# Operations Project Authorization Form

| | |
|---|---|
| **Project Title:** [redacted] **Zone Reduction / Conversion** | **Project Number: CD01209** |
| **Date Prepared:** 09/21/2023 | **Company:** Eversource CT |
| **Organization: Electric System Operations** | **Project Category:** RELIABILITY IMPROVE SPEC PROJ |
| **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: 12/30/2024** | Substation: [redacted]: Towns: Putnam |
| **Total Capital Request: $2,937K** | **Authorization Type:** Full Funding |

## 1. Executive Summary

[redacted]

This project will be constructed over two years. [redacted]

[redacted]

[redacted]

Project CD01209 was initially presented on October 20, 2022, and approved for $2.689M. However, the full funding request of ($2.937M) reflects a 9.2% increase from its original estimate of ($2.689M) resulting from a revised increase per unit cost for labor, materials and additional outside services.

## 2. Project Cost Summary

Note: Dollar values are in thousands.

### Financial Evaluation

| Capital Costs | 2023 | 2024 | Total |
|---|---|---|---|
| Internal Labor and Construction Equipment | 140.2 | 448.6 | 588.8 |
| Outside Services | 258.2 | 150.0 | 408.2 |
| Materials | 282.4 | 291.3 | 573.7 |
| Removals | 0.0 | 0.0 | 0.0 |
| Risk and Contingency | 0.0 | 137.4 | 137.4 |
| Other | 0.3 | 0.0 | 0.3 |
| **Subtotal** | **681.1** | **1,027.3** | **1,708.4** |

| Indirect Capital Costs | 2023 | 2024 | Total |
|---|---|---|---|
| Indirects/Overheads (including benefits) | 277.3 | 941.7 | 1,219.0 |
| Capitalized interest or AFUDC, if any | 10.3 | 0.0 | 10.3 |
| **Subtotal** | **287.6** | **941.7** | **1,229.4** |
| | | | |
| **Total Capital Costs (Gross)** | **968.8** | **1,969.0** | **2,937.8** |
| | | | |
| Less Total Customer Contribution | **0.0** | **0.0** | **0.0** |
| | | | |
| **Project Costs (Net of Reimbursement)** | **968.8** | **1,969.0** | **2,937.8** |

# 3.Technical Justification

## a. Background

- Reliability improvements
- [redacted]
- [redacted]

***Business Process and / or Technical Improvements***

The expectation is to lessen the vulnerability of the system to outages, mostly caused by trees, while selectively strengthening the infrastructure to become more resilient.

## b. Project Need

[redacted]

This project was created to help improve reliability in the Danielson District and improve MBI and CAIDI. [redacted]

## c. Project Scope

[redacted]

[redacted]

**Major Material:**

1 SS (Cooper Nova Recloser),
3 SR (Cooper Nova Recloser)
1 TR (Cooper Nova Recloser)
1 TR setting change
2 J-switch (Cooper Nova Recloser)
4,000 ft of 556 TW
4 – 333 kVA step-down transformers
2 – 500 kVA step-down transformers
4,600 feet 1/0 TW / triplex neutral

## 4. Alternatives Considered

**Alternatives were considered (please describe below)**

**Alternative 2: Not selected: $4.74M**

[redacted] The cost for this alternative is approximately $4.341M. This alternative was not selected due to the higher cost.

## 5. Project Schedule

| Milestone/Phase Name | Estimated Date |
|---|---|
| 100% Engineering Completion | 11/01/21 |
| Construction Start | 02/01/23 |
| Testing/Commissioning | 12/31/23 |
| In Service Date | 12/31/24 |

## 6. Regulatory Decisions

No

## 7. Codes and Standards

## 8. Risk and Contingencies

| 9. Risk Event | Risk Horizon | Likelihood of Occurrence | Risk Mitigation |
|---|---|---|---|
| Actual cost higher than estimated due to scope changes. | 2023-2024 | High/Medium/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 | 2023-2024 | High/Medium/Low | Design to minimize customer impact. Project Preplanning and customer/community outreach. |
| Internal construction resources not available to perform the work. | 2023-2024 | High/Medium/Low | 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. | 2023-2024 | High/Medium/Low | Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost. |
| Materials Shortage or long lead times | 2023-2024 | High/Medium/Low | Pre-order long lead time material; minimize the use of non-standard and non-stocked material. |
| Storm delays | 2023-2024 | High/Medium/Low | If storm activity delays work, we may be forced to use external resources. |
| System abnormal configuration | 2023-2024 | High/Medium/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 | 2023-2024 | High/Medium/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 | 2023-2024 | High/Medium/Low | Use of mats and specialty equipment, only work during certain times of the year. |

## 10. References

| 11. References |
|---|
| DSEM10.20 – Recloser Guide |
| DSEM 10.22 – Recloser Three Phase Selection |
| DSEM 03.301 – Reliability Cost Effectiveness |
| DSEM 02.423 – Multiple Interruptions |
| DSEM 02.501 – System Resiliency Guideline |

## 12. Attachments (One Line Diagrams, Images, etc.)

| Attachment | Included in Submittal? |
|---|---|
| A. Project Need Statement | *YES* |
| B. Maps, Conversion Map, ROW tap. | *YES* |
| C. One Line | *YES* |
| D. Load Summary | *YES* |
| E. Outage History | *YES* |
| | |

**Appendices (One-Line Diagrams, Images, etc.)**

CD01209_project_needs_statement.pdf

**Maps:**

Conversion Map.pdf [redacted]Heritage Visual 2.0.pdf [redacted]OW tap map.pdf

**Oneline:**

[redacted]Oneline.pdf

**Loads:**

[redacted]oad Summary (002).xlsx

**Outage History:**

[redacted]Zone_Outage_History.xlsx

[redacted]ROW_Outage_History.xlsx

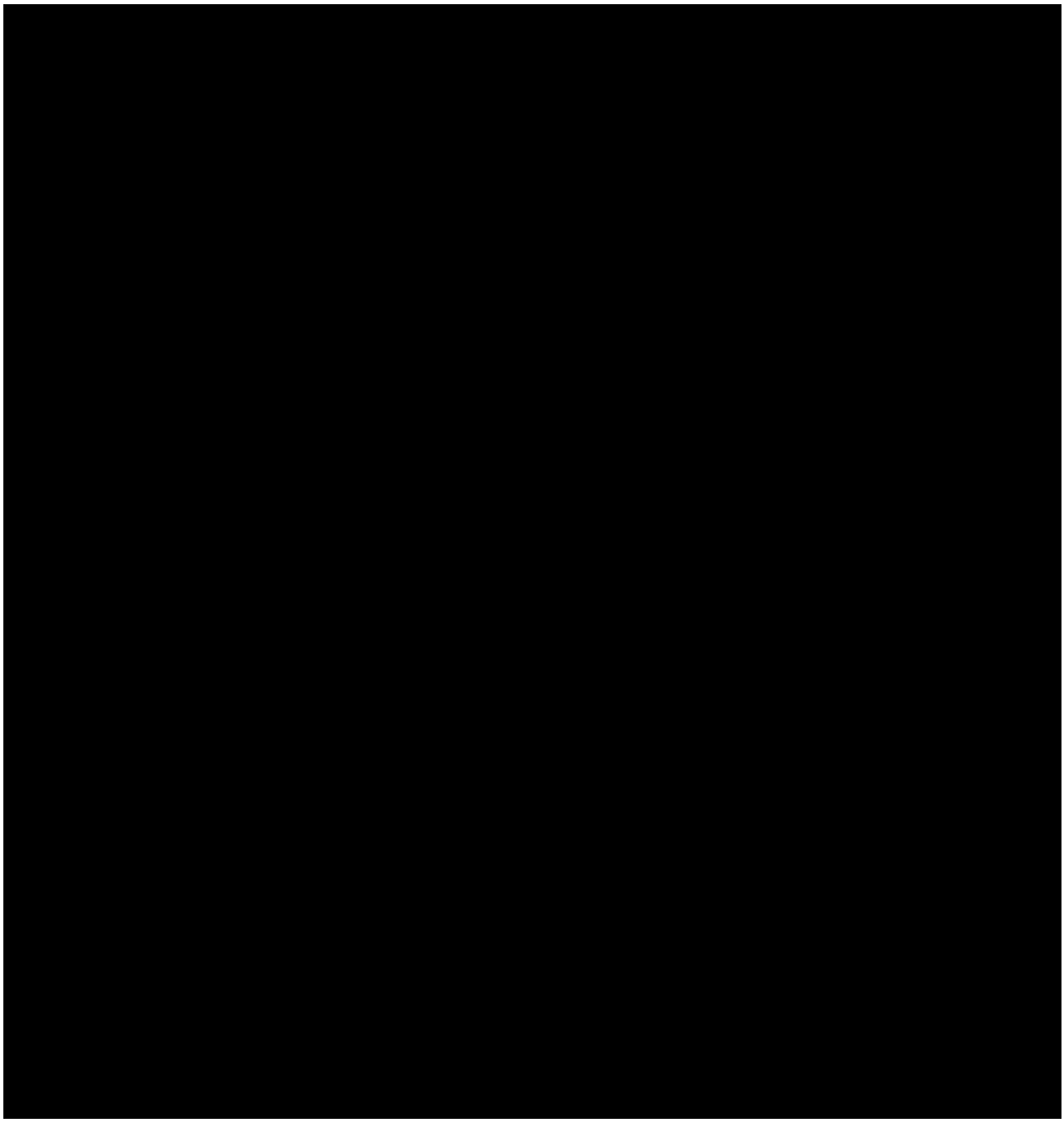
- *Attachment A*

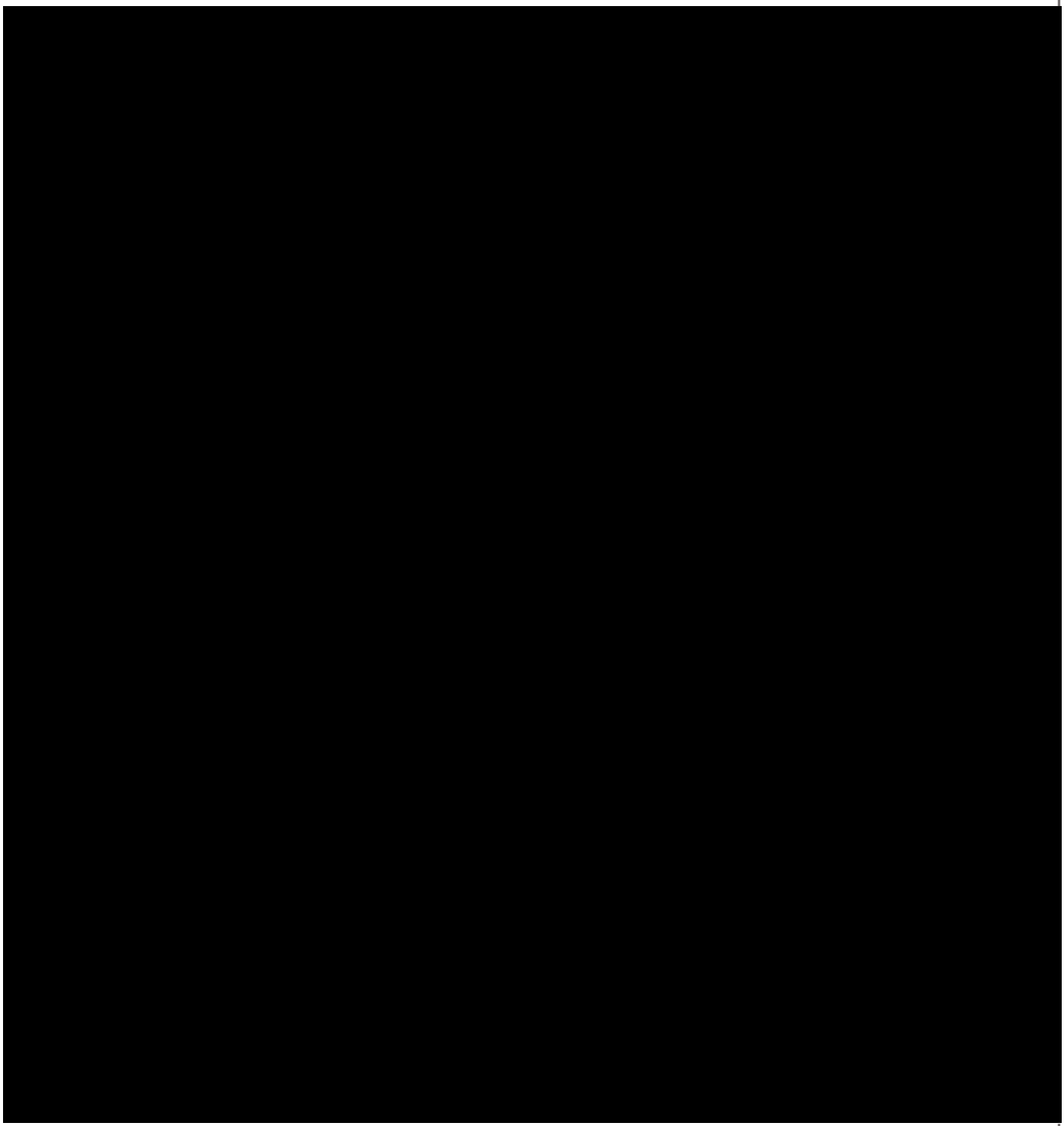
Connecticut Light & Power
A Northeast Utilities Company

**Specific Project Proposal - Project #: CD01209**
14M8 Zone Reduction / Conversion

[redacted]

- Attachment B

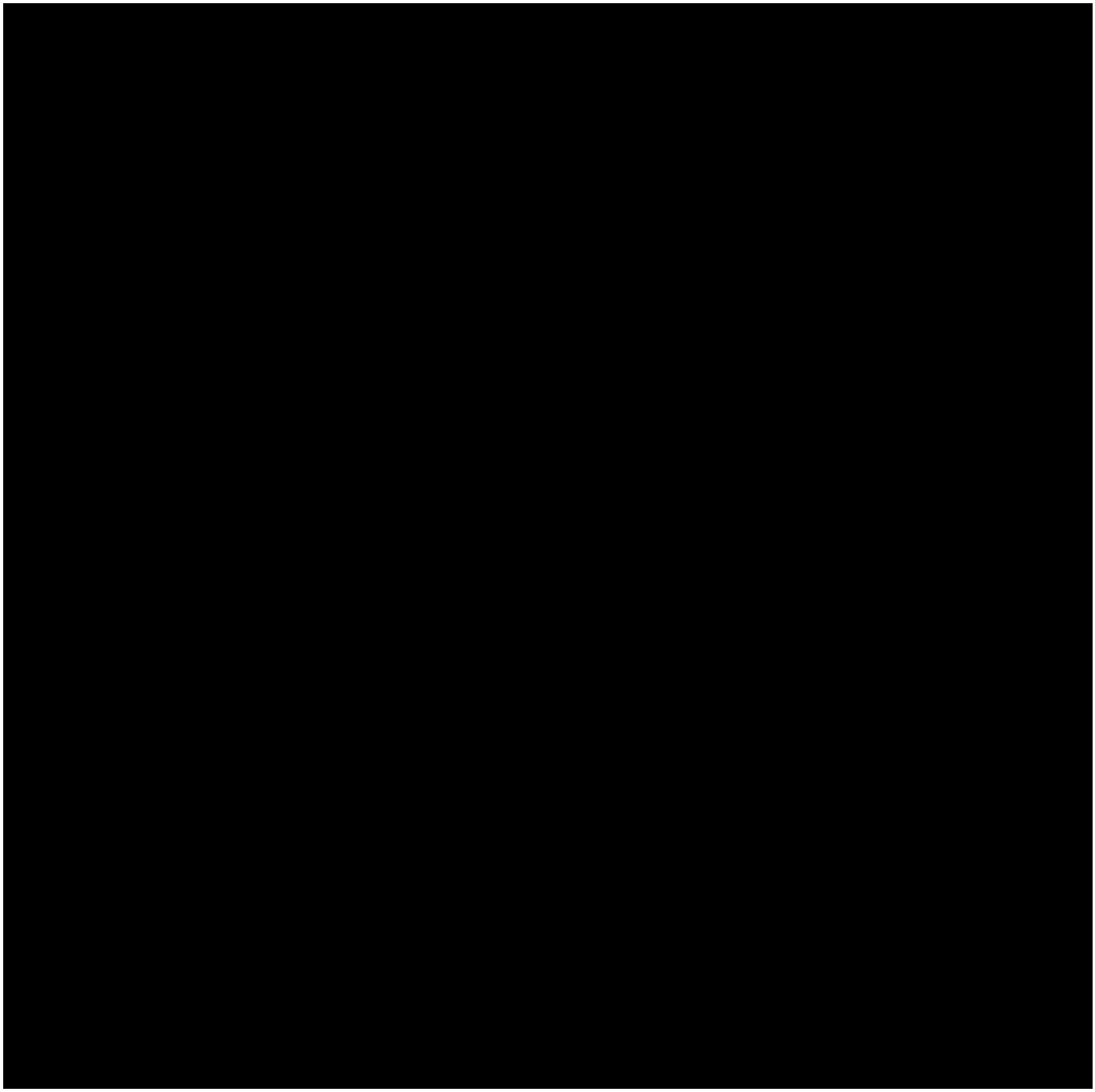




- Attachment C

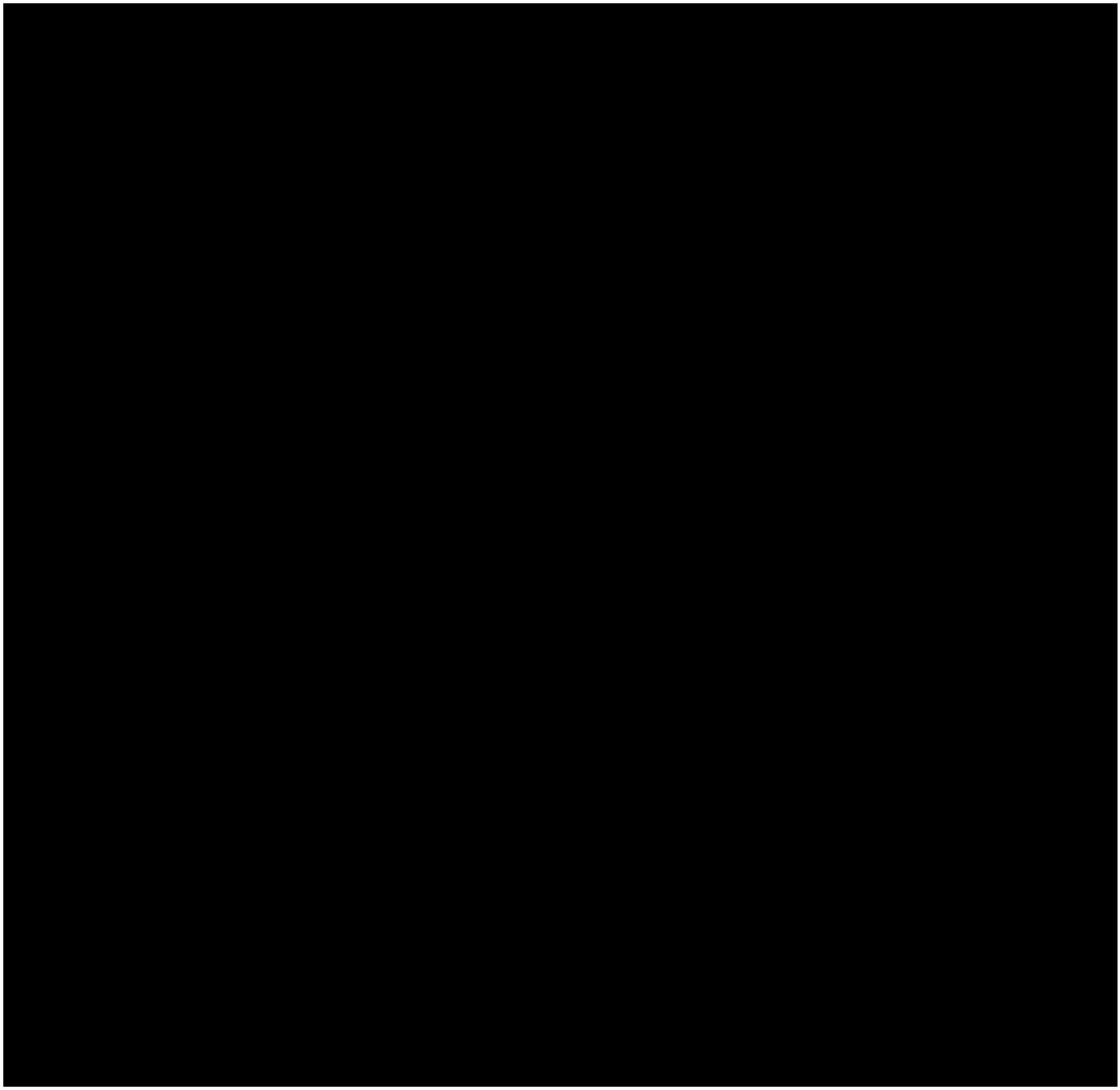
EVERSOURCE

# Project Approval Form



EVERSOURCE

# Project Approval Form



EVERSOURCE

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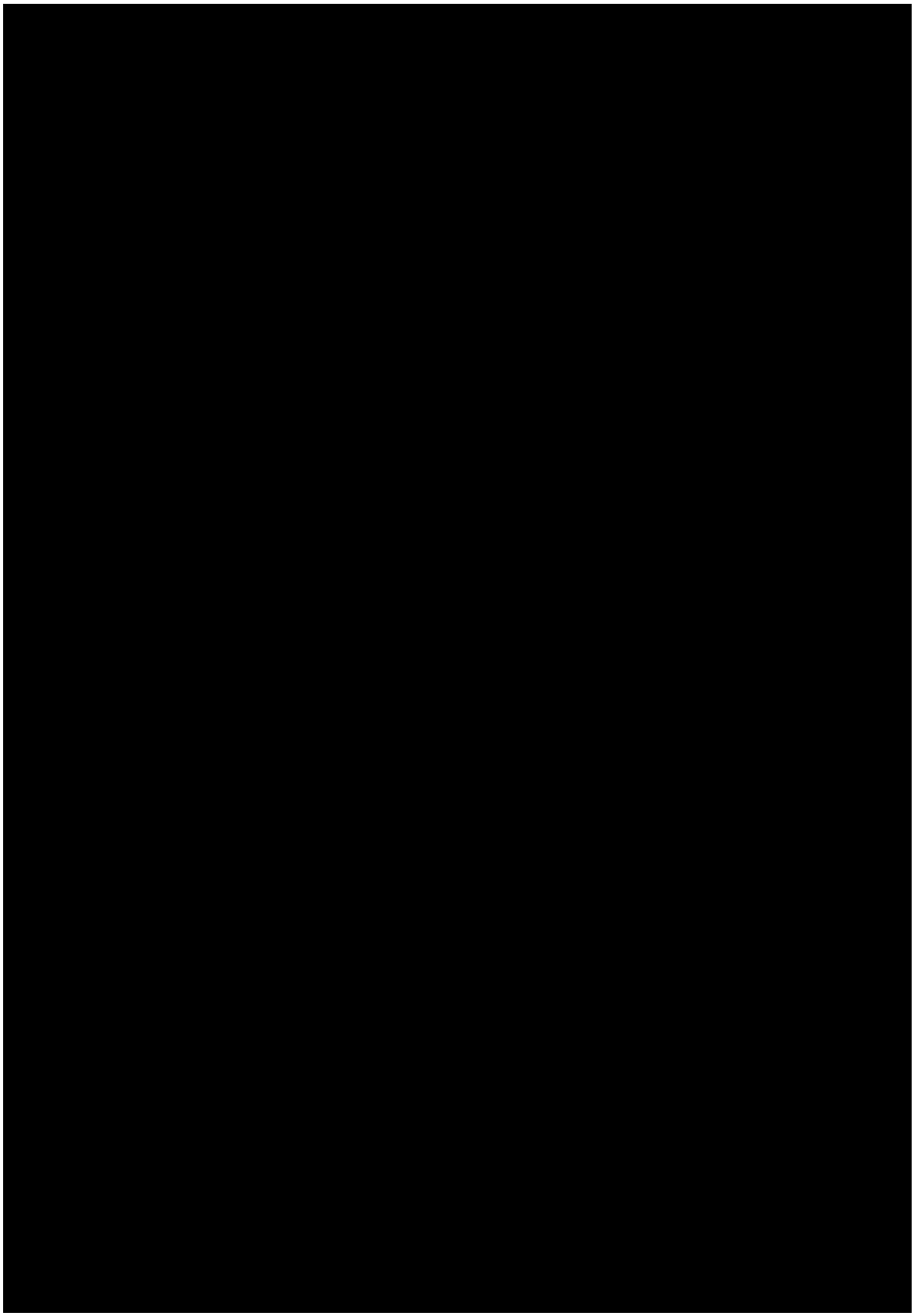

Refer to Project Approval Process
JA-AM-2001-B, Rev.1

EVERSOURCE

Project Approval Form

# Operations Project Authorization Form

| | |
|---|---|
| **Project Title:** [redacted] Zone Reduction / Conversion | **Project Number: CD01209** |
| **Date Prepared:** 10/19/2022 | **Company:** Eversource CT |
| **Organization: Electric Field Operations** | **Class(es) of Plant:** D Line |
| **Project Initiator:** [redacted] | **Project Category:** RELIABILITY IMPROVE SPEC PROJ |
| **Project Manager:** [redacted] | **Project Type:** Specific |
| **Project Sponsor:** [redacted] | **Capital Investment part of original Operating Plan:** Yes |
| **Estimated in service date: 12/2024** | **Emergency Related Request?** No |
| **Eng./Constr. Resources Budgeted?** Yes | **Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution |
| **Total Gross Capital Request: $2.689M** | **Authorization Type:** Initial Funding |

## Executive Summary

[redacted]

This project will be constructed over two years. [redacted]

[redacted]

This PAF reflects a change from the original PAF due to the company's standard regarding 333 kVA step transformers. The original job scope called for [redacted]

[redacted]

## Project Costs Summary

*Note: Dollar values are in thousands*

| Capital Costs | 2023 | 2024 | Year 3+ | Total |
|---|---|---|---|---|
| Internal Labor and Construction Equipment | $68 | $103 | $0 | $171 |
| Outside Services | $456 | $688 | $0 | $1,144 |
| Materials | $150 | $226 | $0 | $376 |
| Removals | $76 | $115 | $0 | $191 |
| Risk and Contingency | ($184) | ($278) | $0 | ($462) |
| Other | $0 | $0 | $0 | $0 |
| **Subtotal** | **$566** | **$854** | **$0** | **$1,420** |

| Indirect Capital Costs | Year 1 | Year 2 | Year 3+ | Total |
|---|---|---|---|---|
| Indirects/Overheads (including benefits) | $483 | $730 | $0 | $1,213 |
| Capitalized interest or AFUDC, if any | $23 | $34 | $0 | $57 |
| **Subtotal** | **$506** | **$764** | **$0** | **$1,269** |
| | | | | |
| **Total Capital Costs (Gross)** | **$1,071** | **$1,618** | **$0** | **$2,689** |
| | | | | |
| Less Total Customer Contribution | **$0** | **$0** | **$0** | **$0** |
| | | | | |
| **Project Costs (Net)** | **$1,071** | **$1,618** | **$0** | **$2,689** |

## Technical Justification:

**Project Need, Objective and Justification:**

[redacted]

This project was created to help improve reliability in the Danielson District and improve MBI and CAIDI. [redacted]

**Project Scope:**

[redacted]

[redacted]

**Major Material:**

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4,600 feet 1/0 TW / triplex neutral

**Background:**

- Reliability improvements
- [redacted]
- [redacted]

## Alternatives Considered:

*Were alternative solutions considered/applicable? Include any cost/benefit analysis.*

Alternatives were considered (please describe below)

[redacted]

[redacted] The cost for this alternative is approximately $4.341M.

## Regulatory Approvals:

*Are Regulatory body approvals needed for the project?*
No

If yes, provide detailed regulatory approvals

## Project Schedule

| Milestone/Phase Name | Estimated Date |
|---|---|
| 100% Engineering Completion | 11/01/21 |
| Construction Start | 07/01/23 |
| Testing/Commissioning | 12/31/23 |
| In Service Date | 06/01/24 |

## Risks and Risk Mitigation Plans

| Risk Event | Risk Horizon | Likelihood of Occurrence | Risk Mitigation |
|---|---|---|---|
| Actual cost higher than estimated due to scope changes. | 2023 | High/Medium/Low | Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues. |
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## Appendices (One-Line Diagrams, Images, etc.)

**Maps:**


Conversion Map.pdf


[redacted]Heritage Visual 2.0.pdf


[redacted]ROW tap map.pdf

**Oneline:**


[redacted]Oneline.pdf

**Loads:**


[redacted] Load Summary (002).xlsx

**Outage History:**


[redacted]_Zone_Outage_History.xlsx

## References

**Grove St looking east (alternative 1)**



**Grove St looking west (alternative 1)**



**Walnut St looking east (alternative 2)**



**Farrows St looking south (located north of proposed step down) (alternative 2)**



**School St looking east (alternative 3)**

