Hill-LiRo Corp
529 Main Street, Suite 3303, Boston, MA 02129 Telephone 617.532.6300 www.hill-liro.com

May 10, 2024

Ryan M. McLane
Carlisle Town Administrator
66 Westford Street
Carlisle, MA 01741

Re: Carlisle Elevator Upgrade Study: Draft Report
Carlisle, MA

Dear Ryan,

Please find attached draft report from Syska Hennessy Group based on their 04.29.24 site visit to Carlisle's Town Hall, Public Library and Grant School Buildings. As you will see in the report, Syska's findings are recommending full modernization for all three sites with both Town Hall and Library facilities noted as priorities with Grant School to follow. We are happy to discuss these findings with you at your convenience, answer any questions and help strategize with you regarding next steps. After review, we will incorporate any comments you and MFC may have into a final report. Please feel free to call any time to discuss.

We are happy to initiate proposals for bid packages around one or all of these locations depending on capital funding and your desired timeline.

Respectfully,

Mark Anderson
Senior Project Manager
Cc: Christopher Luchetti

SYSKA HENNESSY GROUP

CARLISLE TOWN HALL, LIBRARY, GRANT SCHOOL

Carlisle Town Hall, 66 Westford Street, Carlisle, MA
Carlisle Library, 22 Bedford Street, Carlisle, MA
Grant School, 83 School Street, Carlisle, MA

Elevator Conditions Report

PREPARED FOR:

The LiRo Group
529 Main Street, Suite 3303
Boston, MA 02129

BY:

Syska Hennessy Group, Inc.
10 Post Office Square, Suite 725
Boston, MA 02109

April 29, 2024

PROJECT NO:
2024-PR-007448

SYSKA HENNESSY GROUP

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Elevator Conditions Summary Report

April 29, 2024

I. Introduction

A. This report encompasses a field observation on April 9, 2024, of the elevators located at Carlisle Town Hall, 66 Westford Street – Carlisle Library, 22 Bedford Street – Grant School, 83 School Street, Carlisle, MA.

1. The purpose of this study is to:

   a. Evaluate the condition of the existing elevator by on-site field observations.

   b. Our study involves general observation of the elevator operation and general conditions observation.

   c. Document our review findings.

   d. Indicate any general safety and code violations or deficiencies.

   e. Provide summary recommendations for upgrading or repairing the elevator equipment to best serve the immediate and future building needs and to meet new regulations.

   f. Provide probable renovation costs and approximate schedule of elevator renovations.

II. Codes, Laws, and Regulations

A. Codes, laws, and regulations applying to this study are as follows:

1. MGL (Massachusetts General Laws) Chapter 143, sections 62 through 71G.
2. 524 CMR (Commonwealth of Massachusetts Elevator Board of Regulators) latest edition.
3. 521 CMR (Commonwealth of Massachusetts Architecture Accessibility Board) latest edition.
4. American National Standard Institute ASME A17.1-2004 and A17.1-2013, Safety Code for Elevators and Escalators) with Massachusetts Modifications as found in 524 CMR Section 35.00.
5. American National Standard Institute ASME A17.a-1996, ASME A17.1a-1997, ASME A17.1b-1998, ASME A17.1c-1999 and ASME A17.1a-2000, all Addenda to ASME A17.1-1996.
6. American National Standard Institute ASAME A17.l-2000 and ASME A17.1a-2002, Addenda to A17.1-2000.
7. America with Disabilities Act Accessibility Guidelines (AADAG).
8. 527 CMR 12.00 (Massachusetts State Electrical Code) promulgated by the Board of Fire Prevention Regulations.
9. NFPA 70 (National Electrical Code) Current Edition.
10. All related local and national codes not specifically mentioned.

Note: In every case the more stringent will apply.

III. General Comments

A. Please be advised that this office has conducted its review of the elevators at Carlisle Town Hall, 66 Westford Street – Carlisle Library, 22 Bedford Street – Grant School, 83 School Street, Carlisle, MA. The following elevators were reviewed:

Address	State ID	Capacity	Speed	Landings/ Openings	Design	Controller
66 Westford Street	51-P-9	2500	100	2/2	Holeless Hyd	Kone 1996
22 Bedford Street	51-P-13	2500	125	3/4	Holeless Hyd	MEI 2000
83 School Street	51-P-11	2500	95	2/2	Holeless Hyd	Dover 1997

The reviews conducted did not involve any testing of the elevator systems and are based on general operation as well as general condition of areas and equipment. No covers, fixtures or modules were removed during the reviews.

The elevators at 66 Westford, 22 Bedford, and 83 School Street have reached their maximum reliable timeline for dependable service. Capital planning should be implemented now and modernization commencing in one year, specifically with 66 Westford and 22 Bedford with 83 School Street commencing immediately after completion of those elevators.

There are isolated conditions or deficiencies which are noted which are primarily the result of systems that are reaching end-of-effective life.

The following general information is also provided on elevator equipment:

B. Typical efficient and effective timeline of major components of an elevator is as follows:

1. Controller: 15 years and considered obsolete by 20 years
2. Door Operator: 12 years depending on usage. Life fully depleted at 20 years (additional maintenance tasking required).
3. Hydraulic Power Unit: 20 to 25 years
4. Traction Machine: 25 years
5. Elevator Electronic Drive: 10 to 15 years
6. Elevator Motor: 20 years
7. Elevator Brake System: 15 to no more than 20 years

C. It is recognized that the elevator at 83 School Street is primarily utilized during normal school hours. Maximum usage occurs in the morning and continues throughout the day.

D. The approach to the recommendations for the elevators is for long-term reliability.

E. Holeless Hydraulic Elevator at the Town Hall 66 Westford Street:

1. The elevator at 66 Westford Street was installed in 1996. All main components remain as originally installed. Complete replacement is recommended.

2. The existing design utilizes one jack mounted on each side of the elevator. This application consists of one piston contained within a single jack assembly. As the elevator ascends in the up direction, the piston extends simultaneously.

3. Direct replacement parts are limited.

F. Cantilever Roped Hydraulic Elevator at Carlisle Library 22 Bedford Street:

1. The elevator at 22 Bedford Street was installed in 2000. All main components remain as originally installed. Complete replacement is recommended.

2. The existing design utilizes one jack mounted at the rear wall of the hoistway. This application consists of one piston contained within a single jack assembly which is located between a separate set of guide rails. A deflector sheave is mounted to the top of the piston. Wire ropes attach to the base of the jack assembly and travel up the hoistway around the deflector sheave and down to the underside of the car sling. As the piston extends /descends the elevator travels up / down the hoistway.

3. Direct replacement parts are limited.

4. Signs of water leakage in the pit. Recommend the pit be properly waterproofed.

G. Holeless Hydraulic Elevator at Grant School 83 School Street:

1. The elevator at 83 School Street was installed in 1997. All main components remain as originally installed.

2. The existing design utilizes one jack mounted on each side of the elevator. This application consists of one piston contained within a single jack assembly. As the elevator ascends in the up direction, the piston extends simultaneously.

3. Direct replacement parts are limited.

H. New Code Requirements:

At the time of the elevator modernization, all applicable requirements will be incorporated on the elevators. Code now requires that an elevator modernization, specifically when the controller, door operator and fixtures are replaced (which is the minimum amount of recommended/required

work for the elevators) the elevator must be brought up to full current code. At a minimum, new code requirement include:

1. Verification of Phone Line Operability

    a. New code mandates that the two-way communications within the car shall include a means to verify operability of the telephone line where (1) verification of the telephone line is automatically performed; (2) verification may be continuous or periodic; (3) periodic verification shall be at least on a daily basis.

    b. A minimum of one visual and one audible signal shall be provided for each group of elevators or simplex elevator and the device is to be labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters a minimum of .25 in high.

    c. Should the phone line be identified as having failed, the visual signal will illuminate intermittently until the telephone line is repaired and functional. The audible signal shall sound at least once every thirty seconds with a minimum duration of half a second. There shall be a means available to silence the alarm. However, if not repaired, upon the next sequence of automatic testing of the phone line, the sequence will repeat with the alarm system being reactivated.

2. Hostway Door Safety Retainers

    a. The top and bottom of landing doors shall be equipped with a means of retaining the closed door panel in position if the primary guiding means fail and preventing displacement of the door if the door panel is subjected to a code determined force.

    b. This retaining means shall not be subjected to wear or stress during normal door operation.

3. Hoistway Door Unlocking Devices

    a. The unlocking device keyway in the door panel shall be located at a height of not greater than 83 inches above the landing.

        1) The device shall unlock and permit the opening of a hoistway door from any landing irrespective of the position of the car.

        2) Hoistway door unlocking devices shall be provided for use by licensed elevator mechanics and trained firefighters only.

I. Elevator 'Economic Life,' also known as 'service life' or 'useful life,' is the period over which an entity is expected to be able to be effectively used as an asset assuming a normal level of usage and preventive maintenance. 'Economic Life' is the time a product remains in service before a

major replacement is required. The term, "Economic Life'" is usually preceded by the term 'Normal.'

J. Door Operation:

1. Earlier systems were equipped with a device called a 'safe edge' which (according to today's standards) could be considered a misnomer since it required the door edge to come in actual contact with a person before it would retract and reopen. A rubberized astragal was later added to this mechanical 'safe edge' in order to minimize the hard impact to the user. These units are in accordance with the intent of code and remain as a viable product. There have, however, been many lawsuits with this type of device – some successful; some not. Heralded in the early 1980s was a dual beam system with two electric eyes on one side of the door opening and two reflectors, strategically placed on the opposite side of the door opening.

2. The electronic safety edge which is a full light curtain was released to the elevator market in the late 1980s – early 1990s and it proved to be the most advantageous safety related door protection product on the market. All of these products provide a reopening and maintain the opening (unless nudging circuitry is provided) at the car door; there is no beam for the hoistway door.

3. With the doors continuing to be the most likely area for liability, the elevator industry continued to improve its technology to protect the area beyond the car door to the hoistway doors. Many riders use their hands, briefcases, etc. to reopen the doors (not knowing what type of technology is installed on the car doors) and find themselves (or their inserted object) being hit by the hoistway doors. Some of today's electronic door screens have the option of 3-D capability which is not only a curtain of direct infra-red beams for the car door, but it also operates between the hoistway doors and into the landing area.

4. An additional development with the ever-increasing awareness of liability and rider tendencies to enter the elevator when the doors are closing, is the visual signaling on the electronic screen. When the doors are fully open, the light screen beams are a steady 'green.' As the doors begin to close, the beams flash 'red' and once the doors reach the closing zone, the lights are a steady 'red.' This visual indication has proved to be very effective in deterring users from continuing to enter into an elevator with closing doors. The latest technology incorporates audible voice stating: "Doors closing, please stand clear." These enhancements greatly reduce user related issues with elevator doors.

5. Recommend all elevator car doors be equipped with the highest level of protection utilizing the 'color' beams.

IV. CONDITION ASSESSMENT

A. **Town Hall 66 Westford Street:**

Elevator	**1**
State I.D. #	**51-P-9**
Capacity (Lbs.)	**2500**
Speed (FPM)	**100**

General Observations:

Holeless Hydraulic.

Elevator ride quality is fair due to age.

Cab is in poor condition.

General appearance is fair.

Existing power unit is in fair condition based on age and usage.

Controller was installed in 1996. This system is considered outdated technology.

Jack assemblies to be retained.

Door Operation – Heavy wear noted in door operator. Complete upgrade is recommended.

New pit ladder is recommended.

Recommendations – Maintenance

Hydraulic jack assemblies: Both packings are leaking. Replacement is recommended.

Recommendations – Modernization

Full modernization recommended. Refer to 'Elevator Modernization – Summary of Recommended Work' attached to this report.

Modernization Time Frame:
Within one (1) year.

B. **Carlisle Library 22 Bedford Street**:

Elevator	**1**
State I.D. #	**51-P-13**
Capacity (Lbs.)	**2500**
Speed (FPM)	**100**

General Observations:

Cantilever Roped Hydraulic.

Elevator ride quality is generally acceptable due to age.

Cab is in fair condition.

General appearance is acceptable.

Existing power unit is in fair condition based on age and usage.

Controller was installed in 2000. This system is considered outdated technology.

Jack assembly to be retained. No issues noted.

Door Operation – Heavy wear noted in door operator. Increase maintenance tasking.

Eliminate the existing overspeed governor. New self-setting / Remote-set governor to be provided. The governor access door at top of hoistway can be retained and properly interlocked.

Due to signs of water in the pit. Pit equipment is rusted and should be properly scraped and repainted.

New pit ladder is recommended.

Recommendations – Maintenance

Maintenance being conducted in accordance with industry standards.

Recommendations – Modernization

Full modernization recommended. Refer to 'Elevator Modernization – Summary of Recommended Work' attached to this report.

Modernization Time Frame:

Within one (1) year.

C. **Grant School 83 School Street:**

Elevator	**1**
State I.D. #	**51-P-11**
Capacity (Lbs.)	**2500**
Speed (FPM)	**95**

General Observations:

Holeless Hydraulic.

Elevator ride quality is within industry standards.

Cab is in fair condition.

General appearance is acceptable.

Existing power unit is in fair condition based on age and usage.

Controller was installed in 1997. This system is considered outdated technology.

Jack assemblies to be retained.

Door Operation – Heavy wear noted in door operator. Increase maintenance tasking.

New pit ladder is recommended.

Recommendations – Maintenance

Hydraulic jack assemblies: Both packings are leaking. Replacement is recommended.

Recommendations – Modernization

Full modernization recommended. Refer to 'Elevator Modernization – Summary of Recommended Work' attached to this report.

Modernization Time Frame:

Within two (2) years.

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V. Elevator Modernization – Summary Sheets of Recommended Work

A. See Attached.

Elevator Modernization - Summary of Recommended Work

Owner/Property Manager Town of Carlisle
Project Carlisle Town Hall
Location 66 Westford Street, Carlisle, MA
Reviewer Syska Hennessy Group, Inc.
Elevator State I.D. # 51-P-9

Component	Replace and/ or Install New	Retain & Refurbish	N/A or No Action Required	Comments
Power Unit	x			New To Be Provided
Valve	x			New To Be Provided
Motor	x			New To Be Provided
Pump	x			New To Be Provided
Replace Hydraulic Oil	x			New To Be Provided
Hydraulic Machine Room Piping	x			New To Be Provided
Motor Soft Starter	x			New To Be Provided
Controller & Selector	x			New To Be Provided
Battery Lowering	x			New To Be Provided
Machine Room Wiring	x			New To Be Provided
Sling and Platform		x		Refurbish and Retain
New Roller Guide Assemblies	x			New To Be Provided
Cab, Complete	x			New To Be Provided
Cab Flooring	x			New To Be Provided
Car Operating Station	x			New To Be Provided
Car Position/Direction Indicator (Digital Design)	x			New To Be Provided
Car Traveling Lanterns	x			New To Be Provided
Car Doors	x			New To Be Provided
Car Door Closed Loop Operator	x			New To Be Provided
Car Door Clutch	x			New To Be Provided
Car Door Rollers, Gibs, Misc Components	x			New To Be Provided
Car Tracks and Hangers	x			New To Be Provided
Hoistway Doors	x			New To Be Provided
Hoistway Doors to be Furnished in Baked Enamel	x			New To Be Provided
Door Frames-Electrostatically Painted		x		Refurbish and Retain
Hoistway Door Closers	x			New To Be Provided
Hoistway Door Hangers and Tracks	x			New To Be Provided
Hoistway Hanger Rollers, Gibs, Misc Components	x			New To Be Provided
Interlocks & Interlock Wiring	x			New To Be Provided
Hoistway Door Retaining Devices	x			New To Be Provided
Traveling Cables and Hoistway Wiring	x			New To Be Provided
Hall Buttons	x			New To Be Provided
Lobby Digital Position/Direction Indicator - Main Landing	x			New To Be Provided
Car Top Inspection Station	x			New To Be Provided
Car Top Safety Railing	x			New To Be Provided
Code Complaint Fireman's Service	x			New To Be Provided
Emergency Communication	x			New To Be Provided
Phone Line Monitoring	x			New To Be Provided
Hydraulic Equipment (Cylinder & Piston)		x		Refurbish and Retain
Pit Rupture Valve	x			New To Be Provided
New Pit Ladder	x			New To Be Provided
Oil Recovery/Scavenger Pump	x			New To Be Provided
ADDITIONAL COMMENTS				
Full Modernization is Recommended Within 1 Year.				

Elevator Modernization - Summary of Recommended Work

Owner/Property Manager	Town of Carlisle
Project	Carlisle Library
Location	22 Bedford Street, Carlisle, MA
Reviewer	Syska Hennessy Group, Inc.
Elevator State I.D. #	51-P-13

Component	Replace and/ or Install New	Retain & Refurbish	N/A or No Action Required	Comments
Power Unit	x			New To Be Provided
Valve	x			New To Be Provided
Motor	x			New To Be Provided
Pump	x			New To Be Provided
Replace Hydraulic Oil	x			New To Be Provided
Hydraulic Machine Room Piping	x			New To Be Provided
Motor Soft Starter	x			New To Be Provided
Controller & Selector	x			New To Be Provided
Battery Lowering	x			New To Be Provided
Machine Room Wiring	x			New To Be Provided
Governor Rope	x			New To Be Provided
Remote Set Governor & Governor Tension Sheave	x			New To Be Provided
Under Car Safeties	x			Refurbish and Retain
Sling and Platform		x		Refurbish and Retain
Slide Guide Assemblies		x		Refurbish and Retain
Cab, Complete	x			New To Be Provided
Cab Flooring	x			New To Be Provided
Car Operating Station	x			New To Be Provided
Car Position/Direction Indicator (Digital Design)	x			New To Be Provided
Car Traveling Lanterns	x			New To Be Provided
Car Doors	x			New To Be Provided
Car Door Closed Loop Operator	x			New To Be Provided
Car Door Clutch	x			New To Be Provided
Car Door Rollers, Gibs, Misc Components	x			New To Be Provided
Car Tracks and Hangers	x			New To Be Provided
Hoistway Doors	x			New To Be Provided
Hoistway Doors to be Wrapped in Stainless Steel	x			New To Be Provided
Door Frames-Wrap in Stainless Steel		x		Refurbish and Retain
Hoistway Door Closers	x			New To Be Provided
Hoistway Door Hangers and Tracks	x			New To Be Provided
Hoistway Hanger Rollers, Gibs, Misc Components	x			New To Be Provided
Interlocks & Interlock Wiring	x			New To Be Provided
Hoistway Door Retaining Devices	x			New To Be Provided
Traveling Cables and Hoistway Wiring	x			New To Be Provided
Hall Buttons	x			New To Be Provided
Lobby Digital Position/Direction Indicator - Main Landing	x			New To Be Provided
Car Top Inspection Station	x			New To Be Provided
Car Top Safety Railing	x			New To Be Provided
Code Complaint Fireman's Service	x			New To Be Provided
Emergency Communication	x			New To Be Provided
Phone Line Monitoring	x			New To Be Provided
Hydraulic Equipment (Cylinder & Piston)		x		Refurbish and Retain
Oil Recovery/Scavenger Pump	x			New To Be Provided
ADDITIONAL COMMENTS				
Full Modernization is Recommended in 1 Year.				

Elevator Modernization - Summary of Recommended Work

Owner/Property Manager Town of Carlisle
Project Grant School
Location 83 School Street, Carlisle, MA
Reviewer Syska Hennessy Group, Inc.
Elevator State I.D. # 51-P-11

Component	Replace and/ or Install New	Retain & Refurbish	N/A or No Action Required	Comments
Power Unit	x			New To Be Provided
Valve	x			New To Be Provided
Motor	x			New To Be Provided
Pump	x			New To Be Provided
Replace Hydraulic Oil	x			New To Be Provided
Hydraulic Machine Room Piping	x			New To Be Provided
Motor Soft Starter	x			New To Be Provided
Controller & Selector	x			New To Be Provided
Battery Lowering	x			New To Be Provided
Machine Room Wiring	x			New To Be Provided
Sling and Platform		x		Refurbish and Retain
Slide Guide Assemblies		x		Refurbish and Retain
Cab, Complete	x			New To Be Provided
Cab Flooring	x			New To Be Provided
Car Operating Station	x			New To Be Provided
Car Position/Direction Indicator (Digital Design)	x			New To Be Provided
Car Traveling Lanterns	x			New To Be Provided
Car Doors	x			New To Be Provided
Car Door Closed Loop Operator	x			New To Be Provided
Car Door Clutch	x			New To Be Provided
Car Door Rollers, Gibs, Misc Components	x			New To Be Provided
Car Tracks and Hangers	x			New To Be Provided
Hoistway Doors	x			New To Be Provided
Hoistway Doors to be Furnished in Baked Enamel	x			New To Be Provided
Door Frames-Electrostatically Painted		x		Refurbish and Retain
Hoistway Door Closers	x			New To Be Provided
Hoistway Door Hangers and Tracks	x			New To Be Provided
Hoistway Hanger Rollers, Gibs, Misc Components	x			New To Be Provided
Interlocks & Interlock Wiring	x			New To Be Provided
Hoistway Door Retaining Devices	x			New To Be Provided
Traveling Cables and Hoistway Wiring	x			New To Be Provided
Hall Buttons	x			New To Be Provided
Lobby Digital Position/Direction Indicator - Main Landing	x			New To Be Provided
Car Top Inspection Station	x			New To Be Provided
Car Top Safety Railing	x			New To Be Provided
Code Complaint Fireman's Service	x			New To Be Provided
Emergency Communication	x			New To Be Provided
Phone Line Monitoring	x			New To Be Provided
Hydraulic Equipment (Cylinder & Piston)		x		Refurbish and Retain
Pit Rupture Valve	x			New To Be Provided
New Pit Ladder	x			New To Be Provided
ADDITIONAL COMMENTS				
Full Modernization is Recommended Within 2 Years.				

VI. Summary of Scope of Related Work

A. See Attached.

SYSKA HENNESSY GROUP

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ELEVATOR SYSTEMS REVIEW

SUMMARY OF RELATED WORK

Location Town Hall 66 Westford Street

Elevator 51-P-9

MACHINE ROOM	Retain	Replace or Install New	Remove	Notes
Disconnect – 3 Phase/ Fused/Heavy Duty		X		Required.
Disconnect-Single Phase /Fused for Car Lights + Car Fan		X		New 125 VAC single phase power with fused disconnect for light and fan.
Circuitry in Disconnect for Hydraulic Battery Lowering		X		Required.
Lighting		X		Recommend energy efficient LED. Relocate existing light switch to lock jamb side of machine room door.
GFCI		X		New GFCI is required.
Firefighters' Service Modules		X		Designated recall level, Alternate recall level, Firefighters' flashing hat, additional fire alarm module to power the new hoistway mechanical damper on building alarm.
Venting from Machine Room	X			No issues noted.
Air Conditioning		X		Recommended.
Heating		X		Recommended.
Phone line to controller		X		To be in conduit.
Thermostat for Mechanical Damper. At top of hoistway		X		Recommended.

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HOISTWAY	Retain	Replace or Install New	Remove	Notes
Venting	X			Existing hoistway vent is open louver.
Mechanical Damper	X			New mechanical damper is recommended.
Fire/Smoke Detector			X	Remove detector at top of hoistway.

PIT	Retain	Replace or Install New	Remove	Notes
Lighting		X		Recommend energy efficient LED.
GFCI		X		New GFCI in pit is required.
Pit ladder		X		New ladder is required.
Receptacle for Oil Scavenger Unit (Hydraulic Elevator Only)		X		Recommended.

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ELEVATOR SYSTEMS REVIEW

SUMMARY OF RELATED WORK

Location Carlisle Library 22 Bedford Street

Elevator 51-P-13

MACHINE ROOM	Retain	Replace or Install New	Remove	Notes
Disconnect – 3 Phase/ Fused/Heavy Duty		X		Existing main line disconnect is general duty. Remove exposed wood behind disconnect.
Disconnect-Single Phase /Fused for Car Lights + Car Fan		X		New 125 VAC single phase power with fused disconnect for light and fan.
Circuitry in Disconnect for Hydraulic Battery Lowering		X		Required.
Lighting		X		Recommend energy efficient LED.
GFCI		X		New GFCI is required.
Firefighters' Service Modules		X		Designated recall level, Alternate recall level, Firefighters' flashing hat, additional fire alarm module to power the new hoistway mechanical damper on building alarm.
Venting from Machine Room	X			No issues noted.
Air Conditioning		X		To be confirmed by owner.
Heating		X		To be confirmed by owner.
Phone line to controller		X		To be in conduit.
Thermostat for Mechanical Damper. At top of hoistway		X		Recommended.

HOISTWAY	Retain	Replace or Install New	Remove	Notes
Venting	X			Existing hoistway vent is open louver.
Mechanical Damper	X			New mechanical damper is recommended.
Fire/Smoke Detector			X	Remove detector at top of hoistway.
Governor access door at top of hoistway			X	Eliminate access door

PIT	Retain	Replace or Install New	Remove	Notes
Lighting		X		Recommend energy efficient LED.
GFCI		X		New GFCI in pit is required.
Pit ladder		X		New ladder is required.
Receptacle for Oil Scavenger Unit (Hydraulic Elevator Only)		X		Recommended.
Signs of water in pit		X		Recommend the pit be properly waterproofed.

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ELEVATOR SYSTEMS REVIEW

SUMMARY OF RELATED WORK

Location Grant School 83 School Street

Elevator 51-P-11

MACHINE ROOM	Retain	Replace or Install New	Remove	Notes
Disconnect – 3 Phase/ Fused/Heavy Duty		X		Required.
Disconnect-Single Phase /Fused for Car Lights + Car Fan		X		New 125 VAC single phase power with fused disconnect for light and fan.
Circuitry in Disconnect for Hydraulic Battery Lowering		X		Required.
Lighting		X		Recommend energy efficient LED.
GFCI		X		New GFCI is required.
Firefighters' Service Modules		X		Designated recall level, Alternate recall level, Firefighters' flashing hat, additional fire alarm module to power the new hoistway mechanical damper on building alarm.
Venting from Machine Room	X			No issues noted.
Air Conditioning		X		Recommended.
Heating		X		Recommended.
Phone line to controller		X		To be in conduit.
Thermostat for Mechanical Damper. At top of hoistway		X		Recommended.
Machine room door			X	Eliminate open louver at lower section of door.

HOISTWAY	Retain	Replace or Install New	Remove	Notes
Venting	X			There are two existing hoistway vent openings which are open louver. Recommend the lower vent be eliminated and the upper vent be utilized.
Mechanical Damper	X			New mechanical damper is recommended.
Fire/Smoke Detector			X	Remove detector at top of hoistway.
PIT	**Retain**	**Replace or Install New**	**Remove**	**Notes**
Lighting		X		Recommend energy efficient LED.
GFCI		X		New GFCI in pit is required.
Pit ladder		X		New ladder is required.

VII. Appendix

A. Summary of Scope of Work – All Elevators

SYSKA HENNESSEY

TOWN OF CARLISLE

Type: RHYD=Roped Hydro

Type: HHYD=Holeless Hydro

----------SUMMARY OF MODERNIZATION RECOMMENDATIONS----------

Building	State I.D.#	Capacity	Speed	Type	Landings	Openings	Replace Power Unit, Motor, Selector Soft Start, & Related Components	Replace Controller Including Wiring & T-Cable	Replace Car and Hall Fixtures	Refurbish Jack Assembly	Replace Cab Interior, car shell Car Flooring	Replace Car Door Operator & Door Components	Replace Car Doors, Clutch, Gibs, Roller Assemblies, infrared screen Hangers, Tracks	Replace Landing Doors, Interlocks, Roller Assemblies, Door Closer, Gibs, Hangers, Tracks	Install New Hoistway door Safety Retainers to deflect force on doors Furnished in Baked Enamel	Install New Hoistway door Safety Retainers to deflect force on doors Wrapped in Stainless Steel	Electrostatically Paint Entrance Frames	Refurbish Hoistway Entrance Frames	Time Line	Elevator Modernization Approximate Budget Cost **
66 Westford St	51-P-9	2500	100	H HYD	2	2	x	x	x	x	x	x	x	x	x		x		1 Year	300,000
22 Bedford St	51-P-13	2500	125	RHYD	3	4	x	x	x	x	x	x	x	x		x		x	1 Year	340,000
83 School St	51-P-11	2500	95	H HYD	2	2	x	x	x	x	x	x	x	x	x		x		2 Years	300,000
Budget Totals																				940,000

* The intent for the holeless and Roped jacks is to retain. Jacks to be revaluated at time of modernization

**Budget pricing for the elevator modernization is a rough order of magnitude and is provided for general discussion purposes only and is based on projects of comparable scope and complexity. Budget does not include any elevator technician standby and access for the related mechanical and electrical work in elevator areas nor does it include any provisions for related work costs. Budget is based on current pricing trends.