Facility Study and Master Plan

# 166 Union Street

166 Union Street, Vernon, CT 06066



FRIAR

**SUMMER 2023** 

# Table of Contents

Section 1 : Introduction	5
Introduction	7
Building Location Plan	8
Section 2 : Executive Summary	9
Building Information	11
Building Overview- Photographs	12
Section 3 : Architectural & Structural Survey	23
Architectural Existing Conditions	25
Architectural & Structural Survey Photographs	30
Architectural & Structural Photo Key Plan	39
Architectural & Structural Recommendations	40
Section 4 : Mechanical, Electrical, Plumbing & Fire Protection Survey	41
M/E/P/FP Existing Conditions	43
M/E/P/FP Survey Photographs	49
M/E/P/FP Recommendations	59
Section 5 : Code Survey	<b>61</b>
IBC Code Survey	63
NFPA Code Survey	65
Code Survey Recommendations	68
Section 6 : ADA Compliance Survey	<b>69</b>
ADA Compliance Survey Introduction	71
ADA Survey Failures	72
ADA Survey Photographs	85
ADA Survey Photograph Key Plan	89
ADA Survey Recommendations	90
Section 7 : Site Survey	<b>91</b>
Existing Site Conditions	93
Site Survey Photographs	96
Site Plan	100
Site Recommendations	101
Section 8 : Opinion of Probable Costs	103
Section 9 : Appendix	107
Roof Survey Report- Garland	110

# Section 1: Introduction

## Introduction

#### Background

Friar Architecture Inc. was engaged by Vernon Public Schools to prepare a facilities study for several district maintained buildings in Vernon Connecticut. The buildings included in the study are:

- Rockville High School
- Vernon Center Middle School
- Center Road School
- Lake Street School
- Maple Street School
- Northeast School
- Skinner Road School
- Vernon Public School Central Administration Building
- Next Step Building
- Maintenance Building, 166 Union Street

#### **Purpose of this Study**

The purpose of this study is to provide the client with an understanding of the current challenges and in the near future, a comprehensive view of the range of possible options with cost implications, and a means to reach consensus on the best possible solution to those challenges.

The intent of the facility study process is:

- To offer a transparent process to move the community toward consensus
- To present information clearly to decision makers
- To present the final recommendations as foundation for future actions

## 8 Introduction

## **Building Location Plan**

A plan of the area is provided below, identifying the location of each building evaluated under this Existing Conditions Survey.





Map Data: Google Earth

# Section 2 : Executive Summary

## **Building Information**

This section contains the executive summary, which provides an overview of the building and summarizes the survey results. Graphs are included to represent current conditions of the building's components and conformity with IBC, NFPA and ADA requirements. Photographs of various elevations of the building are provided for reference. This section also provides a summary of the opinion of probable costs, presenting a graphic comparison of the work required to address the deficiencies uncovered during the survey versus the cost of replacing the structure. At the end of Section 2, a chart provides an overview of the required work addressed by the building survey and potential replacement costs.

## **166 Union Street**

Stories	1 (plus Basement)
Area	7,980 sf
Address	166 Union Street, Vernon, CT 06066
Original Construction	Unknown (Assumed 1980s)
Addition(s) / Renovations	N/A
Condition	Fair to Good
Description	This is an unoccupied one story building with a partial basement. Appears to have previously been a business occupancy but currently used for storage.

## 12 Executive Summary

## **Building Overview - Photographs**

The following is a selection of photographs showing the main exterior elevations of the building. These photographs are keyed by letter on the site plan below. The elevation marks show the location and direction from which the photographs were taken.



## **Building Overview - Photographs**



South Elevation - A



**East Elevation - B** 

## 14 Executive Summary



## **Building Overview - Photographs continued...**

**North Elevation - C** 



**East Elevation - D** 

## **Architectural Survey**

The exterior skin of 166 Union Street is metal siding, which is in fair to good condition.

Typical windows are aluminum storefront type windows and are in fair to good condition. Exterior doors are a mix of wood, hollow metal and aluminum.

The building interior is in good condition. The building appears to currently be unoccupied. The basement is used for storage. If the use for this building is changed further updates will need to be made to accommodate the new program.

The work recommended to address architectural conditions includes:

- Replace metal siding as needed to due damage
- Replace door hinge at north elevation
- Replace broken plastic cover at overhead door
- Replace wood frame at overhead door
- Replace damaged fencing
- Repair damaged roof fascia
- Repair broken VCT
- Install proper transition strips
- Glue down loose carpet tile to eliminate trip hazard
- Replace broken or stained ceiling tiles
- Repair and replace missing wall base

### **Structural Survey**

The building is assumed to have a wood frame and appears to be in good condition. In general, the building appears to be in good condition structurally. Although observations could not be made of many structural elements without demolition, no dangerous conditions were observed. Any additions to 166 Union Street would have to be provided without increasing the load or decreasing the seismic strength of any of the existing building components. There are no area areas of necessary structural improvements and / or required work at this time.

## **Mechanical Survey**

The building is heated by two gas fired furnaces which appear to be relatively new. Three condensing units located on the roof provide cooling to the building which were in fair condition. There is no ventilation system provided within this building. Natural ventilation is provided when garage door is opened.

The work recommended to address mechanical systems conditions includes:

- Heating Plant: The existing building is served by two high efficiency furnaces located in mechanical closet. Furnaces are in good condition.
- Ventilation/Exhaust: The existing building is naturally ventilated through windows and garage door. We recommend providing mechanical ventilation and exhaust in line with ASHRAE 62.1/IMC.
- Cooling: The existing building is cooled by one to one split ac systems. The split ac systems are past their useful life and we recommend they be replaced in kind with roof mounted condensing units and condensate pumps.
- Controls: The existing building is controlled by space thermostats. We recommend providing a centralized BMS system.

## **Electrical Survey**

The power originates from a utility pole located on Maple Street. It is fed into the basement connecting to the main disconnect switch and CT cabinet. The main switch and CT cabinet are past their serviceable life. There is no life safety or emergency power to the building.

The work recommended to address electrical system conditions includes:

- Main Switch and CT Cabinet is past its serviceable lifespan and in need of immediate replacement.
- Older style load center panels are poorly maintained and in need of immediate replacement.
- There is no evidence of a lightning protection system for the building. Recommend installing a lightning protection system in the immediate future, to safeguard people and property from fire risk and related hazards associated with lightning exposure.

### **Plumbing Survey**

The plumbing system consists of floor mounted water closets and wall hung sinks with manual faucets. There is an electric storage tank type water heater.

The work recommended to address plumbing systems conditions includes:

- Domestic water service and piping is nearing the end of its useful life and we recommend it be replaced in its entirety.
- Domestic Water heater is nearing the end of its useful life and we recommend it be replaced with an electric water heater.
- Natural Gas service and system is nearing the end of its useful life and we recommend it be replaced in its entirety.
- Sanitary system (above and below grade) is nearing the end of its useful life and we recommend it be replaced in its entirety.

## **Lighting Survey**

Interior lighting consists of fluorescent fixtures retrofitted with LED lamps and some industrial fluorescent type lights in the basement. HID wall packs light the building exterior and parking areas. Battery operated LED exit signs with dual-head emergency lights are used to light both exits out of the building.

The work recommended to address lighting system conditions includes:

• Lighting systems are old technology fluorescents retrofitted with LED lamps and drivers, controlled with wall toggle switches. As capital funding allows, recommend replacing existing lighting and controls with new technology LED fixtures and low voltage switches and occupancy sensors.

### **Fire Alarm Survey**

There is no fire alarm system in the building. Recommend installation of a complete non-addressable fire alarm system with control panel and all required initiating and notification appliances in the immediate future.

### **Telecommunications Survey**

Data communications consists of a fiber backbone and a combination of wired outlets and wireless access points located throughout the building. Wireless Access Point (WAP) devices are distributed throughout the building.

The work recommended to address telecommunications system conditions includes:

• The existing telephone system equipment is adequate for the building's intended use. No improvements or repairs are required at this time. Enhancements / improvements to this system will be necessary if program needs change.

#### **Security System Survey**

The building uses an access control system made up of card readers located at the two main points of entry. Surveillance cameras are located at various points around the exterior of the building. No dedicated video displays for this system were observed. There was no evidence of an intrusion detection alarm system for the building. There is no intercom system for the building.

The work recommended to address security system conditions includes:

- Recommend enhancements to the existing surveillance system, including additional cameras and a networked HD video display station for monitoring in the next year, or as program needs dictate.
- Recommend installation and implementation of an intrusion detection or silent alarm system within the next year.

### **International Building Code Survey**

166 Union Street was evaluated for compliance with the 2022 Connecticut State Building Code, including the 2021 IBC with Connecticut Supplements and Amendments, for Use Group B (Business). This report does not address alterations to the existing building, because the scope of an alteration project has not been defined. In this case, a change of use would be very unlikely.

The work recommended to address IBC code violations includes:

- Provide Door Closers at all doors located along egress route.
- Provide emergency lighting throughout the facility.
- Modify layout of basement to eliminate dead end corridors and minimize travel distance when utilizing the exit access stair. Depending on layout of storage in basement, remote areas may have travel distance that exceeds 200' for an unsprinklered building.

#### **NFPA Code Survey**

A review of 166 Union Street's compliance with the NFPA Life Safety Code 2015 was made. The Life Safety Code is a retroactive code for existing buildings and review of applicable systems is required. This building will require updates.

The work recommended to address NFPA code violations includes:

- Replace Interior Convenience Stair with Stair that meets code requirements. Areas of concern include Clear Width, Riser Height, Tread Depth, Guardrails, & Handrails provided.
- Provide Emergency Lighting throughout Facility, currently emergency lighting was only observed at Exit Doors.
- If planning for a change of occupancy type, may require installation of NFPA 13 Sprinkler System.



## **ADA Compliance Survey**

166 Union Street was also evaluated based on the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. 166 Union Street fails to meet some of these requirements, evident in the "ADA Compliance Survey".

The building was evaluated based on a review of existing documentation, field verification of existing space usage and discussions with building staff to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes providing:

- Renovate existing toilet room on main floor to provide proper turning zones and clearances surrounding
  fixtures. Provide grab bars. Modify existing toilet room accessories and mirror to be mounted at or below
  appropriate maximum heights.
- Modify sink and casework within break room to comply with maximum counter height. Provide required pull under distance at sink or provide adequate space for a side approach sink. Provide casework with appropriate hardware that does not have operable elements below 15" minimum.
- Remove existing barn door at entrance to break room, leave opening into room as a clear opening.
- If critical program elements are going to be located in the basement, an accessible route must be established. Either a lift or elevator will be required to make the basement accessible.
- Provide signage at main entrance indicating it is accessible. Provide signage at rear doors indicating accessible entrance located at main entrance.
- Provide accessible parking spaces appropriate for the total number of spaces. 1 standard and 1 van space are required due to the 45 total spaces in the lot.

### **Site Survey**

The site at 166 Union Street was evaluated. Traffic flow at this facility appears to be good. Walkways are in fair to good condition. Available parking accommodates 43 vehicles, with no handicap accessible spaces available. The parking area is used by Maple Street school employees which is located across the street. The service area paving behind the building is in poor condition.

The work recommended to address site conditions includes:

- Remove and replace bituminous pavement at north end of site
- Repair damaged bituminous curbing
- Remove and replace damage concrete walkway

## **Survey Results**

Each of the elements that were reviewed under this assessment was ranked on a scale of 1-4, with a 4 rating equating to the highest priority. Components that received a ranking of 3 should be considered to be moderate priorities, while rankings of 2 and 1 are considered to be low priorities. The following chart graphically presents the survey results (reference Section 4 for a detailed description for each category).

# **Prioritization of Required Work** Highest 4 Priority 3 2 Lowest 1 Priority Enclosure Interior 💻 Structural -Mechanical -Electrical Plumbing 💻 Lighting Telecommunications — Security Site 💼

The graph below represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 1-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants.

#### **Code Compliance Evaluation**



# Summary of Recommendations

Opinion of Probable Costs	The estimate of probable costs included in Section 8 of this report is designed as a planning tool for Vernon Public Schools. Estimates do not account for a possible change of use.
The estimates reflect bringing the building, in its present configuration, into compliance with current applicable codes and addressing the needs of the va building components (architectural, structural, mechanical / electrical / plumi / fire protection and site). The projected renovations for these components w 	
	equate to approximately \$ per square foot. This cost-per-square-foot figure falls / does not fall within industry standards for renovations / upgrades of this nature.
Replacement Cost	A similarly constructed building would cost \$ per square foot. Using this figure, the replacement cost for this building is approximately \$, which follows state standards for structures of this type. The \$ per square foot replacement cost was obtained from R.S. Means Construction Cost Data and current local market conditions for buildings of this type. The estimate includes hard construction costs, demolition costs, construction contingencies, design costs, and other "soft costs".
State Reimbursement	The municipality's reimbursement from the State of Connecticut Department of Education for eligible items is xxxx. This would adjust the community's portion of the renovation costs from \$xxxx to \$xxxx, before taking enrollment and other potential ineligible items into account.

The chart below indicates the estimated value of the required work addressed by the building survey alongside the potential replacement cost. The replacement cost is provided as a guideline for comparative purposes and is based on replacing the building as is, i.e. size and use. Information considered includes the type of structure, year built and existing area for the building.



The required work addressed in this survey equates to approximately ... percent of the cost of an entire building replacement project.

# Section 3 : Architectural & Structural Survey

## **Architectural Existing Conditions**

This section provides a listing of existing conditions of the various architectural and structural components of the building, followed by summary descriptions. A space utilization plan is provided to identify the current locations / number of spaces available and adjacencies. Photographs of existing conditions are included for clarification purposes, identifying areas that require attention. The floor plans indicate the building layout and are keyed to photograph locations. Recommendations for improvements to the various components are discussed to provide Vernon Public Schools with an overview of the required work.

## **166 Union Street**

Plan Drawings	None Available
Photos	2023 Survey
Date Built	Unknown (Assumed 1980s)
Architect	Unknown
Date(s) Additions / Renovations	N/A
Construction	Assumed IIIB
Type of Occupancy	Business (unoccupied)
Number of Stories	1 (plus Basement)
Gross Square Feet*	7,980 sf

\* Gross Square Footage defined as: The sum of all areas on all floors of a building included within the outside faces of its exterior walls, including all vertical penetration areas, for circulation and shaft areas that connect one floor to another.

Condition Codes	
Excellent	16-20 years useful life
Good	Good at present (11-15 years)
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)
Poor	Immediate repairs needed to prevent deterioration (0-5 years)

## **Architectural Conditions - Enclosure**

Architectural Conc	ditions - Enclosure	
Exterior Skin	Material	Condition
Primary Surface	Metal Siding	Fair to Good
Secondary Surface	N/A	N/A
Insulation	Unknown	Assumed Good
Features	N/A	N/A
Windows		
Lintel	Assumed Wood	Assumed Good
Jamb	Assumed Wood	Assumed Good
Sill	Assumed Wood	Assumed Good
Frame	Aluminum	Good
Glazing	Insulated	Good
Sealant	Yes	Fair to Good
Operable	No	N/A
Exiting	Νο	N/A
Doors		
Lintel	Assumed Wood	Assumed Good
Jamb	Assumed Wood	Assumed Good
Sill	Concrete	Condition or N/A
Frame	Wood Hollow Metal, Aluminum	Poor Good
Door	Wood Hollow Metal, Aluminum	Fair Good
Glazing	Insulated	Good
Flashing	Not visible	Assumed Good
Sealant	Yes	Good
Hardware	Stainless steel	Good

## Architectural Conditions - Enclosure (continued)

The building at 166 Union Street has a metal siding facade that is dented throughout the facades.

There is a separate garage building on the property with vinyl siding and a concrete foundation.

The windows and exterior doors are in fair to good condition. The wood garage door and frame are in fair condition and will need to be replaced if the building is to become fully occupied.

The structure of the building is assumed to be wood frame construction. In general, the building appears to be in good condition structurally. Although observations could not be made of many structural elements without demolition, no dangerous conditions were observed. Any additions to 166 Union Street would have to be provided without increasing the load or decreasing the seismic strength of any of the existing building components.

## **Architectural Conditions - Interior**

Front Vestibule	Material	Condition
Interior Walls	Gypsum	Good
Interior Door & Frame	Storefront Glazing, hollow metal frame	Good
Hardware	Stainless Steel, type varies	Good
Flooring	Carpet Tile	Good
Ceilings	2x4 ACT	Good
Kitchen / Office		
Interior Walls	Full Height Wood Paneling	Good
Interior Door & Frame	Wood sliding door, wood frame	Good
Hardware	Stainless Steel Circular hole	Good
Flooring	Quarry Tile	Good
Ceilings	2x4 ACT	Good
Toilet Room		
Interior Walls	FRP panels	Good to Excellent
Interior Door & Frame	Wood, with wood frame	Good
Hardware	Кпор	Good
Flooring	12x12 Vinyl Composition Tile (VCT)	Fair
Ceilings	2x4 ACT	Good
Warehouse		
Interior Walls	Gypsum Unfinished / CMU / Brick	Good
Interior Door & Frame	Hollow Metal, hollow metal frame / Wood, wood frame / Overhead Door	Good
Hardware	Mixed	Good
Flooring	Concrete Unfinished	Good
Ceilings	2x4 ACT	Fair to Good
Basement stair		
Interior Walls	Stud wall	Good
Stair	Wood	Fair
Railing	Wood	Fair
Basement		
Interior Walls	Concrete foundation Wood stud	Good
Interior Door & Frame	Wood , wood frame	Good
Hardware	Brass	Good

Flooring	Slab on grade	Good
Ceilings	Exposed to structure	Good

Overall, the interior of the building is in good condition.

In several areas wall base is missing or falling off.

The concrete flooring would benefit from sealant and some leveling agent. The VCT is in fair condition and should be cleaned/buffed to get the stains out. The VCT in the toilet room has various cracks and a piece of tile is broken off completely. The carpet tile in several areas is fraying and not glued down making it a trip hazard. The wood floor in the warehouse area is damaged and should be evaluated for further damage and stability.

Flooring transitions are missing and are causing additional tripping hazards.

The building appears to currently be unoccupied. The basement is used for storage. If the use for this building is changed further updates will need to be made to accommodate the new program.

## **Architectural & Structural Survey Photographs**



1. Location:

East Elevation

#### **Description:**

Dents throughout facade



# 2. Location:

East Elevation

## **Description**:

Fascia pulling away from roof edge.

# 3. Location:

North Elevation

### **Description:**

Dents throughout metal siding facade



## **Architectural & Structural Survey Photographs**



#### 4. Location:

North Elevation - Rolling Door

#### **Description:**

Riped plastic barrier. Wood trim cracked and finish fading.

5. Location:

North Elevation - Rolling Door

#### **Description**:

Wood door finish damaged over time.

#### 6. Location:

North Elevation - Rolling Door

#### **Description:**

Deteriorating wood frame

## **Architectural & Structural Survey Photographs**



7. Location:

North Elevation

#### **Description:**

Rusted door hinge of rear door

8. Location: North Elevation

#### **Description**:

Metal paneling pulling away from the rest of the facade



**9. Location:** South Elevation

### **Description:**

Dent in metal siding

## **Architectural & Structural Survey Photographs**



**10.** Location:

West Elevation

#### **Description:**

Rotting interior wood sill. Sealant deteriorating on the outside.



#### **11. Location:**

West Elevation

#### **Description:**

Broken plastic cover at basement window.



## **Description:**

Paint peeling off structure.

## **Architectural & Structural Survey Photographs**



#### **16.** Location:

Corridor off of front Vestibule

#### **Description:**

Ceiling tiles are cracked and have some hole.



#### **17. Location:**

Vestibule

#### **Description:**

Exposed wiring, paint peeling and missing wall base.

#### **18.** Location:

Office / Toilet Area

#### **Description:**

Transition strips are missing and VCT is broken and cracked.



## **Architectural & Structural Survey Photographs**



#### **19.** Location:

Main Warehouse Area

#### **Description:**

Concrete is crumbling and discoloring in some areas and would benefit from being sealed.



### **20. Location**:

Toilet Room

## **Description:**

VCT is cracking and badly stained.

#### **21.** Location:

Main Warehouse Area

#### **Description:**

Exposed and unfinished gypsum board.

## **Architectural & Structural Survey Photographs**



#### **22.** Location:

Main Warehouse Area

#### **Description:**

Ceiling tiles are stained and broken in several areas.



#### **23. Location:**

Side Warehouse Area

#### **Description**:

Wood flooring is damaged and needs to be evaluated.

#### **24.** Location:

Side Warehouse Area

#### **Description:**

Efflorescence on brick. Water damage is seen on surrounding ceilings and walls.


### Architectural & Structural Survey 37

#### **Architectural & Structural Survey Photographs**



#### **25.** Location:

Side Warehouse Area

#### **Description:**

Efflorescence on brick. Water damage is seen on surrounding ceilings and walls.

**26. Location:** 

Main Warehouse Area

#### **Description:**

Ceiling tile appear to have water damage and are broken.

#### **27.** Location:

Kitchen

#### **Description:**

Quarry tile is faded and some tile edges are scuffed and chipped.





# 38 Architectural & Structural Survey

# **Architectural & Structural Survey Photographs**



#### **28.** Location:

Main Warehouse Area

#### **Description:**

Painted CMU is chipped and some areas show patching of the block.

# **Architectural & Structural Photo Key Plan**

The following plan shows the actual building plan as verified during field surveys. Photographs from the previous pages are keyed into the building plans with numbered arrows at the approximate photograph site and direction from which the photographs were taken.





#### 40 Architectural & Structural Survey

## **Architectural & Structural Recommendations**

The architectural and structural components of 166 Union Street are in good condition.

The following represents areas of necessary architectural improvements and / or required work.

- Replace metal siding as needed to due damage
- Replace door hinge at north elevation
- Replace broken plastic cover at overhead door
- Replace wood frame at overhead door
- Replace damaged fencing
- Repair damaged roof fascia
- Repair broken VCT
- Install proper transition strips
- Glue down loose carpet tile to eliminate trip hazard
- Replace broken or stained ceiling tiles
- Repair and replace missing wall base

There are no area areas of necessary structural improvements and / or required work at this time.

#### **Existing Conditions Evaluation:**

The elements reviewed under this assessment were ranked on a scale of 1-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 are considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the results and their expected life spans.



Enclosure Interior Structural

Note: Ratings range from 1 (poor condition) to 4 (excellent condition)

# Section 4 : Mechanical, Electrical, Plumbing & Fire Protection Survey

# **M/E/P/FP** Existing Conditions

The mechanical / electrical / plumbing / fire protection survey results are presented within this section. Included are a chart of existing components and their conditions, summary descriptions, photographs, plans, and recommendations.

#### **Mechanical**

The following is a data summary of the Mechanical system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes		
Excellent	16-20 years useful life	
Good	Good at present (11-15 years)	
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)	
Poor	Immediate repairs needed to prevent deterioration (0-5 years)	

#### **Mechanical Conditions**

System	Condition	Comments
Boilers	N/A	No boilers within building.
Heating System	Good	Furnaces looked relatively new and were observed to be in good condition.
Heating System Pumps	N/A	No heating pump system.
A/C Roof-Top Units	Fair	Condensing units on the roof were observed to be in fair condition.
Air Distribution / Ductwork	Good	Ductwork was observed to be in good condition and insulated.
Condensate Piping (A/C)	Poor	Condensate piping was observed to be disconnected in areas
Exhaust Fans	N/A	No exhaust fans.
Controls	Good	Controls were observed to be in good condition.

Building is heated from (2) two gas fired 120MBH condensing furnaces ducted to diffusers throughout the building. The furnaces are located within a centralized mechanical closet. The furnaces are controlled from space thermostats.

Building is cooled by (3) three Mitsubishi split ac systems with one-to-one roof mounted condensing units. Each split system comprises of the wall mounted unit, refrigerant piping, condensate piping, and a condensate pump. It was observed one of the units is non-operational and another continuously reflects an error code.

There is no ventilation system provided within this building. Natural ventilation is provided when garage door is opened.

The building is controlled by local equipment controls, there is no central BAS. Equipment controls are by space thermostat to cycle the equipment to the desired space temperature.



#### **Electrical**

The following is a data summary of the electrical system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes		
Excellent	16-20 years useful life	
Good	Good at present (11-15 years)	
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)	
Poor	Immediate repairs needed to prevent deterioration (0-5 years)	

#### **Electrical Distribution Conditions**

System	Condition	Comments
Main Service	Poor	Main Switch and CT Cabinet is Past its Serviceable Lifespan.
Power Distribution	Fair	Varies – Some Equipment in Need of Replacement.
Life Safety Power	N/A	There is No Life Safety Power to the Building.
Emergency Power	N/A	There is No Emergency Power to the Building.
Transformers	N/A	N/A
Grounding	N/A	Not Observed.
Lightning Protection	N/A	There is No Lightning Protection System for the Building.

Power originates at a utility pole located on Maple Street. The utility feeder runs across the parking area to a weather head mounted at the roof line. A feeder runs down the side of the building into the basement, where it connects to a 200A, 240V, 1-phase, 3-wire main disconnect switch and CT cabinet. The meter cubicle is arranged cold sequence with the meter mounted next to the main disconnect. This equipment is of an indeterminate age, but appears poorly maintained and past its serviceable lifespan.

The main disconnect feeds a 200A MLO, 240V, 1-phase, 3-wire panel labeled "LV1". Panel "LV1" contains circuit breakers that feed additional panels, lighting and receptacle loads throughout the building.

Branch circuit panelboards vary in age and style between newer GE Type NLAB and older style GE load center panels. Branch circuit wiring is in EMT/armored cable, where observed. Condition of this equipment varies from good and well maintained to poor and in need of replacement.

There is no Life Safety or Emergency/Optional Standby power to the building.

There is no evidence of a lightning protection system for the building.

#### Plumbing

The following is a data summary of the plumbing system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes		
Excellent	16-20 years useful life	
Good	Good at present (11-15 years)	
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)	
Poor	Immediate repairs needed to prevent deterioration (0-5 years)	

#### **Plumbing Conditions**

System	Condition	Comments
Water Service	Poor	Service Size 1", Piping Showing Signs of Rust
Fixtures	Fair	Floor Mount Tank Toilets, Manual Faucets
Domestic Cold Water Pipe	Fair	Copper Piping
Domestic Hot Water Pipe	Fair	Electric Water Heater Appears to be in Fair Condition
Sanitary & Vent Piping	Fair	Sanitary Piping Showing Signs of Rust
Storm Piping	N/A	N/A
Natural Gas Piping	N/A	N/A
Irrigation	N/A	N/A

The water service for the building originates in the underground basement.

The water closet in this building are floor mounted vitreous china tank type. The lavatories are wall hung vitreous china type. The sinks in this building are made of stainless steel have manual faucets.

The hot and cold water piping leading from the basement to the fixtures on the main level are made of copper and appear to be in fair condition with corrosion beginning to be seen forming on some of the piping and pipe fittings.

The water heater for this building is a electric storage tank type water heater and appears to be in fair condition.

The sanitary piping coming off of the fixtures appears to be in fair condition with it being seen that there is rust and corrosion starting to form on some of the piping and fittings found in the basement of the building

### Lighting

The following is a data summary of the lighting system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes		
Excellent	16-20 years useful life	
Good	Good at present (11-15 years)	
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)	
Poor	Immediate repairs needed to prevent deterioration (0-5 years)	

#### **Lighting Conditions**

System	Condition	Comments
General Lighting	Fair	Fluorescent Fixtures Retrofitted with LED Lamps. Lighting Levels Adequate.
Emergency Lighting	Fair	Minimal – Battery Powered Emergency Light Fixtures at Exit Doors.
Exit Signs	Fair	Battery Powered LED Fixtures at Exit Doors.
Exterior Lighting	Good	HID Exterior Building Mounted Fixtures Light Parking Areas.
Lighting Control	Fair	Manual Toggle Switches for Shop and Utility Areas.
Theatrical Lighting	N/A	N/A

nterior lighting fixtures are a combination of 2'x4' and 1'x4' recessed lay-in troffers and 1'x4' surface mount with wraparound prismatic lenses on the main level, 4' industrial type fluorescents in the basement. All interior fixtures on the main level have been retrofitted with LED lamps and drivers and are in fair condition. Light levels throughout the building appear adequate.

Battery operated LED exit signs with dual-head emergency lights are used to light both exits out of the building. Emergency fixtures were not tested for operation, but appear correctly installed and maintained.

HID wall packs light the building exterior and parking areas.

Interior lighting control is done with toggle switches. Exterior lights are controlled via timeclock.

#### **Telecommunications**

The following is a data summary of the telecommunications system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes		
Excellent	16-20 years useful life	
Good	Good at present (11-15 years)	
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)	
Poor	Immediate repairs needed to prevent deterioration (0-5 years)	

### **Telecommunications System Conditions**

System	Condition	Comments
Backbone Cabling	Fair	Intact with No Visible Damage.
Rack System	N/A	N/A
Telecommunication Ground	Fair	Intact with No Visible Damage.
Telephone Service Entrance	Fair	Intact and Functioning with No apparent Issues.
Data Horizontal Cabling	Fair	Intact with No Visible Damage.
MDFs / IDFs	N/A	N/A
Pathways	N/A	N/A
Coaxial Cable	N/A	N/A

Telecommunications services originate at a utility pole located on Maple Street. Cabling runs overhead and enters the building at the telecommunications equipment backboard, on the main level. All equipment appears undamaged and in fair condition.

Data communications consists of a fiber backbone and a combination of wired outlets and wireless access points located throughout the building. Wireless Access Point (WAP) devices are distributed throughout the building – one in each shop area and office. All equipment and cabling appeared fair condition.

#### **Security System**

The following is a data summary of the security system's existing conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

Condition Codes	
Excellent	16-20 years useful life
Good	Good at present (11-15 years)
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)
Poor	Immediate repairs needed to prevent deterioration (0-5years)

#### **Security System Conditions**

System	Condition	Comments
Intrusion Alarm System	N/A	N/A
Video Monitoring	N/A	Surveillance Cameras on Exterior. No Video Displays Observed.
Access Control	Fair	Functioning with No Apparent Issues.
Intercom System for Entrance	N/A	N/A

The building uses an access control system made up of card readers located at the two main points of entry. Surveillance cameras are located at various points around the exterior of the building. No dedicated video displays for this system were observed.

There was no evidence of an intrusion detection alarm system for the building.

There is no intercom system for the building.

# **M/E/P/FP Survey Photographs**





**1. Location:**Basement **Description:**Water Service **2. Location:**Basement **Description:**Hot, Cold, Sanitary Piping

**M/E/P/FP Survey Photographs** 



3. Location: Basement Description: Water Heater



4. Location: Toilet Room

Description: Toilet Room Fixtures



9

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5. Location: Break Room Description: Break Room Sink



6. Location: Entrance Description:

Supply Diffuser

# M/E/P/FP Survey Photographs



**7. Location:** Roof **Description:** Furnace Gas Flue **8. Location:** Roof **Description:** Mitsubishi Split System Condensing Unit



#### **M/E/P/FP Survey Photographs**



 9. Location: Storage

 Description: Mitsubishi Split AC System

#### **10. Location:**

Storage Room

#### **Description**:

Split System Condensate Piping and Pump



# **M/E/P/FP Survey Photographs**



**11. Location:** Mechanical Closet **Description:** Gas Fired Condensing Furnaces



**12. Location:** Exterior

> Description: Utility Weather Head

# M/E/P/FP Survey Photographs



**13.** Location:

Basement

#### **Description:**

Main Disconnect / CT Cabinet and Distribution Panel

**14. Location:** Main Level

> Description: Old Load Center Panels

#### **M/E/P/FP Survey Photographs**



Main Level
Description:

**15. Location:** 

Lighting in Shop Area

**16. Location:** Main Level

Description: Lighting in Shop Area

166 Union Street | April 2023

# **M/E/P/FP Survey Photographs**



17. Location: Exterior Description:

**Building Mounted Light Fixtures** 



#### **18. Location:**

Main Level

#### **Description:**

Telecommunications Equipment Backboard

M/E/P/FP Survey Photographs



# **M/E/P/FP** Recommendations

Recommendations for the existing building systems are listed below by trade.

The following represents areas of necessary **mechanical** improvements and / or required work.

- Heating Plant: The existing building is served by two high efficiency furnaces located in mechanical closet. Furnaces are in good condition.
- Ventilation/Exhaust: The existing building is naturally ventilated through windows and garage door. We recommend providing mechanical ventilation and exhaust in line with ASHRAE 62.1/IMC.
- Cooling: The existing building is cooled by one to one split ac systems. The split ac systems are past their useful life and we recommend they be replaced in kind with roof mounted condensing units and condensate pumps.
- Controls: The existing building is controlled by space thermostats. We recommend providing a centralized BMS system.

The following represents areas of necessary **electrical** improvements and / or required work.

- Main Switch and CT Cabinet is past its serviceable lifespan and in need of immediate replacement.
- Older style load center panels are poorly maintained and in need of immediate replacement.
- There is no evidence of a lightning protection system for the building. Recommend installing a lightning protection system in the immediate future, to safeguard people and property from fire risk and related hazards associated with lightning exposure.

The following represents areas of necessary **plumbing** improvements and / or required work.

- Domestic water service and piping is nearing the end of its useful life and we recommend it be replaced in its entirety.
- Domestic Water heater is nearing the end of its useful life and we recommend it be replaced with an electric water heater.
- Natural Gas service and system is nearing the end of its useful life and we recommend it be replaced in its entirety.
- Sanitary system (above and below grade) is nearing the end of its useful life and we recommend it be replaced in its entirety.

There is no fire protection system in this building.

The following represents areas of necessary **lighting** improvements and / or required work.

• Lighting systems are old technology fluorescents retrofitted with LED lamps and drivers, controlled with wall toggle switches. As capital funding allows, recommend replacing existing lighting and controls with new technology LED fixtures and low voltage switches and occupancy sensors.

There is no **fire alarm** system in this building. Recommend installation of a complete non-addressable fire alarm system with control panel and all required initiating and notification appliances in the immediate future.

The following represents areas of necessary **telecommunication system** improvements and / or required work.

• The existing telephone system equipment is adequate for the building's intended use. No improvements or repairs are required at this time. Enhancements / improvements to this system will be necessary if program needs change.

The following represents areas of necessary **security system** improvements and / or required work.



- Recommend enhancements to the existing surveillance system, including additional cameras and a networked HD video display station for monitoring in the next year, or as program needs dictate.
- Recommend installation and implementation of an intrusion detection or silent alarm system within the next year.

There is no **low voltage** system in this building. Addition of system will be necessary if program needs change.

#### **Existing Conditions Evaluation:**

The elements reviewed under this assessment were ranked on a scale of 1-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 are considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the results and their expected life spans.



# Section 5 : Code Survey

### **IBC Code Survey**

This section outlines the results of the code evaluation survey, listing the building's compliance with the IBC code regulations.

166 Union Street has been evaluated for compliance with the 2022 Connecticut State Building Code, including the 2021 IBC with Connecticut Supplements and Amendments, for Use Group B (Business). Since the scope of a potential alteration project is not yet defined, this report does not address code compliance with regard to future alterations. A change of use would require code compliance upgrades. Other required code upgrades are contingent upon the nature and extent of a specific alteration and are determined on a case-by-case basis.

Corrective work is required for compliance with IBC, under it's existing use and conditions. The majority of the IBC defines new construction requirements and is not a retroactive code.

<b>IBC Summary Sheet</b>	
Existing Use	Business
Year Constructed	Unknown (Assumed 1980s)
Type of Construction	Assumed IIB
% Open Perimeter	100%
Fire Suppression	None
Compartmentalization	~7,000 sf
Fire Resistance Rating of Vertical Opening Enclosures	None
Automatic Alarms	None
Automatic Alarms Type	N/A
Smoke Control	N/A
Smoke Control Type	N/A
Mixed Use	N/A
Dead End	< 20'
Maximum Exit Access Travel Distance	< 200' (No Sprinkler System)
Number of Stories	1 (plus Basement)
Floor Area(s)	1,764 sf (Basement); 6,216 sf (First Floor)
Reduction of Area Limitations	None
Corridor Wall Rating	None
Door Closers	Only at Exit Doors, not along Egress Route
Adequate Exit Routes	Yes
Elevator Controls	N/A
Emergency Lights	Only at Exit Doors, not along Egress Route

# IBC Code Survey (continued...)

Plan Conditions Verified for:	Yes / No
Fire Safety	Yes
Means of Egress	Yes
General Safety	Yes
Handicapped Accessibility	Yes

## **NFPA Code Survey**

This section outlines the results of the code evaluation survey, listing the building's compliance with the NFPA code regulations. 166 Union Street was evaluated for compliance with NFPA 101 Life Safety Code, 2021. Chapter 39, Existing Business Occupancy, of the NFPA Code applies to this building.

#### **NFPA Code Compliance**

A listing of required elements per NFPA 101 code follows:

Classification of Occupancy	Description
Date of Original Construction	Unknown (Assumed 1980s)
Date of Addition(s)	N/A
Primary Occupancy	Business
Secondary Occupancy	N/A
Mixed Use	N/A

Fire Regulations	Description	Conforms (Y/N)
Stair Separation	None	Yes
Corridor Separation	None, Exits Accessible from an Open Floor Area	Yes
High Hazard Occupancy	N/A	N/A
Doors		
Width	32" Minimum Clear Width	Yes
Swing Direction	In Direction of Egress unless Serving < 50 Persons	Yes
Locks / Latches	Operable from Direction of Egress	Yes
Exit Hardware	Panic Hardware at Exit Doors	Yes
Closers	At Exit Doors Only	Yes
Stairs		
Classification	Unenclosed	Yes
Width	36"	No
Riser	>7"	No
Tread	11"	Yes
Guards	None	No
Handrails	Handrail is Not Continuous, Does not extend 1' beyond top and bottom of run	No
Enclosure	None	Yes
Horizontal Exits	N/A	N/A
Ramps	N/A	N/A
Fire Escapes	N/A	N/A

Means of Egress		
Occupant Load	Business Area - 150 Gross	N/A
Factor	20 Classrooms, 7/15 Assembly	N/A
Area per Floor	1,764 sf (Basement); 6,216 sf (First Floor)	Yes
Occupants per Floor	12 (Basement); 42 (First Floor)	Yes
Exit Unit Widths	-	Yes
Number of Exits	2	Yes
Exit Location	-	Yes
Exits through Spaces	None	N/A
Dead Ends/Common Travel	Dead End < 50' Common Path of Travel < 100'	No
Travel Exit	< 200'	No
Discharge	Directly to Grade in > 50% of cases	Yes
Illumination of Exits	-	Yes
Emergency Lighting	Battery Powered Fixtures only at Exit Doors	No
Exit Marking	-	Yes
Fire Protection Features	Description	Conforms (Y/N)
Construction & Compartmentalization		
Construction & Compartmentalization Construction - Minimum	111(200)	Yes
Construction & Compartmentalization Construction - Minimum Requirements	III(200) None	Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization	III(200) None 6,216 sf	Yes N/A Yes
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed	III(200) None 6,216 sf N/A	Yes N/A Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed	III(200) None 6,216 sf N/A Convenience Stair	Yes N/A Yes N/A Yes
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces	III(200) None 6,216 sf N/A Convenience Stair N/A	Yes N/A Yes N/A Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection	III(200) None 6,216 sf N/A Convenience Stair N/A	Yes N/A Yes N/A Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers	III(200) None 6,216 sf N/A Convenience Stair N/A None	Yes N/A Yes N/A Yes N/A Yes
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Doors	III(200) None 6,216 sf N/A Convenience Stair N/A None None	Yes N/A Yes N/A Yes N/A Yes Yes
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Doors Smoke Dampers	III(200) None 6,216 sf N/A Convenience Stair N/A None None None Not Observed	Yes N/A Yes N/A Yes N/A Yes Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Doors Smoke Dampers Penetrations Sealed	III(200) None 6,216 sf N/A Convenience Stair N/A None None None Not Observed Not Observed	Yes N/A Yes N/A Yes N/A Yes N/A Yes N/A Yes N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Doors Smoke Doors Smoke Dampers Penetrations Sealed Special Protection	III(200) None 6,216 sf N/A Convenience Stair N/A None None None None Not Observed Not Observed Not Observed	Yes N/A Yes N/A Yes N/A Yes N/A Yes N/A Yes N/A N/A N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Dampers Penetrations Sealed Special Protection Fire Rated Enclosure	III(200) None 6,216 sf N/A Convenience Stair N/A None None None None Not Observed Not Observed Not Observed	Yes N/A Yes N/A Yes N/A Yes Yes N/A N/A N/A
Construction & Compartmentalization Construction - Minimum Requirements Compartmentalization Flooring Openings Enclosed Floor Openings Unenclosed Concealed Spaces Smoke Protection Smoke Barriers Smoke Doors Smoke Doors Smoke Dampers Penetrations Sealed Special Protection Fire Rated Enclosure	III(200) None 6,216 sf N/A Convenience Stair N/A None None None None Not Observed Not Observed Not Observed Not Observed	Yes N/A Yes N/A Yes N/A Yes Yes N/A N/A N/A N/A

# NFPA Code Survey (continued...)

Corridors	None, Exits Accessible from an Open Floor Area	Yes
Sprinklers - Entire Building	None	Yes
Selected Hazards	N/A	N/A
Other		
Interior Finish	-	Yes
Corridors & Stairwells	-	No
Non-Conforming Locations	N/A	N/A
Sprinkler Protection	Description	Conforms (Y/N)
Sprinkler Service	N/A	N/A
Area Serviced	N/A	N/A
Pressure	N/A	N/A
Alarm Valve Size	N/A	N/A
Service Size	N/A	N/A
Fire Department Connection	N/A	N/A
Sprinkler Spacing	N/A	N/A

Discharge from Exits	Conforms (Y/N)
50% required directly to exterior	Yes
Other through areas on level of discharge with protection	N/A
Building Service & Fire Protection Equipment	Conforms (Y/N)
Utilities	N/A
Smoke Control	N/A
Elevators, Dumbwaiters & Vertical Conveyors	N/A
Rubbish Chutes, Incinerators & Laundry Chutes	N/A
Detection, Alarm & Communication Systems	N/A
Automatic Sprinklers	N/A

# **Code Survey Recommendations**

The code components of 166 Union Street are in partial compliance Additional items, that pertain to life safety and ADA accessibility, are addressed under other sections of this report. Some issues are covered by more than one code. Estimates for required work are provided in the Opinion of Probable Costs section of this report.

The following represents areas of necessary improvements and / or required work to meet IBC regulations.

- Provide Door Closers at all doors located along egress route.
- Provide emergency lighting throughout the facility.
- Modify layout of basement to eliminate dead end corridors and minimize travel distance when utilizing the exit access stair. Depending on layout of storage in basement, remote areas may have travel distance that exceeds 200' for an unsprinklered building.

The following represents areas of necessary improvements and / or required work to meet NFPA regulations.

- Replace Interior Convenience Stair with Stair that meets code requirements. Areas of concern include Clear Width, Riser Height, Tread Depth, Guardrails, & Handrails provided.
- Provide Emergency Lighting throughout Facility, currently emergency lighting was only observed at Exit Doors.
- If planning for a change of occupancy type, may require installation of NFPA 13 Sprinkler System.

#### **Existing Conditions Evaluation:**

The graph below represents the building's overall conformity with IBC and NFPA requirements. Compliance was rated on a scale of 1-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants.



# Section 6 : ADA Compliance Survey

### **ADA Compliance Survey Introduction**

This section contains an ADA compliance report, consisting of a list of conditions which fail to meet code requirements, and brief descriptions.

The ADA compliance survey for 166 Union Street was completed after data gathering and fieldwork. The Americans with Disabilities Act is a far-reaching civil rights law comprised of four parts. Title I affects employment practices. Title II addresses government-owned buildings and facilities. Title III is similar to Title II except that it addresses privately owned properties. Title IV addresses federally-regulated telecommunication.

This report solely addresses ADA Title II, and the report may serve as a basis for Vernon Public Schools Barrier Reduction Plan. However, this report does not propose specific design solutions for each ADA violation.

A survey checklist was also prepared during the on-site data collection process. Each survey element contains detailed items that reference specific ADA - Title II requirements from the Federal Register. The survey checklist consists of the following elements:

Item	Section
01	Site Access Route
02	Accessible Parking
03	Curb Ramps
04	Entrances
05	Accessible Route - Interior
06	Ramps
07	Stairs - Exterior
08	Stairs - Interior
09	Elevators
10	Platform Lifts
11	Doors
12	Drinking Fountains
13	Bathroom / Toilets
14	Telephones
15	Signage
16	Storage
17	Alarms
18	Seating & Tables
19	Libraries / Assembly Areas / Cafeteria

#### 72 ADA Compliance Survey

#### **ADA Survey Failures**

To complete this report the survey team walked through the building to evaluate and record the ADA elements. During this process, the team assessed whether the building "Passed" or "Failed" accessibility requirements. An item may have occurred several times within the building; however, if the item failed in one location only, the element was recorded as a "Fail". For example, "Handrails" are an item in the ADA checklist under the element "Stairs". A building may have two or three stairs. Handrails on one stair may fail to meet ADA Guidelines, where the others may meet such guidelines. In this instance, the item "Handrails" would be deemed to have failed to meet ADA Guidelines.

Another critical purpose of the survey is to determine if items that fail are "Readily Achievable." Although the Americans with Disabilities Act places both an architectural and legal definition to the term, this report focuses only on the architectural issues. The category "Readily Achievable" applies to existing building alterations / renovations and does not apply to new construction. The term "Readily Achievable" may also be defined as technically feasible. For example, a specific item may not be "Readily Achievable" due to existing structural or site conditions.

Finally, the survey team reviewed each ADA - Title II "Failed" item and assessed the extent of failures.

The following report documents the ADA requirements that 166 Union Street failed to meet. Plan and photograph references, notes and whether or not the item is readily achievable are noted.
Date Prepared: 8/22/2023

ADA Compliance Survey

Cost	to Fix								
Notes									
Plan	Ref#								
Photo	Ref #	11	7	7	∞	œ	8	8, 11	
Pass/	Fail	ш	ц	ц	ш	ш	F	ш	
Readily	Achievable	~	~	~	~		~		
Compliance Requirement		: Except as provided in 403.5.1 and 403.5.2, the clear width of walking surfaces shall be 36 inches minimum. EXCEPTION: The clear width shall be permitted to be reduced to 32 inches minimum for a length of 24 inches maximum provided that reduced width segments are separated by segments that are 48 inches long minimum and 36 inches wide minimum.	Floor surfaces shall be stable, firm, and slip resistant and shall comply with 302. Changes in level in floor surfaces shall comply with Section 303.	<ul> <li>The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48</li> </ul>	Changes in level of ¼ inch high maximum shall be permitted to be vertical.	Changes in level greater than ¼ inch (6.4 mm) in height and not more than ¼ inch (13 mm) maximum height shall be beveled with a slope not steeper than 1:2	Changes in level greater than ½ inch (13 mm) in height shall be ramped, and shall comply with 405 or 406	Accessible car and van parking spaces shall comply with Section 502	Where accessible parking spaces are required to be identified by signs, the signs shall include the International Symbol of Accessibility complying with 703.6.3.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches minimum above the finish floor of the parking space, measured to the bottom of the sign.
ltem		Walking Surfaces: Changes in Level: Clear Width Clear Width	Floor Surfaces	Walking Surfaces: Slope	Changes in Level: Vertical	Changes in Level: Beveled	Changes in Level: Ramps	General	Identification
Element		Site Access Route	Site Access Route	Site Access Route	Site Access Route	Site Access Route	Site Access Route	Accessible Parking	Accessible Parking
<b>Code Reference</b>		403.5	302.1	403.3	303.2	303.3	303.4	502	502.7
Priority		0	0	0	0	0			0
ptry	#	ъ	6	11	12	13	14	15	19

Prepared by: Friar Architecture, Inc.

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166 Union Street



166 Union Street | April 2023

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Cost	to Fix								
Notes								General	
Plan	Ref#								
Photo	Ref #	∞	2, 5, 10	10	10	2	2, 3		4
Pass/	Fail	ш	ц	ш		ш	ш	Ľ	E
Readily	Achievable	>	٨	٨	٨	~		×	~
Compliance Requirement		Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable portion of the standard.	Doors and doorways that are part of an accessible route shall comply with Section 404.	Changes in level of ¼ inch (6.4 mm) maximum in height shall be permitted to be vertical.	Changes in level greater than $\%$ inch (6.4 mm) in height and not more than $\%$ inch (13 mm) maximum in height shall be beveled with a slope not steeper than 1.2.	Unless otherwise specified, doors shall be permitted to swing into turning spaces	The clear floor space shall be 48 inches (1220 mm) minimum in length and 30 inches (760 mm) minimum in width.	Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor shall protrude 4 inches (100 mm) maximum horizontally into the circulation path. EXCEPTION: Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.	Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor.
ltem		Components	Doors, Doorways	Changes in Level: Vertical	Changes in Level: Beveled	Turning Space: Door Swing	Clear Floor Space	Protruding Objects: Protrusion Limits	Forward Reach: Unobstructed
Element		Curb Ramps	Entrances	Access Route Interior	Access Route Interior	Access Route Interior	Access Route Interior	Access Route Interior	Access Route Interior
<b>Code Reference</b>		402.2	404.1	303.2	303.3	304.4	305.3	307.2	308.2.1
Priority		0							
Entry	#	22	32	35	36	37	38	39	41

Date Prepared: 8/22/2023

ADA Compliance Survey

Cost to Fix			
Notes			
Plan Ref#			
Photo Ref #	4	4	
Pass/ Fail	L. L	щ	
Readily Achievable	~	×	
Compliance Requirement	Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum above the floor where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum above the floor and the reach depth shall be 25 inches (635 mm) maximum.	Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum. EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.	The clear width of an accessible route shall be 36 inches (915mm) minimum. EXCEPTION: The clear width shall be permitted to be reduced to 32 inches minimum for a length of 24 inches maximum provided that reduced width segments
ltem	Forward Reach: Obstructed High Reach	Operable Parts: Operation	Walking Surfaces: Clear Width
Element	Access Route Interior	Access Route Interior	Access Route Interior
Code Reference	308.2.2	309.4	403.5
Priority			
Entry #	42	43	45

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are separated by segments that are 48 inches (1220mm) minimumin length and 36 inches (915mm) minimum in width.

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**166 Union Street** 

ADA Compliance Survey						166 Ur	iion Street
	3						
Compliance Requirement	Кеадиу	Pass/	Photo	Plan	Notes	Cost	
	Achievable	Fail	Ref #	Ref#		to Fix	
Accessible routes shall consist of one or more of							
the following components: walking surfaces with a							
slope not steeper than 1:20, doors and doorways,							
ramps, curb ramps excluding the flared sides,							
elevators, and platform lifts. All components of an							
accessible route shall comply with the applicable							

Notes					
Plan	Ref #				
Photo	Ref # 10	9	و	9	۵
Pass/	F	ш.	L. L.	ц.	ш
Readily	Achievable	~	A	×	~
Compliance Requirement	Accessible routes shall consist of one or more of the following components: walking surfaces with a slope not steeper than 1:20, doors and doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable portions of this standard.	All steps on a flight of stairs shall have uniform riser height and uniform tread depth. Risers shall be 4 inches (100mm) minimum and 7 inches (180mm) maximum in height. Treads shall be 11 inches (280mm) minimum in depth.	The radius of curvature at the leading edge of the tread shall be $\mathscr{K}$ inch (13mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1½ inches (38mm) maximum over the tread or floor below.	Handrails shall be provided on both sides of stairs and ramps. EXCEPTION: In assembly seating areas, handrails shall not be required on both sides of aisle stairs, provided with a handrail either at the side or within the aisle.	Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs. EXCEPTION: Handrails shall not be required to be continuous in aisles serving seating where handrails are discontinuous to provide access to seating and to permit crossovers within the aisles.
ltem	Components	Treads and Risers	Nosings	Handrails: Where Required	Handrails: Continuity
Element	Ramps	Stairways	Stairways	Handrails	Handrails
<b>Code Reference</b>	402.2	504.2	504.5	505.2	505.3
Priority					
Entry	# 49	73	75	77	78

76 ADA Compliance Survey

Prepared by: Friar Architecture, Inc.

Date Prepared: 8/22/2023

ADA Compliance Survey

Cost	to Fix				
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Compliance Requirement		Top of gripping surfaces of handrails shall be 34 inches minimum and 38 inches maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.	Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches minimum.	Gripping surfaces shall be continuous, without interruption by newel posts, other construction elements, or obstructions. EXCEPTIONS: 1. Handrail brackets or balusters attached to the botom surface of the handrail shall not be considered obstructions, provided the brackets or balusters comply with the following criteria: a. Not more than 20% of the handrail length is obstructed, b. Horizontal projections beyond the sides of the handrail occur 11/2 inches minimum below the bottom of the handrail pervided that for each 1/2 inch of additional handrail perimeter dimension of 11/2 inches minimum below the bottom of the handrail berimeter dimension above 4 inches, the vertical clearance dimension of 11/2 inches minimum below the handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottom of the handrail gripping surfaces shall be permitted to be obstructed along the entire length where they are integral to crash rails or bumper guards.	Handrails with a circular cross section shall have an outside diameter of 1¼ inches (32 mm) minimum and 2 inches (51 mm) maximum.
ltem		Handrails: Height	Handrails: Clearance	Handrails: Gripping Surface	Handrails: Circular Cross Section
Element		Handrails	Handrails	Handrails	Handrails
Code Reference		505.4	505.5	505.6	505.7.1
Priority					
Entry	#	62	80	8	82

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ADA Compliance Survey 77

6



166 Union Street | April 2023

ADA Compliance Survey

**166 Union Street** 

to Fix Cost Notes Ref # Plan 9 9 9 Photo Ref # Pass Fail Achievable Readily where such extensions would be hazardous due to and ramps.2. Handrail extensions are not required minimum and 6¼ inches (160 mm) maximum, and have a perimeter dimension of 4 inches (100 mm) discontinuous to provide access to seating and to Handrail, and any wall or other surfaces adjacent Extension at Stairs horizontally above the landing for 12 inches (305 At the top of a stair flight, Handrails shall extend in aisles serving seating where the handrails are full extensions of handrails shall not be required Continuous handrails at the inside turn of stairs permit crossovers within aisles. 3. In alterations, a cross-section dimension of 2¼ inches (57 mm) landing nosing. Extensions shall return to a wall, Handrails with a non-circular cross section shall Handrail shall extend beyond and in the same mm) minimum beginning directly above the to them, shall be free of sharp or abrasive direction of stair flights and ramp runs in guard, or the landing surface, or shall be accordance with 505.10. EXCEPTIONS: 1. Compliance Requireme elements. Edges shall be rounded. plan configuration. maximum. Handrails: Top Handrails: Non-Circular Cross Extensions Handrails: Sections Surfaces ltem Handrails Handrails Handrails Handrails Element Code Reference 505.10.2 505.7.2 505.10 505.8 Prioritv 83 84 86 87 2 L

Prepared by: Friar Architecture, Inc.

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beyond the bottom tread nosing. Extensions shall

horizontal distance equal to one tread depth

Handrails: Bottom At the bottom of a stair flight, handrails shall Extension at Stairs extend at the slope of the stair flight for a

Handrails

505.10.3

88

flight.

continuous to the handrail of an adjacent stair

return to a wall, guard, or the landing surface, or

shall be continuous to the handrail of an adjacent

stair flight.

Date Prepared: 8/22/2023

ADA Compliance Survey

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Cost	to Fix			
Notes				
Plan	Ref#			
Photo	Ref #	5, 9, 10	2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Pass/	Fail	ц	L. L. L.	Ľ
Readily	Achievable	~		~
Compliance Requirement		Doors, doorways, and gates that are part of an accessible route shall comply with 404. EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.6, 404.2.7, and 404.2.8.	Doorways shall provide a clear width of 32 inches (815 mm) minimum. Clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) in depth at doors and doorways without doors shall provide a clear opening width of 36 inches (915 mm) minimum. There shall be no projections into the clear opening width lower than 34 inches (855 mm) above the floor. Projections into the clear opening width between advowe the floor shall not exceed 4 inches (100 mm). EXCEPTIONS: 1. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor. 2. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear opening width shall be permitted for the latch side stop.	Minimum maneuvering clearances at doors shall comply with 404.2.3 and shall include the full clear opening width of the doorway. Required door maneuvering clearance shall not include knee and toe clearance.
ltem		General	Clear Width	Maneuvering Clearances
Element		Doors	Doors	Doors
Code Reference		404.1	404.2.2	404.2.3
Priority				
Entry	#	117	119	120

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Priority

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Plan Ref#

Photo	Ref #	10	
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Compliance Requirement		If provided, thresholds at doorways shall be ½ inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with 302 and 303. EXCEPTION: An existing or altered thresholds shall be permitted to be ½ inch maximum in height provided that the threshold has a beveled edge on each side with a maximum slope of 1:2 for the height exceeding 1/4inch.	Handles, pulls, latches, locks, and other operable parts on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching, or twisting of the wrist to operate. Operable parts of such hardware shall be 34 inches minimum and 48 inches maximum above the floor. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides. EXCEPTION: Locks used only for security purposes and not used for normal operation shall not be required to comply with Section 404.2.6.
ltem		Thresholds	Door Hardware
Element		Doors	Doors
pde Reference		404.2.4	404.2.6

123

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General

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Accessible drinking fountains shall comply with 307

Accessible water closets and toilet compartments shall comply with 604. Compartments containing

and 602

General

Drinking Fountains Water Closets

604.1

132

General

602.1

128

accessible compartments shall comply with Section

shall comply with Section 604.9. Ambulatory

604.10. EXCEPTION: Water closets and toilet

compartments primarily for children's use shall be

permitted to comply with 604.11 as applicable.

more than one plumbing fixture shall comply with Section 603. Wheelchair accessible compartments

Date Prepared: 8/22/2023

ADA Compliance Survey

**166 Union Street** 

to Fix Cost Notes Ref # Plan photo Ref # ass Fail Achievable Readily common use or public use, shall not be required to comply with 309. Flush controls shall be located on The seat height of a water closet shall be 17 inches measured to the top of the seat. Seats shall not be minimum and 19 inches maximum above the floor sprung to return to a lifted position. EXCEPTION: A water closet in a toilet room for a single occupant, ambulatory accessible compartments specified in accessed only through a private office and not for the open side of the water closet. EXCEPTION: In centerline of the water closet shall be 16 inches minimum to 18 inches maximum from the side Section 604.10 shall have the centerline of the water closet 17 inches minimum and 19 inches The water closet shall be located with a wall or automatic. Hand operated flush controls shall wall or partition. Water closets located in naximum from the side wall or partition. partition to the rear and to one side. The Flush controls shall be hand operated or Compliance Requiremen comply with Section 604.4. Flush Controls Seat Height Location Item Water Closets Water Closets Water Closets Element **Code Reference** 604.6, 309 604.4 604.2 Priority 133 134 135 Entry #

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with 604.10, flush controls shall be permitted to be

ocated on either side of the water closets.

ambulatory accessible compartments complying



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Cost	to Fix		
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Plan	Ref#		
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Readily	Achievable	~	
Compliance Requirement		Toilet paper dispensers shall comply with 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches minimum and 36 inches maximum from the rear wall. Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches minimum and 42 inches maximum from the rear wall. The outlet of the dispenser shall be located 18 inches minimum and 48 inches maximum above the floor. Dispensers shall comply with Section 609.3. Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.	Where mirrors are located above lavatories, a mirror shall be located over the accessible lavatory and shall be mounted with the bottom edge of the reflecting surface 40 inches maximum above the floor. Where mirrors are located above counters that do not contain lavatories, the mirror shall be mounted with the bottom edga of the reflecting surface 40 inches maximum above the floor.
ltem		Dispensers	Mirrors
Element		Water Closets	Mirrors / Accessories
<b>Code Reference</b>		604.7	603.3
Priority			
ntry	#	136	149

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**166 Union Street** 

82 ADA Compliance Survey

Date Prepared: 8/22/2023

ADA Compliance Survey

•	Cost		
	Notes		
7	Plan		
	Photo		
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	Compliance Requirement	A clear floor space complying with 305.3, positioned for a forward approach, shall be provided. Knee and toe clearance complying with 306 shall be provided. The dip of the overflow shall not be considerd in determining knee and toe clearances. EXCEPTIONS: 1. A parallel approach complying with 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided. The requirement for knee and toe clearance shall not apply to a lavatory in a tollet or bathing facility for a single occupant, accessed only through a private office and not for commor use or public use. 3. A knee clearance of 24 inches minimum above the floor shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches maximum above the floor. 4. A parallel approach complying with 305 and centered on the sink, shall be permitted at lavatories and sinks used primarily by children 5 years and younger. 5. The requirement for the knee and toe clearance shall not apply to more that one bowl of a multibowl sink, 6. A parallel approach complying with Section 305 and centered on the sink, shall be permitted <b>at</b> wet bars.	The front of lavatories and sinks shall be 34 inches maximum above the floor, measured to the higher of the rim or counter surface. EXCEPTIONS: 1. A lavatory in a toilet or bathing facility for a single occupant accessed only through a private office
	ltem	Clear Floor Space	Height
	Element	Lavatories / Sinks	Lavatories / Sinks
	Code Reference	606.2, 305, 306	606.3
	Priority		
	Entry		152

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and not for common use or public use shall not be required to comply with 606.3.2.

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operated metering faucets shall remain open for

10 seconds minimum.

Faucets shall comply with Section 309. Hand

Faucets

Lavatories / Sinks

606.4, 309

153

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11

166 Union Street



ADA Compliance Survey

**166 Union Street** 

to Fix Cost Notes General General General Ref # Plan 2, 5, 7, 8, 10 Photo Ref # Pass/ Fail Achievable Readily raised characters are required, either one sign with Exposed Pipes and Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or both viaual and raised characters, or two separate Clear Floor Space The clear floor space shall be 48 inches minimum Tactile signs shall contain both raised characters Accessible signs shall comply with Section 703. Reach ranges shall comply with Section 308. Operable parts required to be accessible shall and braille. Where signs with both visual and abrasive surfaces under lavatories and sinks in length and 30 inches minimum in width. signs, one with visual, and one with raised notification appliances shall be installed in Accessible audible and visible alarms and Compliance Requireme characters, shall be provided. comply with Section 309. **Operable** Parts Reach Ranges General Surfaces General ltem Lavatories / Storage Storage Signage Storage Alarms Element Sinks Code Reference 703.1 305.3 606.6 702.1 308 309 Priority 154 199 200 201 191 202 ntrv #

source, be permanently connected to the wiring of

be powered by a commercial light and power

the premises electric system, and be permanently

nstalled.

accordance with NFPA 72 listed in Section 105.2.2,

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## **ADA Survey Photographs**





Toilet Room

#### **Description:**

Toilet is greater than 18" off side wall. Clear space of 56"x60" surrounding toilet is not achieved. A 60" turning diameter is not achieved. No grab bars are provided. Mirror is mounted above minimum 40" height.

**2. Location:** 

Toilet Room

## **Description:**

Front clear space required for a hinge approach push door without closer is 42", not achieved in this setup. Signage indicating toilet room should be provided.

#### **3.** Location:

Break Room

#### **Description:**

Required clear space for sink not provided due to furniture. Counter height not compliant. Casework under sink does not allow for required pull under distance. Casework has operable elements below minimum required 15"







## 86 ADA Compliance Survey

## **ADA Survey Photographs**





Break Room

#### **Description:**

Hardware is missing from several cabinets. Require tight pinching in order to open.





## 5. Location:

Break Room

### **Description:**

Barn style door has hardware that require tight pinching of fingers to operate. Does not provide required 18" horizontal clear space at latch side of door.

#### 6. Location:

Basement

#### **Description:**

Basement is not an accessible space. Stair risers exceed 7" maximum and treads do not meet required 11" minimum.

## **ADA Survey Photographs**





## 7. Location:

Main Entrance

#### **Description:**

Because there are entrances to the building that are inaccessible, signage should be provided to indicate accessible entrances.

8. Location: Side Lot

#### **Description**:

Raised curb and lack of sidewalk along this road make this lot inaccessible.

#### 9. Location:

Main Lot

#### **Description:**

No accessible spaces provided for this facility. Accessible spaces not feasible in this lot due to cross slope of parking spaces far exceeding maximum slope of 1:48.

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## 88 ADA Compliance Survey

## **ADA Survey Photographs**



## **10.** Location:

Exit Door

#### **Description:**

The exit door has steps to exit. The exit is not accessible. Modifications would need to be made inside and outside for a second exit.



## **11. Location:**

Site

## **Description:**

The gated parking area is too steep for accessible parking. This area or the side parking area would need to provide accessible parking in proximity to the front entrance.



#### **12.** Location:

Site

#### **Description:**

The accessible route would need to be determined for the site. The current slope and fencing impede circulation and exiting to the public way.

## ADA Survey Photograph Key Plan

The following plan shows the actual building plan as verified during field surveys. Photographs from the previous pages are keyed into the building plans with numbered arrows at the approximate photograph site and direction from which the photographs were taken.





## **ADA Survey Recommendations**

166 Union Street was evaluated based on the Americans with Disabilities Act (ADA), Title II, for public building accessibility. ADA is an act of Congress mandating certain standards for accessibility that are enforceable through the civil courts. 166 Union Street fails to meet some of these requirements, evident in the "ADA Compliance Survey".

The building was evaluated based on a review of existing documentation, field verification of existing space usage and discussions with building staff to confirm existing space allocation and usage.

The work recommended to address ADA compliance issues includes providing:

- Renovate existing toilet room on main floor to provide proper turning zones and clearances surrounding fixtures. Provide grab bars. Modify existing toilet room accessories and mirror to be mounted at or below appropriate maximum heights.
- Modify sink and casework within break room to comply with maximum counter height. Provide required pull under distance at sink or provide adequate space for a side approach sink. Provide casework with appropriate hardware that does not have operable elements below 15" minimum.
- Remove existing barn door at entrance to break room, leave opening into room as a clear opening.
- If critical program elements are going to be located in the basement, an accessible route must be established. Either a lift or elevator will be required to make the basement accessible.
- Provide signage at main entrance indicating it is accessible. Provide signage at rear doors indicating accessible entrance located at main entrance.
- Provide accessible parking spaces appropriate for the total number of spaces. 1 standard and 1 van space are required due to the 45 total spaces in the lot.

#### **Existing Conditions Evaluation:**

The graph below represents the building's overall conformity with ADA requirements. Compliance was rated on a scale of 1-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants.



# Section 7 : Site Survey

## **Existing Site Conditions**

This section provides a listing of existing conditions followed by summary descriptions for the site components. A site plan is provided along with photographs of existing conditions that identify areas requiring attention. Existing site utilities are also identified. Recommendations for site improvements are discussed to provide Vernon Public Schools with an overview of the required work.



Map Data: Google

## **166 Union Street**

Plan Drawings	None Available
Photos	2023 Survey
Date Built	Unknown (Assumed 1980s)
Site / Civil & Landscape Architect	Unknown
Date(s) Additions	N/A
Zone	RC
Gross Area (site)	1.0139 acres

The following is a data summary of the site conditions that were observed and noted during the survey. This information was gathered by a field survey, reviewing the existing drawings and discussions with various building personnel.

## 94 Site Survey

## **Site Conditions**

The following codes are used throughout this report to identify the condition of various elements.

Condition Codes	
Excellent	16-20 years useful life
Good	Good at present (11-15 years)
Fair	Minor / cosmetic repairs needed to maintain condition (6-10 years)
Poor	Immediate repairs needed to prevent deterioration (0-5 years)

	Material	Condition
Entry Drive		
Primary Surface	Bituminous	Good
Curbs	Bituminous	Fair
Striping	No	N/A
Signage	Yes	Good
Walkways		
Primary Surface	Brick / Concrete	Fair
Curbs	Concrete	Good
Signage	Νο	N/A
Parking		
Total Spaces	43	Good
Designated Handicap Spaces	0	N/A
Primary Surface	Bituminous	Poor to Good
Curbs	Bituminous	Good
Striping	Yes	Fair to Good
Signage	Yes	Good
Planting/Features		
Plant Beds	N/A	N/A
Trees/Shrubs	Yes, variety	Good
Service Drive/		
Loading Area		
Primary Surface	Bituminous	Poor
Curbs	None	N/A
Striping	None	N/A
Signage	None	N/A

The following is a summary of the site survey of this building.

Item	Summary
Site Lighting	Wall mounted light fixtures
Driveways/Walkways	The brick walkway is in fair condition. The small area of concrete in from of the main entry door needs to be replaced. The entry drive is in good condition but one area of the curb has been damaged.
Parking	The east parking area is in good condition. There is limited curbing to prevent vegetation overgrowth. The rear paved area is not usable for parking due to the severely deteriorated bituminous pavement.
Topography	Parking lot gently slopes up away from building.
Plantings	Mature trees are located on the north and east end of site. There is a small grassy area on the southwest portion of the site.
Service Area	There are no signs present calling out any service area. The dumpsters are also located behind the building.

## 96 Site Survey

## **Site Survey Photographs**



## **1. Location**:

East Parking Lot

#### **Description:**

This parking area is used for the school across the street. Some areas of damaged bituminous curbing and bent fence were visible.

## 2. Location:

East Parking Lot

## **Description**:

Designated parking for Municipal vehicles. No curbs along this side of the parking.



## **3.** Location:

North Paved Area

#### **Description:**

Cracked bituminous pavement

## **Site Survey Photographs**



## 4. Location:

North Paved Area

#### **Description:**

Significant deterioration of bituminous pavement.



### 5. Location:

North Paved Area

#### **Description**:

Significant deterioration of bituminous pavement.

## 6. Location:

Garage at North Area of Lot

#### **Description:**

Garage has vinyl siding and a concrete foundation that is damaged in some areas.



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## 98 Site Survey

## **Site Survey Photographs**





South Elevation - Main Entrance

#### **Description:**

Many cracks in the concrete.



#### 8. Location:

South Elevation - Main Entrance

#### **Description**:

Brick walkway with vegetation growing between the pavers

## 9. Location:

West Paved Area

#### **Description:**

No signage or striping indicating parking spaces.



## Site Survey Photographs



**10.** Location:

West Elevation

## **Description:**

Fencing bent out of form.

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## 100 Site Survey

## **Site Plan**

The following plan shows the actual building plan as verified during field surveys. Photographs from the previous pages are keyed into the building plans with numbered arrows at the approximate photograph site and direction from which the photographs were taken.



![](_page_99_Picture_4.jpeg)

Site Survey

![](_page_99_Picture_6.jpeg)

166 Union Street | April 2023

## **Site Recommendations**

The site components of 166 Union Street are in fair to good condition.

The following represents areas of necessary site improvements and / or required work.

- Remove and replace bituminous pavement at north end of site
- Repair damaged bituminous curbing
- Remove and replace damage concrete walkway

#### **Existing Conditions Evaluation:**

The elements reviewed under this assessment were ranked on a scale of 1-4, with a 4 rating equating to excellent conditions. Components that received a ranking of 3 are considered to be in good condition, while rankings of 2 and 1 are considered to be in fair and poor condition, respectively. The following chart graphically presents the results and their expected life spans.

![](_page_100_Figure_9.jpeg)

# Section 8 : Opinion of Probable Costs

## **Opinion of Probable Costs**

This section provides an estimate of probable costs for the work required to bring the building into compliance with applicable codes and meet safety requirements. Non-code related items are also included to identify the costs associated with meeting suitable architectural, structural and site standards. The estimates for this work are compared to the cost of replacing the existing structure.

The following opinion of probable costs was developed utilizing data obtained by conducting a survey of the existing building as well as knowledge of upgrades required at similar facilities and industry standards. The estimate was generated on the basis of a 20-year life expectancy for all building elements. The need for the building to be provided with the same features and upgrades as a typical building was taken into account. This estimate can be used as a tool to help facilitate prudent fiscal decisions relating to future projects at 166 Union Street.

The estimate of work required at 166 Union Street is based on meeting current applicable code and safety requirements. Non-code related items necessary to meet suitable architectural standards for occupancy are also included. Both unit and square-footage prices were utilized to prepare the estimate, based on Means Building Construction Cost Data and recent bid data. The itemized ADA Compliance Survey Information estimates were used as a basis in determining the costs related to ADA compliance. Items were reviewed for duplicity.

The estimate includes the following modifications:

- XXXX

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## 106 Opinion of Probable Costs

# **Section 9 : Appendix**
This section contains miscellaneous items that support information provided within this report and is included for reference.

•

This appendix includes the following items:

• Roof Survey Report - Garland



# **Facility Summary**

Client: Vernon Public School District

Facility: Union St. Maintenance

Facility Data							
Address 1	166 Union S	Street					
City	Vernon						
State	Connecticu	t					
ZIP	06066						
Type of Facility	Institutiona						
Square Footage	6,400						
Contact Person	Mr. Mark Ri	ZZO					
Asset Information							
Name		Date Installed	Square Footage	Roof Access			
EPDM Membrane			6,400	Ladder Needed			

Facility Summary



MAINTENANCE BUILDING - 166 Union Street, Vernon, CT 06066

**Report Contents** 



Images	L
Length Diagram	1
Pitch Diagram	5
Area Diagram6	5
Penetrations Diagram	7
Notes Diagram	3
Property Info	Э
Report Summary10	נ

#### **Report Details** Date: 03/21/2023 51200743 Report: Building: 1 **Roof Details** Total Area: 6,395 sq ft Total Roof Facets



In this 3D model, facets appear as semi-transparent to reveal overhangs.

Total ROOF Facels.	4	
Predominant Pitch:	3/12	
Number of Stories:	<=1	
Total Ridges/Hips:	85 ft	
Total Valleys:	15 ft	
Total Rakes:	80 ft	
Total Eaves:	149 ft	
Total Penetrations:	19	
Total Penetrations Perimeter:	104 ft	
Total Penetrations Area:	47 sq ft	
Report Run By:		

#### Jeremy Cogdill Contact:

contact.	
Company:	The Garland Company, Inc.
Address:	3800 East 91St
	Cleveland OH 44105
Phone:	802-598-2974

#### **Contact Us:**



**Jeremy Cogdill** Territory Manager - Southern & Eastern CT The Garland Company, Inc. m: (802) 598-2974 p: (860) 204-1006 e: Jcogdill@garlandind.com s: www.garlandco.com

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### **ROOF MEASUREMENT REPORT**

# **REPORT IMAGES**

The following aerial images show different angles of this structure for your reference.



**Top View** 

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1



# **REPORT IMAGES**





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2



**ROOF MEASUREMENT REPORT** 

# **REPORT IMAGES**





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3



# **LENGTH DIAGRAM**



Note: This diagram contains segment lengths (rounded to the nearest whole number) over 5 feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

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#### **ROOF MEASUREMENT REPORT**

# **PITCH DIAGRAM**

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 3/12.



Note: This diagram contains labeled pitches for facet areas larger than 20 square feet. In some cases, pitch labels have been removed for readability. Gray shading indicates flat, 1/12 or 2/12 pitches. If present, a value of "F" indicates a flat facet (no pitch).

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5



# **AREA DIAGRAM**

Total Area = 6,395 sq ft, with 4 facets.



Note: This diagram shows the square feet of each roof facet (rounded to the nearest foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

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**ROOF MEASUREMENT REPORT** 

# PENETRATIONS

# **Penetrations Notes Diagram** Penetrations are labeled from smallest to largest for easy reference. **Total Penetrations: 19** Total Penetrations Area: 47 sq ft Total Penetrations Perimeter = 104 ft Total Roof Area Less Penetrations = 6,348 sq ft 17 - 14 9 13 19 16 11 🗆 18 1 1 2 3 6 • 12 🗆 15 10 🗌

Note: Any measured penetration smaller than 3x3 feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

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# **NOTES DIAGRAM**



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8



#### **ROOF MEASUREMENT REPORT**

# **Property Info**



#### **Property Location**

Longitude = -72.4622924

Latitude = 41.8686138

Online map of property: http://maps.google.com/maps?f=g&source=s\_q&hl=en&geocode=&q= 166+Union+Street,Vernon,CT,06066

#### **Property Info**

Year Built: Effective Year Built:

#### Notes

\*.

This was ordered as a commercial property. There were no changes to the structure in the past four years.

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# **REPORT SUMMARY**

Below is a measurement summary using the values presented in this report.

#### Lengths, Areas and Pitches

Ridge Hins	85 ft (1 Ridges)
Vallevs	15 ft (1 Vallevs)
Rakes*	80 ft (4 Rakes)
Eaves/Starter**	149 ft (4 Eaves)
Drip Edge (Eaves + Rakes)	229 ft (8 Lengths)
Parapet Walls	0 ft (0 Lengths)
Flashing	22 ft (2 Lengths)
Step Flashing	81 ft (8 Lengths)
Total Area	6,395 sq ft
Total Penetrations Area	
Total Roof Area Less Penetrations	6,348 sq ft
Total Penetrations Perimeter	104 ft
Predominant Pitch	



\*Rakes are defined as roof edges that are sloped (not level). \*\* Eaves are defined as roof edges that are not sloped and level.

Areas per P	itch		
<b>Roof Pitches</b>	2/12	3/12	6/12
Area (sq ft)	1662.0	4686.1	46.5
% of Squares	26%	73.3%	0.7%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

Waste Calculation Table								
Waste %	0%	10%	12%	15%	17%	20%	22%	
Area (sq ft)	6,395	7034.5	7162.4	7354.3	7482.2	7,674	7801.9	
Squares	63.9	70.3	71.6	73.5	74.8	76.7	78.0	
This table shows th	e total roof area a	nd squares (rounde	d up to the nearest	decimal) based up	on different waste p	ercentages. The wa	aste factor is	

subject to the complexity of the roof, individual roofing techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only roof area is included in these waste calculations. Additional materials needed for ridge, hip, valley, and starter lengths are not included.

Penetration Table	1-8	9	10-13	14	15	16	17	18	19	
Area (sq ft)	0.2	1.8	2.2	2.7	4	3.5	4.3	9	10.5	
Perimeter (ft)	2	5.5	6	6.8	8	9	9.1	12	13	

Any measured penetration smaller than 3x3 feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

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Page 13

10



# **Construction Details**

Client: Vernon Public School District Facility: Union St. Maintenance Roof Section: EPDM Membrane



Information			
Year Installed		Square Footage	6,400
Slope Dimension	3:12"	Eave Height	15
Roof Access	Ladder Needed	System Type	EPDM: Fully Adhered
Assembly			

Roof #	Layer Type	Description	Attachment	R-Value	Thickness
1	Deck	Wood	Mechanically attached	-	-
1	Shingles	Asphalt	Mechanically attached	-	-
1	Vapor Retarder	Polyethelene	Loose laid	-	-
1	Insulation	Polyisocyanurate	Mechanically attached	10	2"
1	Membrane	EPDM - unreinforced	Fully Adhered	-	.060



# Photo Report

Client: Vernon Public School District Facility: Union St. Maintenance Roof Section: EPDM Membrane

Report Date: 03/10/2023 Title: Visual Inspection & Core







Page 18





Page 20





Page 22





Page 24





Photo Report: Mar 10, 2023 - Visual Inspection & Core

Page 26