maintenance Assistance
- Permit Applications
- Preliminary Design Studies
- Studies and Reports
- · Utility & Street Rehabilitation
- · Water & Wastewater Services

SOFTWARE CAPABILITIES

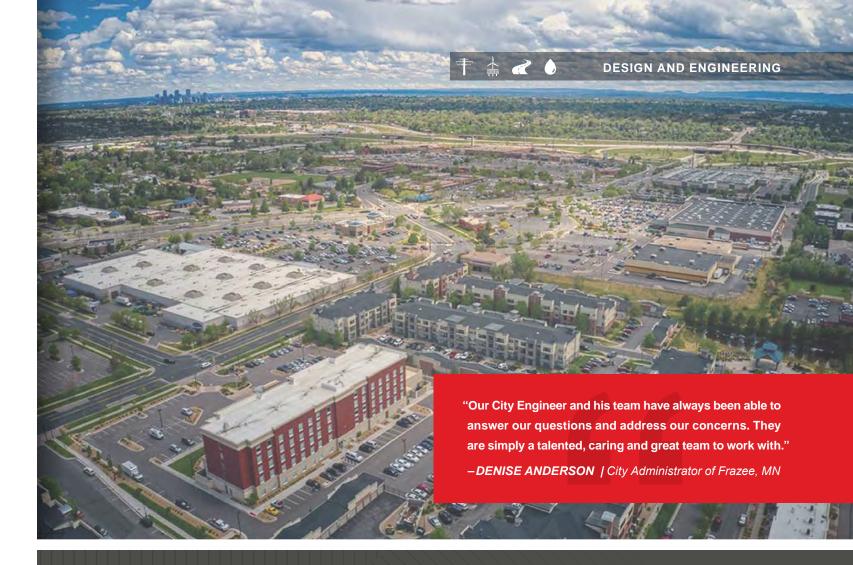
- · Capital Improvement Planning
- Comprehensive Planning
- Environmental Assessment Worksheet
- Growth Projections
- Infrastructure
- Land Use
- Ordinances and Policies
- Transportation
- WindIGS

ITIES ENVIRONMENTAL

- ing Erosion Control Designs
 - 404 Permit Applications
 - Stormwater Pollution Prevention Plans (SWPPPs)
 - Wetland Delineation, Mitigation and Restoration

FINANCIAL

- · Annual Budgets
- Capital Budgets
- Grant and Loan Assistance
- Improvement Bond Determinations





OWNER'S REPRESENTATIVE - CMGC METHOD | ARVADA, CO

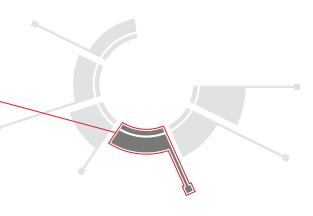
When it comes to areas of expertise in transportation, Ulteig has them in abundance. From design to construction, roadways to bridges, right-of-way and noise analysis ... the list goes on. But in the case of Arvada's West 72nd Avenue bond project, Ulteig had an even more important role: serving as an extension of the client.

Ulteig is serving as the owner's representative for the City of Arvada, explains Bob Smith, Ulteig manager of Construction Management. "The City of Arvada recognized the value of external support for a project this complex, so they turned to Ulteig. We used a Construction Manager/General Contractor (CMGC) approach to manage it."

UTILIZING A CMGC APPROACH

In short, Smith's team is doing part of the work and overseeing all of it. The team is providing design review, value engineering, schedule review, cost negotiations and public outreach. The CMGC delivery method is also relatively unique. Ninety percent or more of typical projects are completed using the design/bid/ build process, meaning each step of the project happens in order. Using CMGC, Arvada hired the designer to progress the design to 30 percent complete. Then the city hired the contractor, and brought on Ulteig simultaneously, using Ulteig's expertise to foster collaboration between the contractor and designer.

BRIDGES AND STRUCTURES



Big bridges. Small bridges. High bridges. Rural bridges. Urban bridges. Bridges are powerful. Bridges connect not just places, but people, the things they need and the flow of ideas. They can become icons, reflecting the values of the people who live near them. And they're complex -- because bridges are often part of a bigger transportation system. Ulteig's Transportation Structures Group offers a special team of engineers who are passionate about bridges and specialize in their design and maintenance. This group has extensive experience in designing a wide range of bridges, from a small county bridge, to a multi-million dollar, multi-use bridge replacement in an urban core. For existing bridges and structures, our Bridges team can help clients evaluate the condition of existing structures and propose repairs to improve the longevity and/or increase the capacity of the structure. With a view to building bridges that meet future demands, the Ulteig Bridges team takes a pragmatic approach towards design that focuses on delivering long-lasting quality and functionality, while creating a structure that enhances the identity of the people who will rely on a bridge, day-in and day-out.

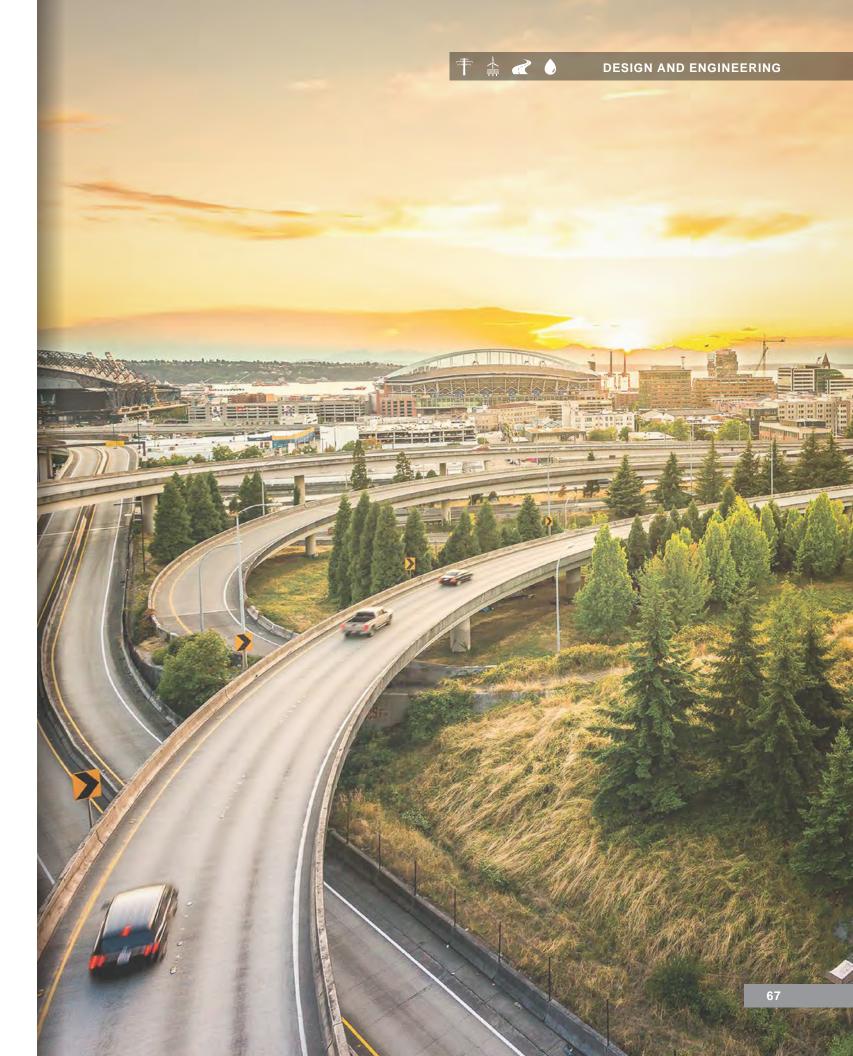
EXPERTISE

- Ancillary Structure Design
- Ancillary Structure Inspection
- Barrier Gates
- Bridge Design
- Bridge Inspection
- Bridge Load Rating
- Cast-In-Place Concrete
- Fracture Critical Bridges
- Inspection Prestres
 - Prestressed Concrete
 - Railroad Car Frames
 - Scour Critical Bridges
 - Sign Structures

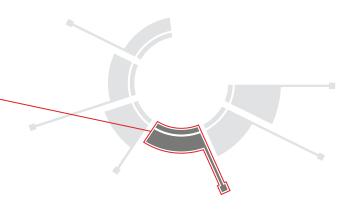
Light Poles

- Soil Nail Walls
- Soldier Pile and Lagging
- Steel

- Timbe
- Traditionally Reinforced Concrete
- Trusses Including Gusset Plates
- Unique Structures
- Wall Design
- Wall Inspection
- MSE Walls



WATER RESOURCES



At Ulteig, we are experts in water resources engineering and the field of hydrology and hydraulics. Our professionals assist public- and private-sector clients in managing stormwater runoff and surface water resources to sustain or improve water quality, minimize flooding and address regulatory challenges. Our projects have ranged from simple drainage design to major flood control works, and we will work closely with you in customizing projects that meet your needs. We integrate natural elements into civil design and look to natural hydrologic systems as inspiration for our constructed solutions.

EXPERTISE

WATERSHED MANAGEMENT

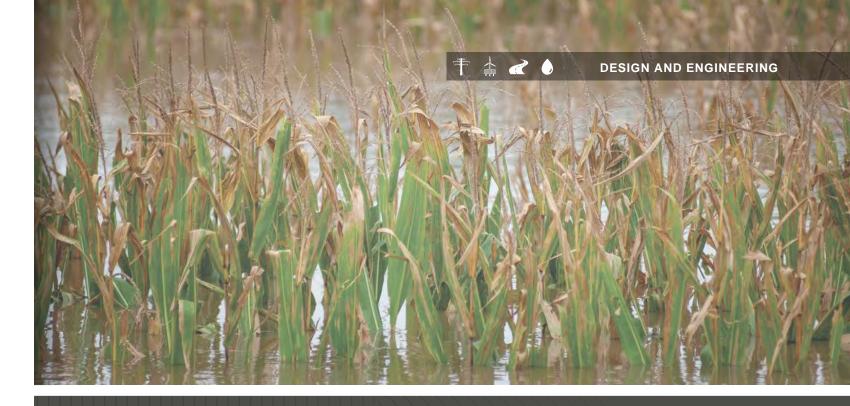
- Comprehensive Sewer Plans
- Development Review and Code Compliance
- Environmental Studies
- GIS Mapping
- Operation and Maintenance Plans
- Risk Assessment
- Stormwater & Surface Water Management Plans

HYDROLOGIC & HYDRAULIC MODELING

- Dam and Levee Failure Analysis
- · Lake and Reservoir Modeling
- Rural Drainage Modeling
- Stream ModelingSanitary Sewer
- Hydraulic Modeling
- Urban Stormwater Modeling

STORMWATER COMPLIANCE & WATER QUALITY

- Anti-Degradation Compliance
- Construction Stormwater Permit and SWPPP
- Impaired Waters and Special Waters
- MS4 Permit, Stormwater Pollution
 Prevention Plan (SWPPP) & Program
 Development
- Project Permitting
- · Water Quality Management Plans





FLOOD MITIGATION - REDESIGNING SUBSTATIONS | DES MOINES, IA

lowa is known for agriculture – acres and acres of corn, soybeans, oats, hay and alfalfa. It is blessed with rich, dark soil and seemingly endless acres of flat terrain, which are perfect for farming. The state is also blessed with an abundance of river valleys, which make portions of the state more prone to flooding, such as along the Missouri and Mississippi rivers, both of which have been the source of significant flooding events in recent years.

As one might imagine, flood waters and substations do not go well together. To address the increasing threat of flooding, one of lowa's three major utilities hired Ulteig to help it take preventive measures to protect six substations located in six separate counties throughout the state of lowa. Locations ranged from Percival, lowa, 45 minutes south of Omaha in the Missouri River plain, to Davenport, lowa, on the shores of the Mississippi River.

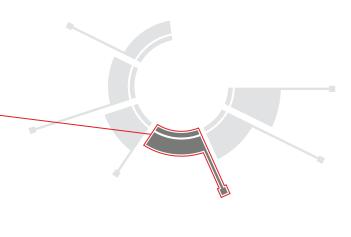
PROTECT THE CONTROL ROOM

The biggest threat flood waters pose to substations is water getting into the control room, which can cause irreparable damage to sensitive equipment that controls the operations of a substation. For four substations, raising equipment to prevent flood waters from reaching the control room was the solution. For two substations, this could not be done and required moving them to higher ground. Other flood prevention measures recommended by Ulteig engineers included:

- Building floodwalls around the perimeter of the substation using plastic pilings.
- Raising communications equipment to allow utility engineers to maintain reliable contact with substations during a flood event.
- Increasing concrete reveal on major equipment to keep sensitive electronics out of harm's way.
- Revising grading plans to introduce swales and drainage channels to promote water movement away from the site.

By implementing these measures, Ulteig will save its client hundreds of thousands of dollars in the years to come by avoiding the replacement of compromised equipment and reducing maintenance hours.

WATER & WASTEWATER



Ulteig's water and wastewater practice has helped a growing list of clients meet the challenges of providing reliable access to clean water. Since 1970, we have worked with public and private clients to deliver potable water through projects that solve challenges in supply, treatment, storage and distribution. On the wastewater side, we have designed pumping stations, treatment lagoons, treatment plants and rapid infiltration basins, all of which are used in the collection and treatment of sanitary wastewater.

Our engineers, technicians and operators are continually innovating to create dependable infrastructure solutions for water and wastewater. Our teams assist public and private sector clients in managing storm-water runoff and surface water, in order to maintain or improve water quality, minimize flooding and address regulatory challenges.

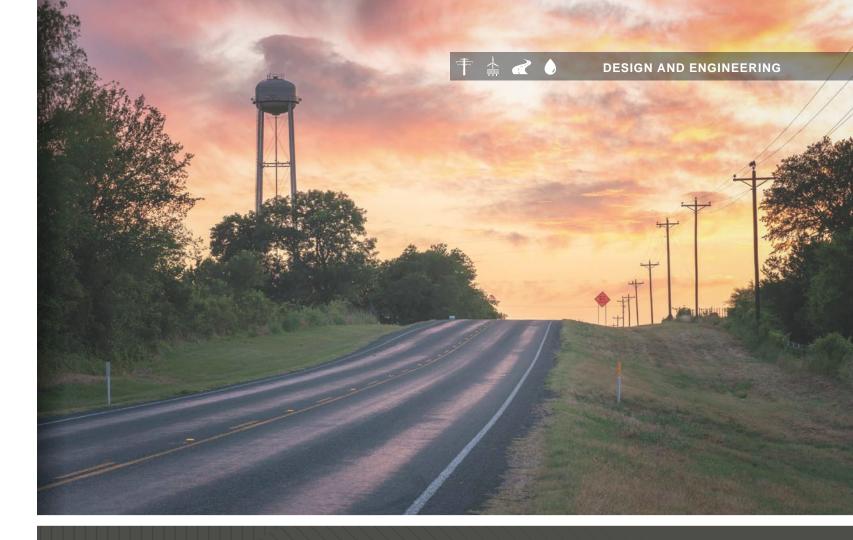
EXPERTISE

WATER & WASTEWATER

- Collection
- Conveyance
- Distribution
- Specialized Wastewater Services
- Supply
- Treatment

OTHER EXPERTISE

- ICS Cyber Security
- Networking & IT
- Process and Systems Optimization
- SCADA





RIVERDALE WATER TOWER | RIVERDALE, ND

For one small town located on the shores of Lake Sakakawea, a large reservoir built on the Missouri River in central North Dakota, the time came to replace its 156-foot, riveted- steel 300,000-gallon multi-column water tower built in 1947. The tower, which supplied water to Riverdale as well as surrounding communities such as Underwood, Pick City and Wolf Creek, was deemed structurally deficient. Ulteig engineers determined that the water tower was just one catastrophe away from collapse.

After securing a \$1.3 million grant to replace its water tower and make improvements to its water system, the city of Riverdale hired Ulteig to complete the design process.

Ulteig water engineers, along with the city, knew the best place for the new 167-foot-tall tower would be near its water plant, which serves about 500 to 600 homes and businesses in the area. Local farmers, growing durum wheat and barley, also rely on the fresh water provided by the city. The water plant sources its water from the surface of Lake Sakakawea.

The new water tower, designed for a life of 50 years, stores up to 300,000 gallons of water, of which 200,000 is dedicated for putting out fires. The tower was designed to provide 63 pounds psi at ground level.



PROJECT MANAGEMENT - Our project managers have experience throughout a project's life cycle, from development through construction and operation. We coordinate and streamline all aspects of the project, working with subcontractors and arranging all necessary services to ensure objectives are being met. Your project's success is our highest priority, and we consistently deliver creative solutions, on time and within budget.

PROGRAM MANAGERS - Our program managers can focus on the big picture, providing consistent and integrated services. These professionals coordinate all your projects to integrate multiple design disciplines and ensure all projects in your portfolio are consistently delivered the way you need them. Our priority is to help you meet your overall strategic goals. When you need help in executing a large volume of projects, our professionals can supplement the expertise of your internal team for as long as you require it.

EXPERTISE

PROJECT DEVELOPMENT

- Architect/Engineer/
- Contractor Selection
- · Bid Package Preparation

COST

- · Change Order Reviews
- Pay Application Processing
- Project Budget Development
- · Project Cost and Cash Flow Forecasting
- Project Cost Estimating

SCHEDULING

- · Critical Path Schedule Modeling
- Earned Value Analysis
- · Schedule Scenario Forecasting

SCOPE

- Contract Management
- Financing Due Diligence
- · Procurement and Logistics Coordination
- · RFI Management

QUALITY & RISK MANAGEMENT

- Issues Tracking and Resolution
- · Perpetual Risk Management
- Qualitative & Quantitative Risk Analysis

COMMUNICATION

- · Coordination with Stakeholders
- Document Control
- · Progress Reports and Meetings

SAFETY

· Site Safety Audits

PDS WHAT IS PROJECT DELIVERY SERVICES?

PDS IS A GROUP THAT OFFERS A RANGE OF **SERVICES IN PROJECT MANAGEMENT.**

PROJECT MANAGEMENT | CONSTRUCTION MANAGEMENT | PORTFOLIO MANAGEMENT



Owner/Developer needs to fit a position to manage a project or portfolio on their behalf.



Ulteig's PDS team is available to help Owner/Developer at any stage in the project.



Ulteig's PDS team will integrate into the Owner/Developer's organization to put the project into action.



Ulteig's PDS team will interface with the Owner/Developer's team and manage their contract on behalf of the company.



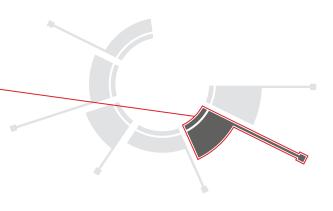
Ulteig's PDS team manages the contractors, engineers and suppliers on behalf of a project or portfolio.



Ulteig's PDS team will take the project to COD, then hand it off to O & M to maintain the project.

PROJECT DELIVERY SERVICES

PROJECT MANAGEMENT

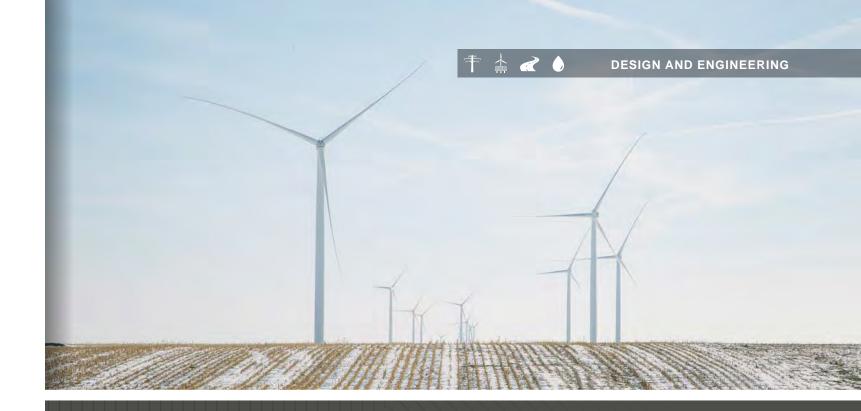


Successful project management begins by assessing and aligning with our clients' requirements and objectives and culminates with safely delivering projects on time and on budget, despite all issues and obstacles that challenge that objective. Exceptional project management is distinguished by attentive and responsive communication with clients and stakeholders, perpetual proactive risk management and creative resolution of conflicts and issues. Ulteig project managers consistently deliver this value to our clients by employing sophisticated schedule modeling and project control techniques coupled with expert judgment attained through years of experience delivering successful energy and infrastructure projects. Acting as the project owner's representative and advocate, Ulteig project managers leverage this expertise on behalf of our clients to consistently deliver unparalleled service and value that yields tangible results for the projects we manage.

PROJECT MANAGEMENT EXPERTISE

- Architect/Engineer/
 Contractor Selection
- Bid Package Preparation
- Change Order Reviews
- Contract Administration
- Coordination with Stakeholders
- Critical Path Schedule Modeling
- · Earned Value Analysis

- Issues Tracking and Resolution
- Pay Application Processing
- Permit Compliance
- Perpetual Risk Management
- Procurement and Logistics
- Coordination
- Progress Reports and Meetings
- · Project Budget Development
- Project Cost & Cash
 Flow Forecasting
- Project Cost Estimating
- Qualitative and Quantitative Risk Analysis
- RFI Management
- Schedule Scenario Forecasting





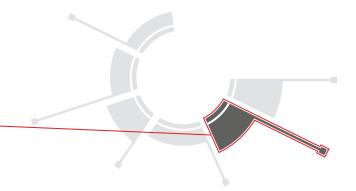
SOLOMON FORKS WIND PROJECT | COLBY, KANSAS

When Ulteig's Project Delivery Services (PDS) team kicked off the Solomon Forks Wind Project in July 2018, they already had multiple collaborations with Engie North America. And though every project comes with its share of challenges, this large 276 MW wind farm project was filled with challenges that put even the Ulteig PDS team to the test. In the end, the team delivered on time, to the satisfaction of its client.

Built with 105 Siemens Gamesa turbines, the Solomon Forks project was designed for Power Purchase Agreements (PPAs) made with major telecoms and retail customers. Based on its extensive experience, the Ulteig PDS team planned for success while preparing for any number of challenges that come with building a wind farm. However, facing strict deadlines, the Ulteig PDS team, which provided project and construction management services, achieved the following successes:

- **KEEPING THE PROJECT ON-TRACK DESPITE A MASSIVE WEATHER EVENT -** In mid-March 2019, a bomb cyclone hit the Central Plains, including Solomon Forks. This winter storm brought hurricane-strength winds exceeding 90 mph and snow, causing extensive damage to project roads, turbines and equipment.
- REPLACING DAMAGED EQUIPMENT IN RECORD TIME In May 2019, the project site was directly hit by a tornado. In addition, torrential rains destroyed roads built for the project, damaged critical equipment and flooded the site. Twenty-four turbine blades were damaged by the tornado. The PDS team coordinated getting replacement blades in an expedited time frame that met project schedule constraints, and they were an integral part in supporting insurance claims and settling change orders when issues arose.
- BUILDING RELATIONSHIPS WITH THE COMMUNITY The Ulteig PDS team put extensive effort in building and maintaining relationships with local landowners and the community despite the weather-event challenges. "The Solomon Forks and East Forks wind projects really changed the landscape of Thomas County," said Kenny Van Ballegooyen, Manager of Construction Management Renewables. "In the end, the landowners were very happy with how it all turned out."

"The Solomon Forks project was an incredible example of how a strong project and construction management team can overcome seemingly endless obstacles. It's a shining example of what our PDS team can do," said Nick Knezevich, Ulteig Project Management Supervisor.



PROJECT DELIVERY SERVICES

CONSTRUCTION MANAGEMENT

Ulteig can serve as your eyes and ears in the field. You can count on us to execute the uniform policies and procedures established by your organization, and to keep your project on schedule while holding project vendors accountable for their contractual obligations.

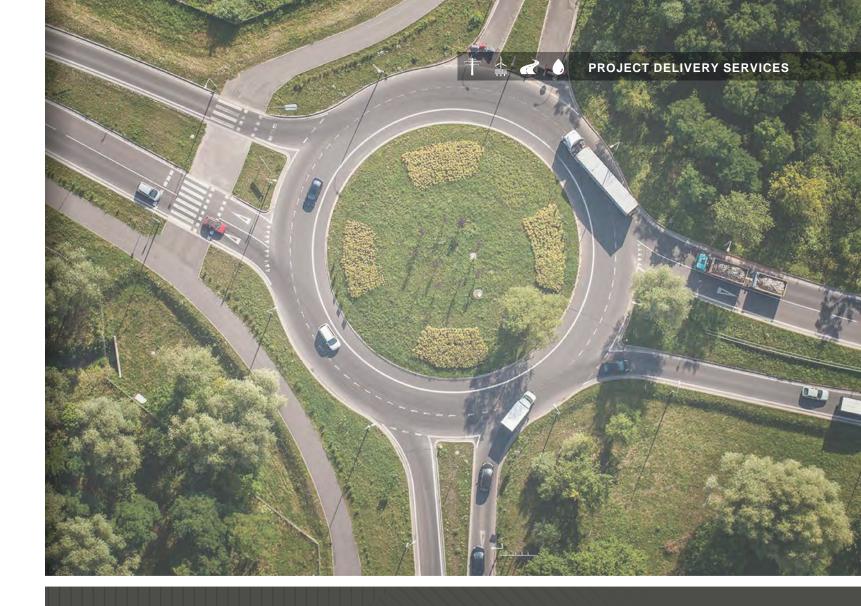
EXPERTISE

SERVICES

- Alternative Delivery, Including Owner's Rep Services, CMAR, Design-build and CMGC
- Change Order Analysis and Tracking
- Contract Administration
- Coordination with Stakeholders
- Dispute Avoidance and Resolution
- Progress Reports and Meetings
- Project Cost Forecasts
- Real Time In-field Data Logging and Remote Access
- Risk Management
- Schedule Management
- Value Engineering

- VALUE-ADD AND ALTERNATIVE DELIVERY SERVICES
- Conflict Resolution
- Constructability Reviews
- Construction Manager-at-Risk (CMAR)
- Construction Manager/General Contractor (CMGC)
- Cost Reporting
- Disciplined Change Control
- Document Control
- Engineer Procure Construct (EPC)

- Environmental Monitoring,
 Mitigation and Restoration
- Lessons Learned/
 Debrief Meetings
- Lump Sum Design-Build
- Major Equipment Deliveries
- Owners Rep Services
- Progressive Design-Build
- Real-Time Construction Status
- Request for Information (RFI) Management
- Third-Party Engineering Design Reviews





REDLANDS PARKWAY ROUNDABOUT | GRAND JUNCTION, CO

This \$5 million project included converting the existing signalized intersection at SH 340 (Broadway) and Redlands Parkway to a roundabout, as well as resurfacing, pavement reconstruction, guardrail improvements, drainage improvements, sidewalk construction, ADA improvements and signing and striping. Ulteig was selected to provide Construction Management, Inspection, and Public Information services. The project posed many challenges during the construction phase, including the requirement to keep the intersection open during construction. To meet this goal, our team designed a temporary roundabout as an alternative phasing plan that was ultimately implemented on the project. This was an innovative solution for both Colorado Department of Transportation (CDOT) and Ulteig. However, the implementation of this temporary roundabout proved to be the optimal solution and allowed traffic to continuously flow without stopping construction. Ulteig received three awards for this project: the 2018 Engineering Excellence Honor Award from ACEC, the CCA Project Management Award and the Excellence in Concrete Paving Award from ACPA.



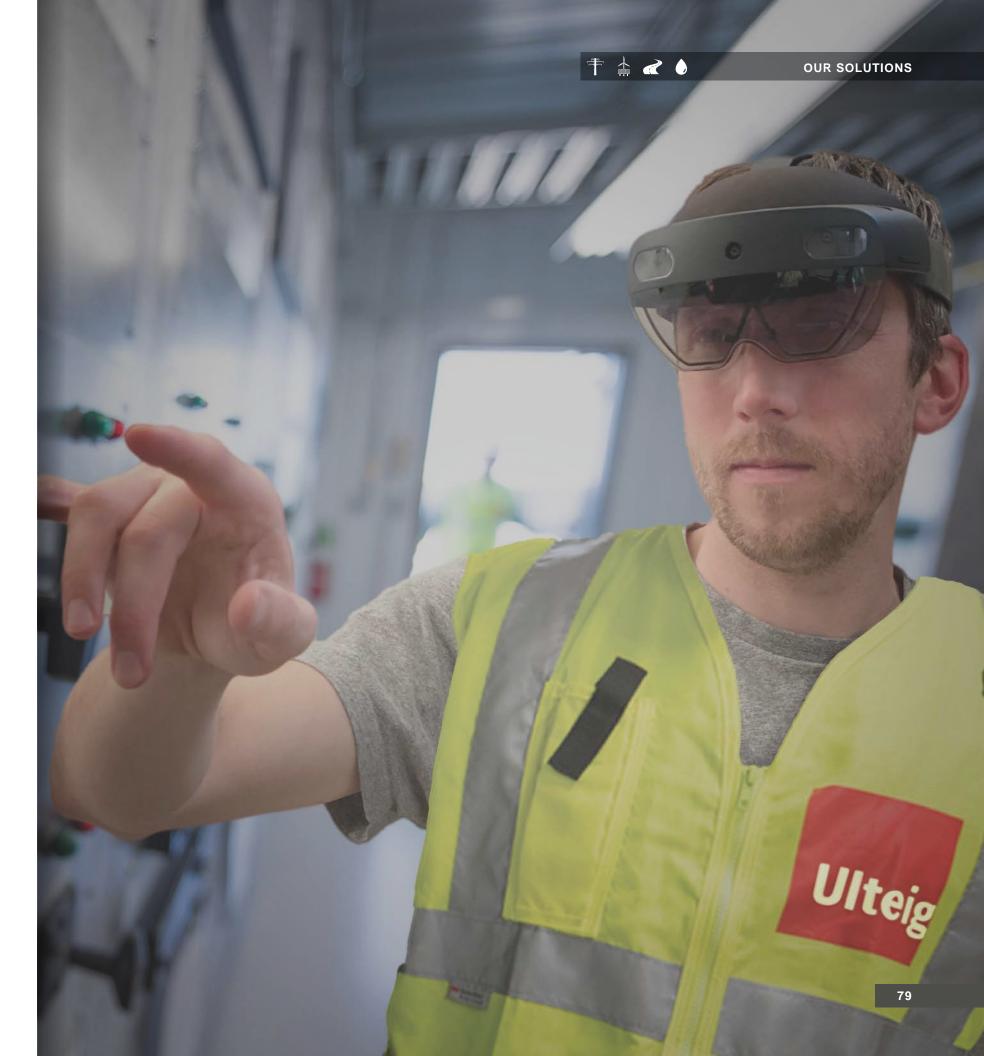
Asset Management is the data-driven, systematic tracking of key infrastructure elements to assess organizational risk, governing and optimizing capital spend. Our team utilizes sophisticated data analytics to derive intelligence that informs client business models, investment decisions and solutions that drive operational efficiency.

Managing and optimizing assets has never been more important. At Ulteig, Asset Management focuses on using data, information, insights, technology and engineering to manage your day-to-day business needs as well as identifying and prioritizing strategic asset management, investment decisions and long-term planning. Our team of experts works with you to capture and use data to develop insights critical to determining an informed, prioritized asset management and investment roadmap for your business.

EXPERTISE

- · Analysis, Reporting & Planning
- Application Development,
 Hosting & Maintenance
- · Asset Optimization Services

- Data Sharing & Integration
- · Discovery & Assessment
- Information Management & Insight Development
- Technology Evaluation







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- BOISE, ID 250 S. 5th St. STE 301 Boise ID 83702 PH: 888.858.3441
- CEDAR RAPIDS, IA 109 N. Center Point Road Hiawatha, IA 52233 PH: 319.286.3000

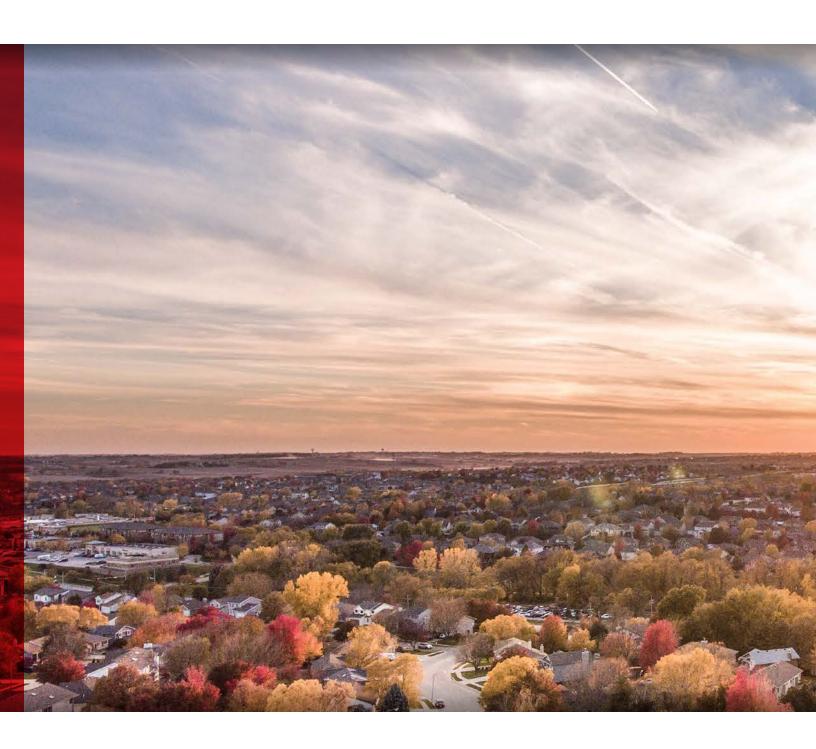
- DENVER, CO 5575 DTC Parkway, Suite 200 Greenwood Village, CO 80111 PH: 720.873.5700
- DETROIT LAKES, MN 1345 Highway 10 W., Suite A Detroit Lakes, MN 56501 PH: 218.847.5607
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CORPORATE HEADQUARTERS

3350 38th Ave. S. Fargo, ND 58104 701.280.8500 Fax: 888.858.3440 Ulteig delivers comprehensive engineering/design, program management, technical services and field services that strengthen infrastructure vital to everyday life. An employee-owned company, Ulteig connects people and resources to develop compelling, integrated solutions across the Lifeline Sectors® of power, renewables, transportation and water. Ulteig leverages its expertise throughout North America with a wide range of public and private clients.