Beloit Historical Society
845 Hackett Street
Beloit, WI 53511

Condition Report for 845 Hackett Street, Beloit Wisconsin

Angus-Young Associates
555 S. River Street – Janesville, WI 53548
7/27/2016

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Executive Summary

Angus Young has performed a Property Condition Assessment (PCA) on The Beloit Historical Society Building located at 845 Hackett Street in Beloit WI known as Lincoln Center. The building has been occupied by the Beloit Historical Society since 1989. Previously the building had been Lincoln Jr. High School. The original three story school had been demolished during subsequent additions, but remnants of the original gym remain as the collections storage room for The Beloit Historical Society.

Project Summary Chart

845 Hackett Street

Construction System	Good	Fair	Poor	Action
2.3.1 Structural Systems	X			none
2.3.3 Foundations	X			none
2.3.4.1 Exterior Walls		X		Repair moisture issues
2.3.3.2 Windows/ Doors and Frames		X		Replace in future
2.3.5.1 Roofing		X	X	Repair roof drains, replace shingle/ metal screw down roofs. EPDM fair condition
2.3.5.3 Roof parapets/ flashings		X		Repair flashings as noted
2.4.1 Interior Spaces		X		Possible future renvoations
2.5.1.1 Mechanical System			X	Replace
2.5.1.4 Mechanical System		X		Replace
2.5.2.1 Electrical Systems		X-		Install service grounding. Replace all exterior fixtures. Replace interior fixtures.
2.5.3.1.2 Sewer Lateral		X		None
2.5.3.1.2 Water Service Lateral			X	Repair Water Meter
2.5.3.2.1 Storm Roof Drainage		X		None
2.5.3.2.2 Sanitary Drainage Systems		X		None
2.5.3.3.1 Domestic Water Distribution Systems		X		None
2.5.3.4.1 Plumbing fixtures and equipment		X		None

PROPERTY INFORMATION	
Property Name:	Lincoln Center- The Beloit Historical Society
Street Address:	845 Hackett Street
City:	Beloit
State:	Wisconsin
Reported Site Acreage:	5 Acres
Flood Zone:	Outside 100 Year Flood Plane
Seismic Zone:	0 according to 1997 UBC, likely category B 2009 IBC
Wind Zone:	Zone 1 according to Fema
Zoning Designation:	PLI Public Lands & Institute
On-Site Parking Spaces	25-30
On-Site Handicap-Designated Spaces:	1
Propery Type:	Office
BUILDING INFORMATION	
Number of Buildings:	1
Year Constructed and Age:	1919, 1971, 1989
Number of Floors/Stories:	1 Story with mezzanine in archive storage
Total Gross Building Area (Square Feet):	~15,586 gross sq. ft.
Superstructure:	Brick/ Block walls, steel construction & wood framing at '89 addition
Foundation Type:	Concrete
Exterior Façade(s):	Storefront glass, Brick, Stucco
Roof(s):	EPDM, asphalt shingle and screw down metal roofing
MECHANICAL INFORMATION	
Heating:	Furnaces and gas fired unit heaters
Air-Conditioning:	DX Refrigerant Air Conditioning Units
Hot Water:	1 electric water heater (50 gallon)
Electrical Wiring:	One utility services. EMT Conduit and standard wiring. Mix of fixtures.
Plumbing:	Mix of cast iron, copper and PVC
Elevators:	N/A
Fire Sprinkler:	N/A- Non sprinklered building
SITE VISIT INFORMATION	
Date/Time of Visit:	May 17th, 2016 at 10:00 A.M.
Weather:	Sunny
AYA Site Assessor(s):	Matt Honold, Bret Bunderson, Churck Statton, Frank McKearn (Batterman Engineering)
Escort(s):	Rick, Krista, Teri- Beloit Historical Society

General Condition

Based on Angus Young's walkthrough on 05/17/2016, the overall building appeared to be in fair condition, but is in need of maintenance, repairs and future replacement of equipment.

Recent Improvements

There have been no recent renovations to the property. The last addition occurred in 1989.

Recommendations

For this PCA, we have broken the costs down into three categories. Immediate repairs are those that because of unsafe conditions, code violations or to prevent further damage require immediate attention. Short term costs are repairs that should be made within four years. Finally, replacement costs are those that should be made within 5-10 years. It should be noted that areas within this report that do not meet current code would only need to be brought up to current code if significant renovations occur.

Cost Opinions

A summary of the immediate, short term and ongoing costs are listed below

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	Terms (Yrs)	Uninflated Costs
Immediate Repair Costs Estimate	0	$48,203.00
Short Term Repair Costs Estimate	1 to 4	$427,624.00
Replacement Reserve Costs Estimate	5 to 10	$264,455.00

Property Expected Remaining Useful Life

Based on this PCA and the opinion of Angus Young Associates, the Remaining Useful Life (RUL) of the building is estimated to be not less than 30 years if ongoing maintenance is sustained and deficiencies are corrected. This excludes any natural disasters that may occur within that timeframe.

1.0 Introduction

Angus Young Associates was hired by The Beloit Historical Society to provide a Property Condition Assessment (PCA) for their building located at 845 Hackett Street in Beloit, Wisconsin. The PCA follows the proposal that was agreed to between Angus Young Associates and The Beloit Historical Society dated March 27th, 2016.

1.1 Purpose

The purpose of the Property Condition Assessment is to assist The Beloit Historical Society in ascertaining the condition of the existing building as it is today and to have a better understanding of the current and future replacement needs for building components and systems. Estimated costs will be associated with these repairs to assist The Beloit Historical Society for future budgeting purposes.

No property condition assessment can eliminate the uncertainty regarding the property and building deficiencies and their dependent systems. The walkthrough was based on visual observations of the building and the respective systems. The standard for PCA's recognizes the subjective nature associated defining the condition, quality and workmanship of the building components and their respective systems.

1.2 Scope of Work

We based this PCA format on the RFP that was drafted by The Beloit Historical Society dated February 22nd, 2016 and our experiences with other property condition reports that we have completed.

Site Reconnaissance

Angus Young Associates visited the property on May 17th, 2016. During our site visit we visually observed the building and inherent systems that were exposed to view or accessible above a suspended ceiling. This was a non-intrusive and nondestructive evaluation. We are not authorized or licensed to inspect hazardous materials; however we have pointed to a few areas in this report where further investigation may be needed to ascertain the presence of asbestos.

Interviews and Research

Angus Young did some limited research online utilizing the City of Beloit resources for mapping and information. While on site, we were able to get copies of building addition drawings from 1971 and 1989. These drawings will be referenced in this report and can be found in Appendix C of this report.

While on site, Krista, Rick and Terri from The Beloit Historical Society gave us a tour, answered some of our initial questions and pointed out areas of water infiltration of the roof and walls.

Report

Upon completion of the PCA walkthrough, initial research and time spent discussing the building with The Beloit Historical Society, we've reviewed the condition of the building and associated systems to ascertain their current condition and probable immediate/ongoing costs. This not a guarantee of future maintenance costs, but is meant to explore future costs to properly maintain the building and its systems. Please read each section and refer to appendix sections A and B for photos and maps. Each section of this report has photo references in parenthesis i.e. (photo A-1: South-East Stair). The intent is to have the reader follow in sequence the photos in the appendix with PCA report. The A in this instance stands for architectural. The following are the other disciplines: P- Plumbing, M- Mechanical/ HVAC and E- Electrical and S-Structural

Opinions and Probable Cost

The opinions of probable cost within this report are not based on in depth budget analysis, but rely mainly on general square foot costs derived from RS Means Construction Cost Estimating and our own working knowledge of construction costs. A more accurate cost estimate should be given by contractor(s) engaged to do repair or replacement work prior to commencing the work. For this PCA, some considerations are aesthetic in nature and are subjective to our opinion.

Reliance

This Property Condition Assessment is for the sole benefit of The Beloit Historical Society. This document is copywrited by Angus Young Associates and Batterman Engineering and may not be used by any third party without written consent of Angus Young Associates. The reliance on this document is in accordance with the proposal written by Angus Young and agreed to by The Beloit Historical Society.

Immediate Repairs Chart

Item	Quantity	Unit	Unit Cost	Total
2.3.4.1 Exterior Walls				
Repair and Tuckpoint exterior walls at moisture infiltration. Fix flashings	350.00	SF	$ 27.00	$ 9,450.00
2.3.5 Roofing				
Reseal Existing Joints	8,200.00	SF	$ 0.25	$ 2,050.00
Re-flash/ clean existing roof drains	5.00	R.D.	$ 550.00	$ 2,750.00
Clean existing roof EPDM Roof	8,200.00	SF	$ 0.25	$ 2,050.00
2.5.1 HVAC				
Maintenance of existing systems	-	-	$ 1,200.00	$ 1,200.00
2.5.2 Electrical Systems				
Service main grounding electrodes	1	EA	$ 3,500.00	$ 3,500.00
Replace all exterior light fixtures	16	EA	$ 500.00	$ 8,000.00
Install exit and emergency lighting	15586	SF	$ 1.20	$ 18,703.20
2.5.3 Plumbing				
Repair existing leaking watermain		allowance	$500	$500
			Total Repair Cost	**$ 48,203**

Ongoing Capital Reserves Chart

Item	EUL	EFF Age	RUL	Quantity	Unit	Unit Cost	Year 0	Years 1-3	Years 4-10	Total Cost
2.3.4.1 EXTERIOR WALLS										
Repair and tuckpoint exterior walls at moisture infiltration	-	-	-	-	350	$ 27.00	$ 9,450.00			$ 9,450.00
2.3.4.2/3 WINDOWS AND DOORS										
Replace Exisiting Aluminum Storefront windows/ Doors	20	28	0	500	SF	$ 45.00			$ 22,500.00	$ 22,500.00
2.3.5 ROOF SUMMARY										
Reseal existing joints	10	10+	0	8,200	SF	$ 0.25	$ 2,050.00			$ 2,050.00
Re-flash/ clean existing roof drains	-	-	0	5	R.D.	$ 550.00	$ 2,750.00			$ 2,750.00
Clean out existing roof drains (yearly)	-	-	-	5	R.D.	$ 25.00		$ 375.00	$ 625.00	$ 1,000.00
Clean existing roof (power wash)	-	-	-	8,200	SF	$ 0.25	$ 2,050.00		$ 2,050.00	$ 4,100.00
Replace shingle roofing	20	28	0	2,200	SF	$ 9.00		$ 19,800.00		$ 19,800.00
Replace screw down roof with EPDM roofing (archive)	10	45	0	2,900	SF	$ 8.00		$ 23,200.00		$ 23,200.00
Replace asphalt tile roof with EPDM Roofing (exhibit)	20	45	0	2,200	SF	$ 8.00		$ 17,600.00		$ 17,600.00
Replace existing EPDM Roof with new EPDM roofing	20	10 to 20	5 to 10	8,300	SF	$ 8.00			$ 66,400.00	$ 66,400.00
2.4.1 INTERIOR SPACES- FINISHES										
Replace carpet at offices	10	27	0	2,000	SF	$ 5.00			$ 10,000.00	$ 10,000.00
Acoustical Ceiling Replacement throughout	20	40+	0	13,000	SF	$ 2.75			$ 35,750.00	$ 35,750.00
Update accessibility at bathrooms/ update flooring	-	-	-	-	Allowance	$ 12,000.00			$ 12,000.00	$ 12,000.00
New floor covering over VCT flooring, kitchen	-	-	-	7,000	SF	$ 5.00			$ 35,000.00	$ 35,000.00
2.5.1 HVAC SYSTEMS										
Condensate Pumps	15+	27	0	6	EA	$ 150.00		$900.00	$ -	$900.00
Exhaust Fan	20+	27	0	2	EA	$ 1,500.00		$3,000.00	$ -	$3,000.00
Furnace/Air Conditioning Unit Located in Office Attic	18+	27	0	2200	SF	$18.00	$ 200.00	$39,600.00	$600.00	$40,418.00
Furnace/Air Conditioning Unit Located in Hallway	18+	27	0	2233	SF	$24.00	$ 200.00	$55,992.00	$600.00	$56,816.00
Furnace/Air Conditioning Unit Located in Hallway	18+	27	0	2233	SF	$24.00	$ 200.00	$55,992.00	$600.00	$56,816.00
Furnace/Air Conditioning Unit Located in Mech. Room	18+	27	0	700	SF	$25.00	$ 200.00	$17,500.00	$600.00	$18,325.00
Furnace/Air Conditioning Unit Located in Mech. Room	18+	17	1	2233	SF	$24.00	$ 100.00	$55,992.00	$600.00	$56,716.00
Furnace/Air Conditioning Unit Located in Mech/Janitor	18+	14	4	1,800	SF	$9.00	$ 200.00	$16,200.00	$600.00	$17,009.00
New HVAC system archive (Gym)	18+	27	0	1,400	SF	$25.00	$ 100.00	$35,000.00	$600.00	$35,725.00
2.5.2 ELECTRICAL NEW										
Service main grounding electrodes	20	30+	0	1	EA	$ 3,500.00	$ 3,500.00			$ 3,500.00
Correct existing electrical wiring issues	20	30+	2	15,586	SF	$ 1.75		$ 27,275.50		$ 27,275.50
Replace exterior light fixtures	15	20+	0	16	EA	$ 500.00	$ 8,000.00			$ 8,000.00
Replace interior light fixtures	15	20+	1	15,586	SF	$ 3.75		$ 58,447.50		$ 58,447.50
Install exit and emergency lighting	15	20+	2	15586	SF	$ 1.20	$ 18,703.20			$ 18,703.20
2.5.3 GENERAL PLUMBING NEW										
Repair leaking water meter	-	-	-	-	allowance	$500	$500			
New fixtures throughout	20	30 +	-	9	EA	$550	$ -	$ -	$ 4,950.00	$5,500.00
Replace water water heater	10	10+	-	1	EA	$ 750.00	$ -	$ 750.00	$ -	$ 750.00
2.5.3.2.2 SANITARY DRAINAGE SYSTEMS										
Replace sanitary drainage system throughout	30	30 +		9,100	SF	$ 3.25			$ 29,575.00	$ 29,575.00
2.5.3.2.2 WATER DISTRIBUTION SYSTEMS										
Replace galvanized water distribution system throughout	30	30 +		9,100	SF	$ 4.55			$ 41,405.00	$ 41,405.00
Total (Uninflated)							$ 48,203	$ 427,624	$ 264,455	$ 740,282

Terms

E.U.L- Effective Useful Life

R.U.L- Remaining Useful Life

E.F.F.- Effective Age

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July 19, 2016

ENGINEER'S OPINION OF PROBABLE COST FOR:
Beloit Historical Society Parking Lot Rehabilitation
PARKING FACILITY UPGRADE
CITY OF BELOIT, ROCK COUNTY, WISCONSIN

This option will remove the existing deteriorated pavement, reshape the lot, provide for 3" of pavement in two lifts

Item No.	Item	Unit	Quantity	Unit Prices Dollars/Cents	Total Amount Dollars/Cents
1	Pavement Removal (Material to be removed from Site)	SY	2,200	$3.00	$6,600.00
2	Shape lot to enhance drainage, add stone as needed	SY	2,200	$1.50	$3,300.00
3	Undercut Unsuitable Soils	CY	150	$15.00	$2,250.00
4	3" Aggregate Backfill in Undercut Areas	TON	300	$12.00	$3,600.00
5	Bituminous Pavement Binder Course HMA E-1, 1.5" Complete	TON	200	$80.00	$16,000.00
6	Bituminous Pavement Surface Course HMA E-1, 1.5" Complete	TON	200	$80.00	$16,000.00
7	Restoration around edges	SY	150	$5.00	$750.00
8	Erosion Control per Best Management Practices	LS	1	$500.00	$500.00
9	Parking Lot Striping	LF	840	$1.75	$1,470.00
10	Shape existing ground to enhance drainage	SY	600	$1.50	$900.00
				TOTAL ITEMS 1-10	**$51,370.00**
	OPTION A				
1	Kill Weeds and Sand Fill Paver Joints, Front Entrance	LS	1	$2,000.00	$2,000.00
				OPTION A TOTAL	**$2,000.00**
				SUBTOTAL WITH OPTION A	**$53,370.00**
				15% Design, Construction Management and Administration	**$8,005.50**
				10% CONTINGENCY	**$5,337.00**
				TOTAL WITH OPTION A OPINION OF PROBABLE COST	**$66,712.50**
	OPTION B				
1	Remove Front Brick Pavers and Concrete Curb	SY	100	$25.00	$2,500.00
2	4" Thick Concrete Sidewalk	SF	900	$6.00	$5,400.00
3	4" Base Aggregate Dense	TON	30	$12.00	$360.00
				OPTION B TOTAL	**$8,260.00**
				SUBTOTAL WITH OPTION B	**$59,630.00**
				15% Design, Construction Management and Administration	**$8,944.50**
				10% CONTINGENCY	**$5,963.00**
				TOTAL WITH OPTION B OPINION OF PROBABLE COST	**$74,537.50**

Note: This preliminary opinion of cost has been prepared without the benefit of detailed design and should only be used for Budget purposes at this time. As the design process moves forward, this opinion of cost will be updated to reflect the design elements proposed.

2.0 System Description and Observation

2.1 Overall General Description

The building is a collage of additions throughout time. The original gym from 1919 was salvaged from the original school and an addition was constructed in 1971. In 1989 another addition was constructed to house the administrative offices for The Beloit Historical Society. The property consists of 5 acres. The building and adjacent parking lots take up the Northern half of the 5 acre parcel. The southern half remains undeveloped as a mowed grassy area. There is a three stall storage garage to the East of the building that is currently being used as storage for The Beloit Historical Society.

2.2 Site

2.2.1 Site Access and Egress

The parking lot directly adjacent to the building has an existing accessible parking stall with direct access to the main entry. The main entry vestibule is considered accessible according to today's standards.

2.2.2 Exterior Concrete walks- Batterman

The concrete walks on site are generally in good shape. The sidewalk running from the street up to the building has no differential settling except for the first two squares are slightly lower than the rest of the concrete. See Figure 1.

The front entrance has a brick paver section where some of the pavers are settling and don't have enough sand between the pavers making for a very uneven and rough surface. The accessible route requires having to traverse this rough surface. The accessible ramp is located behind the accessible parking stall and does not have a detectable warning field. See **Error! Reference source not found.** for an overview of the front entrance area

2.2.3 Exterior Paving- Batterman

The driveway and front parking lot pavement have some longitudinal and transverse cracking and there is one pot hole in the front parking lot. See figure 3 and figure 4 for pictures of the driveway and front parking lot pavement.

The radius on the outside edge of the driveway looks to be too tight as it appears that vehicles run over the edge of pavement through the grass. See figure 5.

The parking lot pavement on the east side of the building has potholes, cracking and settling. It appears that some patching may have been done, but is also full of potholes and cracks. See Figure 6 and 7.

2.2.4 Site Storm water/ Drainage- Batterman

The existing ground at the front vestibule entrance pitches toward the building. Along the west side of the building there are some mounds that pitch back toward the building. There are also two roof drains on the west side of the building that drain to a swale/low spot not very far from the building that doesn't have an outlet. See the following figures for examples of these areas.

2.2.5 Recommendations- Batterman

- Replace parking lot pavement and restripe parking stalls
- Fill joints of brick pavers with sand or replace paver section
- Add detectable warning field to handicap ramp figured 10
- Shape ~600 sq. ft. of existing ground to drain away from building at vestibule and West side of building

2.2.6 Utilities

Refer to 2.5.2.1 for the electrical utility description. The gas meter is located at the North West corner of the original gym, now used as archive storage. (Photo A-1).

2.2.7 Site Lighting

Site post lighting is located along the entrance driveway and front parking area. It appears to be incandescent type and in poor condition. It is not known if it is in working condition. (Photo E-32, 33)

2.3 Structural Systems and Building Envelope

2.3.1 Structural Systems

The structural system is different between the subsequent additions. The original gym (now collections storage) is of steel and concrete load bearing block construction. The roof structure comprises of a main metal column and beam structure with supporting cross beam supports and metal purlins to support the roof deck (ph S-1). A wood framed mezzanine is located at the North-East end of the collections storage. In general, the structure appeared to be in good condition with no signs of failure. Thermal expansion caused a crack at the exterior block wall located in the North-West corner of the collections room (ph S-2). Given that the outside surface along this crack is covered with synthetic stucco, water infiltration is not an issue in this location. This thermal expansion crack does not affect the structure of the wall and does not need to be repaired unless water infiltration becomes an issue or repair is desired for aesthetic reasons.

The 1971 addition utilizes load bearing block construction, a steel support structure and steel joists with a metal roof deck (ph S-3). The structure appeared to be intact. There were a few locations where past and present roof leaks have saturated the load bearing

masonry walls and steel roof structure/ decking. The structure doesn't appear to be damaged in these areas; however repairs should be made to reduce further degradation (ph S-4). In particular, as noted by Rick, one roof drain located in the North-East corner of the corridor has been an ongoing leak and should be repaired to prevent damage.

The 1989 addition utilizes a steel support structure with wood framing infill for the walls and roofing (ph S-5). The structure looks to be in good shape; however improper roof detailing has led to moisture damage at the exterior walls. These areas should be repaired immediately to prevent further wall damage. See the exterior wall description 2.3.4.1 for a further description of this.

2.3.3 Foundation

The exterior foundations were not visible in most locations around the perimeter, however, where visible appeared to be in good condition (ph S-6). As described in the next section, cracks in the exterior masonry are likely caused by water as opposed to differential settlement.

2.3.4 Facades

2.3.4.1 Exterior Walls

The exterior finishes comprise of brick and an Exterior Insulation Finish System (E.I.F.S. or synthetic stucco) finish and the conditions vary throughout the façade. The 1989 addition has brick veneer and E.I.F.S siding with wood stud framing behind it (ph A-2). Improper roof flashing has led to water damage in several locations within the walls. The entry vestibule roof does not have a gutter system, so throughout the years, rain/ snow water has drained onto and into the face of the masonry (ph A-3). The freeze/ thaw climate has caused the brick to crack in several areas along this entry. In addition, the white efflorescence seen on the inside face of the vestibule indicates that water has infiltrated the interior wall surface and likely has damaged the structure and insulation within (ph A-4). In several other locations, the edge of the roof is not properly flashed, which has allowed water to infiltrate the E.I.F.S. and brick surfaces (ph A-5 & A-6). Window sills at these locations show evidence of moisture, which again indicates that water has made its way to the inside surface of the walls (ph A-7). The 1989 addition is wood framed and has batt insulation within the wall cavities. Damp batt insulation can lead to significant mold growth. These walls should be investigated further for mold. To repair the walls, the saturated insulation would need to be removed and new insulation added. Repairs to the roof flashing should be done first to mitigate the water infiltration issue.

The exterior façade for the 1971 addition looks to be in decent shape. A metal fascia panel and coping comprises the upper third of the wall surface. This metal paneling, although older and dented in a few locations, has stood the test of time and appears to still be in decent shape. A fresh coat of paint may be considered to freshen the aesthetic (ph A-8). The brick (with the exception of one corner) is in good condition. The exterior brick is tied to the block wall back up with tie back brick coursing at every 6th course (ph A-9). This type of construction is known as composite wall

construction. The lower course of brick along the North wall are slightly stained. It appears that the site in this area is not properly graded to shed water away from the building and may have been prone to flooding at one point (ph A-10). Re-grading this area should be considered in the future to prevent wall damage. The brick in this area could likely be cleaned and doesn't appear to be damaged.

The North wall of the collections storage room has brick similar to that of the 1971 addition. Like this addition, it shows more signs of the staining mentioned in the previous paragraph. This is likely the low point of the site (ph A-11). Again re-grading will help prevent future damage. A majority of the West façade of the collections storage room is covered in the stucco siding that was added in the 1989 addition. The E.I.F.S. is in rough shape and will likely need to be recoated and painted in future renovations. Areas of the E.I.F.S. show stain patterns of mildew and a few edges have been hit with a lawn mower/ lawn trimmer (ph A-12).

2.3.4.2 Windows

The aluminum windows on the 1989 addition appear to be the original windows. The lifespan for a typical aluminum window is 15-20 years, so they are beyond their useful life. That being said, none of the glass seals appeared to be broken, so with proper maintenance and sealing, they could continue to last for years to come. Today's aluminum windows are more thermally efficient; however it may be worth the savings to extend the life of the current windows.

Likewise, there are five small single pane aluminum windows in the 1971 addition that are beyond their useful life (ph A-8). These are less thermally efficient than the aluminum windows in the 1989 addition, but given their small surface area, they are likely not leading to large heat losses. Replacement may be considered in upcoming budgets.

2.3.4.3 Doors/ Frames

The main entry doors to BHS are aluminum to match the storefront framing. Although past the useful life of aluminum doors, they appear to be in good condition (ph A-12). New weather-stripping may be considered to provide a better weather tight seal to minimize drafts. On the East side of the 1971 addition, there is a pair of hollow metal doors with wire glazing (ph A-13). They are in good working condition and new weather stripping will help to reduce drafts. Future renovations may consider replacement of these doors, side lights and transom to improve energy efficiency.

2.3.5 Roofing

2.3.5.1 Roofing Summary

There are currently four types of roofing among the various additions. There is three tab asphalt shingle roofing over the 1989 addition (ph A-14 & A-15), fully adhered .45 mil EPDM (Ethylene Propylene Diene Monomer) rubber roofing over a majority of the 1971 addition (ph A-16), screw down sheet metal roofing over the collections storage

room (ph A-17) and asphalt tiles/ rubber roofing over the exhibits room (ph A-18). In general, the EPDM roof was in decent shape. There was a partial re-roof of the EPDM membrane completed back in 2005 or 2006 (ph A-19). A typical EPDM roof can have a lifespan of 20-30 years if properly maintained. The portion of the EPDM roof that wasn't replaced appears older (20-30 year range), but is still in relatively good condition. Yearly maintenance will likely extend the life of this roof. A roof replacement should be considered in a future budget, but likely isn't immediate in nature. That being said, to extend the life of the roof, the roof is in need of maintenance. As noted in the next section, some of the roof drains need to be re-flashed to eliminate water infiltration, the drains need to be cleaned (currently clogged with debris), the EPDM joints should be re-sealed in several areas (ph A-20) and finally a cleaning of the roof will prevent future scaling of the EPDM surface.

The three tab asphalt shingling over the 1989 addition is past the expected life for a three tab asphalt shingle roof. Although this roof didn't show any signs of roofing failure, replacement of this roof should be considered in the near future to prevent water infiltration.

The screw down metal roof over the collections storage room is past its useful life. The issue with a screw down roof, is that the faster is exposed to the elements. Typically the faster comes with a rubber or plastic gasket to seal the fastener from the elements. Over time, weather wears away the gasket leaving the fastener exposed to the elements and water infiltration.

The asphalt tile roof over the exhibits room is likely original to the 1971 addition and past its useful life. There is a black ceiling below in the exhibit space, which makes it difficult to ascertain if there are any current roof leaks. This roof could be replaced with EPDM roofing to be consistent with the rest of the 1971 addition.

2.3.5.2 Roof Drainage

The existing roof drains appear to be the source of current water infiltration. In order for the roof drains to work properly, there has to be a positive slope towards the roof drain and the roof drains need to be clear of debris. While on the roof, we noticed that there was one large area of standing water. It is not known at this time whether the issue is a clogged drain, improper slope to the drain, or a combination of both (ph A-21). This should be addressed as soon as possible to prevent roof damage. Standing water reduces the life of the roof by causing scaling and damage due to the freeze/ thaw process. The rest of the EPDM roof was dry and looked to be draining properly. It should be noted however that the roof drains had debris around their cage (ph A-22). Yearly maintenance should be performed to ensure that these are clear for water to drain properly.

Currently the roofs over the archive area (gym), lunch room, exhibit space (chorus room) and office space pitch towards the main roof. With the exception of the one roof drain mentioned, the existing roof drains appear to be handling this drainage load. There are a couple areas of the EPDM roof that also showed water debris spots (A-23 & A-24). These areas are not sloped properly and at certain times there is likely

standing water. These areas should be cleaned and raised to prevent roof damage and extend the life of the roof.

2.3.5.3 Roof Parapets, Penetrations and Flashings

The EPDM roofing has flashings consistent with industry standard and looked to be flashed properly. It was noted during our walkthrough that two of the existing roof drains leak during substantial rain events. It is possible that these drains were not flashed properly, which allows water to get under the membrane to the insulation and metal decking. Once water reaches the metal decking, it follows gravity to the low point (A-25). From our visual observations, it appears the low point for the decking is located at the East entry of the 1971 addition. Signs of water infiltration are shown on the face of the brick in the form of efflorescence (ph A-26). Additionally, the inside surface shows stains of water drainage (A-27). Portions of the metal decking and steel joists have also rusted along this path. These roof drains need to be re-flashed immediately to reduce further damage to the metal structure and wall surfaces.

Flashings at the asphalt shingle roof need to be modified to properly direct water away from the face of walls. Flashings at the asphalt tile roof (exhibit space) need to be completely replaced with the roofing system

2.4 Interior Elements

2.4.1 Interior Spaces

Lobby

The main lobby and offices appear to be in decent shape (ph A-28). As mentioned earlier, there are some moisture issues that need to be addressed where the roof is not properly flashed. Some of the window sills show signs of this moisture infiltration (ph A-30). The carpeting throughout this area is past the useful life of carpet and showed wear patterns (ph A-29). The ceilings are in good shape with no signs of major cracking. The attic space looked dry with no signs of major water infiltration. New carpeting and fresh paint could be considered in the future to modernize the aesthetics of the space.

Restrooms

There are two bathrooms located within the 1971 addition. Modifications were made during the 1989 addition to increase the accessibility of these restrooms. The restrooms do not meet today's standards for accessibility, however slight modifications could be made in the future to make them fully accessible. The width of the doorways currently do not meet the minimum clearance of 32 inches mandated by code (ph A-31). Additionally, accessible door hardware does not allow for the twisting or turning of the wrist (ph A-32). The current knob style door hardware would need to be replaced with lever style hardware. Finally, the grab bars for the accessible stool would need to be updated to include a 36" grab bar on the back wall,

a 42" grab bar on the side wall and an 18" vertical grab bar (ph A-32). These restrooms would not be required to be brought up to today's standards unless a major future renovation or addition occurs. At that time, up to 20% of the total construction cost would need to be allocated to upgrading the accessibility of the building as a whole.

The tiling in both bathrooms appears to be original to the1989 addition and is composed of 1" x 1" square tiles (ph A-33). Replacement of this flooring may be considered in future projects to freshen the look. The ceiling grid and tile are stained and also may be considered for replacement (ph A-34). The plastic laminate counters with porcelain lavatory in lays appear to be original and would not meet today's standard for accessibility (ph A-33). Code mandates that the lavatory surface can't be more than 34" above the floor and a minimum knee space of 27" is required below the lavatory surface.

Collections Storage Room (old gymnasium)

The Collections storage room still has the old wood gymnasium floor. This floor has a lot of character and is the perfect backdrop to collections storage. The wood floor appeared to be level and in good condition with no signs of warping (ph A-35). The 2 ft by 4ft lay-in ceiling tile looked to be older, but in decent condition with few signs of staining. There was a little bit of staining around the roof penetrations for the unit heaters (HVAC heaters), however it seemed like roof leaks in these areas had been fixed and it wasn't an ongoing issue (ph A-36). Above the lay-in ceiling, I noticed that the roofing insulation between the structural purlins was ripped and sagging in some areas. The age of the insulation and roofing is unknown, but is likely from the 1971 renovations (ph A-37). The insulation will need to be replaced with a code compliant thermal (r-value) insulation during a future roof replacement. In the North- East corner of the collections room, there is an egress door that was bolted shut, but had a note that when the space is occupied, this door needs to be open and free from obstructions. Given that this is an egress path, this door needs to be operable during normal business hours. The door hardware needs to be re-evaluated to allow the door to remain operable from the inside, but be lockable from the outside for security reasons (ph A-43).

Corridors/ Community Room/ Military Display Room

The corridor leading from the 1989 addition and the archive room has a nice terrazzo floor that is in good shape. The ceiling in this area is composed of 1' x 1' squares and may be original to the 1971 addition (ph A-38). During this time period asbestos was used in several building materials. It is unknown if this ceiling or the ceiling above the lay-in ceiling in the restrooms contain asbestos, but it should be checked by a licensed asbestos tester prior to disturbing any materials in future renovations.

Likewise, the Vinyl Composite Tile (VCT) in the corridor, community room, textile storage room and military display area should be checked prior to renovating (ph A-39). The lay-in ceiling down the East corridor is stained in several areas below the main heating supply duct. A roof leak, through capillary action likely followed the

HVAC duct and stained these tiles along this path (ph A-39). This ceiling should be considered for replacement in future renovations. The same ceiling tile is carried into the military display room. It should be replaced at the same time the corridor ceiling is renovated.

The community room has wood paneling on the walls, which gives it a dated look (ph A-40). Depending on the use for this space, painting or removal of this paneling may be considered.

Kitchen

The kitchen also has stained ceiling tiles that indicate at one point water infiltration was a concern. There was no apparent moisture present when looking above the lay-in ceiling. The quarry tile floor looks to be original to the 1971 addition (ph A-41). Updating of the flooring and ceiling finishes may be considered in future renovations.

Textile Storage Room

Off of the East corridor, is the textile storage room with V.C.T flooring and a lay-in ceiling. In several spots, the ceiling tiles are stained, which indicated a previous roof leak. Here again, the space above the ceiling looked dry with no ongoing roof issues. Future renovations may consider a ceiling replacement and covering of the V.C.T. floor tiling depending on the use of the space (ph A-42).

Off the textile storage room and East corridor, is the library space. The ceilings in this area had some old stains, but above the ceiling there did not appear to be an ongoing roof issue (ph A-43).

Exhibits Room (Old Chorus Room)

The exhibits room has a modern tile floor and a black painted 2' x 4' ceiling (ph A-44). Since this room acted as the old chorus room, the ceiling is high and the space is large volumetrically. The space seems to work well as an exhibit space and no renovations are likely needed at this time.

Currently, there is only one marked exit light from this space that leads to an exterior door through a storage area. This does not meet code (ph A-45). Egress is not allowed through a confined storage area. Immediate action should be taken to direct occupants from the exhibit space to the corridor to the main East entry point. This can be handled fairly economically through rerouted directional egress lighting.

2.5 Mechanical, Electrical and Plumbing

2.5.1 HVAC Systems

Table 1: Equipment Information				
Locations:	Year	APPOX. TONS	Model Number	Serial Number
Rear Mechanical Room	2002	3	G12Q3-75-6	5889L06028
Attic Loft Above Office Space	1989	5	G14Q4/5-100-7	5889E19705
Hallway Mechanical Closet	1989	4	G14Q4/5-100-6	5889C14006
Hallway Mechanical Closet	1989	4	G14Q4/5-100-7	5888K18368
Mechanical/Storage Closet	1989	N/A	G14Q3-60-19	5899A04874
Mechanical/Storage Closet	1999	4	G21Q3-80-9	5802G 65962
Old Gym Unit Heater	1989	N/A	N/A	N/A

The current spaces are served by six constant volume furnaces with five associated condensing units and two unit heaters. Five split systems are equipped with direct expansion cooling coils with remote condensing units and all have a condensing gas fired heat exchanger. Serial numbers from the residential equipment tags indicate that the equipment has been manufactured as far back as 1989. The furnaces serving the building have manufactured dates from 1989, 1999, and 2002. Refer to Table 1 for existing equipment information. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) publishes a table of estimate HVAC equipment service life's in the Application's Handbook. The estimated service life for a gas-fired furnace, and air cooled condensing unit is approximately 18 years.

2.5.1.1 Building HVAC System Observations

The administrative office space and lobby is a primarily open office area served with a single zone constant volume split system with a single thermostat. The west office windows have supplemental electric resistance base board heat beneath the windows. The administrative offices are heated and cooled through the use of a condensing natural gas fired furnace (Picture M-4) and a 5 ton condensing unit. Refrigerant lines from furnace (located in the mechanical space above the administrative offices) are routed to the air cooled condensing unit located on the elevated roof (Picture-M6) According to ASHRAE, the split system has exceeded its recommended service life.

The community room, and kitchen area are served by two constant volume condensing natural gas fired furnaces and split condensing 4 ton units in a twining sequence to provide heating and cooling to the areas (pictures M-11).The areas have a single thermostat serving the twined units and controlling the combined space.

The library and exhibits space are supplied through the use of constant volume condensing natural gas fired furnaces (Picture M-13) and one 4 ton condensing unit serving the exhibit space. Refrigerant lines from furnace located in the mechanical space closet are routed to the air cooled condensing unit located on the elevated roof

The rear mechanical room holds a constant volume condensing natural gas fired furnace (Picture M-12) and one 3 ton condensing unit serving the rear mechanical room and storage space. The spaces are controlled by an electronic thermostat (picture M-8).

2.5.1.2 HVAC Code Review

The existing exhaust, supply and return configuration in the hallway passage does not meet the current code requirements outlined in the 2009 International energy code (IECC) and the 2009 International Mechanical Code both with Wisconsin Amendments.

The operating efficiencies of the existing units do not meet the current energy code requirements for air cooled condensing units. In addition the R-22 refrigerant is being phased out of use and will no longer be available in 2020 for commercial applications. Replacing the condensing unit would improve energy efficiency along with reducing the potential of leaks with the R-22 refrigerant which is an ozone depleting gas.

2.5.1.3 HVAC Recommendations

The existing constant volume furnaces have proven to be a reliable, low cost option for heating and cooling the facility. However, the existing units have surpassed their useful service life set forth by ASHRAE. The units could continue to operate however, data indicates that funds should be budgeted for repair and replacement of the furnace and associated air cooled condensing units in the next four years. The existing condensate pumps associated with the condensing split systems should be considered for replacement due to life expectancy (Picture M-5). This is based on the 15 year service life specified by ASHRAE, the condensate pumps may continue to operate however budgeting for replacement should be considered as well at time of furnace replacement.

Due to long runs of flex duct though out the building it would be advisable to consider budgeting for new duct work in the future (Picture M-9). Angus Young Associates design specifies a minimum amount of flex duct typically under 36" due to the fact that flex duct sags and starts restricting the flow of air over time. Leakage in the existing ductwork may also develop over time and further justifies replacement of the existing air distribution system. Given the age of the ductwork and use of flex duct throughout, we would recommend replacing the existing duct work with rigid metal ducting throughout. At the time of replacement, the duct work should be re-engineered to provide a long lasting energy efficient system.

2.5.1.4 Collections Storage Space- Heat Only System and Recommendations

There are two unit heaters which serve the collections storage room (Pictures M-14). The space consists of a large open work area, storage area and mezzanine. These units provide heat to the space, and do not have the ability to supply fresh air or cooling. These units were installed approximately in 1989 or prior. The thermostats are mounted at approximately 5 feet above the floor. Given their location, the mezzanine is not accounted for by these thermostats. The unit heaters are roughly 60-80% efficient at best due to their non-condensing, direct vent design. Due to the nature of the high ceilings in the gym, running the destratification fans would help with temperature control. I would budget for replacement units based on ASHRAE recommendations due to age in the next four years, and consider alternate approaches to help with controlling the temperature in the lower area and mezzanine.

2.5.1.5 HVAC Immediate Recommendations

During the field visit, the exhaust fan serving the restrooms was in operation however noisy. The operational status of the remaining equipment was not determined during the building survey.

Immediate recommendations would be to have all the hvac units cleaned and serviced, this would include all the gas fired heaters, evaporators, condensing units, associated condensate pumps and exhaust fans. Angus Young Associates recommends all filters be changed and a regularly scheduled service plan be implemented. The Lennox pulse furnace's heat exchangers need to be pressure checked by a qualifying service technician. The Lennox pulse furnaces going forward will need to be regularly pressure checked due to the design and age of the heat exchangers to avoid leaking carbon monoxide to the occupied space.

The existing ductwork and diffusers should be cleaned at a minimum and the systems rebalanced to ensure proper airflow is being supplied to each space. Additionally, a continuity check of the existing ductwork shall be completed to verify the integrity of the existing system as some duct work has been altered (Picture M-7).

2.5.1.6 HVAC Long Term Recommendations

In the next five years Angus Young Associates would recommend maintaining and servicing new equipment to keep filters changed, units cleaned, checked and operating efficiently to allow equipment to perform as designed. This will help keep operating cost and efficiency in check, with reliability and comfort as well.

If the existing space is modified with more than 50% of the space being impacted, the current codes will require that the system be brought up to meet the requirements of the 2009 IMC and the 2009 IECC and would result in the overhaul of the existing HVAC systems.

2.5.2 Electrical Systems

2.5.2.1 Utility

Alliant Energy is the service Utility. The utility pole mounted transformers are located on a pole off the North West corner of the building and appears to be in good operational condition. (Photo E-1).

2.5.2.2 Occupied Space

Service

The electrical overhead service for the building seemed to be a 400 amp, 208/120 volt 3 phase service and enters the building thru the roof in a room off the collection storage room. The was in functional condition and appropriately sized for the current space usage. It is estimated that it was installed in the 1990's. The service does not have a single main but utilizes (6) service disconnect switches which appear to be in working order. (Photo E-4, 10, 11).

Disconnect switches

The disconnect switches located at the service entrance location and for equipment disconnects appear to be in functional condition. It is estimated that they were installed in 1990's (Photos E-3).

Breaker Panel

There are several Sq D QO style breaker panels in this building which appear to be in good condition each 100 amp or less 208/120 volt single phase. Most panels are full of breakers leaving no room for future expansion. There is an obsolete Sq D panel in functional condition in the collection room with no room for future expansion and parts are not available. (Photos E-5, 6, 7, 8).

System Grounding

The electrical service grounding system is not visibly evident. It appears that there is one main water service for the building. They appear to be served by a 2" copper line that enters the building into the storage closet in the front office area. It is not visible that there is a ground connection within 5 feet of where the water line enters the building nor a bonding conductor jumper around the meter which is required per National Electrical Code. The service grounding should be verified immediately by a licensed electrician and corrected if not in accordance with code. (Photo E-9).

Raceways and Wiring

EMT raceway and wiring that was visible appeared to be in good condition but not supported to code. Wiring type was not verified but is expected to be 1980's or 1990's type THW copper. (Photos E-10, E-25)

Wall Devices

General wall outlets and switches seemed to be in working condition. (Photo E-13)

Interior Lighting

Interior lighting seems to be mostly in functional order but in poor condition. Many missing lenses, several improper cord/plug connections. Fluorescent fixtures utilize obsolete T-12 type lamps. Also utilized are various incandescent recessed cans and track heads in display areas. Fixtures are damaged in some areas. Exit and emergency egress lighting is not code compliant. Most fixtures have outlived their life expectancy. Atrium and office pendant fixtures poorly illuminate the space and are not energy efficient. It is our recommendation that total fixture replacement be highest on the priority list. (Photos E-16, 17, 18, 19, 20, 21, 22, 23, 24,)

Exterior Lighting/Power

Exterior security lighting was present but was either damaged or in poor condition and appears to have a time clock control located in the storage closet in the front office area. There are no exterior emergency lighting fixtures located by the exit doors per the International Building Code. An overhead line feeds the remote garage. It is our recommendation that total fixture replacement be highest on the priority list. (Photos E-12, 26, 28, 29).

Tele/Communication

There appears to be a telephone system located in the storage closet in the front office area that seems to be functional. The few cables and devices in the office area appeared to be in functional condition. There are many loose cables and cables improperly supported from conduit which is not per code. The main utility telephone cable enters the building from the east side and the D-Mark box is located in the maintenance room. It would be our recommendation to have a qualified electrician clean up the cabling issues. (Photos E-2, 5, 27).

Fire Alarm/Security

It seemed that there is an ADT panel for fire alarm and security located in the storage closet in the front office area. Panel doors were open. There are several smoke detectors located throughout the building and what appears to be security motion detectors located by exterior doors. Magnetic door holds are located on the fire doors between the building and the front addition. It is not known if the system is functional

or has been routinely tested but as a minimum ADT should do so immediately. It would be our recommendation to have a qualified fire alarm vendor assess the fire alarm requirements for this building type to verify code compliance. (Photos E-2, 27)

HVAC Connections

Electrical connections, conduit, and wiring to the rooftop condensing units is in poor but functional condition. It is not known if the overcurrent protection is sized properly. Conduit for rooftop units is not installed per code. Wiring to abandon roof top unit is laying loose on the roof. Connections for furnaces and fans seemed to be functional. Some residential ceiling fans are present and appear to be in working order. (Photos E-30, 31).

Space Summary

Upon installation of any electrical equipment, devices, or lighting it begins to deteriorate due to normal use. Absorption of moisture, daily temperature cycles, and collection of dust, condensation, mechanical wear of circuit breaker contacts, weakening of operating springs, deterioration of insulating materials, or rusting of enclosures. Aging electrical components are potential hazards in any distribution system. After the expected useful life, which is generally considered to be 30 years depending on maintenance and location of equipment, the failure of electrical equipment is unpredictable. Recognizing that most of the electrical components are hidden in walls, above ceilings, and behind covers, in general the electrical systems in this building seems to be in good condition and have been modified many times over the years. Total light fixture replacement would be advisable in this building. Additionally, the interior emergency egress lighting is out of date and should be considered for replacement in future renovations. The current lighting is not adequate to meet today's code. Current code requires a 1 foot candle lighting average along all egress paths along with visible exit signs. Although there is exit lighting and signage, we do not feel that it is adequate to meet today's code or the 1 foot candle requirement. Additionally, outside every exit door there should be an exit light with battery backup to allow for safe passage to a public way (street, alley, drive etc). The cost noted in the cost estimate for emergency egress lighting is an estimate to re-wire egress lighting and signage throughout the facility. The lighting would be tied to a backup system (battery or invertor) so that it would be operational in the event of a power outage.

2.5.3 Plumbing Systems

2.5.3.1 Plumbing Utilities

2.5.3.1.2 Building Sanitary Sewer Lateral

There is a 4" cast iron sanitary service lateral that enters the building from the sanitary sewer main located in the alley along the West side of the building. The sanitary sewer enters the building under the space. The condition is functioning at this time.

2.5.3.1.2 Building Water Service Lateral

A domestic water service lateral enters the building from the street and is located in a closet in administrative office area of the building. During our site visit the service is leaking and should be fixed immediately. This water service lateral is constructed of galvanized and copper pipe and has far out lived it's useful life and is under sized for the number of fixtures it is serving. This water service lateral and meter serves the entire building. It is barely fulfilling the cold water demand of the building at the current time. This lateral will most likely be required to be replaced to meet water demand calculations of the current Wisconsin administrative plumbing code if there are any future major renovations of the building. (Photo P-2)

2.5.3.2 Plumbing Drainage Systems

2.5.3.2.1 General Storm/Roof Drainage

The storm/roof drainage system collects the storm water from the roofs and conveys it to the existing City of Beloit exterior storm water systems. The roof drain system is constructed of cast iron pipe and fittings and appears to be in satisfactory condition even though it has outlived the expected useful life of the cast iron material.. Although most of the roof drain system is concealed it appears that no immediate replacement of the piping is necessary. The roof drains however are showing signs of corrosion and should be replaced with future roof replacement. There is built up debris around most of the roof drains which is causing a slower roof drainage. These drains should be immediately cleaned of debris. (Photo P-2, P-3, P-4)

2.5.3.2.2 Building Sanitary Drainage

The majority of the drainage system is constructed of cast iron pipe with some minor sections of PVC piping which was added in previous renovations or some piping has been replaced with PVC pipe due to repairs. The cast iron pipe and fittings are beyond their expected useful life. The drainage system is showing signs of deterioration due to age and erosion. There were no reported problems at the present but there could be some problems with leakage in the immediate future which will require maintenance and replacement of leaking pipe. Any pipes or fittings that are deteriorated to the point that there are openings or that are broken should be immediately repaired due to sewer gas entering the buildings. The drainage system should be replaced in sections or entirely during any future renovations.

2.5.3.3 Domestic Water Distribution Systems

2.5.3.3.1 Building Water Distribution Systems

The cold water distribution systems serving the building addresses appear to be interconnected and are fed from a single meter. During the site visit a leak was observed at the water meter and needs to be repaired immediately. There is one electric water heater serving the kitchen. Both hot and cold distribution systems are

predominately constructed of copper pipe which has exceeded the useful life expectancy and should be replaced during any future renovations.(Photo P-1)

2.5.3.4 Plumbing Fixtures and Equipment

2.5.3.4.1 Building Fixtures

The fixtures throughout the building are outdated and not water conservative. During field visit the hot water was not functional in the rest rooms. Most of the fixtures are not ADA compliant. The water supply shut off valves are probably not operational due to rust and deposits from the corroded galvanized and copper pipe. The restroom spaces are not ADA compliant. Most of the water closets are round front and do not comply with current Wisconsin plumbing and building code requirements for public rest rooms. All the fixtures should be considered for replacement during future renovations.

2.5.3.4.3 Building Equipment

The electric water heater previously mentioned has reached the end of its expected useful life and will need to be replaced within the next 1-5 years.

2.7 Life Safety/ Fire Protection Systems

2.7.1 Fire Suppression Systems

The building is unsprinklered.

3.0 Accessibility Observations

The American with Disabilities Act of 1992 is a civil rights law that protects individuals with disabilities against discrimination in buildings classified as public due to physical barriers that may impede them from accessing the site, elements of a building or floors of a certain size or use. There are three important factors when considering the accessibility of a building. The first factor is the approach to a building from a parking lot. As mentioned previously, the lone handicap stall is located near the main entry with an accessible path to the main entrance. It is properly located as it is the closet parking stall to the building.

The second factor requires that there be at least one accessible entrance along the public right of way. In this scenario, the main entry to the building is accessible and meets this criteria.

The third important factor to accessibility in buildings is to provide an accessible route to public spaces such as bathrooms, conference rooms, gathering spaces, which should also be accessible. As mentioned previously, the restrooms need some slight modifications to make them accessible according to today's standards. They are currently grandfathered under the code that they were constructed under and no immediate modifications are required. Depending on the scale of future renovations and/ or additions, these may need

to be brought to code in the future. Since all of the public spaces (minus the mezzanine) are on the same level and are adjacent to the main corridors, they would be considered accessible according to today's standards. Several doors have the old style door knob hardware; however the doors are left open to the public spaces allowing a clear space of at least 32 inches. Updating the door hardware to lever style hardware should be considered in future renovations to maximize the accessibility of the spaces.

4.0 Regulatory Inquiry

4.1 Building Information

The Building is classified as VB (unprotected wood construction) and IIB (unprotected steel construction). The VB (1989 addition) is separated from the IIB (1971 addition) by a 2 hour fire wall and pair of 1.1/2 hr fire doors.

4.2 Zoning

A Map provided online by the City of Beloit has the property located within the PLI (Public Lands & Institute) zoning. This type of zoning is typically associated with institutional (school) and municipal occupancy types.

5.0 Natural Conditions

5.1 Seismic Zone

The property is in a zone 0 seismic area according to the 1997 UBC code and likely a Category B earthquake zone according to the 2009 IBC code.

5.2 Flood Zone

A review of the City of Beloit Flood Plain Map, the property appears to be outside the 100 year flood zone.

5.3 Wind Zone

A Wind speed map from FEMA has the property located in a Zone 1 wind zone.

Appendix A: Photographs

Site

Figure 1 - Concrete Sidewalk Settling

Figure 2 - Front Entrance

Figure 3 - Driveway Pavement Cracking

Figure 4 - Front Parking Lot

Figure 5 - Parking Lot Radius

Figure 6 - East Parking Lot

Figure 7 - Grading at Entrance

Figure 8 - Roof Drains

Figure 9 - Grading at West Side of Building

Figure 10 – Rumble Strip Example

Architectural

Aerial View- Bing Maps

A-1 Gas Meter- North West Corner

A-2 1989 Addition- South Facade

A-3: No Gutter

A-4: Water Infiltration

A-5: Improper flashing

A-6: Roof drainage/ improper flashing

A-7: Water Infiltration

A-8: 1971 addition facade

A-9: No Brick Coursing

A-10: Brick Stains at lower coursing

A-11: Improper flashing

A-12: E.I.F.S (Stucco) damage

A-13: Hollow Metal Doors

A-14: Shingle Roofing

A-15: Shingle Roofing 1989 addition

A-16: EPDM Roofing

A-17: Screw down metal roofing

A-18: Asphalt Tile/ Rubber roofing

A-19: Re-roof (lighter is newer)

A-20: Roofing Sealant

A-21: Standing Water

A-22: Debris at roof drains

A-23: Water debris spotting

A-24: Water debris spotting

A-25: Rusted decking

A-26: Efflorescence

A-27: Water infiltration

A-28: Main Lobby

A-29: Carpeting/ wear patterns

A-30: Attic Space with flex duct

A-31: Narrow doors

A-32: Door hardware/ grab bars

A-33: Restroom finishes/ counters

A-34: Restroom ceilings

A-35: Collection storage floors

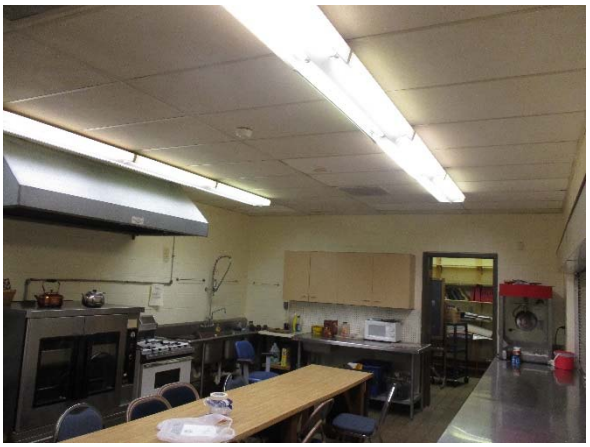
A-36: Collections storage ceilings

A-37: Collections storage roof insulation

A-38: 1’ x 1’ Ceiling Tiles

A-39: Corridor finishes

A-40: Community room finishes

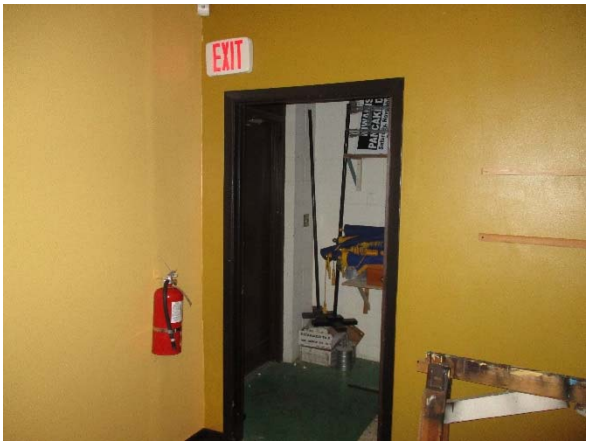


A-41: Kitchen Finishes

A-42: Textile storage room finishes

A-43: Non-compliant door hardware

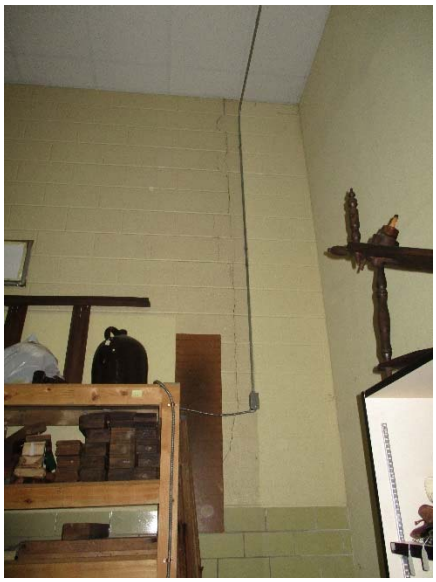
A-44: Exhibits room



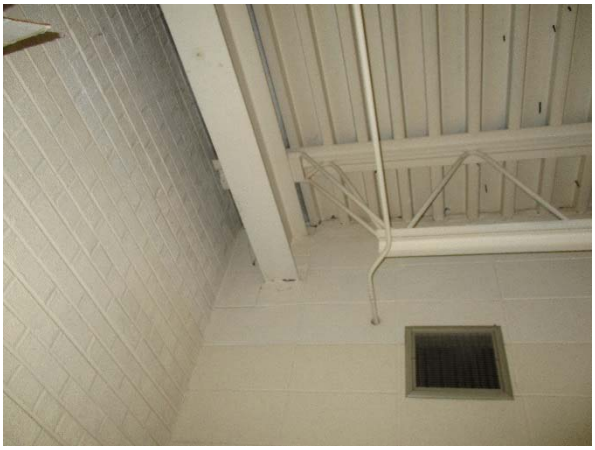
A-45: Non-compliant egress path

Structural

S-1: Collections storage roof structure



S-2: Masonry crack



S-3: 1971 Roof structure

S-4: Water infiltration

S-5:1989 Roof structure

S-6: Foundations

Mechanical/ HVAC

M-1: Supply Grille

M-2: Perforated Diffusers

M-3: Bathroom Exhaust Fan

M-4: Administrative Office Furnace

M-5: Condensate Pump

M-6: Air Cooled Condensing Unit

M-7: Existing Ductwork

M-8: T-Stat

M-9: Long Runs Of Flex Duct

M-10: Attic Furnaces

M-11 Corridor Furnaces

M12-: Rear/Janitor Space Furnace

M-13 Residential Splits

M-14 Unit Heater East and West

M-15: Electrical Service Box

M16: A/C Line set penetration

M-17: Condensate Pump

M-18: Water Damage

Electrical

E-1: Utility service entrance

E-2: alarm service equipment

E-3: Disconnect switches

E-4: service equipment

E-5: breaker panels

E-6: breaker panel

E-7: breaker panel

E-8: breaker panel

E-9: Main water service

E-10: branch conduit

E-11: branch disconnect

E-12: Main entrance lighting

E-13: Mech room outlets

E-16: Bathroom lighting

E-17: 1track lighting

E-18: lay in fixtures

E-19: lay in fixtures

E-20: Mechanical area lighting

E-21: Surface mount fixtures

E-22: Collections storage lighting

E-23: Atrium room lighting

E-24: Exit signage

E-25: Conduit

E-26: exterior site lighting

E-27: main tele backboard

E-28: exterior site lighting

E-29: exterior site lighting

E-30 Entrance lighting

E-31: furnace wiring

E-32 Roof Condenser Wiring

Plumbing

P-1: Water Meter

P-2: Roof vent with built up debris r

P-3 Standing Water

P-4: Roof Drain with built up debris

P-5: Cast iron roof vent pipe

P-6: Cast iron vent pipe

P-7: Electric water heater

P-8: Water heater install date

P-9: Deteriorating shut off valve

P-10 Large volume flush toilet

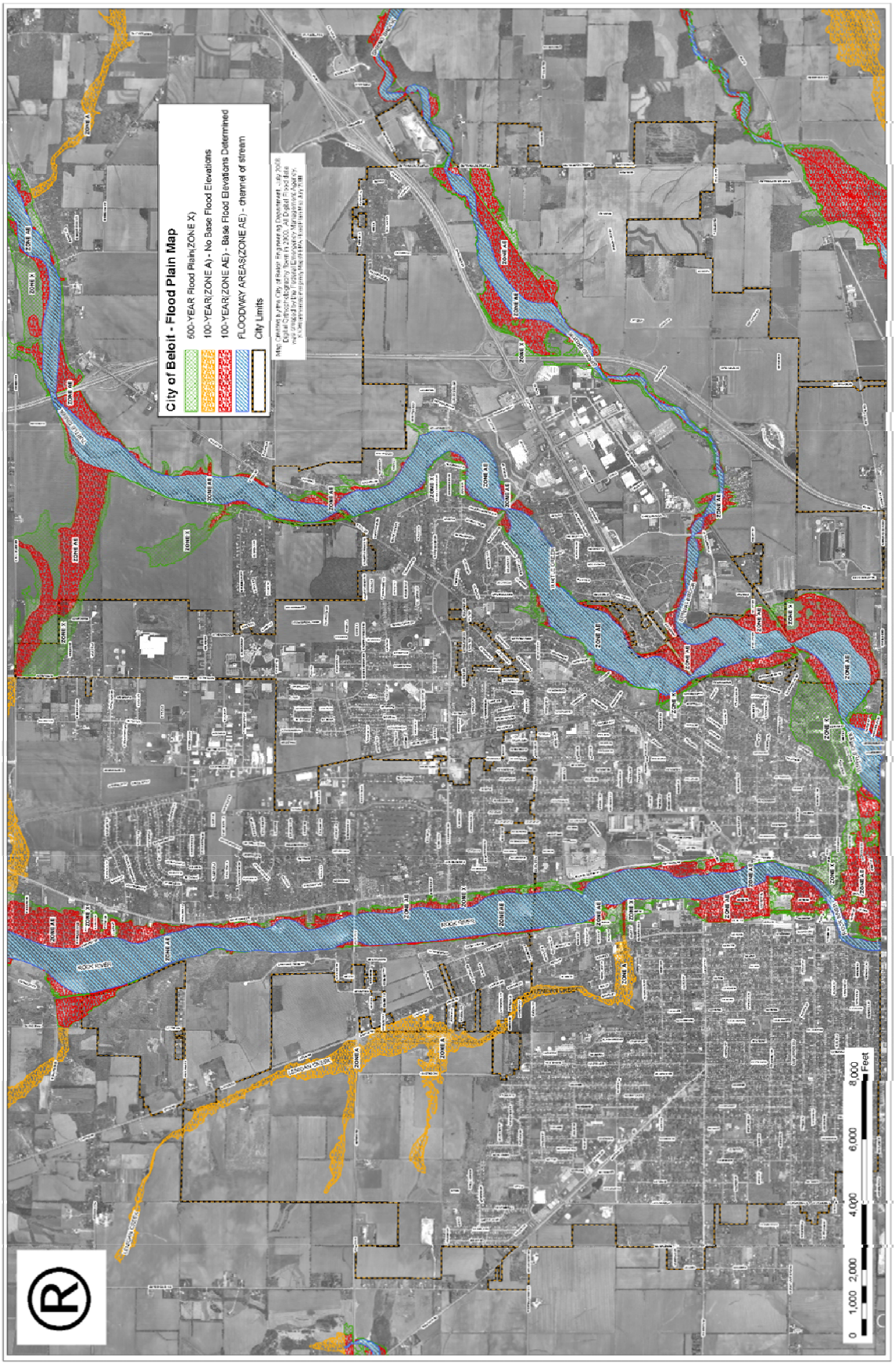
P-11: Cold only lavatory

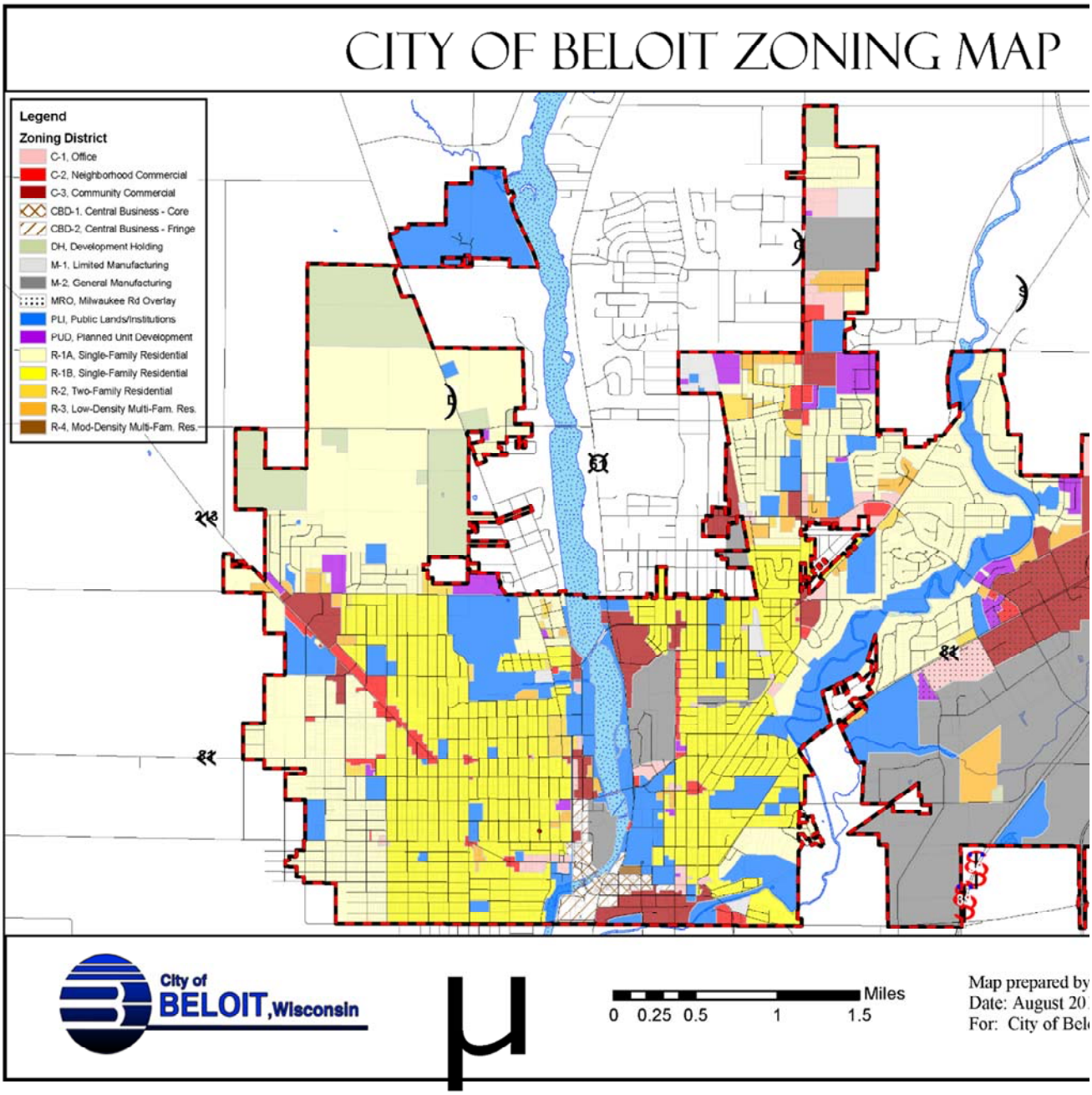
P-12: old flush valves

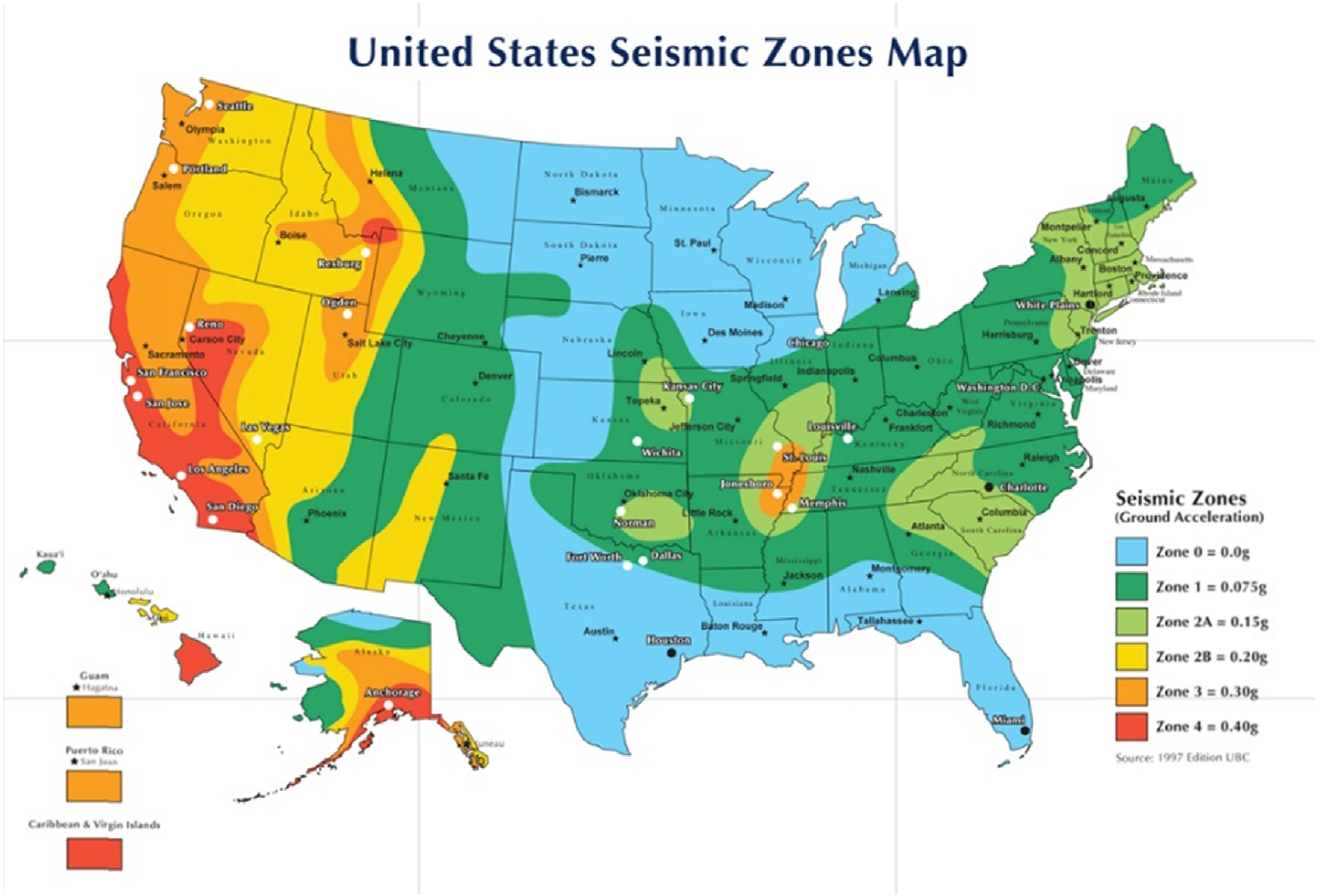
P-14:Natural Gas piping

P-15: Non- ADA compliant lavatory

Appendix B: Maps


City of Beloit - Flood Plain Map
500-YEAR Flood Plain(ZONE X)
100-YEAR(ZONE A) - No Base Flood Elevations
100-YEAR(ZONE AE) - Base Flood Elevations Determined
FLOODWAY AREAS(ZONE AE) - channel of stream
City Limits
0 1,000 2,000 4,000 6,000 8,000
Feet


CITY OF BELOIT ZONING MAP
Legend
Zoning District
C-1, Office
C-2, Neighborhood Commercial
C-3, Community Commercial
CBD-1, Central Business - Core
CBD-2, Central Business - Fringe
DH, Development Holding
M-1, Limited Manufacturing
M-2, General Manufacturing
MRO, Milwaukee Rd Overlay
PLI, Public Lands/Institutions
PUD, Planned Unit Development
R-1A, Single-Family Residential
R-1B, Single-Family Residential
R-2, Two-Family Residential
R-3, Low-Density Multi-Fam. Res.
R-4, Mod-Density Multi-Fam. Res.
City of BELOIT, Wisconsin
0 0.25 0.5 1 1.5
Miles
Map prepared by
Date: August 20
For: City of Bel


United States Seismic Zones Map
Seattle
Olympia
Washington
Portland
Salem
Oregon
Helena
Montana
Idaho
Boise
Pierre
South Dakota
Bismarck
North Dakota
Minnesota
St Paul
Wisconsin
Michigan
Lansing
Madison
Iowa
Des Moines
Chicago
Illinois
Indiana
Columbus
Ohio
Springfield
Indianapolis
Kansas City
Topeka
Kansas
Jefferson City
Missouri
Wichita
St. Louis
Louisville
Kentucky
Frankfort
Charleston
West Virginia
Washington D.C.
Richmond
Virginia
Raleigh
North Carolina
Nashville
Tennessee
Charlotte
Jonesboro
Memphis
Oklahoma City
Oklahoma
Little Rock
Arkansas
Norman
Columbia
South Carolina
Atlanta
Georgia
Fort Worth
Dallas
Texas
Jackson
Mississippi
Montgomery
Alabama
Austin
Houston
Baton Rouge
Louisiana
Tallahassee
Florida
Miami
Reno
Carson City
Nevada
Sacramento
San Francisco
San Jose
California
Los Vegas
Ogden
Salt Lake City
Utah
Cheyenne
Wyoming
Denver
Colorado
Nebraska
Lincoln
Santa Fe
New Mexico
Arizona
Phoenix
Los Angeles
San Diego
Augusta
Maine
Montpelier
Vermont
New York
Albany
Concord
New Hampshire
Boston
Massachusetts
Providence
Rhode Island
Connecticut
Hartford
White Plains
Harrisburg
Pennsylvania
Trenton
New Jersey
Dover
Delaware
Annapolis
Maryland
Kaua'i
O'ahu
Honolulu
Hawaii
Alaska
Anchorage
Juneau
Guam
Hagatna
Puerto Rico
San Juan
Caribbean & Virgin Islands
Seismic Zones
(Ground Acceleration)
Zone 0 = 0.0g
Zone 1 = 0.075g
Zone 2A = 0.15g
Zone 2B = 0.20g
Zone 3 = 0.30g
Zone 4 = 0.40g
Source: 1997 Edition UBC

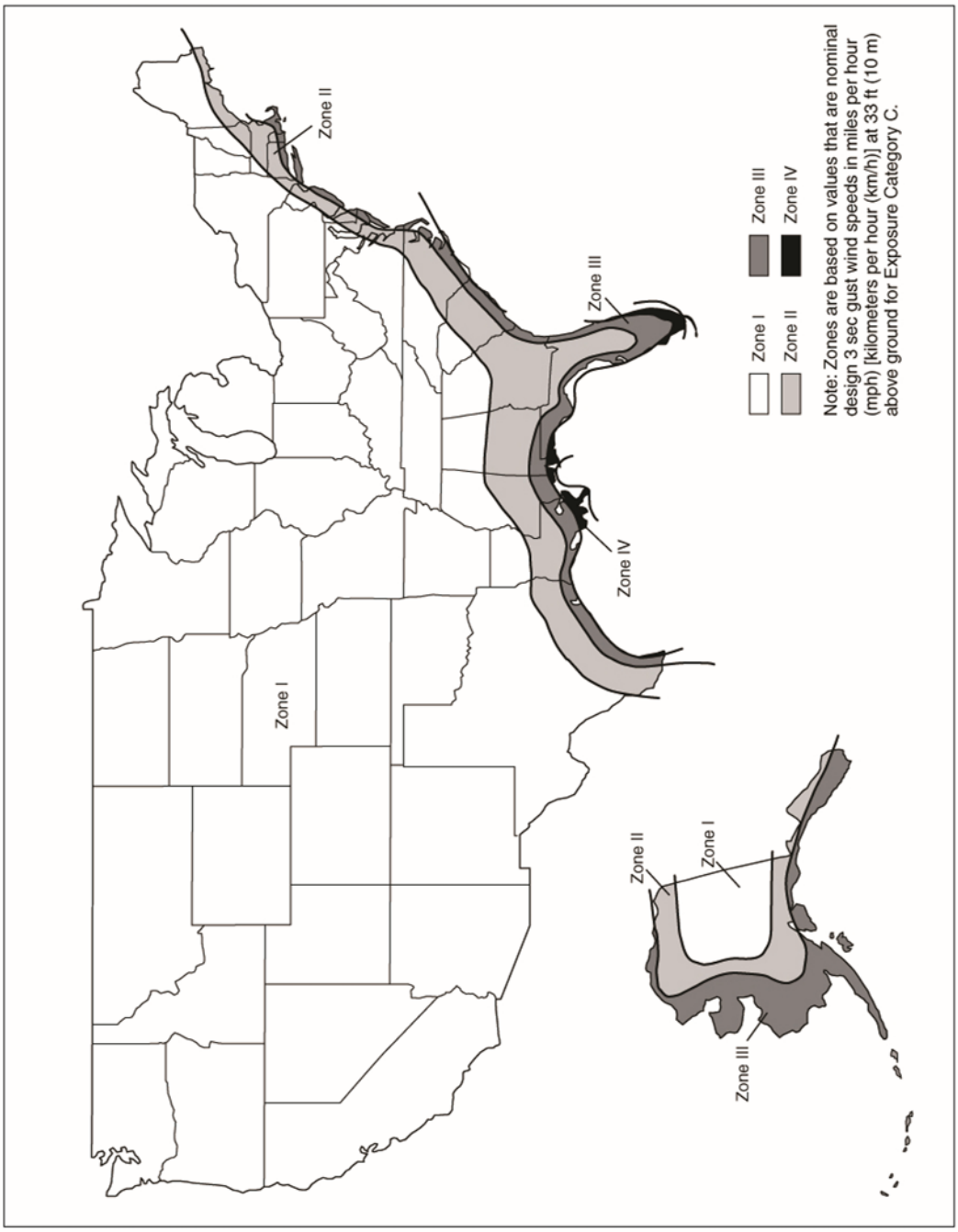


Figure G-2. NFPA 501 wind speed map.