

Facilities Assessment

Alpha Beta Iota Fraternity

33 Bay State Road

Boston, Massachusetts

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Unnamed Vendor, Inc.

3142 Round Circle

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Contents

	Page
Contents	2
Introduction	3
Executive Summary	4
Detailed Assessment	6
G-General Notes	6
A10-Foundations	7
A20-Basement Structures	7
B10-External Envelope	7
B20-Exterior Doors and Windows	8
B30-Roofing	8
C10-Interior Construction	9
C20-Stairs	10
C30-Interior Finishes	11
D10-Conveyance	12
D20-Plumbing	12
D30-HVAC	12
D40-Fire Protection	13
D50-Electrical	14
Cost Estimates	15
Appendices	16

Introduction

The Alpha Beta Iota (ABI) Fraternity House is located at 33 Bay State Road in Boston, Massachusetts. The 6,825 square foot building has a basement and five floors, Commercial Kitchen, Recreation Room, Living Room, Dining Room, Library, 3 Full Bedroom, 3 Studies, 3 Full Bathrooms, One Half Bath, and a Bunkroom. The licensed occupancy of the building is 23 residents. The 2017 assessed value of the building is \$1,623,000 per the City of Boston Assessor's website. This value has an impact on the amount of renovation which can be done before the building must comply with current handicapped and building codes.

On October 17, 2017 Unnamed Vendor, Inc. (UV) conducted a site survey of the ABI with a team of multi-disciplinary engineers/architects. Various building systems were evaluated, concerns were identified, and recommendations were drafted to address these concerns.

Throughout this document, concerns are identified and color-coded using these categories:

Table 1: Criticality of Actions Categories

Category	Criticality	Note
1	Address in 1-12 months	Immediate Concern
2	Address within 2-5 years	Likely Concern
3	Address within 2-10 years	Possible Concern
N	None	Inspected, No Concern.

Recommendations for addressing concerns vary from simple, low-cost maintenance and repairs to costly and involved major renovation and system replacement. There are building systems which may be non-compliant with current code, but allowed under the Massachusetts Existing Building Code. This is noted as a possibility in the assessment. It is important to note that when building renovation costs exceed certain amounts, the Massachusetts Building Code (MBC) requires additional compliance with the current code. Recent limits have included the following:

1. The Massachusetts Architectural Board (MAAB) requires an accessible entrance and an accessible toilet room must be provided if the renovation costs exceed \$100,000.
2. The Massachusetts Architectural Board (MAAB) requires that the entire building be made accessible if a single project, or multiple projects within any three-year period exceeds 30% of the assessed value of the building.
3. The Massachusetts Building Code requires that a building be fully sprinklered if the construction costs of multiple projects within a five-year period exceed 33% of the assessed value of the building and if a major renovation project involves more than 50% of the floor area of the building is renovated, full compliance with the current code, including seismic upgrades may be required.

Executive Summary

The ABI Fraternity Facilities is in slightly better than average condition than comparable facilities in the MIT FSILG system.

Table 2 shows the criticality of concerns described in the Detailed Assessment section of this report.

A **Major** concern will require additional consultation with an appropriate professional (architect/engineer/other consultant) in order to assure compliance with building codes and should be done by a licensed contractor .

A **Minor** concern can usually be addressed in-House by students or the appropriate licensed contractor.

Repairs describe work necessary to bring a building system back into working order, repairs can include renewal or replacement.

Maintenance describes work of a predictable and regular nature to keep building systems operational, this can include short and long-term maintenance.

Improvements describe work which introduces a new building system to the facilities, it can also include substantial improvement to the functioning of an existing system.

Waterproofing describes the control of external or internal moisture.

Structure describes the stability of the building, floors, ceilings, and walls under gravity, wind, residents, furniture, and seismic loads.

Safety describes the fire, egress, and emergency systems of the building.

Special Concerns:

Criticality 1

1. Item A20.1 and A20.2: The basement floor system has suffered deterioration because of the lack of adequate control of moisture in the crawlspace. The floor structure is becoming unstable and needs replacement.
2. B30.1: The roof no longer protects the structure from rain and considerable amount of energy are being lost in the winter heating season. A new roof system with insulation should be installed.
3. C10.4 and C20.4: Doors and attached hardware are critical components to safe egress in case of emergencies and should be maintained in good working order.

Criticality 2

4. B10.3: The rear facade mortar is becoming unstable because of many decade of ivy growth.
5. D40.1: The copper sprinkler pipes will become an increasing nuisance at best, and cause significant water damage at worst. They should be replaced within the next 5 years.

Table 2-Executive Summary

Item	Description	Relative Costs	Type	Type	System	Lifetime
	Category 1 Priorities	\$\$\$\$\$				(Years)
* A20.1	Crawlspace Slab On Grade	\$\$\$	Major	Improvement	Waterproofing	25
* A20.2	Repair Basement Floor Joists	\$\$	Major	Repair	Structure	25
B10.2	Install Handrail on Front Stoop	\$\$	Minor	Improvement	Safety	20
B30.1	Replace Roof	\$\$\$\$	Major	Maintenance	Waterproofing/Energy	20
C10.3	Repair Kitchen Wall	\$	Minor	Maintenance	Waterproofing	20
* C10.4	Replace Bedroom Door Knobs	\$\$	Major	Repair	Safety	10
C20.2	Replace Stair Ballusters	\$\$	Major	Repair	Safety	3
* C20.4	Repair Rear Stair Doors	\$\$\$	Major	Repair	Safety	10
C30.2	Replace Shower Pan	\$	Minor	Repair	Waterproofing	15
C30.4	Remount Moose Head	\$	Minor	Improvement	Safety	25
D10.2	Replace Flux Capacitor	\$	Major	Repair	Time Travel	100
D20.2	Replace Roof Drain/Gutter	\$	Major	Repair	Waterproofing	20
D40.2	Replace Hood Motor	\$\$	Major	Repair	Safety	15
D40.3	Install CO Shutoff	\$	Major	Repair	Safety	15
D50.1	Upgrade Bedroom Electrical	\$\$	Major	Improvement	Safety	10
	Category 2 Priorities	\$\$\$\$\$				
* B10.3	Repoint Rear Facade	\$\$\$\$\$	Major	Maintenance	Waterproofing	20
B20.2	Repair Front Door	\$\$	Major	Maintenance	Safety	10
B30.2	Refinish Deck	\$	Minor	Maintenance	Waterproofing	5
C10.2	Repair Bunkroom Ceiling	\$	Minor	Repair	Waterproofing	20
D20.3	Replace WCs	\$\$	Major	Improvement	Plumbing	20
D30.2	Replace Radiator	\$	Minor	Improvement	HVAC	25
* D40.1	Replace Sprinkler Pipes	\$\$\$	Major	Repair	Safety	20
	Category 3 Priorities	\$\$\$\$\$				
G.1	Remove Fast Food Drive Through	\$	Minor	Improvement	Zoning	NA
B10.1	Repoint Front Facade	\$\$\$\$	Major	Maintenance	Waterproofing	20
B30.3	Refinish Mural	\$	Minor	Maintenance	Art	10
C30.3	Repair Rec Room Ceiling	\$	Minor	Repair	Safety	20
D10.1	Install Elevator	\$\$\$\$\$	Major	Improvement	Access Code	20
D50.2	Replace Fast Food Sign	\$\$	Major	Improvement	Energy	20

*Noted in Executive Summary Special Concerns

KEY: \$=(\$0-\$2K) \$\$=(\$2K-\$10K) \$\$\$=(\$10K-50K) \$\$\$\$=(\$50K-100K) \$\$\$\$\$=(\$100K+)

Detailed Facility Assessment

The report is organized in Unifomat. Concerns may be of a general or specific nature. When specific, the designated room name and number are provided and a photograph included, if taken. The recommendations are color-coded by criticality categories (1-3).

G-General Notes

The ABI house was originally built in 1895 as a single family home. In 1932, ABI purchased the property and added a fifth floor bunkroom. The most recent renovation in 1997 installed a whole house sprinkler system, commercial kitchen, new bathrooms. In 2004, ABI installed a Fast Food drivethrough off of the back alley.

G.1	Zoning may not allow mixed commercial fast-food and dormitory use.	Remove fast-food use.(3)
		


A10 – Foundations

A10.1	The granite foundations resting on wood piles are capped with brick at the ground level.	General good condition (N).
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A20 – Basement Structures

A20.1	The basement floor is wood joists over a 3' high crawl space with a dirt floor.	Install water vapor barrier and slab on grade in crawlspace. (1)
A20.2	Several joist are rotten and the floor exhibits a significant bounciness in those areas.	Replace rotten floor joists.(1)




B10 – External Envelope

B10.1	Front brick facade.	General good condition with need for repointing (3).
B10.2	Entry stoop lacks handrail.	Install code-compliant handrail.(1)
		
B10.3	Rear facade is covered with ivy and mortar joints show signs of wear,	Ivy should be removed and facade repointed. (2)



B20 – Exterior Doors & Windows

B20.1	Wood double-hung windows.	Well maintained and finished.(N)
B20.2	Wood front door is worn.	Refinishing and rehangng needed soon.(2)
		

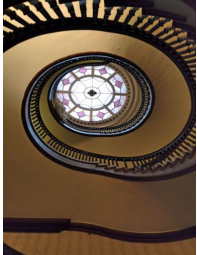
B30 – Roofing

B30.1	Roof in bad repair with multiple bare spots and no insulation.	Replace roof and add new insulation. (1)
		
B30.2	Rubber deck is coming off.	Reattach rubber roof tiles.(2)
		
B30.3	Roof mural is fading.	Repaint with epoxy paint.(3)
		




C10 – Interior Construction

C10.1	Wood stud walls.	In good condition, straight and true. (N)
C10.2	Bunkroom (501) ceiling joists at roof drain show rust.	Evaluate, repair, and finish with rust inhibitor.(2)
		
C10.3	Kitchen (001) wall at sink is wet.	Repair leak, remove moldy wood, refinish. (1)
		
C10.4	Multiple interior bedroom doors have operable mortice locks.	Replace locks with code compliant hardware. (1)


C20 – Stairs

C20.1	Beautiful spiral front stair (SA)	A keeper.(N)
		
C20.2	Missing balusters in rear stair. (SB)	Replace missing ballusters. (1)
C20.3	Rear stairs are less than 3' wide and have winders.	Full renovation may require compliance with code, but likely complies as an existing building condition.(N)
C20.4	Rear stair doors do not close completely, lack closers.	Tune doors and hardware for proper operation. install closers. (1)


C30 – Interior Finishes

C30.1	Plaster on wood lath.	Good condition, straight and true.(N)
C30.2	Bath (306) shower pan is leaking.	Replace shower pan. (1)
		
C30.3	Recreation Room (001) ceiling cracked.	Remove bad plaster and refinish. (3)
		
C30.4	Large moose head in Living Room (101) held up with clothes hanger.	Remove immediately, mount head with proper fasteners.(1)
		

D10 – Conveyance

D10.1	Building lacks elevator for handicapped access.	Install elevator. (3)
D10.2	Flux capacitor is fried, time travel undependable.	Replace with a Mr. Fusion unit.(1)
		


D20 – Plumbing

D20.1	Copper supply lines.	Appear to be in good condition.(N)
D20.2	Cast Iron roof drain has leaks.	Cut and replace bad sections. (1)
		
D20.3	All bathroom WCs are old and worn.	Replace with low-flush WCs.(2)


D30 – HVAC

D30.1	Hot water radiators and gas boiler.	In generally good condition and well-maintained. (N)
D30.2	Bedroom (403) complaints of inadequate heat.	Radiator appears undersized and should be replaced.(2)

D40 – Fire Protection

D40.1	Copper sprinkler pipes have chronic pinhole leaks.	Replace with cast iron sprinkler pipes. (2)
D40.2	Stove hood no longer operates.	Replace motor. (1)
D40.3	Stove hood lacks CO shutoff.	Install shutoff. (1)
		

D50 – Electrical

D50.1	Electrical outlets number and placement is inadequate in bedrooms and studies. Multiple extension cords observed.	Upgrade bedroom electrical systems.(1)
D50.2	Fast food sign is antiquated neon.	Replace with LCD signage.(3)
		
D50.3	Lighting is all LCD.	In good condition. (N)

Cost Estimates*

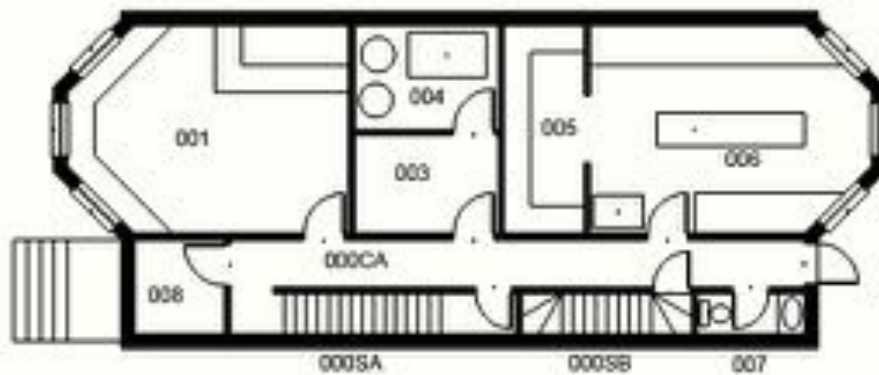
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Item	Description	Category 1	Category 2	Category 3
G.1	Remove Fast Food Drive Through			\$
A20.1	Crawlspace Slab On Grade	\$\$\$		
A20.2	Repair Basement Floor Joists	\$\$		
B10.1	Repoint Front Facade			\$\$\$\$
B10.2	Install Handrail on Front Stoop	\$\$		
B10.3	Repoint Rear Facade		\$\$\$\$\$	
B20.2	Repair Front Door		\$\$	
B30.1	Replace Roof	\$\$\$\$		
B30.2	Refinish Deck		\$	
B30.3	Refinish Mural			\$
C10.2	Repair Bunkroom Ceiling		\$	
C10.3	Repair Kitchen Wall	\$		
C10.4	Replace Bedroom Door Knobs	\$\$		
C20.2	Replace Stair Ballusters	\$\$		
C20.4	Repair Rear Stair Doors	\$\$\$		
C30.2	Replace Shower Pan	\$		
C30.3	Repair Rec Room Ceiling			\$
C30.4	Remount Moose Head	\$		
D10.1	Install Elevator			\$\$\$\$\$
D10.2	Replace Flux Capacitor	\$		
D20.2	Replace Roof Drain/Gutter	\$		
D20.3	Replace WCs		\$\$	
D30.2	Replace Radiator		\$	
D40.1	Replace Sprinkler Pipes		\$\$\$	
D40.2	Replace Hood Motor	\$\$		
D40.3	Install CO Shutoff	\$		
D50.1	Upgrade Bedroom Electrical	\$\$		
D50.2	Replace Fast Food Sign			\$\$
	Totals	\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$\$
			Grand Total	\$\$\$\$\$

*CAUTION: These estimates are not a substitute for estimates based on detailed plans.

Appendices

Building Plans



FLOOR PLAN

Other Supporting Documents

How to Address Concerns Guide (Written by AILG/MIT Facilities)

Consultant Reports

ABI Questionnaire

AILG BSF Summary

Meeting Notes