

# ANN ARBOR BUILDING BOARD OF APPEALS

## STAFF REPORT

**Meeting Date: March 21, 2024**

**Type of Request: APPEAL**

Building Board of Appeals Request **BBA24-0001** at 803 McKinley, ANN ARBOR, MI 48104.

(Parcel Identification Number: **09-09-3-218-011**)

### DESCRIPTION AND DISCUSSION

#### Property Owners Name and Address:

Olivia Avenue Services  
Daniel R. Jones and Tracy L. Jones  
1309 Wilmont St. Unit: Ste B  
Ann Arbor, MI 48104

### BACKGROUND

The property at 803 McKinley is an R-2 Occupancy Classification as described by the 2015 Michigan Building Code and as indicated on the signed sealed plans submitted with the permit application for building permit BLDGC24-0004. 803 McKinley was built in 1890. The building has four upper units with an open area which is connected to each of the upper units by a stairway in each unit. The purposed work would divide the space in the basement level and make it four separate areas that are only able to be accessed by the unit directly above the new spaces. Each of the newly divided spaces will have two bedrooms a bathroom and a mechanical closet. The plan submitted classifies the work as a level II Alteration per the 2015 Michigan Rehabilitation Code for Existing buildings. The lower level of 803 McKinley is currently used as a common area used by all units and has been classified as a Utility use by the Building Official which would make this project a partial change of occupancy and the requirement of Chapter 10 of the 2015 Michigan Rehabilitation Code for Existing Buildings applicable.

#### **Standards for Approval:**

- 1. The True intent of the code or the rules governing construction have been incorrectly interpreted.*
- 2. The provisions of the code do not apply; and*
- 3. An equal or better form of construction is proposed*

## STAFF RECOMMENDATION

Staff recommends this application be denied as it does not meet the standards for approval, the code has not been misinterpreted, the provisions of the code do apply and omitting suppression is less safe than the governing code (2015 Michigan Rehabilitation Code for existing Buildings) requires.

The intent of the Codes is to establish minimum requirements. The following code sections pertain to the appeal being presented and represent the Building Officials code path to compliance.

**101.3 Intent.** The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, public health and general welfare through structural strength, *means of egress* facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

By omitting the suppression system the minimum standard of the Code will not be met.

As a change of occupancy Chapter 10 of the 2015 Michigan Rehabilitation Code for Existing buildings applies:

**[A] CHANGE OF OCCUPANCY.** A change in the use of the building or a portion of a building. A change of occupancy shall include any change of occupancy classification, any change from one group to another group within an occupancy classification or any change in use within a group for a specific occupancy classification.

**1001.2.2 Change of occupancy classification or group.**

Where the occupancy classification of a building changes, the provisions of Sections 1002 through 1012 shall apply. This includes a *change of occupancy* classification and a change to another group within an occupancy classification.

**1001.2.2.1 Partial change of occupancy.** Where the occupancy classification or group of a portion of an *existing building* is changed, Section 1012 shall apply.

## **SECTION 1012 CHANGE OF OCCUPANCY CLASSIFICATION**

**1012.1 General.** The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*. Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy

shall be as set forth in Sections 1012.1.1 through 1012.1.4. A *change of occupancy*, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.2.

**1012.1.1 Compliance with Chapter 9.** The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.

**1012.1.1.1 Change of occupancy classification without separation.** Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

**1012.1.1.2 Change of occupancy classification with separation.** Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 for the new occupancy classification and with the requirements of this chapter.

**1012.1.2 Fire protection and interior finish.** The provisions of Sections 1012.2 and 1012.3 for fire protection and interior finish, respectively, shall apply to all buildings undergoing a change of occupancy classification.

**1012.2 Fire protection systems.** Fire protection systems shall be provided in accordance with Sections 1012.2.1 and 1012.2.2.

**1012.2.1 Fire sprinkler system.** Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs.

## **SECTION 903**

### **AUTOMATIC SPRINKLER SYSTEMS**

**[F] 903.1 General.** *Automatic sprinkler systems* shall comply with this section.

**[F] 903.1.1 Alternative protection.** *Alternative automatic fire-extinguishing systems* complying with Section 904 shall be permitted instead of automatic sprinkler protection where recognized by the applicable standard and *approved* by the fire code official.

**[F] 903.2 Where required.** *Approved automatic sprinkler systems* in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.

**Exception:** Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an *automatic smoke detection system* in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour *fire barriers* constructed in accordance with Section 707 or not less than 2-hour *horizontal assemblies* constructed in accordance with Section 711, or both.

**903.2.8 Group R.** An automatic sprinkler system installed in accordance with section 903.3 shall be provided throughout all buildings with a Group R fire area.

**Exception:** Camp buildings in remote areas without municipal water supply that meet all of the following:



Not more than 1 story, 2,000 square feet (186 m<sup>2</sup>) and 25 occupants.

1. Are used not more than 5 months in a year.
2. Shall be provided with not less than 2 exits in compliance with section 1019.
3. Shall not be provided with cooking equipment.
4. Provided with a manual fire alarm system and smoke alarms throughout in compliance with NFPA 72 as listed in chapter 35. For cabins sleeping 4 or fewer occupants only, smoke alarms are required.
5. Storage and equipment rooms shall be protected by a 1-hour fire partition.
6. Compliance with all applicable requirements of the code.

## **SECTION 312 UTILITY AND MISCELLANEOUS GROUP U**

**312.1 General.** Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

The petitioner's appeal is that *The True intent of the code or the rules governing construction have been incorrectly interpreted* and that the proposed modifications are a level II renovation and not a partial change of occupancy. It is staff's opinion that the code is clear on the requirements pertaining to a partial change of occupancy as stated in the preceding code sections. As the space is described by the applicant "The use of a residential contiguous lower level is highly varied, offering support for a wide array of functions integral to daily habits of the residential units only. These uses may range from minimal storage, laundry, and mechanical to that of recreation. Some common recreation examples include pool tables, ping pong, couches, exercise equipment, etc. " while this may be true for a building that would be required to meet the requirements of the Michigan Residential Code this is not the case when buildings must meet the requirements of the Michigan Building Code, common spaces available to multiple tenants used for these activities would not be considered an R-2

occupancy, but as assembly or business and as the existing space is no longer going to be used in the manner described by the applicant it is clearly meets the definition of a change of Occupancy. In this case it is a partial change of occupancy and the requirements of section 1001.2.2.1 of the 2015 Michigan Rehabilitation Code for Existing Buildings (MRCEB) apply, which requires compliance with section 1012 of the 2015 MRCEB.

Based on the description of the current use of the space provided by the applicant as “The use of a residential contiguous lower level is highly varied, offering support for a wide array of functions integral to daily habits of the residential units only. These uses may range from minimal storage, laundry, and mechanical to that of recreation. Some common recreation examples include pool tables, ping pong, couches, exercise equipment, etc. “This space would meet the use and occupancy classification of section 303.1.1 of the 2015 Michigan Building Code (MBC):

303.1.1 Small buildings and tenant spaces. A building or tenant space used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.

And section 303.1.2 of the MBC:

303.1.2 Small assembly spaces. The following rooms and spaces shall not be classified as Assembly occupancies: 1. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy. 2. A room or space used for assembly purposes that is less than 750 square feet (70 m<sup>2</sup>) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

The information provided in the application and the provided sections of the 2015 MBC further support this project being a partial change of use within the building.

As the information provided affirms the space would not currently be classified as R-2, Compliance with Section 1012 of the BRCEB is required as a level II alteration is not intended to address partial changes in occupancy. This appeal is based on what is presented as a misinterpretation of the code, it is staff's belief with the further explanation of how the space is, or could be used currently, that there is a very clear path and language to classify the lower level of 803 McKinley as a B use because it is an area of the building available to all tenants and used for recreational purposes including but not limited to exercise, pool table, and Ping-Pong. This common area is also including storage and laundry (open to all tenants) neither of which would be considered R-2 in the 2015 MBC.

This appeal is based on the argument that the common space in the building should be considered an R-2, ultimately if the basement of 803 McKinley is any other occupancy, other than R-2 the provisions of chapter 10 of the BRCEB apply. Staff does not believe any supporting evidence, with reference to the applicable codes, defining the basement level of 803 McKinley R-2 occupancy have been provided and if anything the applicant has made the point that this is a common area shared by all residents that could be used for exercise recreation and congregating, all functions that would lead to the designation detailed in section 303.1.1 and 303.1.2 of the 2015 MBC.

**PROPOSED MOTION**

**APPEAL GRANTED**

That in Case BBA24-0001, **the appeal of the Building Official’s decision** that the work proposed at **803 McKinley** is **GRANTED** relief from section 1012.2.1 of the 2015 Michigan Rehabilitation Code for Existing Buildings, and the Building Board of Appeals **REVERSES** the Building Official’s decision for the reason(s) that *[state reason in motion]*:

- (1) The true intent of the 2015 Michigan Rehabilitation Code for Existing Buildings and section 1012.2.1 governing the renovation of 803 McKinley has been incorrectly interpreted by the Building Official;
- (2) The provisions of 2015 Michigan Rehabilitation Code for existing buildings section 1012.2.1 does not apply to the construction at 830 McKinley;
- (3) The applicant has proposed an equal or better form of construction.

Stipulations – If Applicable:

***[Chairman to check box(es) following vote]***

Yeas:

Nays:

Absent for this vote:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Paul Darling, Chairperson

**OR**  
**APPEAL DENIED**

That in Case BBA24-0001 **the appeal of the Building Official's decision** that the work proposed at **830 McKinley** is **DENIED** and the Building Board of Appeals **AFFIRMS** the Building Official's decision for the reason(s) that *[state reason in motion]*:

- (1) The true intent of the 2015 Michigan Residential Code for Existing Buildings and section 1012.2.1 governing the construction at 830 McKinley has been correctly interpreted by the Building Official;
- (2) The provisions of 2015 Michigan Rehabilitation Code for Existing Buildings section 1012.2.1 applies to the construction at 830 McKinley;
- (3) The applicant has not proposed an equal or better form of construction;

Stipulations – if Applicable:

***[Chairman to check applicable box(es) following vote]***

Yeas:

Nays:

Absent for this vote:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Paul Darling, Chairperson

## SUMMARY OF APPEAL

### Statement of Facts and Reasoning:

The building is comprised of (4) dwelling units. The building was constructed in 1890 according to municipal records, a period prior to the implementation of standardized building codes and classifications. Each existing dwelling unit has direct and contiguous access to the basement via an existing stair. Historically, R - Residential Use is the only classification identified in city documentation and is consistent with numerous single and multi-story dwellings with a basement. We consider the entire building to be classified as Multi-Family Apartments style building with an R-2 designation. The lower-level functions in an ancillary manner to the residential function. The code has no clear path or language of how a residential basement/lower level shall be classified.

The use of a residential contiguous lower level is highly varied, offering support for a wide array of functions integral to daily habits of the residential units only. These uses may range from minimal storage, laundry, and mechanical to that of recreation. Some common recreation examples include pool tables, ping pong, couches, exercise equipment, etc.

The location of laundry, utility closets, and storage closets are integral functions of residential living and can be placed anywhere inside the dwelling unit without defining a separate Use. Furthermore, we cannot be certain how this basement has been used and that it is strictly Storage or Utility.

### Desired Relief:

We view this as a simple modification to an existing residential adaptation that enhances a uniquely defined space already classified as Residential. The work will drastically improve the individual dwelling units and the extant structure overall. The lower level is distinctly part of the existing residential dwelling units and is an area specifically for residential uses (storage, laundry, couches, etc). The improvements are simple and customary modifications of a standard residential basement that would fundamentally be deemed "semi-habitable" by the code officials' response, into a habitable basement configuration. The improvements are part and parcel to the life safety and longevity of the structure and align with the Level II Alterations requirements identified in the MRCEB.

Specific improvements include:

- Introduction of a higher life safety standard by providing formal and defined separation between existing units. Separation between units will be 1-hour rated assembly in alignment with the unit division above while maintaining the direct contiguous access of each unit via the existing staircases.
- Defining distinct areas for furnaces and supporting utility functions within each unit. Furnaces will be upgraded for each unit and enclosed with rated assemblies within the unit.
- Inclusion of secondary means of egress out of each proposed bedroom
- An alteration that enhances life safety for each respective dwelling unit by providing separation assemblies, stair protection, rated enclosure of mechanical units, secondary points of egress, etc.



- The proposed design enhances the lower-level space by providing additional daylight, ventilation and direct additional points of egress in the structure to grade.
- The proposed design reduces the hazard of the existing condition and enhances the safety for each individual occupant.

**Basis of Appeal:**

We have redeveloped an extensive number of basements in multi-family R2 residential properties throughout the city. We have looked and continue to solicit alternative approaches in regards to how this unique space adaptation can be clearly defined through the covenants of the Michigan codes. The S Use group or occupancy, or the U Use group or occupancy, identified as a semi-appropriate designation do not fit the actual function of this specific application where we have a lower level area contiguous to a dwelling unit that is utilized by the occupants of each of the adjoining units. The definition of an S use or occupancy classification, either S-1 moderate-hazard, or S-2 low hazard, is for distinct and dedicated areas of a building or structure used solely to store excess goods and commodities. The definition of a Utility use or occupancy designation, though deemed to be a group that supports uses not defined in other use groups, identifies accessory structures, dedicated specialty uses such as aircraft hangars and silos, or other site and landscape related features. This does not pertain to residential basements. There is no distinct designation of basement uses within the Michigan Building Code – it is very much a grey area. As a result, there is no clear code path to designate basements serving dwelling units in a multi-family (commercial by default) setting. This building is not at all akin to a contemporary multi-family apartment building with all apartments serviced by egress corridors and having a separate storage area somewhere in the building. This is not at all the case with this building. The code by broadly defining the classification based upon loosely defined functions is clinically forcing this definition into this unique building and arrangement of spaces. The nature of (4) unit side-by-side dwelling units with contiguous direct access to a bifurcated lower level/basement maintains the Residential Use and purpose throughout all the spaces



# PLAN DETAILED REPORT BBA24-0001 FOR THE CITY OF ANN ARBOR

<b>Plan Type:</b> Building Board of Appeals	<b>Project:</b>	<b>App Date:</b> 03/07/2024
<b>Work Class:</b> Administrative Appeal	<b>District:</b> Ward 4	<b>Exp Date:</b> NOT AVAILABLE
<b>Status:</b> Fees Due	<b>Square Feet:</b> 0.00	<b>Completed:</b> NOT COMPLETED
<b>Valuation:</b> \$0.00	<b>Assigned To:</b> Michael Lemieux	<b>Approval Expire Date:</b>

**Description:** o The project is an existing (4) dwelling unit, 2 ½ story wood framed side-by-side structure constructed in 1890. Each dwelling unit has been designed as independent units in terms of construction and egress. The building generally takes the form of a town-house style development. The (4) dwelling units sit atop a semi-divided lower/basement level. It is divided down the middle by an existing gypsum block rated wall assembly from slab to underside of the structure above. Each of these units have direct access to this lower level through an existing staircase providing contiguous and individual access by unit to the lower level. Please see the existing condition plans for reference.

o The project seeks to improve the semi-habitable lower level of the existing Residential R-2 building. The work includes adding (2) additional bedrooms in the lower level. The existing stairs in each unit provide direct access to these bedrooms below. Work does not expand beyond the scope of the lower level. The new work will divide the lower level into (4) distinct divisions aligning with each dwelling unit division above to enhance the existing nature of the independent dwelling units. Walls will be constructed to minimum 1-hour rated assembly requirements. Each bedroom will have an egress window providing the occupants direct access to grade.

o We are submitting an appeal to the BBA under the classification: True Intent has been incorrectly interpreted.

The building official has defined the Use under (2) separate categories. Collectively between ourselves and the building official there is no Use category that simply and cleanly fits the bill for how this space has been used since 1890 by the residential occupants.

Though there is no defined occupancy classification provided by the building official a change of occupancy and compliance with MRCEB Chapter 10 is still being interpreted as the necessary course of action.

<b>Parcel:</b> 09-09-33-218-011	Main	<b>Address:</b> 803 Mckinley Ave Ann Arbor, MI 48104	Main	<b>Zone:</b> R4C(R4C)
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<b>Property Owner</b> Daniel R Jones 1309 Wilmot St. Ste B Ann Arbor, MI 48104 Business: 7346681118 Mobile: 7343200850	<b>Applicant</b> O[X] Studio, Inc. Robert Burroughs 2373 Oak Valley Drive Suite 180 Ann Arbor, MI 48103 Business: (734) 929-9000 Mobile: (734) 417-4502
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Invoice No.	Fee	Fee Amount	Amount Paid
INV-00091621	BBA - Commercial Appeal	\$500.00	\$500.00
<b>Total for Invoice INV-00091621</b>		<b>\$500.00</b>	<b>\$500.00</b>
<b>Grand Total for Plan</b>		<b>\$500.00</b>	<b>\$500.00</b>

# 803-809 McKinley Renovation

803-809 McKinley Avenue  
Ann Arbor, MI 48104

## Released For: Permit Response

Release Date: 1/29/2024  
O|X Project Number: JON-MCK23

### Municipal Approvals

City of Ann Arbor Zoning Board of Appeals Approval: ZBA 23-0028 (September 26, 2023)

### Project Team

**Owner:** Jones Properties  
Contact: Dan Jones  
1309 Wilmont St, Ste. B, Ann Arbor, MI 48104  
(734) 320-0850  
office.jones@gmail.com

**Architect:** O|X Studio, Inc.  
Contact: Robb Burroughs, RA  
2373 Oak Valley Dr., Suite 180, Ann Arbor, MI 48103  
(734) 929-9000  
robb@oxstudioinc.com

### Drawing List

Sheet Number	Sheet Name	Current Revision Description	Current Revision Date
<b>General</b>			
G-100	Title Sheet	Permit Response	1/29/2023
G-101	General Information & Calculations	Building Permit	12/06/2023
LS-101	Code Analysis Plan & Schedules	Permit Response	1/29/2023
A-001	Site Plan	Building Permit	12/06/2023
<b>Demolition</b>			
AD-100	Existing Floor Plans (For Reference)	Building Permit	12/06/2023
AD-101	Existing Floor Plans (For Reference)	Building Permit	12/06/2023
AD-102	Demolition Plan - Basement	Building Permit	12/06/2023
<b>Architectural</b>			
A-100	Proposed Basement Floor Plan	Permit Response	1/29/2023
A-400	Details	Permit Response	1/29/2023

### Project Description

Convert unfinished basement of each unit to finished space. Work to add bedrooms, bathrooms, and mechanical closets. Refer to table for unit count and existing/new bedroom counts at each unit.

Dwelling Units: 4 existing; 4 proposed (no change)

Bedrooms, by Unit: 8 existing, 16 proposed (+8 BR)

	Existing	Proposed	Total	
Unit 1	2 BR	2BR	4 BR	(6 occupants max.)
Unit 2	2 BR	2BR	4 BR	(6 occupants max.)
Unit 3	2 BR	2BR	4 BR	(6 occupants max.)
Unit 4	2 BR	2BR	4 BR	(6 occupants max.)
	8 BR	8BR	16 BR	(24 occupants max.)



Scales listed are for 22x34 drawing size



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Job Title:  
**803-809 McKinley Renovation**

803-809 McKinley Avenue  
Ann Arbor, MI 48104

Sheet Title:  
**Title Sheet**

Released For: Permit Response

1/29/2023  
JON-MCK23

**G-100**

# General Symbol Legend

**Typical Detail Bubble (applies to all detail types):**

- Reference Text
- Top #: Detail Number (Location on sheet)
- Bottom #: Sheet on which detail is located

**Detail plan view:**  
Dashed outline indicates area being detailed

**Detail section view:**  
Tail indicates direction of section cut

**Wall section:**  
Tail indicates direction of section cut

**Building section:**  
Arrow indicates direction of building section

**Exterior elevation:**  
Arrow indicates face of structure being represented
- Top #: Detail Number (Location on sheet)
- Bottom #: Sheet on which detail is located

**Interior elevation:**

- Reference Text
- Detail Number (Location on sheet)
- Sheet on which detail is located

**Level Mark:**

- Name
- Elevation

**Target Elevation:**  
+ 5'-0"

**New column grid:**  
A

**Existing column grid:**  
A

**Room Tag:**

- Room name
- 1000T - Indicates room number
- 150 SF - Indicates room area

**Keynotes:**  
See sheet notes, same sheet as symbol

- ### ##.A - Reference Keynotes
- # - Sheet Keynotes

**Indicates change in flooring material.**

**New construction / New door and frame shown open 90°.**

**Existing construction to remain. Existing doors shown open 45°.**

**Indicates face of new construction to be aligned with face of existing construction to remain.**

**Wall partition type tag:**  
D S A

**Door number. See door and hardware schedule:**  
101.1

**Window Type number. See window schedule:**  
1t

**Accent paint location and paint identification. Accent paint color to be continuous for entire length of wall.**  
PT-1

**Extent of finish material replacement if not continuous for entire length of wall.**

**Accent finish location and finish identification. Accent finish to be continuous for entire length of wall.**

- North Wall
- Wall
- Floor
- Base

- Wall finish
- Floor finish
- Wall base type

**Electrical fixture tag:**  
1i

**Lighting fixture tag:**  
XX

**Plumbing fixture tag:**  
XX

**Equipment tag:**  
1t

# Minimum Insulation Values (Zone 5A, Multifamily Residential)

Values based on ASHRAE 90.1 - 2013, Climate Zone 5A, Commercial Construction, Group K-1, K-2, K-4

## Opaque Assemblies:

Roofs	Insulation Entirely above Deck	R-30.0 c.i.	(U-0.032)
Metal Building	R-19 + R-11 Ls or R-25 + R-8 Ls		(U-0.037)
Attic and Other:		R-49.0	(U-0.021)

Walls, Above-Grade	Mass Walls (Concrete, CMU)	R-13.3 c.i.	(U-0.080)
Metal Building		R-0 + R-19 c.i.	(U-0.050)
Steel-Framed		R-13.0 + R-10 c.i.	(U-0.055)
Wood-Framed and Other		R-13.0 + R-7.5 c.i. or R-19 + R-5 c.i.	(U-0.051)

Walls, Below-Grade	Below-Grade Walls (all)	R-10 c.i.	(C-0.092)
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Floors (Exposed Beneath)	Mass	R-16.7 c.i.	(U-0.051)
Steel-Joist		R-30.0	(U-0.038)
Wood-Framed and Other		R-30.0	(U-0.033)

Slab-On-Grade Floors	Unheated	R-20 for 24 in.	(F-0.510)
Heated		R-20 for 48 in.	(F-0.688)

Opaque Doors	Swinging	(U-0.500)
Nonswinging		(U-0.500)

## Fenestration (Including glazed doors):

Vertical Glazing, 0% - 40% of wall	Nonmetal framing (all)	U-0.32	SHGC-0.40	VT/SHGC = 1.10
Metal framing	Fixed	U-0.42	SHGC-0.40	VT/SHGC = 1.10
Operable		U-0.50	SHGC-0.40	VT/SHGC = 1.10
Entrance Door		U-0.68	SHGC-0.40	VT/SHGC = 1.10

Skylight, All Types	0% - 3% of Roof	U <sub>all</sub> -0.50	SHGC <sub>all</sub> -0.40	(No VT/SHGC req't.)
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# Graphic Scale Legend

**View title with Graphic Scale & North Arrow:**

North Arrow (Direction varies per project)

Detail number

Sheet number

Graphic scale of drawing

**Reading the Graphic Scale:**

Determine where 1' lies on the graphic scale

Measure to 1' on the sheet to determine the scale

4' 8'

1/8" = 1'-0"



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Job Title:  
**803-809 McKinley Renovation**  
803-809 McKinley Avenue  
Ann Arbor, MI 48104

Sheet Title:  
**General Information & Calculations**  
Released For: Building Permit

12/06/2023  
JON-MCK23

**G-101**

Scales listed are for 22x34 drawing size

Plot Date/Time: 1/29/2024 3:10:29 PM File Path: C:\Users\colleent\OneDrive - OX Studio Inc\Documents\MCK23\_colleent\PTZER.rvt



File Path: C:\Users\colleent\OneDrive - OX Studio Inc\Documents\MCK23\_colleentP7ZER.rvt Plot Date/Time: 1/29/2024 3:10:30 PM

### Daylighting Calculations

#### BASEMENT

**Bedroom 1A = 87 sf**  
 Required daylighting (8%) = 6.96 sf  
 Required ventilation (4%) = 3.48 sf  
 Provided daylighting (11.4%) = 12.51 sf  
 Provided ventilation (7.8%) = 6.87 sf

**Bedroom 1B = 109 sf**  
 Required daylighting (8%) = 8.72 sf  
 Required ventilation (4%) = 4.36 sf  
 Provided daylighting (11.4%) = 12.51 sf  
 Provided ventilation (6.3%) = 6.87 sf

**Bedroom 1C = 111 sf**  
 Required daylighting (8%) = 8.88 sf  
 Required ventilation (4%) = 4.44 sf  
 Provided daylighting (11.2%) = 12.51 sf  
 Provided ventilation (6.2%) = 6.87 sf

**Bedroom 1D = 84 sf**  
 Required daylighting (8%) = 6.72 sf  
 Required ventilation (4%) = 3.36 sf  
 Provided daylighting (14.9%) = 12.51 sf  
 Provided ventilation (8.1%) = 6.87 sf

**Bedroom 2A = 103 sf**  
 Required daylighting (8%) = 8.24 sf  
 Required ventilation (4%) = 4.12 sf  
 Provided daylighting (12.1%) = 12.51 sf  
 Provided ventilation (6.6%) = 6.87 sf

**Bedroom 2B = 132 sf**  
 Required daylighting (8%) = 10.56 sf  
 Required ventilation (4%) = 5.28 sf  
 Provided daylighting (9.4%) = 12.51 sf  
 Provided ventilation (5.2%) = 6.87 sf

**Bedroom 2C = 131 sf**  
 Required daylighting (8%) = 10.48 sf  
 Required ventilation (4%) = 5.24 sf  
 Provided daylighting (9.5%) = 12.51 sf  
 Provided ventilation (5.2%) = 6.87 sf

**Bedroom 2D = 128 sf**  
 Required daylighting (8%) = 10.24 sf  
 Required ventilation (4%) = 5.12 sf  
 Provided daylighting (9.7%) = 12.51 sf  
 Provided ventilation (5.3%) = 6.87 sf

#### Ann Arbor Housing Code 8:502. - Minimum standards for light and ventilation

Unless otherwise provided, no person shall occupy as owner-occupant, or let to another for occupancy, any dwelling or dwelling units which do not comply with the following requirements:

- Windows.** Every habitable room shall have at least 1 window, sliding glass door, skylight, or other acceptable light transmitting media facing directly to the outdoors. The minimum total glazed area for every habitable room shall be not less than 8% of the habitable floor area of such room. In the case of kitchens, the window space requirements may be reduced or waived by the Planning and Development Services Unit official when there is adequate artificial lighting.
- Ventilation.** Every habitable room shall have at least 1 window, sliding glass door, or skylight which can easily be opened, or such other device as will adequately ventilate the room. The total area for ventilation shall be at least 4% of the habitable floor area of the room served. Mechanical ventilation may be provided in lieu of natural ventilation if approved by the Building Official as affording ventilation in accordance with standard ventilation requirements in the Mechanical Code.
- Bathroom light and ventilation.** Every bathroom and toilet room shall comply with the light and ventilation requirements for habitable rooms contained in subsections (1) and (2), above, except that no window or skylight shall be required if such areas are equipped with a mechanical ventilation system which may be kept in continuous or timed operation. The ventilating system must move sufficient air to support a piece of toilet tissue on the fan's grate when the fan is in operation.

### Applicable Codes & Life Safety Summary

**Building Code:** 2015 Michigan Rehabilitation Code  
Alteration Level II

**Mechanical Code:** 2015 Michigan Mechanical Code

**Electrical Code:** 2017 National Electrical Code (NEC)

**Plumbing Code:** 2018 Michigan Plumbing Code

**Energy Code:** 2015 Michigan Uniform Energy Code

**Use Group:** R2 (No proposed change of occupancy)

**Zoning:** R4C (No change)

**Construction Type:** V-B

**Height, Building:** 38'-8" (Existing)

**Number of Stories:** 2.5 Levels above grade + 1 below grade

**Area, Building:** 4,706 sf

**Work Area:** 1,663 sf

**Fire Suppression:** N/A

**Fire Alarm:** N/A

**Smoke Alarm:** Multi-point Smoke Alarm with combination Carbon Monoxide Detection per Section 907.2.11.2 in IFC

\*Building is classified as R2 Use group with (4) individual dwelling units. The basement is incidental to the primary function of this use group for limited and temporary occupant access and should not be classified as a separate Storage Use as defined by the MBC for S-1 or S-2 functions as clinically defined.

Per section 509 Incidental Use, 509.1 Exception: Incidental uses within and serving a dwelling unit are not required to comply with this section.

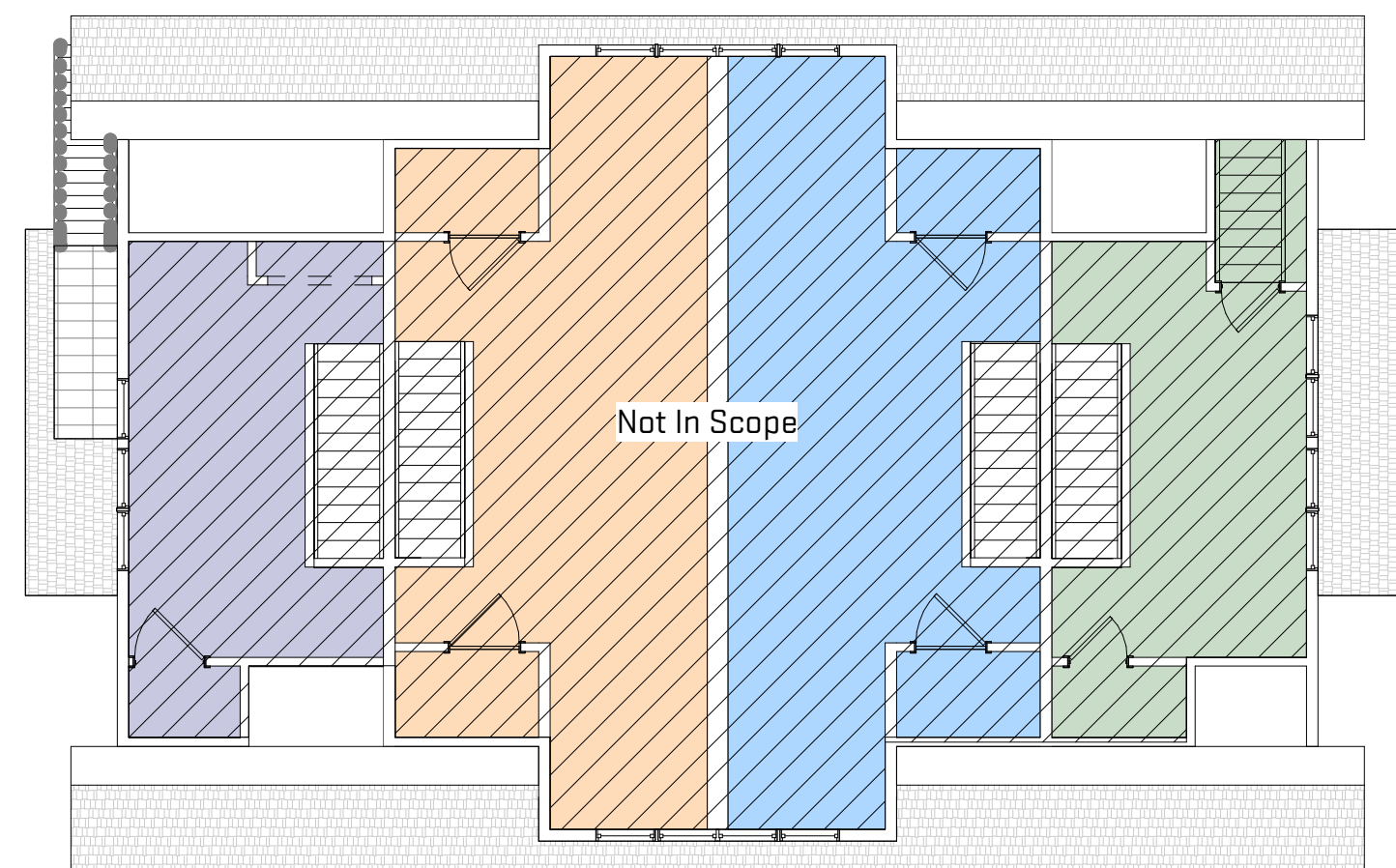
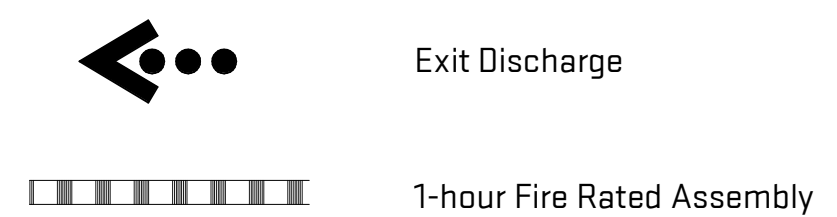
509.2 Occupancy Classification: Incidental uses shall not be individually classified in accordance with Section 302.1. Incidental uses shall be included in the building occupancies within which they are located.

BBA Application Note 03/07/2024:  
 Incidental use section was invoked as a response to the permit review comments that the basement shall be classified as Storage Use.

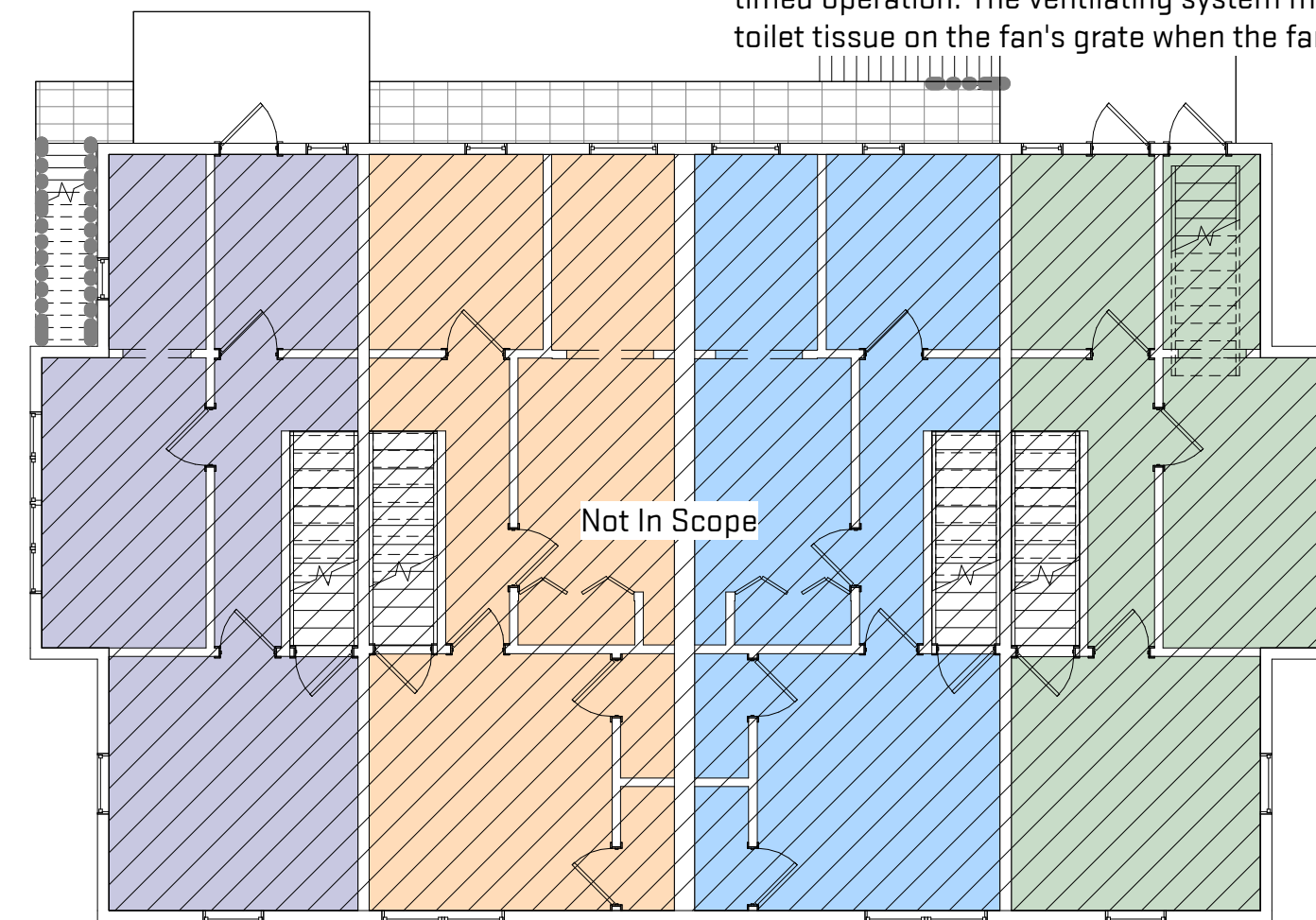
#### General Sheet Notes

- All fire-rated assemblies are to maintain rating continuity to the next intersecting fire-rated assembly, or the building exterior envelope.
- All fire-rated walls shall extend fully from floor to floor/roof deck above. Provide firestopping at all joist/stud cavities and intersections of vertical and horizontal assemblies.

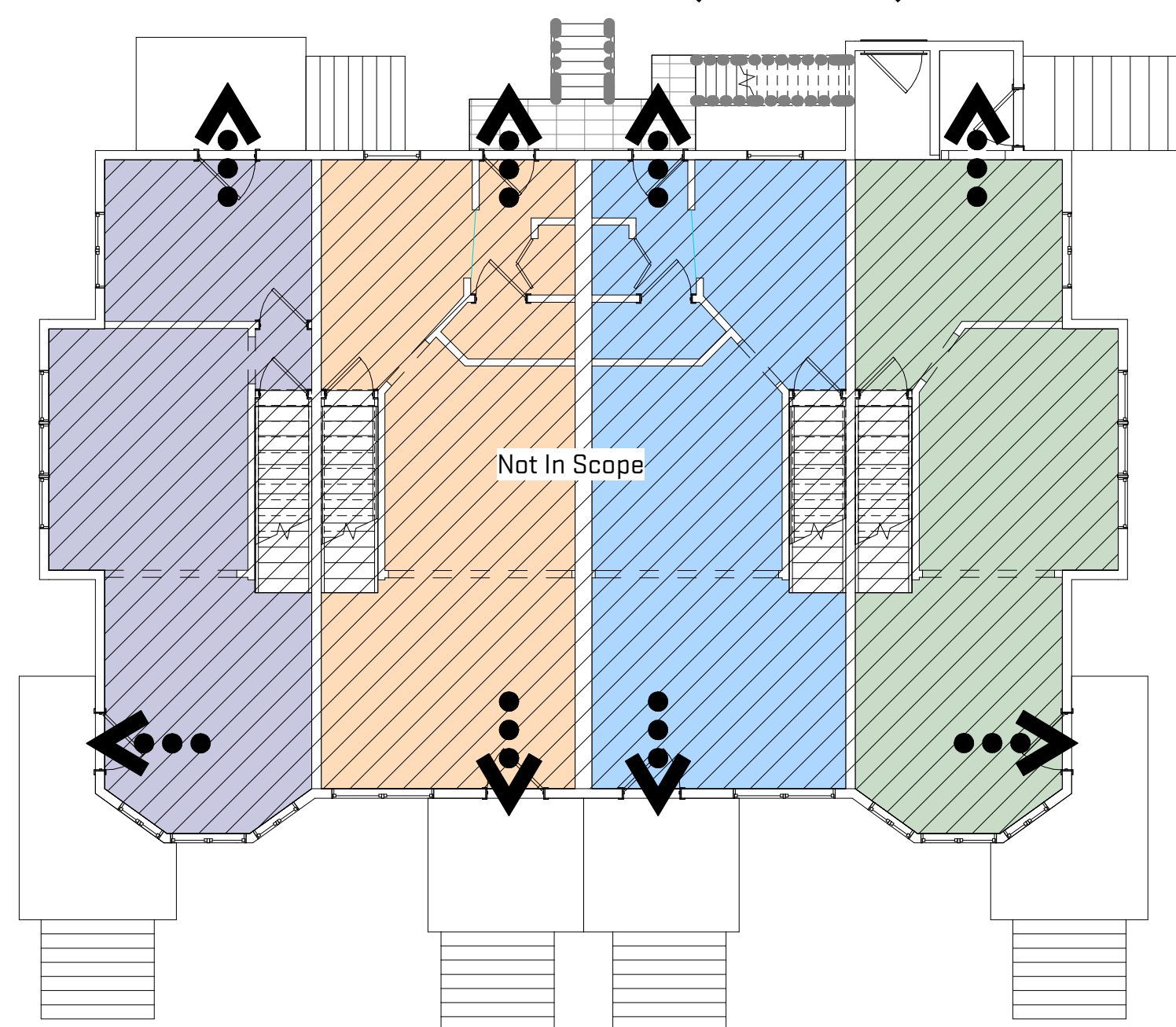
#### Code Analysis Plan & Fire Safety Legend



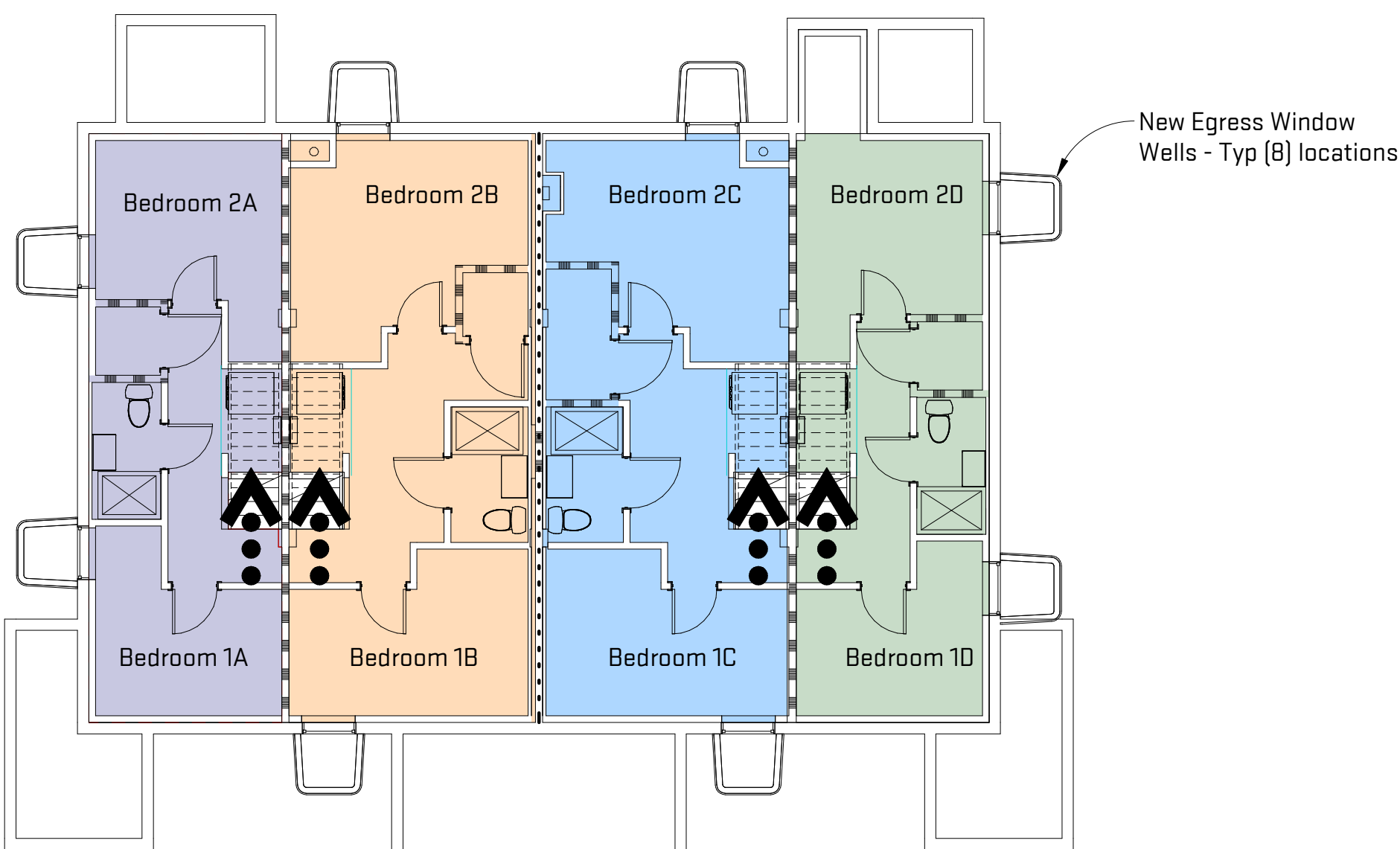
4 Existing - Level 3 Life Safety Plan (No Work)



3 Existing - Level 2 Life Safety Plan (No Work)



2 Existing - Level 1 Life Safety Plan (No Work)



1 New - Basement Life Safety Plan

Scales listed are for 22x34 drawing size



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803-809 McKinley  
 Renovation

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Sheet Title:

Code Analysis Plan &  
 Schedules

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1/29/2023

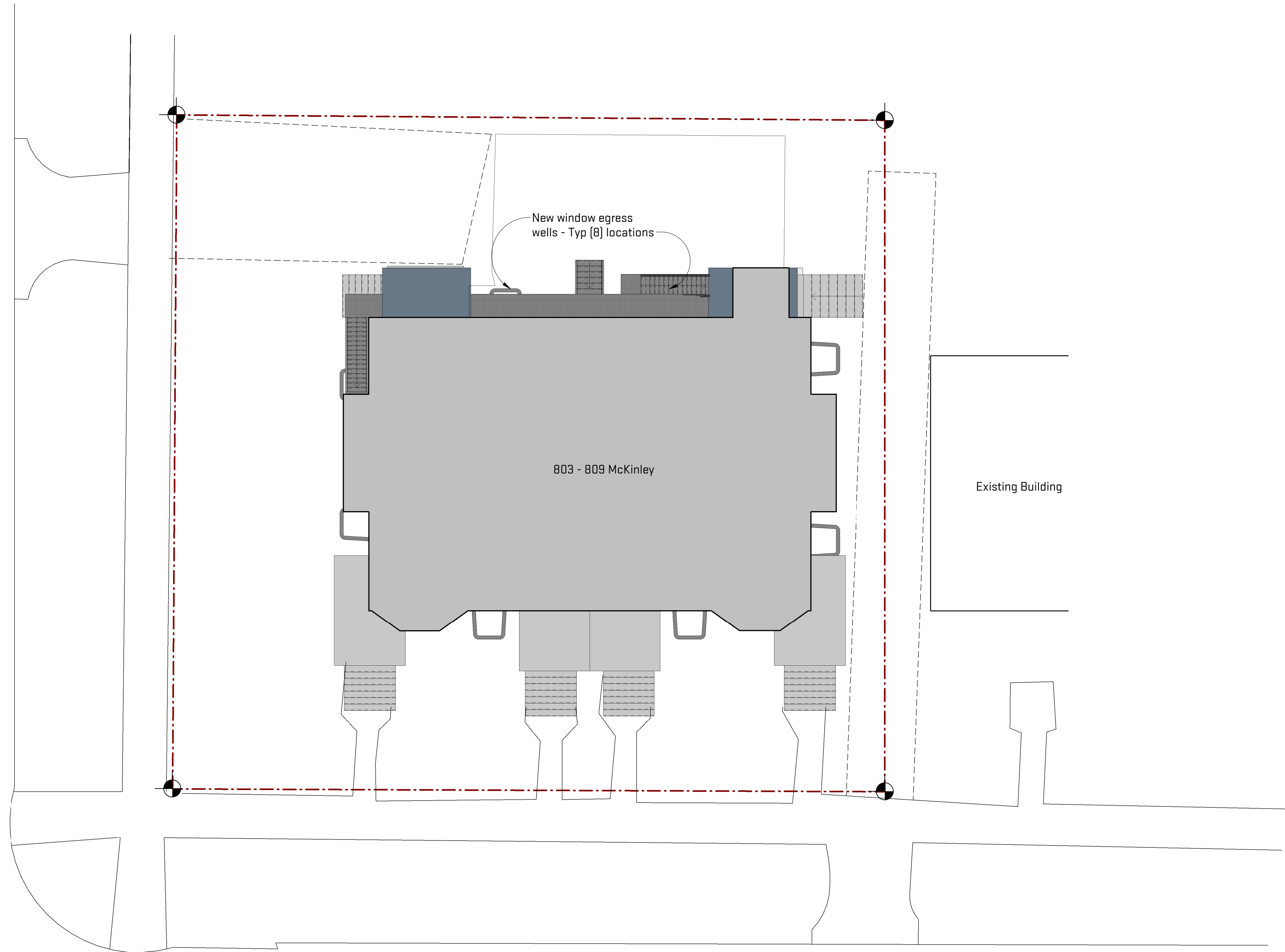
JON-MCK23

LS-101

Project # | Eng. Date  
 Drawing #

Plot Date/Time: 1/29/2024 3:10:31 PM File Path: C:\Users\colleent\OneDrive - OX Studio Inc\Documents\MCK23\_colleentP7ZER.rvt

White Street



1  
A-001  
Site Plan - For Reference Only  
4' 8' 16'  
1/8" = 1'-0"

**General Sheet Notes:**  
 A. No change to existing footprint. New egress window wells proposed for code compliance with basement egress and daylight requirements.

**Project Info & Zoning Ord**

PROJECT SCOPE	
Location	Ann Arbor, Michigan
Parcel #	09-09-33-218-011
Parcel Description	Lot 29 and 30 EXC E 42 ft. Whites Addn
Address	803 McKinley Av., Ann Arbor, MI, 48104
Site Dimensions	See Plan, Total 4,706 sf
Lot Acreage	0.154 acres



Job Title:  
**803-809 McKinley Renovation**  
 803-809 McKinley Avenue  
 Ann Arbor, MI 48104

Sheet Title:  
**Site Plan**  
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12/06/2023  
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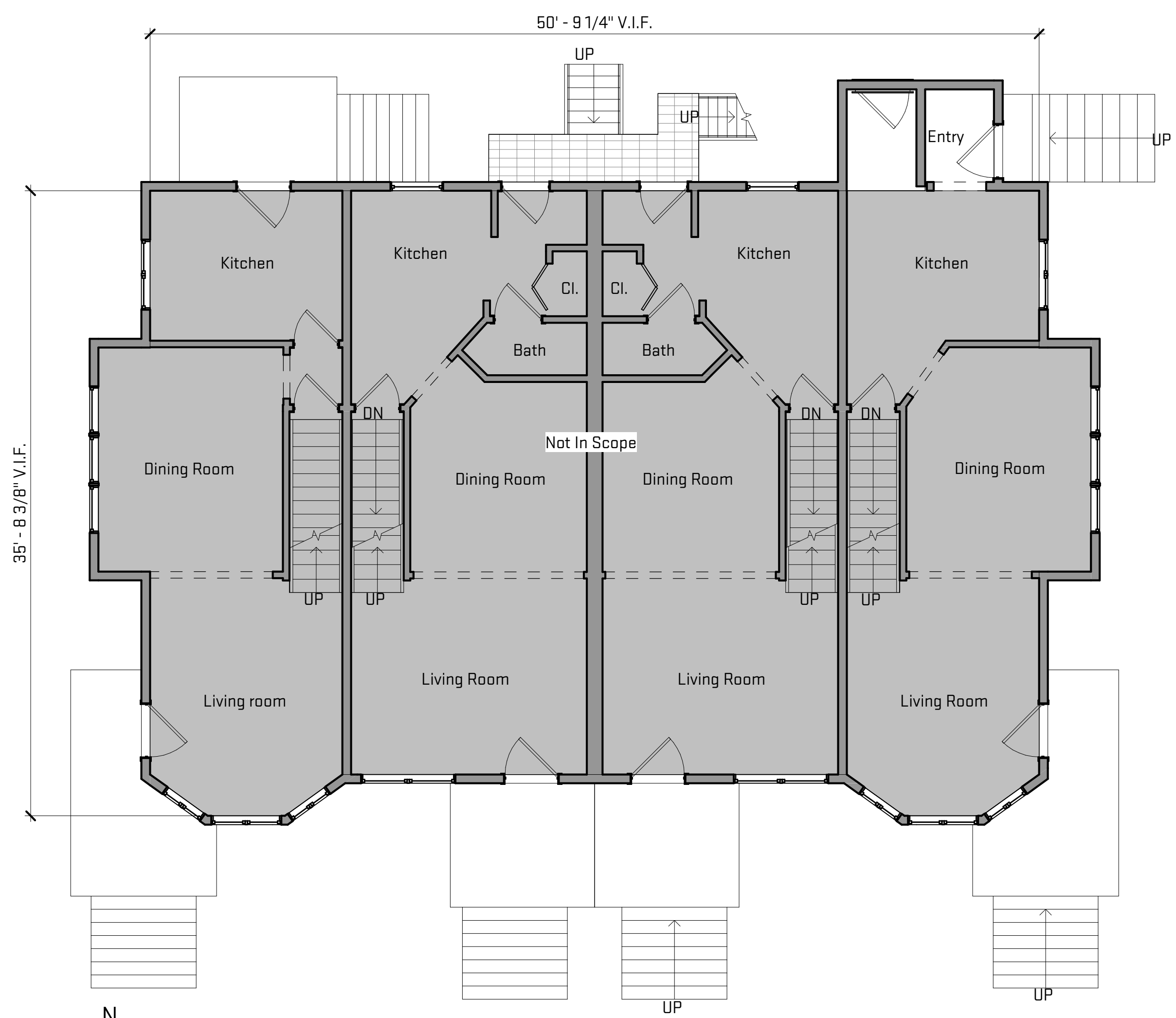
**A-001**

Scales listed are for 22x34 drawing size

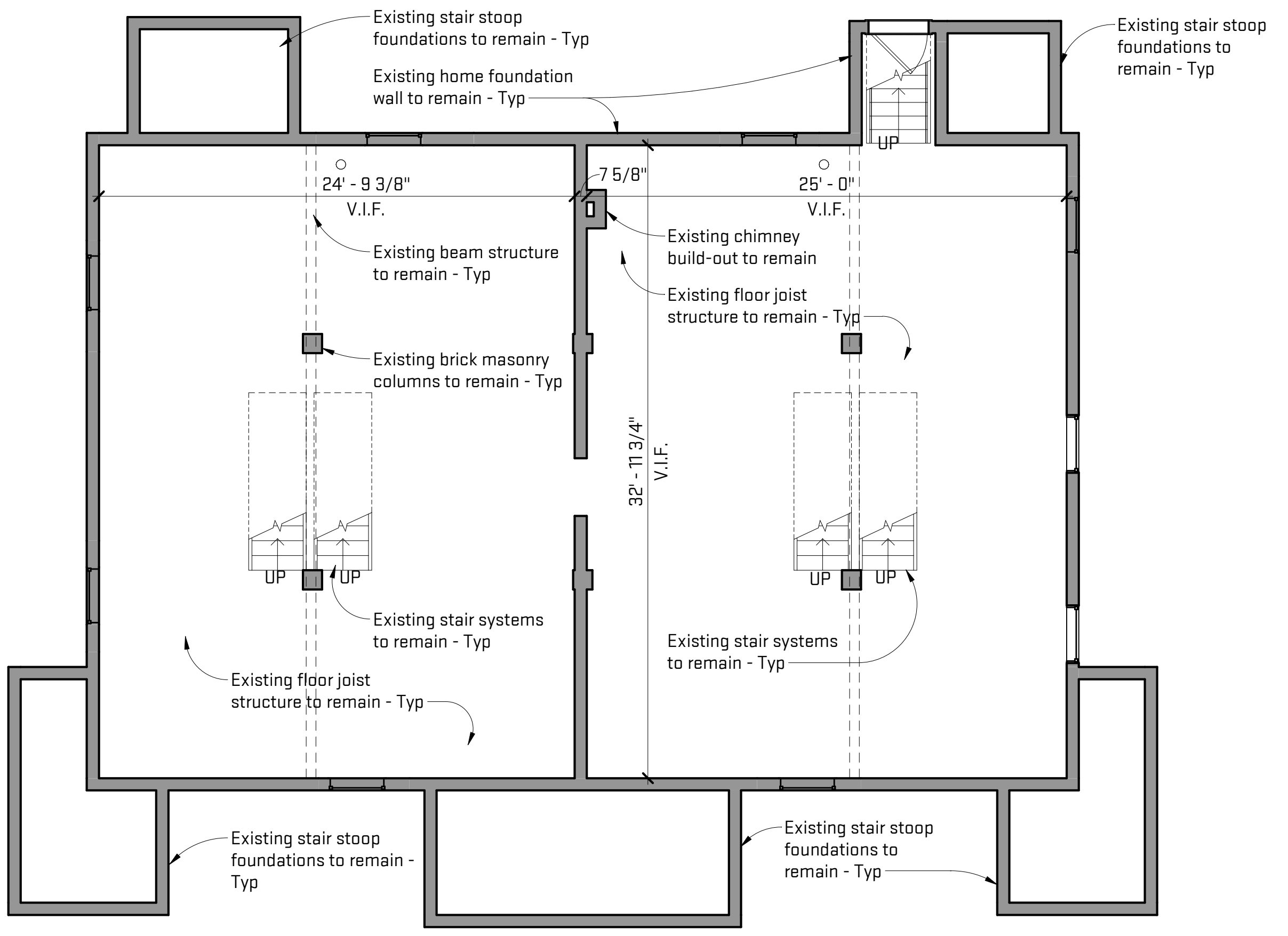


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General Sheet Notes:  
Existing plans are shown for reference only.



2 Existing Level 1 Floor Plan  
AD-100 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"



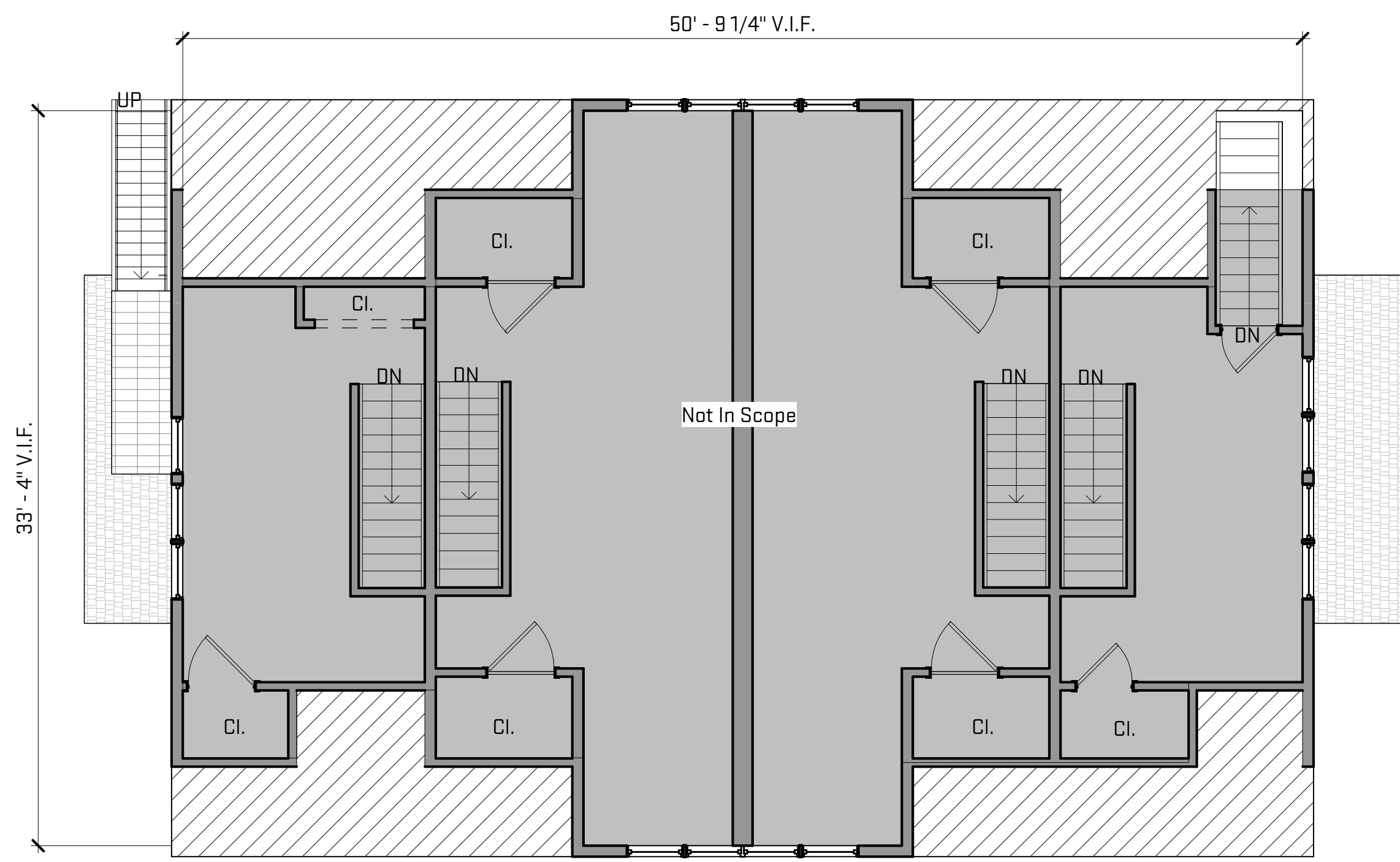
1 Existing Basement Floor Plan  
AD-100 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"

Scales listed are for 22x34 drawing size

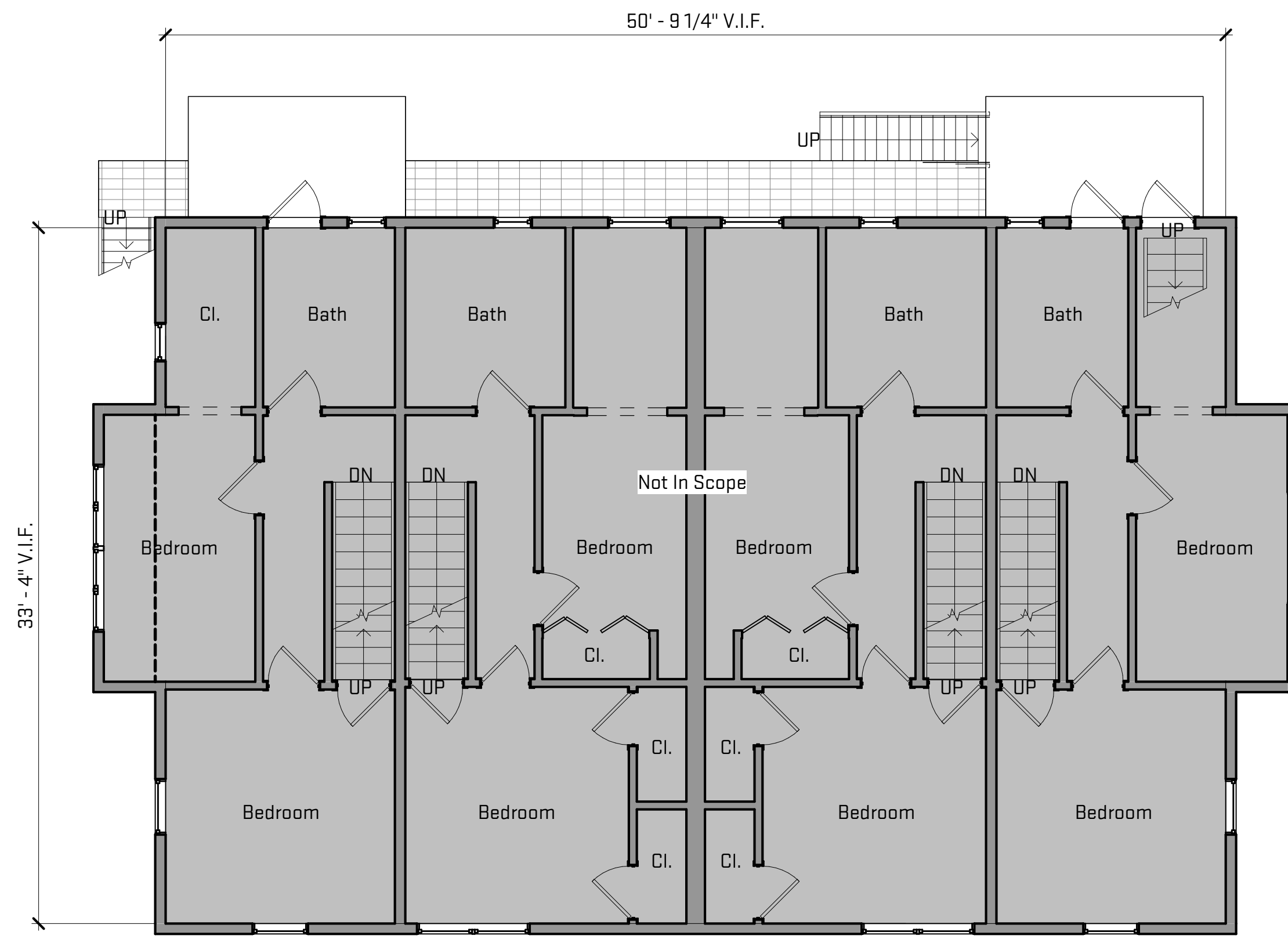
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Sheet Title:	Existing Floor Plans (For Reference)
Released For:	Building Permit
Project #	JON-MCK23
Drawing #	AD-100
Date	12/06/2023
Address	803-809 McKinley Avenue Ann Arbor, MI 48104

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General Sheet Notes:  
Existing plans are shown for reference only.



**2** Existing Level 3 Floor Plan  
AD-101 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"



**1** Existing Level 2 Floor Plan  
AD-101 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"

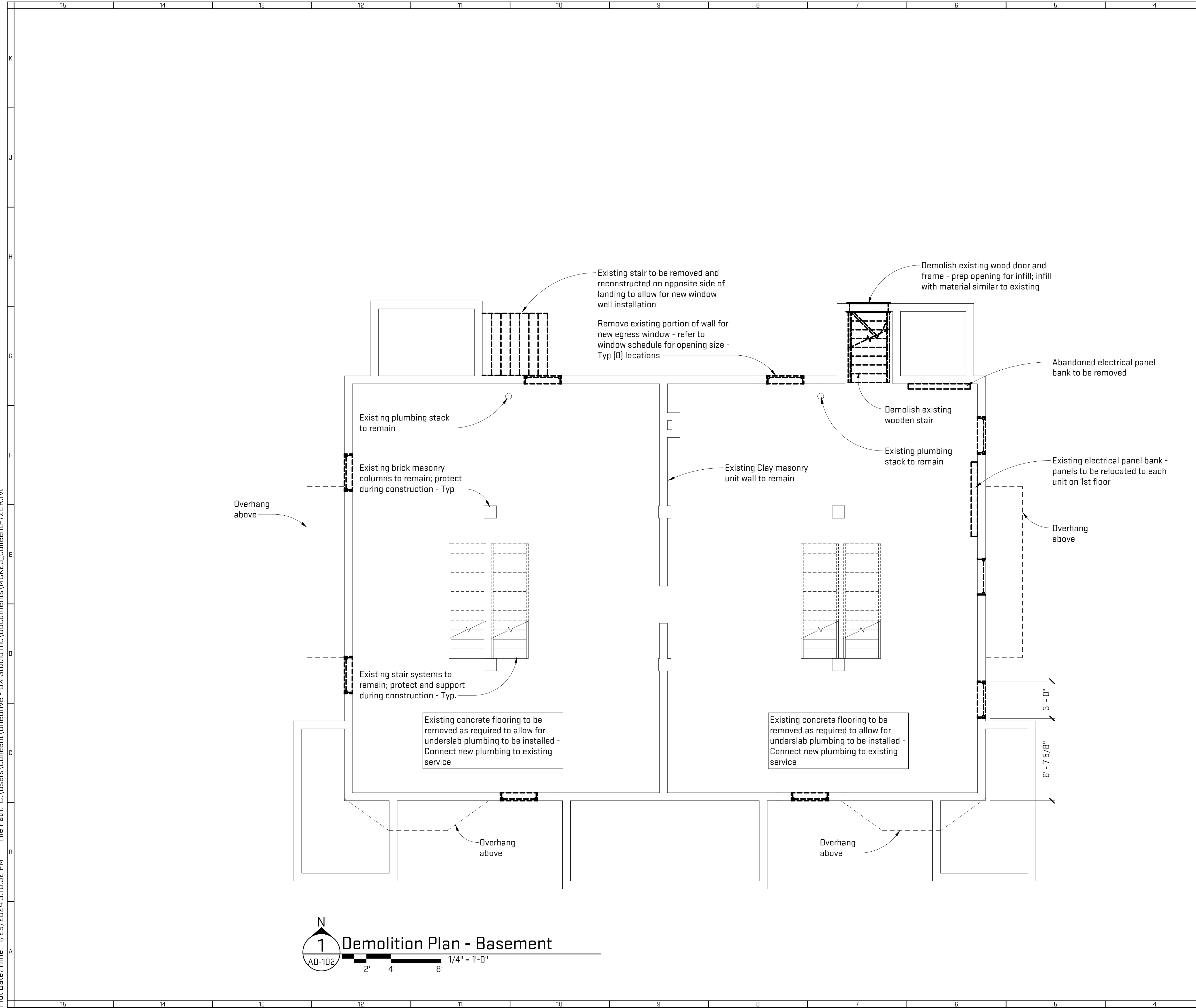
Job Title:  
**803-809 McKinley  
Renovation**  
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Sheet Title:  
**Existing Floor Plans  
(For Reference)**  
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JON-MCK23  
**AD-101**

Scales listed are for 22x34 drawing size

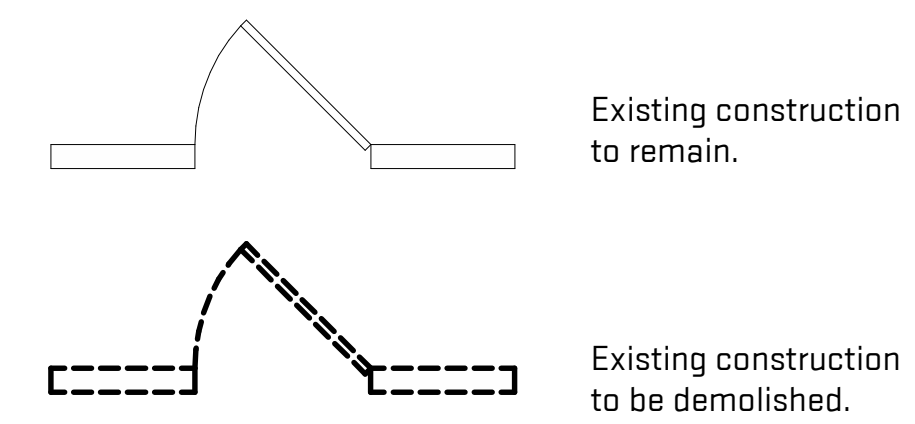
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**General Sheet Notes:**

- A. Contractor shall provide temporary structural support, shoring, bracing and any other means required to protect the safety, integrity and stability of all new and existing construction.
- B. Contractor to coordinate demolition of Plumbing, Mechanical, and Electrical systems with new work to be performed.

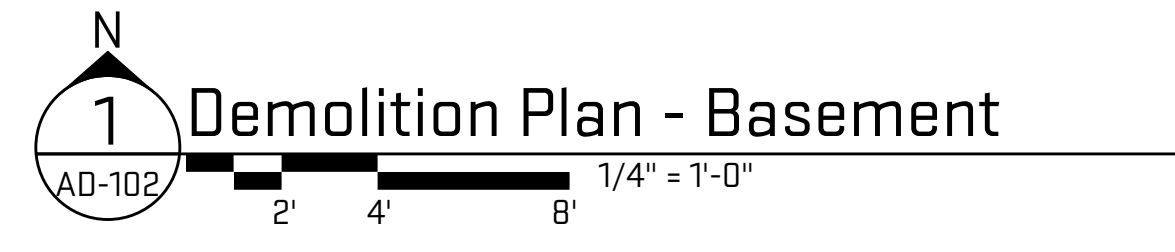
**Demolition Floor Plan Legend**



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**803-809 McKinley Renovation**  
 803-809 McKinley Avenue  
 Ann Arbor, MI 48104

Sheet Title:  
**Demolition Plan - Basement**  
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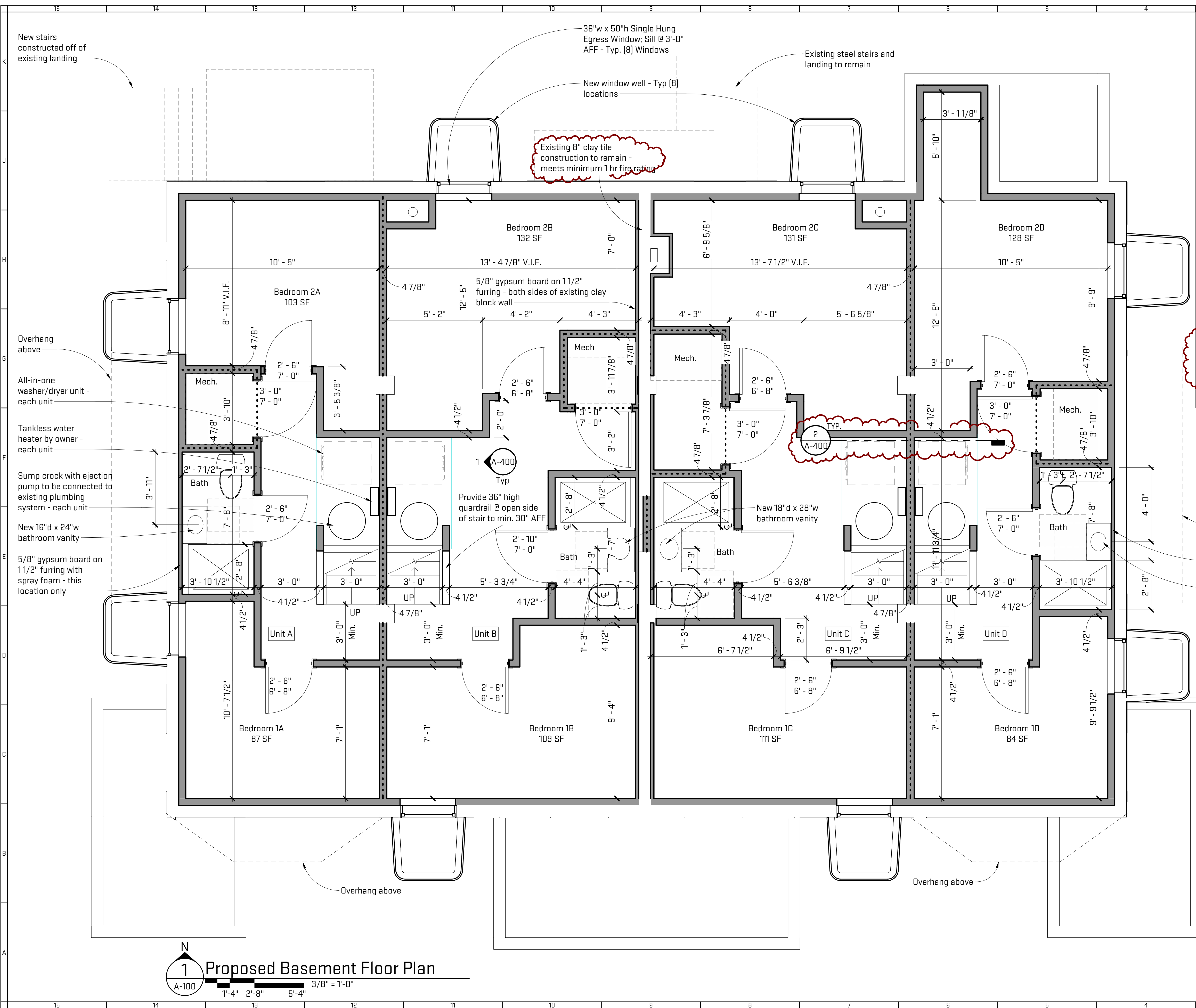
12/06/2023  
 JON-MCK23  
**AD-102**



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- General Sheet Notes:**
- A. 2x4 (nom) wood stud throughout interior unless noted otherwise
  - B. Dimensions are to face of gypsum board
  - C. One window per bedroom (min) shall have a max sill height of 44" for egress. Minimum net clear openable width shall be 20". Window shall meet Ann Arbor Housing Ordinance minimum requirements for natural daylight and natural ventilation.
  - D. Provide 1-piece shower drain system.
  - E. Owner to select interior finishes. Contractor to coordinate finish selection and material/substrate preparation for finish applications.
  - F. Contractor to provide electrical outlets, switches and lighting per code requirements. Verify with owner number, style and location of all fixtures.
  - G. Provide 1" closed-cell spray foam insulation (R-7.1) w/ open spray foam over at all exterior walls (2 1/2" @ R3.8) - R-Value Total = 16.6 (Min R-value - R-10)
  - H. Provide draftstopping above and in line with dwelling unit separations.
  - I. Window basis of design: Anderson 100 series 3650 single-hung. Alternate window option: Anderson 100 series 3056 casement.
  - J. Infill concrete slab to be installed in basement - provide 24" perimeter insulation under slab at exterior walls. Minimum R-value of 15.
  - K. Provide 45 Min. fire rated door at each Mechanical room.
  - L. Existing 8" CMU clay tile equivalent to 1 1/2 hour fire rating - refer to 2015 Michigan Rehabilitation Code, Resource A Guidelines on Fire Ratings for Archaic Materials and Assemblies, Table 1.1.4 Masonry Walls 8" to less than 10"; Wall can be classified W-8-M-5

W-8-M-5	8"	Core: clay or shale structural tile; No facings.	See Notes	1 hr. 30 min.	1	1, 2, 3, 10, 18, 20, 21	1 1/2"
---------	----	--	-----------	---------------	---	-------------------------	--------

- Window Well Notes:**
- A. The min. horiz. area of the window well shall be 9 SF, with a min. dimension of 36". The area of the window well shall allow the emergency escape and rescue opening to be fully opened.
  - B. Window wells deeper than 44" must have permanently affixed ladder or steps.
  - C. Window well ladders or rungs shall have an inside width (min) on 12", project (min) 3" from the wall, and spaced (max) 18 inches o.c. vert. for the full height of the window well. The ladder or step can encroach into the required dimensions of the window well (max) 6".
  - D. The ladder or steps shall not be obstructed by the emergency escape and rescue opening.

- Architectural Floor Plan Legend**
- Existing wall construction
  - New wall construction: 2x4 (nom) wood studs @ 16" o.c. w/ (1) layer 1/2" (min) gyp board each side - unless noted otherwise
  - New 1/hr. rated wall construction. (UL. #305) - Refer to wall assembly detail

**1 Proposed Basement Floor Plan**

Scales listed are for 22x34 drawing size



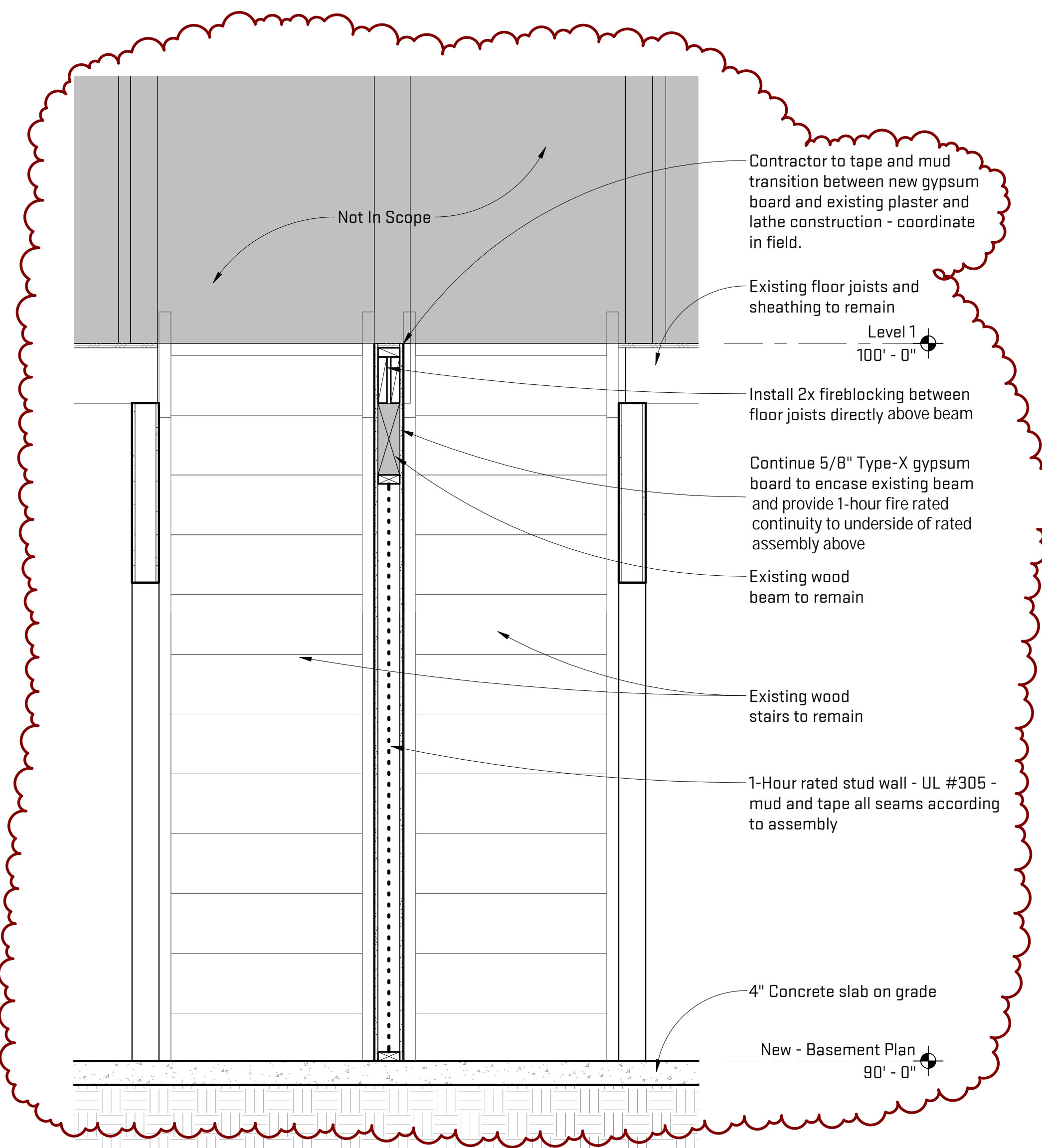
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**803-809 McKinley Renovation**  
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Sheet Title:  
**Proposed Basement Floor Plan**  
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 A-100

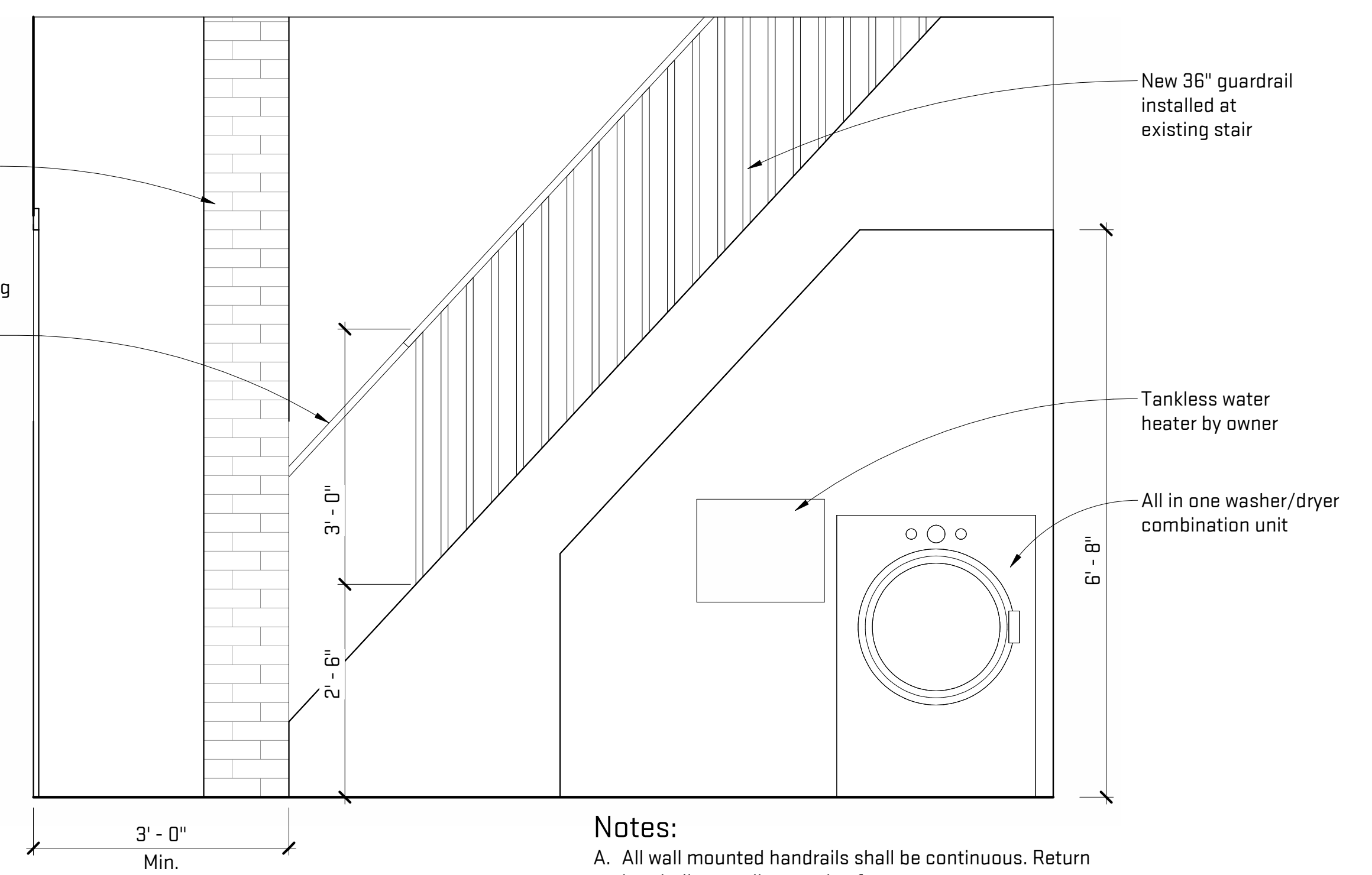


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**2 Fire Rated Wall Between Stairs**  
A-400 8" 1'-4" 2'-8" 3/4" = 1'-0"

<b>DESIGN NO. UL U305</b> FIRE RATING: 1 HOUR STC RATING: 36 SOUND TEST: USG-151235 SYSTEM THICKNESS: 4-3/4" [121 MM] LOCATION: INTERIOR FRAMING TYPE: WOOD STUD (LOAD-BEARING)		
<b>ASSEMBLY REQUIREMENTS:</b> GYPSUM PANELS: ONE LAYER 5/8" [15.9 MM] SHEETROCK® ECOSMART GYPSUM PANEL (UL TYPE ULIX™) WOOD STUDS: 2" X 4" [38 X 89 MM] WOOD STUDS, 16" [406 MM] O.C. INSULATION: 3-1/2" [89 MM] FIBERGLASS INSULATION GYPSUM PANELS: ONE LAYER 5/8" [15.9 MM] SHEETROCK® ECOSMART GYPSUM PANEL (UL TYPE ULIX™)		
<b>GENERAL WALL NOTES:</b> 1. REFER TO APPLICABLE CODES REQUIREMENTS TO ENSURE COMPLIANCE PRIOR TO CONSTRUCTION. 2. FOR THE MOST UP-TO-DATE DETAILS, INCLUDING CONSTRUCTION VARIATIONS, REFER TO THE PUBLISHED DESIGN. 3. WHERE DESIGN NO. INDICATES "PER", THE FIRE RATING IS BASED ON LABORATORY TEST DATA OF THE REFERENCED SIMILARLY CONSTRUCTED ASSEMBLIES. 4. STUD SIZES AND INSULATION THICKNESS ARE MINIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY. 5. STUD AND FASTENER SPACINGS ARE MAXIMUM UNLESS OTHERWISE STATED IN THE PUBLISHED ASSEMBLY. 6. PANEL ORIENTATION SHALL BE AS SPECIFIED IN THE PUBLISHED DESIGN. 7. FIRE-RATINGS ARE FROM BOTH SIDES UNLESS OTHERWISE STATED. 8. FIRE-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, INCREASE STUD MATERIAL THICKNESS, DECREASE STUD SPACING, DECREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH. 9. WHERE ACOUSTICAL PERFORMANCE IS PROVIDED IN AN ESTIMATED RANGE, THE VALUES ARE BASED ON LABORATORY TEST DATA OF SIMILARLY CONSTRUCTED ASSEMBLIES. 10. SOUND-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING MODIFICATIONS: INCREASE STUD DEPTH, DECREASE STUD MATERIAL THICKNESS, INCREASE STUD SPACING, INCREASE FASTENER SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH. MODIFICATIONS MUST NOT EXCEED LIMITATIONS OF FIRE RATING.		
 USG Corporation 250 West Adams Street Chicago, IL 60661 USA www.USG.com T. 800-USG4YOU	DISCLAIMER: THE USG PRODUCT INFORMATION CONTAINED HEREIN IS INTENDED FOR USE AS PRODUCT REFERENCE MATERIAL BY ARCHITECTS, ENGINEERS, AND OTHER DESIGN PROFESSIONALS. CONTRACTORS, BUILDING CODE OFFICIALS, OR OTHER COMPETENT CONSTRUCTION INDUSTRY TRADE PROFESSIONALS SHALL BE RESPONSIBLE FOR THE SELECTION, SPECIFICATION, AND USE OF PRODUCTS AS TECHNICAL SUPPORT INCIDENT TO THE SALE AND USE OF USG PRODUCTS AND NOT INTENDED TO BE A SUBSTITUTE FOR THE DESIGN REVIEW AND APPROVAL OF THE LICENSED DESIGN PROFESSIONAL FOR THE PROJECT. THESE MATERIALS MAY BE PRINTED AND/OR TRANSMITTED ELECTRONICALLY, IN WHOLE OR IN PART, BY ANY MEANS, WITHOUT PERMISSION FROM USG. ALL RIGHTS RESERVED. USG SHALL NOT BE RESPONSIBLE FOR ANY REPRODUCTION, MODIFICATION, OR USE OF USG PRODUCT LOGO OR MARKING IN THE ROLE RESPONSIBILITY OF THE DESIGN PROFESSIONAL.	<b>UL U305</b> ISSUE RECORD: Revision Date: 10/05/2021 11:54:30 PM



**1 Utility Cubby Elevation**  
A-400 8" 1'-4" 2'-8" 3/4" = 1'-0"

- Notes:**
- A. All wall mounted handrails shall be continuous. Return handrails to walls at ends of runs
  - B. Provide minimum 11/2" distance between wall and handrail
  - C. 1 1/2" dia. wood wall mounted handrail

Scales listed are for 22x34 drawing size

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**Details**  
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 A-400

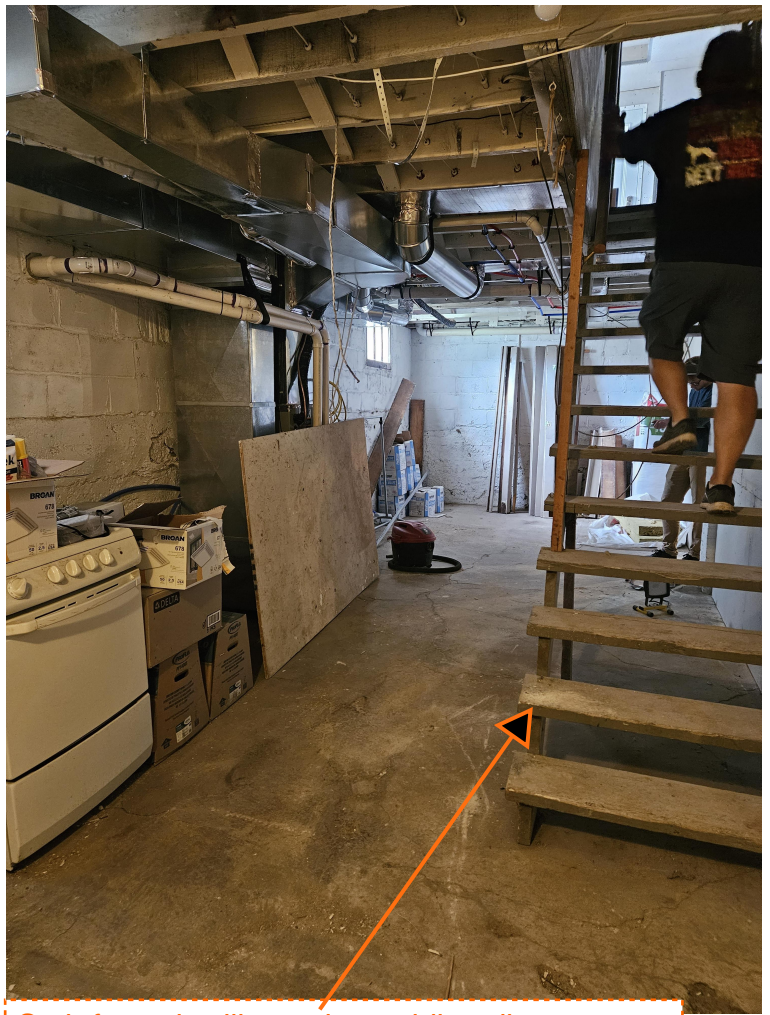
Project # | Eng. Date  
 Drawing #



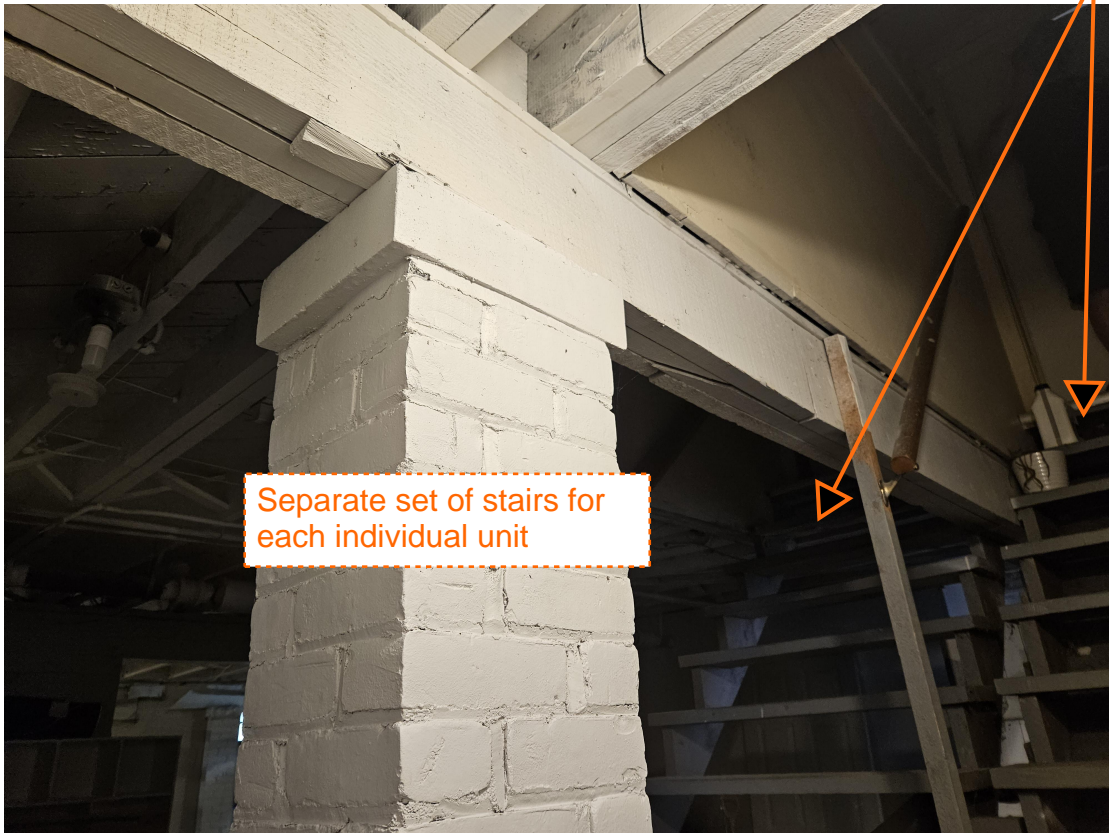




door to basement in dwelling unit

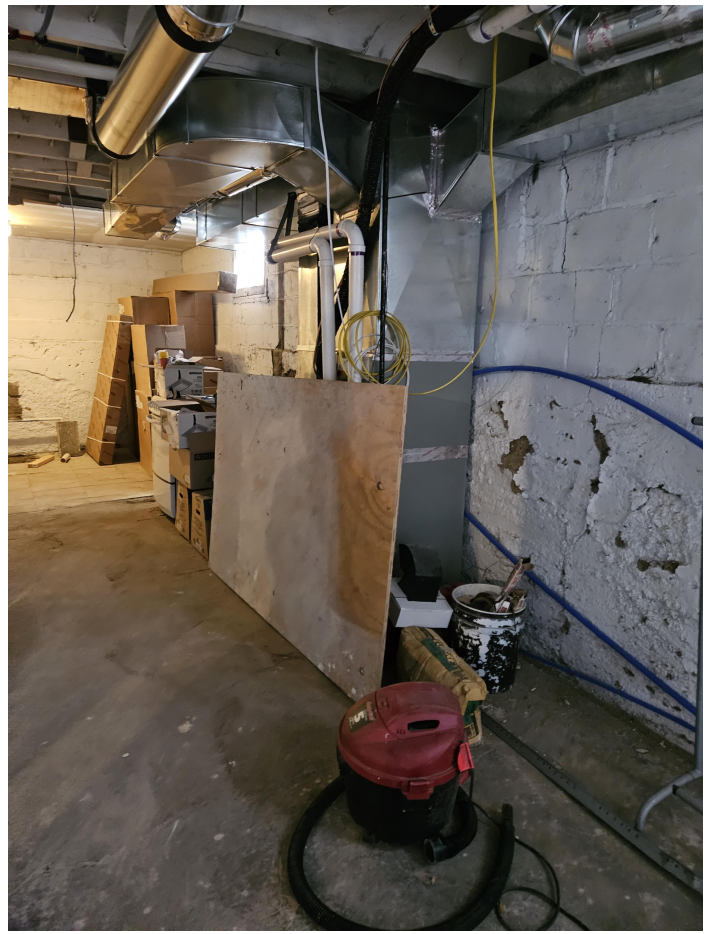


Stair from dwelling unit providing direct, contiguous access to basement



Separate set of stairs for each individual unit

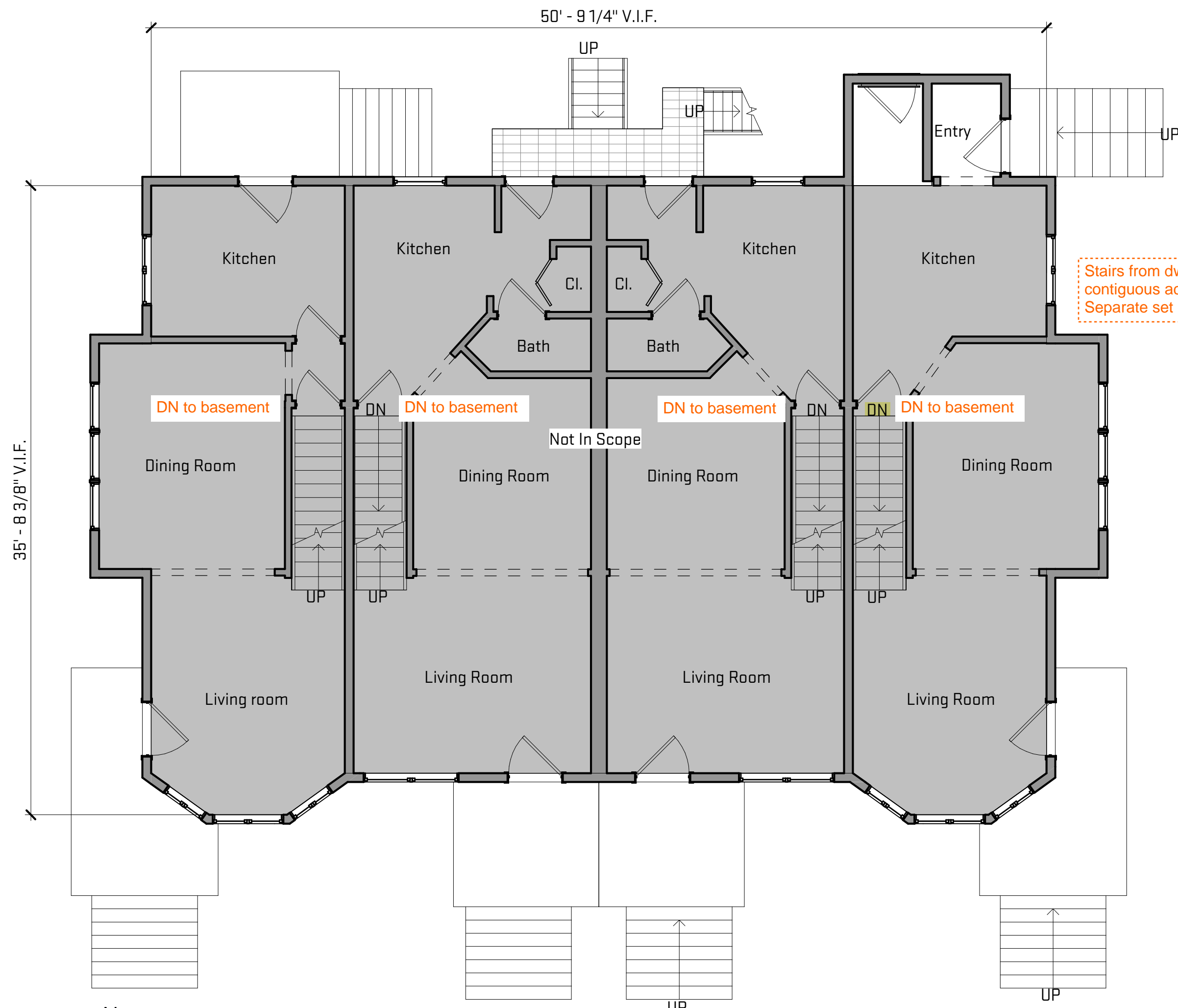




Typical basement condition

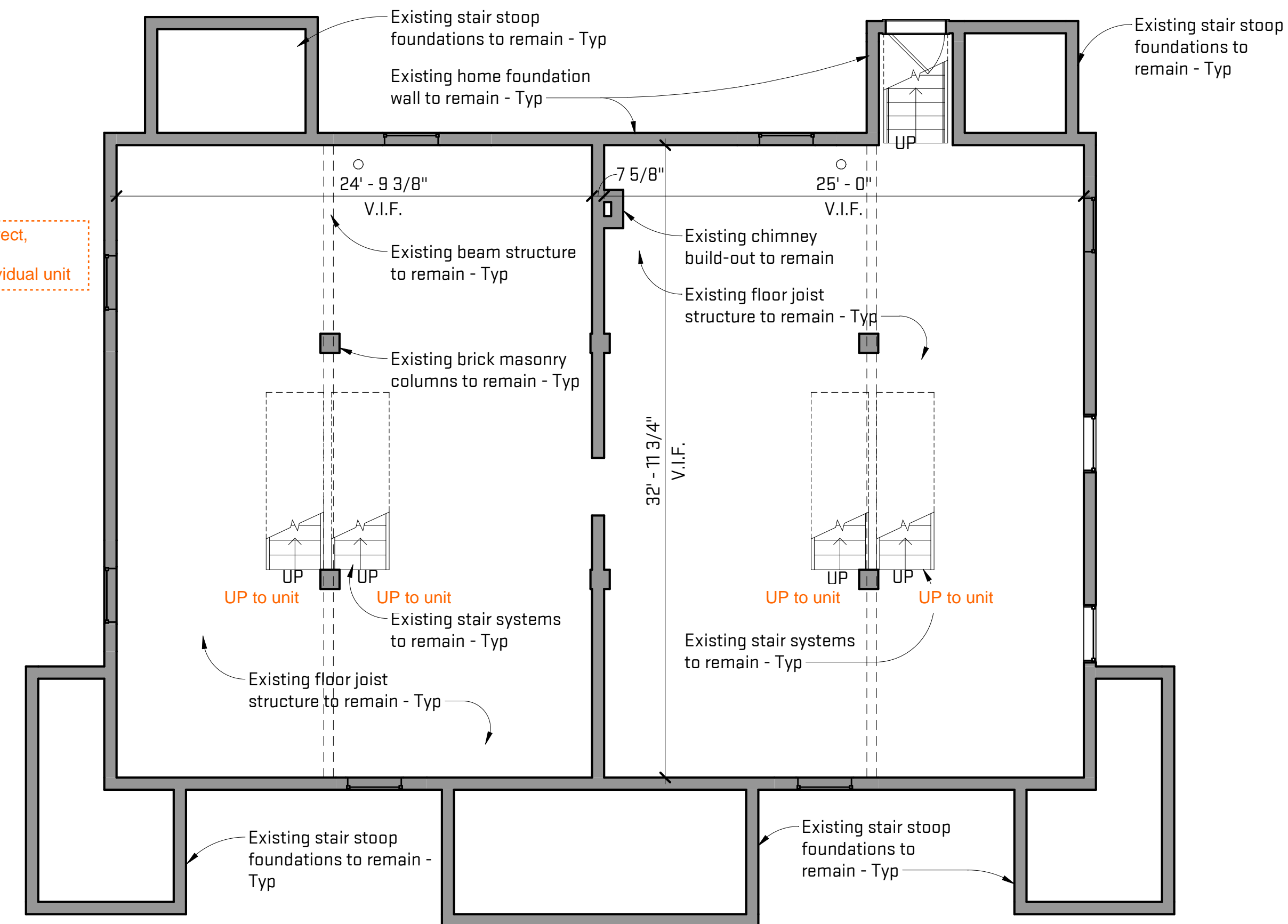
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General Sheet Notes:  
Existing plans are shown for reference only.



Stairs from dwelling unit provide direct, contiguous access to basement. Separate set of stairs for each individual unit

2 Existing Level 1 Floor Plan  
AD-100 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"



1 Existing Basement Floor Plan  
AD-100 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"

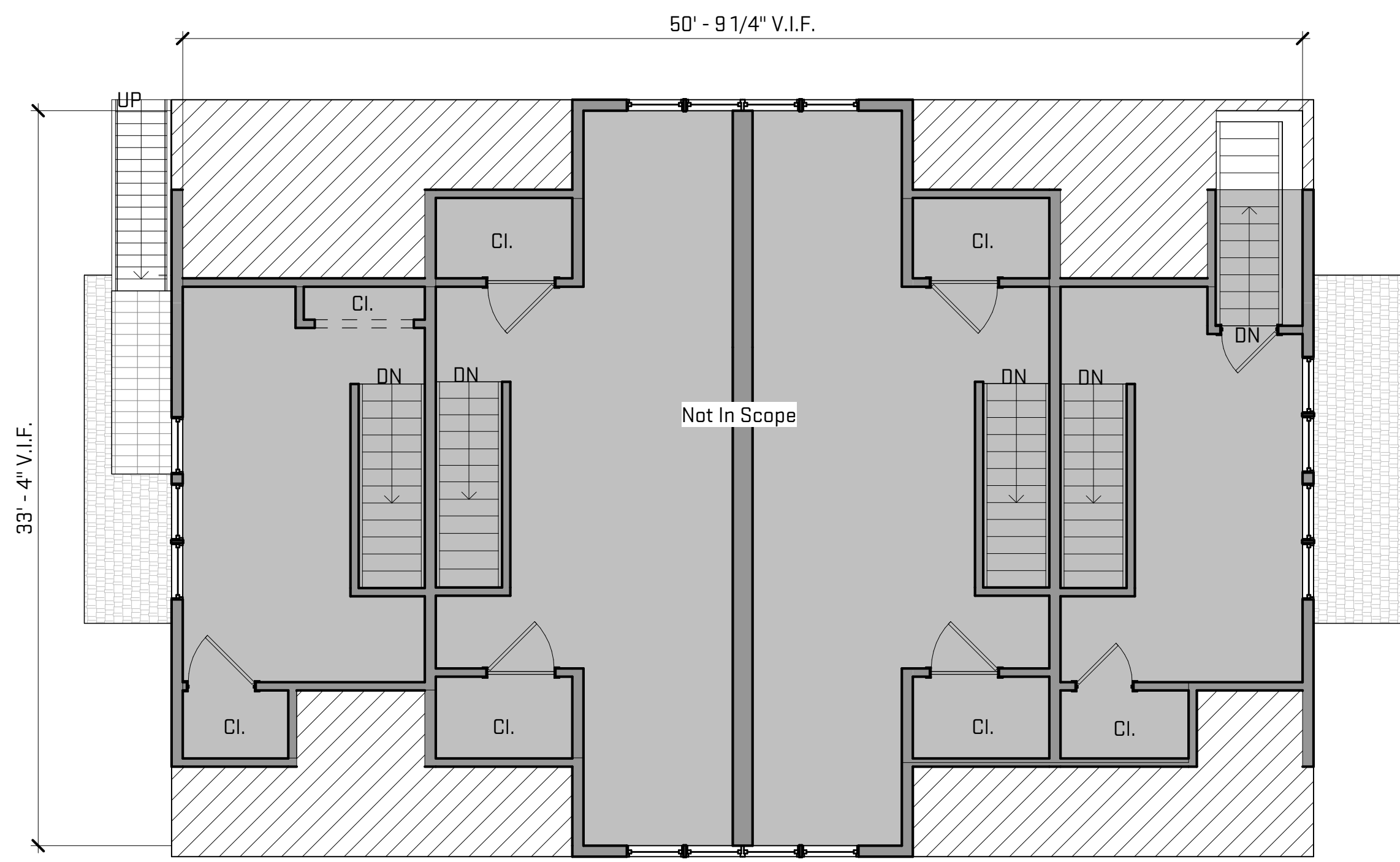
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Sheet Title:	Existing Floor Plans (For Reference)
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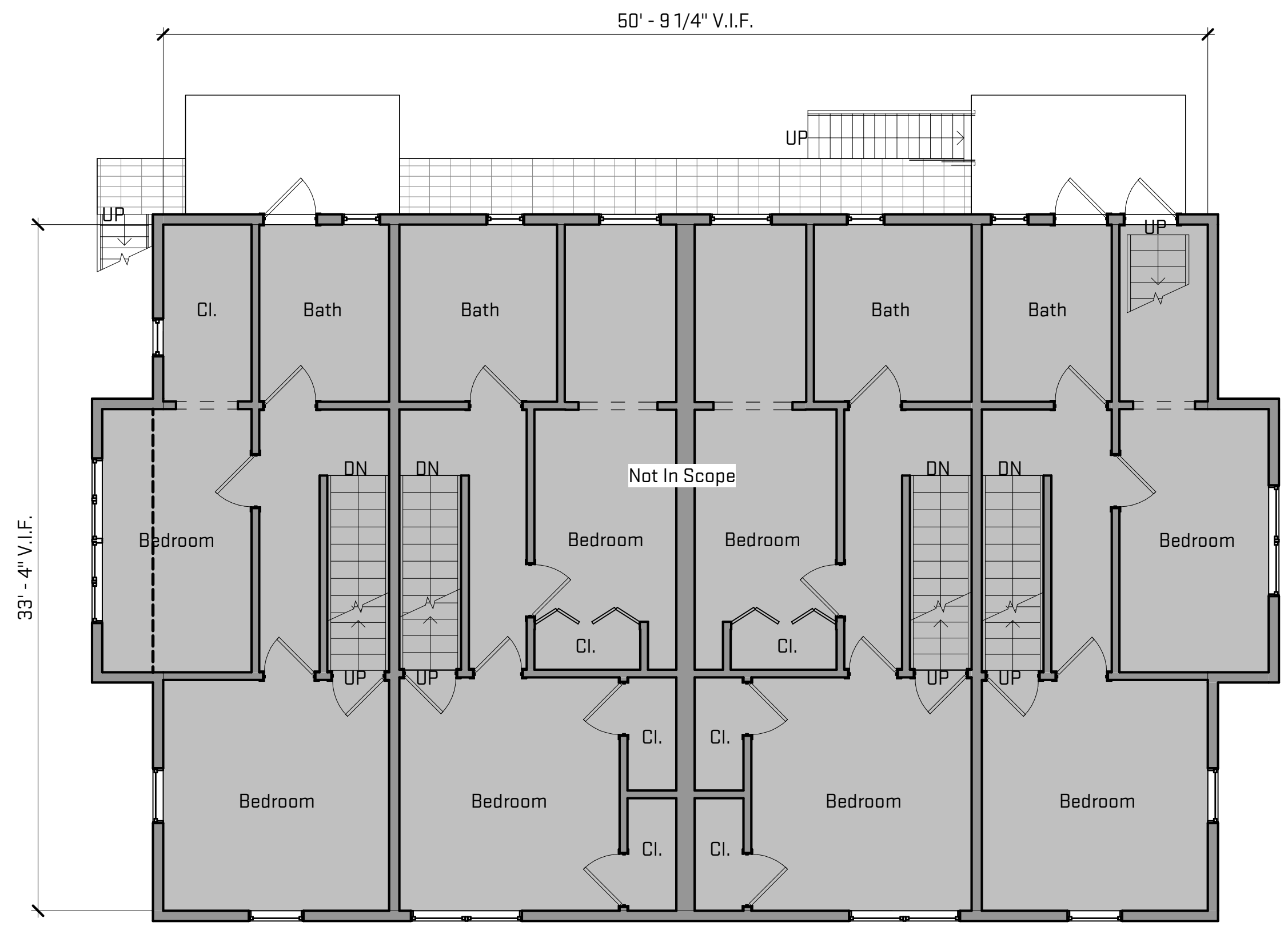
Date:	12/06/2023
Project #:	JON-MCK23
Drawing #:	AD-100

Plot Date/Time: 1/29/2024 3:10:32 PM File Path: C:\Users\colleent\OneDrive - OX Studio Inc\Documents\MCK23\_colleentP7ZER.rvt

General Sheet Notes:  
Existing plans are shown for reference only.



**2** Existing Level 3 Floor Plan  
AD-101 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"



**1** Existing Level 2 Floor Plan  
AD-101 3/16" = 1'-0"  
2'-8" 5'-4" 10'-8"

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Renovation**  
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**Existing Floor Plans  
(For Reference)**  
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12/06/2023  
JON-MCK23  
**AD-101**

Scales listed are for 22x34 drawing size



## CHAPTER 3

# USE AND OCCUPANCY CLASSIFICATION

*User note: Code change proposals to sections preceded by the designation [F] will be considered by the International Fire Code Development Committee during the 2016 (Group B) Code Development Cycle. See explanation on page iv.*

### SECTION 301 GENERAL

**301.1 Scope.** The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy.

### SECTION 302 CLASSIFICATION

**302.1 General.** Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed in this section. A room or space that is intended to be occupied at different times for different purposes shall comply with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Structures with multiple occupancies or uses shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4.
7. Mercantile (see Section 309): Group M.
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4.
9. Storage (see Section 311): Groups S-1 and S-2.
10. Utility and Miscellaneous (see Section 312): Group U.

### SECTION 303 ASSEMBLY GROUP A

**303.1 Assembly Group A.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation.

**303.1.1 Small buildings and tenant spaces.** A building or tenant space used for assembly purposes with an *occupant load* of less than 50 persons shall be classified as a Group B occupancy.

**303.1.2 Small assembly spaces.** The following rooms and spaces shall not be classified as Assembly occupancies:

1. A room or space used for assembly purposes with an *occupant load* of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
2. A room or space used for assembly purposes that is less than 750 square feet (70 m<sup>2</sup>) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.

**303.1.3 Associated with Group E occupancies.** A room or space used for assembly purposes that is associated with a Group E occupancy is not considered a separate occupancy.

**303.1.4 Accessory to places of religious worship.** Accessory religious educational rooms and religious auditoriums with *occupant loads* of less than 100 per room or space are not considered separate occupancies.

**303.2 Assembly Group A-1.** Group A-1 occupancy includes assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture theaters  
Symphony and concert halls  
Television and radio studios admitting an audience  
Theaters

**303.3 Assembly Group A-2.** Group A-2 occupancy includes assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls  
Casinos (gaming areas)  
Nightclubs  
Restaurants, cafeterias and similar dining facilities  
(including associated commercial kitchens)  
Taverns and bars

**303.4 Assembly Group A-3.** Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades  
Art galleries  
Bowling alleys  
Community halls

tance while responding to an emergency situation to complete building evacuation.

### SECTION 311 STORAGE GROUP S

**311.1 Storage Group S.** Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

**311.1.1 Accessory storage spaces.** A room or space used for storage purposes that is less than 100 square feet (9.3 m<sup>2</sup>) in area and accessory to another occupancy shall be classified as part of that occupancy. The aggregate area of such rooms or spaces shall not exceed the allowable area limits of Section 508.2.

**311.2 Moderate-hazard storage, Group S-1.** Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- Aerosols, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wax candles

**311.3 Low-hazard storage, Group S-2.** Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as

knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

- Asbestos
- Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
- Cement in bags
- Chalk and crayons
- Dairy products in nonwaxed coated paper containers
- Dry cell batteries
- Electrical coils
- Electrical motors
- Empty cans
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- Gypsum board
- Inert pigments
- Ivory
- Meats
- Metal cabinets
- Metal desks with plastic tops and *trim*
- Metal parts
- Metals
- Mirrors
- Oil-filled and other types of distribution transformers
- Parking garages, open or enclosed
- Porcelain and pottery
- Stoves
- Talc and soapstones
- Washers and dryers

### SECTION 312 UTILITY AND MISCELLANEOUS GROUP U

**312.1 General.** Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

- Agricultural buildings
- Aircraft hangars, accessory to a one- or two-family residence (see Section 412.5)
- Barns
- Carports
- Fences more than 6 feet (1829 mm) in height
- Grain silos, accessory to a residential occupancy
- Greenhouses
- Livestock shelters
- Private garages
- Retaining walls
- Sheds
- Stables
- Tanks
- Towers