EVERSOURCE

Project Approval Form

Project Title: Energy Release MH covers – Eastern 2024	**Project Number: CD02325**
Date Prepared: 02/26/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** UNDERGROUND STRUCTURE ISSUE
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: $135.9K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$135.9K** which is 75.5% of the partial funding capital estimate of $180K. There is no scope change on the project. The variance between the full funding and partial funding estimate is due to utilization of McAllen's unit pricing to generate a cost estimate, which decreased the contractor cost of the project.

The Original Project was presented as follows:

Energy Release MH covers are made such that they do not dislodge from MH structures in the event of a splice/cable failure in the manholes. Eversource created a program to replace existing MH covers throughout its territory with new energy release manhole covers. This will begin in 2024 with a $1.5M investment across the state. Years 2025 and beyond will see investments being made as well. The $1.5M for 2024 will be spent across the 3 divisions with the highest priority holes being done first. Holes are prioritized as shown:

Priority	*Description*
1	*Outdoor Dining Areas*
2	*High Pedestrian and Vehicular Traffic*
3	*Downtown areas*
4	*Holes containing High Fault Duty circuits*
5	*Getaway manholes*
6	*Other*

Of the $1.5M allocated for next year, $583.3K has already been allocated for two previously presented and approved projects (CD02220 and CD02254) to install a total of 74 covers in Greenwich, CT. The remaining $929.2K will be used to replace 124 covers that have been identified as priority 1 throughout the state at an average cost of approximately $7,500 each in 2024.

This project is being created to request Partial Funding at a cost of $180K to install Energy Release MH covers at 24 priority 1 holes in the Eastern region of Connecticut throughout 2024. The manholes being addressed are shown in Attachment "B".

Location Information:

Division: Eastern

Districts: East Hampton, Madison, New London

City: Various Cities/Towns

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	Year 2	Year 3+	Total
Internal Labor and Construction Equipment	8.1	0.0	0.0	8.1
Outside Services	19.3	0.0	0.0	19.3
Materials	36.5	0.0	0.0	36.5
Removals	13.6	0.0	0.0	13.6
Risk and Contingency	9.5	0.0	0.0	9.5
Other	0.0	0.0	0.0	0.0
Subtotal	**87.0**	**0.0**	**0.0**	**87.0**

Indirect Capital Costs	2024	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	49.0	0.0	0.0	49.0
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**49.0**	**0.0**	**0.0**	**49.0**
Total Capital Costs (Gross)	**135.9**	**0.0**	**0.0**	**135.7**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**135.9**	**0.0**	**0.0**	**135.9**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Two types of Energy Release Manhole Covers and Frames were piloted on Eversource's system in early 2023 – Neenah and East Jordan. The preference is for East Jordan (EJ) covers. Some specifications of EJ covers and frames are as follows:

- Designed to restrain the cover during explosion.
- Cover is allowed to lift providing relief of internal pressure.
- Currently tooled for various sizes ranging from 26" – 40" diameter. Other sizes are available upon request.
- Heavy duty (AASHTO H25 rated)
- Optional security bolt



b. Project Need

Cable faults in manholes sometimes cause an explosion that dislodges the manhole covers and they get launched up in the air. This poses a danger to pedestrians and could cause property damage. Eversource created a program to proactively replace all manhole covers throughout the state with new energy release covers. These new covers would release the energy caused from faults and gaseous build up in these manholes, and not allow the covers to be dislodged from the manholes. There are approximately 8,400 manholes on Eversource's UG system that are not of the Energy Release type – 835 of these are in the Eastern region. At an average cost of

approximately $7,500 per manhole cover replacement, 24 high priority covers will be replaced in Eastern Connecticut throughout 2024.

c. Project Scope

Replace 24 existing manhole frame and covers with new energy release frames and covers according to highest priorities throughout Eastern AWCs as shown in Attachment "B".

4. Alternatives Considered

The alternative to doing this project would be to leave the existing manhole frames and covers in place. Eversource has developed a program to proactively replace existing manhole frames and covers with safer energy release frames and covers.

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	November 2023
100% Detailed Engineering Completion	March 2024
Fully Funded	April 2024
Construction Start	April 2024
In Service Date	December 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	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	High	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
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.

9. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Priority 1 Manholes	*YES*
C. Manhole Summary	*YES*

Project Approval Form

Design Alternative CD02325-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$149,435
Contingency Amount:	$35,864
Estimate:	$185,299
Reimbursement:	$0
Net Amount:	**$185,299**

Description:

Item Description	CU	[redacted]	Amount
OTHER	23-ALL14		$149,435.00
OTHER Cost to replace 24 manhole covers			

Eastern Priority 1 Holes						
	LOC Geographic	LOC Street	LOC Suffix			Company
[redacted]						

Zone	LOC District	Count
CT CENTRAL	HARTFORD	19
CT EASTERN	MADISON	17
	NEW LONDON	7
CT WESTERN	NEWTOWN	5
	NORWALK	23
	STAMFORD	38
	TORRINGTON	2
	WATERBURY	13
Grand Total		124

Project Title: Energy Release MH covers – Eastern 2024	**Project Number:** CD02325
Date Prepared: 10/26/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** UNDERGROUND STRUCTURE ISSUE
Project Initiator: Bruce Peart	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** Yes
Project Manager: Mark Fangiullo	**Emergency Related Request?** No
Project Sponsor: Jeffrey Richard	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 12/31/2024	
Total Capital Request: $180K	**Authorization Type: Partial Funding**

1. Executive Summary

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Priority	Description
1	Outdoor Dining Areas
2	High Pedestrian and Vehicular Traffic
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5	Getaway manholes
6	Other

Of the $1.5M allocated for next year, $583.3K has already been allocated for two previously presented and approved projects (CD02220 and CD02254) to install a total of 74 covers in Greenwich, CT. The remaining $929.2K will be used to replace 124 covers that have been identified as priority 1 throughout the state at an average cost of approximately $7,500 each in 2024.

This project is being created to request Partial Funding at a cost of $180K to install Energy Release MH covers at 24 priority 1 holes in the Eastern region of Connecticut throughout 2024. The manholes being addressed are shown in Attachment "B".

Location Information:

Division: Eastern

Districts: East Hampton, Madison, New London

City: Various Cities/Towns

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Internal Labor and Construction Equipment	3.8	0.0	0.0	3.8
Outside Services	73.9	0.0	0.0	73.9
Materials	4.6	0.0	0.0	4.6
Removals	42.8	0.0	0.0	42.8
Other	0.1	0.0	0.0	0.1
Risk and Contingency	0.0	0.0	0.0	0.0
Subtotal	**125.3**	**0.0**	**0.0**	**125.3**

Indirect Capital Costs	2024	2025	2026+	Total
Indirects/Overheads (including benefits)	54.2	0.0	0.0	54.2
Capitalized interest or AFUDC, if any	0.6	0.0	0.0	0.6
Subtotal	**54.8**	**0.0**	**0.0**	**54.8**
Total Capital Costs (Gross)	**180.0**	**0.0**	**0.0**	**180.0**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net)	**180.0**	**0.0**	**0.0**	**180.0**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

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6. Regulatory Decisions

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B. Priority 1 Manholes	*YES*
C. Manhole Summary	*YES*

Attachment A: Cost Estimate.

Design Alternative CD02325-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
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SubTotal:	$149,435
Contingency Amount:	$35,864
Estimate:	$185,299
Reimbursement:	$0
Net Amount:	**$185,299**
Description:	

Item Description	CU	[redacted]	Amount
OTHER	23-ALL14		$149,435.00
OTHER Cost to replace 24 manhole covers			

Attachment B: Eastern Priority 1 Manholes

Eastern Priority 1 Holes						
LOC District	LOC Geographic Town	LOC Street Name	LOC Suffix Abbrev	LOC Cross Street	Id	Company Number
MADISON	CLINTON	COW HILL	RD	ARK RD	35939607	MH#285
					35939611	MH#284
					35939627	MH#283
		EXIT 63	(blank)	INTERSTATE 95	35939603	MH#302
					35939655	MH#303
					35939659	MH#304
				KILLINGWORTH TPKE	35939615	MH#286
					35939619	MH#305
					35939623	MH#301
					102768337	MH#306
		KILLINGWORTH	TPKE	EXIT 63	102768332	MH#300
				WALNUT HILL RD	35939643	MH#279
					35939647	MH#278
					52512885	MH#277
		WALNUT HILL	RD	HAPPY ACRES RD	35939631	MH#280
					35939635	MH#282
					35939639	MH#281
NEW LONDON	GROTON	MAIN	ST	PEARL ST	224545084	MH#A
	LEDYARD	ORCHARD	LN	ROUTE 12	146577325	MH#569
					146577340	MH#570
					146577352	MH#571
					146577364	MH#572
	MONTVILLE	OLD COLCHESTER	RD	AZALEA LN	145095104	MH#266
	NEW LONDON	FAIRE HARBOUR	PL	(blank)	571723588	MH#226

Attachment C: Priority 1 Manhole Summary

Priority 1 Summary		
Zone	LOC District	Count
CT CENTRAL	HARTFORD	19
CT EASTERN	MADISON	17
	NEW LONDON	7
CT WESTERN	NEWTOWN	5
	NORWALK	23
	STAMFORD	38
	TORRINGTON	2
	WATERBURY	13
Grand Total		124