EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD01586**
Date Prepared: 09/14/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SMART SWITCHES PROGRAM
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: 8/31/23	
Total Capital Request: $398.4K	**Authorization Type:** Full Funding

1. Executive Summary

This project addresses a large customer zone on the [redacted]

9/14/23 – Full Funding request. The Partial Funding estimate is $256.5K, approved on 3/10/22. Full Funding estimate is $398.4K, a difference of $141.9K, or a 55% increase. There was no scope change.

The current approved estimate was prepared using legacy unit costs, which are approximately 30% lower than the estimates used today to account for an increase in material and labor costs. Using the estimating units of today, the Partial Funding estimate would be $323.9K, or $74.5K under the Full Funding estimate.

Work Orders were written for Eversource labor, however, New London AWC opted to use their contractor crews to complete this work due to other ongoing work for the local crews. The contractor provided an NTX bid of $131K, which contributed to the increase in dollars spent.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2023	Year 2024	Year 2025	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	4.8	0.0	0.0	4.8
Outside Services	107.2	0.0	0.0	107.2
Materials	102.8	0.0	0.0	102.8
Removals	46.8	0.0	0.0	46.8
Risk and Contingency	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**261.6**	**0.0**	**0.0**	**261.6**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	136.8	0.0	0.0	136.8
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal – Indirect Costs	**136.8**	**0.0**	**0.0**	**136.8**
Total Gross Capital Costs	**398.4**	**0.0**	**0.0**	**398.4**
Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**398.4**	**0.0**	**0.0**	**398.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

This segment addresses the [redacted]

[redacted]

c. Project Scope

This project calls to install a new [redacted]

Also, the [redacted] will have new recloser installations/modifications to reduce customer zone sizes. This will be accomplished by [redacted]

4. Alternatives Considered

Project Option Comparison

[redacted]

Authorization Type	Full	Partial
Capital Cost	$398.4K	$2,966.7K
Expense Cost	$17.5K	$92.3K
Total Cost	$415.9K	$3,059K
Total Cost / CM Saved	$14.46	$37.74
Total Cost / CI Saved	$0	$52,581
Preferred option	X	

[redacted]

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	3/10/22
100% Detailed Engineering Completion	10/31/22
Fully Funded	9/14/23
Construction Start	2/1/23
In Service Date	8/31/23

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.	2023	Low	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	2023	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction 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.
Internal engineering resources not available to perform the work.	2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Low	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	2023	Low	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	2023	Low	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. Circuit One-Lines	*YES*
C. Geographical Circuit map	*YES*
D. Load Sheet	*YES*

Attachment "A"

Reconductor 1Q02 ROW

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01586
Sectionalize [redacted]

Design Alternative CD01586-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$1,807,880
Contingency Amount:	$433,891
Estimate:	$2,241,771
Reimbursement:	$0
Net Amount:	**$2,241,771**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$70,192.00
TREE OH - Tree Trimming brush hog, tree trim ROW, in area of reconductoring by Susan Stotts	16-OH61	$100,000.00
OTHER OTHER Cost difference for the 22 metal poles INCLUDED in recondcuring (+	16-ALL14	$55,000.00
OTHER OTHER Cost for 500' of matting for one month per Doug Barrows.	16-ALL14	$360,000.00
OTHER OTHER Install additional metal pole between p42 and p8862 to increase curv	16-ALL14	$7,176.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil Recondcutor existing 336 exiting sub-station with 556 TW.	16-OH27	$3,880.00
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil reconductor [redacted] with 556 SC in ROW	16-OH29	1,003,520.00
OH WIRE OH - Remove circuit wire (3 phase) remove [redacted] de-energized conductor	16-OH37A	$8,320.00
OH WIRE OH - Remove circuit wire (3 phase) remove [redacted] 336 AL TW	16-OH37A	$320.00

Asset & Investment Management System 9/27/2022 Page 5 of 17

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01586
Sectionalize [redacted]

Design Alternative			CD01586-01
OH WIRE OH - Remove circuit wire (3 phase) remove [redacted]4/0 ACSR	16-OH37A	[redacted]	$31,360.00
OH WIRE OH - Remove circuit wire (3 phase) remove aerial cable	16-OH37A		$10,240.00
OTHER OTHER Replace all 44 poles with steel poles (cost is for 22 poles @7176 each)	16-ALL14		$157,872.00

Reconductor Route 32

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01586
Sectionalize [redacted]

Design Alternative CD01586-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$452,256
Contingency Amount:	$108,541
Estimate:	$560,797
Reimbursement:	$0
Net Amount:	**$560,797**

Description:

Item Description	CU	Amount
POLE OH - POLE - 3ph (CL&P custodian) 50% pole replacement	16-OH14	$74,816.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer approx 5% of total	16-ALL18	$30,000.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil reconductor Rt32 from [redacted]	16-OH27	$333,680.00
OH WIRE OH - Remove circuit wire (3 phase) remove Cu aerial cable	16-OH37A	$13,760.00

Sectionalize 1Q02/1Q6

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01586
Sectionalize [redacted]

Segment CD01586-04

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	32.00%
SubTotal:	$92,537
Contingency Amount:	$29,612
Estimate:	$122,149
Reimbursement:	$0
Net Amount:	**$122,149**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
SECTIONALIZE OH - Recloser Control - setting changes only 1Q02-09T Setting change from one-way tie to two-way tie	16-OH39A	$4,885.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 5% of net	16-ALL18	$5,730.00
SECTIONALIZE OH - Recloser - 3ph Install recloser at pole 2821	16-OH38	$47,989.60
OTHER OTHER Set of Fault indicators on pole 2810	16-ALL14	$3,000.00
SECTIONALIZE OH - Hydraulic Reclosers - 3ph cluster Trip Saver on pole 4950/2814	16-OH41	$17,139.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph Visible break	16-OH43	$10,283.20

[redacted]

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]					

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Reduce 1Q6 customer zones, add 2 new reclosers

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Specific Project Proposal - Project #: CD01586
Sectionalize [redacted]

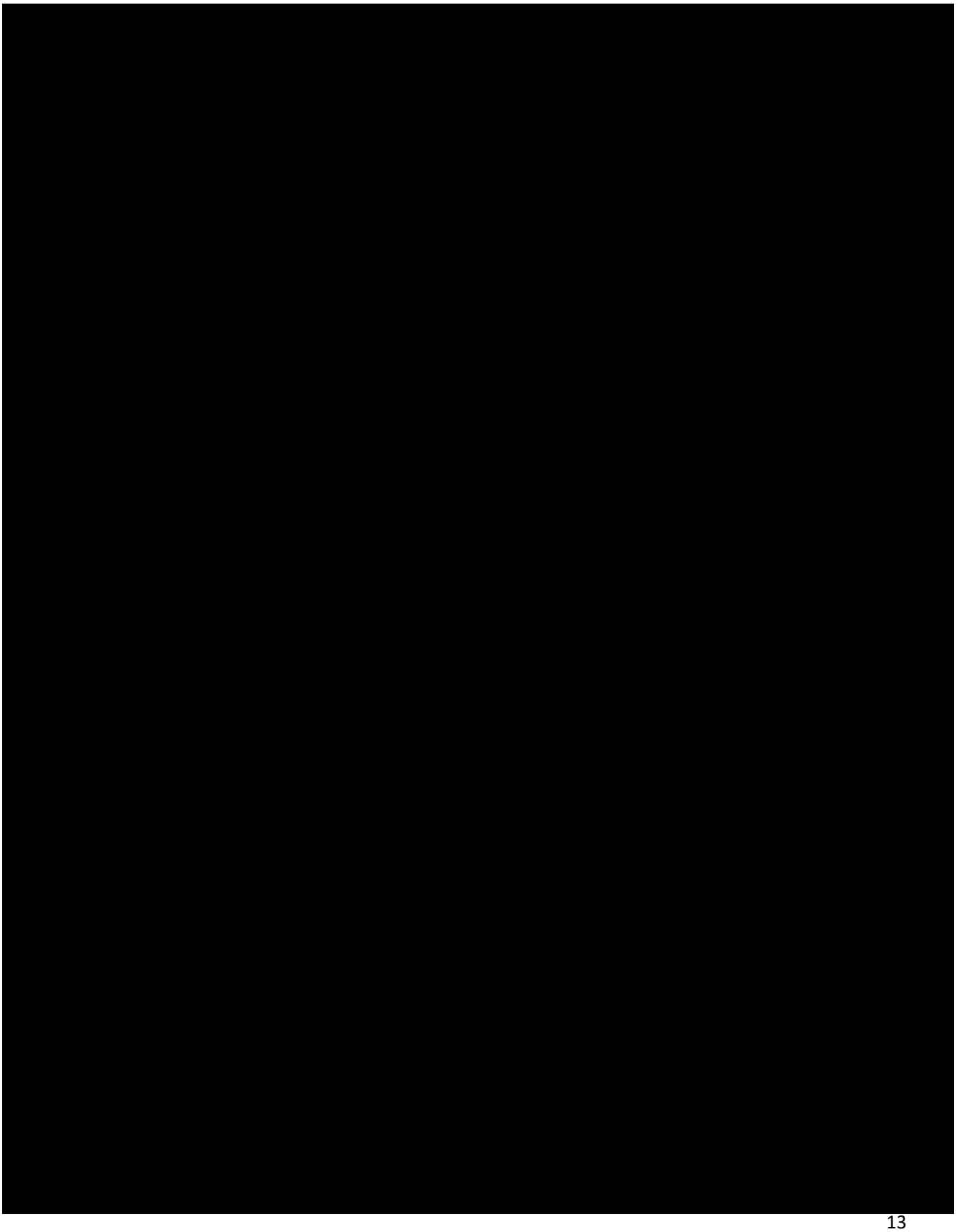
Segment CD01586-05

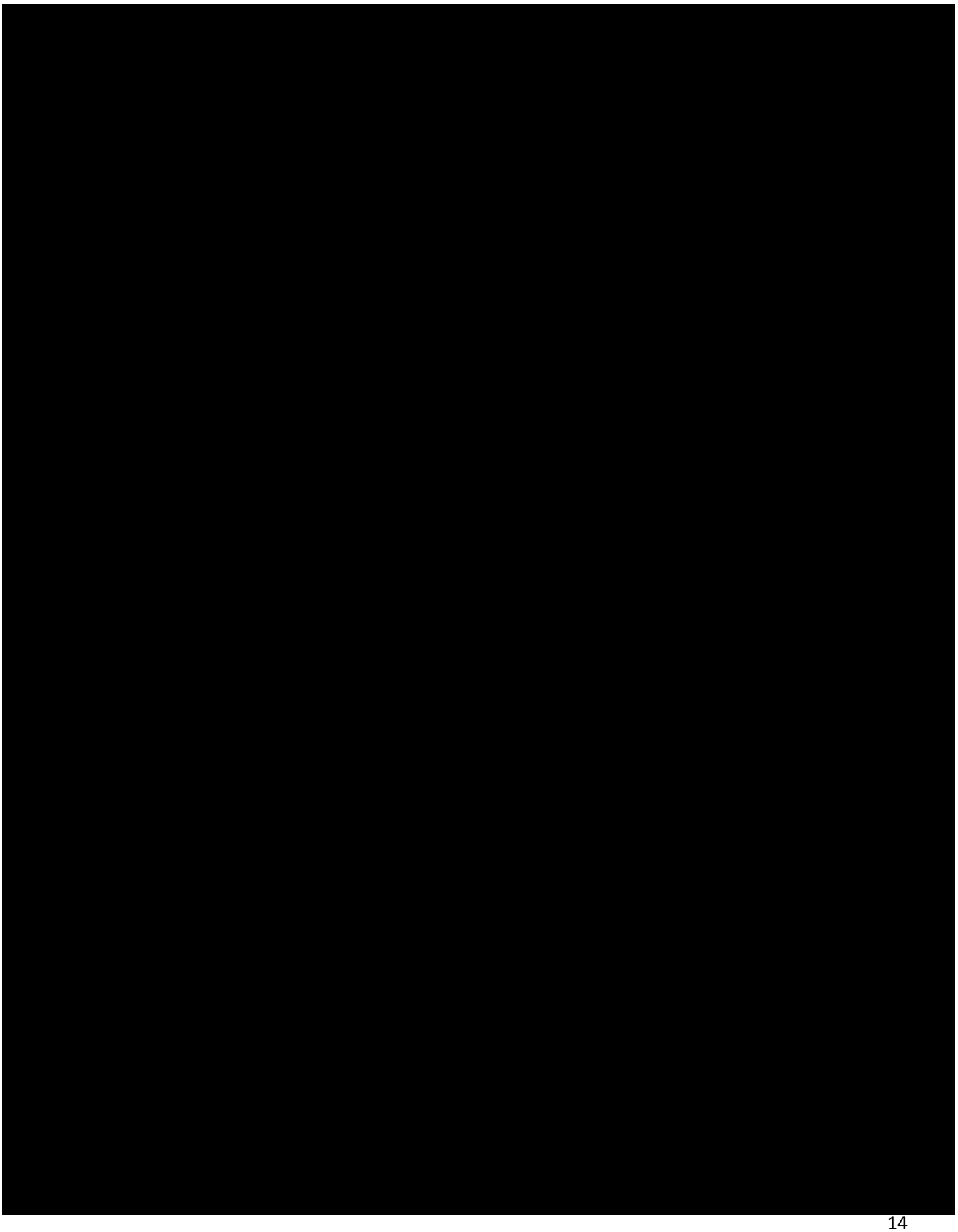
Estimate

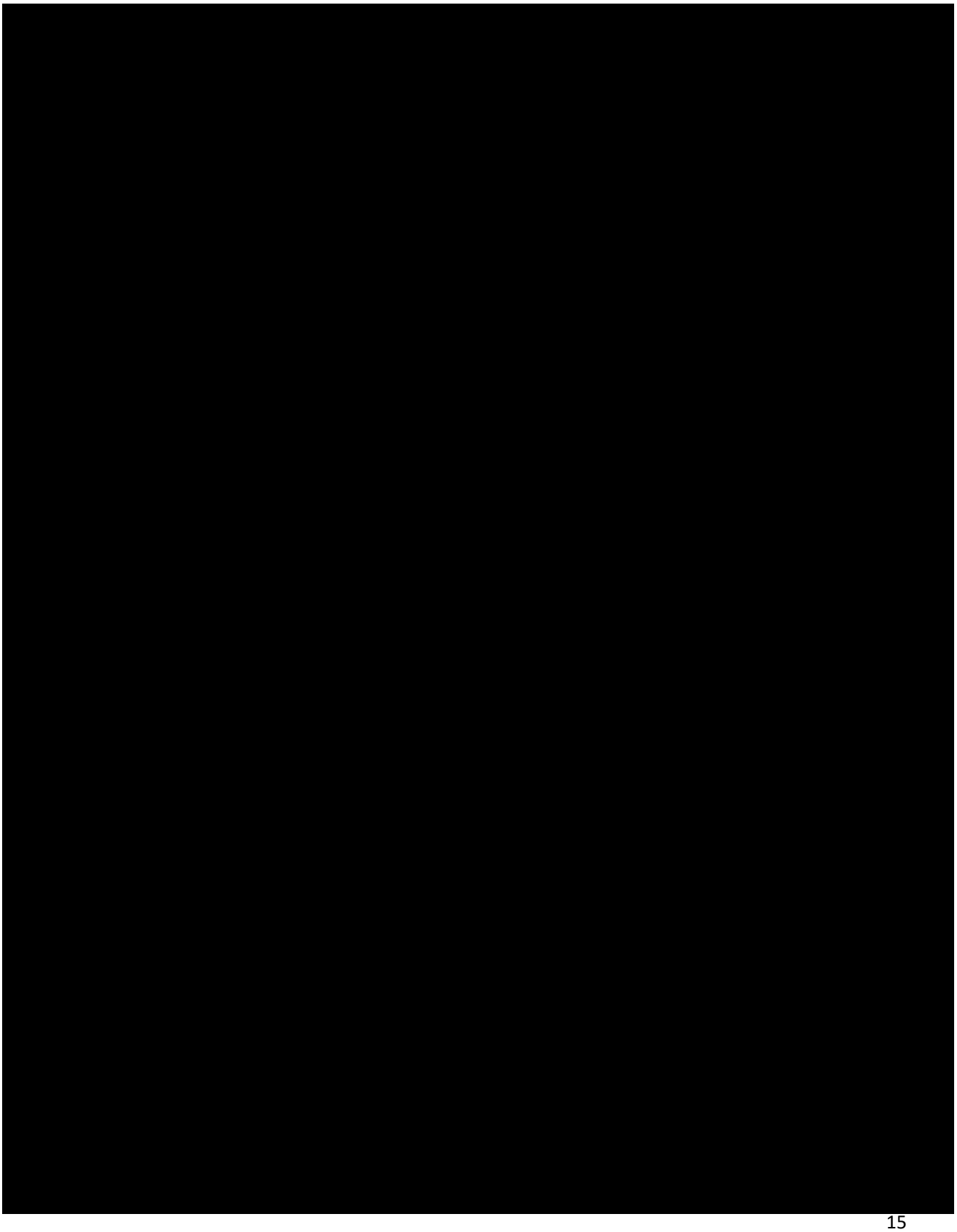
Preliminary Estimate Summary

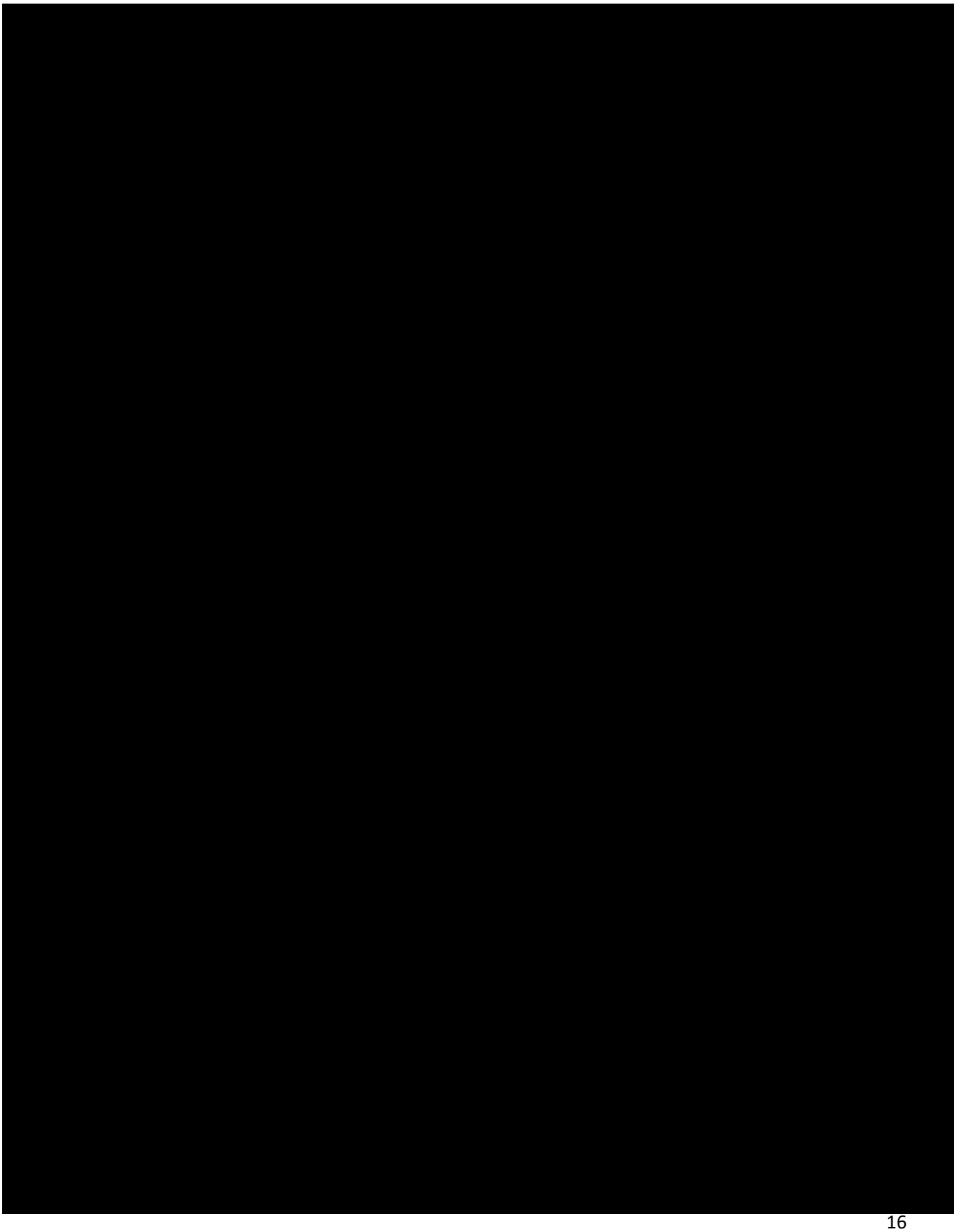
Revision Number:	0
Contingency:	24.00%
SubTotal:	$108,365
Contingency Amount:	$26,008
Estimate:	$134,372
Reimbursement:	$0
Net Amount:	**$134,372**
Description:	

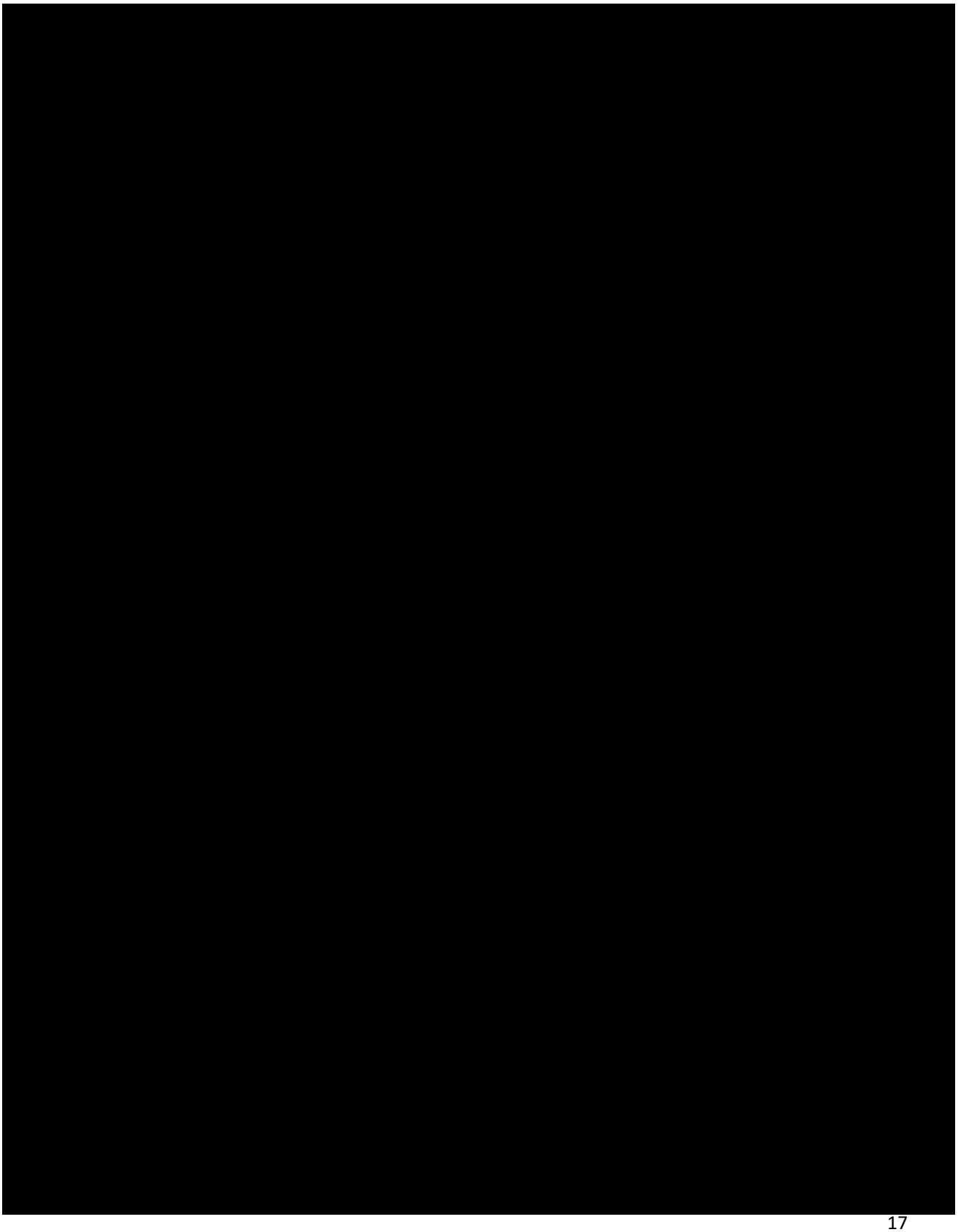
Item Description	CU	[redacted]	Amount
TRAFFIC	16-ALL18		$7,500.00
OH/DB/UG - Traffic Control - Police Officer approx 5% of total.			
SECTIONALIZE	16-OH39A		$4,885.60
OH - Recloser Control - setting changes only This is to change the [redacted]			
SECTIONALIZE	16-OH38		$95,979.20
OH - Recloser - 3ph Viper Switch at pole 8798 and SR near pole 8771 (FED determination)			

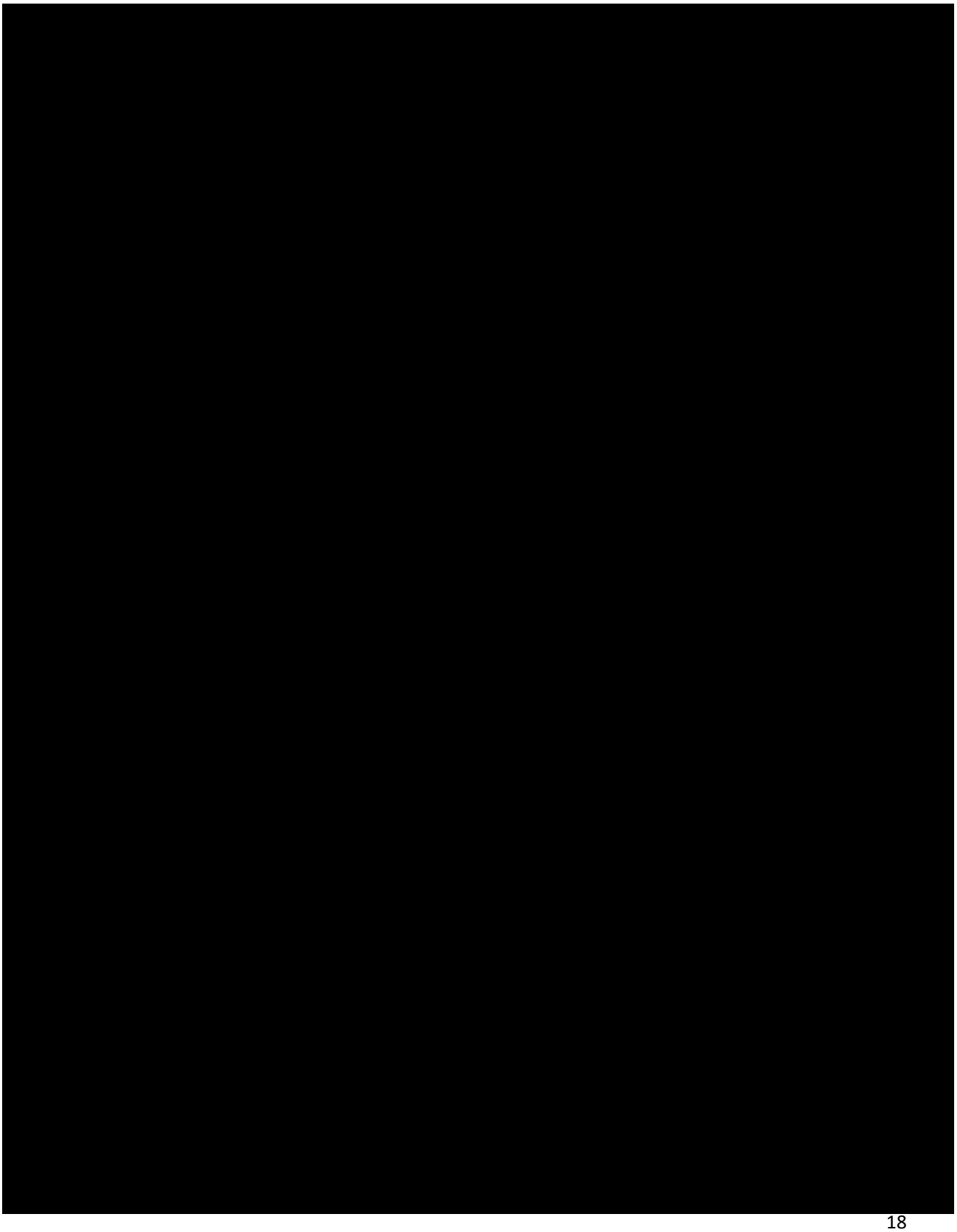


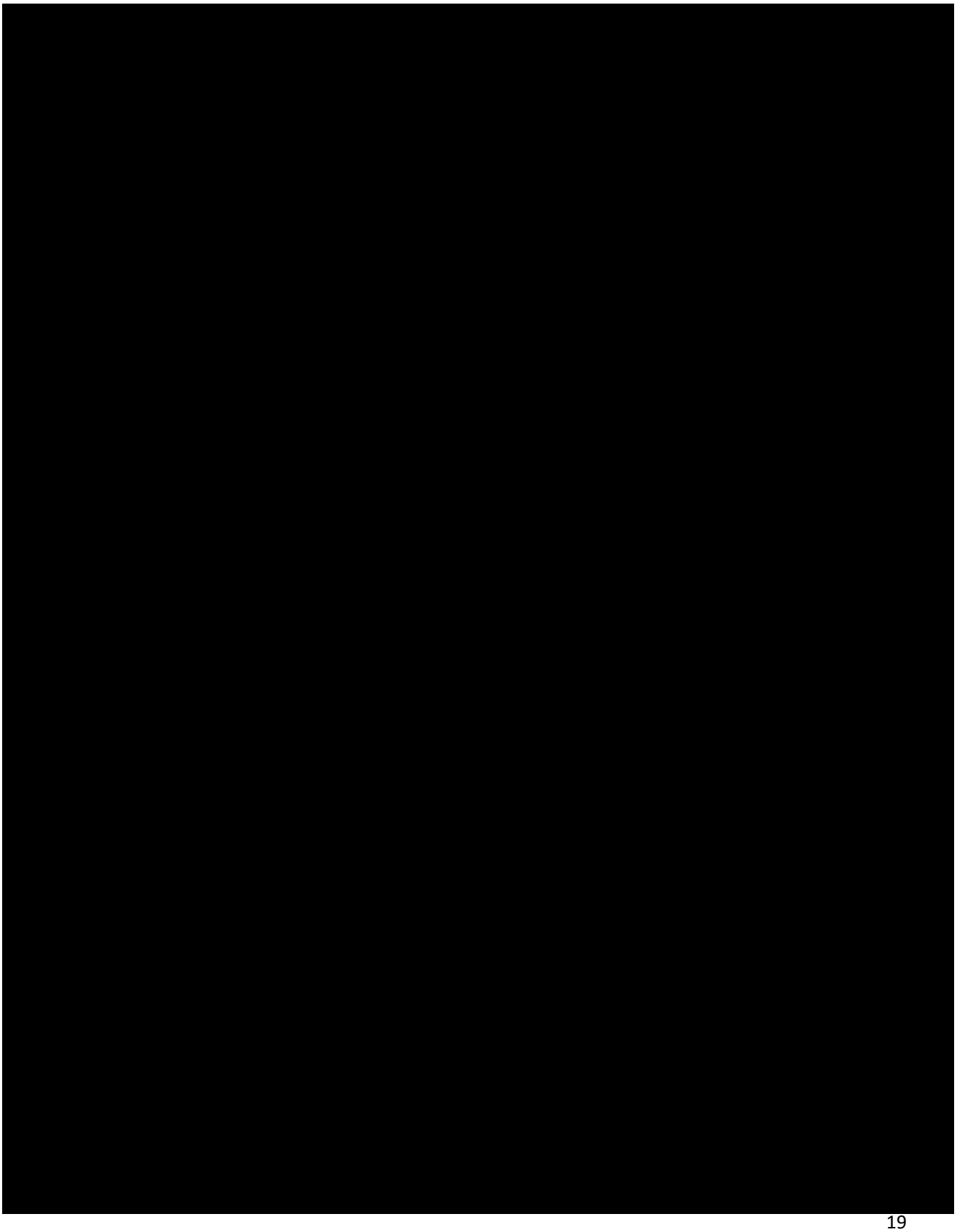












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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Operations Project Authorization Form

Project Title: [redacted]	**Project Number:** CD01586
Date Prepared: 02/17/2021	**Company:** Eversource CT
Organization: EFO	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** Smart Switch
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 12/31/2023	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ■ Distribution
Total Gross Capital Request: 251K	**Authorization Type:** Partial Funding

Executive Summary

This project addresses a large customer zone [redacted]
alternate source [redacted] by converting a [redacted]

[redacted]

Appendix 2
Operations Project Authorization Form

Project Costs Summary

See APS3 and APS8 requirements and consult with Plant Accounting for capital/O&M determination. Use published loaders for benefits, materials, and invoices, maintained by the Director, Budget and Internal Reporting.
Note: Dollar values are in thousands

Capital Costs	Year 2023	Year 2024	Year 2025+	Total
Internal Labor and Construction Equipment	$9	$0	$0	$9
Outside Services	$89	$0	$0	$89
Materials	$28	$0	$0	$28
Removals	$14	$0	$0	$14
Risk and Contingency	$12	$0	$0	$12
Other	$0	$0	$0	$0
Subtotal	**$153**	**$0**	**$0**	**$153**
Indirect Capital Costs	**Year 1**	**Year 2**	**Year 3+**	**Total**
Indirects/Overheads (including benefits)	$93	$0	$0	$93
Capitalized interest or AFUDC, if any	$5	$0	$0	$5
Subtotal	**$98**	**$0**	**$0**	**$98**
Total Capital Costs (Gross)	**$251**	**$0**	**$0**	**$251**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Project Costs (Net)	**$251**	**$0**	**$0**	**$251**

Technical Justification:

Project Need, Objective and Justification

This segment addresses the [redacted]

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

This project aims to break up the large customer zone on the [redacted] to minimize the number of customers impacted during outages. [redacted]

Project Scope

[redacted]

Major Material:

- 3 reclosers and controls

Alternative Materials

- 13,300 feet 556 Aluminum TW
- 75 Eversource Poles

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

Installing a new Sectional Recloser will ensure that large customer zones are broken up into two smaller zones, increasing reliability of the circuit.

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Alternatives Considered:
Were alternative solutions considered/applicable? Include any cost/benefit analysis.

[redacted]

Alternatives were considered (please describe below)

[redacted]

Regulatory Approvals:
Are Regulatory body approvals needed for the project?
No

If yes, provide detailed regulatory approvals

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	03/10/22
Detailed Design	06/30/22
Material Ordered	07/30/22
Construction Start Date	08/30/23
Construction End Date	12/31/23

Risks and Risk Mitigation Plans
List top risks and mitigation plans associated with this project. Include any contingency related to each risk.

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

(Permitting/siting; environmental; outage constraints; customer/community outreach; material delivery; constructability challenges; excavation; etc.)

References

[redacted]mart Switch Load Summary

CD01586_project_needs_statement.pdf

[redacted]OW Reconductor CD0158

CD01586 Map and One-Line.pdf

[redacted]