EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD02172**
Date Prepared: 12/15/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SPECIFIC PROJECTS-NEW SRVCE
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** No
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 6/1/2024	
Total Capital Request: $3,377.1K	**Authorization Type:** Full Funding

1. Executive Summary

[redacted]

[redacted].

Full Funding

On September 28, 2023, the project's Partial Funding was approved for $3,242K. The Full Funding amount is $3,377.1K. The difference is $135.1K, which is 4% over the Partial Funding approved amount.

[redacted]

An additional $100K was added to account for increased material costs.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	Year 2	Year 3+	Total
Internal Labor and Construction Equipment	195.2	0.0	0.0	195.2
Outside Services	929.3	0.0	0.0	929.3
Materials	614.4	0.0	0.0	614.4
Removals	123.8	0.0	0.0	123.8
Risk and Contingency	235.6	0.0	0.0	235.6
Other	0.0	0.0	0.0	0.0
Subtotal	**2,098.4**	**0.0**	**0.0**	**2,098.4**

Indirect Capital Costs	2024	Year 2	Year 3+	Total
Indirect/Overheads (including benefits)	1,278.7	0.0	0.0	1,278.7
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**1,278.7**	**0.0**	**0.0**	**1,278.7**
Total Capital Costs (Gross)	**3,377.1**	**0.0**	**0.0**	**3,377.1**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**3,377.1**	**0.0**	**0.0**	**3,377.1**

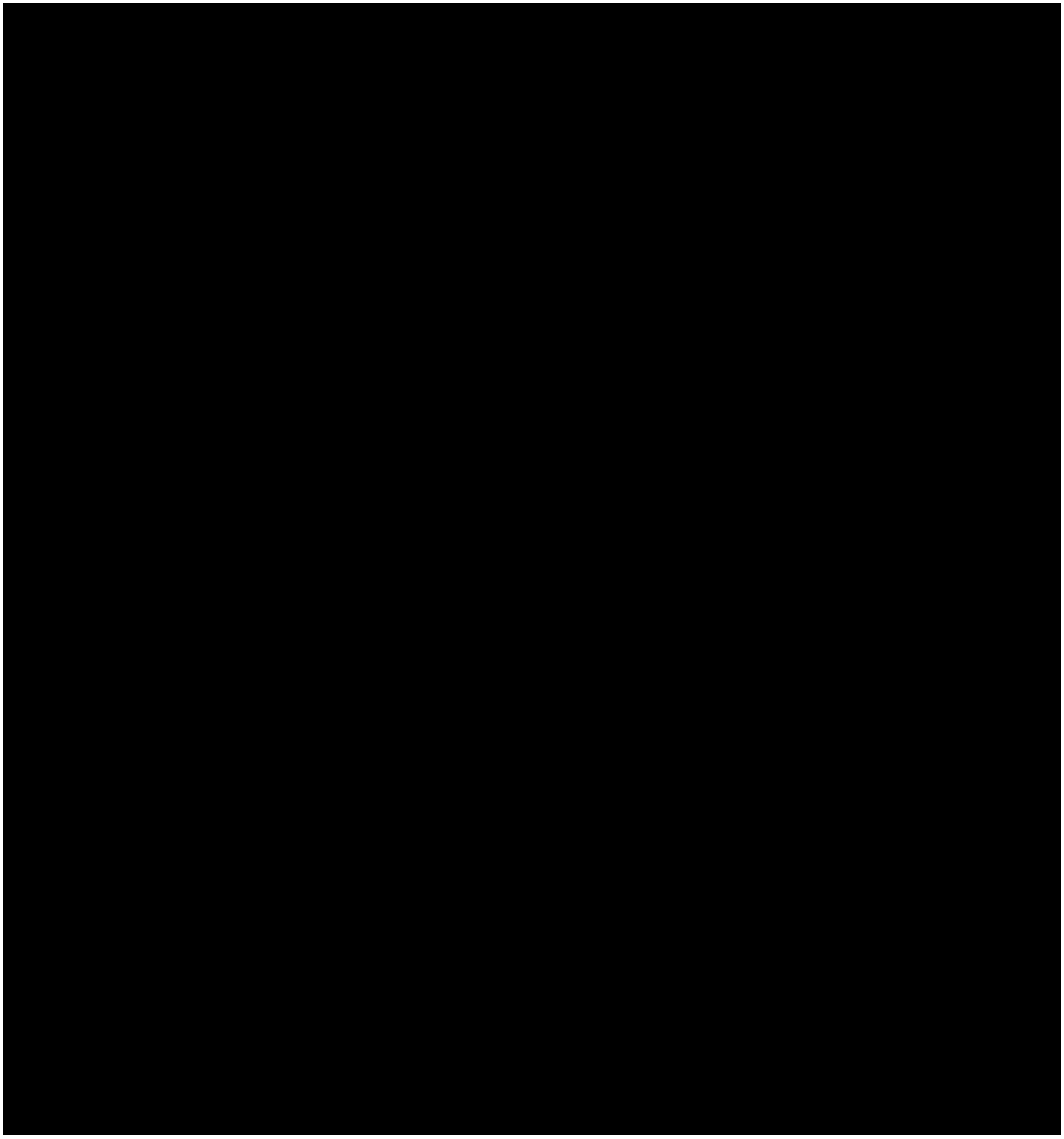
Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The [redacted]



b. Project Need

[redacted]

c. Project Scope

[redacted]

[redacted]

Major Material:

- 950 feet of 1,000 kcmil Cu EPR cable.
- 2,650 750 kcmil Al aerial cable.
- 21,000 feet of 556 kcmil tree wire.
- 1,616 feet of 500 kcmil EPR cable.
- Two reclosers.

4. Alternatives Considered

	Option
[redacted]	

[redacted]

Authorization Type	Partial	Partial	Partial	Full
Capital Cost	$0.88M	$0.41M	$0.76M	$3.38M
Expense Cost	$0.02M	$0.02	$0.03	$0.12M
Total Cost	$0.90M	$0.43M	$0.79M	$3.5M
Cost / MVA added	$/MVA	$/MVA	$/MVA	$0.66M/MVA
Preferred option				X

Preferred Option.

This preferred option is the only one that [redacted]

Option One ($0.9M.)

This option [redacted]

[redacted]

Option Two ($0.43M.)

This option [redacted]

Option Three ($0.79M.)

This option [redacted]

5. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	4/6/2023
100% Detailed Engineering Completion	10/1/2023
Fully Funded	12/15/2023
Construction Start	1/1/2024
In Service Date	6/1/2024

6. Regulatory Decisions

7. Codes and Standards

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Customer Permission / Siting Council / Municipal approvals	2024	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.

Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Technological risks involving integration of new technology	2024	Medium	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2024	Medium	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1.
2.
3.
4.
5.

10. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*
E. Load Sheets.	*YES*
F. Partial PAF	*YES*

A. Cost Estimate.

[redacted] with aerial cable

Budget Summary - Preferred Option

2024

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
7	New UG Structures at Middle St and ROW Circuits	Prelim	0	24%	$621,051	$621,051
8	Install aerial cable on Middle Street	Prelim	0	24%	$2,721,902	$2,721,902
				2024 Total:	**$3,342,952**	**$3,342,952**
				Total Project:	**$3,342,952**	**$3,342,952**

EVERSOURCE

Project Approval Form

Segment

CD02172-07

General Information

Segment: 7 - UG Middle St and ROW Circuits | Status: Prelim Design Approved

Segment Type: LOAD/CAPACITY | Town: FARMINGTON | Budget Year: 2024

Work Type: BB-Reconductoring | Trimming Required: ☐ | In Service Date: 12/31/2024

Description: [redacted]

Itemized Work List

Major Minor

ID

1
2
3
4
5
6

[redacted]

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$500,847
Contingency Amount:	$120,203
Estimate:	$621,051
Reimbursement:	$0
Net Amount:	**$621,051**

Description:

Item Description	CU	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$65,000.00
OH WIRE OH - Remove circuit wire (3 phase)	23-OH37A	$1,456.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	23-OH43	$80,208.96
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	23-UG114B	$116,064.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	23-UG137	$20,332.00
CONDUIT UG-Ductline-up to 12 duct-Non- Traveled/Non-Paved	23-UG138	$85,904.00
ENCLOSURE UG - MANHOLE - Precast	23-UG139	$81,882.32
ACT ACT Estimate for Contractor Crews Excavating Contractor Add. Cost	23-ALL12	$50,000.00

[redacted]

EVERSOURCE

Project Approval Form

Design Alternative

CD02172-08

General Information

Segment:	8 - Install aerial cable on Middle St			Status:	Prelim Design Submitted
Segment Type:	LOAD/CAPACITY	Town:	FARMINGTON	Budget Year:	2024
Work Type:	Other	Trimming Required:	☐	In Service Date:	12/31/2024
Description:	Same as Alternate 6 accept install aerial cable on Middle St.				

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed
1	H06-2	L4	Install 2,300 feet on Middle Street

Estimate

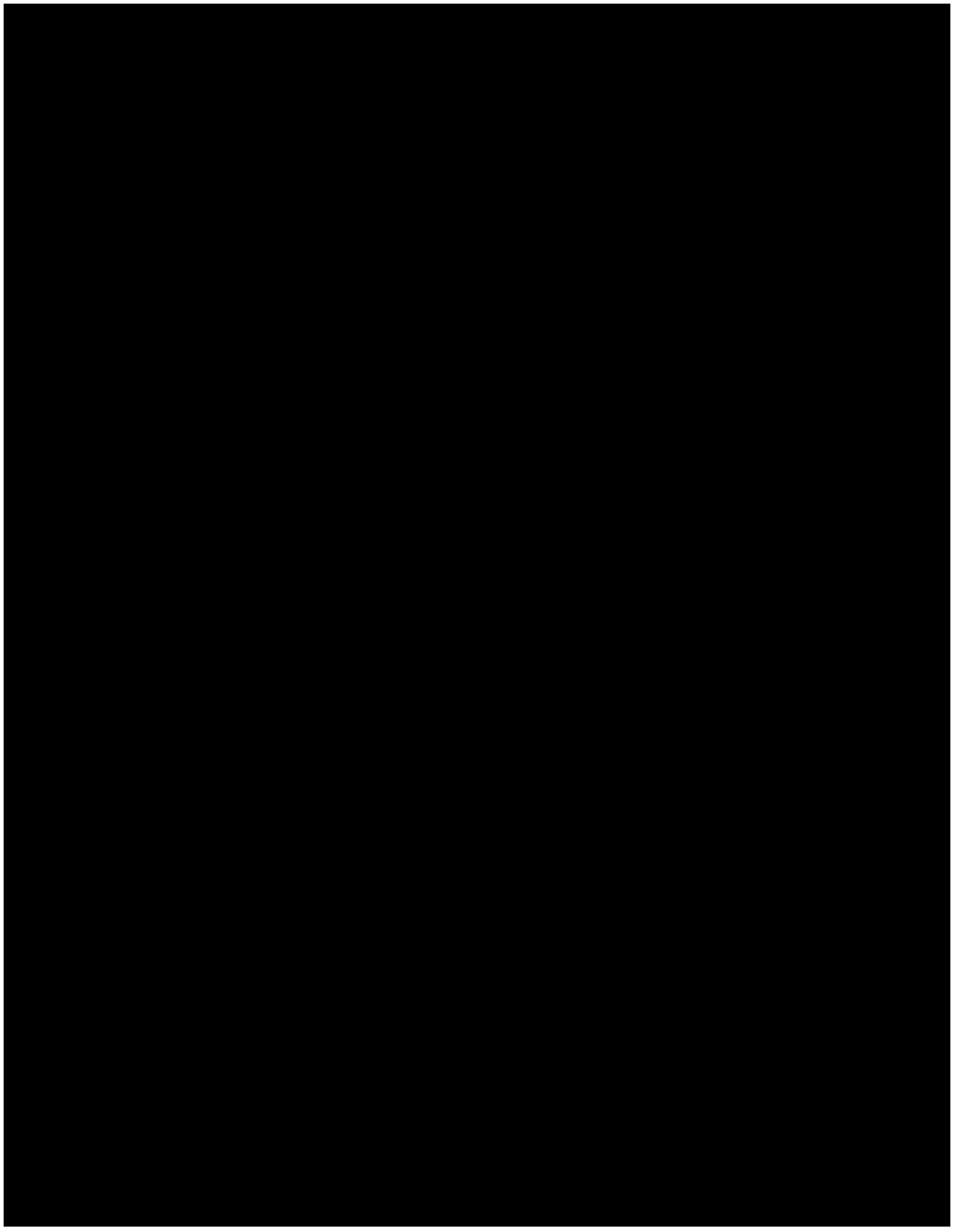
Preliminary Estimate Summary	
Revision Number:	0
Contingency:	24.00%
SubTotal:	$2,195,082
Contingency Amount:	$526,820
Estimate:	$2,721,902
Reimbursement:	$0
Net Amount:	**$2,721,902**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$9,124.96
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$227,078.00
ACT ACT Estimate for Contractor Crews 30% adder for contractor labor.	23-ALL12	$454,155.00
OH WIRE OH-Install Aerial Cable-existing poles (any gauge) A. [redacted]	23-OH36	$275,080.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil A. [redacted]	23-OH27	$181,584.00
OH WIRE OH - Line Extension w/Aerial Cable - (any gauge) A1. [redacted]	23-OH35	$65,520.00
POLE OH - POLE - 3ph (Eversource custodian) A1. [redacted]	23-OH14	$85,103.20
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved B1. [redacted] Between MH #55 and 8963	23-UG137	$28,464.80
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved B1. [redacted] Install two six-inch conduits between MH# 56 and new riser	23-UG137	$16,265.60
POLE DB/UG - Riser - 3ph B2. [redacted]	23-UG146	$28,065.44
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph B2. [redacted] New Riser pole.	23-OH43	$13,368.16
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Between MH #56 and #55	23-UG114	$48,678.24
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Between MH #56 and #55	23-UG114	$48,678.24

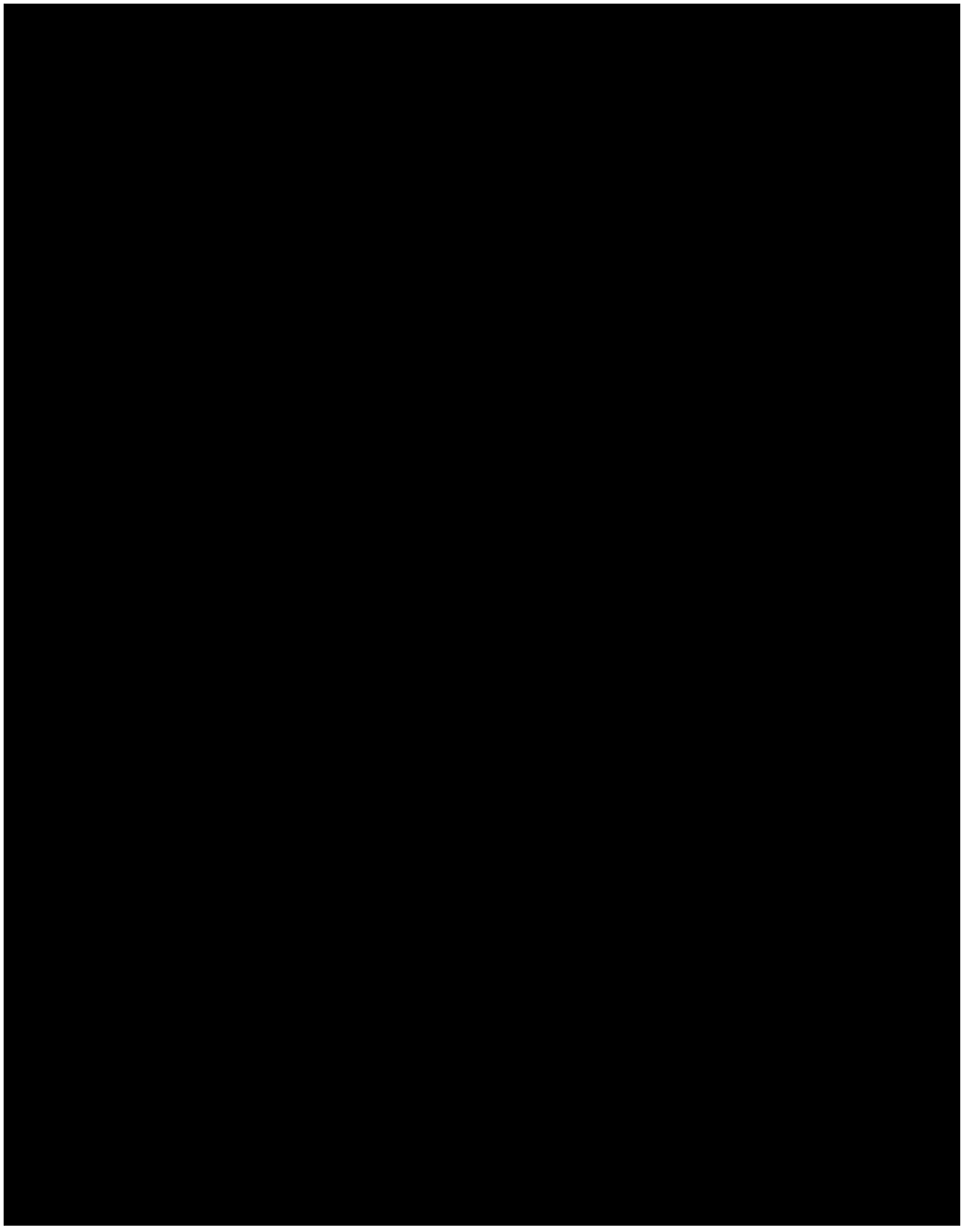
Project Approval Form

UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Double 500 kcmil Cu EPR between MH #55 and pole # 8963	23-UG114	[redacted]	$29,858.40
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Double 500 kcmil Cu EPR between MH #56 and new riser pol	23-UG114		$19,000.80
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph B7. [redacted]	23-OH43		$13,368.16
EQUIPMENT OH - Remove Capacitor, any kVAR C1. [redacted]	23-OH54		$2,340.00
SECTIONALIZE OH - Recloser - 3ph C2 [redacted] with Cooper Nova	23-OH38		$62,386.48
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil D1. [redacted]	23-OH27		$262,288.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil D2. [redacted] Two Mile Road	23-OH27		$262,288.00
SECTIONALIZE OH - Recloser - 3ph E. [redacted]	23-OH38		$62,386.48

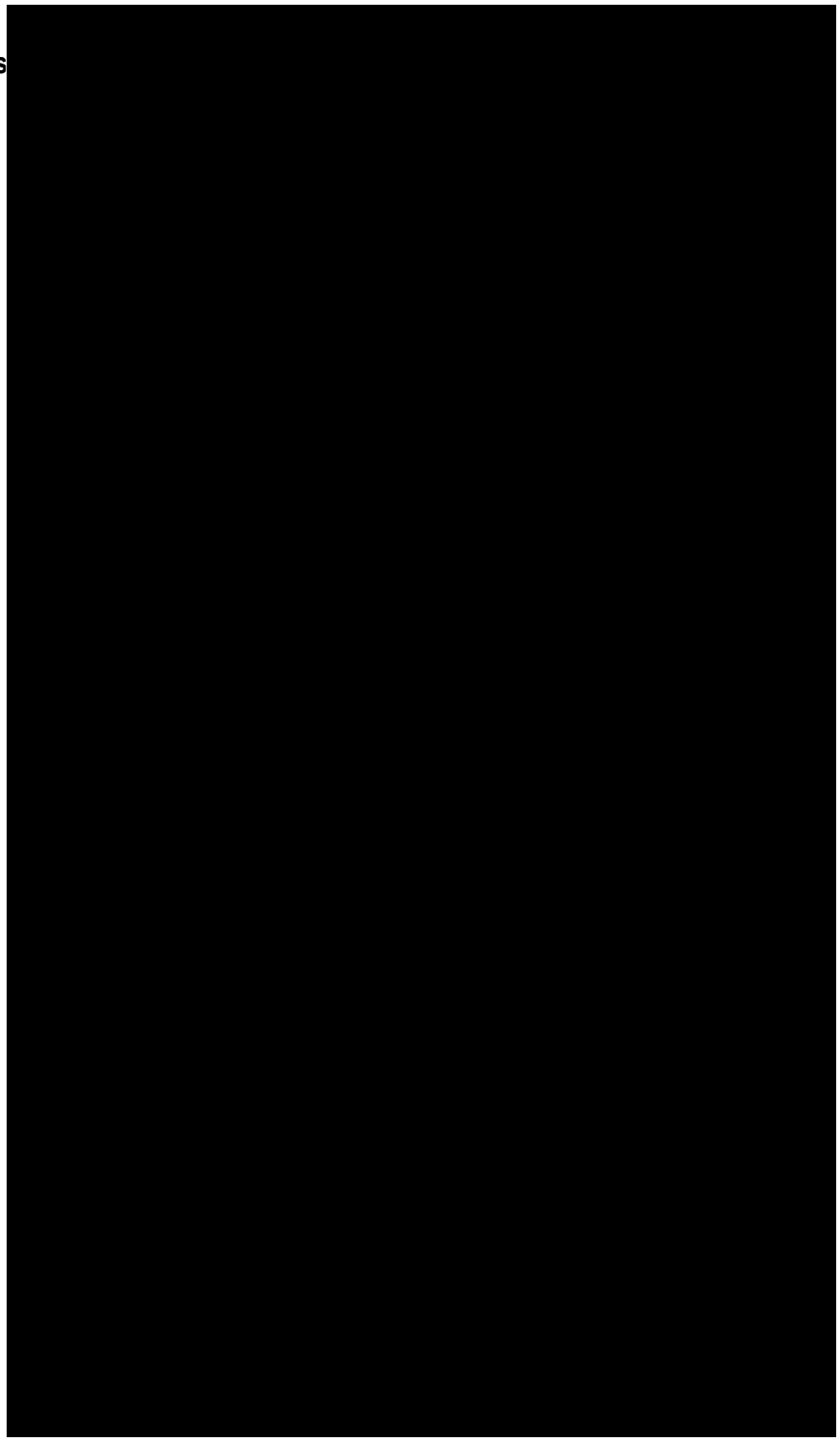
C. Geographic Map.

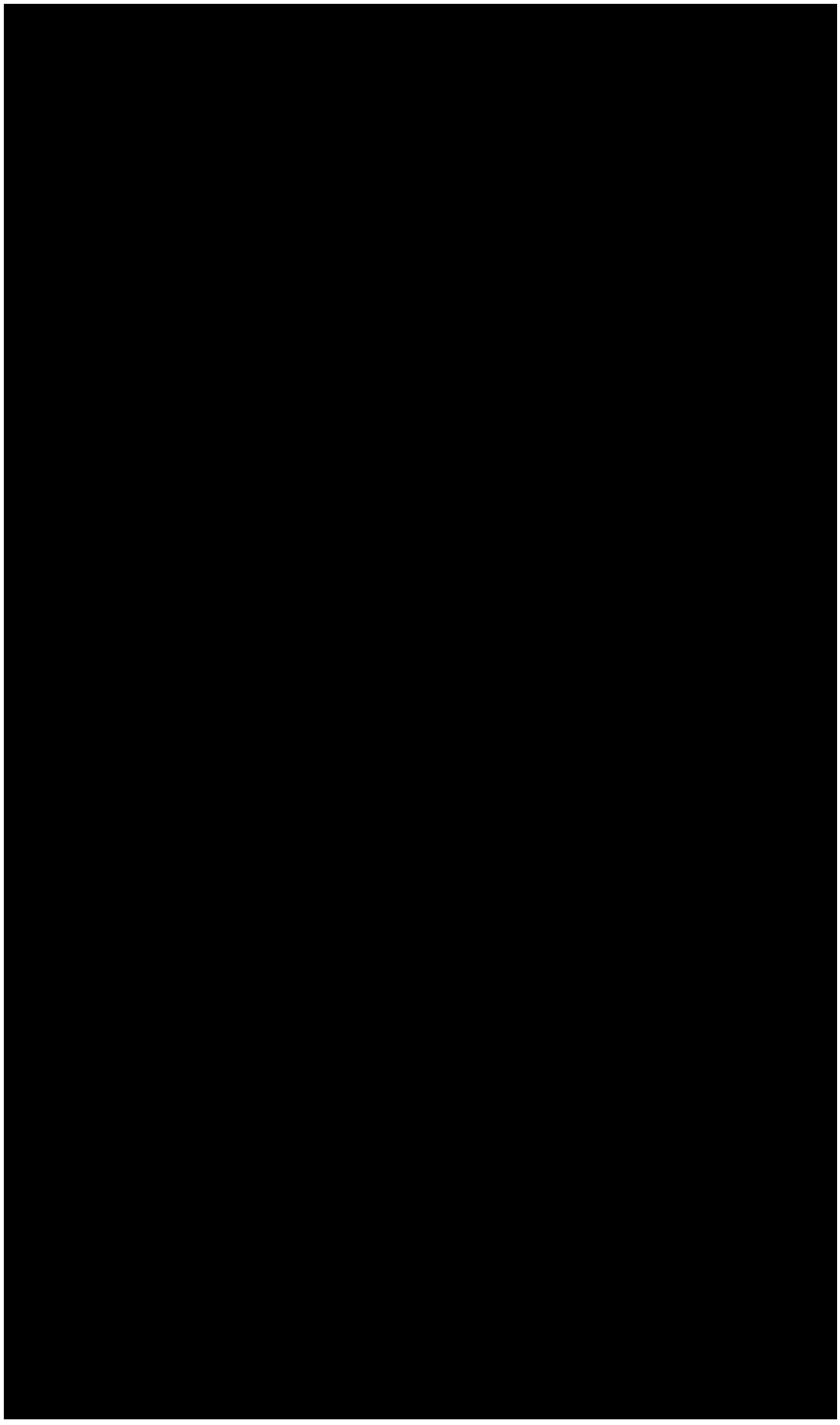


D. System and Station One-Lines.



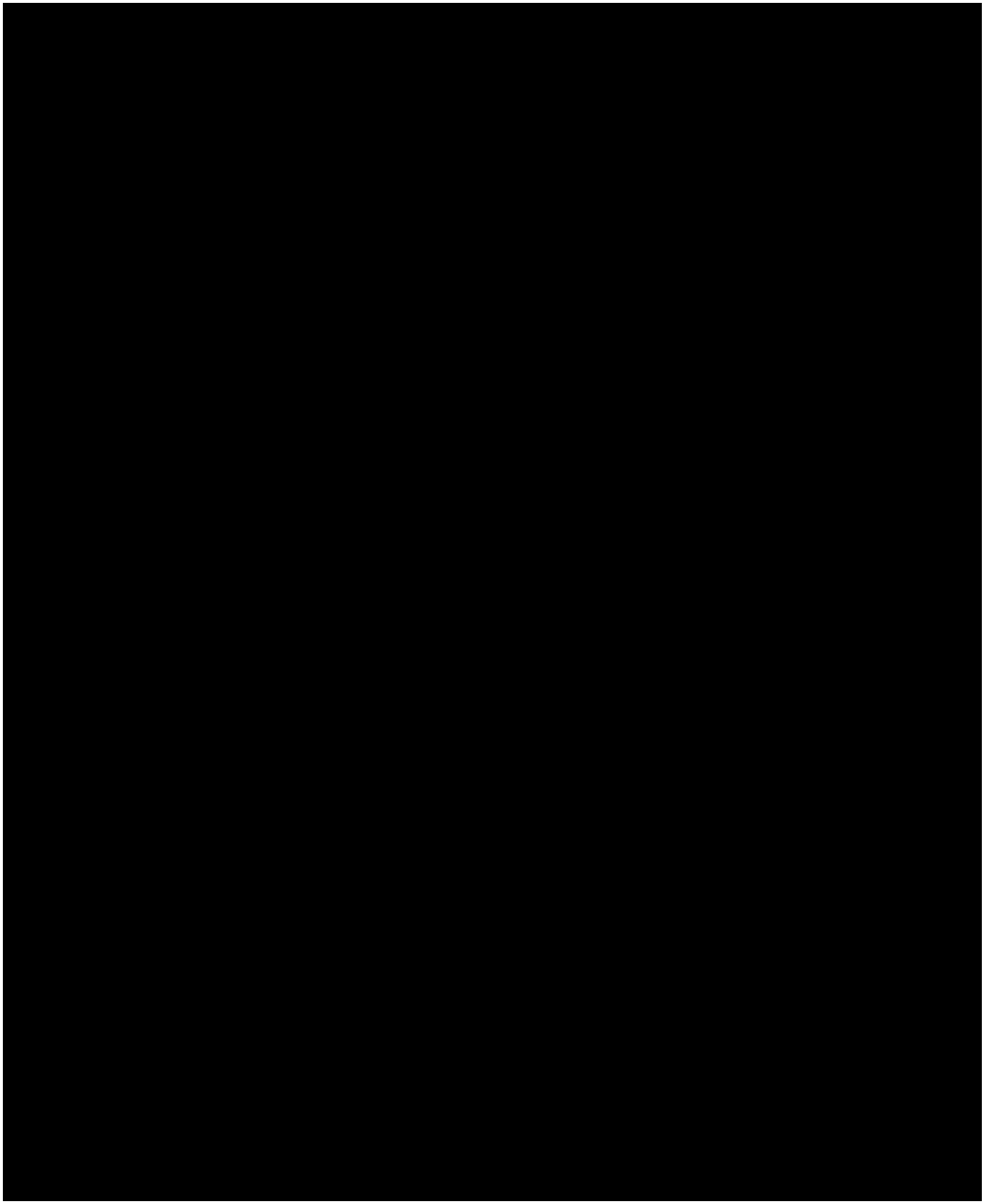
E. Load Sheets



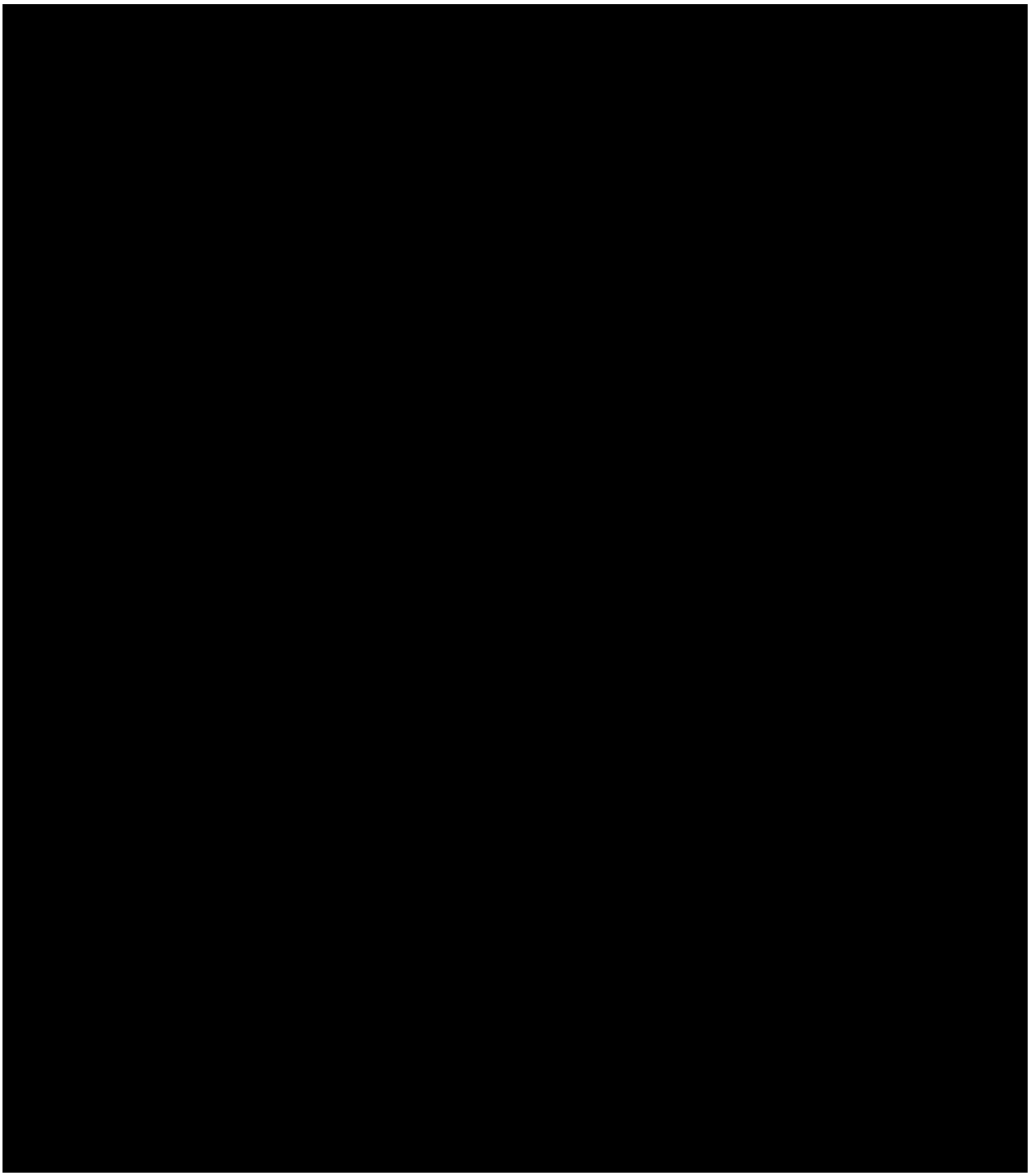


EVERSOURCE

Project Approval Form



After Load Sheets.



F. Partial PAF.

Project Title: [redacted]	**Project Number: CD02172**
Date Prepared: 04/05/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OVERLOADS-SPECIFIC PROJECTS
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** Yes
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 06/01/2024	
Total Capital Request: $3,241.8K	**Authorization Type:** Partial Funding

11. Executive Summary

[redacted]

12. Project Cost Summary

Note: Dollar values are in thousands.

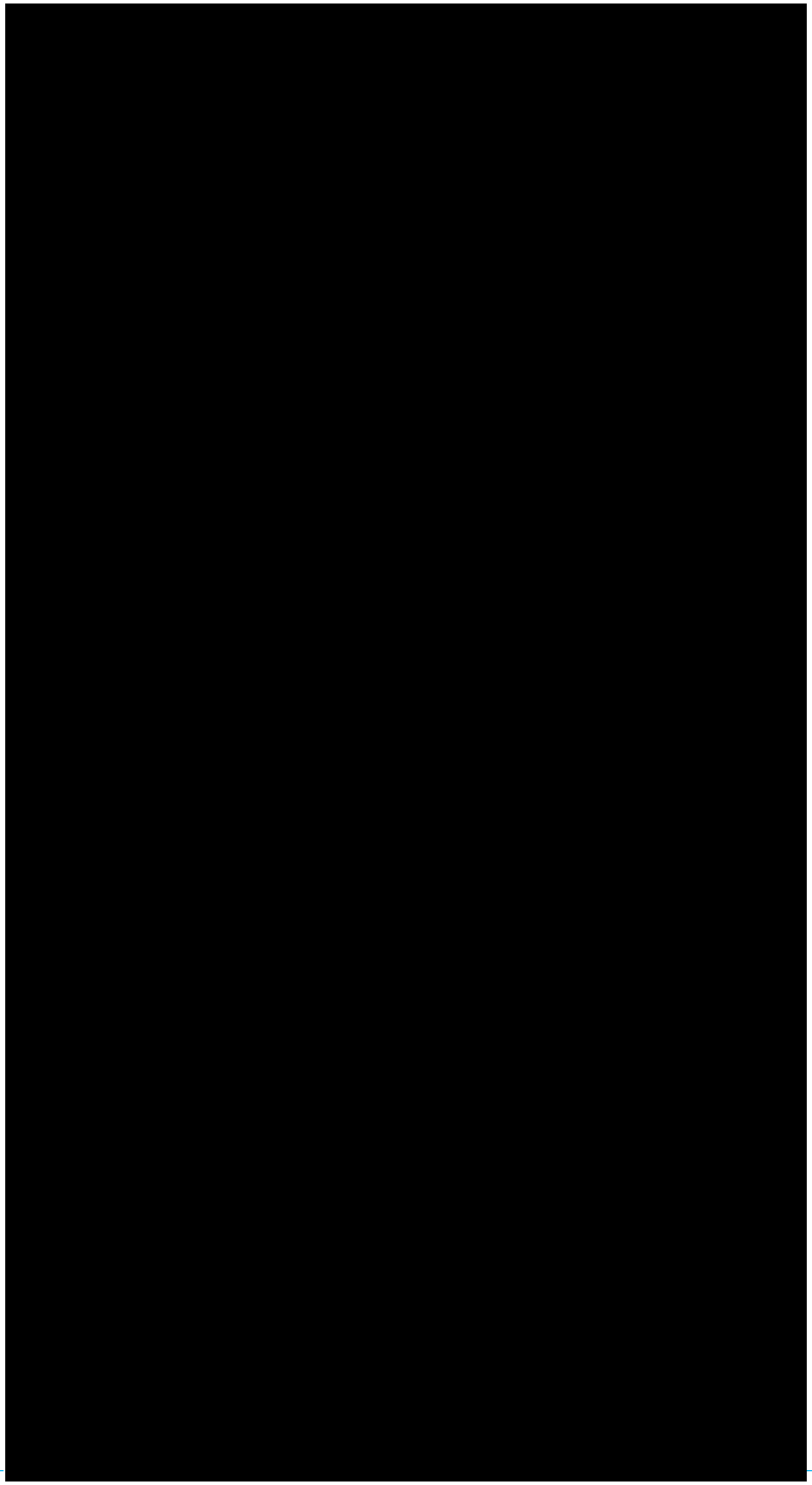
Capital Costs	Year 2024	Year 20__	Year 20__+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	135.7	0.0	0.0	135.7
Outside Services	1,103.4	0.0	0.0	1,103.4
Materials	553.5	0.0	0.0	553.5
Removals	245.0	0.0	0.0	245.0
Risk and Contingency	21.5	0.0	0.0	21.5
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**2,059.2**	**0.0**	**0.0**	**2,059.2**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	1,109.2	0.0	0.0	1,109.2
Capitalized interest or AFUDC, if any	73.5	0.0	0.0	73.5
Subtotal – Indirect Costs	**1,182.7**	**0.0**	**0.0**	**1,182.7**
Total Gross Capital Costs	**3,241.8**	**0.0**	**0.0**	**3,241.8**
Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Net Capital Project Costs	**3,241.8**	**0.0**	**0.0**	**3,241.8**

13. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]



b. Project Need

[redacted]

c. Project Scope

[redacted]

[redacted]

Major Material:

- 950 feet of 1,000 kcmil Cu EPR cable.
- 2,650 750 kcmil Al aerial cable.
- 21,000 feet of 556 kcmil tree wire.
- 1,616 feet of 500 kcmil EPR cable.
- Two reclosers.

14. Alternatives Considered

[redacted]



Authorization Type	Partial	Partial	Partial	Partial
Capital Cost	$0.88M	$0.41M	$0.76M	$3.2M
Expense Cost	$0.02M	$0.02	$0.03	$0.1M
Total Cost	$0.90M	$0.43M	$0.79M	$3.3M
Cost / MVA added	$/MVA	$/MVA	$/MVA	$0.62M/MVA
Preferred option				X

Preferred Option.

This option is the only option that [redacted]

Option One ($877K.)

This option [redacted]

- [redacted]
- [redacted]
- [redacted]

Option Two ($427K.)

This option [redacted]

Option Three ($787K.)

This option [redacted]

15. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	4/5/2023
100% Detailed Engineering Completion	10/1/2023
Fully Funded	11/1/2023
Construction Start	1/1/2024
In Service Date	6/1/2024

16. Regulatory Decisions

17. Codes and Standards

18. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost is higher than estimated due to scope changes.	2024	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Customer Permission / Siting Council / Municipal approvals	2024	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2023	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

Technological risks involving integration of new technology	2024	Medium	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2024	Medium	Use of mats and specialty equipment, only work during certain times of the year.

19. References

References
1.
2.
3.
4.
5.

20. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*NO*
D. System and Station One-Lines	*YES*
E. Other	*NO*
F. Load Sheets	*YES*

Attachment A. Cost Estimate.

Segment Seven, install UG under transmission line.

EVERSOURCE

Project Approval Form

Design Alternative CD02172-07

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$500,847
Contingency Amount:	$120,203
Estimate:	$621,051
Reimbursement:	$0
Net Amount:	**$621,051**
Description:	

Item Description	CU	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$65,000.00
OH WIRE OH - Remove circuit wire (3 phase)	23-OH37A	$1,456.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	23-OH43	$80,208.96
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	23-UG114B	$116,064.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	23-UG137	$20,332.00
CONDUIT UG-Ductline-up to 12 duct-Non- Traveled/Non-Paved	23-UG138	$85,904.00
ENCLOSURE UG - MANHOLE - Precast	23-UG139	$81,882.32
ACT ACT Estimate for Contractor Crews Excavating Contractor Add. Cost	23-ALL12	$50,000.00

[redacted]

Segment Eight, [redacted]

Design Alternative CD02172-08

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$2,195,082
Contingency Amount:	$526,820
Estimate:	$2,721,902
Reimbursement:	$0
Net Amount:	**$2,721,902**
Description:	

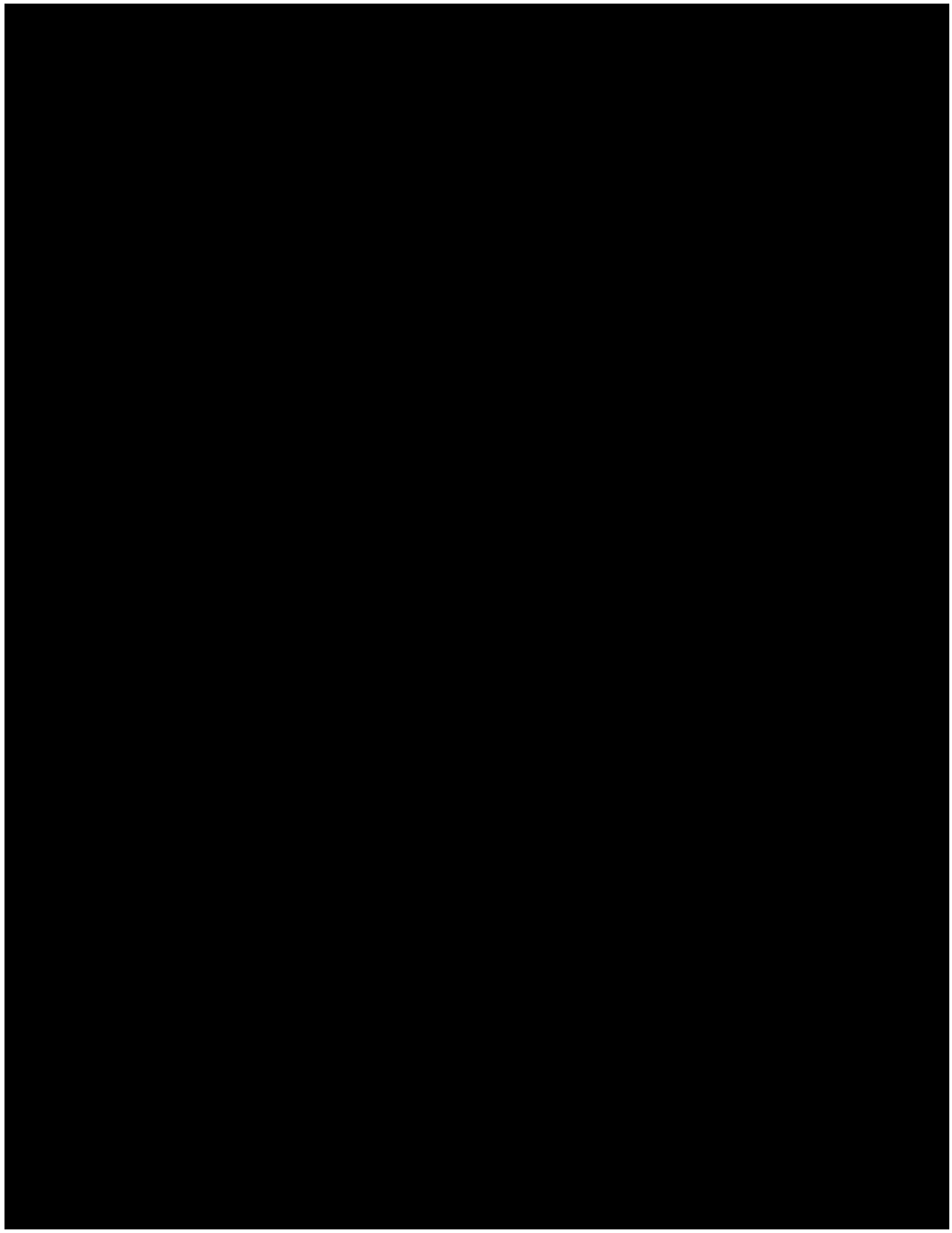
Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$9,124.96
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$227,078.00
ACT ACT Estimate for Contractor Crews 30% adder for contractor labor.	23-ALL12	$454,155.00
OH WIRE OH-Install Aerial Cable-existing poles (any gauge) A. [redacted] Middle Road	23-OH36	$275,080.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil A. [redacted]	23-OH27	$181,584.00
OH WIRE OH - Line Extension w/Aerial Cable - (any gauge) A1. [redacted] intersection.	23-OH35	$65,520.00
POLE OH - POLE - 3ph (Eversource custodian) A1. [redacted]	23-OH14	$85,103.20
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved B1. [redacted] etween MH #55 and 8963	23-UG137	$28,464.80
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved B1. [redacted] nstall two six-inch conduits between MH# 56 and new rise	23-UG137	$16,265.60

EVERSOURCE

Project Approval Form

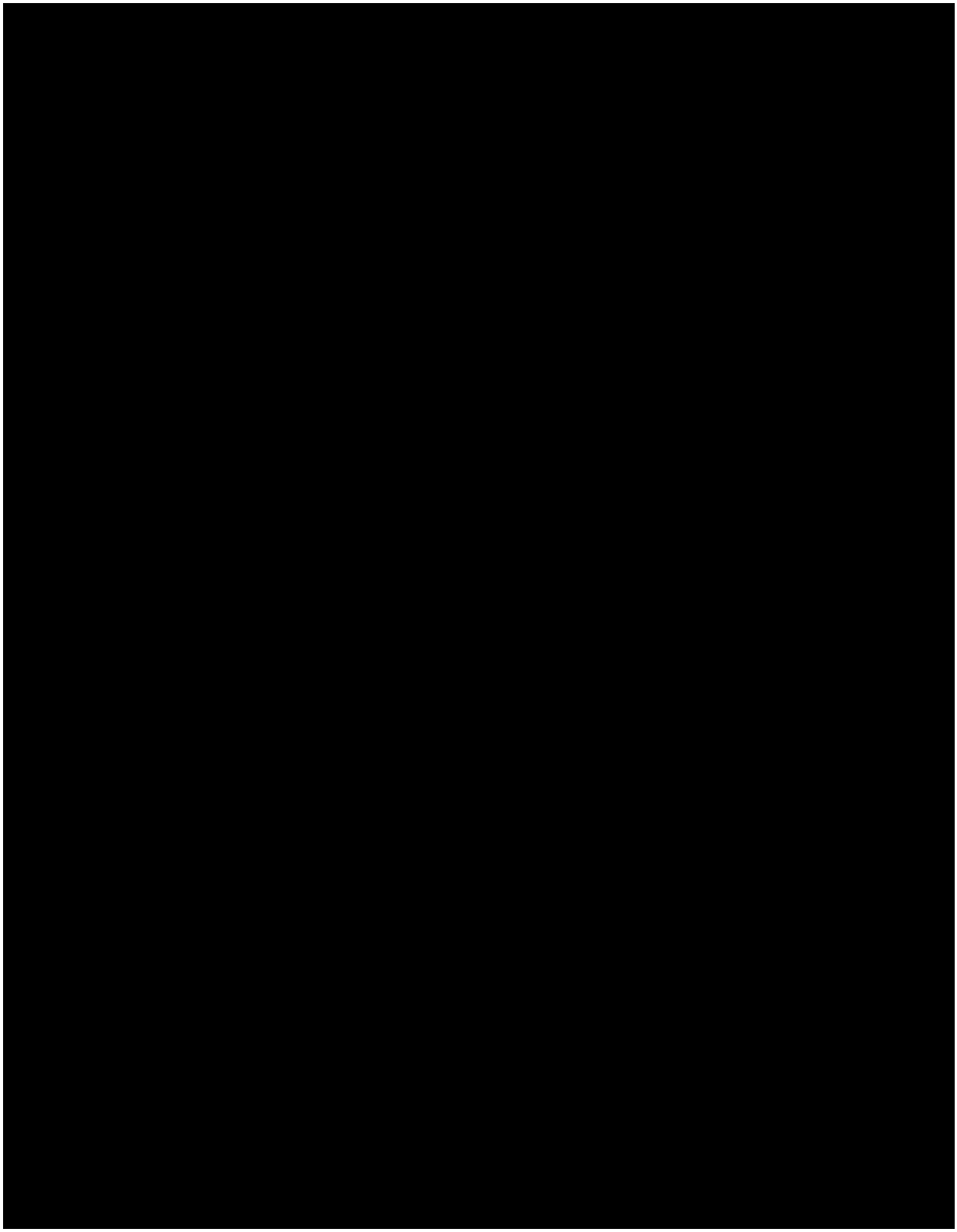
Design Alternative		[redacted]	CD02172-08
POLE DB/UG - Riser - 3ph B2. 1C19	23-UG146		$28,065.44
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph B2. [redacted] New Riser pole.	23-OH43		$13,368.16
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Between MH #56 and #55	23-UG114		$48,678.24
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Between MH #56 and #55	23-UG114		$48,678.24
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Double 500 kcmil Cu EPR between MH #55 and pole # 89	23-UG114		$29,858.40
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu B3. [redacted] Double 500 kcmil Cu EPR between MH #56 and new riser	23-UG114		$19,000.80
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph B7. [redacted]	23-OH43		$13,368.16
EQUIPMENT OH - Remove Capacitor, any kVAR C1. [redacted]	23-OH54		$2,340.00
SECTIONALIZE OH - Recloser - 3ph C2. [redacted] with Cooper Nova	23-OH38		$62,386.48
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil D1 [redacted]	23-OH27		$262,288.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil D2, [redacted]	23-OH27		$262,288.00
SECTIONALIZE OH - Recloser - 3ph E. [redacted]	23-OH38		$62,386.48

Attachment D. System and Station One-Lines.

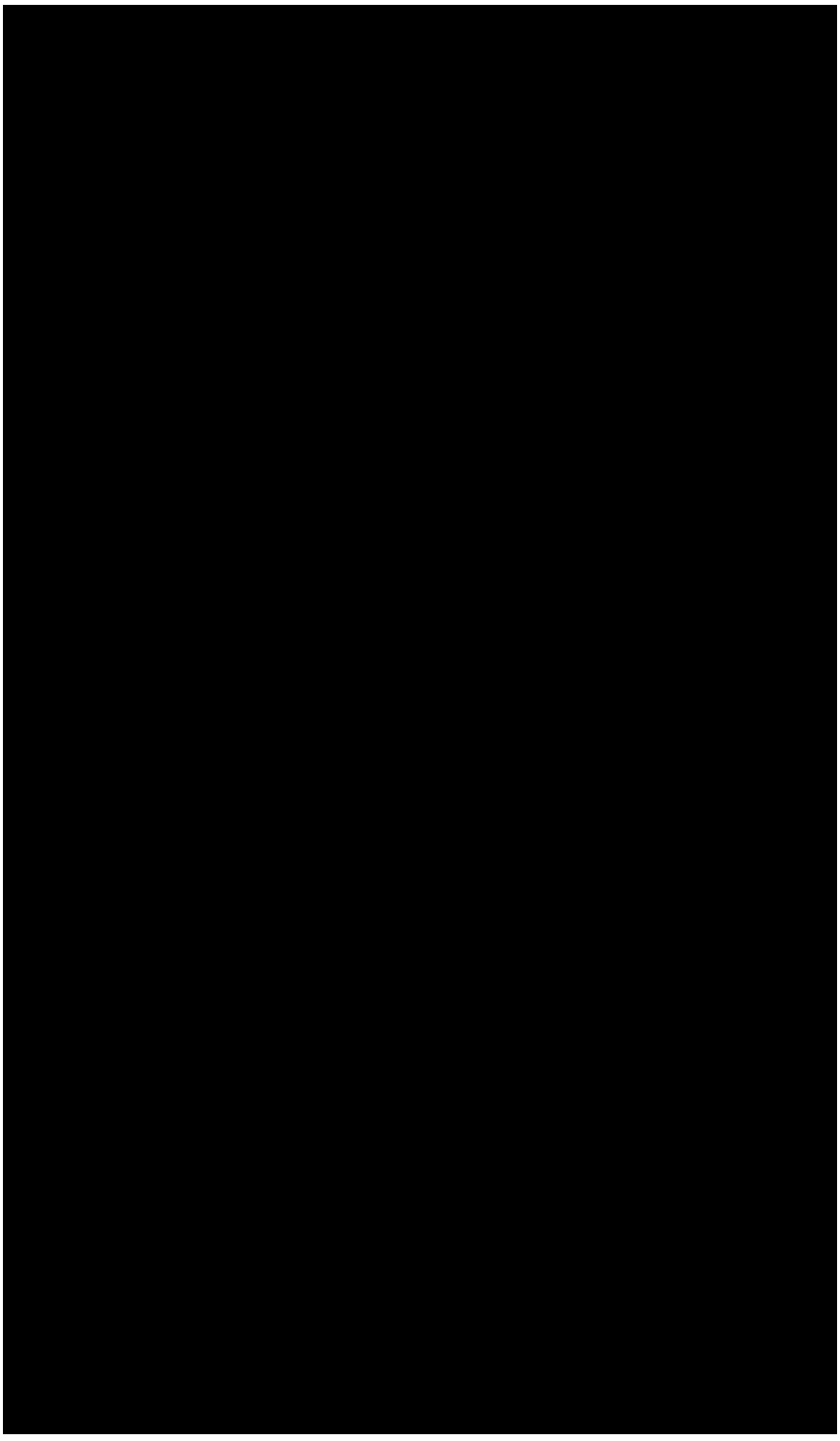


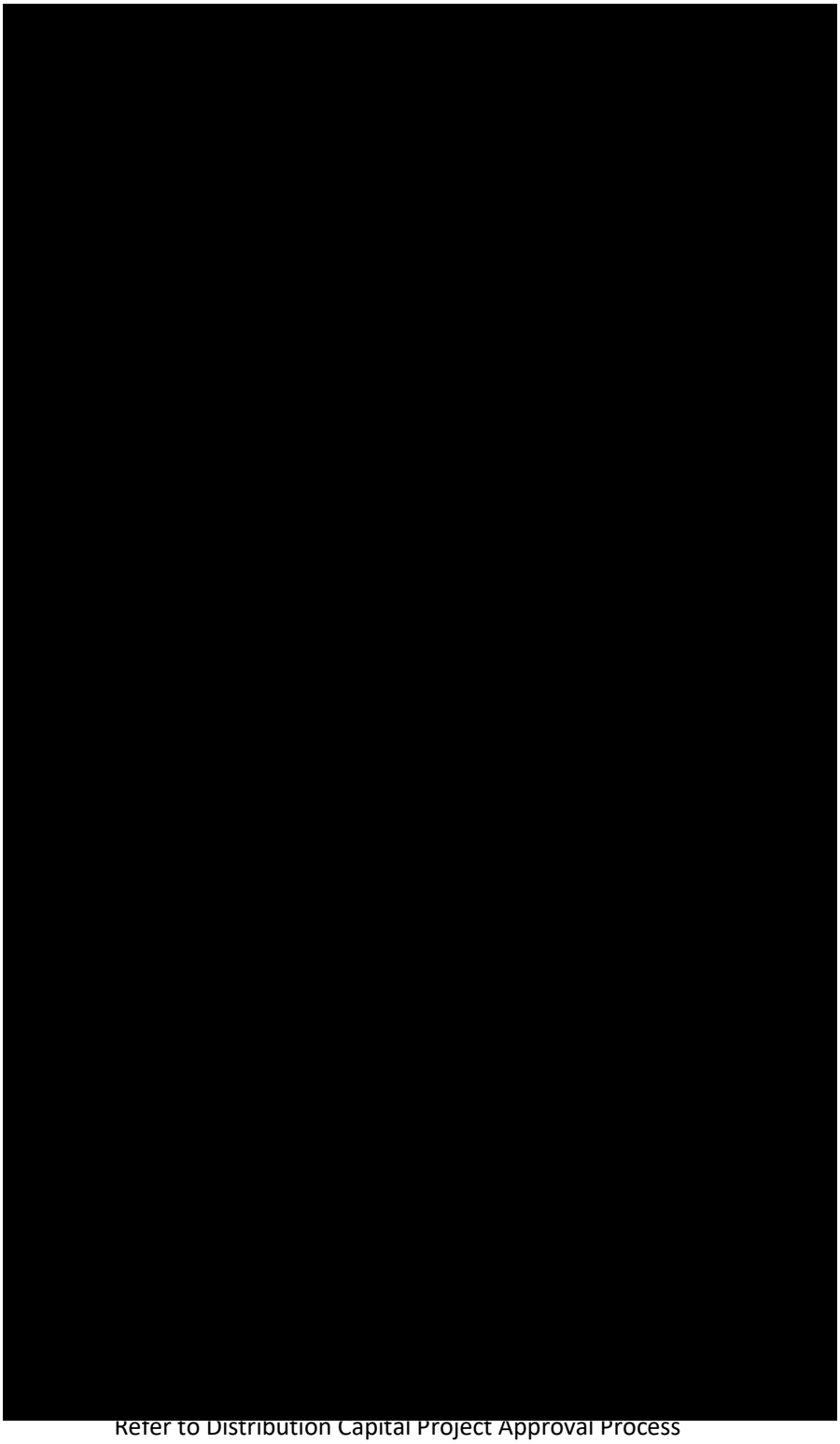
EVERSOURCE

Project Approval Form



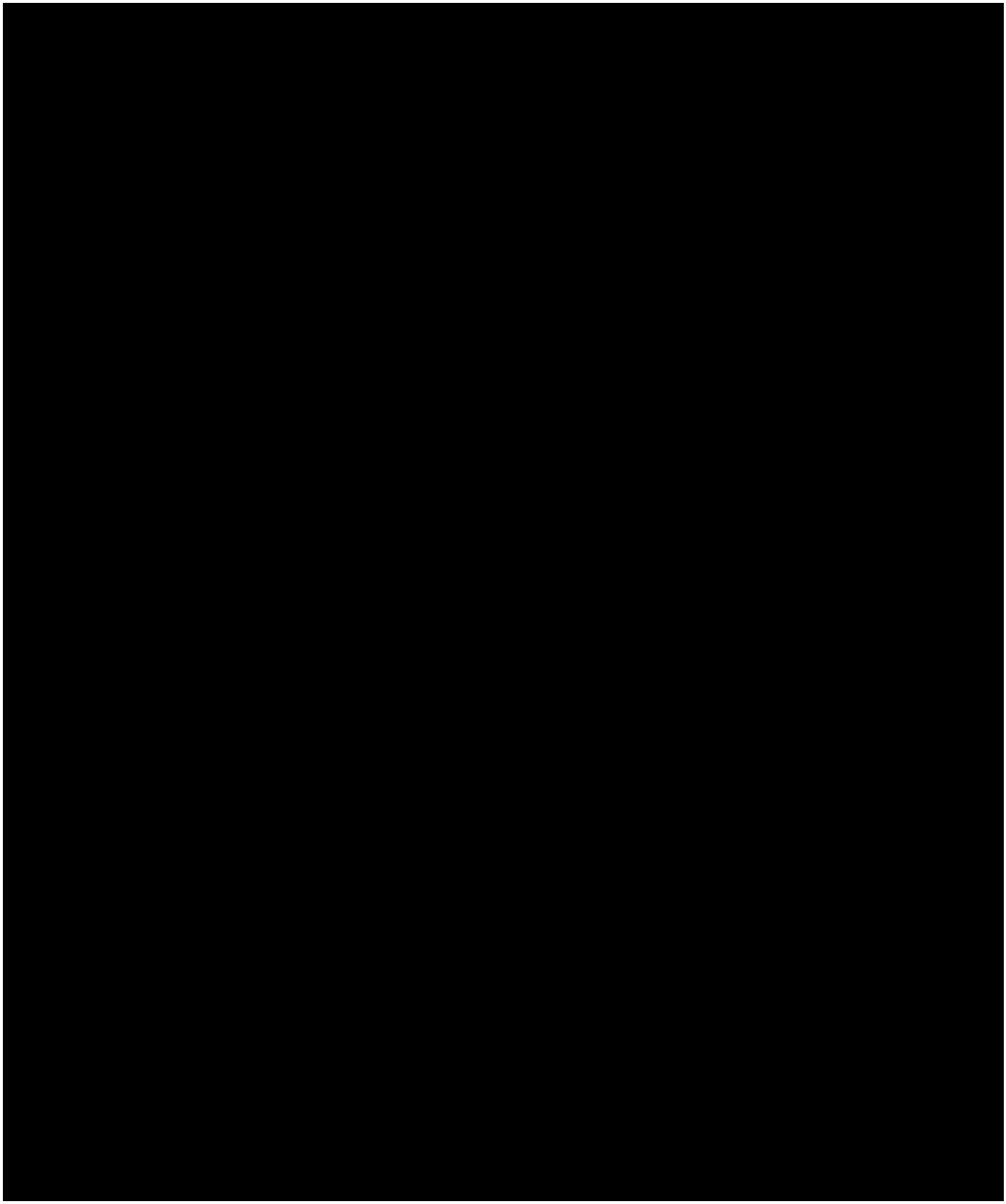
Attachment F.





EVERSOURCE

Project Approval Form



After Load Sheets.

