



BHMg Engineers, Inc.

9735 Landmark Parkway Drive  
Suite 110A  
St. Louis, MO 63127

Mr. Blake Toliver

Superintendent of Electric Operations and Generation

E: btoliver@rmu.net

P: (815) 561-2034

July 16, 2025

Ref: Centerpoint Program Project Change Order & Phase 2

Dear Mr. Blake Toliver,

This project change request captures additional design effort outside of the original projects' scope and next phase for the Centerpoint Program. This includes the following projects – Ritchie to Centerpoint Line and the Centerpoint Substation. See the following cover pages for each project's respective additional effort breakdown.

Table 1 shows each projects' change order and the additional proposed construction admin & support. BHMg appreciates this opportunity to provide Rochelle with these services. Should any questions arise, please contact me at your convenience.

**Table 1: Current and Revised Project NTE Contracted Amounts**

Project	Project Change Order	Construction Admin & Support (NTE)
Ritchie to Centerpoint #2200	\$333,955	\$169,620
Centerpoint Substation #2201	\$351,850	\$160,000
Totals	\$685,805	\$329,620

Sincerely,

**Chris Couch**

Project Manager

bhmg.com  
636.296.8600



Mr. Blake Toliver

Superintendent of Electric Operations and Generation

E: btoliver@rmu.net

P: (815) 561-2034

July 16, 2025

Ref: Ritchie to Centerpoint PCR #2 & Phase 2

Dear Mr. Blake Toliver,

This project change request captures additional design effort outside of the original project scope for the Ritchie to Centerpoint project. Additional effort breakdown is captured below:

- **Scope Additions**
  - Underground Line Engineering
    - Line Design (Lake Lida, RR, HWY, etc. crossings)
    - RR Permitting Support & Application Fees
  - Real Estate
    - Easement Support
  - Civil & Structural Engineering
    - Geotechnical Report
      - Soil Borings
    - Foundation Design of Drilled Piers
  - Subcontractor Management
- **Scope Changes**
  - Multiple Design Iterations
    - Caused by several occurrences of substation location changes and requested changes of line routes
    - Added time to Overhead Re-Design
    - Added Consulting & Project Management Support work
  - Design Changes
    - Distribution Underbuilds
    - Self-Supporting Poles
    - Conductor Type Update to T2
    - OPGW Modeling
    - Additional Terminal Pole
  - Project Delays
    - Due to easement acquisition, substation land acquisition, & Mighty Vine Sale

Table 1 shows PCR#2 and breaks down the current and revised project NTE contract amounts. Table 2 shows the Construction Admin & Support contract. BHMg appreciates this opportunity to provide Rochelle with these services. Should any questions arise, please contact me at your convenience.

**Table 1: Current and Revised Project NTE Contracted Amounts**

<b>BHMg Cost Proposals:</b>	<b>Amount:</b>
Initial Proposal	\$ 345,000.00
PCR #1 (Approved)	\$ 24,545.00
PCR #2	\$ 333,955.00
<b>Project Total NTE Amount</b>	<b>\$ 703,500.00</b>

**Table 2: Construction Admin & Support:**

<b>BHMg Cost Proposals:</b>	<b>Amount:</b>
Engineering Services	\$ 169,620.00
<b>Construction Admin &amp; Support</b>	<b>\$ 169,620.00</b>

Sincerely,



**Chris Couch**  
Project Manager

[bhmg.com](http://bhmg.com)  
636.296.8600

**Appendix A: Scope Document**  
Ritchie to Centerpoint 34.5kV Line  
Rochelle, IL



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**A. GENERAL DESCRIPTION**

Rochelle Municipal Utilities has elected to proceed with the installation of a new 34.5kV line from Ritchie to Centerpoint substations. The project will utilize a combination of direct embed and drilled pier steel structures. Additionally, select structures will accommodate existing distribution circuits, integrating them onto the new transmission poles. be a high-ampacity, single-pole, self-supporting steel line, utilizing some existing 15kV line routings.

**B. DETAILED WORK DESCRIPTION**

a. Civil Design:

- i. Nineteen (19) drilled piers are anticipated to be designed and specified as part of this project.
  - 1. Hanson to complete the required civil/structural work for Drilled Pier foundations on self-supporting engineered steel poles
- ii. Twelve (12) Soil Borings are anticipated to be required for Foundation Design
  - 1. Hanson to complete the required soil borings and geotechnical analysis required for Foundation Design of drilled piers

b. Overhead Line Design:

- i. Route
  - 1. Paralleling city and county roads near in Rochelle, Ogle County, Illinois.
  - 2. The 34.5kV single circuit line is approximately 4.11 miles between existing Ritchie and future Centerpoint substations.
    - a. Built to 69kV Standards/requirements
    - b. Entire route (other than portion that parallels S Steward Rd.) will be designed to accommodate existing or future underbuild (13.8kV) in "Skip-Span" configuration
- ii. Structures
  - 1. Design of fifty-three (53) steel transmission structures
  - 2. Approximately forty-three (43) distribution only wood skip-span and riser poles will be design for underbuild circuit
    - a. Existing distribution connections will be designed to check proper clearance; however, any necessary updates will be the responsibility of the city engineer.
  - 3. Skip-span wood poles may utilize guys when appropriate
  - 4. Structures will be designed using industry standard configurations that satisfy NESC spacing/clearance requirements
- iii. Material
  - 1. 69kV rated hardware and insulator assemblies will be used for line design
    - a. Braced Post insulators will be utilized for tangent and Light Running Angle structures
    - b. Polymer I-String insulators will be used for strain deadends and medium to large running angles

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Ritchie to Centerpoint 34.5kV Line  
Rochelle, IL



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- 2. Distribution will be mounted on fiberglass crossarms or custom steel davit arms depending on the structure type
  - a. Polymer Post/ Pin Insulators will be used on tangent and light running angle tangent crossarms
  - b. Polymer I-String insulators will be used on deadend crossarms
- iv. Wire Types:
  - 1. 34.5kV Conductor: Twisted Pair "T2" 397 ACSR "Ibis"
  - 2. OPGW: AFL DNO-13429 96-count fiber
  - 3. Shield Wire: 7/16" EHS Steel
  - 4. Distribution Conductor: 336 kcmil "Merlin" ACSR
  - 5. Distribution Neutral: 1/0 "Raven" ACSR
- v. Wire tensions will be stated in project design criteria.
- vi. Electrical Design
  - 1. Maximum Operating Temperature (MOT) = 212°F for 34.5kV and 13.8kV Conductor
  - 2. NESC electrical clearances + 2.5' will be maintained from conductors at MOT for line design.
- c. Underground Line Design:
  - i. Underground design for the following locations:
    - 1. One (1) 34.5kV and 13.8kV circuit underground dip for Union Pacific Railroad crossing
    - 2. One (1) 34.5kV circuit and (future) 13.8kV circuit underground dip for BNSF Railroad crossing
    - 3. One (1) 34.5kV and 13.8kV circuit underground dip for I-88 crossing
    - 4. One (1) 34.5kV and 13.8kV circuit underground span by Lake Lida
    - 5. One (1) 34.5kV circuit exit/entrance to Ritchie substation
  - ii. Underground Scope Details
    - 1. 34.5kV Cable Type: Dual (2) 500 kcmil Copper
    - 2. 13.8kV Cable Type: Single (1) 750 kcmil Copper
    - 3. Riser-to-Riser UG crossing design will be used
    - 4. Spare conduit to be included in all UG design
    - 5. It is assumed directional boring with HDPE conduit (not steel encased) will be adequate for underground design

**C. ROLES AND RESPONSIBILITIES**

- a. City of Rochelle Responsibilities:
  - i. All detailed engineering reviews to include but not limited to:
    - 1. Issued for Review (IFR) Design Package
      - a. After comments for this package are incorporated in design, BOM will be issued and major material ordering will begin
    - 2. Issued for Bid (IFB) Submittal Package
      - a. After comments from this package are incorporated, and any

**Appendix A: Scope Document**  
Ritchie to Centerpoint 34.5kV Line  
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- bidder questions resolved, design can be issued for Construction
- ii. Acquisition of all required easements and rights, given exhibits provided by surveyor.
- iii. Facilitate bidding of material and steel poles
- iv. Assist with Outage and Construction Plans
- v. Procurement of all material required for project

**b. BHMG Engineers Responsibilities:**

- i. Project Management
  - 1. Prepare Project Scope Document.
  - 2. Develop and Maintain Project Schedule.
  - 3. Subcontractor Coordination
    - a. Act as main point-of-contact for Surveyor, Geotechnical, and Foundation Design subcontractors on project.
- ii. Surveying
  - 1. Lidar will be obtained for project (Complete)
  - 2. ROW/Boundary work will be performed for project (Complete)
  - 3. Exhibits will be prepared for Rochelle to acquire easements on all impacted parcels (In-progress)
- iii. Engineering/Design
  - 1. Preliminary Design (Complete)
    - a. Design Criteria
    - b. PLS Level KMZ File
  - 2. Issued for Review (IFR) Design
    - a. Design Criteria
    - b. PLS Level KMZ File
    - c. Preliminary P&Ps
    - d. Structure Details List
  - 3. Bill of Materials
    - a. Comprehensive Bill of Material
  - 4. Steel Structure Design Package
    - a. Structure Bid Specification
    - b. Structure List
    - c. Structure Performance Drawings
    - d. Structure Attachment Detail Drawings
  - 5. Issued for Bid (IFB) Package
    - a. Bid Specification
    - b. Bid Units
    - c. Bid Construction Package
  - 6. Issued for Construction (IFC) Package



**Appendix A: Scope Document**  
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- a. Construction Package
  - b. Full Size P&P drawings
- 7. Record Issue Drawing Package
  - a. Record Issue Plan & Profile Drawings
  - b. Final Construction Package
  - c. Final PLS-Cadd .bak file
- iv. Permitting
  - 1. Prepare exhibit and acquire permits for fourteen (14) Railroad Crossings
  - 2. Prepare exhibit and acquire permit for one (1) IDOT Crossing
  - 3. Submit FAA NCT for all structure locations
- v. Procurement
  - 1. Provide engineer review of vendor bids for major equipment items and provide engineering recommendation.
  - 2. Prepare specifications for installation of procured materials
- vi. Construction Support
  - 1. Attend pre-construction meeting with the contractor and client staff.
  - 2. Review and respond to any technical issues identified during construction.
  - 3. Provide up to three (3) onsite visits to resolve any technical issues that cannot be addressed by phone conversation.
  - 4. Provide onsite inspection of the construction.
  - 5. If necessary, review change order requests.
  - 6. Receive contractor's record drawing markups, incorporate them and submit final record drawings.

**D. CRITICAL DATES** – These are tentative dates and are subject to change.

- a. Issued for Construction (IFC) submittal date: TBD
- b. In-Service Date (ISD): TBD
- c. If IFC design or ISD dates are pro-longed for reasons outside of BHM's control, additional engineering/design effort may be required.

**E. ASSUMPTIONS / CLARIFICATIONS**

- a. Design
  - i. BHM assumes standard two (2) week (10 business days) for IFR and IFB submittal package issued to Rochelle for review.
  - ii. Vegetation clearing drawings will be provided for easement extents along final route. No vegetation clearing bid specification or support is anticipated as part of this project.
  - iii. Design will be NESC compliant.
  - iv. Where new conductor is terminated on existing poles, it is assumed that the existing poles will be adequate for the new wire and not require replacement.

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Ritchie to Centerpoint 34.5kV Line  
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- v. Existing distribution lines, to be rebuilt in underbuild position, will be allowed to be de-energized during construction.
- b. Permitting
  - i. Permit coordination, other than what is stated in section C.b.iv, is not considered part of the project scope
    - 1. It is assumed FAA filings for new structures will not require determinations and/or coordination after NCT tool is completed.
- c. Site Support
  - i. Staking will only be required as prior to construction and is not included as part of this scope. BHM can subcontract these services to another company at additional cost.
  - ii. Real estate / landowner review staking is not included in this proposal.
  - iii. Construction support will be provided as required by the project and requested by the City of Rochelle and will be billed as T&E in addition to this contract amount.
- d. General
  - i. Change orders will be issued for any work in addition to the work outlined in this document.





Mr. Blake Toliver

Superintendent of Electric Operations and Generation

E: btoliver@rmu.net

P: (815) 561-2034

July 16, 2025

Ref: Centerpoint Substation PCR #1 & Phase 2

Dear Mr. Blake Toliver,

This project change request captures additional design effort outside of the original project scope for the Centerpoint Substation project. Additional effort breakdown is captured below:

- **Scope Additions**
  - Feeder Exit Design
  - Steel Structure Design
  - Arc Flash Analysis
  - Relay Settings
  - Survey/Geotech
    - Geotech & Topographic Survey
  - Civil Design Support
    - Grading / Improvement Plan
    - Erosion Control Plan
    - Stormwater Design, Drainage, and Prevention Plan
    - Road Design
  - Structural Design Support
    - Foundation location plan
    - Foundation design and type
      - One (1) – Switchgear foundation, thickened slab
      - One (1) – Transformer foundation, thickened slab
        - Oil containment system
      - Two (2) – Lightning Mast foundations
  - Subcontractor Management
- **Scope Changes**
  - Multiple Design Iterations
    - Caused by several occurrences of substation location changes
    - Added time from re-engineering substation and feeder exits
    - Added consulting & project management support work
  - Requested Support Work
    - Consulting with Mighty Vine
    - Transformer Storage Plan
    - WEG Transformer Facility Visit / Inspection
  - Project Delays
    - Due to easement acquisition, substation land acquisition, & Mighty Vine Sale

Table 1 shows PCR#1 and breaks down the current and revised project NTE contract amounts. Table 2 shows the Construction Admin & Support contract. BHMg appreciates this opportunity to provide Rochelle with these services. Should any questions arise, please contact me at your convenience.

**Table 1: Current and Revised Project NTE Contracted Amounts**

<b>BHMg Cost Proposals:</b>	<b>Amount:</b>
Initial Proposal	\$ 320,000.00
PCR #1	\$ 351,850.00
<b>Project Total NTE Amount</b>	<b>\$ 671,850.00</b>

**Table 2: Construction Admin & Support:**

<b>BHMg Cost Proposals:</b>	<b>Amount:</b>
Engineering Services	\$ 160,000.00
<b>Construction Admin &amp; Support</b>	<b>\$ 160,000.00</b>

Sincerely,



**Chris Couch**  
Project Manager

[bhmg.com](http://bhmg.com)  
636.296.8600

## Appendix A – Scope Document

Centerpoint Substation  
Rochelle Municipal Utilities



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### A. GENERAL DESCRIPTION

The City of Rochelle has elected to install a new distribution 34.5kV to 13.8kV low profile substation as a part of the overall program to develop a 34.5kV distribution loop around town and a new substation to serve loads in the NW portion of town.

### B. DETAILED WORK DESCRIPTION

#### a. Physical Design:

- i. Transformers
  - 1. One 34.5kV to 13.8kV power transformers with OLTC, sized to cover loads, proposed at 20MVA base.
- ii. Packaged metal clad sheltered aisle switch gear shall be implemented for switching and control of the substation.
  - 1. Breakers shall match type of existing customer.
  - 2. Proposed layout is single building for two voltage buses.
- iii. Incoming circuits will transition from OH line to UG conduit entrances.
- iv. Metering
  - 1. Coordinate with RMU for revenue metering on incoming feeders.
- v. Feeder exits
  - 1. All feeders shall leave the substation via underground power cables, these cables shall be sized to carry full ampacity of the circuit.
- vi. Station Power shall be via two sources, primary is dry type transformer in switchgear, second source on ATS is from the distribution power system.
- vii. Misc. Equipment
  - 1. Ground grid, cable trench, conduits and rock landscaping shall be designed and analyzed for the substation.
  - 2. Perimeter fencing shall be designed to comply with local codes and safety. Preliminary design precast fence.
  - 3. Substation lighting shall be designed and provided.
  - 4. Lightning protection shall be modeled and included.
  - 5. Substation access shall be designed to accommodate equipment access and future growth.
  - 6. Spill control shall be designed and included for the transformer.

#### b. Protective Relay Design:

- i. BHMg will be responsible for the 35kV/13.8kV relaying and controls.
  - 1. The new controls shall be located indoor of the switchgear building.
  - 2. The design shall be coordinated with the existing RMU system.
- ii. DC System
  - 1. DC storage and supply system will be designed and installed in new switchgear house
- iii. AC System
  - 1. AC service system will be designed and installed in the new switchgear house

## Appendix A – Scope Document

Centerpoint Substation  
Rochelle Municipal Utilities



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- iv. Communications
    - 1. A new communication package will be designed according to client standards
    - 2. RTU points list will be designed and coordinated for SCADA system
    - 3. SCADA interface to RTU by client.
  - v. Testing and commissioning of all P&C work shall be performed by client or client selected contractor.
  - vi. Relay settings shall be developed by BHM.
  - vii. Arc Flash Study Analysis and Report
    - 1. Study will include the new switchgear and low voltage station service distribution equipment inside the substation.
  - viii. Arc Flash Warning Labels and Application
- c. Civil/Structural Design: (Partnering with Hanson Engineering)
- i. Survey/Geotech
    - 1. Geotech & Topographic Survey
      - a. Site evaluations, construction recommendations, soil borings, field reports and measurements, lab tests, analysis and reports shall be performed as needed as part of civil scope
  - ii. Civil Design Support
    - 1. Grading / Improvement Plan
    - 2. Erosion Control Plan
    - 3. Stormwater Design, Drainage, and Prevention Plan
    - 4. Road Design
  - iii. Structural design support
    - 1. Foundation location plan, developed by BHM, but verified and sized by structural
    - 2. Foundation design and type (TBD dependent on Geotech recommendations)
      - a. Drilled shaft and slab foundations, with reinforced rebar designs (preferred)
    - 3. One (1) – Switchgear foundation, thickened slab (preferred)
    - 4. One (1) – Transformer foundation, thickened slab (preferred)
      - a. Concrete dike oil containment system
        - i. Additional oil containment requirements TBD
    - 5. Two (2) – Lightning Mast foundations
  - iv. Construction support
    - 1. Submittal review
    - 2. Post-IFC Support on a T&E basis
- d. Line Design:
- i. 38kV feeders
    - 1. Tie to incoming feed Twombly substation

## Appendix A – Scope Document

Centerpoint Substation  
Rochelle Municipal Utilities



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- 2. Tie to Incoming feed Ritchie substation
- 3. Transformer HV feed
- 4. Feeder #5 West to Centerpoint Dr
  - a. Future feeder to Pure Flavor's Primary Meter
  - b. Only conduit (~2500')
  - c. UG Concrete Encased Duct Bank & Vault
  - d. Primary Meter
  - e. Spare conduit
- ii. 15kV feeders
  - 1. Feeder #1 & Feeder #2 South to E State Route 38
    - a. UG Concrete Encased Duct Bank & Junction Box
    - b. 2 Conduit per feed (~2500'), cable just pulled in one
  - 2. Feeder #3 & Feeder #4 West to Centerpoint Dr
    - a. UG Concrete Encased Duct Bank & 2 Vaults
    - b. 2 Conduit per feed (~2500'), no cable
  - 3. Tie from incoming underbuild from the south Feeder 64
- iii. Station Service from Distribution System
  - 1. Cable and transformer for external station power
    - a. Will come from distribution system outside of sub
- e. Project Management:
  - i. Project status meetings
  - ii. Lifecycle project schedule management
  - iii. Overall project management
  - iv. Plan room for public bidding
  - v. Contract management for procurement and installation services (T&E after IFC)
  - vi. Construction admin for project (T&E)

### **C. REMOVALS**

- a. Physical
  - i. None
- b. P&C
  - i. None
- c. Civil
  - i. None

### **D. ROLES AND RESPONSIBILITIES**

- a. RMU Responsibilities
  - i. All detailed engineering reviews to include but not limited to:
    - 1. 50% design submittal
    - 2. Material procurement
    - 3. Pre-IFB
    - 4. IFB
    - 5. Schematics

## Appendix A – Scope Document

Centerpoint Substation  
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- 6. Wiring
    - 7. Pre-IFC
    - 8. IFC
  - ii. Field construction management by owner or separate contract.
- b. BHMG Responsibilities:
- i. Project Management
    - 1. Prepare Project Scope Document.
    - 2. Develop and Maintain Project Schedule.
    - 3. Attend pre-bid meeting
    - 4. Review and recommend preferred bidder
    - 5. Contract document preparation
    - 6. Pre-construction meeting
  - ii. Engineering/Design
    - 1. Prepare design criteria
    - 2. Perform necessary survey work
    - 3. Prepare IFR review package
    - 4. Prepare IFB drawing package
    - 5. Prepare IFC drawing package
    - 6. Provide relay settings and supporting documentation
    - 7. Provide arc flash study report and install arc flash labels
    - 8. Provide onsite visits to resolve technical issues
      - a. Two (2) visits w/ two (2) personnel
    - 9. Verification of punch list items
    - 10. Prepare and submit final as-built drawings
  - iii. Material Procurement / Bid Solicitation
    - 1. Labor and Material bids
      - a. Prepare and manage sealed bids
    - 2. Review vendor drawings
    - 3. Contract Management for material procurement
  - iv. Construction Support (T&E after IFC)
    - 1. Provide construction supervision support
  - v. Construction Administration (T&E after IFC)
    - 1. Construction management by city.
    - 2. Contract Management for Installation Contract
    - 3. Field commissioning support to 3<sup>rd</sup> party tester
    - 4. Substation energizing procedure
    - 5. Hosting Pre-Bid, Pre-Construction, and biweekly construction update calls.
    - 6. Remote (phone, virtual meetings, etc.) design support during construction.
    - 7. Field visits during construction, at Rantoul's or Contractor's request.
    - 8. Final walkdown of completed project.
  - vi. Record Drawings

## Appendix A – Scope Document

Centerpoint Substation  
Rochelle Municipal Utilities



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1. Provide final record drawings of electrical installation including any field changes or contractor mark-ups.

**E. CRITICAL DATES** – These are tentative dates and are subject to change.

- a. In-Service Date:
  - i. TBD

**F. WORK ORDER(S)**

- a. n/a

**G. BHMg JOB NUMBER**

- a. 2201

**H. PROJECT TEAM**

- a. RMU Contact Details:
  - i. Blake Toliver – Superintendent of Electric Operations and Generation
    1. Office: (815) 561-2034
    2. Email: [btoliver@rmu.net](mailto:btoliver@rmu.net)
  - ii. Any questions, comments or concerns related to the client should be addressed to the above-named individual.
- b. Project Management Contact Details:
  - i. Chris Couch – Project Manager
    1. Tel: (636) 237-7823
    2. Email: [ccouch@bhm-g.com](mailto:ccouch@bhm-g.com)
  - ii. Any questions, comments or concerns related to Project Management should be addressed to the above-named individuals
- c. Substation Engineering Contact Details:
  - i. Jack Sykut – Project Engineer
    1. Tel: 636-333-3945
    2. Email: [jsykut@bhm-g.com](mailto:jsykut@bhm-g.com)
  - ii. Any questions, comments or concerns related to Substation Design should be addressed to the above-named individuals.
- d. Line Engineering Contact Details:
  - i. Jake Beerman – Project Engineer
    1. Tel: 636-692-8082
    2. Email: [jbeerman@bhm-g.com](mailto:jbeerman@bhm-g.com)
  - ii. Any questions, comments or concerns related to Line Design should be addressed to the above-named individuals.