

# SUBSTATION ENGINEERING SERVICES TOWN OF LANDIS NORTH CAROLINA

November 21, 2024



ELECTRICAL TRANSMISSION, DISTRIBUTION, & SUBSTATIONS  
SCADA SYSTEMS; LOAD MANAGEMENT; UTILITY RATES PEAK  
GENERATION; SYSTEM PROTECTION  
STUDIES; ARC FLASH ANALYSIS

600 Minuet Lane, Charlotte, NC 28217 • Phone: 704.523.6045 • Fax: 704.523.8317  
[www.scepower.com](http://www.scepower.com)

## EXECUTIVE SUMMARY

We are pleased to respond to the Town's RFQ for providing substation engineering services to assist the Town of Landis with the Construction of their New Delivery. Southeastern Consulting Engineers, Inc. is a firm whose combination of experience and personnel will provide timely, cost-effective and quality professional services to support the Town. Our chief business and specialty are services for municipal electric systems and we uniquely understand most facets of the challenges these clients face.

Southeastern Consulting Engineers, Inc. (North Carolina License F-0181) was founded in 1961 and has been serving the electrical engineering needs of the Town of Landis, for almost 58 years. All of our operations are carried out from one centrally located office in Charlotte, North Carolina.

Southeastern is a private practice organization, established solely for the performance of electrical engineering services. The firm presently consists of thirteen employees, including seven Professional Engineers registered to perform electrical engineering in North Carolina; two associate engineers; one CAD technician; one bookkeeper; and an office manager.

Southeastern's core engineering expertise includes the design of substations, peak/standby generation, distribution and transmission lines, as well as performing numerous arc flash, planning, and coordination studies for municipal electric, water, and wastewater utilities.

Southeastern is uniquely qualified to assist the Town with construction of a new Electric Delivery because of our project team's extensive experience and technical expertise in performing this type of work and our knowledge of the Town of Landis's Electric System.



## DESCRIPTION OF FIRM

Southeastern Consulting Engineers, Inc. (Southeastern) was founded in January 1961, and has specialized primarily in serving the needs of municipal electric systems for over 60 years.

We are a progressive, client-oriented engineering consulting firm. Our goal is to provide the knowledge, skills, experience, and facilities required to meet our client's needs in defining and fulfilling their objectives. Our standards of conduct are integrity, professional competence, and economy in engineering services.

Southeastern presently serves clients in the Southeast, located in North Carolina, South Carolina, and Virginia. All operations are carried out from one centrally located office in Charlotte, North Carolina.

Southeastern is an employee-owned organization, established solely for the performance of engineering services, and does not have proprietary interest in construction or sales. The firm presently consists of 13 employees, including seven Professional Engineers, two Associate Engineers, an AMI Specialist, an AutoCAD technician, Office Manager, and a Bookkeeper. FID Number 56-0726859

The seven professional engineers on our staff hold registration in North Carolina, South Carolina, and Virginia with various individuals each holding from one to three state registrations. All professional personnel are electrical by specialty. Southeastern currently provides services to nineteen North Carolina municipalities and holds all licenses and certificates to provide engineering services and conduct business in North Carolina.

Southeastern offers a complete range of engineering services for electric supply, transmission, and distribution systems, and electrical engineering services to water, and waste collection systems.

List of Services:

### **System Study & Planning**

- Ten Year Capital Improvement Plans
- Power Supply and Load Forecasting
- Load Flow Analysis
- Fault Analysis
- Power Factor Improvement
- Overcurrent Coordination
- System Reliability
- Generation Feasibilities
- Arc Flash Hazard Analysis
- Siting of Planned Facilities

### **Customer Services**

- Power Audits
- Service Reviews
- Rate Options
- Customer Seminars
- Distribution System Mapping

### **Construction Design & Inspections**

- Substations
- Transmission Lines
- Distribution Lines
- SCADA and Load Management
- Peak/Standby Generation, Distributed & Power Parks
- Underground Distribution
- Roadway Lighting
- Highway Relocations
- Metering
- Railroad Crossings
- Large Industrial Services
- Renewable Energy Interconnections
- Water/Wastewater Power Systems

## **PROJECT MANAGEMENT AND OPERATIONS**

Where practical, all projects commissioned by a single client are managed by the same engineer. We feel this method of project assignment provides more convenient and efficient communication as the client generally can call one person who can readily answer even detailed questions concerning current or past projects. Multiple engineers and support personnel are available to assist the lead engineer if the project or client requires additional resources.

This method of project assignment does not preclude our design engineers from sharing new ideas or discussing possible solutions to project requirements in order to take full advantage of our collective knowledge and experience. This open exchange of ideas also leads to standardization of methods and procedures which allows all the firm's engineers to be familiar with the basics of each project, thereby providing continuity and efficiency.

Many of our engineers have worked with the same clients for their entire careers. This leads to an in-depth knowledge of our clients' electrical systems. It also provides our clients with an additional team member that can be relied upon when most needed.

## **QUALITY CONTROL**

The majority of employees at Southeastern participate in ownership of the company. This ownership produces a personal interest for each employee in the quality of our service, and encourages a primary dedication to the client's interest.

Furthermore, all work is performed by or under the direct supervision of a professional engineer and is reviewed and sealed by the project engineer prior to release.

Work may be reviewed by other engineers as deemed necessary, but it is the sole-source responsibility and accountability of the project engineer that forms the basis of our quality assurance.

## **CORPORATE OFFICERS**

Michael C. Dougherty, PE	President
Alexander J.(A.J.) Molnar, PE	Vice President
Jerry L. Ford, Jr., PE	Treasurer
Jeremy R. Furr, PE	Secretary

## **CONTACT INFORMATION**

**SOUTHEASTERN CONSULTING ENGINEERS, INC**  
600 Minuet Lane, Charlotte, NC 28601 • Phone: 704.523.6045 • Fax: 704.523.8317  
[www.scepower.com](http://www.scepower.com)

## AVAILABILITY OF PROFESSIONAL STAFF

Southeastern personnel are accustomed to managing multiple projects on behalf of multiple clients simultaneously. Assistance we provide ranges from a few minutes of involvement answering client questions to multiple years of involvement from project conception to commissioning of electrical substations. Although tasks converge at times, we feel, and our record of timeliness attests, that we are appropriately sized to take on additional projects while current workload continues. Our experience and breadth of knowledge also allows team members to assist each other in times of high demand.

<u>Engineer</u>	<u>Job Classification</u>	<u>Years with SCE</u>	<u>States Registered</u>
Michael Dougherty, PE	Principal Design Engineer	36	NC, SC, VA
A.J. Molnar, PE	Principal Design Engineer	33	NC, SC, VA
Jerry Ford, PE	Senior Design Engineer	24	NC, SC
Jeremy Furr, PE	Senior Design Engineer	22	NC, SC
David Nichols, PE	Senior Design Engineer	17	NC, SC
Kevin Smorgala, PE	Design Engineer	12	NC, SC
Don Mitchell, PE	Senior Field Engineer	3	NC
Steve Phillips, EI	Associate Engineer	7	
Kyra Anderson	Associate Engineer	4	

Southeastern develops personnel by emersion to degree of progressing abilities in the wide variety of projects and assistance our clients require. We have very little turnover and engineers accumulate experience in every facet of municipal power generation, transmission, and distribution engineering. The following resumes for key members and proposed project team give an overview of our team's capabilities.

## STATEMENT OF QUALIFICATIONS

### GENERAL

Southeastern's scope of services is primarily defined by who we work for. We are available to assist the Town of Landis with practically any challenge they encounter with their electric system. That desire to assist has led us to projects large and small, from basic questions to multi-million dollar substations and transmission lines, our journey takes us through many projects common to most and to others we never expected. Southeastern provides the wisdom and knowledge to design very complex projects and the hands-on experience to assist with very practical troubleshooting in the field. Frequent interaction over long term relationships leads to a unique understanding to help accomplish each municipality's goals rather than cookie cutter solutions.

### SUBSTATION DESIGN

For most Municipal Clients, the process to build an electrical substation has evolved into a complex development project. We know that assisting our clients with site selection, permitting, civil design, and design review has become just as important as the design of the substation itself. Southeastern offers our clients project management services that are scalable to the clients' needs. Southeastern has experience with large and small municipal requirements for the development of substation projects including development ordinances, zoning classifications, and construction standards. We have extensive experience in the Carolinas region and have worked with Town, County and most of the surrounding municipalities permitting departments.

Southeastern has provided design, specification, and construction inspection services for electric power substations of various types. These include industrial substations up to 20 MVA and 13.2 KV; utility transmission substations up to 75,000 KVA and 115 KV primary; and utility distribution substations up to 100,000 KVA and 115 KV primary. Substation types have included conventional and metalclad, with overhead and underground connections.

Substation designs have included protective relay systems using the most modern yet proven technology available. The use of overcurrent, bus differential, transformer differential, sudden pressure, and thermal relaying equipment has been involved in many designs. Relay coordination services, including setting calculations, field testing, and relay calibration are provided as required.

### TRANSMISSION AND DISTRIBUTION LINES

Southeastern has provided design of electric transmission lines in all standard voltages from 24 KV to 115 KV. Similar to substations, it is becoming increasingly difficult to acquire right of way for transmission lines. Our engineers understand these difficulties while siting transmission lines. Our goal is to have the minimum impact on property owners while producing an efficient design for our clients. Southeastern uses transmission line design software that allows a 3D simulation of the line to be viewed in Google Earth allowing our clients and their customers an opportunity to visualize the final line routing before it is built. Southeastern has experience with many types of transmission designs, including overhead and underground and guyed and self-supporting structures on concrete foundations.

Southeastern has also provided design services for many electric distribution line projects ranging from 2.4 KV to 34.5 KV. These projects have included both overhead and underground construction, and have involved conversion under energized conditions, as well as new line construction. If highway or railroad encroachments are required, Southeastern will complete necessary applications on behalf of the client.

All construction designs have normally included complete listings of the installation units for each pole or other structure. Sag and tension data are also provided for installation of overhead conductors. Contracts can be structured to best utilize the resources of the contractor and the client. Southeastern provides project inspection as needed that can include detailed payment approval recommendations and complete project close out.

### **SUPERVISORY MONITORING AND CONTROL (SCADA)**

Southeastern has provided design, construction supervision, installation assistance, data base preparation and system debugging and maintenance for Supervisory Control And Data Acquisition systems (SCADA).

All systems have been designed to provide for easy expansion of SCADA to include monitoring of future remote sites and provisioning for additional features available from the SCADA Master or from the IED's themselves. Historical automatic report generators and schedules are typically configured as well. The preferred RTU used by our clients is an SEL RTAC using SEL protocol to communicate with SEL relays and DNP3 communication back to the Master Station, but we also have experience with legacy RTU's comprised of Status, Analog, and Control hardware boards for customer connections.

Individual systems will normally include from one to twenty remote terminal units (RTU's). Each standard RTU may involve up to 1000 monitoring and control connections, in addition to the redesign and modification of control circuits in existing equipment such as regulators, circuit breakers, line reclosers, automatic restoration or motor operated switches, etc. Southeastern can also support the full implementation of new or the modification of existing Single Line Diagrams (SLD's) using SCADA vendors' design drawing packages.

### **EVIDENCE OF AVAILABILITY TO DELIVER ON TIME**

The nature of the clientele of Southeastern Consulting Engineers, Inc. requires that we handle multiple projects of varying degrees of complexity and involvement at a time. We will dedicate staff as required to complete per the Town's schedule. Our reputation for complete, professional, and timely work for over 60 years provides a steady stream of work in good economic times and bad. The work required for the Town of Landis is a priority and will be completed to meet the Town's projected project schedules.

### **HISTORY OF LITIGATION**

Southeastern does not have any prior history of litigation regarding project performance or professional liability.

## **PROPOSED SUB-CONSULTANTS**

SCE plans to self-perform all of the electrical engineering requirements for the Town. However, since we specialize in electrical engineering, we will typically sub-consultant to other firms to meet the civil, geotechnical, and structural aspects of a project.

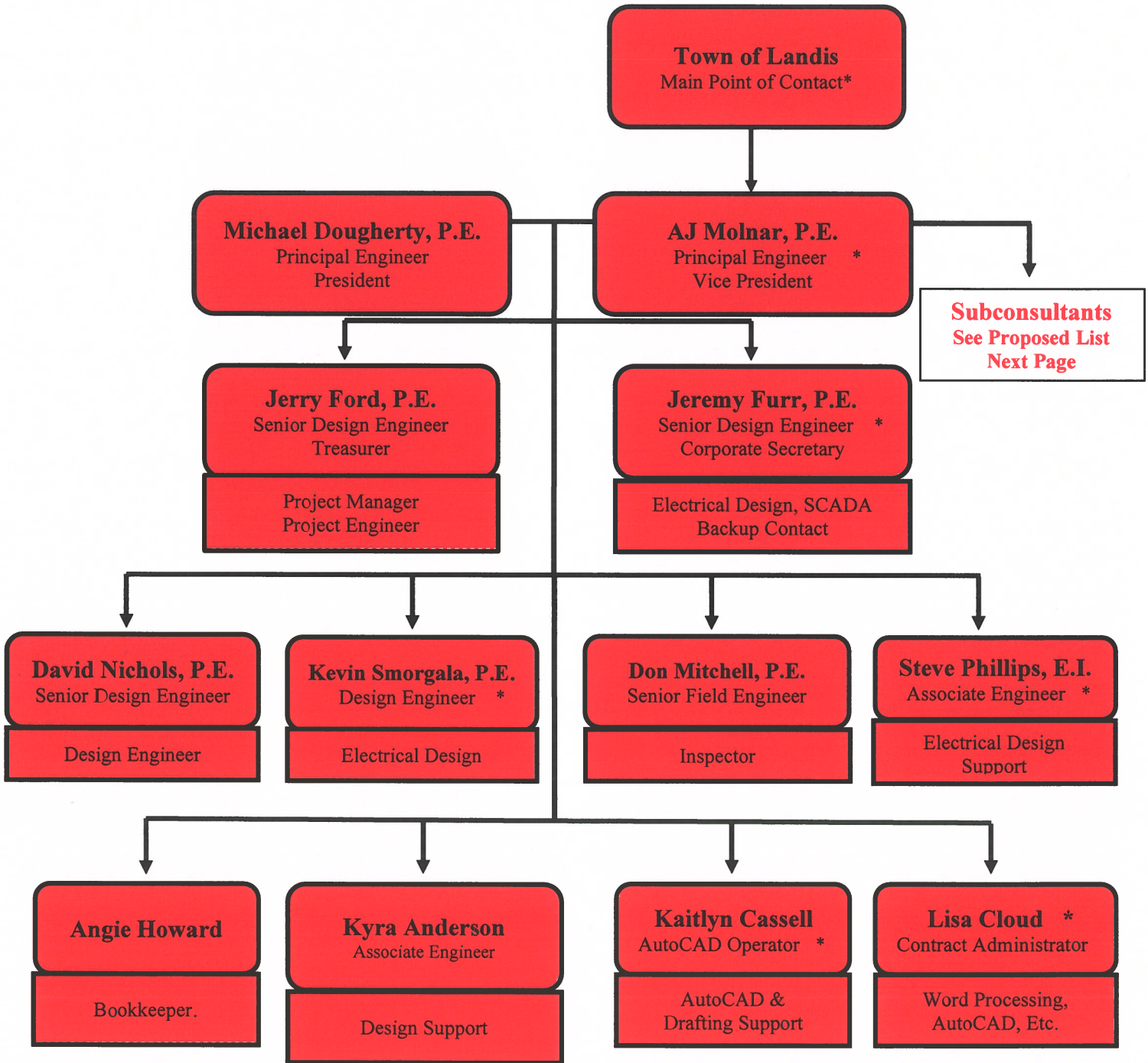
- ESP Associates – Charlotte, NC
  - Civil design
  - Geotechnical
  - Surveying
- S&ME – Charlotte, NC
  - Geotechnical
  - Structural Design
  - Testing

## **RECENT TOWN OF LANDIS PROJECTS**

- 2024 Landis Ridge Services
- 2024 Landis Apartments Services
- 2023/24 4 kV to 12 kV Conversion
- 2021/22 4 kV to 12 kV Conversion
- 2015 System Mapping
- 2012 Line Relocations for NCRR Project
- Ongoing On-Call Support with Relaying Issues
- Ongoing On-Call Support with Design Assistance and Material Purchase Contracts



**ORGANIZATIONAL CHART**



\* = Primary Personnel for Town of Landis Substation

All Southeastern personnel work from our offices in Charlotte, North Carolina.



**Michael C. Dougherty, PE**  
**Principal Engineer/President**

Mike has over 35 years of experience in providing expertise in electrical engineering for municipal electric, water, and wastewater clients as well as investor owned utilities. Mike has extensive experience in all facets of water/wastewater electric system design, peak shaving and standby generation design, permitting, and project management. He is also knowledgeable in preparing technical specifications and construction bid packages as well as construction administration and inspection. Mike also has experience as the lead design professional on multi-discipline projects.

With his wealth of electrical engineering experience, Mike is used to taking on and resolving complex design issues, while bringing the projects to completion on time and within budget.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 1988  
North Carolina State University, Raleigh, North Carolina

**PROFESSIONAL REGISTRATION:**

North Carolina	Professional Engineer, #18918
South Carolina	Professional Engineer, #19197
Virginia	Professional Engineer, #04506

**PROFESSIONAL ASSOCIATIONS:**

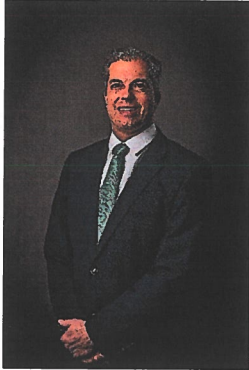
Member of National Society of Professional Engineers of North Carolina

**PROFESSIONAL BACKGROUND:**

2009 - Present	President – Southeastern Consulting Engineers, Inc. Charlotte, North Carolina
1988 to 2009	Design Engineer - Southeastern Consulting Engineers, Inc. Charlotte, North Carolina
1986 to 1988	Student Engineer, Duke Power Company Winston-Salem & Charlotte, North Carolina

**Work Experience - General**

- Project administration and management.
- Design and Construction Administration/Inspection of Standby/Peak generation facilities
- Design and Construction Administration/Inspection of Electrical Substations.
- Design and Construction Administration/Inspection of Water/Wastewater Peak Shaving and Standby generation projects.
- Design and Construction Administration/Inspection of Water/Wastewater pump station electrical projects.
- Design and installation of SCADA systems providing metering, status monitoring, and remote control of electric distribution systems.
- Perform generator peak shaving feasibility analyses, loss evaluation, and investment-making analyses.
- Perform arc flash analyses for Municipal Electric, Water, Wastewater, and private sector electrical systems.
- Design and Construction Administration/Inspection of electrical equipment installation including, switchgear, Motor Control Centers, Automatic Transfer Switches, Motor starters, etc.



**A.J. Molnar, IV, PE**  
**Vice President**

A.J. has over 30 years of experience in engineering consulting to municipal electric system owners ranging in size from 600 to 40,000 customers in all aspects of the design, operation, and planning. A.J. has been an expert witness in civil actions and before the South Carolina Public Service Commission. He also has been a consultant and negotiator in matters of service territory, power rates, joint use of facilities, and right of way.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 1991  
North Carolina State University

Master of Business Administration, Pfeiffer University, Charlotte, North Carolina 2004

**PROFESSIONAL REGISTRATION:**

North Carolina	Professional Engineer, #22048
South Carolina	Professional Engineer, #18985
Virginia	Professional Engineer, #035673

**PROFESSIONAL ASSOCIATIONS:**

Member of Institute of Electrical and Electronic Engineers  
Treasurer, ABBA Fund Adoption Ministry

**PROFESSIONAL BACKGROUND:**

2009 - Present	Vice President/Secretary – Southeastern Consulting Engineers, Inc. Charlotte, North Carolina
2004 to 2009	Corporate Secretary - Southeastern Consulting Engineers, Inc. Charlotte, North Carolina
1991 to 2004	Associate Engineer - Southeastern Consulting Engineers, Inc. Charlotte, North Carolina
1987 to 1990	Student Engineer, Duke Power Company Charlotte, North Carolina

**Work Experience - General**

- Project administration and management.
- Analysis, planning, design, and construction of electrical distribution systems.
- Electrical distribution consultant for municipalities and large industrials in NC, SC, and VA with distribution voltages of 4.16 kV to 44 kV and demands of 4 MW to 100 MW.
- Complete responsibility for broad range of engineering services for assigned clients including system analysis, long-range system planning and budgeting, detailed design of system improvements and expansions, and construction inspections.
- Design and construction included substations, switching stations, overhead distribution lines, complete underground systems, and control systems;
- System studies, power factor improvements studies, loss evaluation, and investment decision-making analyses.
- Substation design, relay coordination and setting, peak generation system design, load management systems, preparation of cost estimates, bid documents and construction contracts, and inspection of power generation and delivery construction.



**Jerry L. Ford, Jr., PE**  
**Sr. Design Engineer/Treasurer**

Jerry has over 20 years of experience in providing expertise in electrical engineering for municipal electric utilities. Jerry has extensive experience in all facets of substation design, peak shaving and standby generation design, relay programming, and project management. He is also knowledgeable in preparing technical specifications and construction bid packages as well as construction administration and inspection. With his electrical engineering experience, Jerry is used to taking on and resolving complex design issues, while bringing the projects to completion on time and within budget.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 2000  
North Carolina State University, Raleigh, North Carolina

**PROFESSIONAL REGISTRATION:**

North Carolina Professional Engineer, #30394  
South Carolina Professional Engineer, #29365

**PROFESSIONAL BACKGROUND:**

2012 – Present: Sr. Design Engineer/Corporate Treasurer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2004 – 2012: Design Engineer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2000 - 2004 Associate Engineer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

**Work Experience - General**

- Project Administration and Management.
- Design and Construction Administration/Inspection of Electrical Substations.
- Design and Construction Administration/Inspection of Standby/Peaking Generation.
- Analysis, Planning, and Design of Electrical Distribution Systems.
- Preparation of Cost Estimates, Bid Documents, Construction Contracts, Distribution System Mapping, System Studies
- Programming and Commissioning of Substation Relays, Reclosers, and Switchgear.
- NERC/SERC Regulatory Compliance Programs
- Arc Flash Analysis
- Power Factor Improvement Studies
- Transmission Line Design – Overhead and Underground
- Construction Inspection of Substations, Generators, Distribution and Transmission Lines.
- Protective Device Coordination Studies
- Power Quality Troubleshooting and Analysis
- Proficient in Multiple Engineering Analysis Software Programs including SynerGEE, Milsoft, and SKM, Inc.



**Jeremy R. Furr, PE**  
**Sr. Design Engineer/Corporate Secretary**

Jeremy has over 20 years of experience in providing expertise in electrical engineering for municipal electric utilities. Jeremy has extensive experience in all facets of substation design, SCADA systems, communications and networking, standby generation design, relay programming, and distribution line design. He is also knowledgeable in preparing technical specifications and construction bid packages as well as construction administration and inspection.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 2000  
North Carolina State University, Raleigh, North Carolina

**PROFESSIONAL REGISTRATION:**

North Carolina Professional Engineer, #30871  
South Carolina Professional Engineer, #30562

**PROFESSIONAL BACKGROUND:**

2005 – Present: Design Engineer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2002 – 2005: Associate Engineer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2000 - 2001 Systems Engineer – Nortel Networks Alpharetta, Georgia

**Work Experience - General**

- Design and Construction Administration/Inspection of Electrical Substations.
- Design and Construction Administration/Inspection of Standby/Peaking Generation.
- Analysis, Planning, and Design of Electrical Distribution Systems.
- Preparation of Cost Estimates, Bid Documents, Construction Contracts, Distribution System Mapping, System Studies
- Programming and Commissioning of Substation Relays, Reclosers, and Switchgear.
- SCADA Programming
- Substation Troubleshooting
- Fiber Communications Design
- Transmission Line Design
- Construction Inspection of Substations, Generators, Distribution and Transmission Lines.
- Protective Device Coordination Studies



**Kevin Smorgala, PE**  
**Design Engineer**

Kevin is a committed professional with over 10 years of experience in providing a wide range of services for municipal electric utilities. Kevin's design experience includes substations, overhead and underground distribution lines, transmission structures, and relay protection. He is also knowledgeable in preparing technical specifications and construction bid packages as well as construction administration and inspection.

Kevin is a dedicated to his field and is always trying further his expertise through technical seminars and educational opportunities. He is a diligent worker who takes pride in providing high-quality work and solving technical design issues. With a strong work-ethic and perseverance, Kevin looks forward to succeeding in new challenges that lie ahead.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 2012  
Clemson University, Clemson, South Carolina

**PROFESSIONAL REGISTRATION:**

North Carolina Professional Engineer, #047881  
South Carolina Professional Engineer, #34580

**PROFESSIONAL BACKGROUND:**

2017 - Present Design Engineer - Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2013 to 2017 Associate Engineer - Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

2011 – 2012: Engineering Co-op – South Carolina Electric & Gas  
Charlotte, North Carolina

**WORK EXPERIENCE – GENERAL:**

- Project administration and management.
- Design and Construction Administration/Inspection of Electrical Substations
- Preparation of Cost Estimates, Bid Documents, Construction Contracts, Distribution System Mapping, System Studies
- Programming and Commissioning of Substation Relays, Reclosers, and Switchgear
- Analysis, Planning, and Design of Electrical Distribution and Transmission Systems
- Arc Flash Analysis, Short Circuit and Protective Device Coordination Studies for Municipal Electric Systems
- EPA and Local Regulatory Compliance for Standby/Peak Shaving Generation Facilities
- Oil Spill Containment and Countermeasure Plans
- Distribution System Loss Evaluations and Energy Efficiency Analysis
- Encroachment Permits for Aerial and Underground Electric Occupancy
- Proficient in Multiple Engineering Analysis Software Programs including Synergi Electric, SKM, Inc., ARCPRO, and PLS-CADD.



**Steve Phillips, E.I.**  
**Associate Engineer**

Steve is a dedicated professional with the education and knowledge to perform a wide range of services for municipal electric utilities. In his time in the discipline of power engineering, Steve has gained experience under the supervision of a PE in electrical distribution substation design, distribution and transmission line design, arc flash hazard analysis, power system mapping and studies for long-term planning, and preparation of technical specifications and bid documents for a variety of projects.

Steve is committed to his profession and is constantly trying to further-develop himself as an Engineer through technical seminars and educational opportunities. He is persistent and takes pride in producing high-quality work and resolving technical design issues. Steve welcomes new challenges and the chance to succeed through hard work and determination.

**EDUCATION:**

Bachelor of Science Degree in Electrical Engineering, 2014  
North Carolina State University, Raleigh, North Carolina

**PROFESSIONAL BACKGROUND:**

- 2018-Present: Associate Engineer – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina
- 2015-2018: Electrical Engineer – AECOM: Nuclear Services  
Fort Mill, South Carolina

**WORK EXPERIENCE – GENERAL:**

- Distribution System Mapping
- System Studies and Planning for Municipal Electric Systems
- Arc Flash Analysis for Municipal Electric Systems
- Design and Construction Administration/Inspection of Electrical Substations
- Distribution Line Design – Overhead and Underground
- Preparation of Cost Estimates, Specifications, Bid Documents, and Construction Contract
- Encroachment Permits for Underground Electric Occupancy
- Proficient in Multiple Engineering Analysis Software Programs including Synergi Electric, SKM, Inc., and ARCPRO



**Kaitlyn Cassell**  
AutoCAD Technician

Kaitlyn has experience in providing expertise in drafting. She is used to taking on complex designs, while bringing the projects to completion on time.

**EDUCATION:**

Bachelor of Fine Arts, 2015  
Clemson University, Clemson, South Carolina

**PROFESSIONAL BACKGROUND:**

2016 - Present AutoCAD Technician – Southeastern Consulting Engineers, Inc.  
Charlotte, North Carolina

July 2015 - Dec. 2015 CAD Designer – Select Stainless Products  
Matthews, North Carolina

**WORK EXPERIENCE**

- Primary AutoCAD tech for drawings, layouts, and designs engineered by Southeastern Consulting Engineers, Inc.



**Lisa R. Cloud**  
Contract Administrator

Lisa has over 40 years of experience as support staff and office manager assisting with all functions required within the office.

**EDUCATION:**

Autodesk Training, AutoCAD 2002 Update  
Business Law I, Principle of Accounting I & II  
Secretarial Science Diploma awarded in December 1981

**PROFESSIONAL BACKGROUND:**

1981 - Present Contractor Administrator/Office Manager/Secretary/CAD  
Operator - Southeastern Consulting Engineers, Inc. Charlotte,  
NC

**WORK EXPERIENCE – GENERAL**

- Contract and Bidding Assistance
- Revising Electrical Drawings
- All word processing functions
- Monitoring and directing telephone calls
- Filing and other general office duties



**B. PROFESSIONAL TEAM EXPERIENCE**

Recent Substation Construction and Modifications Projects

<u>Project</u>	<u>Client</u>	<u>Municipal Population</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Reference</u>	<u>Reference Contact</u>	<u>Engineering Fee/Limit</u>	<u>Key Tasks</u>
Springdale Substation Building Changeout	City of Rock Hill, SC	70,500	April 2023	Oct. 2023	Mike Jolly, PE Director of Electric Utilities	(803) 329-5510 Mike.jolly@cityofrockhill.com	\$10,500 Design \$13,500 Inspection	Client decided to use an Equipment Building bought for another cancelled project at Springdale. Entails complete removal and replacement or relay and controls.
Dusty Bend Transformer Change Out	City of Camden, SC	7,000	Apr. 2019	June 2020	Matthew Grigsby Electric Superintendent	(803) 425-6045 mgrigsby@camdensc.org	\$40,000	Purchase new three phase transformer w/ LTC to replace single phase units and Regulators Reorient Buswork Require Control and Relay Panel Relay programming and Commissioning SCADA programming and integration
Kendrick Transformer Replacement	Town of Front Royal, VA	14,400	June 2022	Dec. 2023	Carey Saffelle Energy Services Director	(540) 635-3027 csaffelle@frontroyalva.com	\$45,000	New transformer with LTC Relay programming and Commissioning SCADA programming and integration
Aaron Street Substation Upgrade	City of Martinsville, VA	15,416	Apr. 2019	Jul.-2020	Durwin Joyce Electric Director	(276) 403-5293 djoyce@ci.martinsville.va.us	\$39,318.00 Design \$20,045.00 Inspection	Purchase new three phase transformer with LTC to replace single phase units and Regulators Reorient Buswork Install HS breaker with relaying to replace fuses

<u>Project</u>	<u>Client</u>	<u>Municipal Population</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Estimate</u>	<u>Project Final Costs</u>	<u>Engineering Fee/Limit</u>	<u>Key Tasks</u>
Polk Substation Upgrades	Town of Pineville, NC	7,747	Aug. 2020	March 2021	Dwayne Corzine Electric Operations Foreman	(980) 279-8066 dcorzine@electricities.org	\$31,600.00 Design \$32,000 Inspection	Add 100 kV Circuit Switchers Add equipment building and new relay panel Replace 15kV Breakers
Hickory Street 44KV Building	City of Lexington, NC	21,420	Jul. 2019	Oct.-2020	Bill Stockman Electric System Manager	(336) 243-2489 bstockman@electricities.org	\$15,000.00 Design \$20,000.00 Inspection	Add new equipment house Add new relay and control panel Test and Commission relays
Panthers Development Substation	City of Rock Hill, SC	70,500	Jan. 2021	Incomplete	Mike Jolly, PE Director of Electric Utilities	(803) 329-5510 Mike.jolly@cityofrockhill.com	\$115,000.00 Design \$72,000.00 Inspection	New 100 KV to 24/14 KV Substation with 50 MVA Capacity. Civil Design by others
Fleming Substation	City of Morganton, NC	16,631	Nov. 2020	May 2022	Brooks Kirby Electric Director	(828) 438-5284 bkirby@morgantonnc.gov	\$167,000.00 Design \$70,000.00 Inspection	New 100 KV to 12.47/7.2 KV Substation with five Distribution Circuits
Jackson Lake Substation	City of High Point, NC	102,216	April 2016	April 2018	Tyler Berrier Electric Utilities Director	(336) 883-3176	\$128,000.00 Design \$70,000.00 Inspection	New 100 - 12.47 KV Substation
Eli Lilly Substation	City of Concord, NC	105,186	Feb. 2022	Fall 2023	Alex Burris Electric System Director	(704) 920-5335 burrisa@concordnc.gov	\$250,000.00 Design & Inspection	New 100 - 12.47 KV Substation, Delivery & Transmission Line

**ELECTRICAL DISTRIBUTION SUBSTATION**

**(Huey Road with three other similar stations since 2013)**

ROCK HILL, SC

Design for a new 100 – 24.9 Grd. Y/14.4 kV Substation with a maximum rating of 50 MVA, with provisions for one incoming 100 kV circuit, one power transformer, and five outgoing 12.47 kV distribution circuits. The following scope was provided:

- Prepare a General Arrangement Plan for substation facilities, including the 100 kV tap line to Duke Energy’s Transmission Line.
- Construct grading and site plans for the City’s use.
- Generate specifications and contract negotiations with suppliers for major substation equipment, specifically:
  - Power Transformer
  - Circuit Switcher
  - Circuit Breakers
  - Switches
  - Voltage Regulators
  - Instrument Transformers
  - Air Core Reactors
  - Relay and Control Panels
  - Metering and Station Battery
  - Equipment Building
  - SCADA communications
- Create construction plans and details for the station including equipment foundations, decorative station wall with gates, grounding, metering, control wiring, relay wiring and interconnection, station lighting, and oil spill countermeasures.
- Select settings and provide programming for all protective relays.
- Inspect installation and final implementation
- Test relay and control operation for conformance to specified load capability
- Assist City with creation of model and database to incorporate into existing SCADA master station.
- Provide Arc Flash Analysis and Oil Spill Containment and Countermeasures
- Issue a Certificate of Completion which certifies the completion of the construction and compliance with specifications.
- Prepare “As-Built” drawings of the project as actually constructed and provision of an “Operator’s Manual” covering the normal and emergency operating modes of the station and the operation and maintenance of all major items of equipment.



**SCE Team Members:**

A.J. Molnar, Jeremy Furr, Kevin Smorgala

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**ELECTRICAL DISTRIBUTION SUBSTATION**  
**(Jack Hughes Park Substation)**

PINEVILLE, NC

Design for a new 44 kV - 12.47 Grd.Y/7.2 kV Substation with a maximum rating of 33 MVA, with provisions for one incoming 44 kV circuit, one power transformer, and four outgoing 12.47 kV distribution circuits. The following scope was provided:

- Prepare a General Arrangement Plan for substation facilities, including the 44 kV tap line to Duke Energy's Transmission Line.
- Construct grading and site plans for the Town's use.
- Generate specifications and contract negotiations with suppliers for major substation equipment, specifically:
  - Power Transformer
  - 44 kV Circuit Breaker
  - 15 kV Circuit Breakers
  - Switches
  - Voltage Regulators
  - Instrument Transformers
  - Relay and Control Panel
  - Metering and Station Battery
  - Equipment Building
  - SCADA communications
- Create construction plans and details for the station including equipment foundations, fencing with gates, grounding, metering, control wiring, relay wiring and interconnection, station lighting, and oil spill countermeasures.
- Select settings and provide programming for all protective relays.
- Inspect installation and final implementation
- Test relay and control operation for conformance to specified load capability
- Issue a Certificate of Completion which certifies the completion of the construction and compliance with specifications.
- Prepare "As-Built" drawings of the project as actually constructed and provision of an "Operator's Manual" covering the normal and emergency operating modes of the station and the operation and maintenance of all major items of equipment.
- Demolition of existing delivery station replaced by new station.



**SCE Team Members:**

A.J. Molnar, Jeremy Furr, Kevin Smorgala

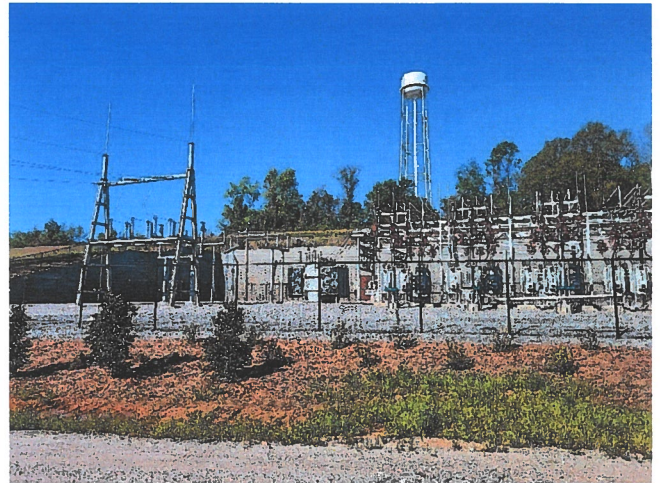
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ElectriCities of North Carolina  
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[dlucore@electricities.org](mailto:dlucore@electricities.org)

**ELECTRICAL DISTRIBUTION SUBSTATION**  
**(Delivery No. 7 – Fleming Substation)**

MORGANTON, NC

Design for a new 100 kV – 12.47 Grd.Y/7.2 kV Substation with a maximum rating of 50 MVA, with provisions for one incoming 100 kV circuit, one power transformer, and six outgoing 12.47 kV distribution circuits. The following scope was provided:

- Prepare a General Arrangement Plan for substation facilities, including the four span 100 kV tap line to Duke Energy’s Transmission Line.
- Construct grading and site plans for the City’s use, including large retaining wall to make site work.
- Generate specifications and contract negotiations with suppliers for major substation equipment, specifically:
  - Power Transformer
  - Circuit Switcher
  - Circuit Breakers
  - Switches
  - Voltage Regulators
  - Instrument Transformers
  - Relay and Control Panels
  - Metering and Station Battery
  - Equipment Building
  - SCADA communications
- Create construction plans and details for the station including equipment foundations, fencing with gates, grounding, metering, control wiring, relay wiring and interconnection, station lighting, and oil spill countermeasures.
- Select settings and provide programming for all protective relays.
- Inspect installation and final implementation
- Test relay and control operation for conformance to specified load capability
- Issue a Certificate of Completion which certifies the completion of the construction and compliance with specifications.
- Prepare “As-Built” drawings of the project as actually constructed and provision of an “Operator’s Manual” covering the normal and emergency operating modes of the station and the operation and maintenance of all major items of equipment.



**SCE Team Members:**

A.J. Molnar, Jeremy Furr, Steve Phillips

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## REFERENCE PROJECT

### ELECTRICAL DISTRIBUTION SUBSTATION (Sub. W – Eli Lilly Substation)

CONCORD, NC

Design for a new 100 kV – 13.2 Grd.Y/7.6 kV Substation with dual transformers and a maximum rating of 50 MVA, with provisions for two incoming 100 kV circuits, two power transformers, and six outgoing 13.2 kV distribution circuits in metal clad switchgear. The following scope was provided:

- Prepare a General Arrangement Plan for substation facilities, including the 100 kV tap line to City's Transmission Line.
- Construct grading and site plans for Contractor installation.
- Generate specifications and contract negotiations with suppliers for major substation equipment, specifically:
  - Power Transformers w/LTC
  - Circuit Switchers
  - Switchgear
  - Structures
  - Instrument Transformers
  - Relay and Control Panels
  - Metering and Station Battery
  - Equipment Building
  - SCADA communications
- Create construction plans and details for the station including equipment foundations, fencing with gates, grounding, metering, control wiring, relay wiring and interconnection, station lighting, and oil spill countermeasures.
- Select settings and provide programming for all protective relays.
- Inspect installation and final implementation
- Test relay and control operation for conformance to specified load capability
- Issue a Certificate of Completion which certifies the completion of the construction and compliance with specifications.
- Prepare "As-Built" drawings of the project as actually constructed and provision of an "Operator's Manual" covering the normal and emergency operating modes of the station and the operation and maintenance of all major items of equipment.



SCE Team Members:

Jerry Ford, Jeremy Furr, Steve Phillips

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**AARON STREET SUBSTATION**

MARTINSVILLE, VA

**DESCRIPTION:**

Old 34.5 kV to 12.47 kV substation consisted of fused high side protection and three single-phase transformers. Project added modern relaying and circuit breaker high side protection and converted to three-phase power transformer with LTC. Despite limited space, the design included reorienting high-side transmission connections, new bus configurations, and added oil containment system. Assisted City with all material procurement and support to construct upgrade with City forces. Southeastern then tested and commissioned entire station.



**SCE Team Members:**

A.J. Molnar, Jeremy Furr, Kevin Smorgala

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## UNIT PRICING

### Schedule of Rates for Engineering Services

#### Effective July Billing 2024

<u>Name</u>	<u>Title</u>	<u>Hourly Rate</u>
M. C. Dougherty, P.E.	Principal Design Engineer	\$232.00
A. J. Molnar, P.E.	Principal Design Engineer	219.00
J. L. Ford, Jr., P.E.	Senior Design Engineer	192.00
J. R. Furr, P.E.	Senior Design Engineer	187.00
D. A. Nichols, P.E.	Senior Design Engineer	165.00
K.J. Smorgala, P.E.	Design Engineer	148.00
D.D. Mitchell, P.E.	Senior Field Engineer	133.00
S. Phillips	Associate Engineer	132.00
K. Anderson	Associate Engineer	121.00
H. Steffens	Associate Engineer	109.00
	Co-op Engineer	75.00
J. Abernathy	AMI Consultant	150.00
K. Cassell	CAD Technician	97.00
L. R. Cloud	Contracts Administrator	92.00
A. Howard	Accountant	95.00

**NOTES:**

1. An amount equal to 5% of the billed hourly charges will be billed for in-house office expenses incurred in the performance of project-related services.
2. Transportation, subsistence, lodging, printing, and associated expenses will be added at cost. Mileage will be billed at the current standard IRS rate.
3. Charges for specialized consultants and equipment will be billed at cost.
4. The preceding schedule of rates is subject to annual review and adjustment.
5. Invoices are billed monthly. Terms of payment are net 10 days.