EVERSOURCE

Project Approval Form

Project Title: Country Club Development Wtby Rebuild	Project Number: CD01925
Date Prepared: 09/20/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**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: 12/31/2023	
Total Capital Request: $1,049.1K	**Authorization Type:** Full Funding

1. Executive Summary

This project has been established to cover the costs associated with facilities upgrade at the Country Club Development, located off Oronoke Rd in Waterbury. [redacted]

- Approved Initial Funding Authorization: $1,319K at the 3/24/2022 CT-PAC meeting.
- Requesting Full Funding authorization: $1,049.1K or 80% of the Initial Funding authorization.
- Project Location:
  - Division: Western
  - District: Waterbury AWC
  - Town: Waterbury

There was no change in scope. The variance is due to the project originally estimated to be all done by contractors. However, contractors did only the civil portion. The cable and pole work were done using in-house crews. Also, traffic control was overestimated. The work was done in a residential area with minimal traffic, so traffic controls costs were less than anticipated.

2. Project Cost Summary

Financial Evaluation ($000's)

Capital Costs	2022 Actual	2023 Actual	Total
Internal Labor and Construction Equipment	74.1	9.3	83.4
Outside Services	247.7	31.2	279.0
Materials	59.1	7.5	66.6
Removals	83.3	15.0	98.3
Risk and Contingency	0.0	20.6	20.6
Other	1.0	0.1	1.2
Subtotal	**465.3**	**83.7**	**549.0**

Indirect Capital Costs	2022 Actual	2023 Actual	Total
Indirects/Overheads (including benefits)	405.3	52.4	457.7
Capitalized interest or AFUDC, if any	22.4	20.1	42.5
Subtotal	**427.7**	**72.4**	**500.1**
Total Capital Costs (Gross)	**892.9**	**156.2**	**1,049.1**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**892.9**	**156.2**	**1,049.1**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

The facilities at the Country Club Development off Oronoke Rd. In the City of Waterbury, require upgrade. The outage history since 1/1/2007 shows that there have been five transformer failures and two cable failures in this development, with the most recent failure occurring on 3/15/2022.

Below is a history of the failures in this development:

[redacted]

[redacted]

c. Project Scope

This project proposes the following:

[redacted]

4. Alternatives Considered

Option 1 – [redacted]

Option 2 – [redacted]

Project Option Comparison		
Design Criteria	Option	
[redacted]		
Authorization Type	Partial	Full
Capital Cost	$1,159K	$1,049K
Expense Cost	$56K	$51K
Total Cost	$1,215K	$1,100K
Cost / CM Saved	$161.98/CM	$145.89/CM
Cost / CI Saved	$54,457/CI	$40,455/CI
Preferred option		X

5. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	3/24/2022
100% Detailed Engineering Completion	Completed
Fully Funded	9/28/2023
In Service Date	12/31/2023

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.	2022-3	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	2022	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2022-3	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.	2022	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2022-3	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2022-3	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2022-3	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

9. References

References
1. None

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

Attachment	Included in Submittal?
A. Cost Estimate	*NO*
B. Geographic Map	*YES*
C. Initial Funding PAF	*YES*







EVERSOURCE

Operations Project Authorization Form

Project Title: Country Club Development Wtby Rebuild	**Project Number: CD01925**
Date Prepared: 03/23/2022	**Company:** Eversource CT
Organization: EFO	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** Reliability Improvement Spec Projects
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 12/31/2022	**Emergency Related Request?** Yes
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF X Distribution
Total Gross Capital Request: $1,319K	**Authorization Type:** Initial Funding

Executive Summary

This project has been established to cover the costs associated with facilities upgrade at the Country Club Development, located off Oronoke Rd in Waterbury. [redacted]

Project Costs Summary

Capital Costs	Year 2022	Year 2023	Year 2024+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$100	$0	$0	$100
Outside Services	$299	$0	$0	$299
Materials	$314	$0	$0	$314
Removals	$84	$0	$0	$84
Risk and Contingency	$10	$0	$0	$10
Other	$0	$0	$0	$0
Subtotal	**$807**	**$0**	**$0**	**$807**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$484	$0	$0	$484
Capitalized interest or AFUDC, if any	$27	$0	$0	$27
Subtotal	**$512**	**$0**	**$0**	**$512**
Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$1,319**	**$0**	**$0**	**$1,319**

Technical Justification:

The facilities at the Country Club Development off Oronoke Rd. in Waterbury, require upgrade. The outage history since 1/1/2007 shows that there have been five transformer failures and two cable failures in this development, with the most recent failure occurring on 3/15/2022.

Below is a history of the failures in this development:

[redacted]

Project Scope

This project proposes the following:

[redacted]

See attached map for details of the above (Appendix B).

The cost of this proposal has been estimated to be $1,334K in total dollars ($1,319K capital). See attached Project Cost Back-up details (Appendix C).

Major Material:

3,121' - #1 AL EPR 1/C 15kV cable
532' – 500kcmil Cu 4CT 600V secondary cable
4 – Hex Holes

Background

[redacted]

Alternatives Considered:

Alternatives were considered (please describe below)

[redacted]

Design Criteria	Option	
[redacted]		
Cost	$1,474K	$1,334K
Cost / CM Saved	$196.52/CM	$176.92/CM
Cost / CI Saved	$66,066/CI	$49,061/CI
Preferred option		X

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	5/1/2022
Construction Start	6/1/2022
In Service Date	12/31/2022

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2022	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	2022	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach
Internal construction resources not available to perform the work.	2022	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.	2022	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2022	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2022	Low	Schedule work to minimize system abnormal time. Most of this work will require system to be abnormal for any extended period of time.

References

None

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

A – Civil Inspection Results memo

Wtby Eastridge Dr
MH Inspection Resu

B – Project Maps:

CD01925 Maps
Revised 03-21-2022.

C – Project Cost Back-up Details

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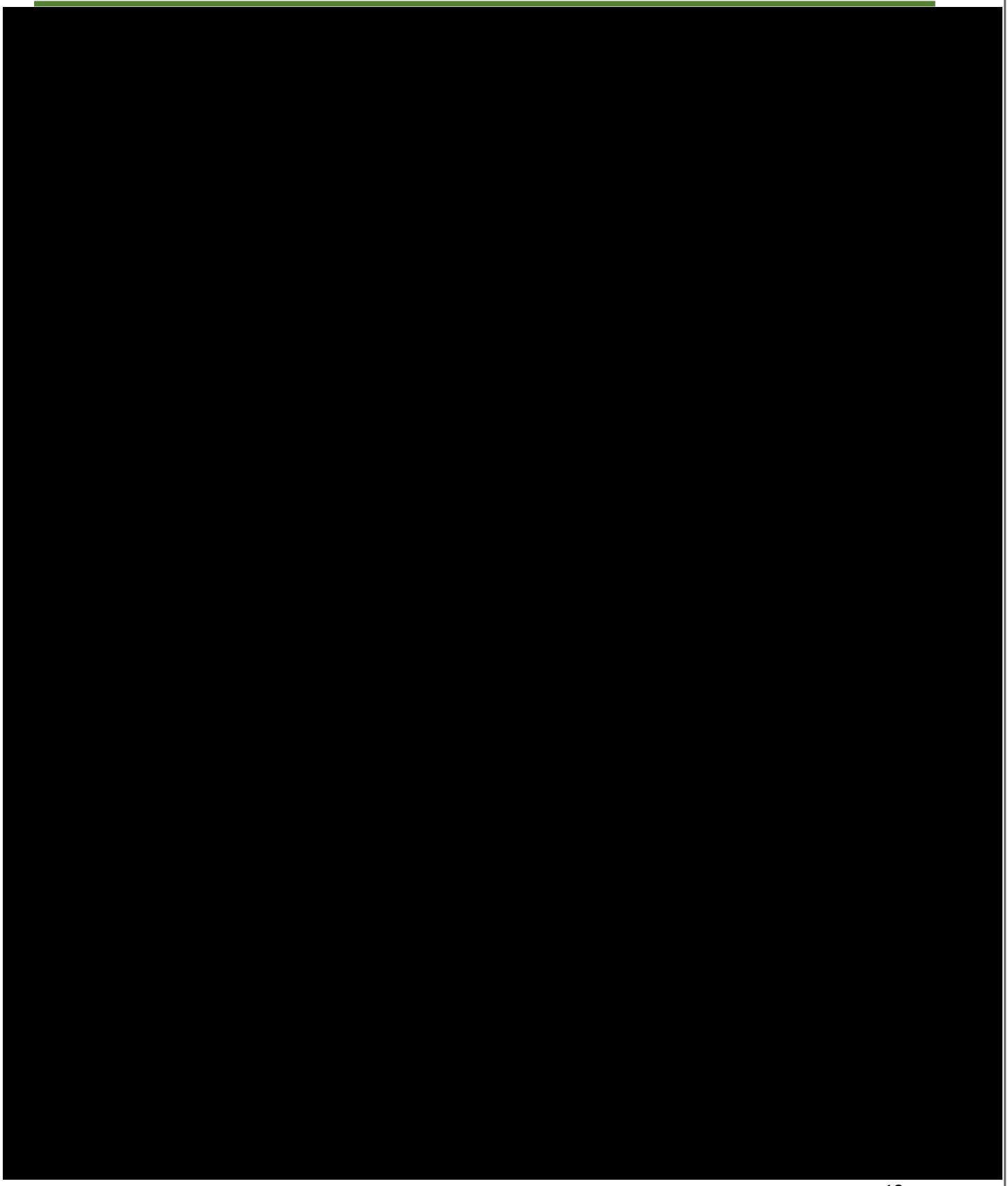

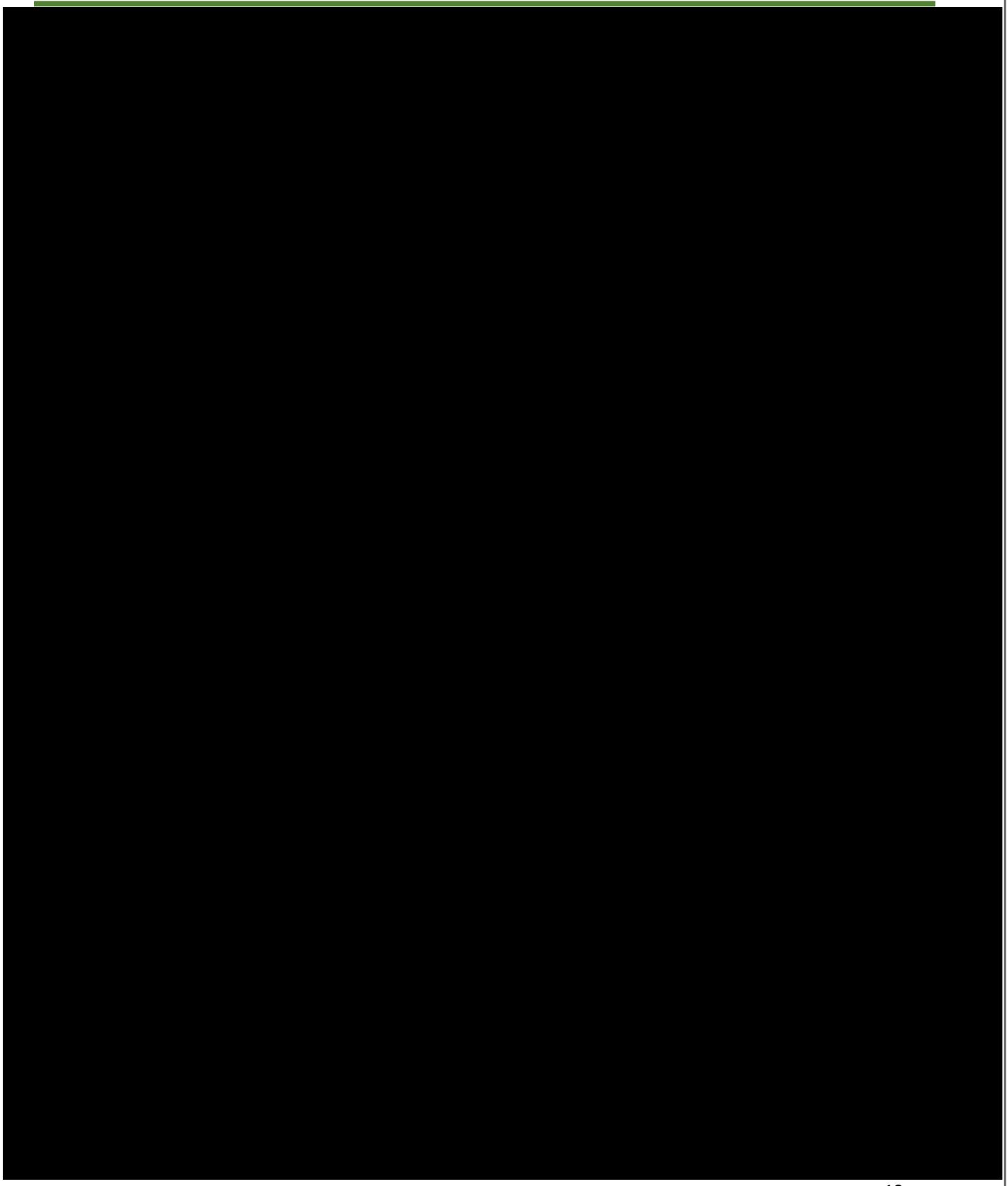

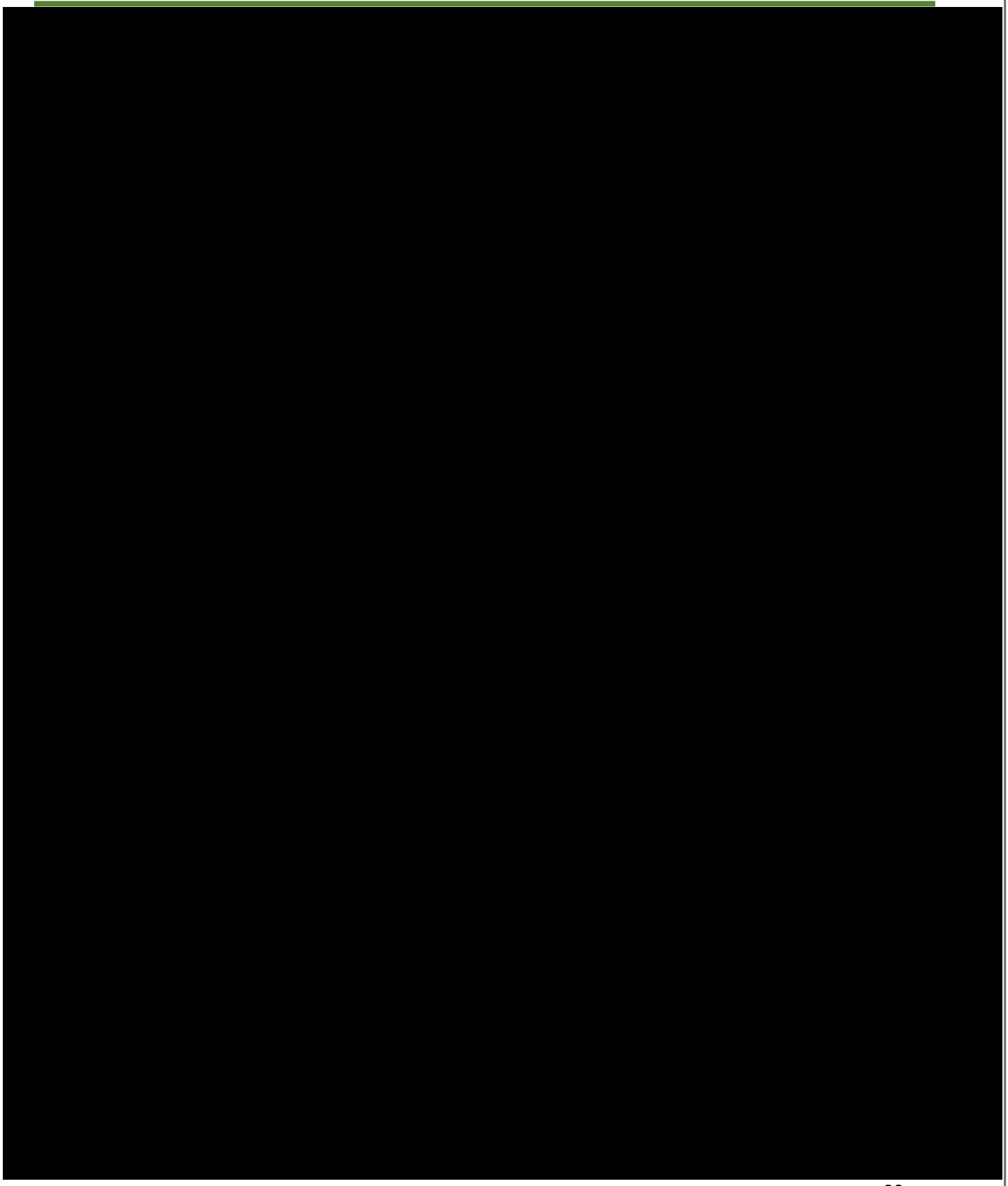

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01925

Country Club Devel Wtby Rebuild

Work Classification

Category: Line
Type: REL1
Type Desc: RELIABILITY IMPROVE SPEC PROJ
Work Type:

Ownership / Management

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

Project Information

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

Budget Summary - Preferred Option

Loop with 4 Hex Holes

2022

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
2	Repl cable, create loop & Inst 4 hex hol	Prelim	0	20%	$1,333,962	$1,333,962
				2022 Total:	$1,333,962	$1,333,962
				Total Project:	$1,333,962	$1,333,962

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Loop with 7 Hex Holes	1	$1,473,927	$0	100%	$257.79	$257.79	☐
O2	Loop with 4 Hex Holes	2	$1,333,962	$0	100%	$231.66	$231.66	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Repl cable, create loop & Inst 7 hex hol	$1,473,927			$196.52	$196.52
2	Repl cable, create loop & Inst 4 hex hol	$1,333,962			$176.92	$176.92

Design Alternative CD01925-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	20.00%
SubTotal:	$1,228,273
Contingency Amount:	$245,655
Estimate:	$1,473,927
Reimbursement:	$0
Net Amount:	**$1,473,927**
Description:	

Item Description	CU	[redacted]	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$150,000.00
DB CABLE DB/UG - #1 - 1/C (1ph) Al	16-UG111		$42,796.80
ENCLOSURE UG - HEXHOLE	16-UG142		$214,160.80
POLE DB/UG - Riser - 1ph	16-UG145		$7,370.40
UG CABLE UG - Cable Removal - all cables	16-UG117		$41,300.00
OTHER OTHER 20% adder for contract labor	16-ALL14		$205,000.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved 2-5" ducts from new pole to #194	16-UG137		$75,072.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved 2-5" from #197 to #301	16-UG137		$203,320.00
ENCLOSURE UG - MANHOLE - Rebuild, enlarge or re-roof Manhole #194: replace manhole roof & rebuild walls	16-UG141		$98,978.40

Design Alternative			CD01925-01
OTHER OTHER Modify MH tops for xfmr access: 7 @ $20k/loc	16-ALL14	[redacted]	$140,000.00
POLE OH - POLE - 3ph (CL&P custodian) New pole for new riser	16-OH14		$4,676.00
OTHER OTHER Pull Box for new conduit	16-ALL14		$20,000.00
OTHER OTHER rem transformers at #302 & #194	16-ALL14		$3,000.00
XF DB/UG - Padmount XF - 3ph Replace transformers at #195 & #301	16-UG131		$12,598.40
OTHER OTHER run 500kcmil 3/C secondary cable from MH #194 to #195 and from #301 to #302	16-ALL14		$10,000.00

Design Alternative CD01925-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	20.00%
SubTotal:	$1,111,635
Contingency Amount:	$222,327
Estimate:	$1,333,962
Reimbursement:	$0
Net Amount:	**$1,333,962**

Description:

Item Description	CU	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$140,000.00
DB CABLE DB/UG - #1 - 1/C (1ph) Al	16-UG111	$44,942.40
UG CABLE UG - Cable Removal - all cables	16-UG117	$41,300.00
ENCLOSURE UG - HEXHOLE	16-UG142	$122,377.60
POLE DB/UG - Riser - 1ph	16-UG145	$7,370.40
OTHER OTHER 20% adder for contract labor	16-ALL14	$188,000.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved 2-5" ducts from new pole to #194	16-UG137	$75,072.00
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved 2-5" from #197 to #301	16-UG137	$203,320.00
ENCLOSURE UG - MANHOLE - Rebuild, enlarge or re-roof MH #194: rplace MH top & rebuild walls	16-UG141	98,978.40

Design Alternative			CD01925-02
OTHER OTHER Modify MH tops for xfmr access: 7 @ $20k/loc	16-ALL14	[redacted]	$140,000.00
POLE OH - POLE - 3ph (CL&P custodian) New pole for new riser	16-OH14		$4,676.00
OTHER OTHER Pull box for new conduit	16-ALL14		$20,000.00
OTHER OTHER Rem xfmrs at #302 and at #194	16-ALL14		$3,000.00
XF DB/UG - Padmount XF - 3ph Repl xfmrs at #195 and #301	16-UG131		$12,598.40
OTHER OTHER run 500 MCM sec cable #301 to #302 and from #195 to #194	16-ALL14		$10,000.00