EVERSOURCE

Project Approval Form

Project Title: ROW 116 Rehab	Project Number: CD01832
Date Prepared: 12/13/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Lines - ROW
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: 10/31/2024	
Total Capital Request: 1,592k	**Authorization Type:** Full Funding

1. Executive Summary

Project CD01832 addresses [redacted] The total cost for this project is estimated to be $1,591k.

- Project Location
  - Division: Western
  - District: Torrington AWC
  - Town: Cornwall
- Approved Initial Funding Authorization: $648K at the 04/20/2023 CT-PAC meeting.
- Requesting Full Funding authorization: $1,592k, a difference of $944K or 246% of the Initial Funding authorization.

The variance is due to the following:

$165k Updated Estimating Units: The legacy estimating units used to produce the initial funding estimate is about 30% lower than the estimates used today, which were updated to reflect increased labor and material costs.

$768k Outside Services: The initial ENG estimate for contractor bids was $277k while the actual contractor bid received came in at $631k. This higher bid is due to anticipated difficulty of accessing this ROW. The rugged terrain will likely require matting and potentially an access road to be built. While this was evaluated in the original ENG estimate, the actual contractor bid received came in significantly higher. Additionally, due to the increased labor cost, the subsequent overheads are also higher than anticipated. The initial ENG estimate planned for $217k in overheads, while the ACT estimate has $631k in overheads. Combined, these variances equate to the $768k difference.

The total cost variance between these categories is $933k, which is 99% of the total $944k cost overage.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	57.5	0.0	0.0	57.5
Outside Services	630.7	0.0	0.0	630.7
Materials	22.3	0.0	0.0	22.3
Removals	105.7	0.0	0.0	105.7
Risk and Contingency	144.7	0.0	0.0	144.7
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	960.9	0.0	0.0	960.9
Indirect Capital Costs				
Indirect/Overheads (including benefits)	630.8	0.0	0.0	630.8
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal – Indirect Costs	630.8	0.0	0.0	630.8
Total Gross Capital Costs	1,591.7	0.0	0.0	1,591.7
Customer Contribution	0.0	0.0	0.0	0.0
Total Net Capital Project Costs	1,591.7	0.0	0.0	1,591.7

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

The priority 3 damages from the Drone Inspection need to be addressed in order to ensure future reliability to the critical facilities fed from this ROW.

c. Project Scope

[redacted]

Major Material:

33M1 – Mohawk Mountain Rd., Cornwall

- 4,300' 336 AL TW
- 4,300' 1/0 ACSR
- 1 – 23kV 50kVA XFMR
- 1 – 6k Cutout
- 23 – 40/1 Wood Poles (Joint Utility)
- 1 – 45/1 Wood Pole (Joint Utility)
- 15 – Set of 6 Aluminum Spreaders

4. Alternatives Considered

[redacted]

6. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	4/2023
Detailed Design	10/2023
Full Funding Approval	12/2023
Construction Start	5/2024
In Service Date	10/2024

7. Regulatory Decisions

N/A

8. Codes and Standards

N/A

9. 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	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	2024	Low	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	Low	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	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	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	2024	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	2024	Medium	Use of mats and specialty equipment, only work during certain times of the year.

10. References

References
1. CD01753 – ROW Priority 3 Poles PAF - CD01753 - 2022-2023 ROW Pric

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Geographic Map	*YES*
C. Environmental Review Map	*YES*

A. Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Work Classification

Category: Line
Type: SRRL
Type Desc: RIGHT OF WAY LINES
Work Type:

Ownership / Management

AWC: Torrington
Statewide: No
Owner: [redacted]
Manager:

Project Information

Status: Draft
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option

Option 2 - Reconductoring, Wood Poles, & ROW Expansion

2024 ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
2	Pole Replacement - Wood	Prelim	0	24%	$167,080	$167,080
3	Reconductoring and Conversion	Draft	0	24%	$252,142	$252,142
4	Spacer Cable Rehab	Prelim	0	24%	$15,163	$15,163
5	Environmental Work	Draft	0	24%	$124,000	$124,000
6	ROW Tree Trimming and Expansion	Draft	0	24%	$105,400	$105,400
				2024 Total:	$663,784	$663,784
				Total Project:	$663,784	$663,784

Connecticut Light & Power
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Specific Project Proposal - Project #: CD01832

ROW116 Rehab & Conversion-Mohawk Mtn Rd

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Option 1 - Reconductoring, Wood Poles	2,3,4,5	$558,384	$0	100%	$0.00	$0.00	☐
O2	Option 2 - Reconductoring, Wood Poles, & ROW Expansion	2,3,4,5,6	$663,784	$0	100%	$0.00	$0.00	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Pole Replacement - Metal	$250,314			$0.00	$0.00
2	Pole Replacement - Wood	$167,080			$0.00	$0.00
3	Reconductoring and Conversion	$252,142			$0.00	$0.00
4	Spacer Cable Rehab	$15,163			$0.00	$0.00
5	Environmental Work	$124,000			$0.00	$0.00
6	ROW Tree Trimming and Expansion	$105,400			$0.00	$0.00

Connecticut Light & Power
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Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-01

General Information

Segment: 1 - Pole Replacement - Metal
Status: Prelim Design Approved
Segment Type: LATERAL REHAB
Town: CORNWALL
Budget Year: 2022
Work Type: LT-Rehab+Recond
Trimming Required: ☐
In Service Date: 12/31/2022
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$201,866
Contingency Amount:	$48,448
Estimate:	$250,314
Reimbursement:	$0
Net Amount:	$250,314
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
ACT ACT Estimate for Contractor Crews 20% contractor costs: $286,337.40 material costs *0.20 = $52,529	16-ALL12	$57,268.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian) 45'/1 Metal Junction Pole	16-OH14A	$11,690.40
OTHER OTHER Cost for core digger & track machine per pole: $750 * 23 = $17,250	16-ALL14	$17,250.00
OTHER OTHER Premium for steel poles over wood: $3,000 * 23 = $69,000	16-ALL14	$69,000.00
POLE OH - POLE - 1ph (Telephone custodian) Replace existing poles with 45/1 Steel Poles	16-OH11	$43,148.00

[redacted]

Associated / Impacted Devices

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

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Specific Project Proposal - Project #: CD01832

ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-01

Reliability Projection

Title:

Outage Start Date: 9/22/2017 Outage End Date: 9/22/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
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Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-02

General Information

Segment: 2 - Pole Replacement - Wood
Status: Prelim Design Approved
Segment Type: LATERAL REHAB
Town: CORNWALL
Budget Year: 2024
Work Type: LT-Rehab+Recond
Trimming Required: ☐
In Service Date: 12/31/2022
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$134,742
Contingency Amount:	$32,338
Estimate:	$167,080
Reimbursement:	$0
Net Amount:	**$167,080**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
ACT ACT Estimate for Contractor Crews %20 Contractor Contingency - Update as needed	16-ALL12	$57,268.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian) 45'/1 Junction pole #2898	16-OH14A	$11,690.40
OTHER OTHER Cost for core digger & track machine per pole: $750 * 23 = $17,250	16-ALL14	$17,250.00
POLE OH - POLE - 1ph (Telephone custodian) Install 24 wooden 40'/1 joint utility poles	16-OH11	$45,024.00

[redacted]

Associated / Impacted Devices

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

Connecticut Light & Power
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Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-02

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 1/27/2023 Years History: 16.08

[redacted]

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Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-03

General Information

Segment: 3 - Reconductoring and Conversion
Status: Draft
Segment Type: RECONDUCTORING - OTHER
Town: CORNWALL
Budget Year: 2024
Work Type: LT-Conversion/Rebuild
Trimming Required: ☑
In Service Date: 12/31/2022
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-03

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$203,340
Contingency Amount:	$48,802
Estimate:	$252,142
Reimbursement:	$0
Net Amount:	$252,142

Description:

Item Description	CU		Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]	$7,019.20
SECTIONALIZE OH - Cutouts or Arresters - 1ph 1 fuse at xfmr @ P# 2575	16-OH19		$1,371.20
TRAFFIC OH/DB/UG - Traffic Control - Flagger 2 Flaggers, 3 Days	16-ALL19		$1,800.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) 4,300' 336 AL TW on Ridge pin	16-OH25		$103,200.00
OH WIRE OH - Neutral 4,300' of 1/0 ACSR Neutral on Chicken Wing	16-OH31		$27,520.00
XF OH - OH XF - 1ph 50A 1-Ph Service XFMR @ P# 2575	16-OH45		$2,109.60
ACT ACT Estimate for Contractor Crews Assumed 20% Cost Adder for Contingency	16-ALL12		$43,000.00
OTHER OTHER Removal of 2 Step Transformers, $3,500 each	16-ALL14		$7,000.00
OH WIRE OH - Remove circuit wire (1 phase) Remove 4,300' of existing 1-PH OH Conductor	16-OH37		$10,320.00

Connecticut Light & Power
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Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-04

General Information

Segment: 4 - Spacer Cable Rehab
Status: Prelim Design Approved
Segment Type: LATERAL REHAB
Town: CORNWALL
Budget Year: 2024
Work Type: LT-Rehab
Trimming Required: ☐
In Service Date: 12/31/2022
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Segment CD01832-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$12,228
Contingency Amount:	$2,935
Estimate:	$15,163
Reimbursement:	$0
Net Amount:	**$15,163**

Description:

Item Description	CU	[redacted]	Amount
INSULATOR	16-OH18		$12,228.00

OH - Spacer Cable Spreaders
Replace Rubber Spreaders w/ Aluminum Spreaders along 15 Spns of Spacer Cable

Associated / Impacted Devices

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

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 1/27/2023 Years History: 16.08

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832

ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-05

General Information

Segment: 5 - Environmental Work
Status: Draft
Segment Type: ENVIRONMENTAL
Town: CORNWALL
Budget Year: 2024
Work Type: LT-Conversion/Rebuild
Trimming Required: ☐
In Service Date: 12/31/2022
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832

ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-05

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$100,000
Contingency Amount:	$24,000
Estimate:	$124,000
Reimbursement:	$0
Net Amount:	**$124,000**
Description:	

Item Description	CU	[redacted]	Amount
OTHER	16-ALL14		$100,000.00
OTHER Cost for Matting from Contruction Management			

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-06

General Information

Segment: 6 - ROW Tree Trimming and Expansion
Status: Draft
Segment Type: ETT
Town: CORNWALL
Budget Year: 2024
Work Type: ETT Trimming
Trimming Required: ☐
In Service Date: 12/31/2024
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01832
ROW116 Rehab & Conversion-Mohawk Mtn Rd

Design Alternative CD01832-06

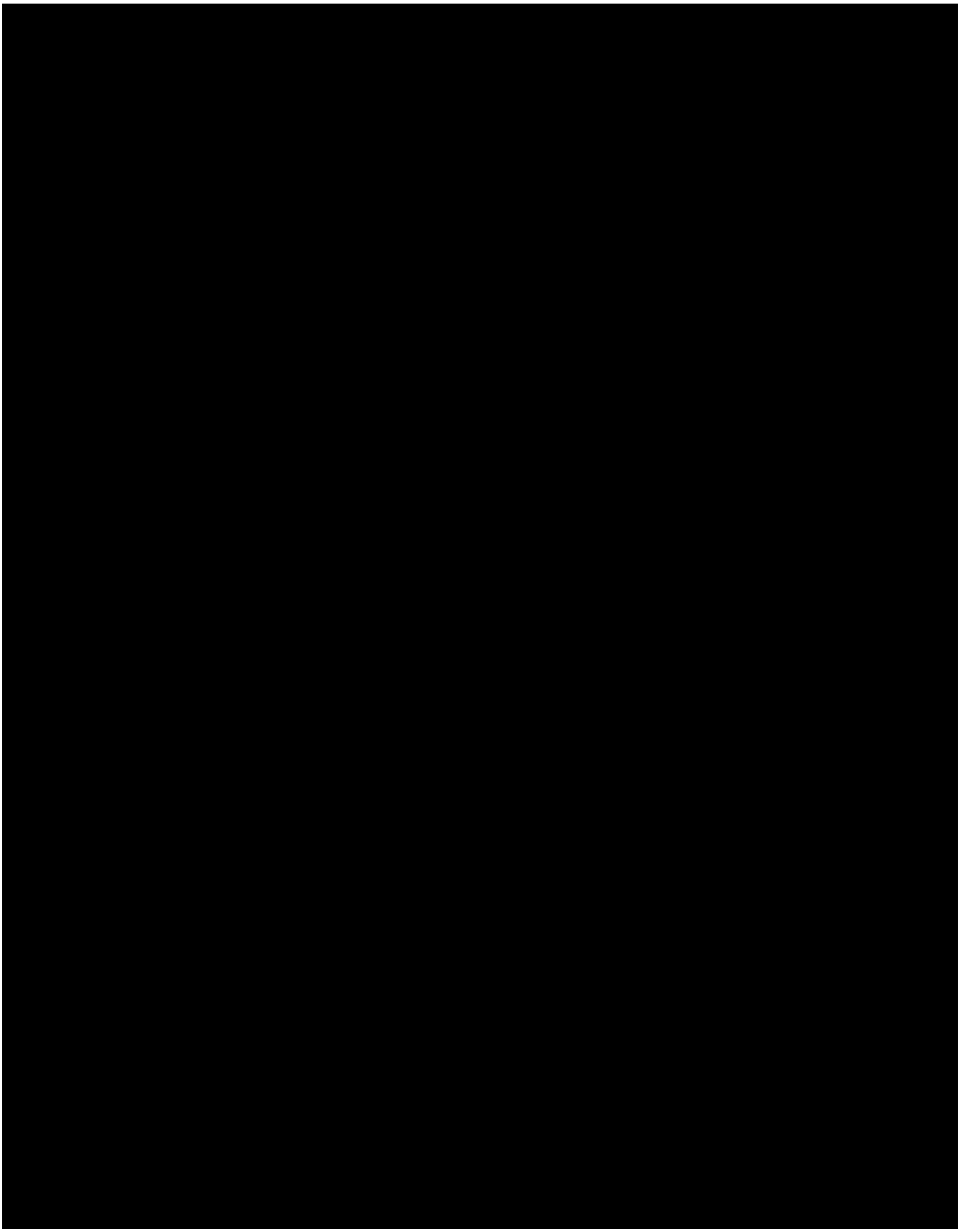
Estimate

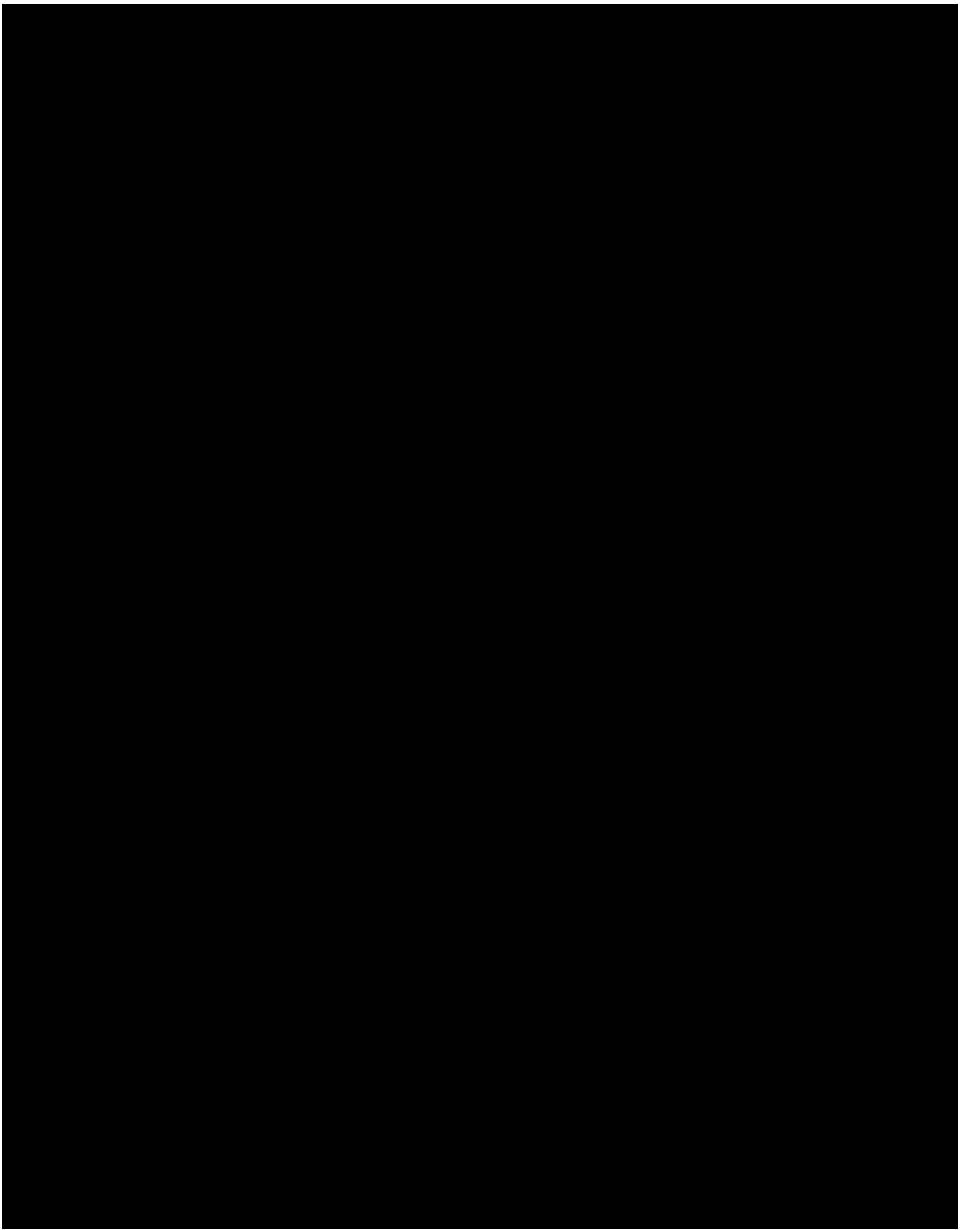
	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$85,000
Contingency Amount:	$20,400
Estimate:	$105,400
Reimbursement:	$0
Net Amount:	**$105,400**
Description:	

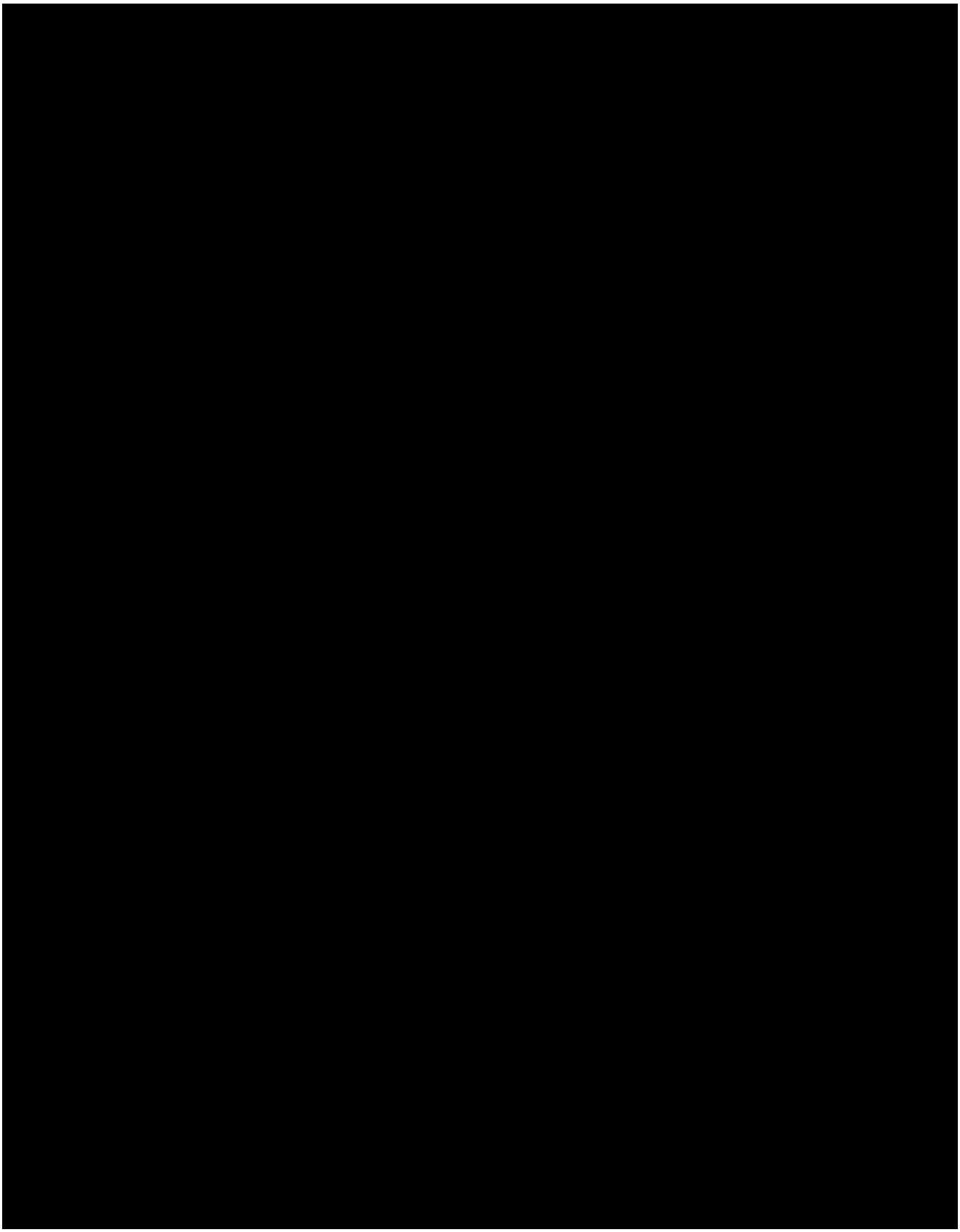
Item Description	CU	[redacted]	Amount
TREE OH - Tree Trimming Cost for trimming for ROW Expansion from Arborist	16-OH61		$85,000.00

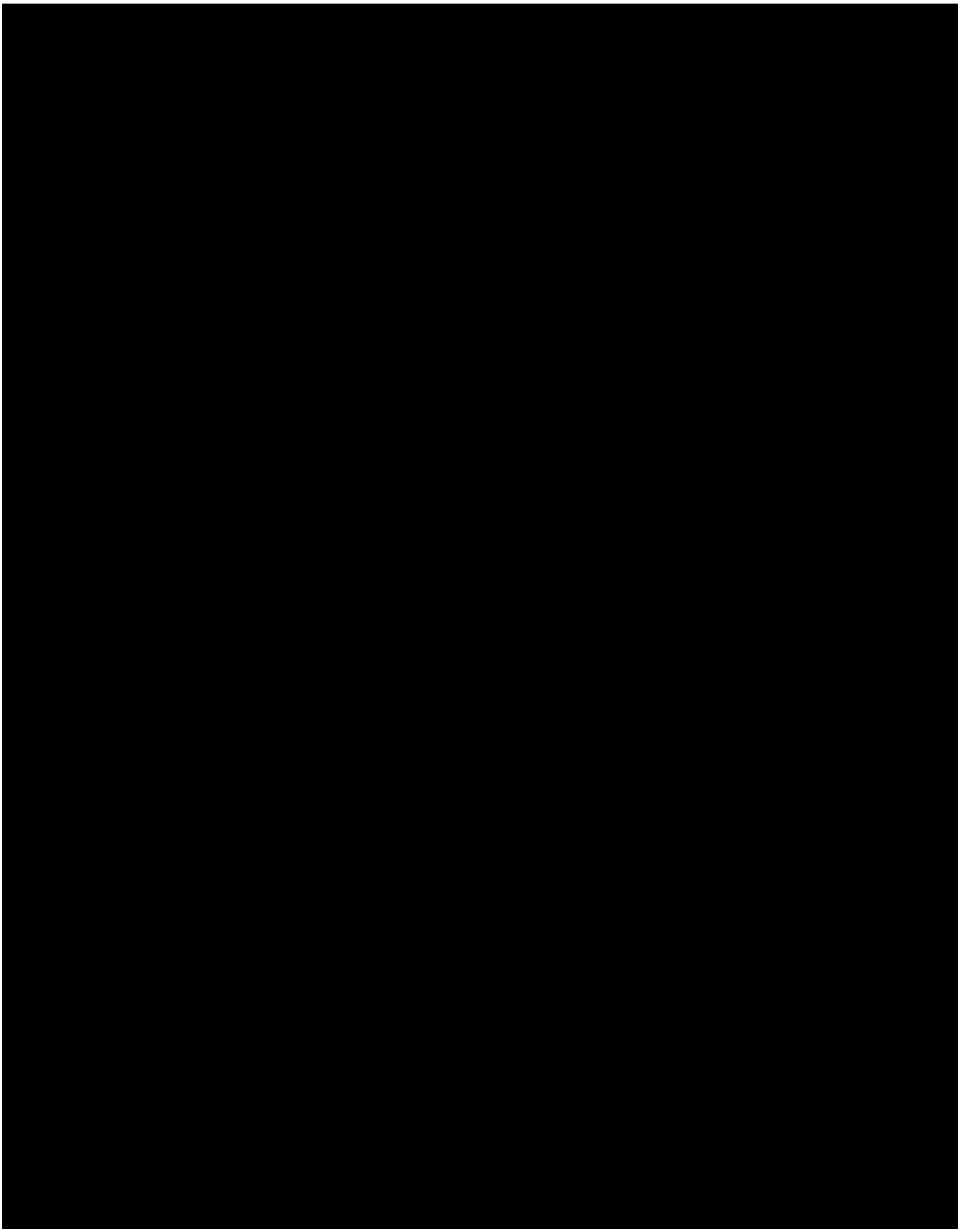
Associated / Impacted Devices

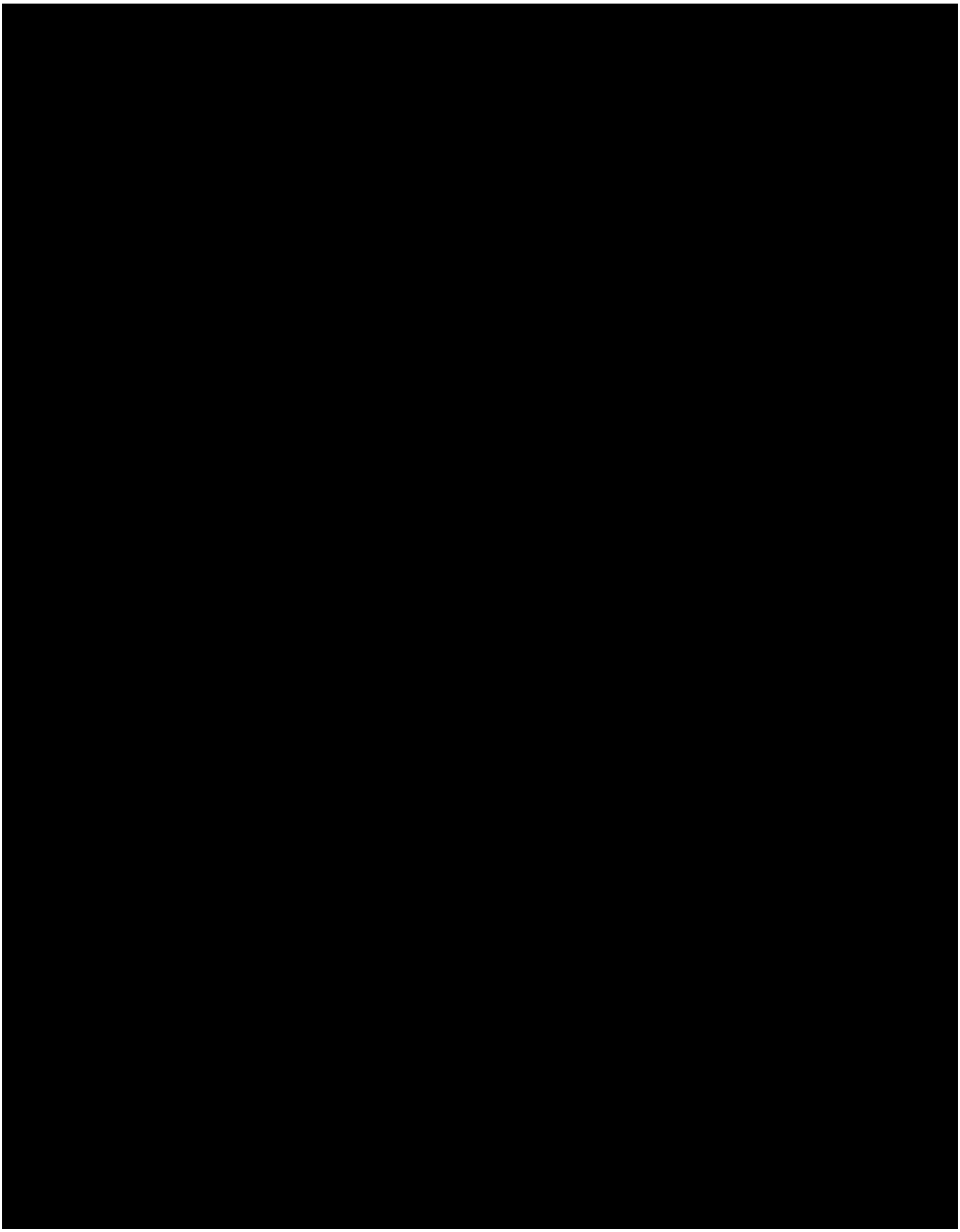
Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes











Operations Project Authorization Form

Project Title: ROW 116 Rehab	**Project Number: CD01832**
Date Prepared: 04/20/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** Lines - ROW
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 10/31/24	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $648k	**Authorization Type:** Initial Funding

Executive Summary

Project CD01832 addresses [redacted]. This right of way was inspected by drones under project CD01753. [redacted]

[redacted] The total cost for this project is estimated to be $648k.

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2024	2025	2026	Total
Internal Labor and Construction Equipment	$19.82	$0.00	$0.00	$19.82
Outside Services	$276.63	$0.00	$0.00	$276.63
Materials	$57.79	$0.00	$0.00	$57.79
Removals	$69.21	$0.00	$0.00	$69.21
Risk and Contingency	($0.59)	$0.00	$0.00	($0.59)
Other	$0.00	$0.00	$0.00	$0.00
Subtotal	$422.85	$0.00	$0.00	$422.85
Indirect Capital Costs				
Indirects/Overheads (including benefits)	$216.57	$0.00	$0.00	$216.57
Capitalized interest or AFUDC, if any	$8.05	$0.00	$0.00	$8.05
Subtotal	$224.63	$0.00	$0.00	$224.63
Total Capital Costs (Gross)	**$647.48**	**$0.00**	**$0.00**	**$647.48**

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

[redacted]

Project Scope

[redacted]

Major Material:

33M1 – Mohawk Mountain Rd., Cornwall

- 4,300’ 336 AL TW
- 4,300’ 1/0 ACSR
- 1 – 23kV 50kVA XFMR
- 1 – 6k Cutout
- 23 – 40/1 Wood Poles (Joint Utility)
- 1 – 45/1 Wood Pole (Joint Utility)
- 15 – Set of 6 Aluminum Spreaders

Background / Justification

[redacted]

[redacted]

Business Process and / or Technical Improvements:

[redacted]

Alternatives Considered:

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

Alternatives were considered (please describe below)

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Date
Project Approval	4/2023
Detailed Design	10/2023
Construction Start	5/2024
In Service Date	10/2024

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	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	2024	Low	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	Low	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	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	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	2024	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	2024	Medium	Use of mats and specialty equipment, only work during certain times of the year.

References

This project is built off work identified in Project CD01753 – ROW Priority 3 Poles.

PAF - CD01753 - 2022-2023 ROW Pric

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

Geographic Map:

CD01832 Project Map.pdf

Environmental Review Map:

ROW116_Rebuild_Prelim_2022Nov14.pd

Project Need Statement:

CD01832_project_needs_statement.pdf