EVERSOURCE

Project Approval Form

Project Title: [redacted] Windsor – New Service	**Project Number: CD02034**
Date Prepared: 12/05/2023	**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:** 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: 12/31/2024	
Total Capital Request: $10,812K	**Authorization Type:** Full Funding

1. Executive Summary

Project CD02034 – [redacted] – was created to cover the costs associated with supplying the circuits and capacity to a new customer, the [redacted] A separate project (CD02334) will address the costs associated with the work on private property for this customer.

The facility will consist of several residential and commercial buildings built in several phases. The current construction design has a projected load of [redacted] The existing electrical infrastructure in the area will [redacted]

[redacted]

The NB-12 revenue calculation for the [redacted] estimated load is $7,578K. Since the expected revenue is larger than the line extension partial estimated cost, subsection B of NB-12 does not apply. However, [redacted] As a result, the customer is required to provide a refundable advance equal to the lower of the expected revenue or the construction cost, which is $6,288K. The additional advance amount will be refunded when the extension is put to full use, as specified in the customer's request.

- Division: Central
- District: Hartford
- City/Town: Windsor

The Partial Funding estimate for this project was $7,390K capital dollars and was approved at the 4/28/2023 CTPAC meeting. The full funding estimate for this project is $10,812K, an increase of $3,422K, or 46% increase over the Partial Funding Estimate.

Legacy estimating units were used for the Partial funding estimate. Using the updated estimating units, the partial funding estimate would be $8,305K. The difference from the full funding estimate of $10,812K over the updated partial funding estimate is $2,507K or a 30% increase.

The two main drivers of the increase are due to Outside Services and Material Costs as shown in the table below. The table shows Direct Capital Costs only and compares the original Partial Funding estimate with the latest Full Funding estimate.

Direct Capital Costs	Partial	Full	Difference
Internal Labor and Construction Equipment	481.8	188.0	-293.8
Outside Services	1,379.7	2,446.5	1,066.8
Materials	1,504.4	3,761.5	2,257.1
Subtotal	3,365.9	6,396.0	3,030.1

- Outside Services
  - The Full Funding estimate for Outside Services of $2,446.5K increased $1,066.8 or 77% over the original Partial Funding estimate.
    - The main driver of this increase was due to the cost of labor to install the new manhole duct bank down Day Hill Rd. The Project Manager determined when material costs for the conduit and manholes are removed, the labor portion would be $1,270K. The contractor bid for this work is $2,216K, which was an increase of $945,805.
- Material
  - The Full Funding estimate for Materials of $3,761.5K increased $2,257.1K or 150% over the original Partial Funding estimate.
    - The main driver of this increase was due to the cost of the cable. To ensure there was enough 1000 CU 25kV Cable for the project, cut-to-length cable on reels were ordered from the manufacturer. The Partial Funding estimate used $96/ft for this cable, which includes labor. The actual costs are about $144/ft for the cut length reels, for material only. This difference in cost per foot equates to $751,360.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2023	2024	Total
Internal Labor and Construction Equipment	167.0	21.0	188.0
Outside Services	2,271.8	174.8	2,446.5
Materials	3,747.3	14.3	3,761.5
Removals	303.0	10.5	313.5
Risk and Contingency	724.9	29.4	754.3
Other	0.0	0.0	0.0
Subtotal	**7,213.9**	**249.9**	**7,463.9**

Indirect Capital Costs	2023	2024	Total
Indirects/Overheads (including benefits)	3,176.4	171.6	3,348.0
Capitalized interest or AFUDC, if any	0.0	0	0.0
Subtotal	**3,176.4**	**171.6**	**3,348.0**

Total Capital Costs (Gross)	**10,390.3**	**421.5**	**10,811.8**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**10,390.3**	**421.5**	**10,811.8**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

This project is developed to support the [redacted] requested by the customer for their new residential and commercial development o[redacted] The facility will

consist of a [redacted] The warehouse at [redacted] has the largest expected load at [redacted]

b. Project Need

[redacted]

c. Project Scope

[redacted]

[redacted]

[redacted]

4. Alternatives Considered

Option 1 – This option was chosen as the preferred option because it provides [redacted]

Option 2 – This option is calling to [redacted]

Option 3 – This option is required to do the above [redacted] The total cost associated with this option is approximately $15,281K. This alternative option was not selected due to the extra cost.

Project Option Comparison

	Options
[redacted]	

Estimate Type:	Full	Partial	Partial
Capital Cost	$10,812K	$8,650K	$14,370K
Expense Cost	$686K	$549K	$911K
Total Cost	$11,498K	$9,199K	$15,281K
MVA added	12.55	12.55	12.55
Cost / MVA added	$916K/MVA	$733K/MVA	$1,218K/MVA
Preferred option	X		

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	April 2023
100% Detailed Engineering Completion	August 2023
Fully Funded	December 2023
Construction Start	July 2023
In Service Date	June 2024

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Medium	Included contingency costs are in the funding request. Detailed Field Analysis and walk down for project development were performed to avoid potential issues.
Internal construction resources not available to perform the work.	2024	High	External resources are planned to perform the work. Competitive bidding will be used to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Material procurement has been a challenge in recent years. This issue is anticipated to persist in the foreseeable future.
Storm delays	2024	Medium	Storm delays are always a concern with Utility work

9. References

References

1.

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Initial Funding PAF	*YES*

Attachment A: Cost Estimates

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
[redacted]		1,2,5,6,7,8	$7,437,720	$0	100%	$0.00	$26,366.16	☑
		1,3,4,5,6,7,8	$6,447,410	$0	100%	$0.00	$24,614.83	☐
		1,2,5,7,9,10, 11,12	$10,603,729	$0	100%	$0.00	$0.00	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	[redacted]	$263,622			$0.00	$0.00
2		$1,785,265			$0.00	$0.00
3		$282,736			$0.00	$0.00
4		$512,219			$0.00	$0.00
5		$320,102			$0.00	$0.00
6		$643,810			$0.00	$2,270.93
7		$722,849			$0.00	$0.00
8		$3,702,072			$0.00	$0.00
9		$3,172,715			$0.00	$0.00
10		$2,629,745			$0.00	$0.00
11		$498,625			$0.00	$0.00
12		$1,210,806			$0.00	$0.00

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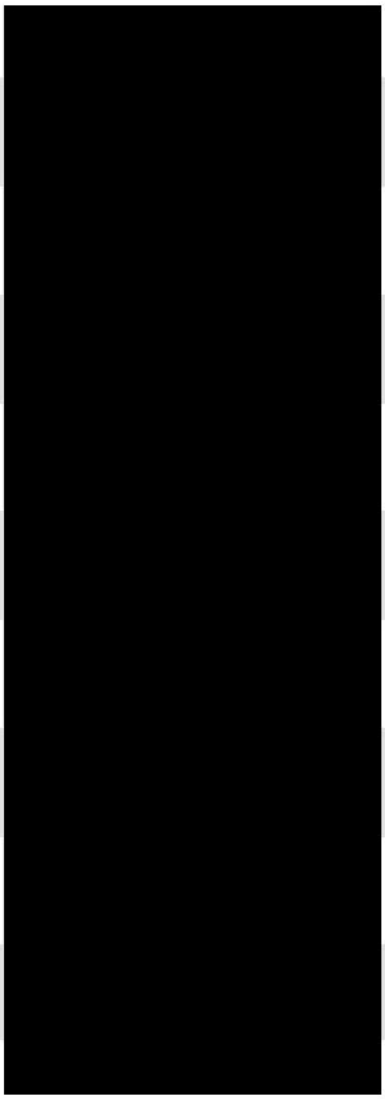
Design Alternative CD02034-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$212,599
Contingency Amount:	$51,024
Estimate:	$263,622
Reimbursement:	$0
Net Amount:	**$263,622**

Description: N. Bloomfield (2A) offload onto NE. Simsbury (43F)

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$10,528.80
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$27,730.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil	16-OH27	$40,352.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A	$1,664.00
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A	$29,313.60
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$24,171.00
SECTIONALIZE OH - Recloser - 3ph p#1326 Tariffville Rd, Simsbury	16-OH38	$47,989.60
SECTIONALIZE OH - GOAB Switch Replace NLB Disc. on p#1394 Tunxis Rd	16-OH44	$20,566.40
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph With New SR	16-OH43	$10,283.20



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Design Alternative

CD02034-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$1,439,730
Contingency Amount:	$345,535
Estimate:	$1,785,265
Reimbursement:	$0
Net Amount:	**$1,785,265**

Description [redacted]

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$154,074.00
SECTIONALIZE OH - Recloser - 3ph	16-OH38		$47,989.60
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A		$34,199.20
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B		$873,600.00
POLE DB/UG - Riser - 3ph	16-UG146		$10,794.40
OTHER OTHER Contractor Cost @ 20%	16-ALL14		$207,891.00
OTHER OTHER Fault Indicators	16-ALL14		$600.00

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SECTIONALIZE OH - GOAB Switch p#985 Bloomfield Ave, Windosr	16-OH44	[redacted]	$41,132.80
OTHER OTHER Remove GOAB on p#4548 on Day Hill	16-ALL14		$5,656.00
OTHER OTHER Rood Ave Station Work	16-ALL14		$50,000.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph With New TR	16-OH43		$10,283.20

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Design Alternative CD02034-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$228,013
Contingency Amount:	$54,723
Estimate:	$282,736
Reimbursement:	$0
Net Amount:	$282,736
Description:	[redacted]

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$19,113.00
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A		$19,542.40
SECTIONALIZE OH - GOAB Switch	16-OH44		$61,699.20
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B		$26,880.00
UG CABLE UG - Cable Removal - all cables	16-UG117		$5,000.00
POLE DB/UG - Riser - 3ph	16-UG146		$10,794.40
OTHER OTHER Contractor Cost @ 20%	16-ALL14		$30,874.00
OTHER OTHER Fault Indicators	16-ALL14		$600.00

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Design Alternative

CD02034-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$413,080
Contingency Amount:	$99,139
Estimate:	$512,219
Reimbursement:	$0
Net Amount:	**$512,219**
Description:	[redacted]

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$46,053.00
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14		$37,408.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A		$11,690.40
SECTIONALIZE OH - Cutouts or Arresters - 1ph	16-OH19		$4,113.60
OH WIRE OH - Ampact Connectors - 1ph (2 Ampacts)	16-OH21		$4,113.60
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil	16-OH27		$182,360.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A		$7,520.00
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A		$24,428.00

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XF OH - OH XF - 1ph	16-OH45	[redacted]	$6,328.80
POLE DB/UG - Riser - 3ph	16-UG146		$10,794.40
OTHER OTHER Contractor Adder @ 20%	16-ALL14		$60,001.00
OTHER OTHER Core Bore @ $750/ea. for 15 poles	16-ALL14		$11,250.00

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Design Alternative CD02034-05

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$258,147
Contingency Amount:	$61,955
Estimate:	$320,102
Reimbursement:	$0
Net Amount:	**$320,102**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$28,761.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil	16-OH27		$48,112.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A		$1,984.00
SECTIONALIZE OH - Recloser - 3ph	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43		$20,566.40
POLE DB/UG - Riser - 3ph	16-UG146		$21,588.80
OTHER OTHER Contractor Adder @ 20%	16-ALL14		$37,646.00

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Design Alternative CD02034-06

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$519,201
Contingency Amount:	$124,608
Estimate:	$643,810
Reimbursement:	$0
Net Amount:	**$643,810**

Description: [redacted] OH Cable to UG

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$57,767.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A	$11,690.40
OH WIRE OH-Install Aerial Cable-existing poles (any gauge)	16-OH36	$12,880.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A	$10,160.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	$304,800.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	16-UG137	$31,280.00
POLE DB/UG - Riser - 3ph	16-UG146	$10,794.40
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$76,320.00

[redacted]

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Design Alternative CD02034-07

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$582,943
Contingency Amount:	$139,906
Estimate:	$722,849
Reimbursement:	$0
Net Amount:	**$722,849**
Description:	[redacted]

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$10,000.00
SECTIONALIZE OH - Recloser - 3ph	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43		$20,566.40
POLE DB/UG - Riser - 3ph	16-UG146		$10,794.40
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B		$325,920.00
POLE OH - POLE - 3ph (CL&P custodian) Before and After New SR on p#3787	16-OH14		$9,352.00
OTHER OTHER Contractor Adder @ 20%	16-ALL14		$94,909.00

OTHER	16-ALL14	[redacted]	$600.00
OTHER Fault Indicators			
OTHER	16-ALL14		$11,312.00
OTHER Remove GOAB [redacted] and [redacted]			

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Design Alternative CD02034-08

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$2,985,542
Contingency Amount:	$716,530
Estimate:	$3,702,072
Reimbursement:	$0
Net Amount:	**$3,702,072**
Description:	Extend 6230' of UG cable from Griffin Line on Day Hill Rd up to Arlington Rd. 2835' in the existing ducts, and 3395' in new ducts.

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$331,818.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A	$11,690.40
OH WIRE OH - Line Extension w/Aerial Cable - (any gauge)	16-OH35	$14,400.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	$598,080.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	16-UG137	$1,061,956.00
POLE DB/UG - Riser - 3ph	16-UG146	$10,794.40
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$441,602.00

[redacted]

ENCLOSURE UG - MANHOLE - Precast Every 450 feet	16-UG139	[redacted]	$503,891.20
OTHER OTHER Fault Indicators	16-ALL14		$600.00
OTHER OTHER MH Cleaning @ $1200/ea. 6 manholes	16-ALL14		$7,200.00

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Design Alternative CD02034-09

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$2,558,641
Contingency Amount:	$614,074
Estimate:	$3,172,715
Reimbursement:	$0
Net Amount:	**$3,172,715**
Description:	Extend 3395' from Blue Hills Ave on Hay Hill Rd upto Arlington Rd in new ducts.

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$284,291.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	$325,920.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	16-UG137	$1,061,956.00
ENCLOSURE UG - MANHOLE - Precast	16-UG139	$503,891.20
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$378,473.00
OTHER OTHER Fault Indicators	16-ALL14	$600.00

[redacted]

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Design Alternative CD02034-10

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$2,120,762
Contingency Amount:	$508,983
Estimate:	$2,629,745
Reimbursement:	$0
Net Amount:	**$2,629,745**
Description:	Extend 2575' of 3-1/C 1000 CU UG in new manhole duct system

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$235,718.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	$247,200.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved	16-UG137	$805,460.00
ENCLOSURE UG - MANHOLE - Precast	16-UG139	$503,891.20
POLE DB/UG - Riser - 3ph	16-UG146	$10,794.40
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$313,589.00
OTHER OTHER Fault Indicator	16-ALL14	$600.00

[redacted]

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Design Alternative CD02034-11

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$402,117
Contingency Amount:	$96,508
Estimate:	$498,625
Reimbursement:	$0
Net Amount:	**$498,625**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$44,757.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A	$11,690.40
SECTIONALIZE OH - Cutouts or Arresters - 1ph	16-OH19	$9,598.40
OH WIRE OH - Ampact Connectors - 1ph (2 Ampacts)	16-OH21	$9,598.40
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil	16-OH29	$245,760.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A	$7,680.00
XF OH - OH XF - 1ph	16-OH45	$10,548.00
OTHER OTHER Contractor Adder @ 20%	16-ALL14	$58,975.00

[redacted]

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Design Alternative CD02034-12

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$976,457
Contingency Amount:	$234,350
Estimate:	$1,210,806
Reimbursement:	$0
Net Amount:	**$1,210,806**
Description:	Reconductor 6115 ft with 556 TW

Item Description	CU		Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$108,573.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian)	16-OH14A		$11,690.40
SECTIONALIZE OH - Cutouts or Arresters - 1ph	16-OH19		$9,598.40
OH WIRE OH - Ampact Connectors - 1ph (2 Ampacts)	16-OH21		$9,598.40
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil	16-OH27		$474,524.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A		$19,568.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43		$20,566.40
XF OH - OH XF - 1ph	16-OH45		$14,767.20

POLE OH - POLE - 3ph (CL&P custodian) 50% of total	16-OH14	[redacted]	$79,492.00
OTHER OTHER Contractor Adder @ 20%	16-ALL14		$144,062.00
OTHER OTHER Core Bore @ $750/ea. for 34 poles	16-ALL14		$25,500.00
SECTIONALIZE OH - Remove Recloser (any) Remove/Install 2 Reclosers	16-OH42		$22,624.00
POLE DB/UG - Riser - 3ph with pole replacements	16-UG146		$32,383.20

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Attachment B: Partial Funding PAF

Operations Project Authorization Form

Project Title: [redacted] **Windsor – New Service**	**Project Number: CD02034**
Date Prepared: 01/13/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** SPECIFIC PROJECTS-NEW SRVCE
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 12/31/2024	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $7,390K Customer PMT ($534K)	**Authorization Type:** Partial Funding

Executive Summary

This project is being established to cover the costs associated with supplying a new service to the [redacted]. The facility will consist of [redacted] The current construction design has a projected load of [redacted] The existing electrical infrastructure in the area will [redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

The NB-12 revenue calculation for the [redacted] estimated load is $7,578K. Since the expected revenue is larger than the line extension cost, subsection B of NB-12 does not apply. However, the [redacted] As a result, customer is required to provide a refundable advance equal to the lower of the construction cost, which is $6,288K. The additional advance amount will be refunded when the extension is put to full use, as specified in the customer's request.

Customer to pay primary cable from [redacted] and the new loop system serving the new transformers and switchgear. Customer to cover all costs incurred for civil work involving this project, including manholes, duct system, and pad mount transformers on private property. These NB-12 Charges total $534K.

Design approved on December 14, 2022, Solutions Design Committee (SDC) meeting.

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2023	Year 2024	Year 20__+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$361.4	$120.5	$0	$481.8
Outside Services	$1,034.8	$344.9	$0	$1,379.7
Materials	$1,155.3	$385.1	$0	$1,540.4

Removals	$797	$265.7	$0	$1,062.7
Risk and Contingency	$0	$0	$0	$0
Other	$0	$0	$0	$0
Subtotal – Direct Costs	**$3,348.6**	**$1,116.2**	**$0**	**$4,464,7**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$2,057.4	$685.8	$0	$2,743.2
Capitalized interest or AFUDC, if any	$136.5	$45.5	$0	$181.9
Subtotal – Indirect Costs	**$2,193.8**	**$731.3**	**$0**	**$2,925.1**
Total Gross Capital Costs	**$5,542.4**	**$1,847.5**	**$0**	**$7,389.8**
Customer Contribution	**-$534**	$0	**$0**	**-$534**
Total Net Capital Project Costs	**$ 5,293.6**	**$ 1,847.5**	**$0**	**$ 7,141.1**

Technical Justification:

Project Need, Objective and Justification:

[redacted]

[redacted]

[redacted]

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Project Scope:

2023 Work – Must be **completed** to supply power to customer by 12/31/2023

[redacted]

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

[redacted]

- [redacted]

[redacted]

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

[redacted]

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

[redacted]

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

[redacted]

[redacted]

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

[redacted]

- [redacted]
- [redacted]

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Customer Cost on their private property

- New manhole duct system from Day Hill and Arlington Rd up to [redacted]
- Run 750 Cu for [redacted] from Day Hill and Arlington Rd up to [redacted]
- [redacted] – need new easement rights
- [redacted] – refer to one line

Major Material:

Line Extensions and Upgrades

- 6 Reclosers with bypass and visual break disconnect switches
- 4 Risers
- 2 Junction Poles
- 2 Class 1 or 2 Poles
- 21,900 ft of 1000 Cu UG Cu 3-1/C
- 3 GOABs
- 3395' of 8 conduits – 6" ducts
- 8 Precast Manholes

Under NB-12 Customer Cost

- 1 pair PME-9 Switchgear
- 8430' - 750 Cu 3-1/C UG cable
- 9260' - 4/0 Al
- 6 X 2MVA Transformers

Background:

Customer is building a new commercial and residential village in the [redacted] Windsor, CT with a projected load of [redacted].

[redacted] Currently, there is an approved project CD01890 for a new service of approximately [redacted] to have enough capacity for [redacted] load.

[redacted]

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[redacted]

[redacted]

Alternatives Considered:

Option 1 – Proposed Design

Option 2 – This option is calling to [redacted] The total cost associated with the option is approximately $6,288K. This option was not selected due to the lack of additional future capacity in the area.

Option 3 – [redacted] total cost associated with this option is approximately $10,445K. This alternative option was not selected due to the extra cost.

Project Option Comparison

	Options
[redacted]	

[redacted]

Cost	$7,438K	$6,288k	$10,445 K
MVA added	12.55	12.55	12.55
Cost / MVA added	$592K/MVA	$501.03K/MVA	$832.27K/MVA
Preferred option	X		

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

This project may require a permit for pole replacements and the recloser installation near Griffin Road North, the Railroad by Day Hill Rd, Windsor and Adam Street, Bloomfield. These poles are easily accessible from the main road. There will also be permits needed to run the manhole duct system crossing Blue Hills Ave on Day Hill Rd to Arlington Rd in Windsor.

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	April, 2023
Detail Design	May, 2023
Settings Requested	May, 2023
Construction Start	July, 2023
Customer Site Energized (not at full capacity)	October, 2023
Testing/Commissioning	April, 2024
In Service Date	May, 2024

Risks and Risk Mitigation Plans

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	High	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	2023	High	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.