

ELECTRICAL UTILITY ENGINEERING



Lauren's utility engineering group focuses on project excellence from conceptualization to execution.

Our team's experience in transmission, distribution and substations shapes our understanding of the utility challenges. From reliability, to cost effective services, Lauren has the experience to navigate suitable solutions that balance out project needs.

OVERHEAD DISTRIBUTION SOLUTIONS

We deliver innovative overhead line solutions tailored to meet the evolving needs of the power industry. Our advanced design methodologies, combined with in-depth project management expertise, ensure that every overhead line project is executed to the highest standards of safety, reliability, and efficiency.

- **Expert Line Design & Analysis:** We utilize cutting-edge design software such as PLS-CADD to create precise, customized overhead line solutions that guarantee optimal performance, safety, and longevity.
- **End-to-End New Line Installations:** From initial conceptualization to final execution, we handle every aspect of new overhead line installations, ensuring a seamless process from design to construction.
- **Overhead Line Upgrades & Replacements:** Modernizing aging infrastructure to enhance system performance, we focus on reducing operational downtime and improving overall line reliability.
- **Voltage Conversion Projects (4-25kV):** We manage smooth transitions between overhead and underground voltage systems, optimizing network capacity and enhancing operational flexibility.
- **Customer-Specific Extensions & Relocations:** Whether it's new customer connections or overhead line relocations, we provide customized solutions, from quotation and design to full-scale execution.
- **Specialty Structures for Challenging Environments:** We design non-standard overhead structures to fit specific project requirements and environmental constraints, ensuring robust and reliable systems.

- **Full Construction Support:** Our experienced in-house design team, in collaboration with trusted construction partners, deliver complete overhead line construction services, ensuring timely and high-quality results.

UNDERGROUND DISTRIBUTION SOLUTIONS

We design, construct, and upgrade underground electrical systems that meet the growing demands of urban and industrial areas while prioritizing safety and reliability. Our solutions offer long-term value by improving grid stability and ensuring uninterrupted service for all stakeholders.

- **New Underground Installations:** We provide turnkey underground solutions, implementing systems designed to optimize space, reduce environmental impact, and meet future energy demands.
- **System Replacements & Upgrades:** Our team excels in replacing aging underground networks, upgrading systems to enhance capacity and performance while minimizing service disruptions.
- **Feeder Extensions & Capacity Growth:** We extend underground feeders to accommodate future load growth, increasing overall system reliability and providing additional capacity.





- **Tailored Primary Service Applications:** We deliver customized solutions for primary service connections, ensuring consistent and reliable power for customers, whether residential, commercial, or industrial.
- **Network Distribution Optimization:** We design efficient underground distribution networks, focusing on load balancing, energy savings, and system scalability for long-term reliability.
- **Equipment Specification & Tendering:** We manage the specifications of pad-mounted equipment, including disconnect switches, protection units, and unit substations, ensuring quality compliance with industry standards.
- **Comprehensive Construction Support:** Our experienced teams, along with our network of construction partners, ensure seamless execution of all underground system projects, from start to finish.
- **Geospatial Mapping & Visualization:** Using geospatial mapping tools, we provide stakeholders with visual previews of transmission line designs, ensuring transparency and better decision-making.
- **Lightning Protection & Grounding Systems:** Our engineers conduct lightning and grounding analysis to ensure safety, preventing damage and improving system resilience against electrical surges.
- **Electromagnetic Interference Calculations:** We assess the impact of electromagnetic induction on nearby systems, ensuring the safe integration of transmission lines with other utility services.

HIGH-VOLTAGE TRANSMISSION LINE SERVICES

With Lauren, your transmission line projects are in expert hands. We specialize in high-voltage transmission lines (63 kV to 230kV), providing solutions that deliver reliable, efficient power over long distances while ensuring the highest safety standards.

- **Custom Transmission Line Design & Construction:** We manage all phases of new transmission line installations with a focus on engineering excellence, safety, and operational efficiency.
- **PLS-CADD Design & Analysis:** Our expert use of PLS-CADD ensures precise design and comprehensive structural analysis, optimizing line strength, alignment, and performance.
- **Structural & Foundation Design:** Whether for steel or wood structures, we tailor the foundation design to meet site-specific conditions, ensuring long-term stability and performance.
- **Motor-Operated Disconnect Switches:** We design and implement motor-operated disconnects, enhancing control and fault isolation capabilities for greater network resilience.
- **Seamless SCADA Integration:** Our transmission designs seamlessly integrate with SCADA systems, enabling remote monitoring, real-time performance data, and operational control.

SUPPORTING SERVICES

- Field verification of existing system
- Development of construction package
- Project management
- Development of custom or non-standard structures
- Standard and design guideline development
- Pole line modeling expertise
- Background in successful Indigenous relations
- Transmission design: 69KV-230KV line design
- Substations engineering and design
- High-voltage substations
- Front-end engineering design
- Detailed electrical engineering
- Power systems studies/equipment
- NERC compliance programs
- SCADA systems
- Human-machine interfaces (HMI)
- Protection settings
- Construction standards development
- Creation of Bill of Materials
- Procurement of specialized equipment

