EVERSOURCE

Project Approval Form

Project Title: 2024 Large Customer Zones RWO – Western-11-20	**Project Number:** CD02203
Date Prepared: 10/27/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SMART SWITCHES PROGRAM
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: $1,690.4K	**Authorization Type:** Full Funding

1. Executive Summary

Work orders have been written and Full Funding is now being requested for this project at a cost of $1,690.4K. This cost is 107% of the approved partial funding cost of $1,574K. There is no change in scope to the project.

The 2024 Smart Switch Program addresses 40% of the large customer zones feeding over 1000 customers in Connecticut. The installation of multiple smart switches will reduce the customers affected in the event of future outages. The remaining large zones with over 1000 customers will be addressed under the 2025 Smart Switch Program. One project has been created per division.

CD02203 addresses 11 large customer zones in the Western Division with the installation of 20 viper reclosers. The zones addressed and the customers in each zone are listed below:

AWC	ZONE_DVCNAME	CUST IN ZONE
[redacted]		



2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Internal Labor and Construction Equipment	120.7	0.0	0.0	120.7
Outside Services	181.5	0.0	0.0	181.5
Materials	700.0	0.0	0.0	700.0
Removals	26.4	0.0	0.0	26.4
Risk and Contingency	117.9	0.0	0.0	117.9
Other	0.0	0.0	0.0	0.0
Subtotal	**1,146.5**	**0.0**	**0.0**	**1,146.5**

Indirect Capital Costs	2024	2025	2026+	Total
Indirects/Overheads (including benefits)	543.9	0.0	0.0	543.9
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**543.9**	**0.0**	**0.0**	**543.9**
Total Capital Costs (Gross)	**1,690.4**	**0.0**	**0.0**	**1,690.4**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**1,690.4**	**0.0**	**0.0**	**1,690.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The Smart Switch Program is a continuation of an Eversource initiative of a multi-year program to improve circuit reliability by adding automatic or SCADA sectionalizing devices on overhead distribution circuits. The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

b. Project Need

[redacted]

[redacted]

c. Project Scope

The scope for this project is as follows:

[redacted]

[redacted]

4. Alternatives Considered

An alternative for this project was to "do nothing", but this wasn't selected as it doesn't address the large customer zones that would be affected by a single location outage.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	April 2023
100% Detailed Engineering Completion	October 2023
Fully Funded	November 2023
Construction Start	March 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	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.

9. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Load Sheets	*YES*
C. One-lines	*YES*
D. Geographic maps	*YES*
B. Partial Funding PAF	*YES*

Attachment A: Cost Summary:

Newtown:

Design Alternative CD02203-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$521,368
Contingency Amount:	$125,128
Estimate:	$646,496
Reimbursement:	$0
Net Amount:	**$646,496**

Description:

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	$30,000.00
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted] Zone	16-OH38	$143,968.80
SECTIONALIZE OH - Recloser Control - setting changes only [redacted] Zone	16-OH39A	$9,771.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Zone	16-OH43	$30,849.60

[redacted]

Design Alternative CD02203-01

SECTIONALIZE OH - Recloser - 3ph [redacted] Zone	16-OH38	$47,989.60
SECTIONALIZE OH - Recloser Control - setting changes only [redacted] Zone	16-OH39A	$4,885.60
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Zone	16-OH43	$10,283.20

Stamford:

Design Alternative CD02203-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$205,118
Contingency Amount:	$49,228
Estimate:	$254,347
Reimbursement:	$0
Net Amount:	**$254,347**

Description:

Item Description	CU		Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]	$10,528.80
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$10,000.00
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$47,989.60
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$47,989.60
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$47,989.60
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph Disconnects for new recloser installations	16-OH43		$30,849.60
SECTIONALIZE OH - Recloser Control - setting changes only Setting changes on [redacted] to become SS	16-OH39A		$4,885.60
SECTIONALIZE OH - Recloser Control - setting changes only Settings change on [redacted]	16-OH39A		$4,885.60

Torrington:

Design Alternative CD02203-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$376,144
Contingency Amount:	$90,275
Estimate:	$466,419
Reimbursement:	$0
Net Amount:	**$466,419**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$20,000.00
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$143,968.80
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$30,849.60
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$143,968.80
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] New SRs	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser Control - setting changes only Change settings on [redacted] to MR	16-OH39A	$4,885.60
SECTIONALIZE OH - Recloser Control - setting changes only Change Settings on [redacted] to MR	16-OH39A	$4,885.60

[redacted]

Waterbury:

Design Alternative CD02203-04

Estimate

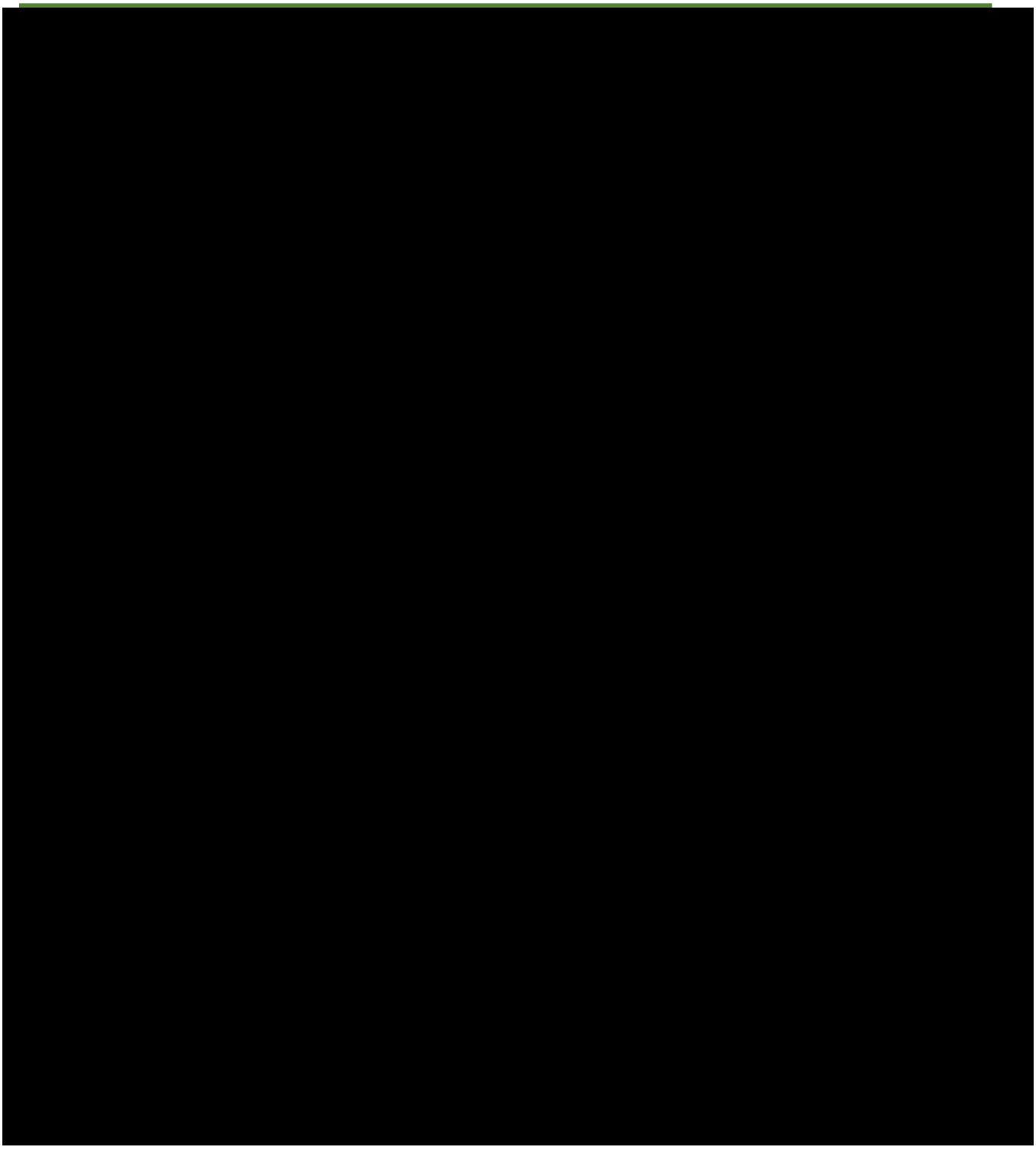
	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$199,494
Contingency Amount:	$47,878
Estimate:	$247,372
Reimbursement:	$0
Net Amount:	**$247,372**
Description:	

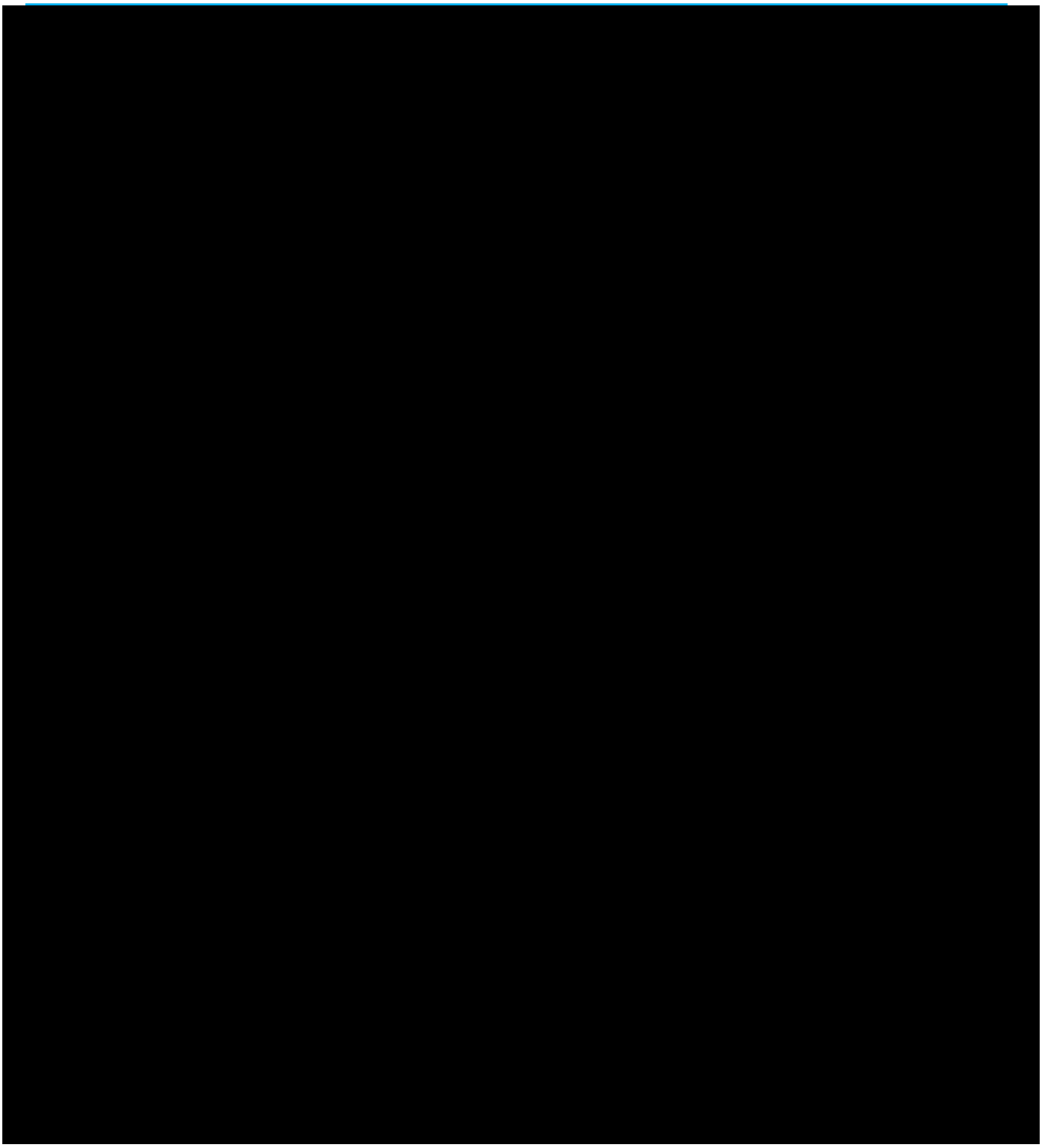
Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$12,000.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] circuits	16-OH43	$30,849.60
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$95,979.20
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$47,989.60
SECTIONALIZE OH - Remove Recloser (any) Remove [redacted]	16-OH42	$5,656.00

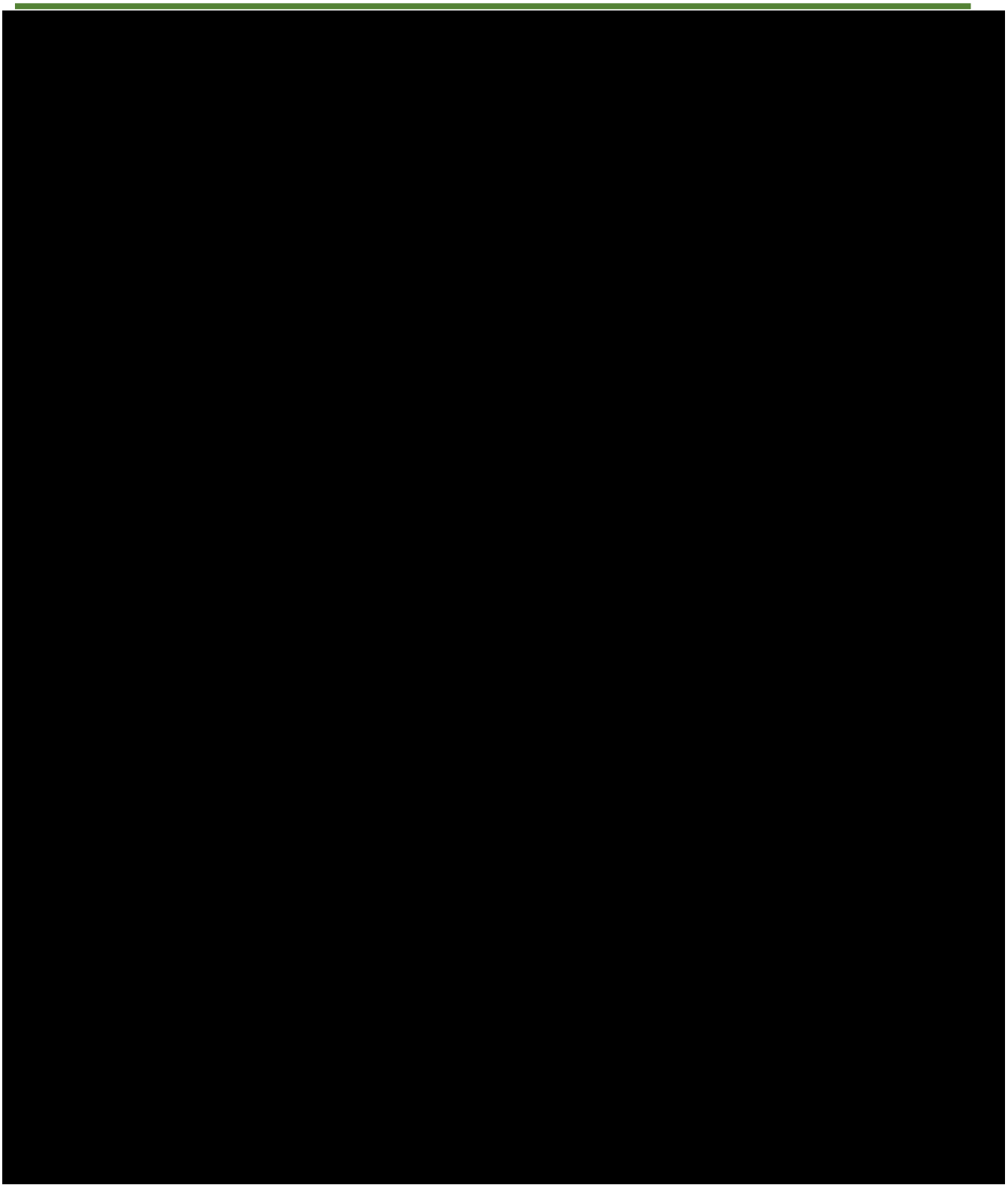
[redacted]

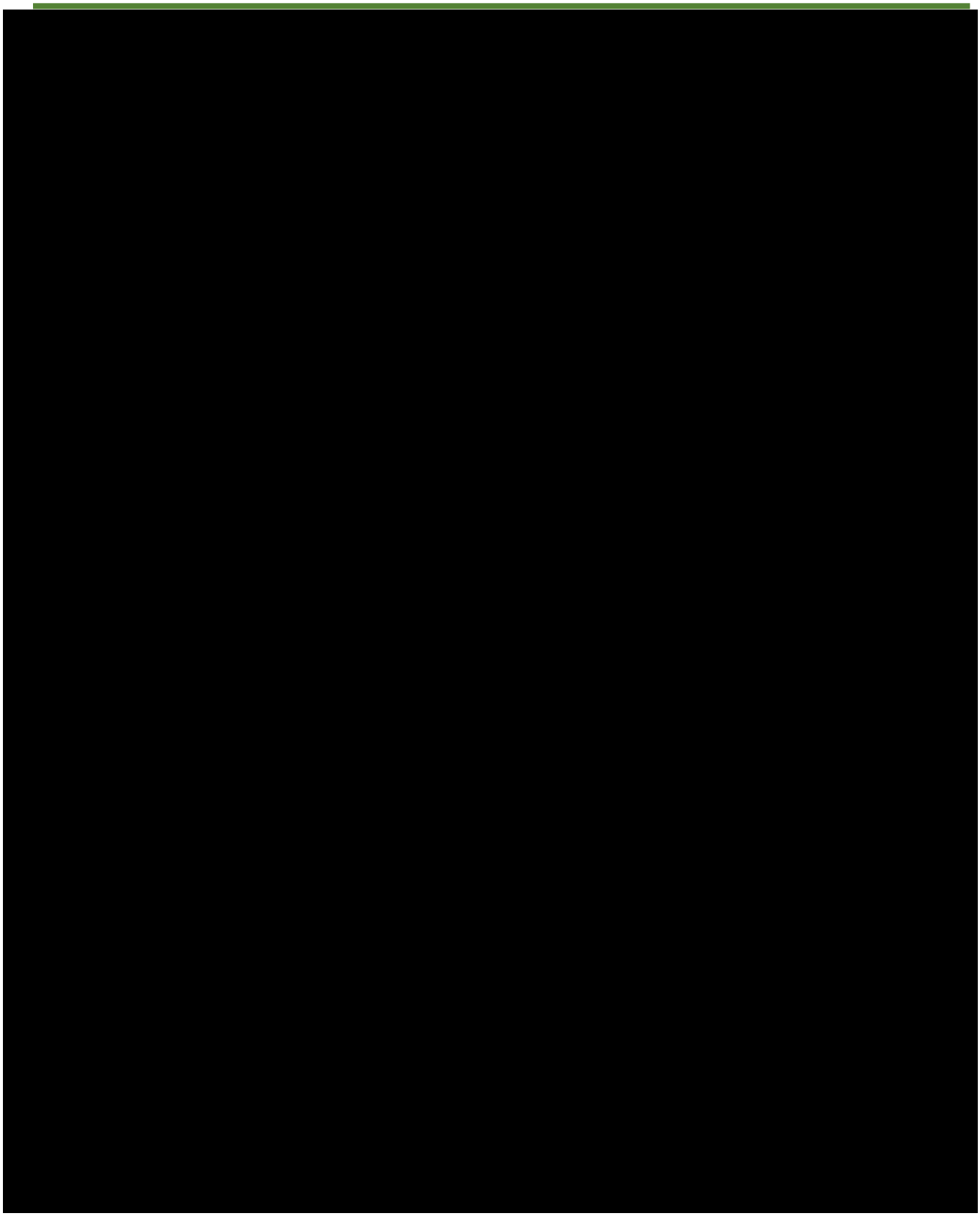
Attachment B: Load Sheet:







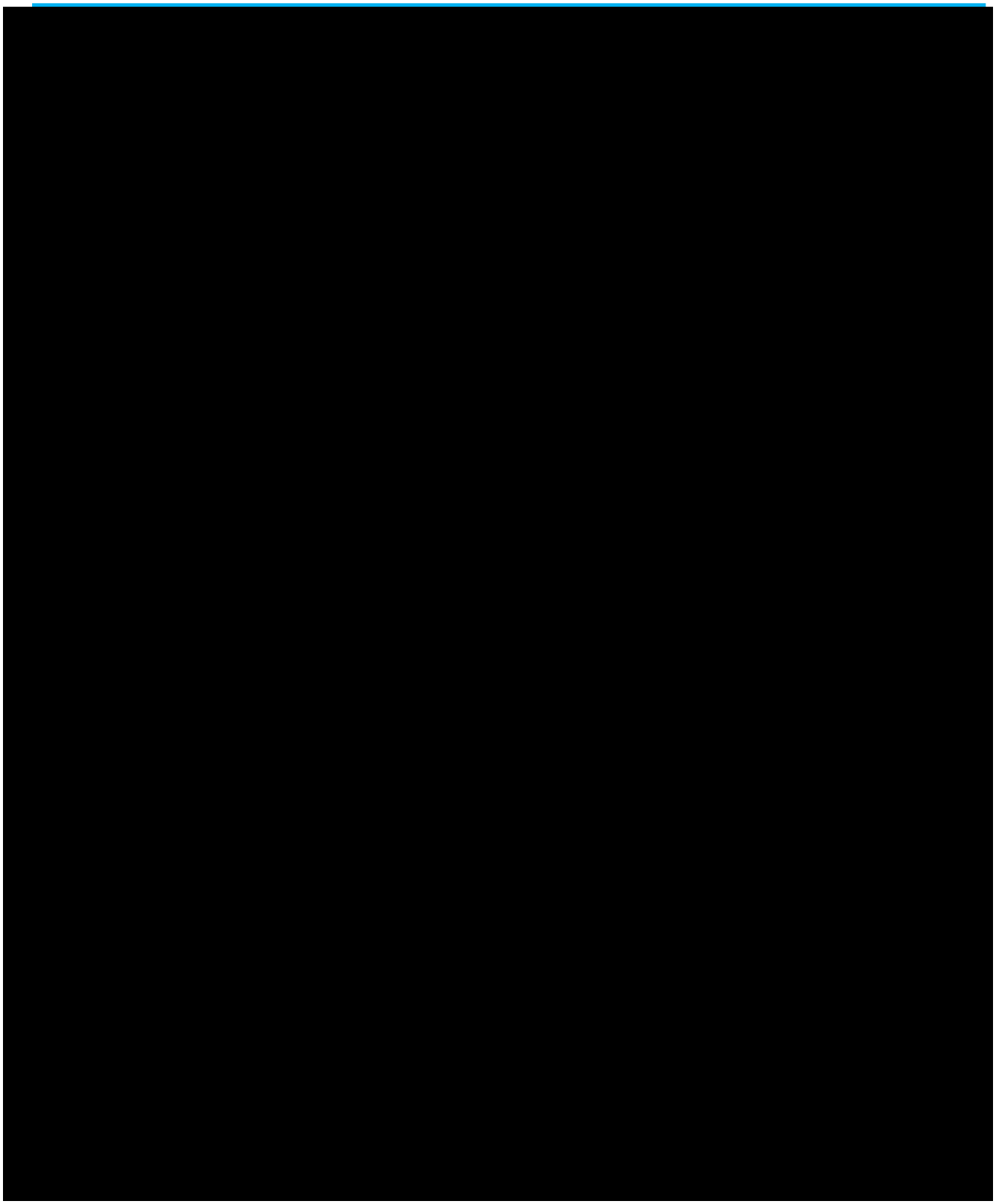










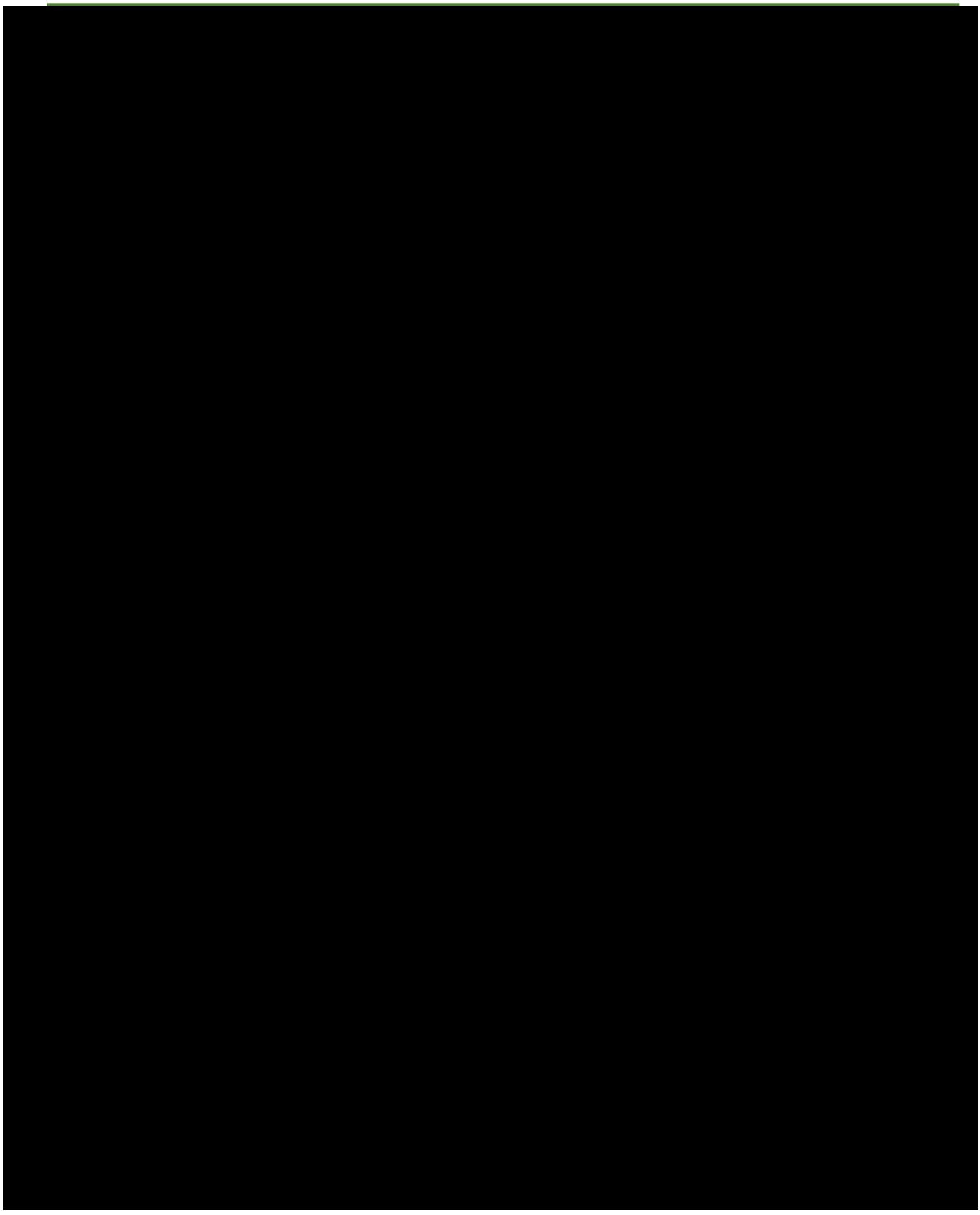


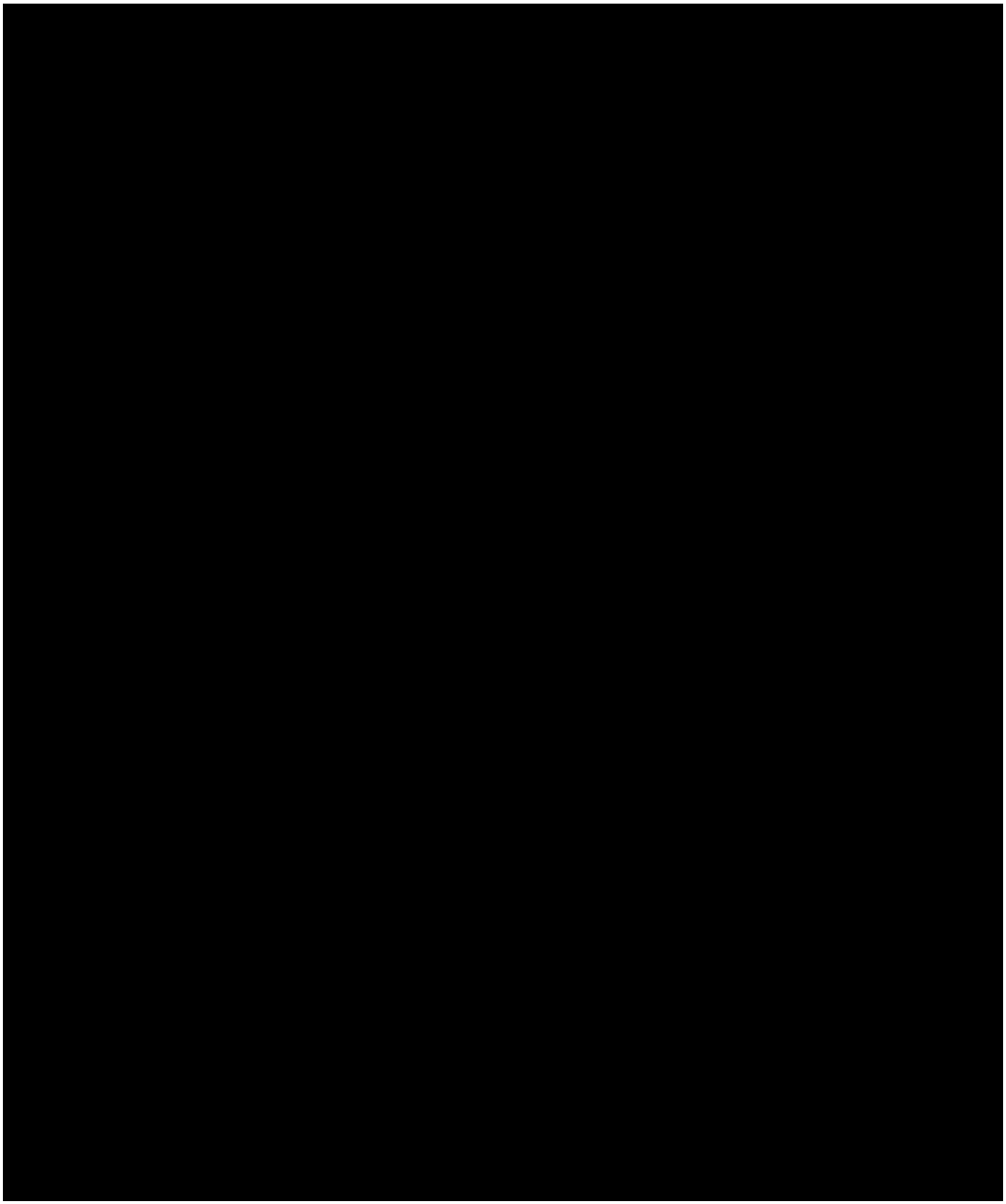


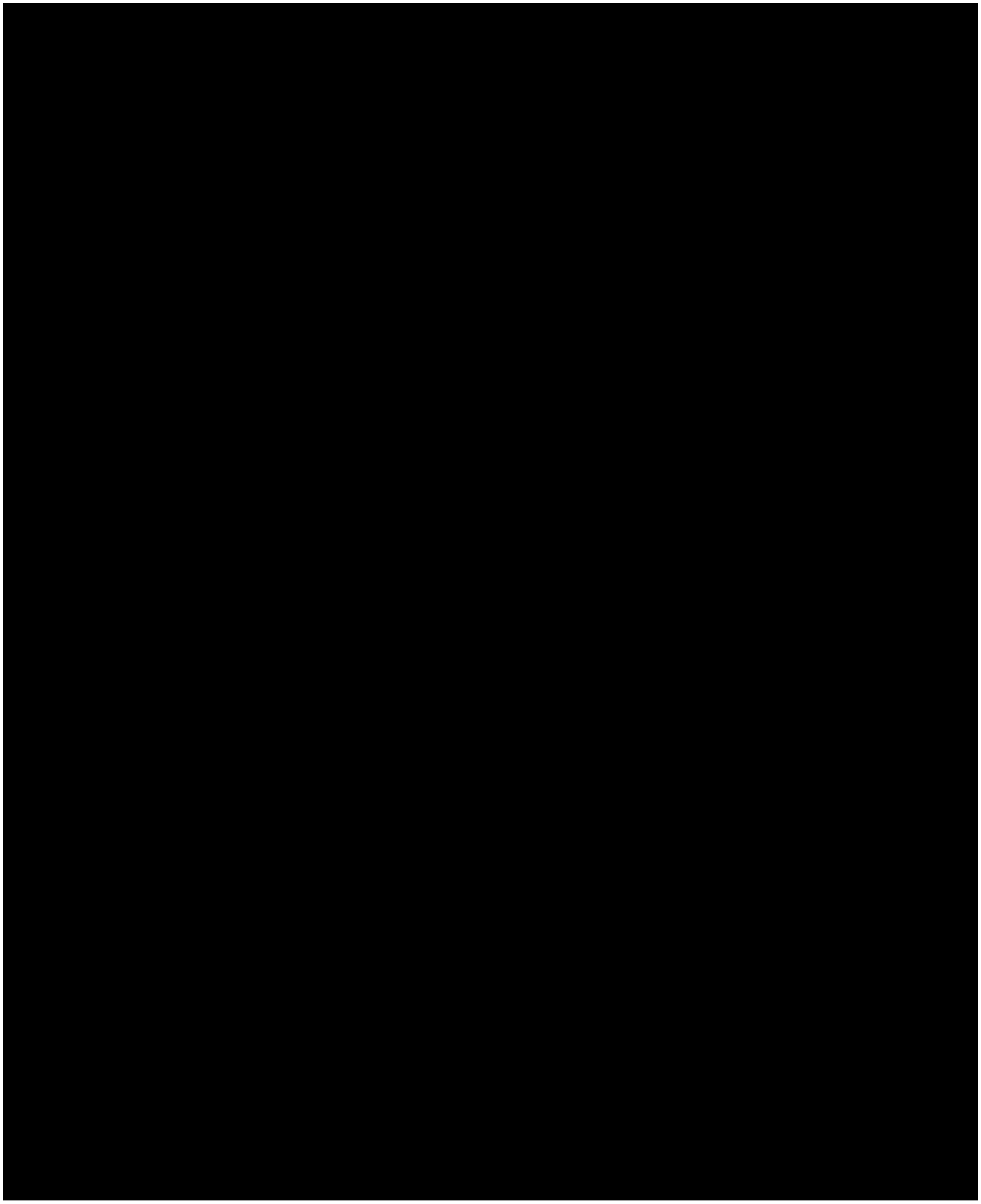
Attachment C: One line:

Newtown:

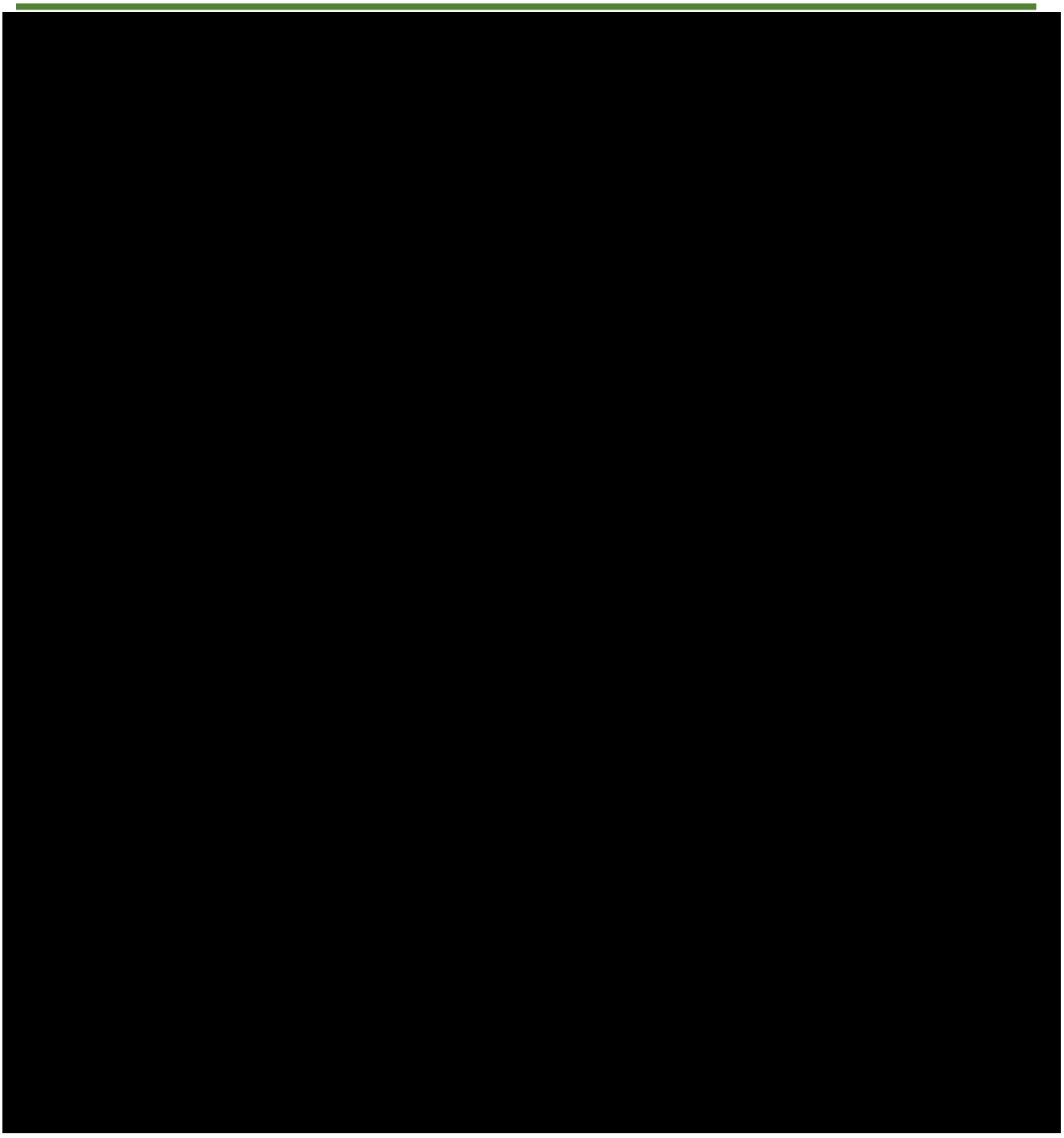


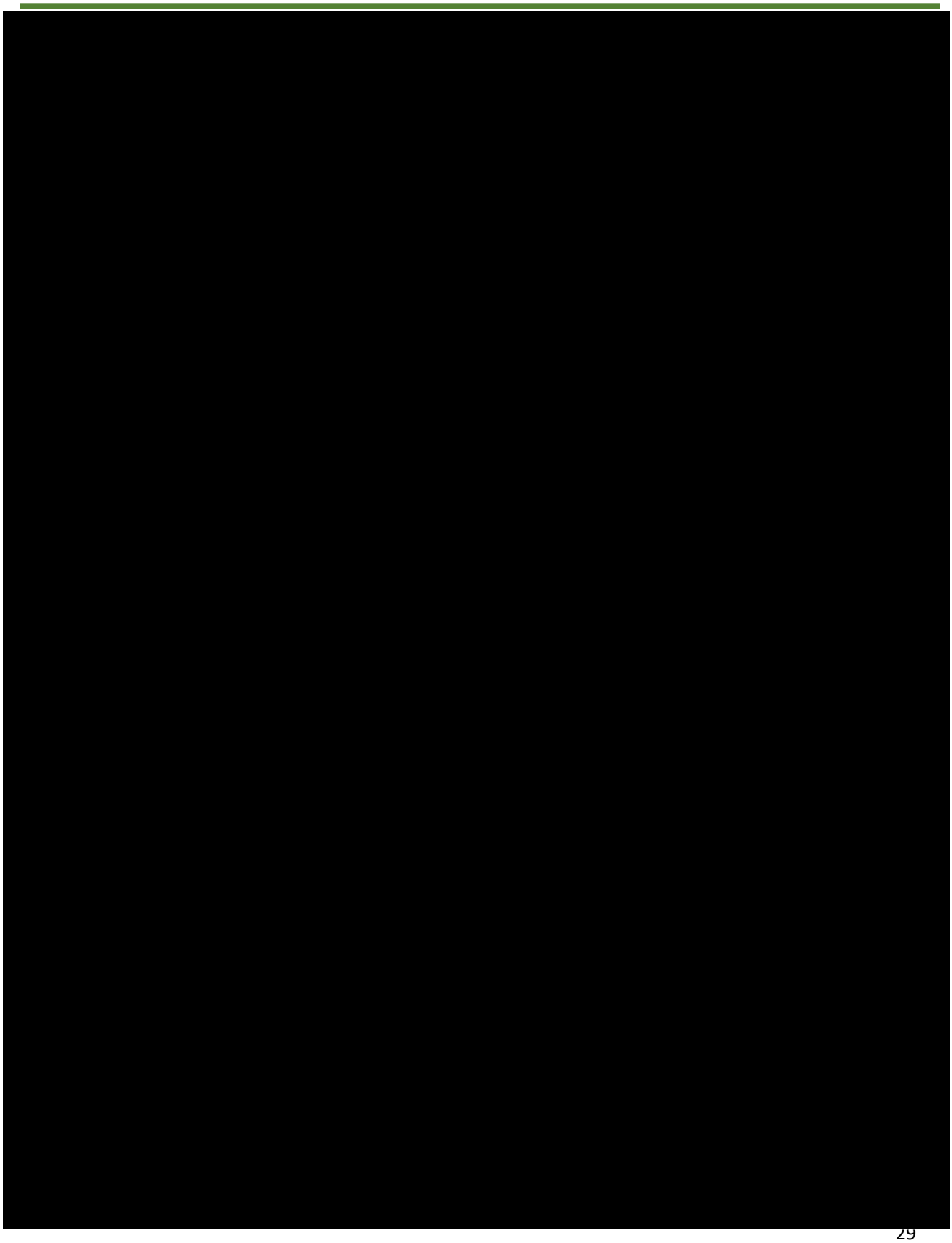












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Waterbury:

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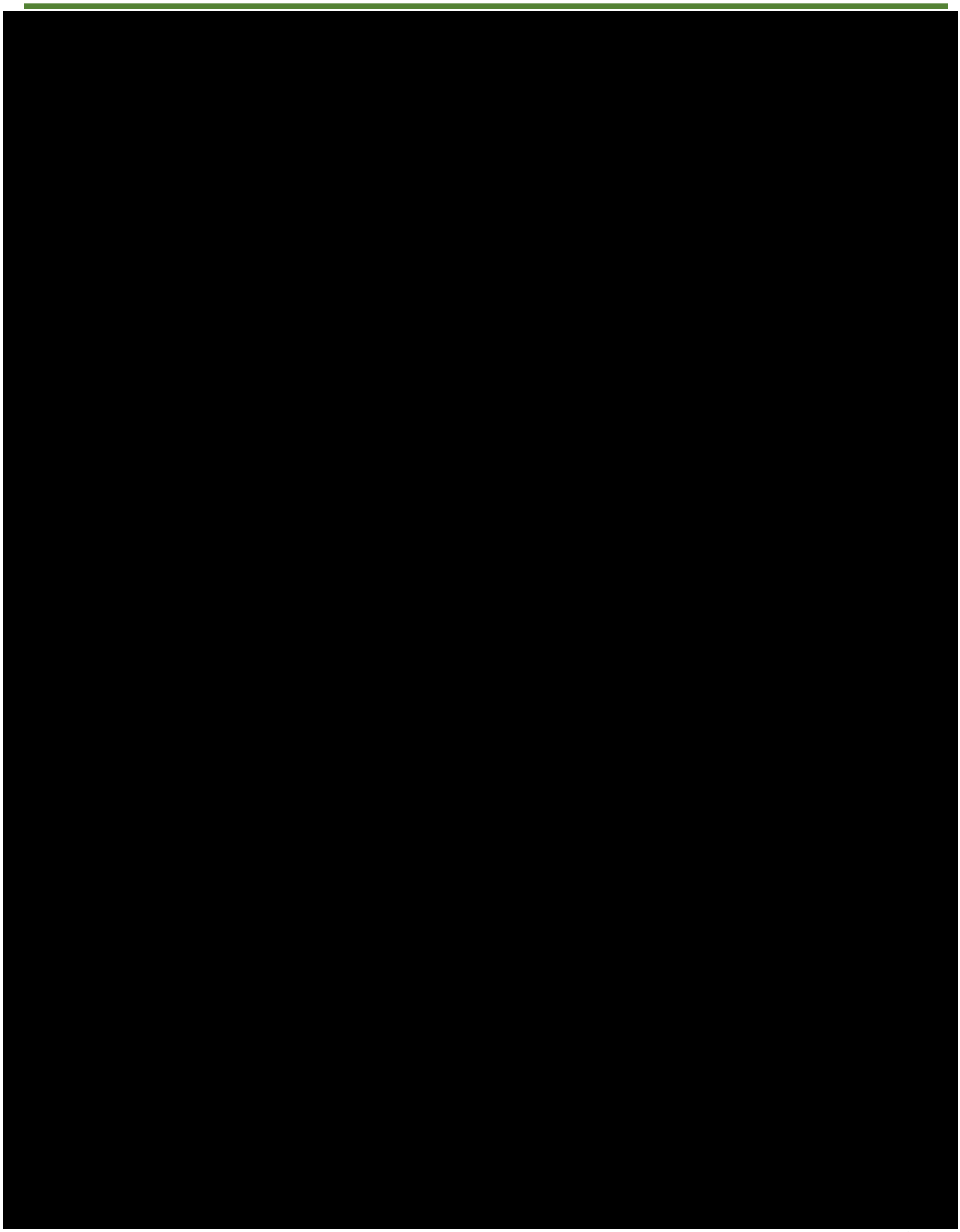
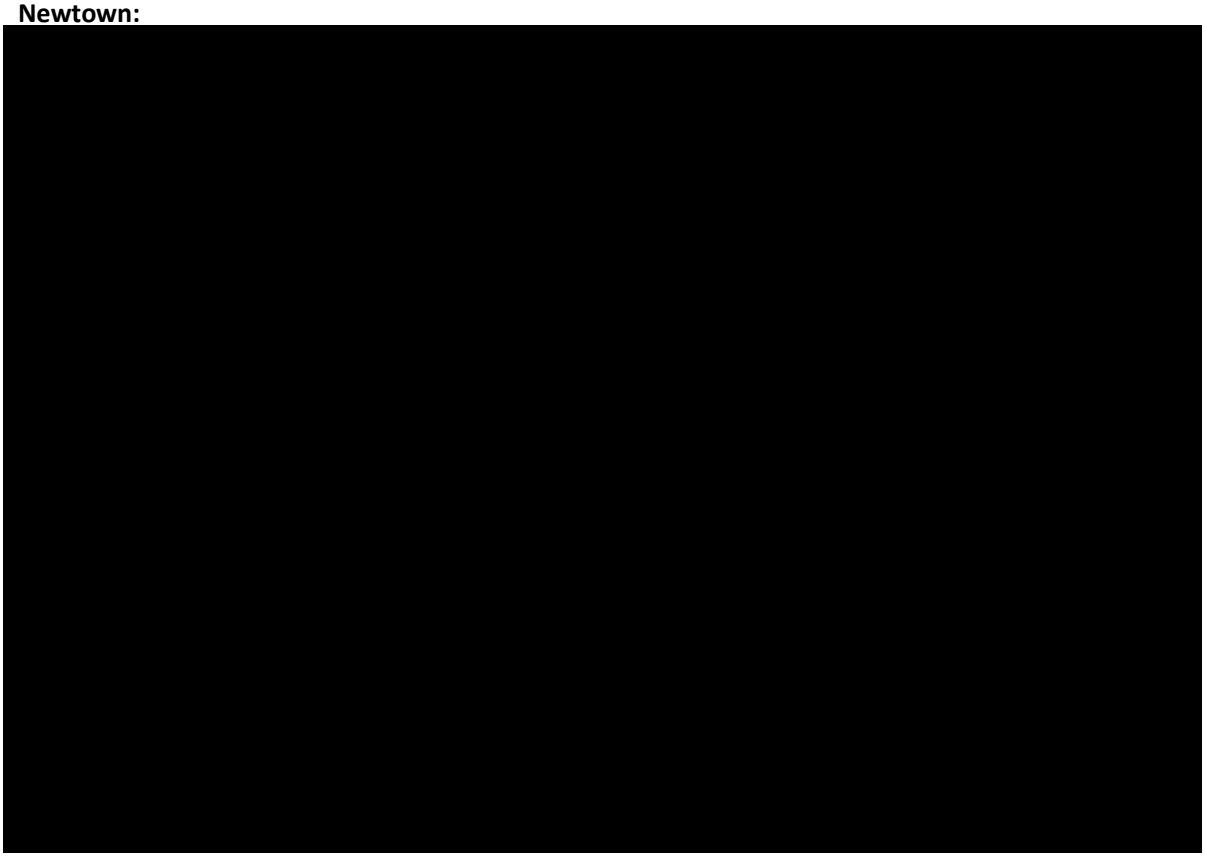




Attachment D: Geographic map:

Newtown:

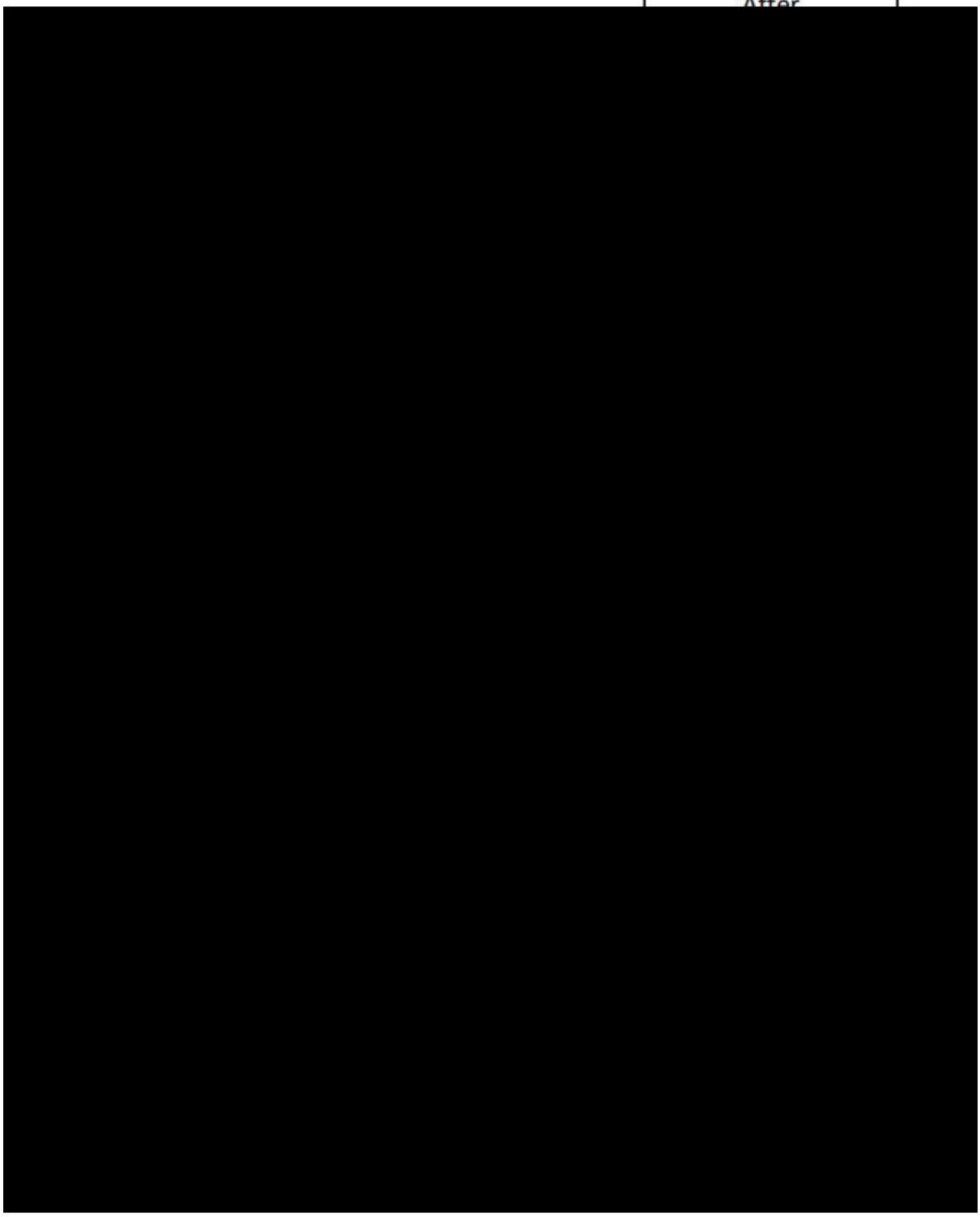


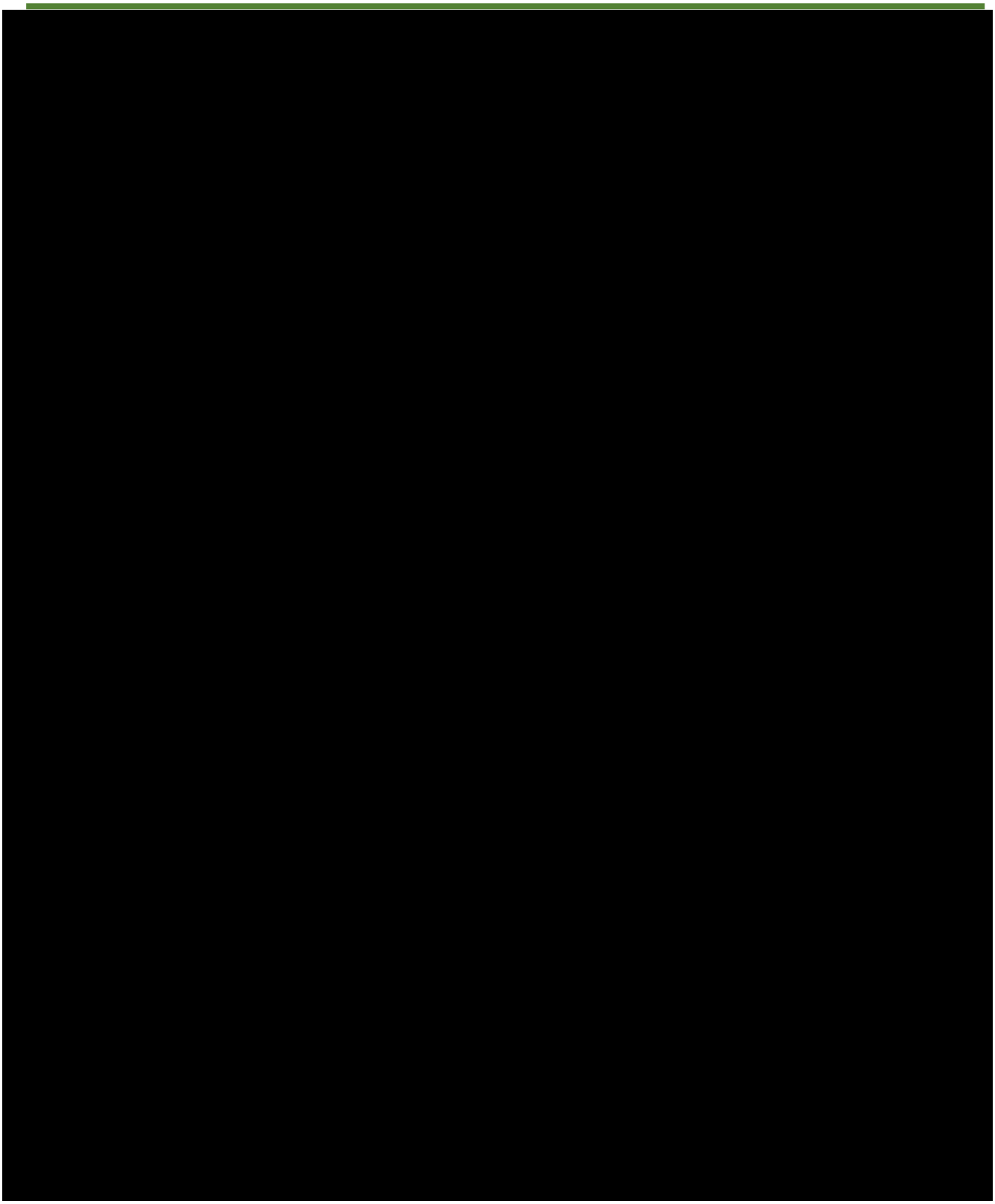


Existing

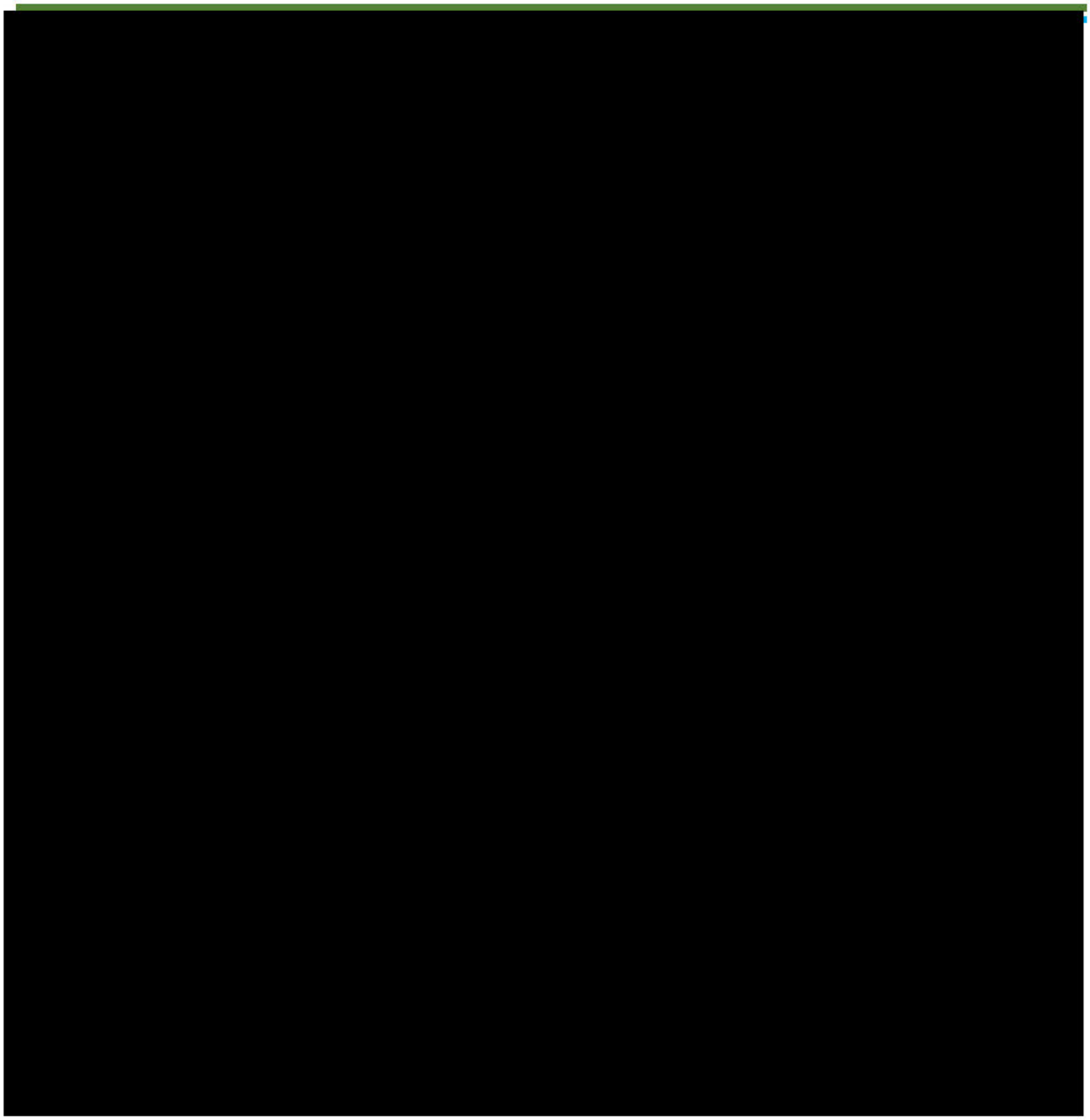
[redacted]

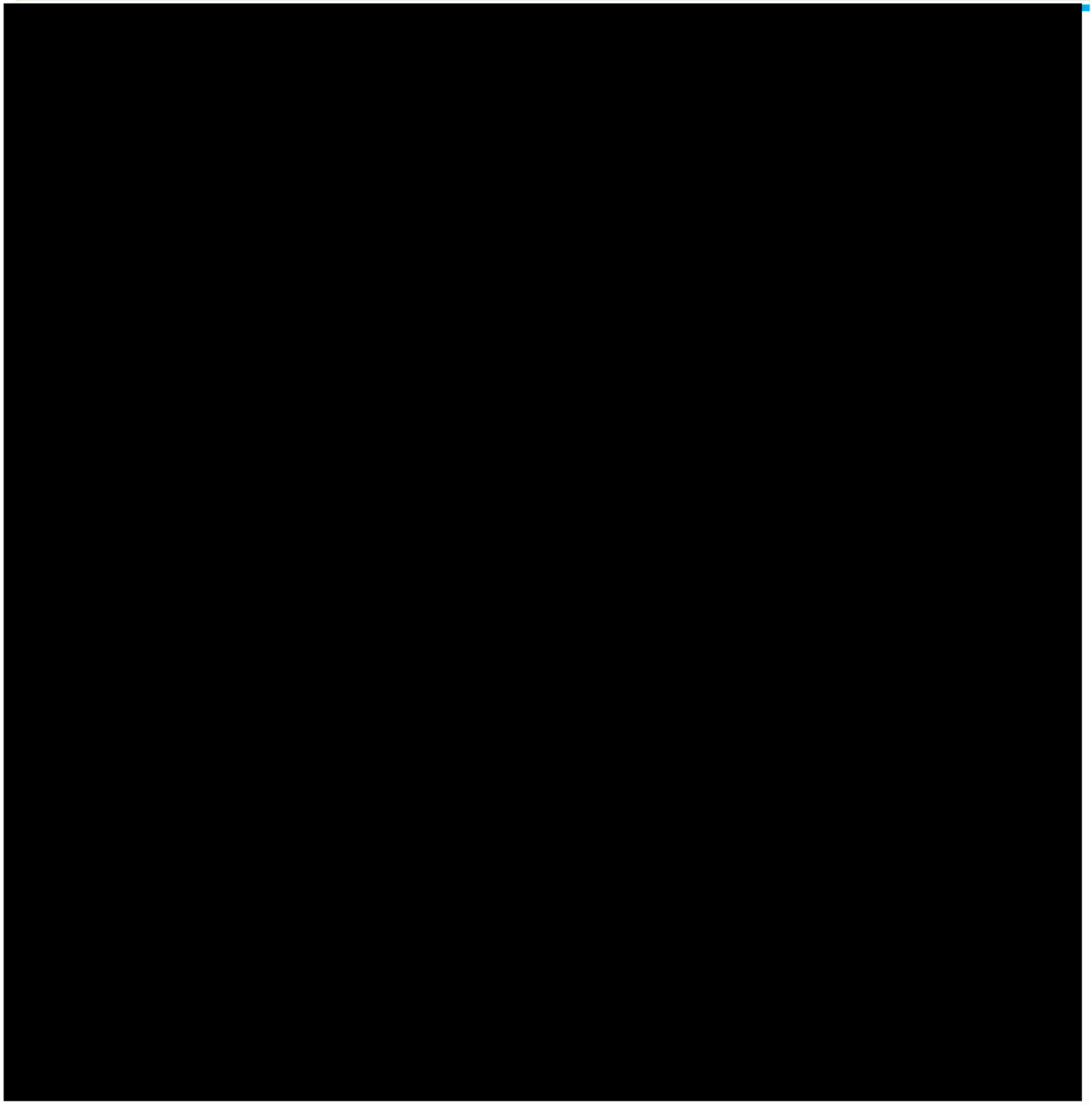
After

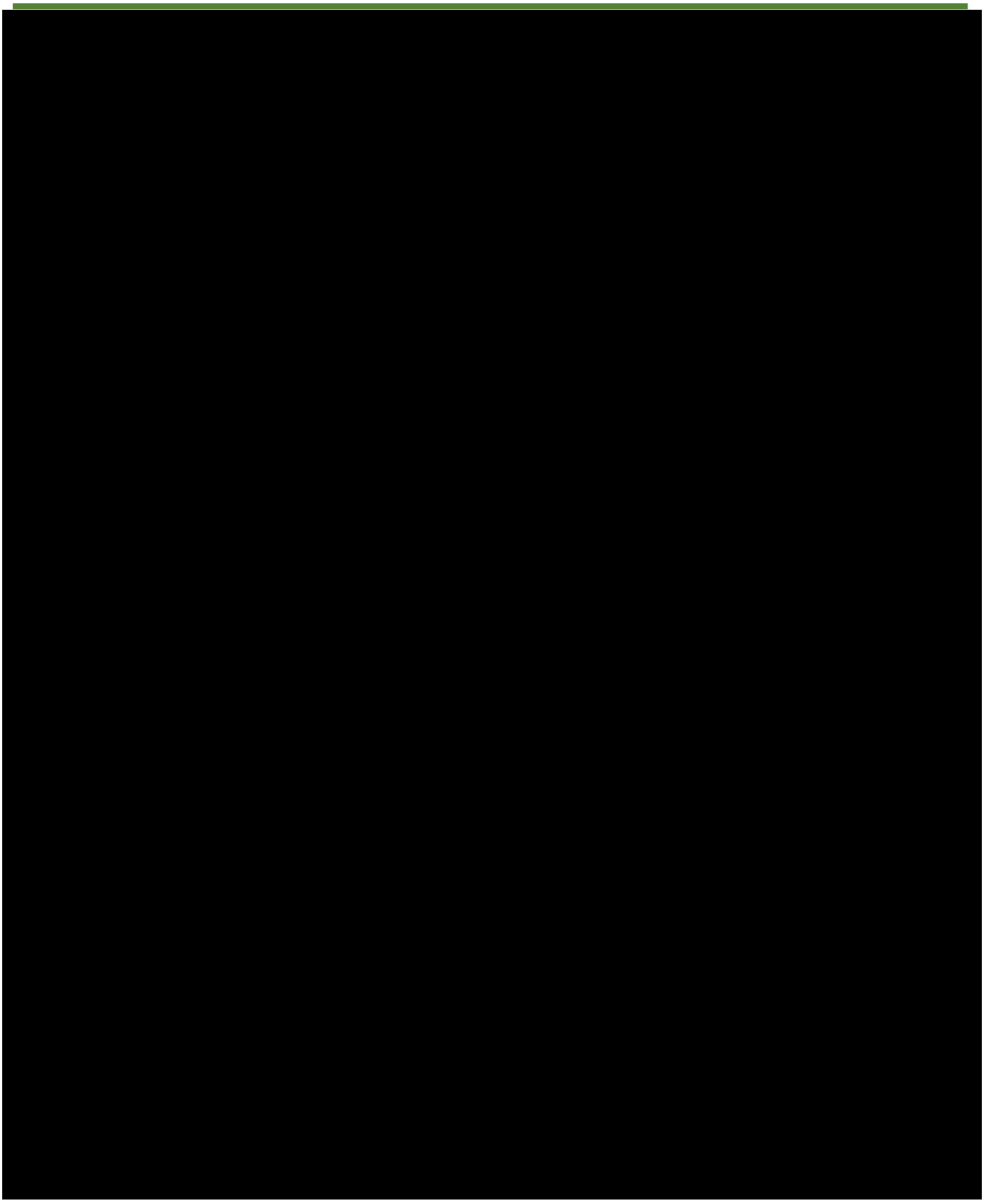






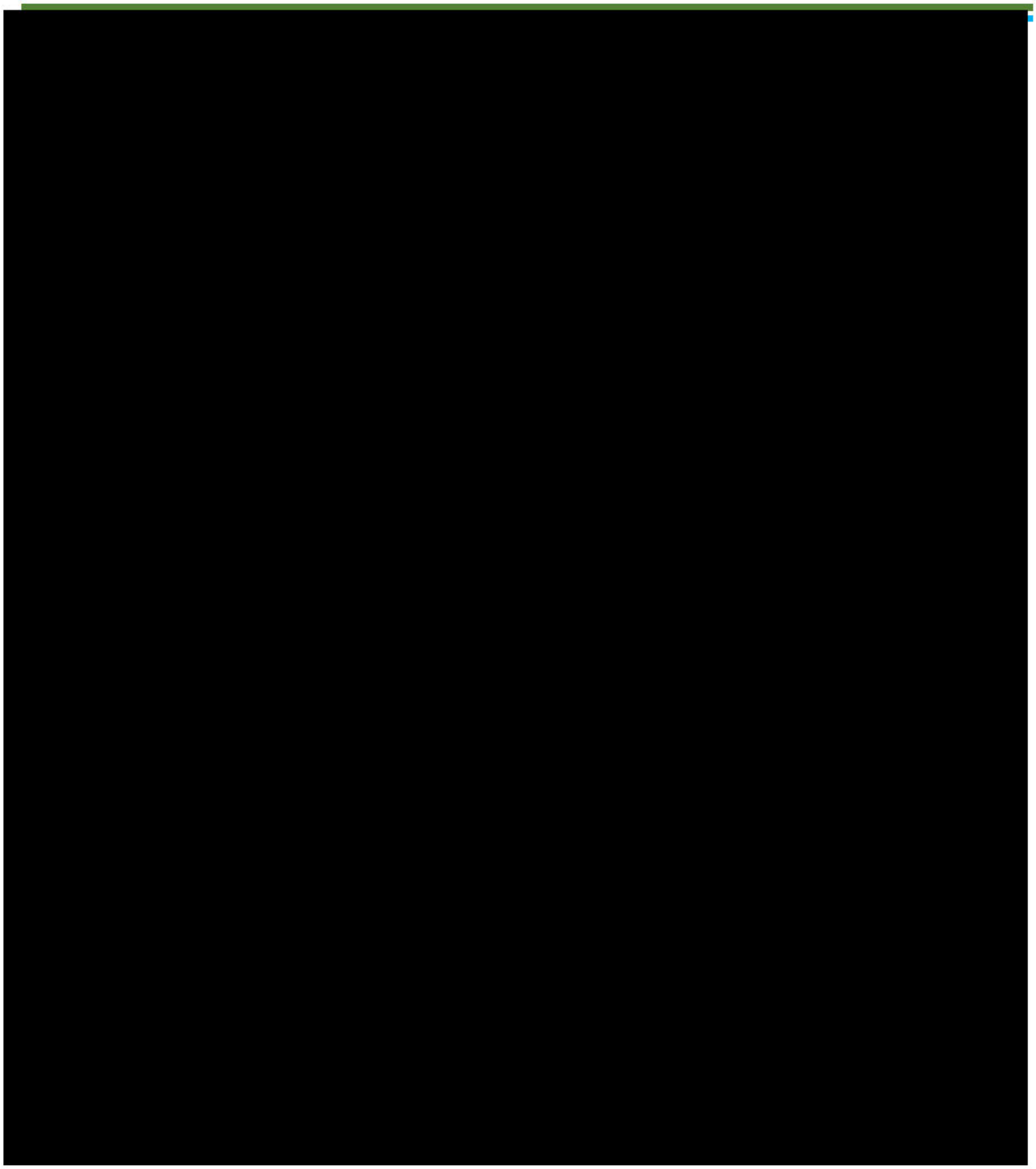








Torrington:



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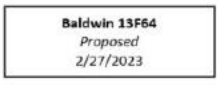
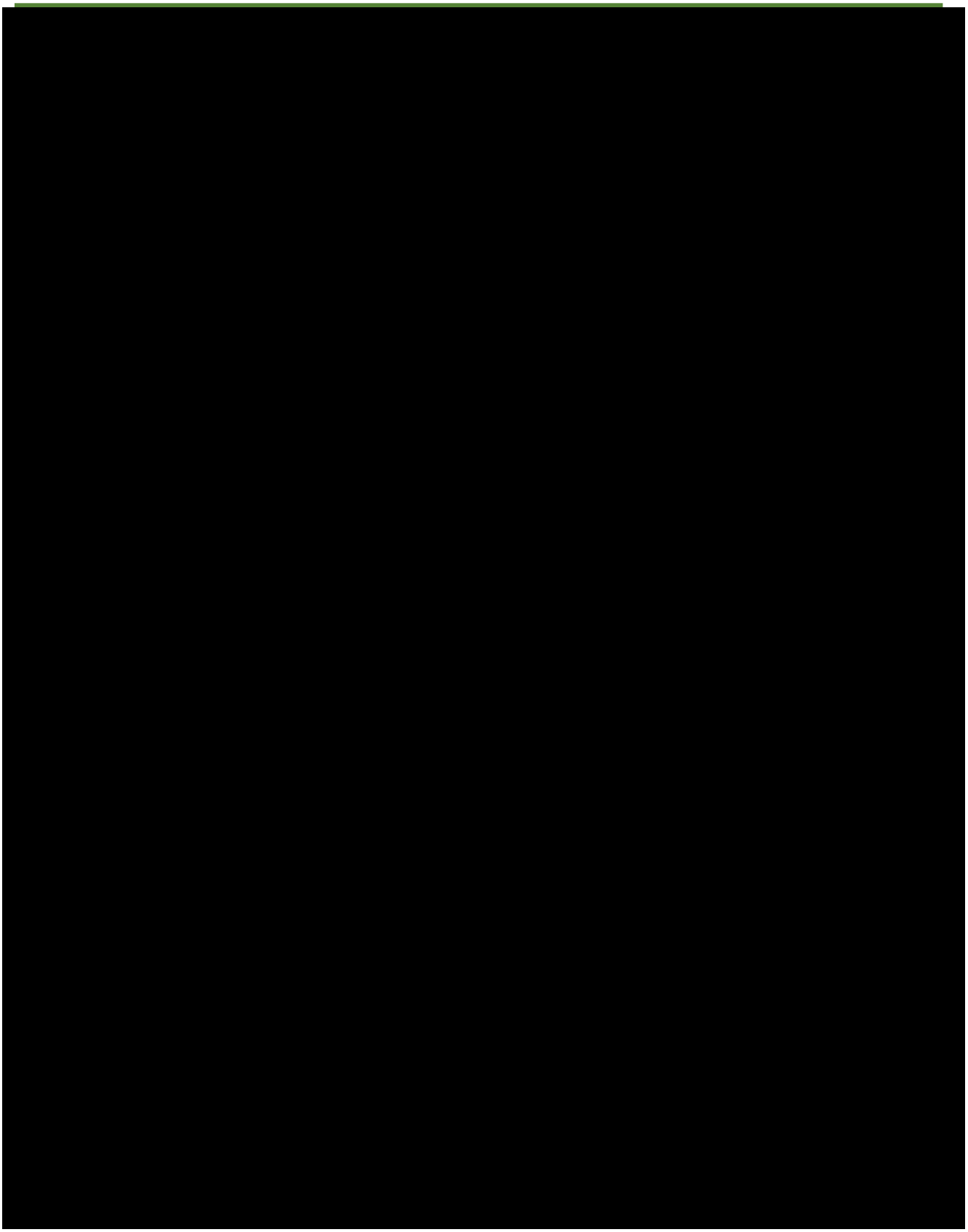




Operations Project Authorization Form

Project Title: 2024 Large Customer Zones RWO – Western	**Project Number: CD02203**
Date Prepared: 03/17/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** SMART SWITCHES PROGRAM
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** Yes
Estimated in service date: 12/31/2024	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $1,574K	**Authorization Type:** Initial Funding

Executive Summary

The 2024 Smart Switch Program addresses 40% of the large customer zones feeding over 1000 customers in Connecticut. The installation of multiple smart switches will reduce the customers affected in the event of future outages. The remaining large zones with over 1000 customers will be addressed under the 2025 Smart Switch Program. One project has been created per division.

CD02203 addresses 11 large customer zones in the Western Division with the installation of 20 viper reclosers. The zones addressed and the customers in each zone are listed below:

AWC	ZONE_DVCNAME	CUST IN ZONE
[redacted]		

[redacted]

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2024	Year 2025	Year 2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$137	**$0**	**$0**	$137
Outside Services	$180	**$0**	**$0**	$180
Materials	$575	**$0**	**$0**	$575
Removals	$37	**$0**	**$0**	$37
Risk and Contingency	$5	**$0**	**$0**	$5
Other	$0	**$0**	**$0**	$0
Subtotal – Direct Costs	**$935**	**$0**	**$0**	**$935**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$619	**$0**	**$0**	$619
Capitalized interest or AFUDC, if any	$20	**$0**	**$0**	$20
Subtotal – Indirect Costs	**$639**	**$0**	**$0**	**$639**
Total Gross Capital Costs	**$1,574**	**$0**	**$0**	**$1,574**
Customer Contribution				
Total Net Capital Project Costs	**$1,574**	**$0**	**$0**	**$1,574**

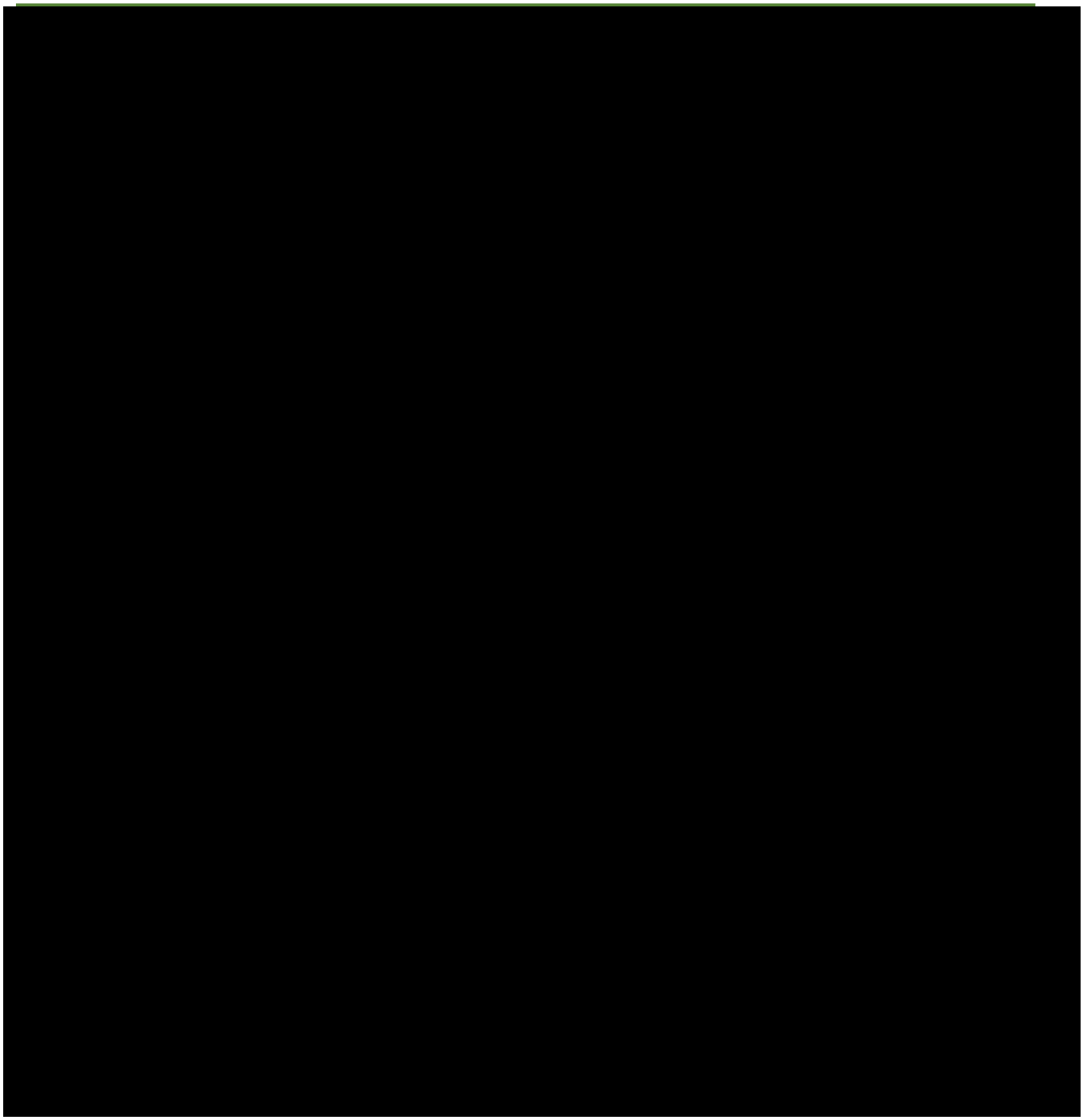
Technical Justification:

Project Need, Objective and Justification:

Project Scope:

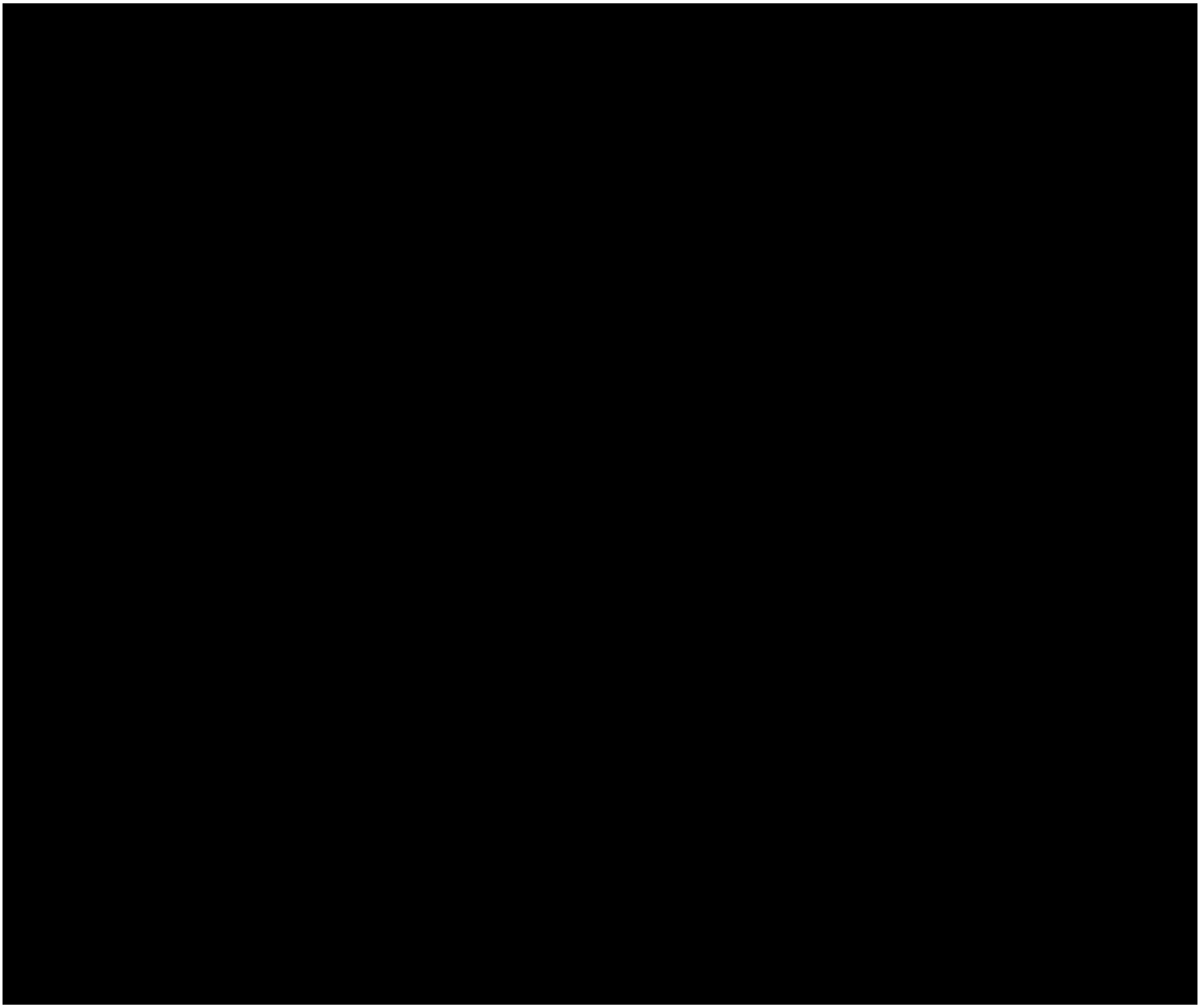
[redacted]. The scope for CD02203 includes:

[redacted]



20– 13.2/13.8kV Viper Reclosers

Background:



Alternatives Considered:

Alternatives were considered (please describe below)

1 – Do Nothing – This alternative was not selected because it doesn't address the large customer zones that would be affected by a single location outage.

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

This project may require DOT permits.

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	4/1/2023
Long Lead Material	5/1/2023
100% Engineering Completion	10/31/2023
Construction Start	3/1/2024
In Service Date	12/31/2024

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	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	2024	Medium	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.	2023	Medium	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.
Storm delays	2024	High	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Medium	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	Low	Use of mats and specialty equipment, only work during certain times of the year.

References

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



Western
CD02203_project_ne

All one-lines, detail maps and load sheets can be found in the following SharePoint:

(Press & hold Control and click the link below)

Zones over 1000 Customers