Reynolds Conditions Assessment

The conditions assessment was completed by Travis Rose and Master of Historic Preservation student: Jack Galle.
Material conservation assessments were completed by the Fall 2022 students of HP 252.

Table of Contents

Description of Assessment

From August to December of 2022, a conservation conditions assessment was completed for the Reynolds Building. The task was to document the building's condition prior to a major rehabilitation of the building. Students were instructed to identify maintenance needs, instances of unusual wear or deterioration and provide conservation recommendations of historic structural systems, and important architectural features as needed. The Reynolds Building was documented, material conditions were assessed, and critical deterioration was recorded; important structural systems and character-defining elements were analyzed in detail. Building condition assessments were recorded in a spreadsheet, with accompanied floorplans to identify deterioration locations.[1]

Sensitive systematic treatment recommendations were made for all major deteriorating architectural features.[2] This assessment should inform University of Kentucky facilities management personnel of near and long-term needs, as well as establish and provide sensitive treatment recommendations for historic architectural features and materials.

The unifying threat to all building materials assessed is water. This conditions assessment provides recommendations for removing and controlling water infiltration, as well as recommendations for repairing water-damaged materials.

This assessment is limited to an analysis of accessible architectural elements (and their materials) that make up the overall structural system. In many cases, only symptoms of deterioration could be assessed, as removing layers of the building system through exploratory demolition is prohibited. In such cases, it is recommended that further observation and examination take place. In instances of major structural failure, it is recommended that a structural engineer is consulted. We encourage a separate assessment of plumbing, electrical, and mechanical systems to be performed by a licensed technician. Mechanical, electrical, and plumbing systems were omitted from this assessment, although plumbing failures have resulted in damage to historic features, and materials. These systems should also be evaluated by proper specialists and licensed technicians.

Conservation Approach

Architectural conservation can best be defined as preservation from loss, depletion, waste, or harm.[3] All conservation recommendations in this project are meant to be sensitive to historic building structures and materials. This report advocates the use of techniques and materials which will not endanger the physical integrity of historic campus building materials. Harmful chemicals and

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[1] The conditions assessment was completed by Travis Rose and Master of Historic Preservation student: Jack Galle. Material conservation assessments were completed by the Fall 2022 students of HP 252.

[2] Comprised of stone, architectural ceramics, masonry, cementitious materials, glass, timber, metals, synthetic resins, and polymers.

[3] Martin Weaver, *Conserving Buildings: A Manual of Techniques and Materials*, (New York: John Wiley & Sons, Inc., 1997).

treatments are discouraged in favor of sensitive, reversible remedies: often building materials can be treated and damaged. Harsh treatments and processes are often found to be irreversible, and the products cannot be removed without destroying the resource which was to be preserved. Organic and water-based solvents are recommended for historic building materials.

Student conservationists adhered to the *Secretary of the Interior's Standards for the Treatment of Historic Properties: Preservation as a Treatment and Standards for Preservation.*[4] Whenever possible, important historic features and traditional primary materials[5] should be repaired - not replaced. This is especially important if the material is part of a significant character-defining feature, which cannot be easily replaced.

Unlike traditional materials, many architectural elements cannot be repaired, such as damaged reinforced concrete and integrated synthetic materials which often contain toxic silicate materials (asbestos), harmful gases, etc.[6] These materials will likely need to be replaced. If these materials remain intact and pose no health risks, conservationists of modern heritage suggest a proactive approach: which involves close observation and sensitive routine preventative maintenance.

Critical Damage, Deterioration, and Structural Threats

The Reynolds Building appears to be structurally sound, with typical material deterioration to be expected with the building's age and use. The Reynolds Building shows symptoms of water damage, metal corrosion, the missing mortar between brick or stone, failing concrete, plaster damage, signs of predictable wear-and-tear, and resulting damage to paints and finishes.

Water

The Reynolds Building shows signs of water damage, specifically at the lower level and foundation. Metal corrosion, plaster deterioration, efflorescence, metal corrosion, and wood rot have occurred because of unwanted water and dampness. Historic buildings should never be water-proofed or sealed. Once a historic building has been sealed, any existing water is trapped and can no longer evaporate. Trapped water can swiftly deteriorate a building.

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[4] "The Secretary of the Interior's Standards for the Treatment of Historic Properties: Preservation as a Treatment and Standards for Preservation (U.S. National Park Service)," National Parks Service (U.S. Department of the Interior), accessed April 2, 2023, https://www.nps.gov/articles/000/treatment-standards-preservation.htm.

[5] Traditional primary materials include stone, wood, architectural ceramics, glass, and metals.

[6] Steel rebar often corrodes, and expands. This expansion can cause concrete to crack. Once concrete cracks, it is difficult to repair, because cured concrete does not bond to new concrete.

It is recommended that water penetration, and moisture levels are closely monitored. When precipitation is heavy, assess the perimeter of the foundation for water. If water is pooling at the exterior, or leaking into the basement:

- **Increase grade:** The earth around the building should be sloped to divert water away from the foundation.
- **Clean rain gutters:** Often, clogged rain gutters cause water damage to a building because water isn't allowed to drain properly. If gutters are clogged, rainwater will often overflow and spill down walls. This can erode the brick mortar, and water can collect around the foundation walls and leak into the basement.
- **Divert down spouts:** Connect a plastic corrugated 6-inch hose to the base of the downspout to carry water away from the foundation.
- **Sweep away debris:** The perimeter of many campus buildings are surrounded by trees, it is important to clean leaves as they fall to prevent clogged gutters and drains.

If the following methods are followed, and water still penetrates the foundation, it is recommended that new drainage systems are installed:

- **Add or expand exterior drains:** The drains for the roof of the Reynolds Building appear small for the large roof systems. It is suggested that the existing downspout is replaced with a larger drain, and an additional drain is added.
- **Install an exterior French (trench) drain:** Many of the subterranean foundation walls, are leaking water. A French drain could be installed along the perimeter of the building to redirect groundwater from penetrating foundation walls.
- **Install a sump pump:** A sump pump can be installed with a French drain to remove any water collected by the drain. This water can be pumped up, and away from the foundation.
- **Install dehumidifiers:** Dehumidifiers can be installed throughout the interior of the basement to remove excess air moisture (which can harm historic building materials).

After water penetration has been remedied, critical deterioration should be addressed. Most deterioration appears to be water related.

Damaged Metals

As a result of water, and humidity, most of the buildings have corroded metals.[7] The most notable of these are ferrous metals. [8] To remove corrosion, it is best to:

- **Sandblast**
- **Clean**

[7] Corrosion refers to the chemical process of reversion to the mineral state. In the assessed buildings, the most common corrosion is rusting iron, and steel.
[8] Metals which contain iron are ferrous, and tend to corrode with humidity.

- **Prime**
- **Paint** with an oil-based paint.

Damaged Masonry

The Reynolds Building features masonry elements; the majority of which are brick, stone, and concrete. These should never be water-proofed with a non-breathable sealer. Although these remain structurally sound, there are signs of deterioration, many of these features have lost the mortar that bonds these masonry units together. It is recommended that missing, or damaged, mortar is repointed with a compatible soft lime-based mortar.

- **Repoint:** Rake out 2/3 of the mortar between the masonry unit, and replace it with new (soft) lime-based mortar. To remove the cracks, remove the cracked brick and insert metal clips into every other row, then replace the cracked masonry unit and repoint.
- **Mortar:** Masonry units are, generally, the primary material. Mortar is secondary and sacrificial. Mortar should always be softer than the primary masonry unit. The softer material always fails first, it is better that the mortar fails than the primary masonry unit.

Cements: Concrete, Mortar, Plaster, Grout

Cementitious materials are most often considered secondary, and sacrificial in historic buildings. Once they deteriorate, they are difficult to repair and are usually replaced. Because of water damage, these buildings have deteriorating concrete and plaster. Both should be replaced in kind.

Wood Rot

Water has contributed to interior and exterior wood rot. When wood remains damp for long periods of time, a wide range of causes can contribute to its swift deterioration. Much of the damaged wood found in the historic campus buildings suffers from various forms of deterioration.

Certain bacteria, fungi, and molds thrive in wood in anaerobic conditions under water. Bacteria, fungi and molds feed on wood, breaking down its cell structure. This weakens the wood and makes it useless in a building.

Generally, deteriorated wood should be replaced in-kind, meaning it should be matched according to the following criteria:

- Species
- Quality: first growth or second growth
- Cut
- Color
- Grain direction, and pattern
- Tool marks
- Finish

If a wood feature is too significant to be replaced, it can be mechanically reinforced with dowels, or pegs of wood, metal, or glass-fiber reinforced plastic. Rotten wood, featuring fiber deterioration, and/or cellular decay can sometimes be bonded together again by impregnating the wood with a low viscosity synthetic resin, or molten wax.

Dampness in wood can also encourage insect infestation. Many insects feed on wood, and weaken its strength. Buildings should be kept dry, and free of damaging insects, bacteria, fungi, and mold.[9]

Paints and Finishes

Most of the buildings assessed show paint damage on exterior wood surfaces. Paint is important to the conservation and protection of organic materials like wood.

- **Remove Paint:** Paint is only as durable as the substrate to which it is applied. New paint applied to failing paint will also fail. Remove paint to the wood substrate.
- **Prime:** It is important to apply a primer to help paint bond with the wood and prevent discoloring and staining from wood resins.
- **Paint:** After the surface has been properly prepared, apply layers of fresh paint, as needed.

Conclusion

In his book, *How Buildings Learn*, Stewart Brand states that, "The romance of maintenance is that it has none. Its joys are quiet ones. There is a certain high calling in the steady tending to a ship, a garden or a building. One is participating physically in a deep long

[9] Rotten/deteriorated wood does not bond to paint.

life."[10] With sensitive repair, thoughtful replacement and continued sensitive maintenance practices (which encourage reversible treatments and processes) these historic campus structures should continue to provide a useful environment for design education.

[10] Stewart Brand, *How Buildings Learn: What Happens after they're Built*, (London: Penguin Books, 1995).

REYNOLDS WAREHOUSE
CONSERVATION DOCUMENTATION
2022
CEMENTITIOUS MATERIALS

The types of cementitious materials that are found in the Reynolds Building consist of mortar, concrete, plaster, and gypsum. From our observations, the most common material throughout the basement, first floor, and second floor is mortar. Mortar is used as the bonding agent for the majority of masonry units and stone. In some cases, the type of mortar that was used to fix deteriorating areas is different from the original mortar. The original mortar used on the brick components had a red hue, whereas the replacement mortar to fill in gaps and cracks had gray and white hues. This is contradictory to common replacement practices, as the standard is to try and match the color to the original mortar. Stone also used a gray hue mortar. Concrete located in the basement as the main flooring slab and base of columns. On the exterior there is a ramp on the western facade along with a concrete deck on the southern facade. Plaster was found only on the first floor applied to columns and interior divider walls. Gypsum, or dry wall, was located on both the first and second floors as 2-hour rated fire wall to protected the stairwell and means of egress.

Building:	Reynolds Warehouse	5	EXCELLENT	New or like-new condition; no issues to report
	120 E Reynolds Road	4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	August 25, 2022	3	FAIR	Average condition for building age
Surveyor:	Cooper, Henning, Hill, Mattingly, Melloy	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
EXTERIOR								
	Front Entrance Facade							
	Wall			X				
	Alley/Back Facade							
	Wall	Mortar				X		Vegetative growth through mortar
	Wall	Mortar			X			Minor cracking throughout
	Wall	Concrete				X		Elemental Damage - Water Damage
	North Facing Facade							
	Wall	Mortar			X			Elemental Damage - Water Damage
	Wall					X		Mortar Damage - Cracking
	Wall						X	Mortar Damage - Cracking, Loose brick
	South Facade							
	Base Support	Concrete			X			

Building:	Reynolds Warehouse	5	EXCELLENT	New or like-new condition; no issues to report
	120 E Reynolds Road	4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	August 25, 2022	3	FAIR	Average condition for building age
Surveyor:	Cooper, Henning, Hill, Mattingly, Melloy	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

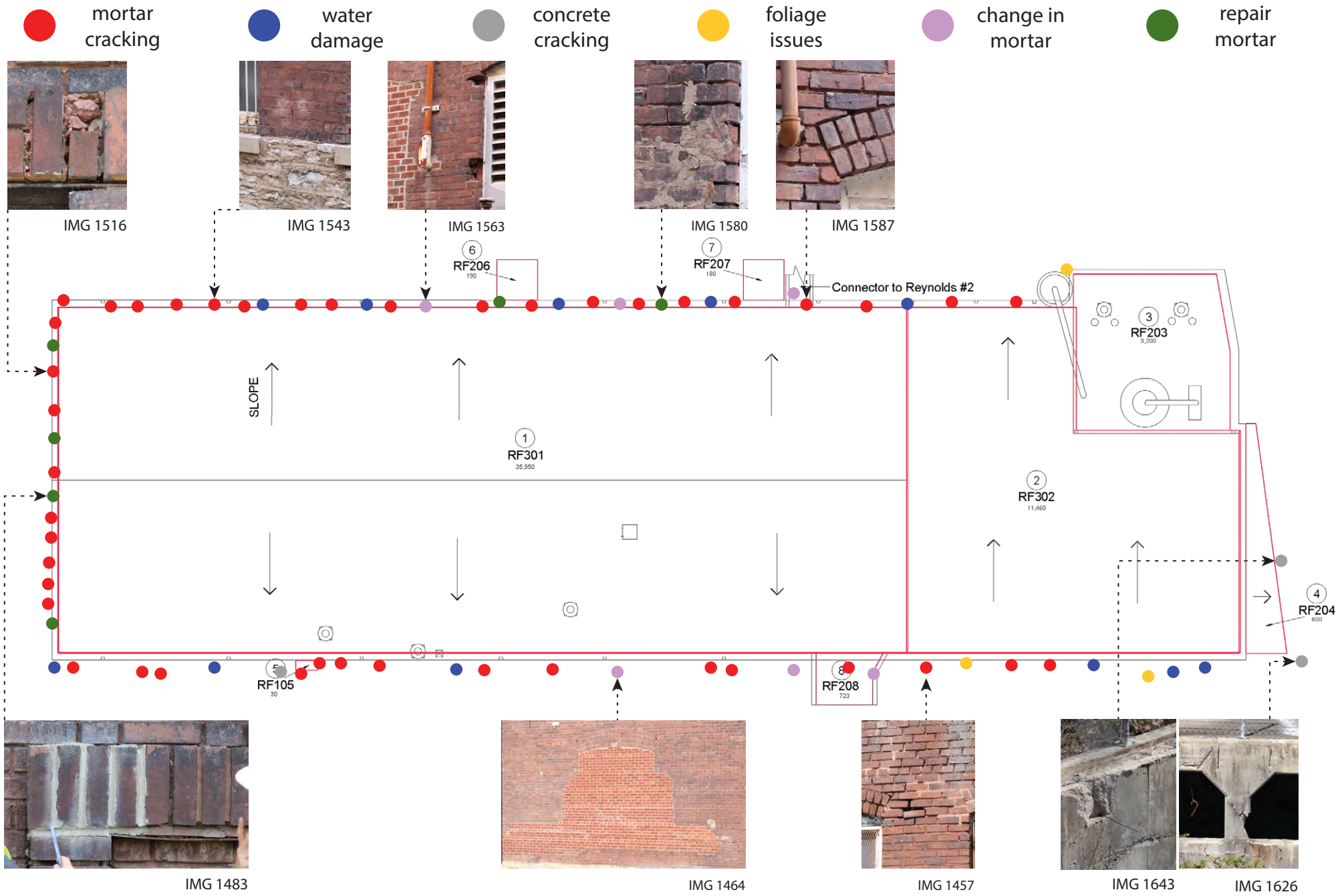
		Material	5	4	3	2	1	Comments
	INTERIOR							
	Basement Level							
	Ground							
	Floor					X		Multiple crackings and crumbled areas
	Structure Supports	Concrete					X	Multiple crackings, deterioration near multiple footers
	Elevator	Mortar				X		Multiple crackings, issues with expansion
	Wall	Mortar				X		Multiple crackings, expansion issues
	Wall	Mortar			X			Minor cracks, grout and mortar touch-ups
	Wall	Mortar				X		Multiple crackings, expansion issues
	Wall	Mortar				X		Multiple crackings, expansion issues
	Wall	Mortar						Minor cracks, groutign and mortar touch-ups

Building:	Reynolds Warehouse	5	EXCELLENT	New or like-new condition; no issues to report
	120 E Reynolds Road	4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	August 30, 2022	3	FAIR	Average condition for building age
Surveyor:	Cooper, Henning, Hill, Mattingly, Melloy	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

		Material	5	4	3	2	1	Comments
INTERIOR								
	First Floor							
	Ground							
	Floor					X		Multiple crackings and crumbled areas
	Floor				X			Minor cracks
	Floor				X			Minor cracks
	Floor						X	Large area crumbled and destoryed; Hazardous area
	Structure Supports	Concrete			X			Few cracks around base, overall intact
	Wall	Mortar			X			Minor cracking
	Wall	Mortar		X				
	Wall	Mortar			X			Minor cracking and flaking mortar
	Wall	Mortar				X		Multiple cracking and crumbling mortar
	Wall	Mortar				X		Multiple cracking and crumbling mortar

Building:	Reynolds Warehouse	5	EXCELLENT	New or like-new condition; no issues to report
	120 E Reynolds Road	4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	August 30	3	FAIR	Average condition for building age
Surveyor:	Cooper, Henning, Hill, Mattingly, Melloy	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Material	5	4	3	2	1	Comments
INTERIOR									
	Second Floor								
	Ground								
		Floor					X			Minor cracks
		Floor					X			Minor cracks
		Floor							X	Large section crumbled/destoryed
		Floor						X		Multiple crackings
	Structure Supports		Concrete			X				Few cracks around base, overall intact
		Wall	Mortar			X				Minor cracking
		Wall	Mortar			X				Minor cracking and flaking mortar
		Wall	Mortar		X					
		Wall	Mortar				X			Multiple cracking and crumbling mortar
		Wall	Mortar				X			Multiple cracking and crumbling mortar


mortar cracking
water damage
concrete cracking
foliage issues
change in mortar
repair mortar
IMG 1516
IMG 1543
IMG 1563
IMG 1580
IMG 1587
6
RF206
190
7
RF207
190
Connector to Reynolds #2
3
RF203
3,200
SLOPE
1
RF301
35,950
2
RF302
11,460
4
RF204
650
5
RF105
30
8
RF208
723
IMG 1483
IMG 1464
IMG 1457
IMG 1643
IMG 1626

BASEMENT FLOOR PLAN

mortar cracking

concrete cracking

plaster breaking

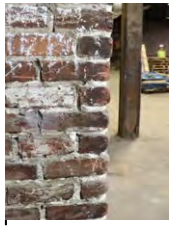
concrete holes

repair mortar

IMG 1260

IMG 1261

IMG 1275



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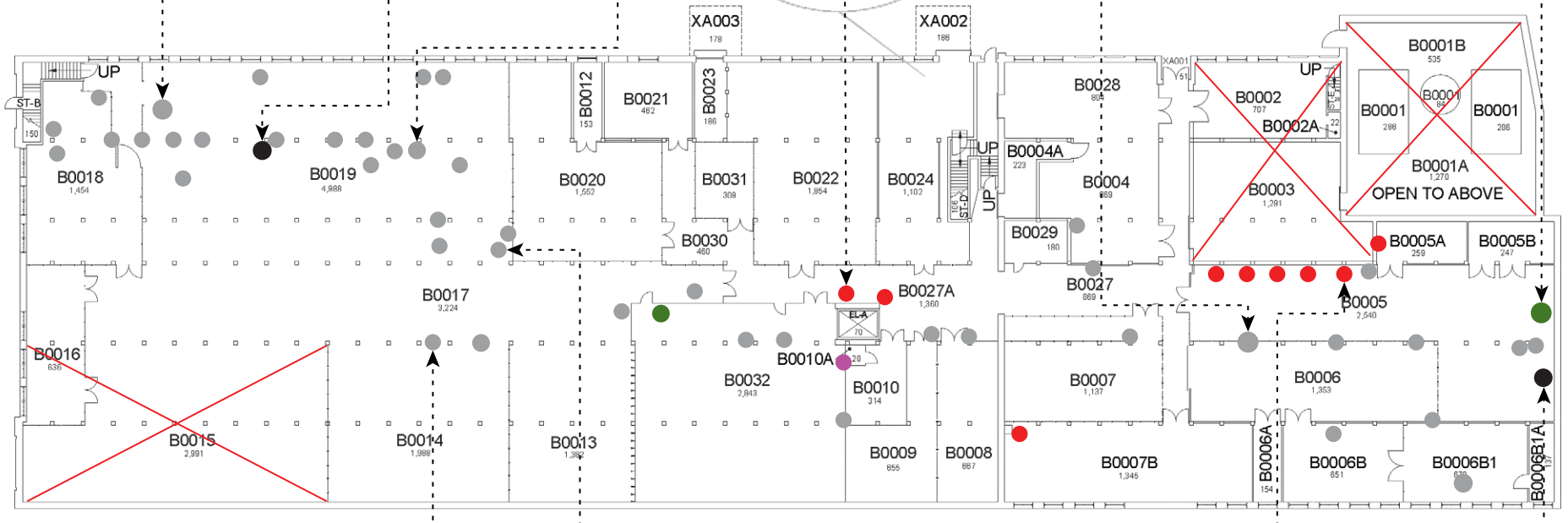


IMG 1313

IMG 1321

IMG 1281

IMG 1267

FIRST FLOOR PLAN

mortar cracking

plaster breaking

repair mortar

IMG 1360

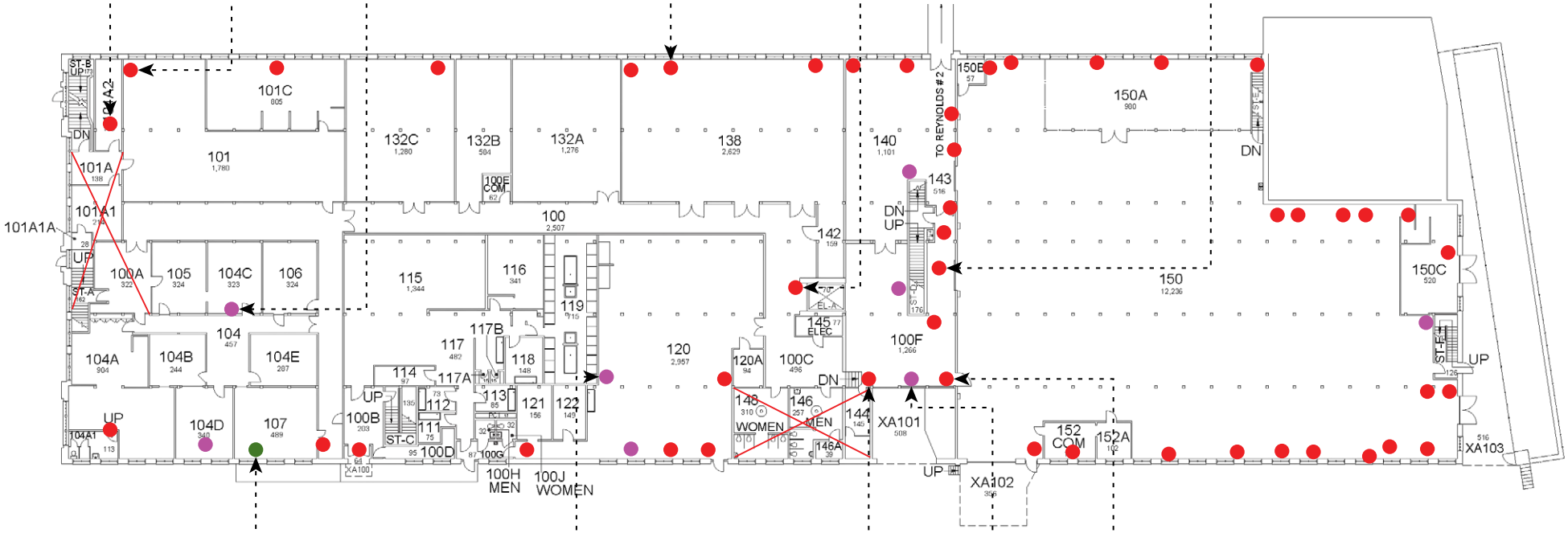
IMG 1371

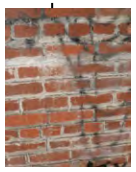
IMG 1420

IMG 1375

IMG 1405

IMG 1389





IMG 1413

IMG 1433

IMG 1370

IMG 1415

IMG 1383

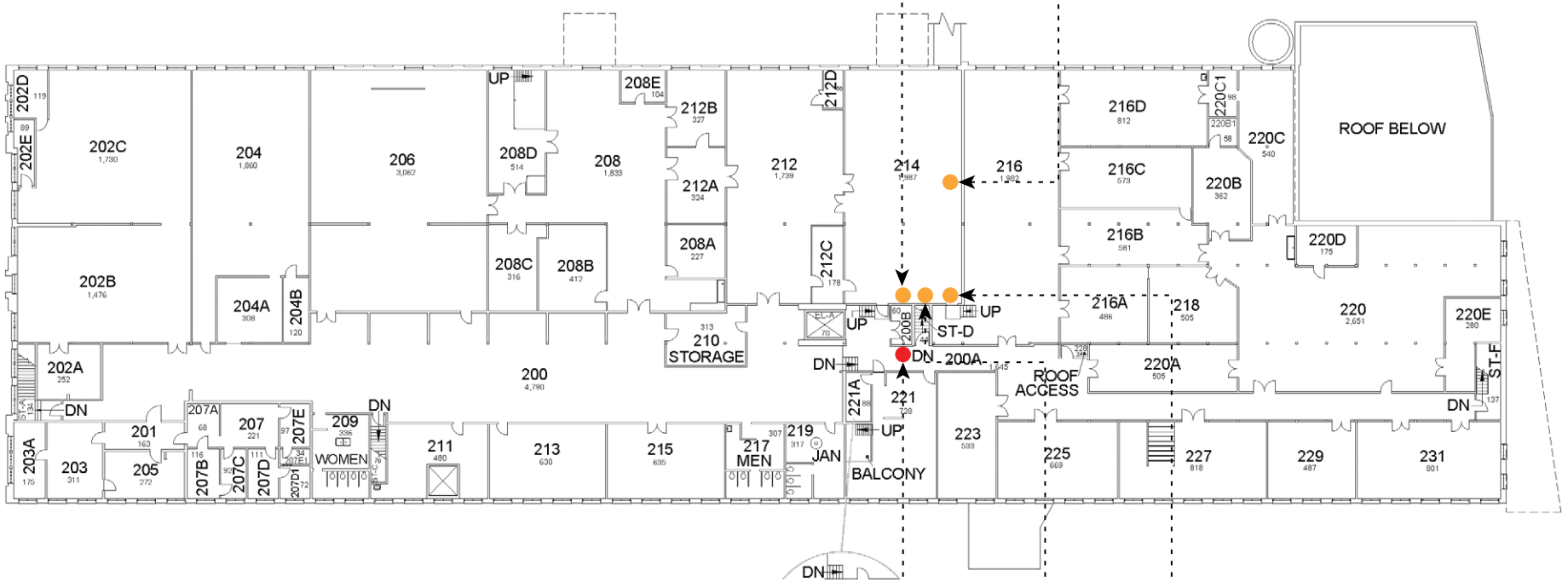
SECOND FLOOR PLAN

mortar cracking

drywall issues

IMG 1250

IMG 1255



IMG 1248

IMG 1252

IMG 1253

Overall, the conditions of cementitious materials in the Reynolds Building are in a poor state. Cementitious materials are secondary to other materials like brick, meaning they decay faster and must be replaced more often. Materials like mortar in the Reynolds Building showed signs of what appeared to be water damage and deterioration. In an attempt to repair damaged areas a different colored mortar was applied on top of the original mortar, to slow and stop the decay of the material. If the replacement mortar used to repair was a harder mortar than the original it can cause cracking and crumbling in the bricks, similar to what has been observed. On the exterior of the building, the mortar was in a worse state than the interior walls. In some cases, the mortar was completely eroded leaving loose bricks, cracks, and holes. Concrete material such as the slabs used as flooring in the basement was in fair condition with a few bad spots where the floor had cracks, holes, and rubbled areas. The deck on the south east facade is in critical condition. The rebar is exposed in areas where the concrete has cracked and the deck is unable to support large loads, only allowing two people at a time to stand on it for safety precautions. Gypsum drywall and plaster appeared to be newer in areas such as the second floor and only suffered from little graffiti. The first floor drywall and plaster had heavy graffiti and painting that in some areas were completely covered and made it difficult to assess the condition of material underneath. These materials overall are easier to replace and repair compared to other units of the building. In the long run it would be easier to replace them rather than repair the little things throughout the entire building, since there has not been sufficient efforts to help it throughout its lifetime.

Stone Conditions Assessment

Kelsey Duggins, Laura Kaiser, & Sydney Lough

Introduction

There were two types of stone: limestone and slate. Majority of the stone was a part of the foundation of the Reynolds building. There was also stone on the window ledges of the exterior of the building and on the archway above a door. The window ledges appear to be in good condition, there are no cracks or discoloration, it is still intact. The archway is in poor condition, it is chipping and has discoloration from water damage. The foundation in the interior of the basement and along the exterior of the Reynolds building was in extremely poor condition. There was minimal fungal growth, fissures, pitting, discoloration, and moisture. There were areas where the foundation was crumbling and falling apart. The Reynolds building has a cut-stone block foundation made up of limestone. The stone was put together with mortar.

Building Conditions Assessment Forms

Building:	Reynolds Building	5	EXCELLENT	New or like-new condition; no issues to report
		4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	10/01/22	3	FAIR	Average condition for building age; no issues to report.
Surveyor:	Kelsey Duggins, Laura Kaiser, and Sydney Lough	2	POOR	Worn from use - end of expected lifecycle.
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
Basement Level Exterior								
	Entry Stairs						★	Are falling apart
	Walls						★	Majority is crumbling

Building Conditions Assessment Forms

Building:	Reynolds Building	5	EXCELLENT	New or like-new condition; no issues to report
		4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	10/01/22	3	FAIR	Average condition for building age; no issues to report.
Surveyor:	Kelsey Duggins, Laura Kaiser, and Sydney Lough	2	POOR	Worn from use - end of expected lifecycle.
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

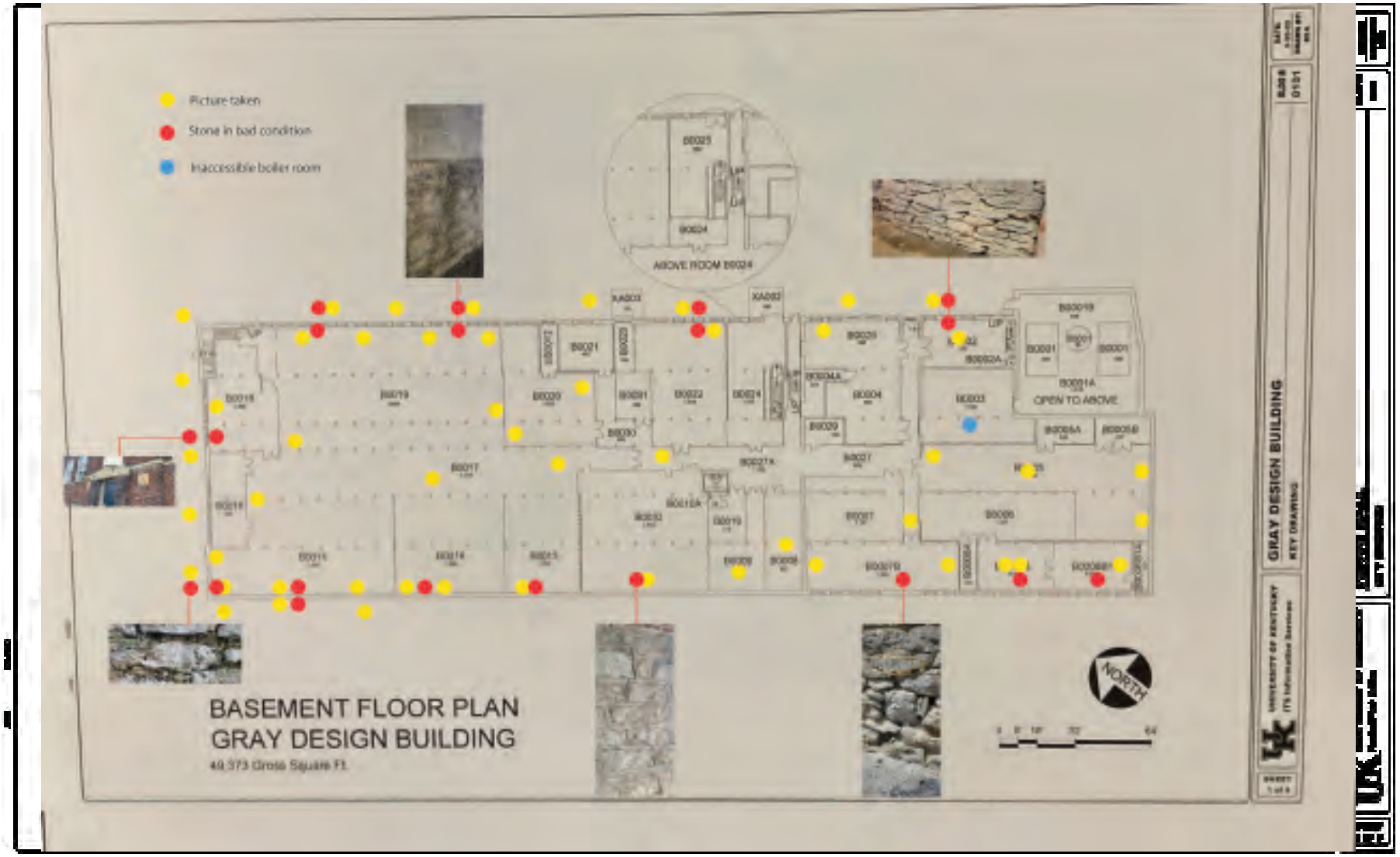
			Condition					
		Material	5	4	3	2	1	Comments
Basement Level Interior								
	Foundation Walls						★	Majority is crumbling
	Foundation Flooring					★		Small cracks scattered throughout the foundation

Building Conditions Assessment Forms

Building:	Reynolds Building	5	EXCELLENT	New or like-new condition; no issues to report
		4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:	10/01/22	3	FAIR	Average condition for building age; no issues to report.
Surveyor:	Kelsey Duggins, Laura Kaiser, and Sydney Lough	2	POOR	Worn from use - end of expected lifecycle.
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
Main/First Level Exterior								
	Foundation Walls						★	Majority is crumbling
	Exterior Door Header					★		Is stained but is not crumbling

Floor Plan With Images



Conclusion

In summation, the biggest threat to the building and possible causes of deterioration is weather and temperature changes. Rain is erosive and can lead to deterioration over time. Water leads to excessive moisture in the foundation especially in the basement. Hot and cold temperatures can also lead to deterioration of the stone. Extreme hot temperatures can cause thermal shock creating fissures in the stone. The cold weather may lead to freeze and thaw problems within the stone. Freeze and thaw conditions can cause the stone to expand and begin to weaken the stone leading to fissures. A few ways to minimize threat and remedy deterioration include washing stone and surface treatments. Washing stone removes any dirt from the surface. A chemical treatment and water repellant treatment can also maintain the stone and slow down deterioration. However, the stone foundation was damaged beyond repair. The foundation had long cracks down the walls and some of the foundation was falling apart. The stone foundation is in too much critical condition to where it cannot be preserved. It is recommended to replace the foundation entirely.

Architectural Ceramics

By: John Michael Morrison, Erica Smith, Macy Baker, and Emilie Rice

INTRODUCTION

Architectural ceramics are components of brick, porcelain, and terra-cotta. A brick is a small, rectangular block typically made of fired or sun-dried clay, used in building. In the Reynolds building, brick is heavily utilized and is used as the primary building unit in the walls and structural supports. The foundation is supported by brick, it has multiple layers for tectonic support, and the entire exterior is wrapped with brick. Comparatively, porcelain is a hard, white, or translucent ceramic made by firing clay and glazing it with various materials. Porcelain was not used at a large scale in the Reynolds building, primarily found in bathrooms where it served as the toilet and sink material. Lastly, terra-cotta is an unglazed, typically brownish-red earthenware; usually used as an ornamental building material. Terra-cotta was used scarcely in Reynolds, only visible as a decorative ornamentation on the top ridge of the exterior.

MATERIALS ASSESSMENT - BASEMENT CONDITIONS

: Building	Reynolds	5	EXCELLENT	New or like new condition; no issues to report
Assessment Date:		4	GOOD	Good conditions, no issues to report or concerns
Surveyor	Macy Baker	3	FAIR	Average condition for building age; no issues to report
		2	POOR	Worn from use, end of expected lifestyle
		1	CRITICAL	Extremely worn or damages; Immediate threat

			Condition					
			5	4	3	2	1	
	First wall with black door	Images B5,B1,B2			X	X		Worn down and chipped away, Brick has experience paint damage, corrosion from steel rods and some mortar erosion in specific areas. Most of the brick is in decent condition, but there are major spots that would have to be redone
	Entry Brick arch	Images A1				X		The brick has just been worn down from over time and could use a touch up with new mortar.
	North East Wall	Images A4, A3, B3			X	X		Some chipped bricks near the bottom stone. Mostly just layers of paint and dirt. A few corrosion spots from iron rods but overall, in good condition structurally
	North wall	Images B6, A5					X	Lot of structural damage to the bricks because of improper mortar patching. The mortar was too hard when they tried to patch the wall and it cracked a large place in the wall that is potentially dangerous
	South east wall	A6				X		Brick is very worn and starting to break sitting on top of the stone wall. Most of the brick above is good, but could use some patching with new mortar
	Elevator	A8, A9				X	X	Brick on the backside of the elevator shaft is very worn and has shown chipping. There are also more iron poles which has cause corrosion to the bricks, and they would need to be replaced.
	Edge of wall	A7				X		Bricks are worn down and chipped on the ends. Some areas need to be patched because the bricks are coming lose.

MATERIALS ASSESSMENT - FIRST FLOOR CONDITIONS

Building:	Reynolds Building	5	EXCELLENT	New or like-new conditions: no issues to report
		4	GOOD	good condition; No reported issues or concerns
		3	FAIR	Average condition for building age; no issues to report
Surveyor:	Emilie Rice	2	POOR	worn from use- end of the expected lifecycle
		1	CRITICAL	extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
FIRST FLOOR								
	NW Wall							Overall- good to poor quality brick on the NW wall. Mostly damage due to age and worn use
	Image 2.A	Brick			X			Cracked / broken brick due to foundation settling
	Image 2.B	Brick				X		Soft and dirty Brick due to water exposure / time
	SW Wall							Overall- fair to good quality on the SW wall.
	Image 3.A	Brick			X			Large Crack along the brick bond
	(Bathroom) Image 3.B	Porcelain		X				Porcelain quality on first floor was overall in good condition; dirty
	Image 3.C	Brick			X			Missing mortar/ Large crack in bond; removable bricks
	Image 3.D	Brick			X			Visible holes and worn brick from age; missing mortar
	Image 3.E	Brick			X			Patched Brick above window on SW wall, attempt to fix; most likely
								cement mortar causing more damage.
	SE Wall							Overall- Signs of water damage mostly near windows and doorways, along with cracks and missing mortar
	Image 4.A	Brick		X				Extreme water damage; soft brick
	Image 4.B	Brick		X				large crack, discoloration, signs of water damage, and large holes
	NE Wall							Overall- noticeable signs of water damage, and poor maintenance
	Image 1.A	Brick		X				Slight brick damage, overall decent quality; some discoloration
	Image 1.B	Brick				X		Water damage from existing AC unit
	Image 1.C	Brick			X			Worn corners; broken Bricks

MATERIALS ASSESSMENT - SECOND FLOOR CONDITIONS

Building Conditions Assessment

Building:	Reynolds Building	5	EXCELLENT	New or like-new condition; no issues to report
		4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:		3	FAIR	Average condition for building age; no issues to report.
Surveyor:	Erica Smith	2	POOR	Worn from use - end of expected lifecycle.
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
SECOND FLOOR								
	NW Wall							
6A		Brick			X			Erosion of bricks due to exposure to outside elements
3A		Brick				X		Cracked / Broken brick; deteriorated from thick paint layers
	SW Wall							
5A		Brick			X			Mortar patched with Portland cement mortar/deterioration from paint
6B	Women's Bathroom	Porcelain		X				Undamaged, extremely dirty
6C	Women's Bathroom	Brick			X			Wearing from outside exposure and thick paint layers
3B		Brick					X	Cracked / broken brick; from thick paint layers and outside exposure
3C	Elevator Walls	Brick				X		Cracked / broken brick seemingly held together by paint mass
6D		Brick		X				No visible damage
3D		Brick					X	Brick broke off the wall into hand with minimal efforts
2A		Brick				X		Missing mortar, eroded bricks
6E		Brick				X		Brick is worn down and eroded due to outside exposure, Efflorescence
3E		Brick			X			Thick paint covering cracking and eroded bricks
6F		Brick				X		Water damage from direct exposure to outside
5A		Brick				X		Previously missing mortar, now patched with a harder mortar
3F		Brick					X	Brick crumbling surrounding window
	SE Wall							
2B		Brick				X		Mortar is missing, worn and eroded bricks
1A		Brick			X			Bricks have been replaced with cinder blocks and painted over
	NE Wall							
6G		Brick				X		Discoloration and erosion caused by exposure to outside elements
6H		Brick				X		Discoloration and erosion caused by exposure to outside elements
6I		Brick			X			Seems to have less erosion than surroundings, covered with paint

MATERIALS ASSESSMENT - SECOND FLOOR CONDITIONS

Building:	Reynolds Building	5	EXCELLENT	New or like-new condition; no issues to report
		4	GOOD	Good Condition; No reported issues or concerns
Assessment Date:		3	FAIR	Average condition for building age; no issues to report.
Surveyor:	Erica Smith	2	POOR	Worn from use - end of expected lifecycle.
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
SECOND FLOOR								
	NE Wall (continued)							
6J	Elevator Walls	Brick			X			Discoloration and wear on bricks hidden by paint layers
6K		Brick					X	Major discoloration and erosion from direct exposure to outside (holes
6L		Brick					X	Major discoloration and erosion from direct exposure to outside (holes)
3G		Brick					X	Cracked brick with its' top layer worn down from paint coming off
3H		Brick				X		Discoloration, bricks are relatively worn down
6M	Elevator Walls	Brick			X			Discoloration and wear on bricks hidden by paint layers
0B	Elevator Walls	Brick	X					New, recently replaced brick
6N		Brick				X		Large sections of discoloration from water damage
6O		Brick				X		Large sections of discoloration from water damage
6Q		Brick				X		Example of damage and discoloration being hidden by paint
6P		Brick					X	Erosion and discoloration of brick surrounding the window
2C		Brick				X		Entire section of wall missing mortar
6R		Brick			X			Distance and paint improve immediate appearance of brick
6S		Brick				X		Paint peeling off the walls in large chunks, damaged brick underneath
6T		Brick			X			Paint is chipping off the wall at a less extreme rate, brick damaged under
6U		Brick					X	Water damage undeneath a sink with exposed pipes

MATERIALS ASSESSMENT - EXTERIOR CONDITIONS

: Building	Reynolds Bulding	5	EXCELLENT	New or like-new condition, no issues to report
		4	GOOD	Good condition; No reported issues or concerns
Surveyor:	John Michael Morrison	3	FAIR	Average Condition for building age
Date:	September 1st, 2022	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	
	NW Exterior Wall							
	Image 2a.	Brick				X		Edges of bricks worn, in between mortar completely missing. Located at the bottom of structure.
	Image 3b.	Brick					X	Brick broken inside wall, worn edges surrounding.
	Image 6c.	Brick					X	Vertical bricks missing from group, corroded materials underneath.
	Image 1c.	Brick					X	More missing mortar in between bricks, full brick missing from wall.
	Image 6d.	Brick		X				Brick underneath and next to window in decent condition. Slight discoloration.
	Image 6e.	Brick		X				Slight discoloration and worn edges to bricks.
	Image 3c.	Brick					X	Multiple bricks broken inside wall next to window.
	Image 2b.	Brick			X			Deformation of brick near mortar. Mortar missing as well.
	Image 2c.	Brick			X			Mortar missing on corners of wall, middle brick damaged and broken off.
	Image 3d.	Brick					X	Brick broken in half, located to bottom of building.
	Image 3e.	Brick					X	Missing mortar under window sill, slight caving of bricksand broken bricks near top of opening.
	NE Exterior Wall							
	Image 6f.	Brick				X		Holes in brick and some metal pieces located within.
	Image 4a.	Brick				X		Streak of cracking through mortar in between the bricks.
	Image 6g.	Brick		X				Typical color and ware on bricks, black substance cover bricks.
	Image 1b.	Brick					X	Missing brick with metal rod sticking out of wall, material patching located above.
	Image 5b.	Brick				X		Close up of mortar patching in between bricks that are damaged.
	Image 5c.	Brick				X		Corner brick damaged and broke off, with patching on exterior.
	Image 6b.	Brick				X		Brick chipped off intact around metal frame from window. Metal is rusted near the brick damage.
	Image 3f.	Brick					X	Cracked brick with metal objects inside.
	Image 2d.	Brick					X	Patch of bricks missing mortar in between near second floor window

MATERIALS ASSESSMENT - EXTERIOR CONDITIONS

: Building	Reynolds Bulding	5	EXCELLENT	New or like-new condition, no issues to report
		4	GOOD	Good condition; No reported issues or concerns
Surveyor:	John Michael Morrison	3	FAIR	Average Condition for building age
Date:	September 1st, 2022	2	POOR	Worn from use - end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

		Material	5	4	3	2	1	
	NE Exterior Continued							
	Image 6d.	Brick		X				Patch of bricks missing. Newer brick areas on wall aligned with top floor windows
	Image 3g.	Brick					X	Group of bricks missing near vent area.
	Image 5d.	Brick				X		Some type of patching layered on top of brick area.
	Image 5e.	Brick				X		Some type of patching thickly layered on top of brick area.
	Image 5a.	Brick					X	Large cracked and broken area of bricks with surrounding patchwork.
	Image 3h.	Brick					X	Patching in between layers of bricks in wall opening. Ends of bricks heavily damaged, broken, and cracked.
	Image 3i.	Brick				X		Wear and tear on edges of brick arch, missing part of brick with new mortar patching
	Image 4b.	Brick				X		Large crack of mortar above door. Walls separating from each other and showing space.
	Image 6e.	Brick		X				Strong discoloration near the pipes going up the wall. Discoloration near other materials.
	Image 6f.	Brick				X		Mass amounts of metal pieces inserted in between mortar of bricks
	Image 6g.	Brick				X		Discoloration from vegetation near top of building.
	Image 6h.	Brick			X			Discoloration at top of builing, new brick in old window openings.
	Image 6h.	Brick				X		Discoloration around bricks near the metal spout. Mortar in bad shape.

Building	Reynolds Bulding
Surveyor:	John Michael Morrison
Date:	September 1st, 2022

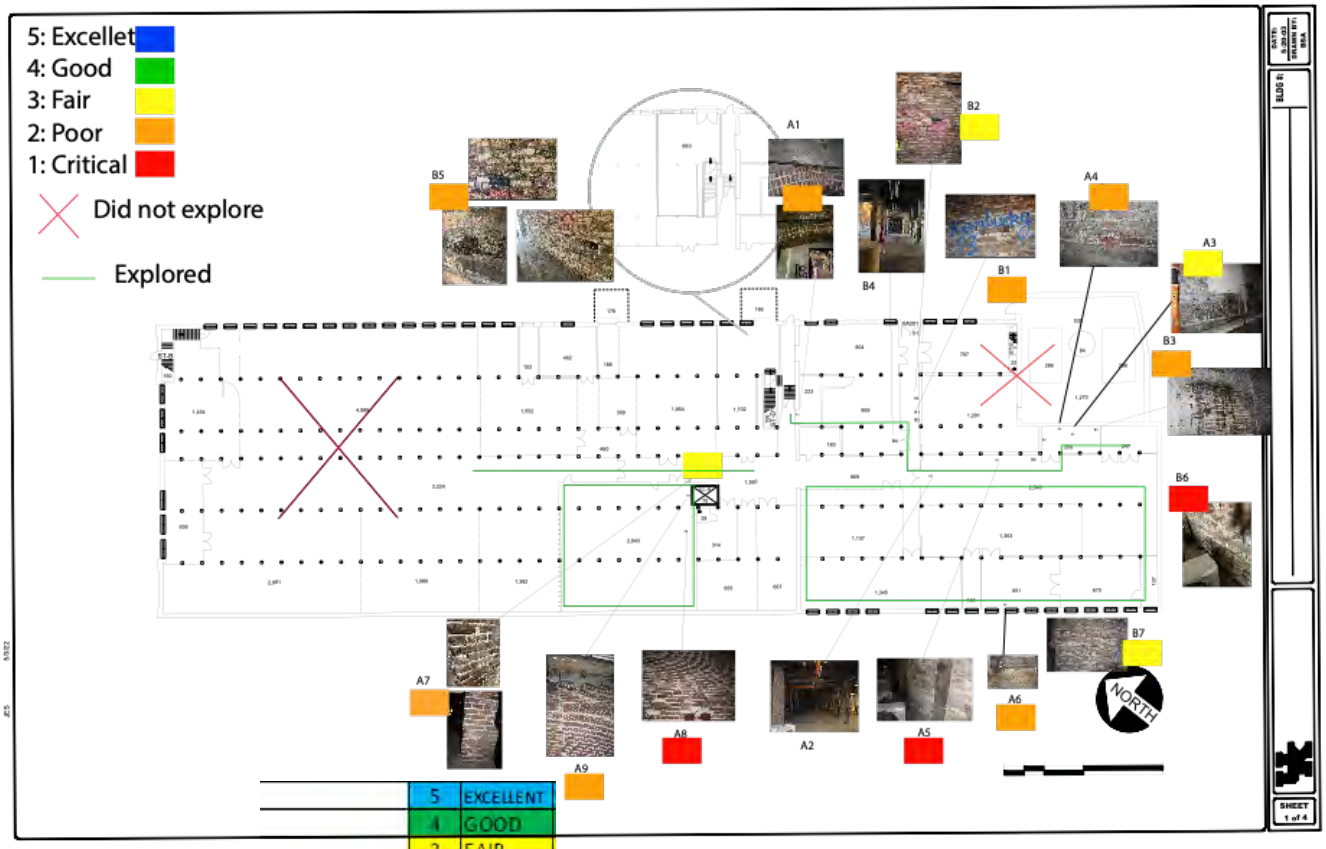
New or like-new condition, no issues to report
Good condition: No reported is:sue.s.or concerns
Avecage Condition for bu1ilding age
Worn from use - end of expected lifecycle
.....Extremely worn or damag,ed; IMMEDIATE THREAT

	Material	5-1 3 2					
SE Exterior Wall							
	lma.l!e6h.	tlnck			X		biscoloraHon at top of builing, new brick in old wiridow openings.
	ImaR:e6i.	Brick				X	!Discoloration around bricksnear the metal spout. Mortar in bad shape.
	Image 3j.	Brick			X		lHole in beti.veen mortar and two bricks
	Image6j.	Brick			X		Vegeration growing along the wall.
	Image6k.	Brick			X		Vegeration growingalong the wall.
	Image 3k.	arick				X	Broken and cracked briick with missing mortar along \1ith vegetation.
	Image6L.	Brick			X		Ve,getation ,growing along the wall.
	Image6m.	Brick				X	Vegetation growing inside of the wall through the briick:s.
SW Exterior Walll							
	Image 6n.	Brick				X	Regular wear oni bride:with dis.coloration, few bricks with cracks.
	Image Sf.	Brick			X		Patching done inbetween bricks with red ,color.
	Image 60.	Brick			X		Discoloration on lbirick from rusted material from window silt
	lImage 6p.	Brick			X		Metal rod sticking in between brtcksJdiscoloration from wh:at looks like ruiSt.
	Image 6q.	Briok				X	Metal rods in between bricks and cracks ili'l:same area.
	Image 6r.	Briok		X			New brick:sin what used to be in opening, good slhape.
	Ima2:e 51!.	Bnick				X	Patchin.edone in between bricks lavered over and on too of brides.as well.
	Image 2e.	Brick				X	Older an.d new ?laced bricks have lots:of cracked .and mi in mortar irr1between e.aclilother.
	Image Sh.	Brick				X	Paitcihing done over and on top of bricks
	lImage 6s.	Brick				X	Metal rods in between brides and cracks in !tame area.
	Image6t.	arick		X			Open are,a with new brid::layered inside, good condition.

Building	Reynolds Bulding
Surve or:	John Michael Morris,on
Date:	Se tember 1st, 2022

New or like-new condition, no issue:sto report
Good condition; No reported issues or ooncerns
Averag,e Condition for building a_ge
worn from us.e,- end of expected lifecycle
Extremely worn or damaged; IMMEDIATE llHREAT

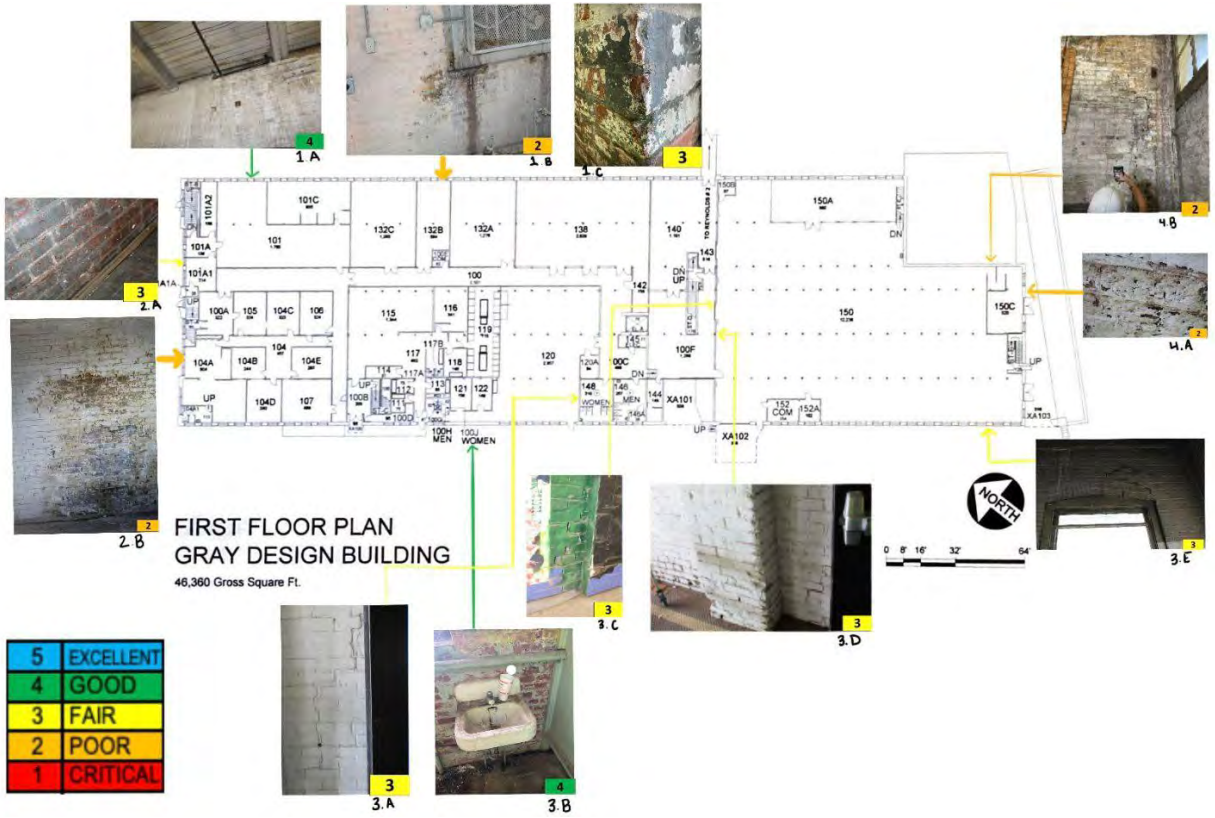
FLOOR PLAN - BASEMENT LEVEL



			5	4	3	2	1	
	Image6u.	Brick		X				Open.area left wall with new bricl!:la,vered inside, gocxl co1i1dThon.
	Image 1dl.	rick					X	Large area with bricksnot intaa with w:all wfl.atsoever. No mortar in between.
	Image 6v.	Brick			X			Mass ve.;geta1tion grQ\l"t[n_g along s:ide of buildin_gwall

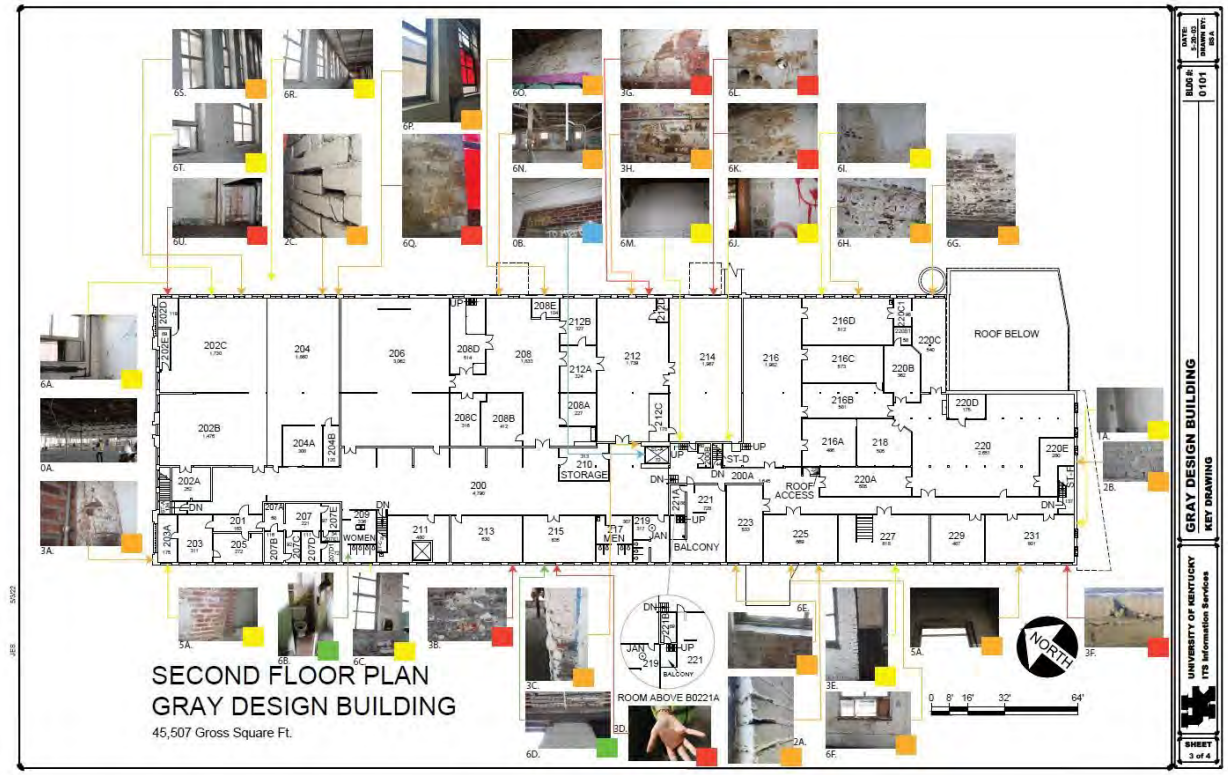
5	EXCELLENT
4	GOOD
3	FAIR
2	POOR
1	CRITICAL

FLOOR PLAN - FIRST LEVEL



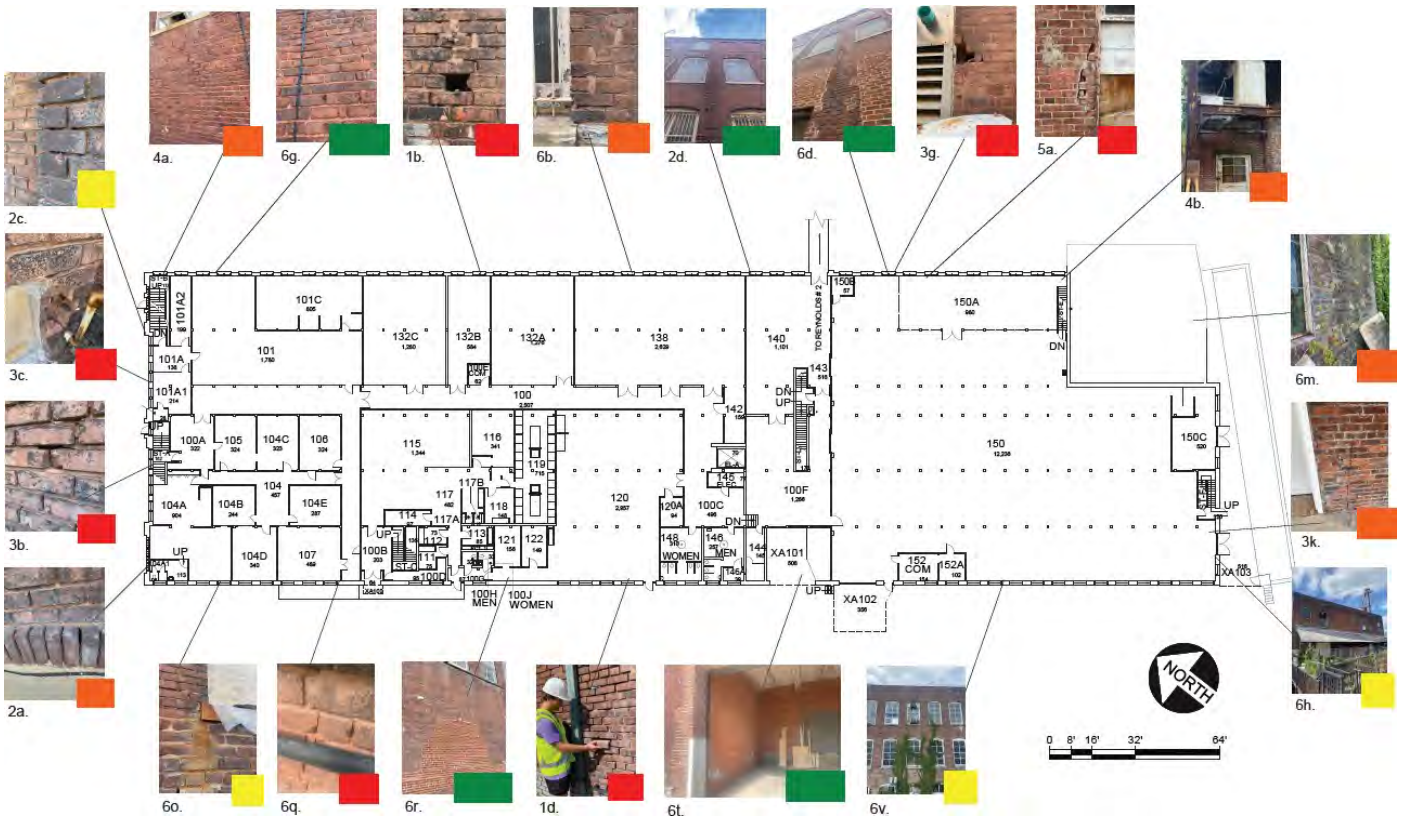
1.	Missing/ Falling Brick
2.	Missing Mortar
3.	Cracked/Broken Brick
4.	Cracked Mortar
5.	Mortar Patching
6.	Deterioration From Other Materials

FLOOR PLAN - SECOND LEVEL



1.	Missing/ Falling Brick
2.	Missing Mortar
3.	Cracked/Broken Brick
4.	Cracked Mortar
5.	Mortar Patching
6.	Deterioration From Other Materials

FLOOR PLAN - EXTERIOR



CONCLUSION

The condition of the brick in the basement of Reynolds varied throughout the space. Most of the bricks were in fair to good condition, however, on the interior wall perpendicular to where the large barn door was, the wall had started to fall in because the bricks had begun to crumble.
As well as the overall condition of the mortar was poor and had been worn down needing to be fixed in multiple areas.

Overall Brick conditions on the first floor ranged from good to poor, with no critical damage found. Conditions of the brick ranged widely from fair to poor. Predominantly, conditions were most critical around windows, pre/existing AC units, and doorways where the foundation may have settled. All of the walls on this floor remained intact with minimum large holes that lead to the exterior of the building. No critical conditions were found to compromise the structural integrity of the building as a whole. During our inspections of the first floor, it was found that deterioration of the brick was prevalent. Upon rationalizing we can infer that these conditions were side effects of poor maintenance, and careless renovation throughout the years.

While the second floor of Reynolds did have extremely damaged areas in regard to the brick, there were areas that were of normal wear for a building this old and could be preserved for future use. The areas in which we found the highest concentration of damage were the sections of bricks that surrounded windows, radiators, and holes where iron screws previously were. These areas exhibit such extreme damage because of the consistent direct exposure to outside elements, and a lack of preparation and foresight to enable systems that would protect the brick from this damage. Once the thick layers of paint are removed from all of the brick, it would be expected that the condition of all of the brick will have to be reevaluated and examined,

simply because the level of damage for all of the brick can't be definitely gauged while the paint fully coats and conceals the majority of the walls on the second floor.

The exterior of the building had the most damage and issues in regard to the conditions of architectural ceramics. In comparison to other areas of the building, what was most prominent were large cracks and breakage of bricks, as well as bricks completely missing from the wall. Also, where external materials interacted with the bricks, like wall support clamps and windowsills, is where many issues like discoloration and cracks occurred. Many attempts to fix issues like missing mortar included patches of cementitious material all around the exterior of the building. Overall, the mass amounts of brick used within the Reynolds building had various conditions from fair to fatal with a wide variety of issues relating to the brick.

Wood Conditions Assessment: Reynolds Building Project

Kallen O'Shea, Kate Chaudoin, Morgan Drake, & Kendall Burke

Introduction

Wood is an incredibly versatile build material that is organic and fibrous. Wood comes from trees and is found all over the world. There is a large variety of woods that are used for building such as softwoods and hardwoods. Wood is seen throughout the Reynolds building and is used in a variety of ways. The columns were all wooden, as well as some studs in the older part of the building. The floor, subfloor, and ceiling were made of hardwood and plywood. The front windows are wood, some of them are covered with plywood which is screwed into the metal frames. The other windows seen in the building are covered with plywood. Lastly, as a decorative finish, several walls were paneled and beaded with wood.

Building Conditions Assessment Form: Exterior

Building	Reynolds Warehouse Building 1	5	EXCELLENT	new or like new
Assessment Date	8/25/22	4	GOOD	good condition, no reported issues
Surveyors	Morgan Dodd, Kate Crumpton, Kellen O'Brien, and Kenzie Gore	3	FAIR	good condition, no reported issues
		2	POOR	worn from use, needs repair
		1	CRITICAL	extremely damaged or worn, must be replaced

			Condition					
			5	4	3	2	1	
#	Exterior							Description
1	Exterior Window Frames (east facing)						X	Frames have deteriorated, unable to support glass panes, no longer seals building envelope
2	Exterior Window Frames (west facing)						X	Frames have deteriorated, unable to support glass panes, no longer seals building envelope
3	Exterior Loading Door (alley way)					X		Functional, but no longer seals building envelope, requires repair
4	Exterior Walkway Structure (alley way)				X			Has deteriorated overtime, is supportive of own weight, needs reinforcements to safely support live load
5	Exterior Walkway Railing				X			Useable condition, little to no deterioration
6	Supports/ Plywood Inserts			X				Unstable condition, will be removed upon project completion
7	Sprinkler House					X		Has deteriorated overtime, needs repair or replacement

Building Conditions Assessment Form: Basement

Building:	Reynolds Warehouse Building 1	5	EXCELLENT	New or like-new condition; no issues to report
Assessment Date:	4/25/22	4	GOOD	Good conditions; no reported issues or concerns
Surveyors:	Morgan Drake, Kate Chaudon, Kendall Burke, and Kathleen O'Shea	3	FAIR	Average condition for building age; no issues to report
		2	POOR	Worn from use, end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged; IMMEDIATE THREAT

#	Basement	5	4	3	2	1	Description
1	Floor				X		Very scratched up
2	Columns			X			Chipped, still seemed structurally sound
3	Door				X		Graffiti, missing boards, chipped
4	Ceiling				X		Warped, can see the floor above in places
5	Columns			X			Minimal damage
6	Columns			X			Not wrapped, damage possibly from water
7	Ceiling		X				Looks recently painted or replaced
8	Beams				X		Cracked up the middle, not completely through. Possibly from shifting
9	Beams				X		Leftover tools from a previous job, these should be taken again
10	Columns			X			Minimal damage
11	Column					X	Completely cracked through, insect damage
12	Stairs		X				Minimal damage, visible aging, blocked off by construction crew

Building Conditions Assessment Form: First Floor

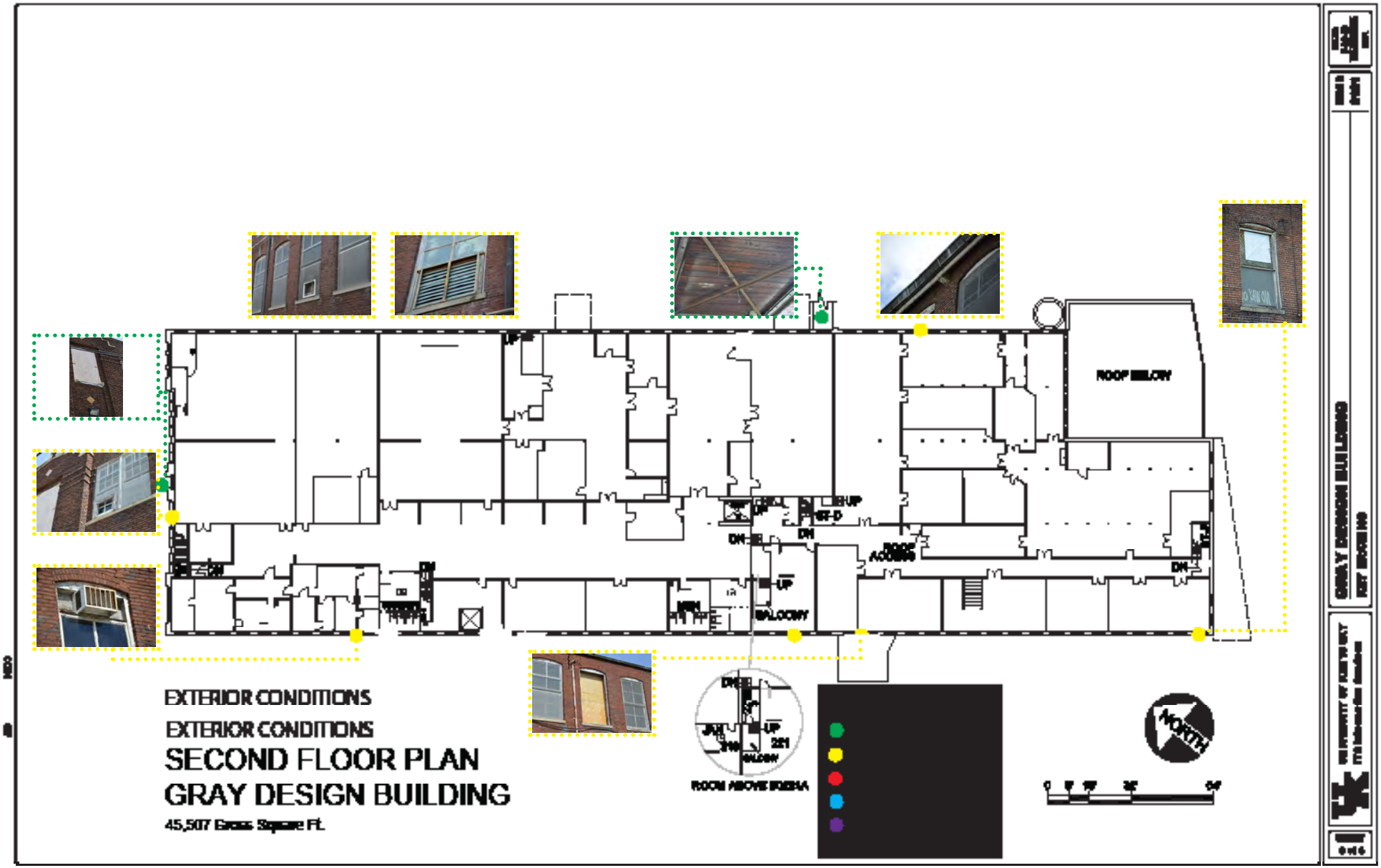
Building:	[illegible] Warehouse Building 1	5	EXCELLENT	New or like-new condition, no issues to report
Assessment Date:	4/8/22	4	GOOD	Good condition. No reported issues or concerns
Surveyors:	Morgan [illegible], Kyle [illegible], Kendall Burke, and	3	FAIR	Average condition for building age, no issues to report
	Walker O'Shea	2	POOR	Worn from use, end of expected lifestyle
		1	[illegible]	Extremely worn or damaged. IMMEDIATE THREAT

#	First Floor		Condition 5	4	3	2	1	Description
1	Columns			X				Wrapped in boards, chipped but undamaged
2	Floor					X		Stained and warped, possible from furniture
3	Wall						X	Wall under the stairs gone (broken)
4	Floor						X	Hole in the floor, can see to the basement
5	Stairs						X	Completely gone, can see shape of previous stairs
6	Bathroom					X		Walls were chipped and stained, peeled paneling, graffiti
7	Floor					X		Warped, possibly from water damage
8	Columns				X			Chipped/minimal water damage
9	Bathroom Doors				X			Newer than the majority of the building, not solid wood
10	Floors					X		Warped and chipped, possibly from demolition
11	Floor						X	Subfloor completely exposed, torn up when asbestos was found. Entire back corner of first floor. We did not conduct the assessment here. (Refer to Keith Ingram of University of Kentucky)
12	Stairs						X	Blocked off. "Asbestos Danger" tape present. (Refer to Keith Ingram at UK)
13	Floor						X	Blocked off. "Asbestos Danger" tape present. (Refer to Keith Ingram at UK)
14	Ceiling				X			Minimal damage, visible aging
15	Columns				X			Chipped but still structurally sound
16	Floor					X		Warped, possibly from water damage
17	Wall Outside Bathroom				X			[illegible]

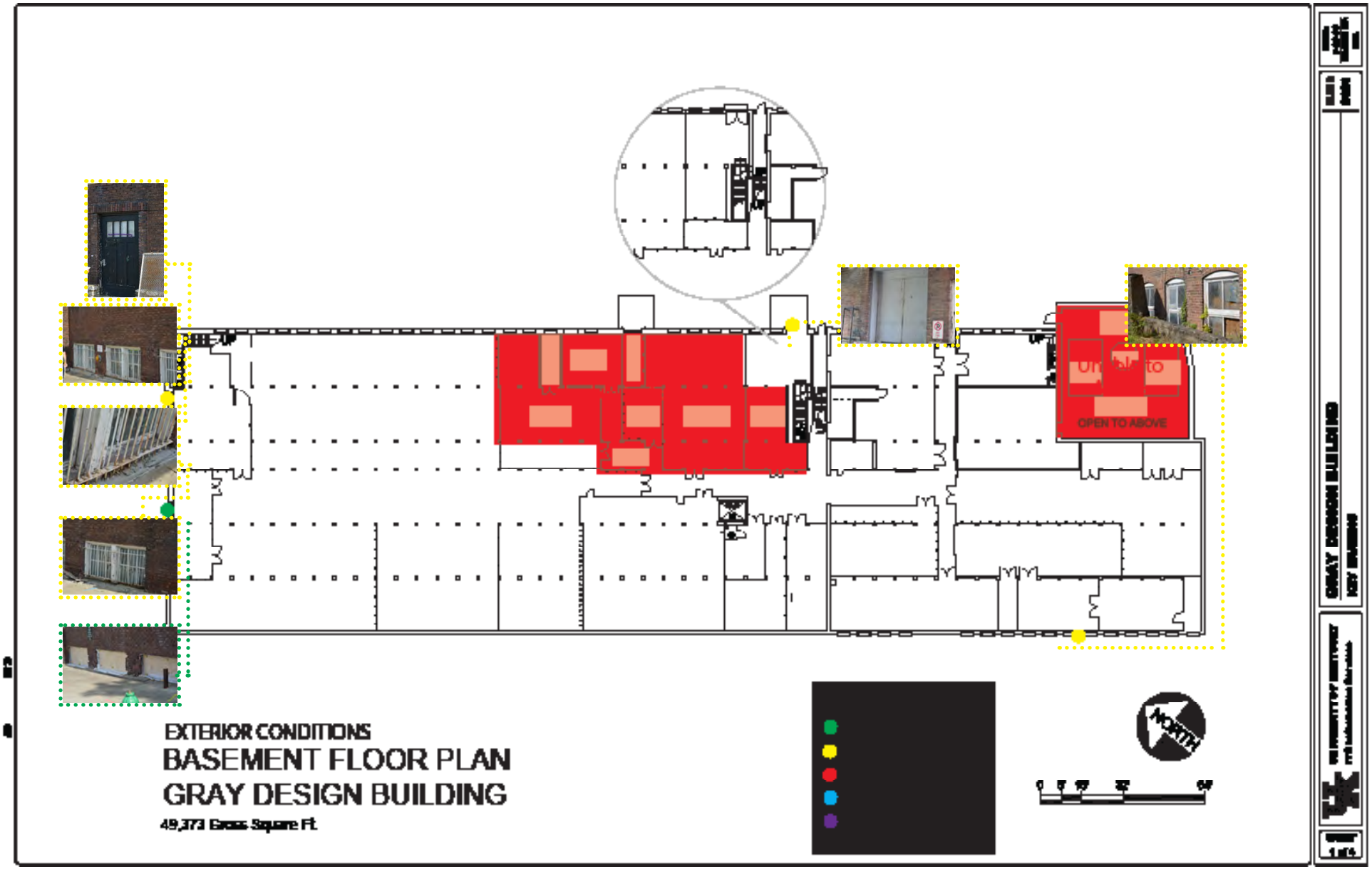
Building Conditions Assessment Form: Second Floor

Building:	[illegible] Wastewater Building 1			5	Excellent	New or like-new condition; no issues to report		
Assessment Date:	8/25/22			4	GOOD	Good condition; no reported issues or concerns		
Surveyors:	Morgan Davis, Kate Chaudoin, Kendall Burke, and Kevin O'Shea			3	FAIR	Average condition for building age; no issues to report		
				2	POOR	Worn from use; end of expected lifestyle		
				1	Critical	Extremely worn or damaged; IMMEDIATE THREAT		
			5	4	3	2	1	
#	Second Floor							Description
1	Floor					X		This area had a lot of damage, possibly from water
2	Ceiling					X		Large spots of damage, possibly from water
3	Ceiling				X			Minimal damage, visible outage, water stains
4	Stairs				X			Some demolished at the time of documentation
5	Floor					X		Had been demolished at time of documentation
6	Floor and Ceiling				X			Water damage, visible aging, demolition
7	Floor					X		Parts of subfloor showing
8	Columns			X				Minimal damage, exterior chipped
9	Bathroom					X		Peeled paneling on walls
10	Floor					X		Warped floor, possibly from water damage
11	Floor				X			Minimal warping, possibly from age or water
12	Ceiling			X				Exposed, minimal damage
13	Columns				X			Some columns chipped on exterior
14	Floors				X			Damaged sections, overall fair condition
15	Stairs			X				Look to be newer than the rest of the building

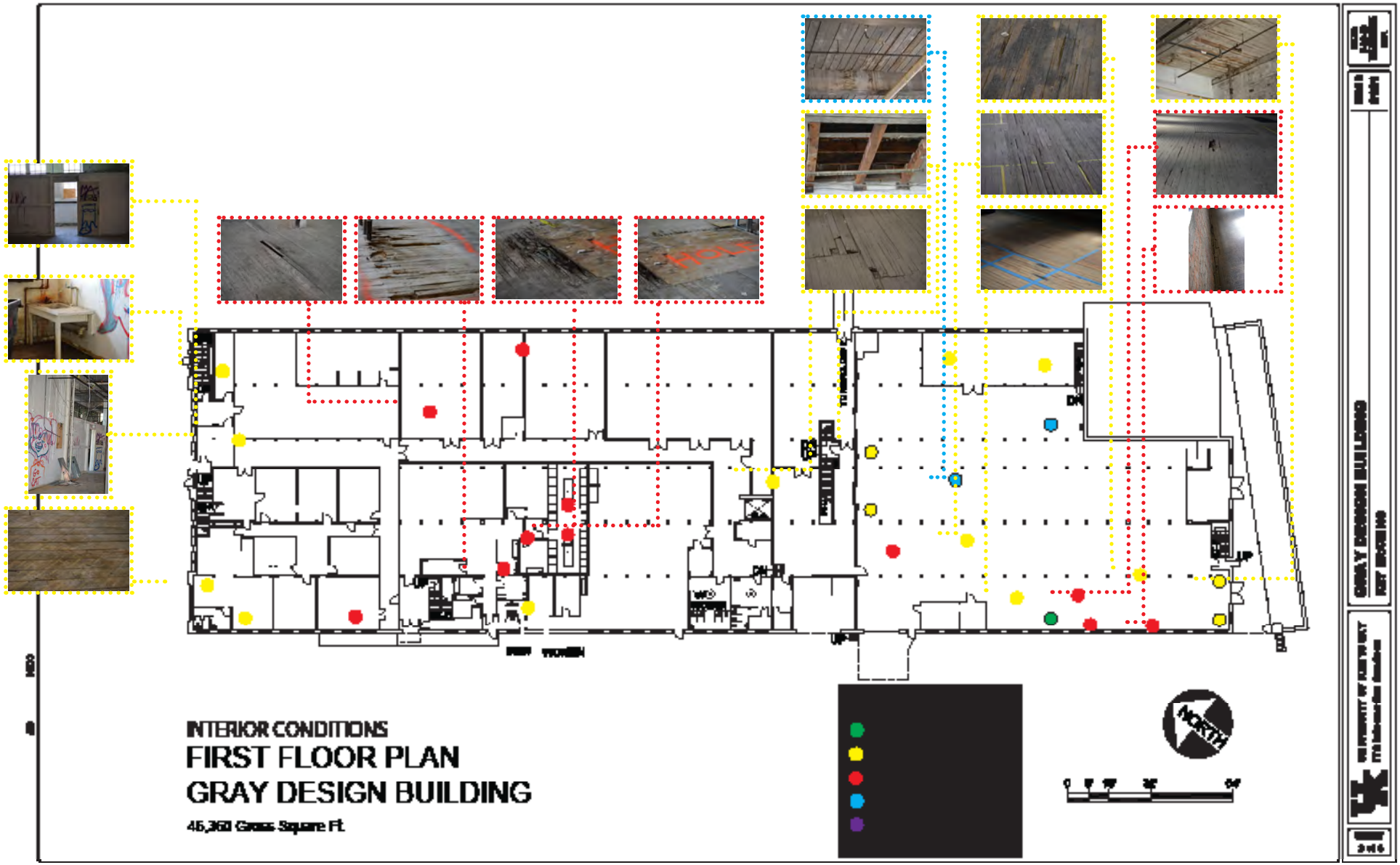
Floor Plans With Images: Exterior



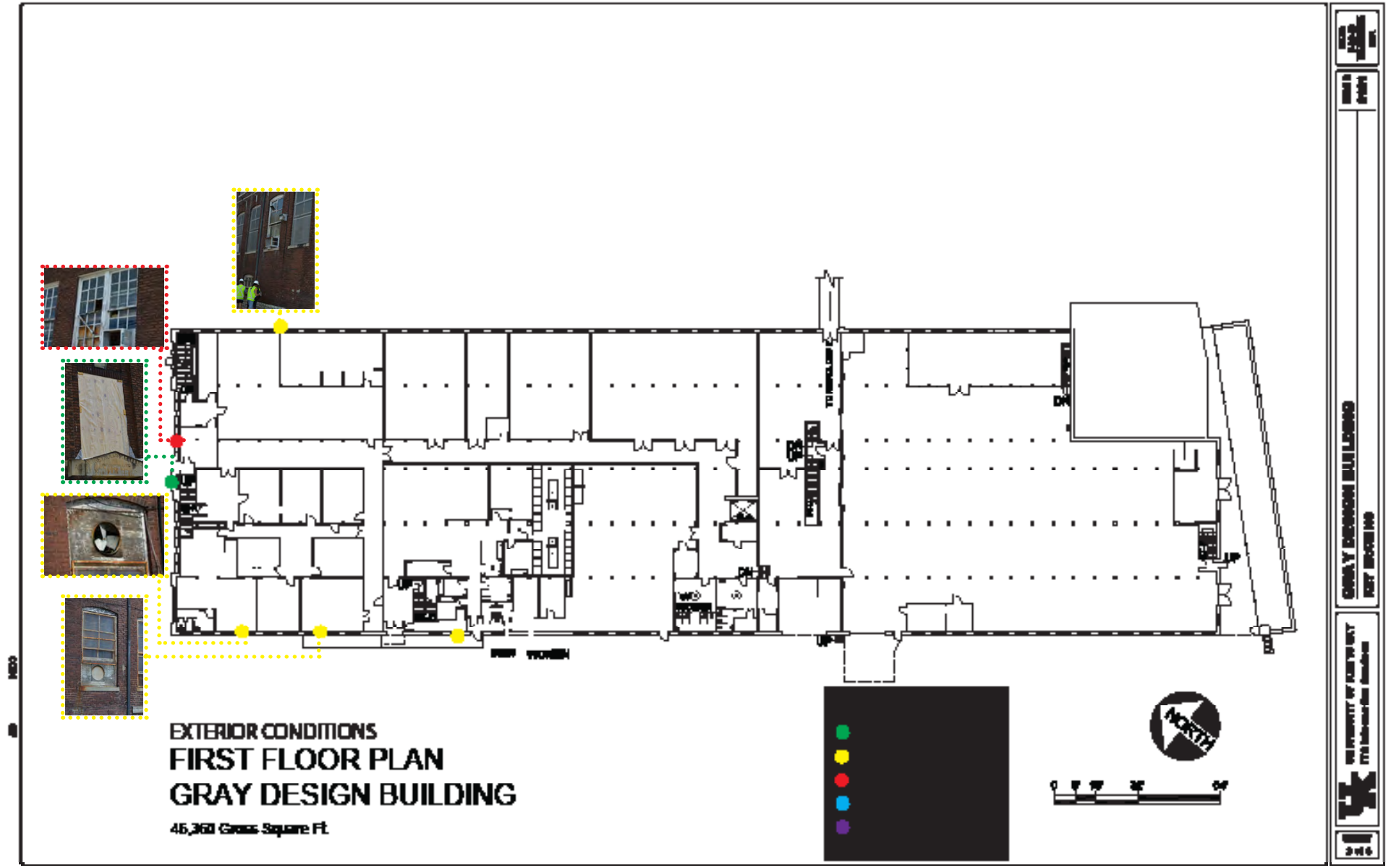
Floor Plans With Images: Basement



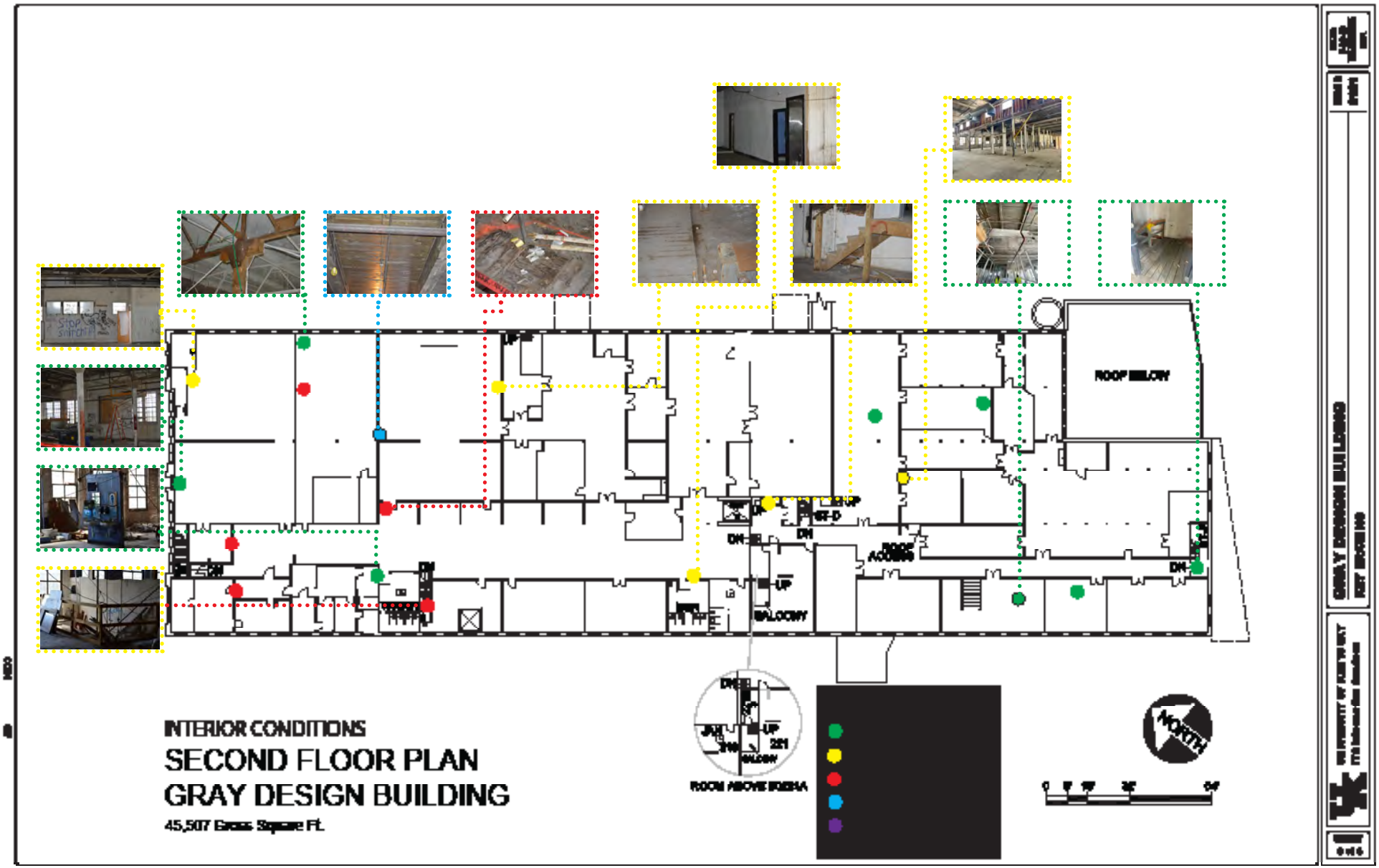
Floor Plans With Images: First Floor



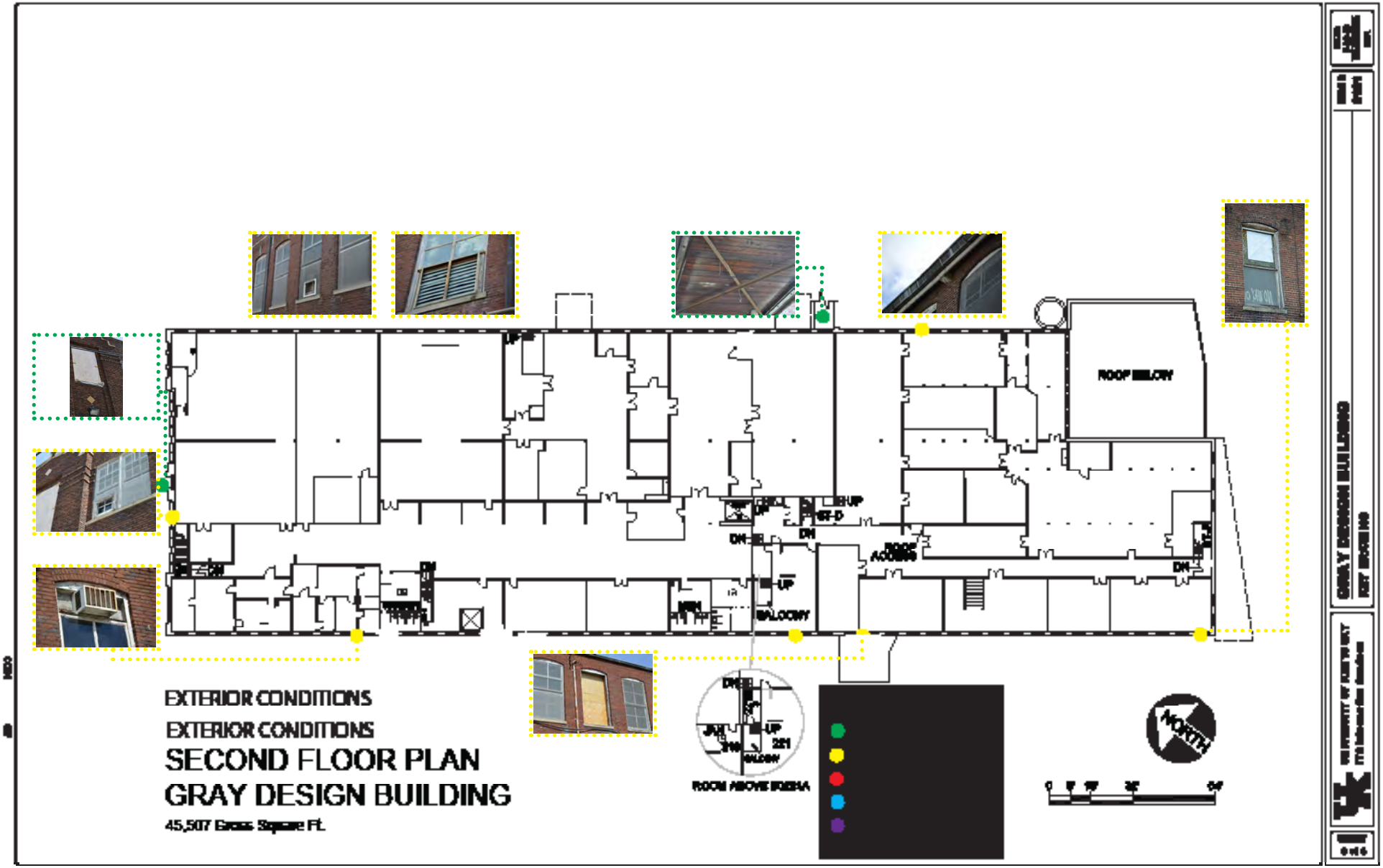
Floor Plans With Images: First Floor



Floor Plans With Images: Second Floor



Floor Plans With Images: Second Floor

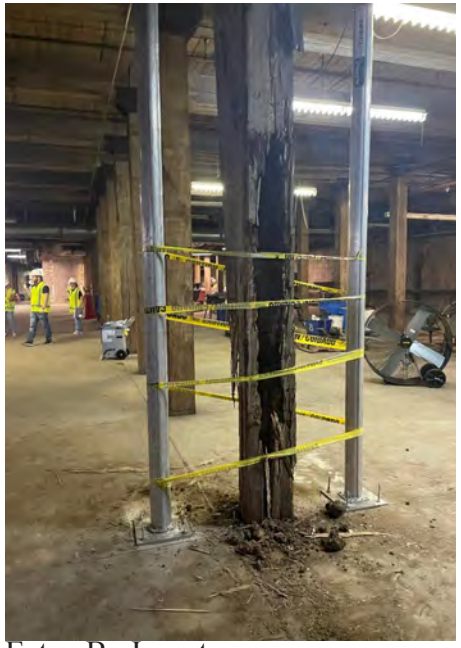


Conclusion

Overall, the state of the material seen in the building is fair. On the first and and second floor, the columns were in relatively good condition. The basement had more damage and one of the columns was completely eaten through by insects. The columns also had cracks and were chipped. As far as the flooring goes, there were many fractures, cracks, water damage, and abrasion on each level. According to Keith Ingran from Turner Construction, an area of the first floor in the back was affected by asbestos. Lastly, the ceiling had minimal damage and was mostly affected by water damage, old age, and was chipped.


Cracks/Fractures


Water Damage & Chipping


Eaten By Insects

Reynolds Building Conditions Assessment: Metals

Benjamin Rudloff, Jamie Hayden, Taylor-Beth Huff, Werakul Srihahsan, and Zoe Mason

Introduction

The former tobacco warehouse and processing facility, Reynolds building no. 1, is being adaptively reused to house the new College of Design as the Gray Design Building. This chapter will focus on the assessment of metals located throughout the building and their conditions prior to the renovation. Within the building, there are four main types of metal being used: steel, iron, aluminum, and cooper. A few less common types were also found, including zinc, lead, nickel and copper alloys. The metal is found as a structural element found in walls, beams and different binding elements such as nails. Metal is also a major part of the windows, comprising the frame, handles, and interior and exterior screening. HVAC, electrical and plumbing components are also mainly composed of metal, including, but not limited to, pipes, electrical boxes and box fans. Metal plays an important role in the structure and functionality of the building which makes this an important area to assess in the preservation of this building. Included in our report is a condition assessment form for each floor to specifically break down these issues and where they are located. Exterior and interior floor plans are also included to help locate and visualize the trouble areas.

Basement Condition Assessment Form

Building	Reynolds Building No. 1	5	[illegible]	New or like-new condition, no issues to report
	349 Scott Street, Lexington, KY 40508	4	GOOD	Good condition; no reported issues or concerns
Date:	Fall 2022	3	FAIR	Average condition for building age, no issues to report
Surveyor:	HP 252 Fall 2022 Class	2	POOR	Worn from use; end of expected lifecycle
		1	[illegible]	Extremely worn or damaged; IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
	Elevator Door	Unconfirmed					✓	minimal deterioration
	Window Sills	Unconfirmed				✓		corroded is causing the metal to expand and push out bricks
	Column Brackets	Unconfirmed					✓	like-new condition
	Rebars	Unconfirmed		✓				corrosion stains on concrete along with major cracking
	Base Plates	Unconfirmed			✓			corroded but still functional
	I Beam	Unconfirmed		✓				Completely corroded but repairable
	Window Frame	Unconfirmed				✓		completely deteriorated in certain areas

First Floor Consition Assessment Form

Building	Reynolds Building No. 1	5	[illegible]	New or like-new condition, no issues to report
	349 Scott Street, Lexington, KY 40508	4	GOOD	Good condition, no reported issues or concerns
Date	Fall 2022	3	FAIR	Average condition for building age, no issues to report
Surveyor	HP 252 Fall 2022 Class	2	POOR	Worn from use--end of expected lifecycle
		1	[illegible]	Extremely worn or damaged, IMMEDIATE THREAT

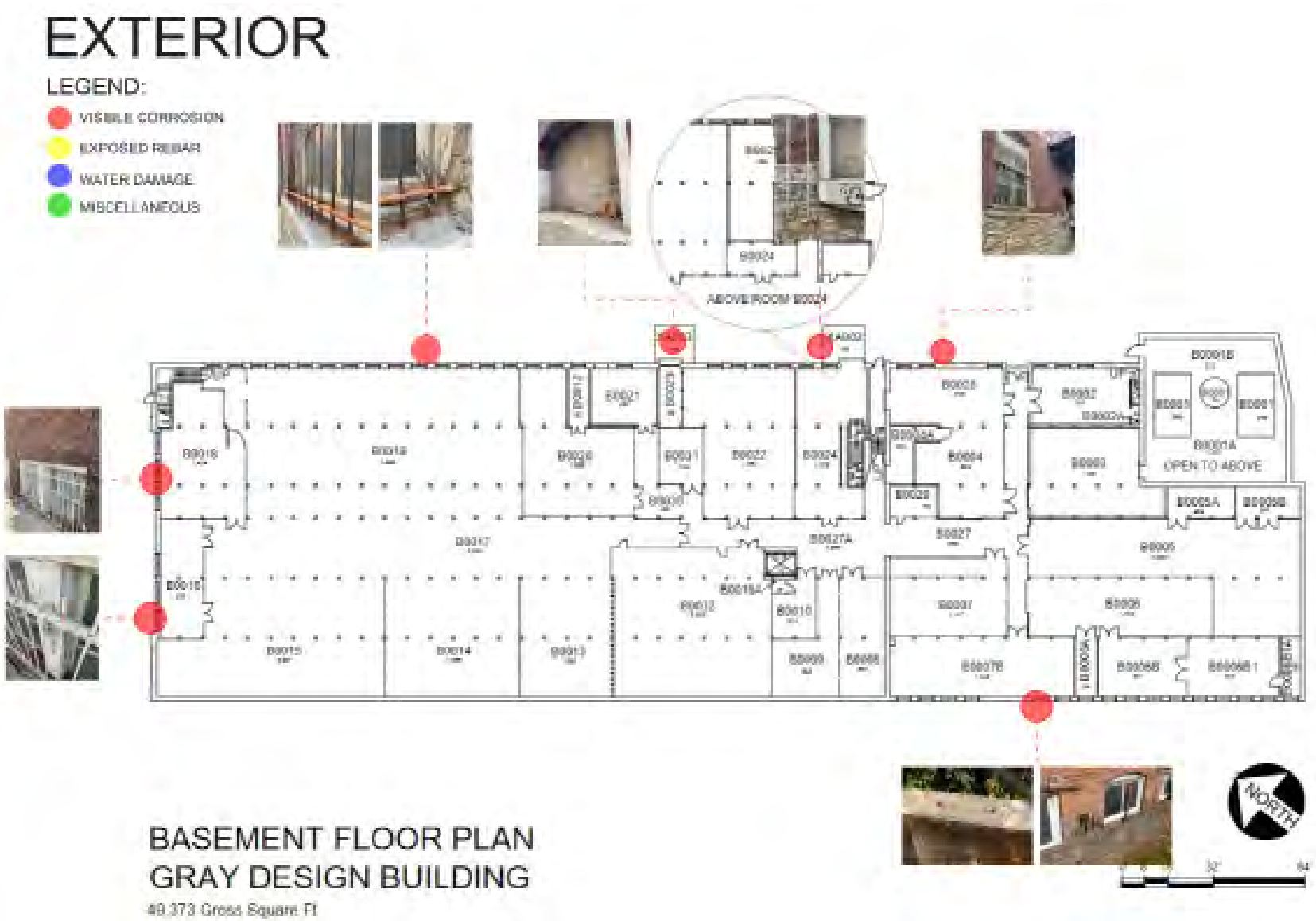
			Condition					
		Material	5	4	3	2	1	Comments
	Window Frame	Unconfirmed					✓	corroded to an extent that is causing holes through to the outside
	Interior Window Screens	Unconfirmed				✓		corroded but still holding glass in place, including broken panes
	Window Handles	Unconfirmed					✓	corroded and completely rotted out on some windows
	Beam Connectors	Unconfirmed		✓				slightly corroded and paint chipping off
	Door Exteriors	Unconfirmed			✓			corroded and bent in some places
	HVAC Unit Shell	Unconfirmed		✓				slightly corroded
	Door Handles	Unconfirmed				✓		corroded
	Door Bells	Unconfirmed				✓		corroded
	Elevator Doors	Unconfirmed		✓				good condition
	Bathroom Plumbing	Unconfirmed					✓	corroded and not safe to utilize
	Ceiling Beams	Unconfirmed			✓			corroded

Second Floor Condition Assessment Form

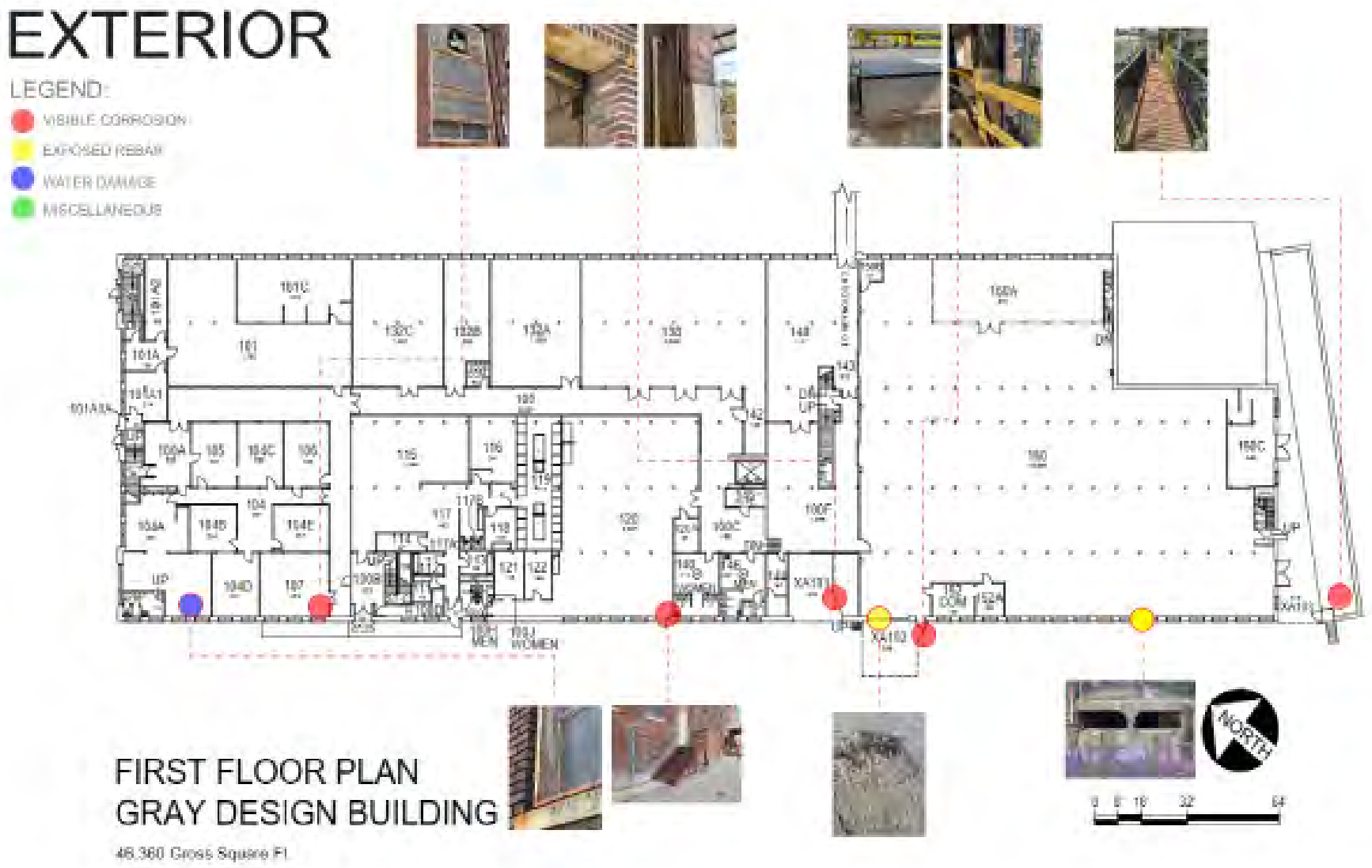
Building	Reynolds Building No. 1	5	EXCELLENT	New or like-new condition, no issues to report
	349 Scott Street, Lexington, KY 40508	4	GOOD	Good condition, no reported issues or concerns
Date	Fall 2022	3	FAIR	Average condition for building age, no issues to report
Surveyor	HP 252 Fall 2022 Class	2	POOR	Worn from use--end of expected lifecycle
		1	CRITICAL	Extremely worn or damaged, IMMEDIATE THREAT

			Condition					
		Material	5	4	3	2	1	Comments
	Window Frame	Unconfirmed					✓	corroded to an extent that is causing holes through to the outside
	Interior Window Screens	Unconfirmed				✓		corroded but still holding glass in place, including broken glass
	Window Handles	Unconfirmed					✓	corroded and completely ripped out on some windows
	Exterior Window Screens	Unconfirmed				✓		corroded but still holding to place and purpose
	Hanging Fans	Unconfirmed				✓		corroded and not operational but causing no damage or danger
	Holes in the wall	Unconfirmed					✓	many are corroded and ripped out in critical areas
	Utility Pipes (Sink, Toilet, etc.)	Unconfirmed					✓	corroded, ripped out and some are filled with combustible material
	HVAC Unit Shell	Unconfirmed				✓		corroded and no longer operational
	Beams	Unconfirmed			✓			paint may be from a interior concerns
	Ladder to Roof	Unconfirmed				✓		obvious signs but still seems safe to utilize
	Shelving Unit	Unconfirmed		✓				Shelves seem new--no rusting or damage
	Door Handle	Unconfirmed					✓	completely busted out--force rather than age
	Wall Stud	Unconfirmed					✓	crushed--no rust and seems to be force rather than age
	Electricity Box	Unconfirmed				✓		door ripped off--force rather than age
	Elevator Doors	Unconfirmed			✓			other than graffiti, they seem to be in good condition and operational

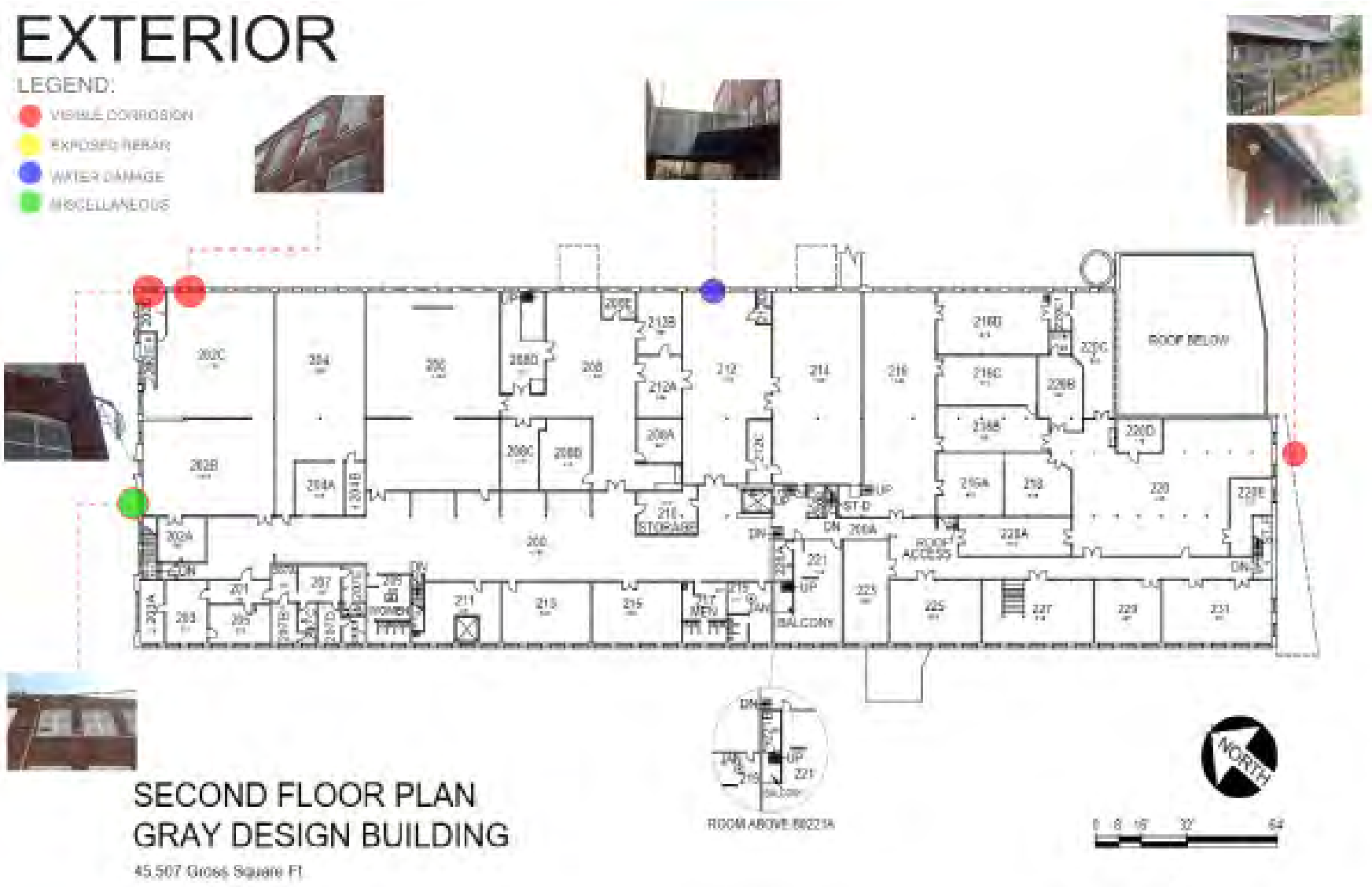
Floor Plan: Basement Exterior



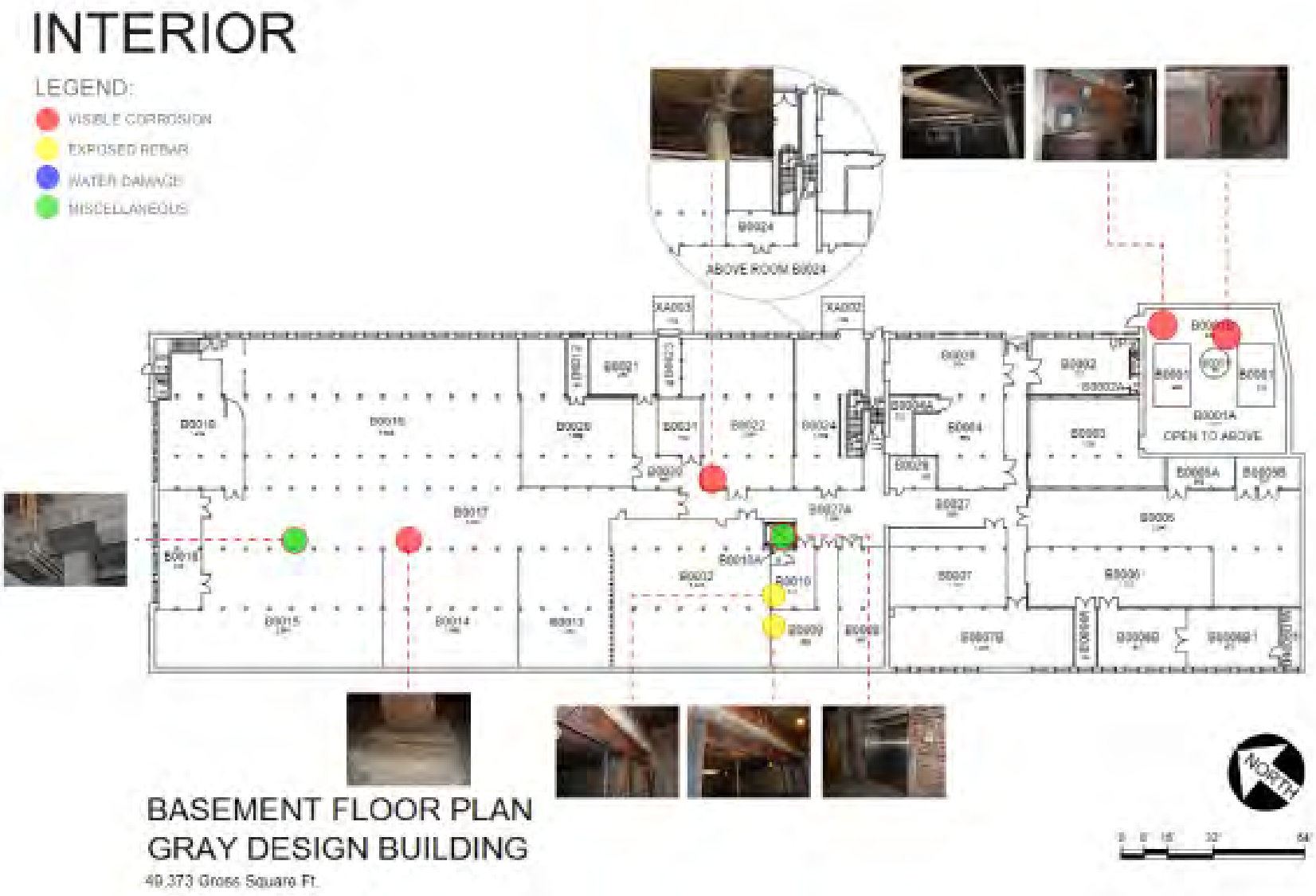
Floor Plan: First Floor Exterior



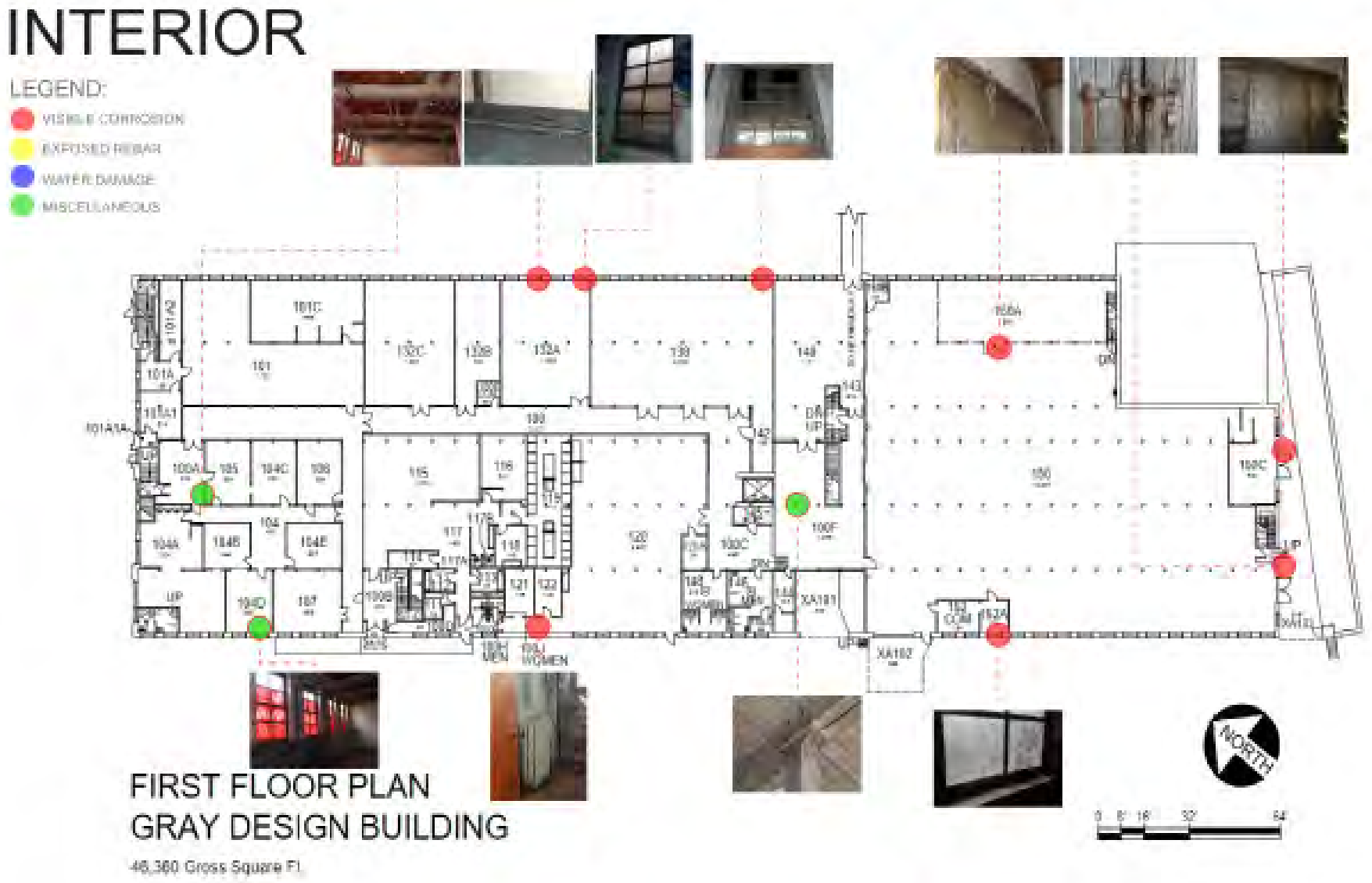
Floor Plan: Second Floor Exterior



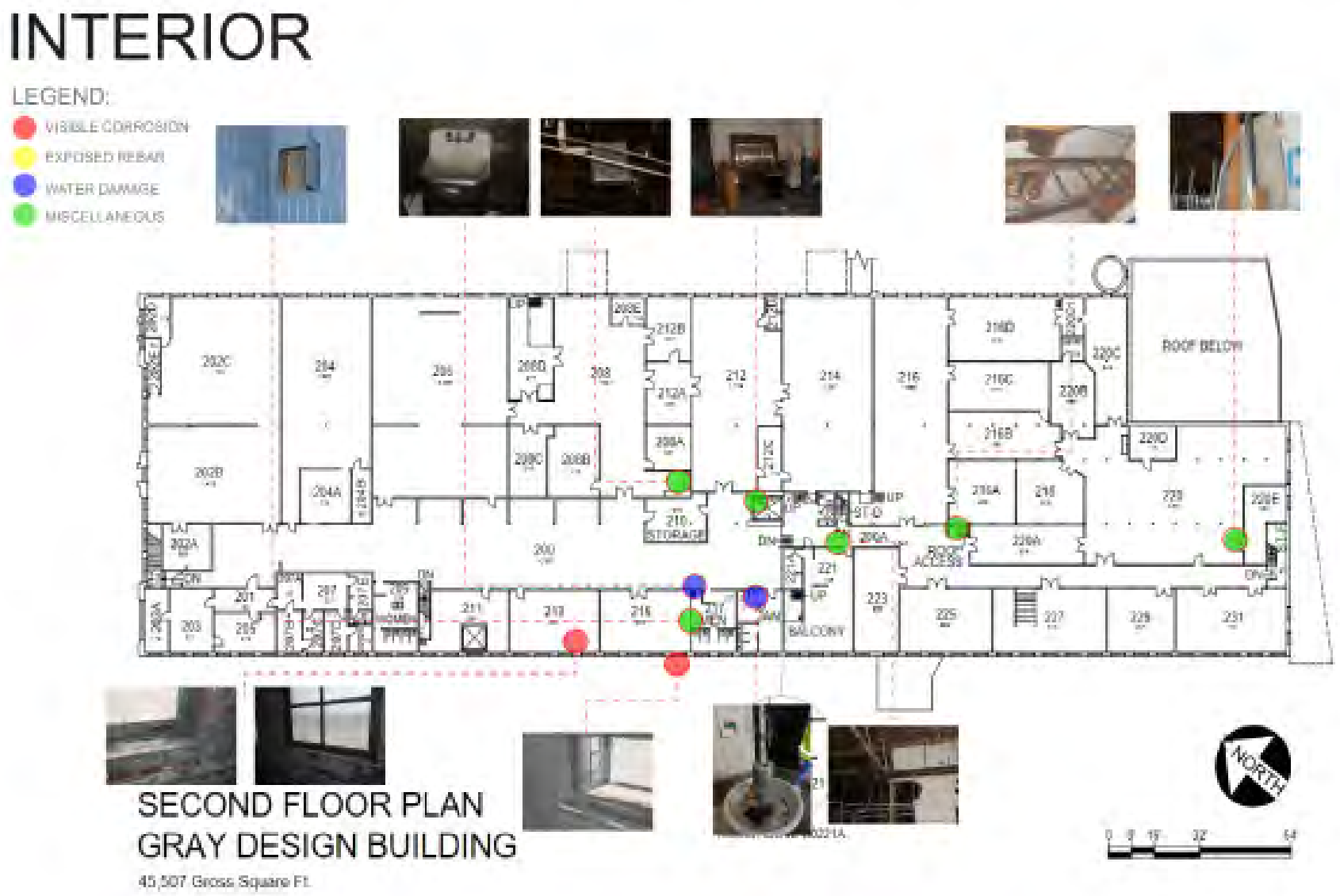
Floor Plan: Basement Interior



Floor Plan: First Floor Interior

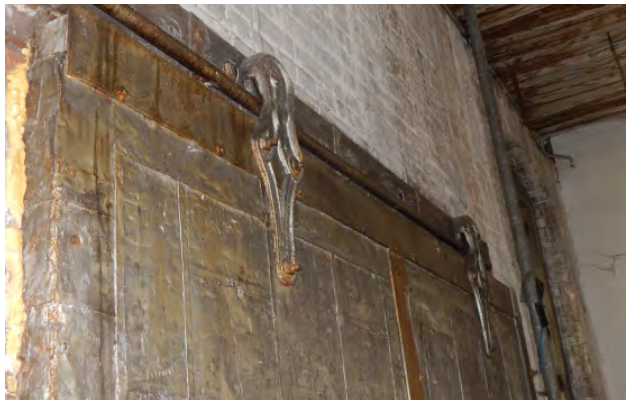


Floor Plan: Sencond Floor Interior



Conclusion

In the Reynolds Building, there are many critical areas where the metal has begun to deteriorate and needs to be replaced. Many of the causes are natural and are simply caused over time from everyday use and exposure to moisture, air and other chemicals such as the main issue of visible corrosion. This corrosion was the most extensive around the window seals, causing holes and preventing the opening utility. Functional elements such as pipes and HVAC units were also corroded to an extent, limiting their utility. In some cases the corrosion can simply be cleaned but in critical areas, the corrosion has caused irreversible structural damages. Over time, metal has corroded and expanded causing structural damages to surrounding building materials, including concrete and brick. Exposed rebar in the concrete elements was one of the most critical issues because it caused cracking in the concrete and weakened the structural integrity of the building. Water damage was very apparent on the exterior as well as in the bathrooms and other rooms exposed to high amounts of moisture. Some metal elements show signs of force rather than age from vandalism and the building sitting empty for several years. Overall, a majority of the metal was in a critical state, causing the metal elements to lack functionality and damage other major building elements. Many of the different aspects of the Reynolds Building that will be replaced will not be able to be reused but some decorative elements such as the metal doors can easily be cleaned and restored to keep the historic charm of the building.



HP252

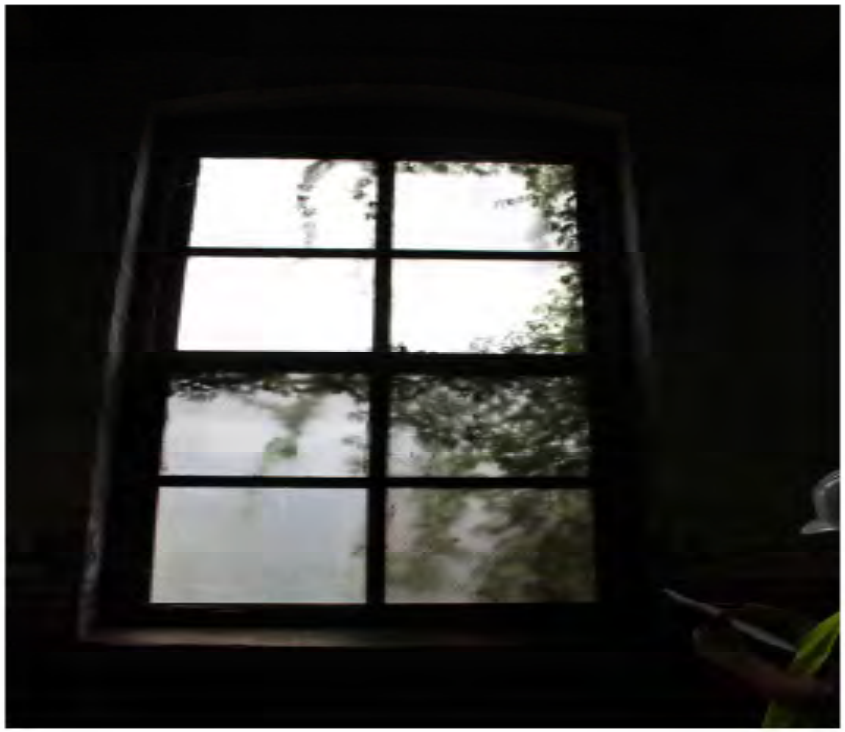
Reynolds Building Project

10/10/22

Reynolds Warehouse #1 Building Conditions Assessment

Assessment Dates: 9/6/22 - 9/15/22

Surveyors: Qamar Ghazi and Kerry Brown



In our assessment of the Reynolds Warehouse, glass was found exclusively in windows. The majority were 4x4 double-hung with metal frames, while a few featured different pane layouts and wooden framing. Unfortunately, many of the windows lie in unusable condition due to vandalism and attempted entry into the structure. This makes it difficult to ascertain the level of deterioration from age and environmental factors. However, deterioration can be seen in the panes left intact through bubbling and crizzling. Important evidence of prior interventions lies in the glass itself. The Reynolds Warehouse features early examples of industrial safety glass with distinctive wire patterns. While most of the panes have a twisted, chain-link wire inset, some have a regular criss-cross pattern with a lack of wear that suggests they are a replacement. The framing of the windows is another point of interest, as the warping of the wood framing and oxidization of the metal framing over time has caused a few to fall out of proper alignment.

Building: Reynolds Warehouse				5	Excellent		
				4	Good		
				3	Fair		
Surveyor: Qamar Ghazi				2	Poor		
Surveyor: Kerry Brown				1	Critical		
			Condition				
	W= Window	Material	5	4	3	2	1
First Floor							
4x4 Double Hung Sash	W1	Saftey Glass					x
"	W2	"					x
"	W3	"				x	
"	W4	"					x
"	W5	"					x
"	W6	"					x
"	W7	"					x
"	W8	"					x
"	W9	"					x
"	W10	"				x	
"	W11	"			x		
"	W12	"				x	
"	W13	"					x
"	W14	"					x
"	W15	"				x	
12x12 Double Hung Sash	W16	Standard Window Glass					x
"	W17	"					x
4x2 Double Hung Sash	W18	"			x		
4x4 Double Hung Sash	W19	"			x		
"	W20	Saftey Glass				x	
"	W21	"				x	
"	W22	"				x	
"	W23	"			x		
"	W24	"				x	
"	W25	"		x			

"	W26	"				x	
"	W27	"			x		
"	W28	"		x			
"	W29	Safety Glass and Standard Window Glass			x		
"	W30	Safety Glass			x		
"	W31	Safety Glass and Standard Window Glass			x		
"	W32	Safety Glass			x		
"	W33	"			x		
"	W34	"			x		
"	W35	"			x		
"	W36	Safety Glass and Standard Window Glass			x		
"	W37	"			x		
"	W38	"			x		
"	W39	"		x			
"	W40	"		x			
"	W41	Safety Glass		x			
"	W42	Safety Glass and Standard Window Glass		x			
"	W43	"					x
"	W44	"		x			
"	W45	"		x			
"	W46	"			x		
"	W47	"		x			
"	W48	"		x			
"	W49	"		x			
"	W50	Safety Glass			x		
"	W51	Safety Glass and Standard Window Glass		x			
"	W52	"		x			
4x4 Double Hung Sash	W53	Safety Glass and Standard Window Glass		x			
"	W54	Safety Glass					x
"	W55	"					x
"	W56	"				x	
"	W57	"				x	
2x2 Double Hung Sash	W58	Standard Window Glass					x
"	W59	"			x		
"	W60	"					x

4x4 Double Hung Sash	W61	Safety Glass				x	
"	W62	"			x		
"	W63	"				x	
"	W64	"				x	
"	W65	"				x	
"	W66	"			x		
"	W67	"			x		
"	W68	"				x	
"	W69	"					x
"	W70	"				x	
"	W71	"			x		
"	W72	Safety Glass and Standard Window Glass				x	
"	W73	"				x	
"	W74	Safety Glass				x	
"	W75	"				x	
"	W76	"		x			
"	W77	"		x			
"	W78	"		x			
"	E79	"		x			
"	W80	"		x			

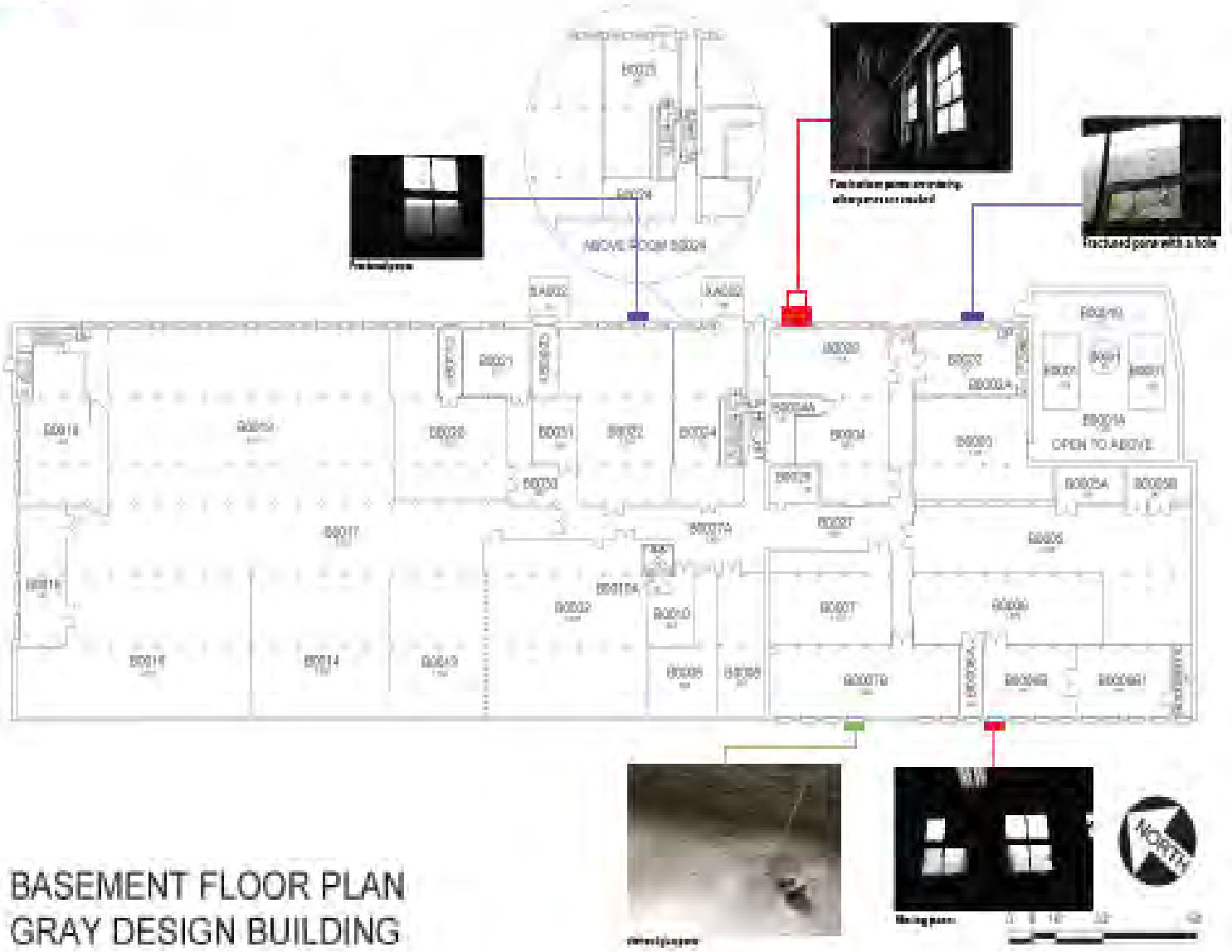
Building: Reynolds Warehouse				5	Excellent		
				4	Good		
				3	Fair		
Surveyor: Qamar Ghazi				2	Poor		
Surveyor: Kerry Brown				1	Critical		
			Condition				
	W= Window	Material	5	4	3	2	1
Second Floor							
Double Hung	W1	Standard Window Glass					x
"	W2	"			x		
4x4 Double Hung	W3	Safety Glass		x			
"	W4	"		x			
"	W5	"		x			
"	W6	"			x		
"	W7	"			x		
"	W8	"		x			
"	W9	Safety Glass and Standard Window Glass		x			
"	W10	"		x			
"	W11	Standard Window Glass			x		
"	W12	Safety Glass and Standard Window Glass			x		
"	W13	"				x	
"	W14	"			x		
"	W15	"			x		
"	W16	"			x		
"	W17	"					x
"	W18	"					x
"	W19	"			x		
"	W20	"			x		
"	W21	"		x			
"	W22	"		x			
"	W23	"				x	
"	W24	"					x
"	W25	"			x		

"	W26	"			x		
"	W27-35	"				x	
"	W36-102	"					x
"	W103	"		x			
"	W104	"				x	
"	W104	"			x		
"	W106	"		x			

Building: Reynolds Warehouse				5	Excellent		
				4	Good		
				3	Fair		
Surveyor: Qamar Ghazi				2	Poor		
Surveyor: Kerry Brown				1	Critical		
			Condition				
	W= Window	Material	5	4	3	2	1
Second Floor							
3x3 Double Hung	W1	Standard Window Glass		x			
"	W2	"				x	
"	W3	"				x	
"	W4	"				x	
"	W5	"			x		
"	W6	"			x		
"	W7	"			x		
"	W8	"			x		
"	W9	"			x		
"	W10	"			x		
"	W11	"			x		
"	W12	"			x		
"	W13	"			x		
"	W14	"			x		
"	W15	"			x		
"	W16	"				x	
"	W17	"				x	
"	W18	"					x
"	W19	Safety Glass		x			
"	W20	"		x			
"	W21	"				x	
"	W22	"					x
4x4 Double Hung Sash	W23	"			x		
"	W24	"			x		
"	W25	"					x

"	W26	"					x
"	W27	"					x
"	W28	"					x
"	W29	"				x	
"	W30	"				x	
"	W31	"				x	
2x2 Double Hung Sash	W32	"					x
"	W33	"					x
"	W34	"					x
"	W35	"					x
"	W36	"					x
"	W37	"					x
"	W38	"					x
"	W39	"					x
"	W40	"					x
"	W41	"					x
"	W42	"					x
"	W43	"					x

Missing Glass
Shattered Glass
Cracked Glass

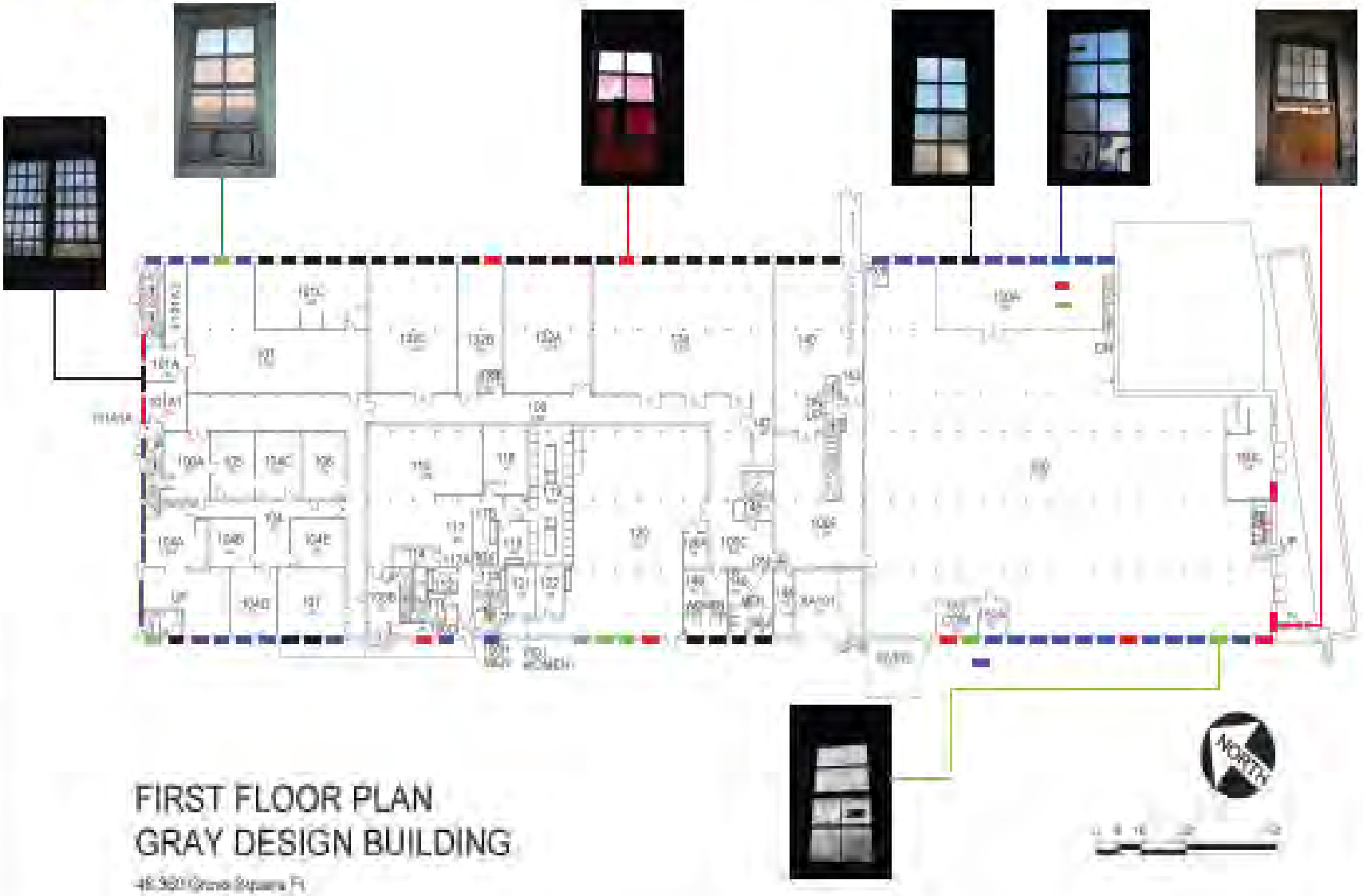


BASEMENT FLOOR PLAN
GRAY DESIGN BUILDING

49,373 Gross Square Ft.

GRAY DESIGN BUILDING
KEY DRAWING

Missing Glass
Shattered Glass
Cracked Glass
Inaccessible



FIRST FLOOR PLAN
GRAY DESIGN BUILDING

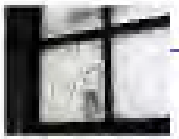
48,302 Gross Square Ft.

GRAY DESIGN BUILDING
KEY DRAWING

Missing Glass
Shattered Glass
Cracked Glass

cracked pane/shattering glass

Missing pane



Fractured pane

Fractured pane

SECOND FLOOR PLAN
GRAY DESIGN BUILDING

45,837 Gross Square Ft.

GRAY DESIGN BUILDING
KEY DRAWING

UNIVERSITY OF KENTUCKY

Conclusion

In summary, while most of the glass in the Reynolds Warehouse lies in a state of heavy disrepair, it should not be considered a lost cause. Some of the most intact windows should be assessed and properly reinforced to preserve the historical character of the building while maintaining a comfortable living and learning environment for the new design school. When multiple panes are cracked or shattered, or the overall damage proves to make the window unusable, the components should be removed, documented, and either incorporated elsewhere or stored for educational purposes. In addition, any replacements made should attempt to follow the "in-kind" principle and mirror the original's pane structure, glass texture, and distinctive framing. Too often historical windows and other glassworks are overlooked during adaptive reuse projects. We maintain that the windows are a defining characteristic of the Reynolds Warehouse and should continue to be a defining feature in the Gray Design Building, acting as a lesson for the next generation of designers and preservationists.

Modern Synthetics

Kelly McConathy, Walker Watson

Introduction

The intended purpose of developing and manufacturing synthetic products is to take the place of natural or traditional materials. The variety of these has grown increasingly broad over time as wants and needs for additional alternatives have evolved. This section is primarily concerned with resins and petroleum-based products, like plastics and polymers. Petroleum is a non-renewable resource derived from fossil fuels and goods made from petroleum present many environmental concerns. However, plastics are readily available, cheaply manufactured and sold, and decompose at an extremely low rate compared to traditional options. Due to this, they are still commonly used in conservation and construction practices to reinforce, repair, or replace a wide variety of materials already discussed such as wood, stone, metal, ceramics, as well as paints and coatings.

In the Reynolds Building

Due to its versatile nature, we found synthetic materials used for a variety of purposes and in a wide range of conditions. In many instances, the presence of synthetic materials we recorded within the Reynolds Building seemed to serve less of an architectural purpose and more toward mechanical, electrical, and plumbing applications. Throughout the building, plastics were utilized to conform to modern safety regulations, such as luminated exit signs. Another use was toward occupant comfort needs, such as lighting, insulation, and acoustic ceiling tiles. Additionally, we recorded what appeared to be resins adhering glulam wood products and asphalt at various exterior locations which we were able to access.

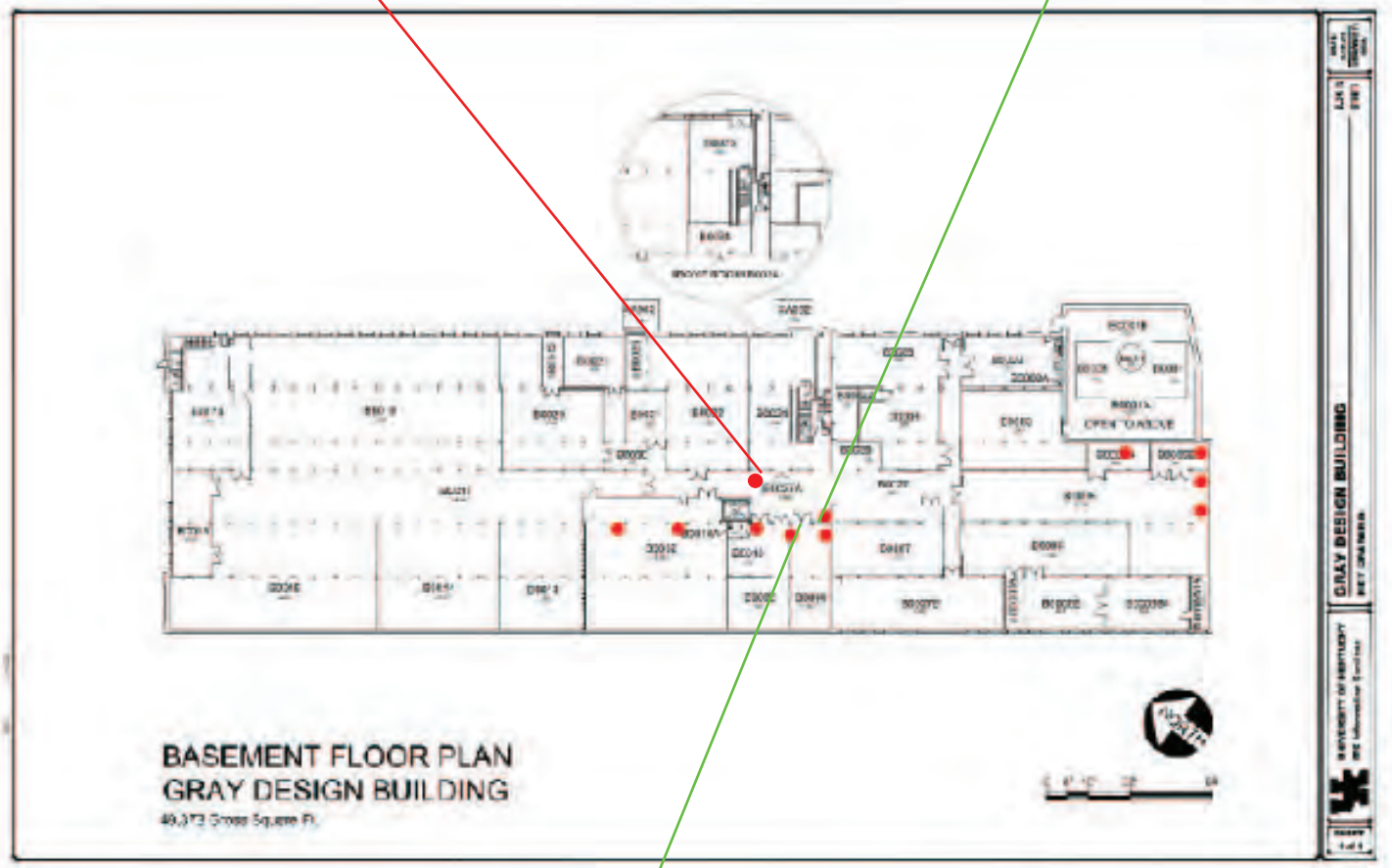
The folllowing pages contain material evaluations by floor. To avaid confusion, specific modes of deterrioration will be affiliated by colored lines leading from the maps where pictures of said materials were taken. The following list is a reference guide for said color coding:

- Orange - aging
- Blue - weathering
- Red - physical damage
- Green - decent/moderate condition

Basement

The data and images of the basement were collected on August 30, 2022, and samples found were primarily for mechanical, electrical, and plumbing purposes. These include piping and ductwork with insulation, electrical wiring, switches, breaker boxes, and signage, mechanical equipment, and sprinkler equipment. Also found were apparent translucent covers at interior faces of windows, and apparent glulam sheet wood products.

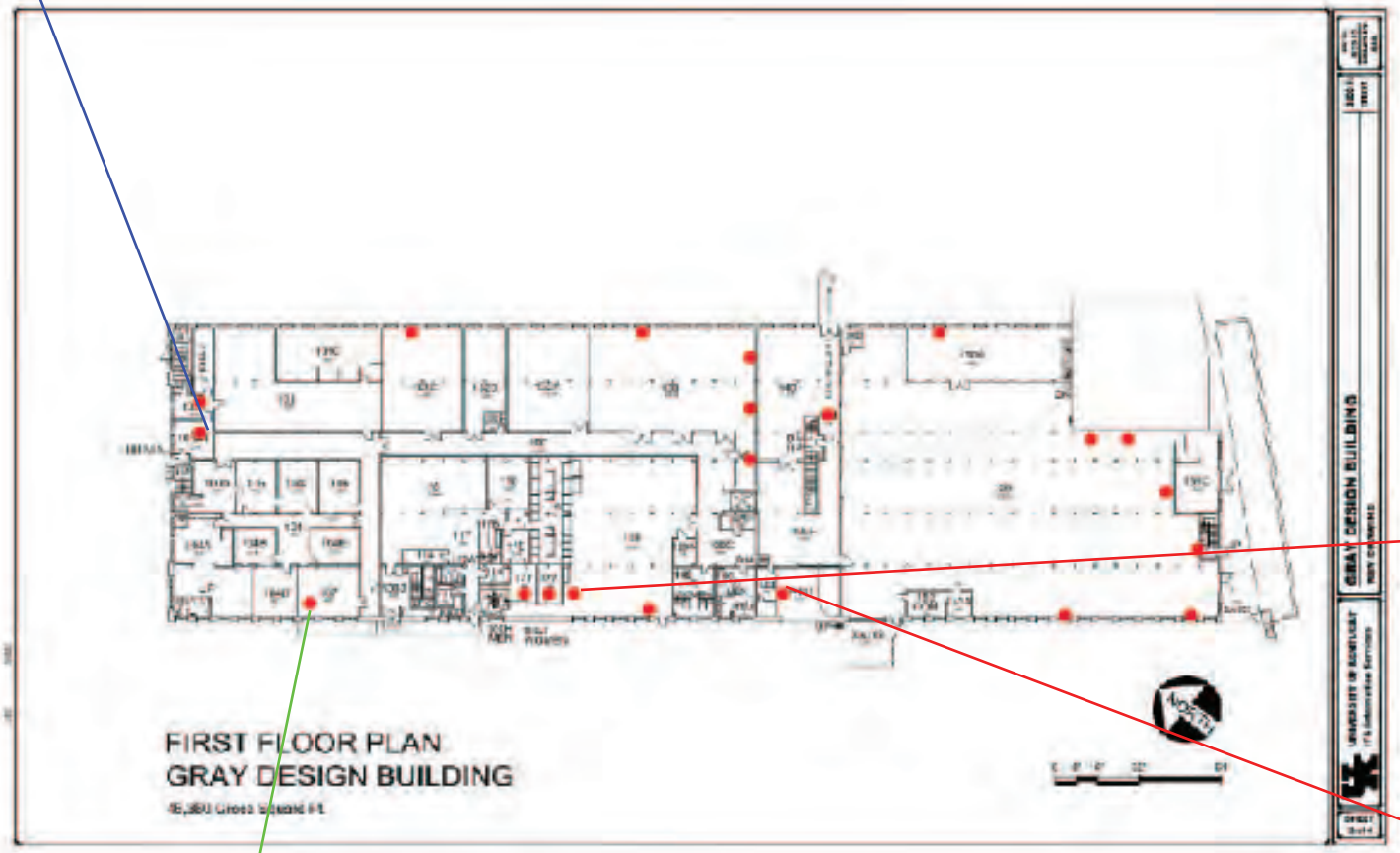
		Material	5	4	3	2	1	Notes
Basement								
	1	Piping Insulation			X			Varying quality, some segments more salvageable than others.

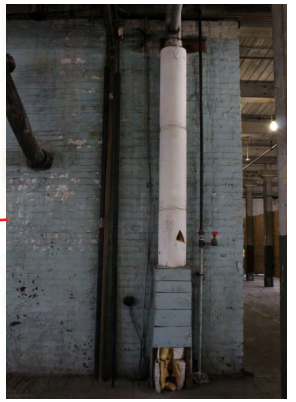

GRAY DESIGN BUILDING
OPEN GARAGE
BASEMENT FLOOR PLAN
GRAY DESIGN BUILDING

First Floor

Images taken of the first floor of the Reynolds Building on August 25th and 30th of 2022, and synthetic material samples found include plumbing piping and insulation, restroom sanitary equipment, eye wash station, skid-proof protective finish flooring, electric switches, breaker boxes, light fixtures, signage, mechanical equipment and duct insulation, spray foam insulation, batt insulation, acoustic ceiling tiles, apparent translucent covers at interior faces of windows, and apparent glulam sheet wood products.

		Material	5	4	3	2	1	Notes
First Floor								
	2	Plywood Flooring				X		
	3	Chipboard Stairs	X					
	4	Drywall			X			Parts of wall where water damage is apparent than others.
	5	Drywork Fountain		X				
	6	Bathroom Flooring			X			
	7	Ceiling Spray Insulation				X		
	8	Acoustic Ceiling Tiles					X	
	9	Wall Insulation			X			Thermie multiple segments throughout wall.
	10	Pipe Insulation				X		
	11	Plastic Light Covers		X				

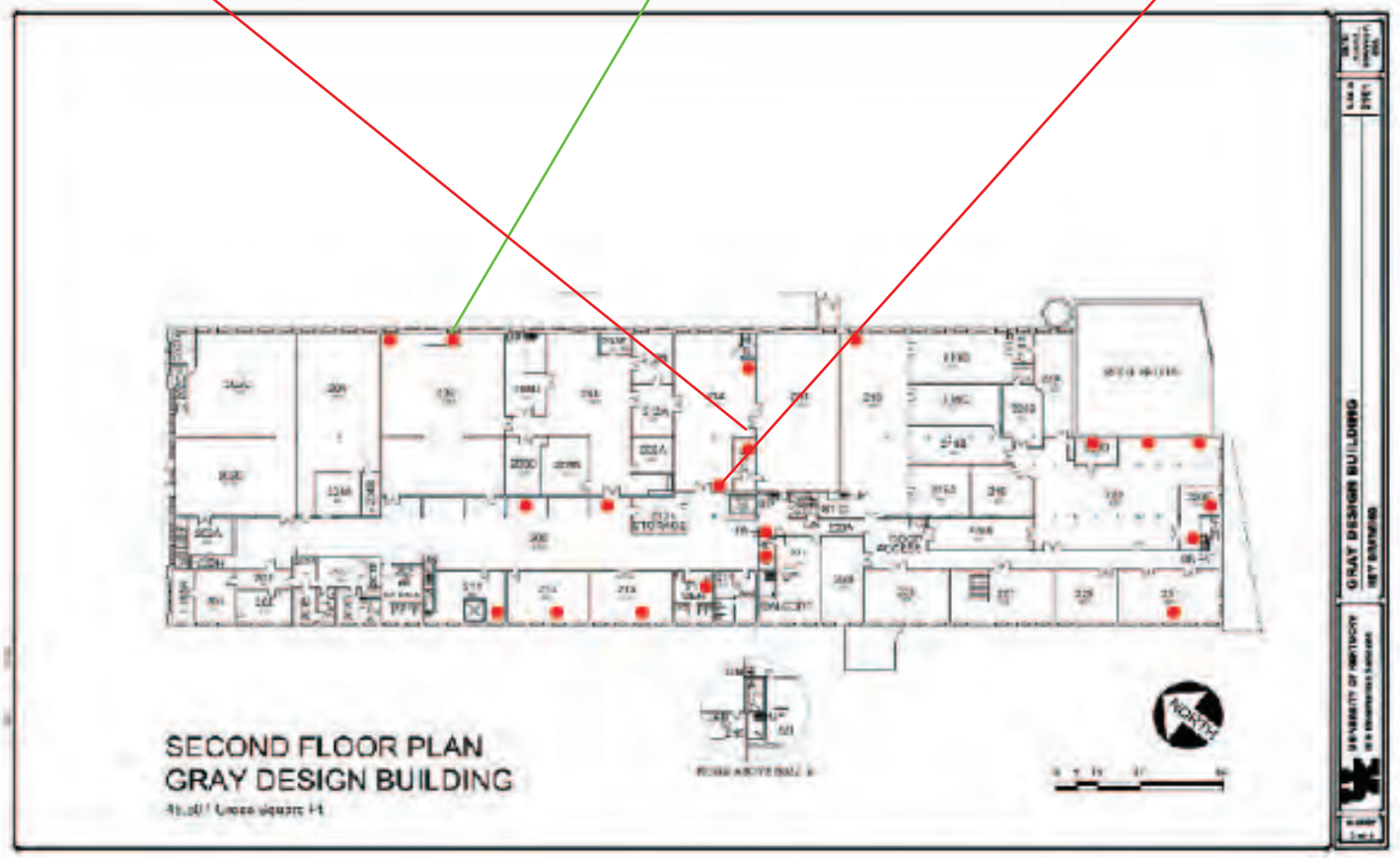

FIRST FLOOR PLAN
GRAY DESIGN BUILDING



Second Floor

Images taken of the second floor of the Reynolds Building on 8-25-2022 and synthetic material samples include plumbing piping and insulation, restroom sanitary equipment, electric switches, breaker boxes, light fixtures, signage, mechanical equipment and duct insulation, spray foam insulation, batt insulation, apparent translucent covers at interior faces of windows, and apparent glulam sheet wood products.

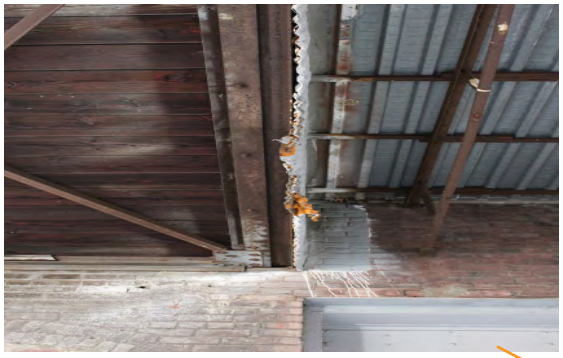
		Material	5	4	3	2	1	Notes
Second Floor								
	12	Wall Insulation	X					
	13	Particleboard		X				
	14	Curtains		X				
	15	Fire Alarms			X			
	16	Exit Signs			X			Showing signs at hallways
	17	Outlet Covers			X			

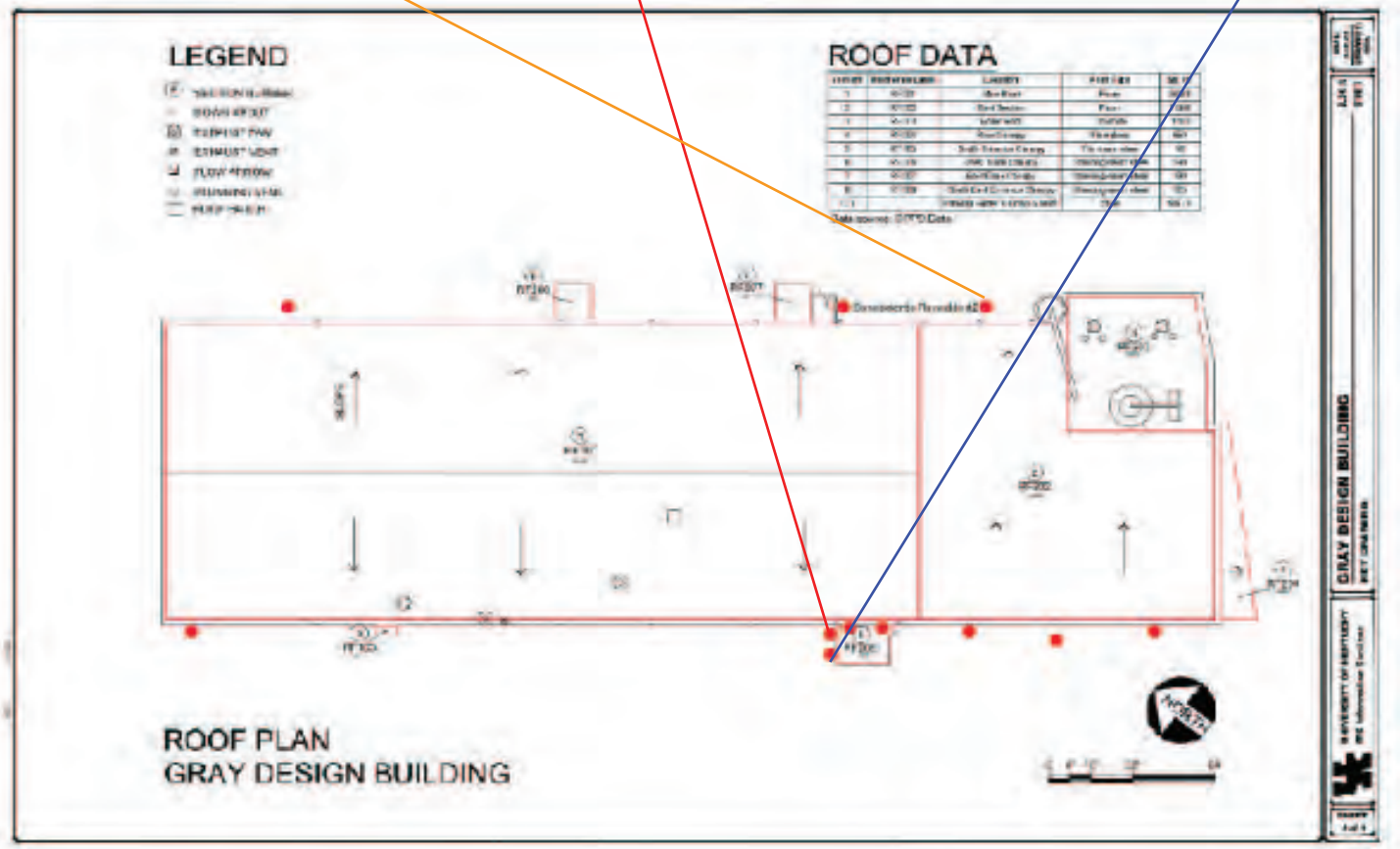

SECOND FLOOR PLAN
GRAY DESIGN BUILDING
GRAY DESIGN BUILDING
NORTH

Exterior

Images taken of the exterior of the Reynolds Building on 9-01-2022 and synthetic material samples include exposed insulation at plumbing penetrations and around exits, electric and utility cables and wiring fastened to the façades, pipes, exterior light fixtures, security cameras, signage, and apparent rubber finishes on a shed and bumpers at loading area.

		Material	5	4	3	2	1	Notes
Exterior								
	18	Plastic Windows				X		Varying quality, some more damaged than others
	19	Plastic Light Housings		X				
	20	Insulation					X	Torn in multiple areas.
	21	Rubber Wire Casings		X				
	22	Insulation Pipe Fasteners			X			Pulling apart
	23	Water Pipe Hose cover		X				Outside ventilation




LEGEND
ROOF DATA
ROOF PLAN
GRAY DESIGN BUILDING
GRAY DESIGN BUILDING

Conclusion

Inaccessible Areas include the roof and the boiler room. All additional images acquired of synthetic materials at the Reynolds Building can be found at Appendix pages 85

Particularly in the case of the mechanical, electrical, and plumbing equipment, the materials we found in the building that were in good condition could be repurposed for the renovation. For the materials in poor condition, it would be our recommendation to replace them with natural alternatives and recycle the waste if possible.

We recommend laboratory testing for the existing insulation for potential asbestos hazard.

References

Weaver, M. E. (1997). Synthetic Resins, Polymers, and Preservation. In Conserving buildings: A manual of techniques and materials. essay, Wiley.

WUKY | By Tom Godell. (2019, January 31). UK perspectives: From tobacco warehouse to design college. WUKY. Retrieved September 29, 2022, from https://www.wuky.org/uk-perspectives/2019-01-31/uk-perspectives-from-tobacco-warehouse-to-design-college

Lecture by Travis Rose for Historic Preservation 252 in Whitehall Classroom Building at the University of Kentucky, September 29, 2022

Appendix

All photos taken by HP252 can be found on this website.

There are no additional photos for Architectural Ceramics.

https://www.dropbox.com/sh/9adci3icbte6fz9/AADyUYXydd8CyLprrYNiYisRa?dl=0