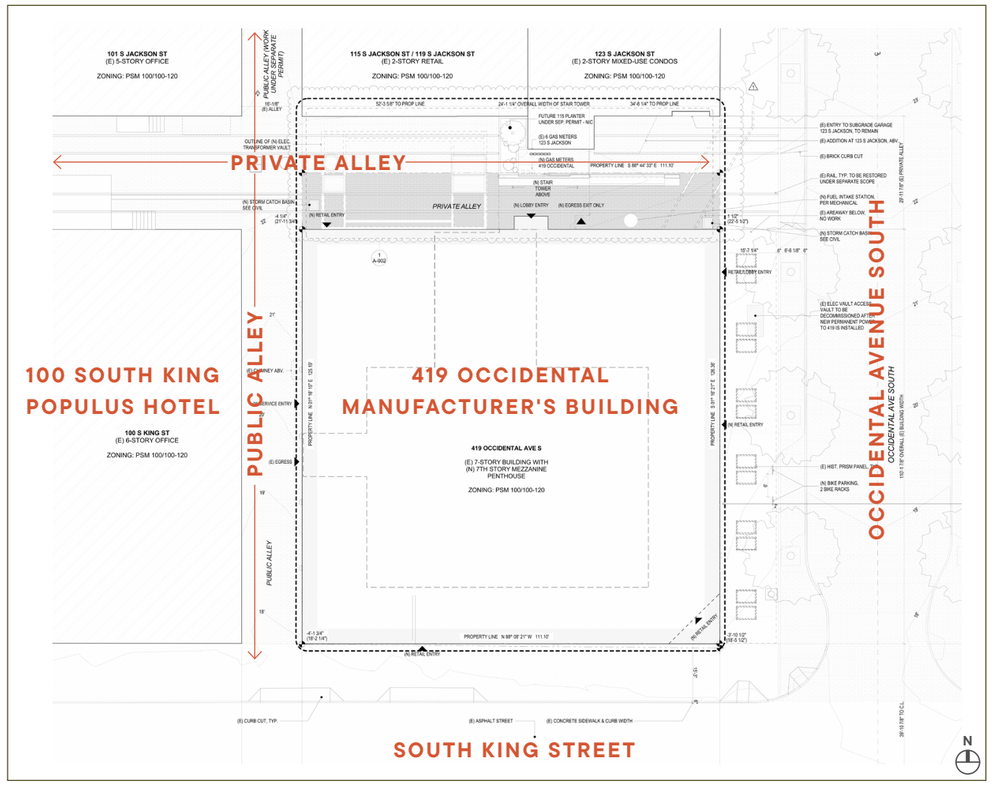
AUGUST 5, 2025

# 419 OCCIDENTAL EXTERIOR EXHAUST

PIONEER SQUARE PRESERVATION BOARD DESIGN REVIEW

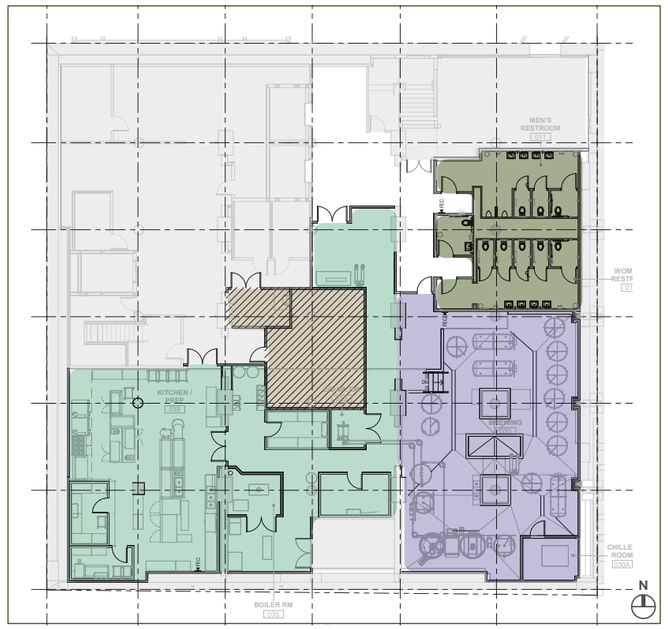
SkB ARCHITECTS

# SEA CREATURES RESTAURANT & BREWERY PROJECT

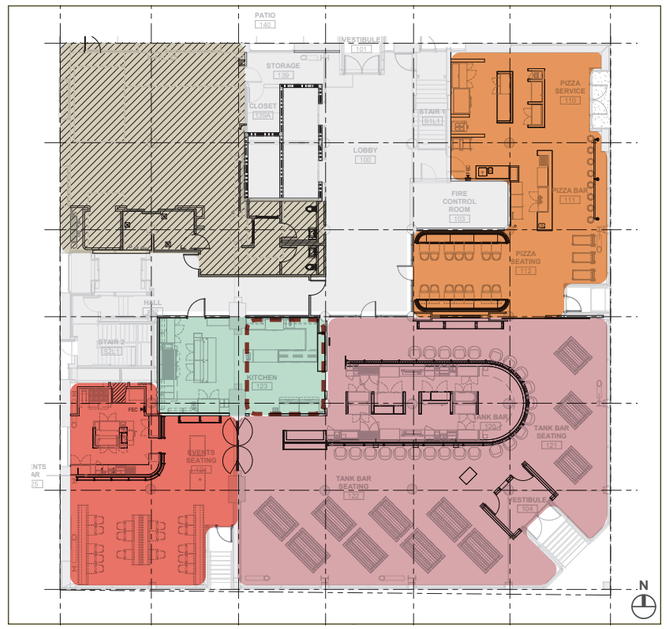



*Project Site Plan*

Sea Creatures, a local restaurant group led by Renee Erickson, will be opening a brewery and three restaurant concept space in Fall 2025. The project will continue to build upon the momentum created by the adjacent Populus Hotel along with other mainstay local businesses. With the property's location at a major crossroads for game days, transit, and events, activation of the ground plane is critical in building a welcoming and bustling corner of Pioneer Square. The building Owner, Urban Villages, is committed to bringing a new life to the urban fabric of Pioneer Square and continue to invest in activating the Railspur block.




*Basement Plan*




*Level 1 Plan*

- UN PO TIPSY - PIZZA RESTAURANT CONCEPT
- LOWLANDER - BREWERY HALL
- MY OH MY - PRIVATE EVENT SPACE & RESTAURANT CONCEPT

- BREWERY
- RESTROOMS
- BACK OF HOUSE KITCHEN
- MECHANICAL PLATFORM ABOVE

- DEATH&CO TENANT (NOT PART OF PROJECT SCOPE)

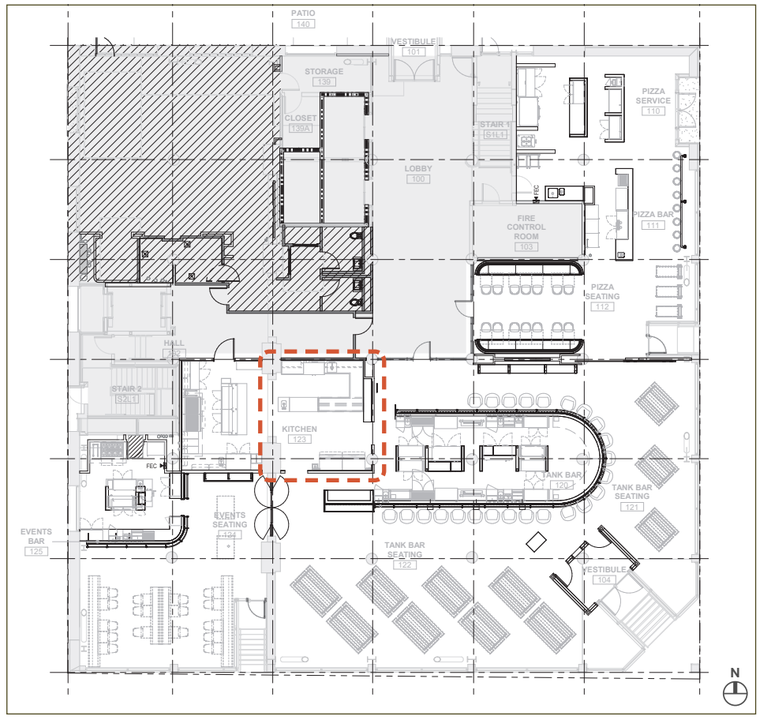
# WATER HEATER PROJECT HISTORY

After completing the design phase of the project, the team elected to change water heater specifications from an air source water heater heat pump to a gas water heater. The air source water heater heat pump was originally specified in the design phase due to Seattle mechanical code requirements.

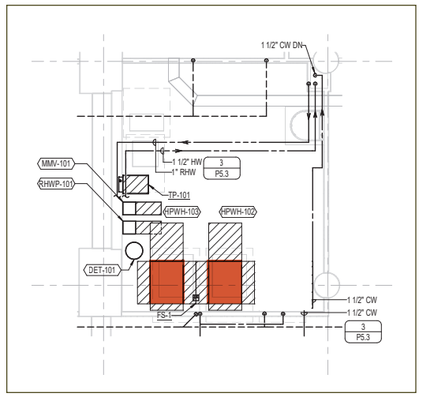
A Seattle mechanical code exemption request to use a gas water heater has been approved under permit 7090397-ME. During the course of construction, the air source water heater heat pump became cost prohibitive to the client and the lead time grew to 12-14 weeks.

Benefits of a Gas Water Heater

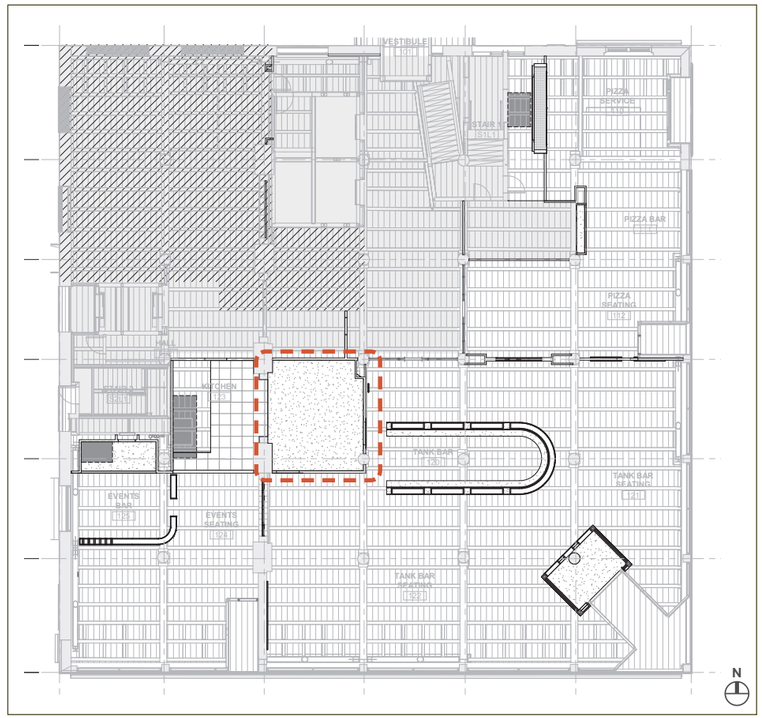
- *Readily Available (during operations if a water heater fails, replacement can occur quickly)*
- *Affordable Alternative*
- *Less Overall Energy Use*
- *Quieter Alternative*




*Level 1 Equipment & Furniture Plan*




*Mechanical Platform Equipment Plan*



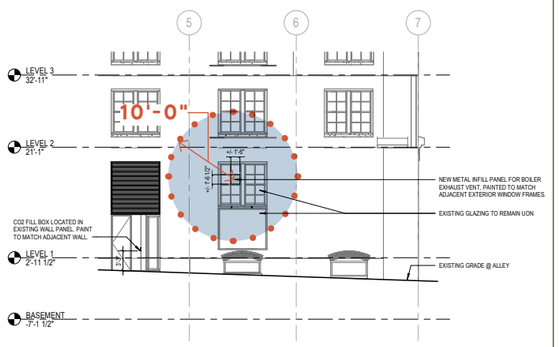

*Level 1 RCP*

There are two gas water heaters. They are located on a mechanical platform at level 1 above a new kitchen space.

The water heaters are located at the mechanical platform due to limited back of house space throughout the project.

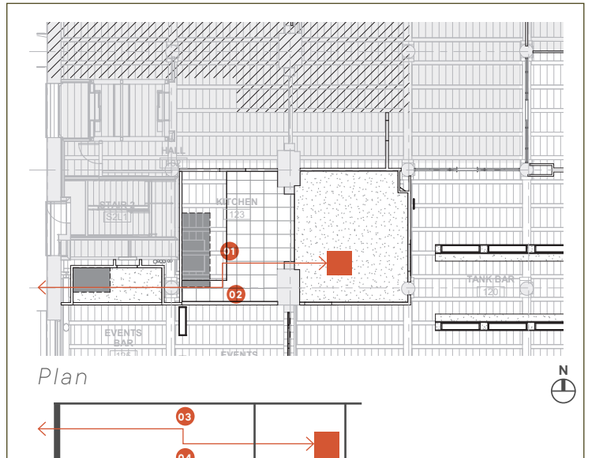
Each water heater has a 3" supply and 3" exhaust line. These combine into a single 6" supply and a single 6" exhaust line. Each line requires an entry/exit point at the exterior of the building.

# WATER HEATER SUPPLY & EXHAUST INSTALL PARAMETERS




*West Elevation*

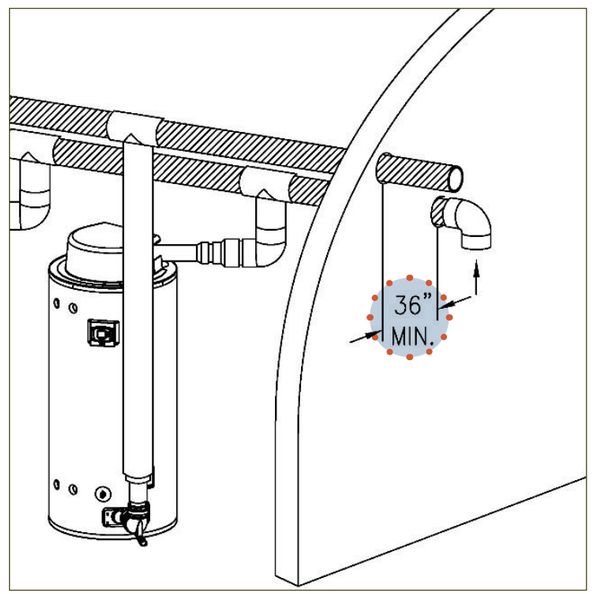
**Supply & Exhaust to be a Minimum of 10'-0" From Combustible Exhaust**



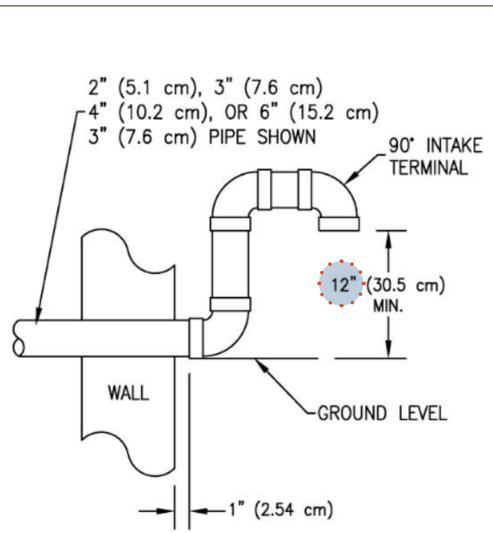

*Plan*

*Elevation*

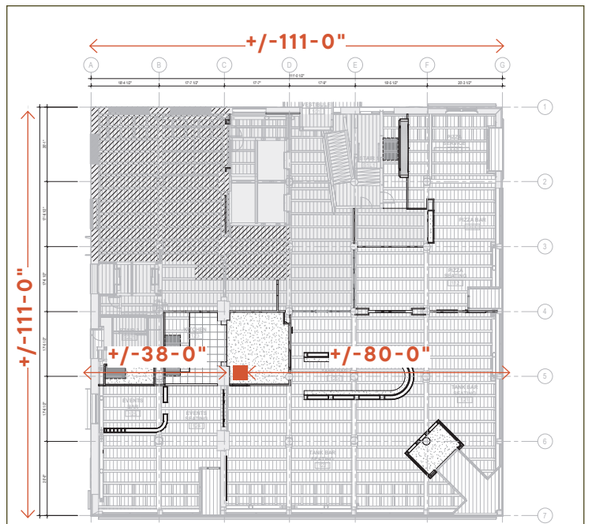
**Supply & Exhaust Lines Have a Maximum of Four 90 Degree Turns**




**Supply & Exhaust Outlets Must Maintain 36" Between One Another**




**Supply & Exhaust to be 12" Minimum From Ground and Building Openings**




**Supply & Exhaust Pathway to Exterior Cannot Exceed 50'-0"**

# WATER HEATER PRODUCT INSTALL DATA

## VENT LENGTH INFORMATION

There are a total of 6 **shaded sections** shown in Figure 1, known as common vent sections. Each **individual** common vent section has the following equivalent vent length requirements:

- **Minimum Equivalent Length: 3 feet**
- **Maximum Equivalent Length: 50 feet**

- A maximum of **4 tees** can be used when constructing the common vent system with **3 water heaters**.
- a maximum of **2 tees** can be used when constructing the common vent system with **2 water heaters**. (All tees permitted in the construction of a 3-water heater common vent system are shown in Figure 1.)
- When adding up each common vent section equivalent length count each 90° elbow as 5 feet and each 45° elbow as 2 ½ feet if any elbows are used. **None are used in the configuration shown in Figure 1.**
- Any Tee or 90° elbow connecting non-common vent sections to common vent sections DO NOT count toward the length of either common or non-common vent sections. ANY additional 45° or 90° elbows DO count toward either the common vent section length, which CANNOT exceed 50 ft, or the non-common vent section length, which CANNOT exceed 12 ft.
- The air intake terminal, labeled in Figure 1, is not counted when adding up the length of the 3rd common section on the intake side of the system, see Figure 1.

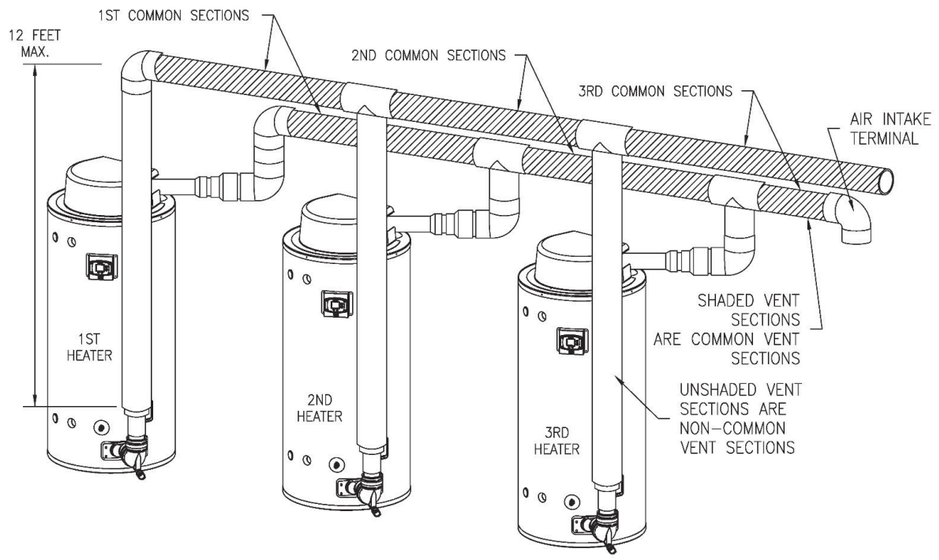



**FIGURE 1. DEFINITION OF COMMON vs. NON-COMMON VENT SECTIONS – PVC/CPVC AND POLYPROPYLENE.**

## TERMINATIONS

The terminations can be direct vented through the same wall (Figure 4), roof (Figures 5-6), or opposing walls. A direct vent configuration with the exhaust going through the roof and the intake going horizontally through a wall is also permitted. These are all the allowed direct vent termination configurations.

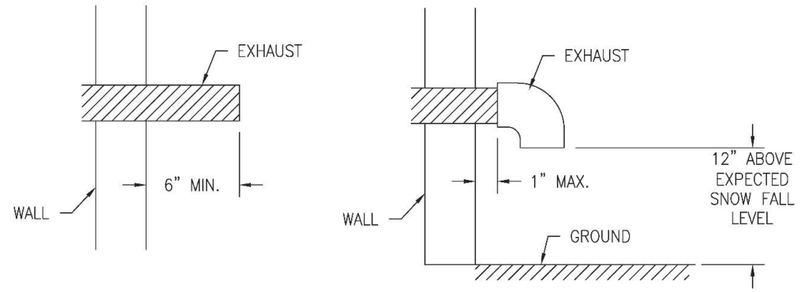



**FIGURE 3. Recommended Horizontal Direct Vent System Wall-Vent Separation (Intake and Exhaust Terminals may be on different outside walls.)**

When direct venting through a wall, the separation between exhaust vent outlet and wall is recommended to be a minimum of 6" (see Figure 3). The separation between the air intake terminal (see Figures 1 and 3) and wall is recommended to be a maximum of 1". It is also recommended that the air intake terminal outlet be 12" above expected snow fall levels in the place of installation, see Figure 3.

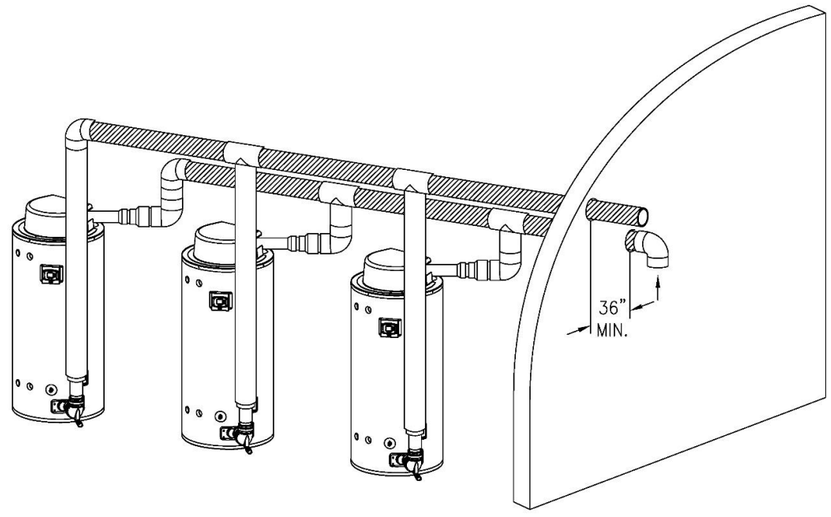


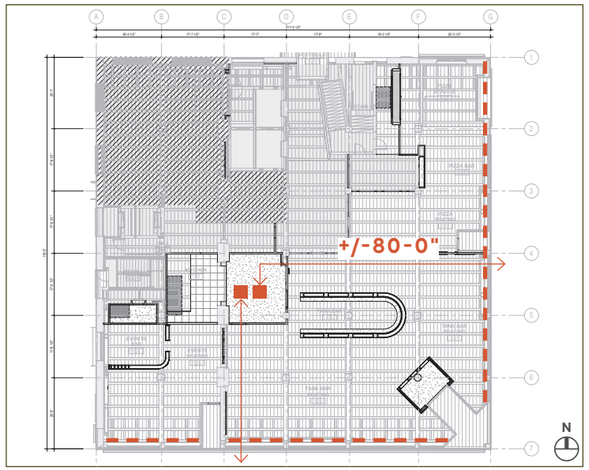

**FIGURE 4. Recommended Horizontal Direct Vent System Installation. (Intake and Exhaust Terminals may be on different outside walls.)**

The air intake terminal is a 90° elbow pointing down and the exhaust terminal is the end of a straight pipe section when venting through a wall, see Figure 4. The minimum recommended vent separation distance between the intake and exhaust terminals is 36", see Figure 4, when power direct venting through the same wall.

# ALTERNATIVE PATHWAY OPTIONS

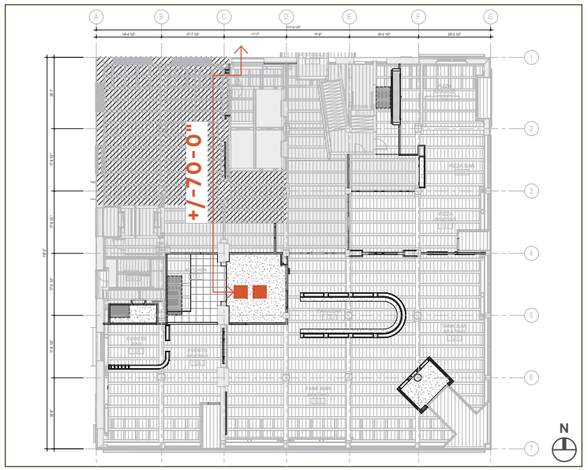
The following pages identify all potential supply and exhaust pathways out of the building. Although these pathways may be preferable from a historic perspective, there are existing building, infrastructure, and/or install requirement reasons they are not viable options.

# NON-VIABLE PATHWAY OPTIONS




*Level 1 RCP*

*Southeast Corner*




*Level 1 RCP*


*Existing Non-Historic Portion of North Facade*

## OPTION 1 - PRIMARY FACADE EXHAUST

The most direct pathway out of the building is through the primary facade. This has the least amount of turns in direction. The South primary facade is the only facade which complies with the 50'-0" pipe pathway maximum. The East facade exceeds the maximum distance. All pathways to the South result in removal of a portion of existing historic storefront.

This option was determined as not feasible due to the disruption to the primary historic facade of the building. The team recognizes the importance of the historic building and PSPB's priority in maintaining the East and South facades in their original character.

## OPTION 2 - SECONDARY NORTH ALLEY FACADE

Understanding the preferred route to the exterior is through a secondary facade at a non-historic material location, the team investigated a pathway at the north alley. There is an existing metal panel above a roll up door that was installed during the recent shell and core project. There is an existing exhaust already here, so there is precedent for a similar condition.

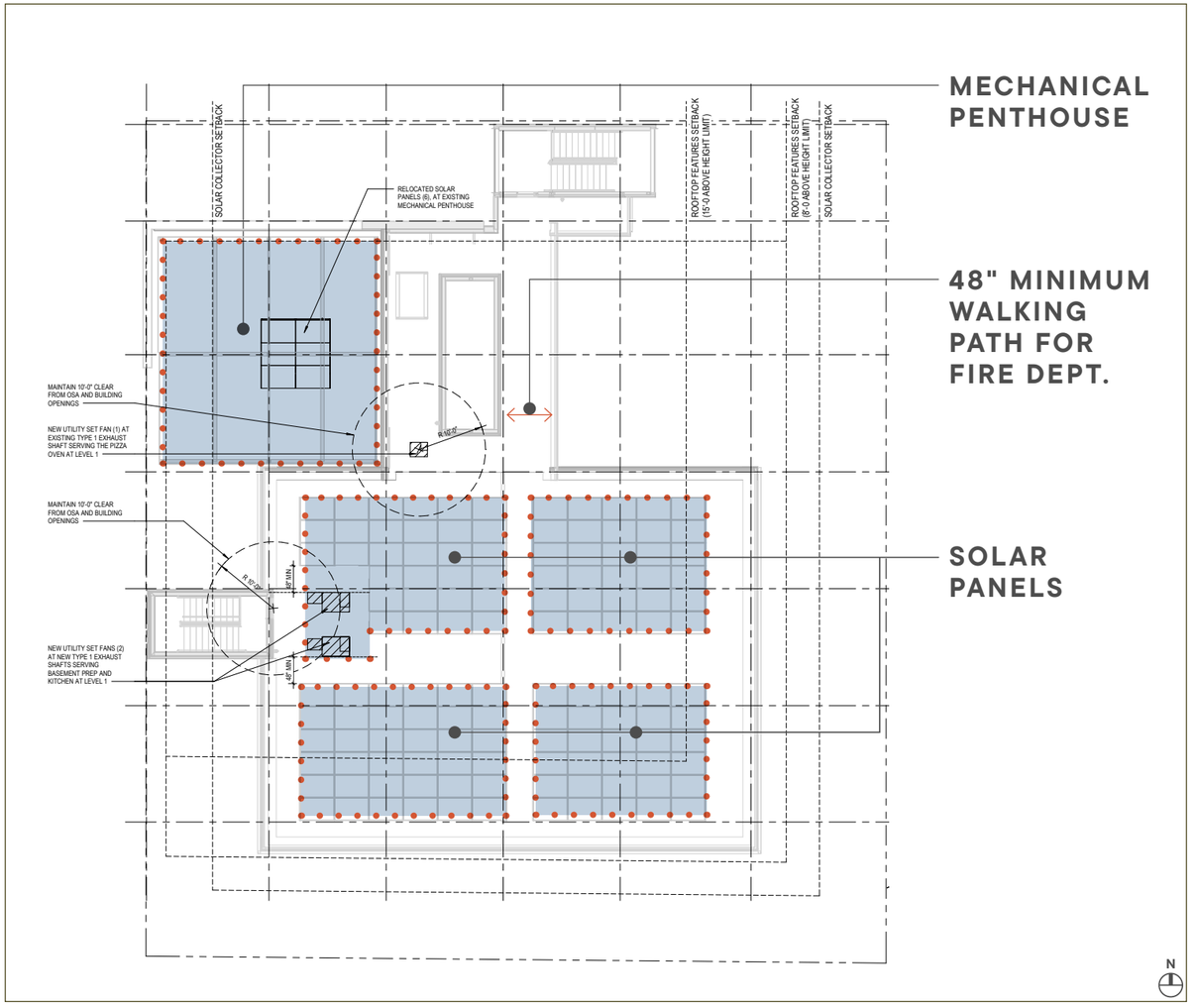
This route is not viable due to an existing main air handler duct and additional mechanical infrastructure. Additionally, this pathway exceeds the maximum 50'-0" distance to the exterior.

# NON-VIABLE PATHWAY OPTIONS

*West Facade by Other Building Tenant*

*Louvers Without Adequate Clearance Behind*

*Location of New Combustion Exhaust*




*Roof Plan*

## OPTION 3 - SECONDARY WEST ALLEY FACADE

To utilize the exiting non-historic elements of the facade, the team turned to the secondary facade on the West face of the building. Here there are existing windows and louvers that are not historic. One window will house a new, and approved, combustion exhaust. Two windows are located in another tenant space where a clean design and less infrastructure is key. The two existing louvers support an ERV exhaust, as well as an egress stair, which do not have allowable space behind.

## OPTION 4 - EXHAUST AT ROOF LINE

To locate a supply and exhaust pathway at the roof, the piping would need to travel through seven existing floors. Levels 3, 4, 7 and mezzanine have recently completed construction, making a pathway more difficult. Floor penetrations at Levels 2, 5, and 6 creates leasing difficulties.

Once at the roof, the only location available to new equipment is in circulation paths required for fire code. The roof also houses the minimum number of solar panels to maintain the building's LEEDs status, meaning these cannot be removed. Additionally this pathway exceeds the 50'-0" maximum.

# SECONDARY FACADES

The team prioritized locating the supply and exhaust lines at the secondary alleyway facades. The following pages show all non-historic elements on both secondary facades and identifies why they are not available to serve as outlet locations.

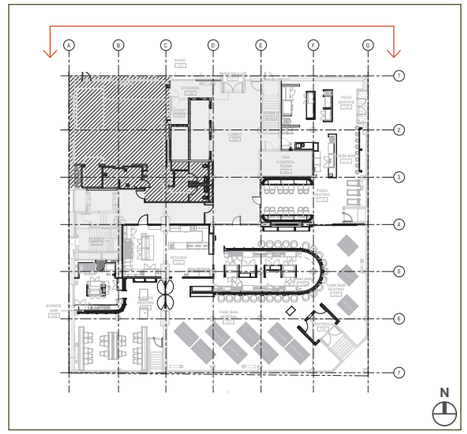
# SECONDARY FACADE - NORTH

## EXISTING NON-HISTORIC FACADE ELEMENTS

The blue and red dotted regions below note the architectural elements at level 1 on the North facade of 419 Occidental. These areas were prioritized to find pathways for the supply and exhaust outlets.

Explanations for why these pathways are not viable are noted below.

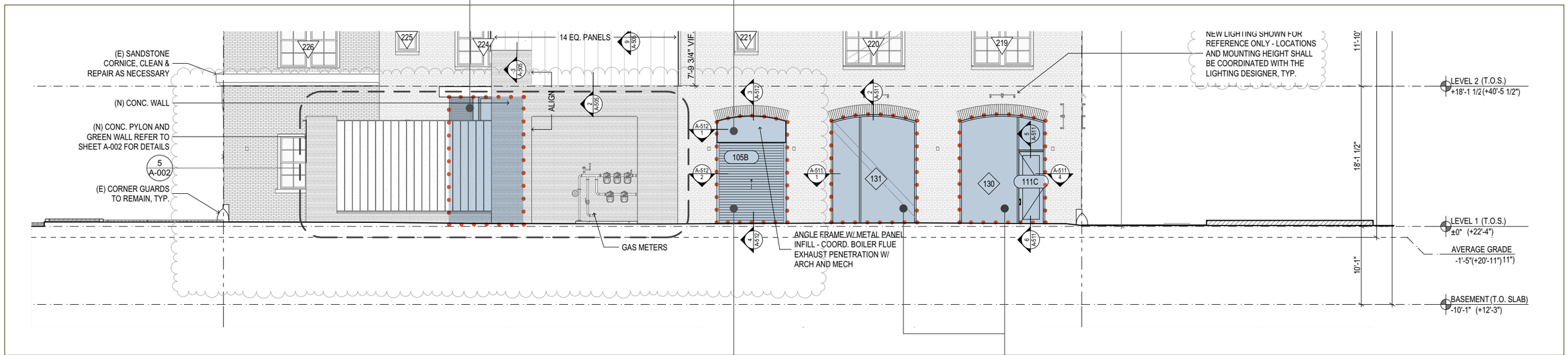
**Note, all pathways to the North facade exceed 50'-0" maximum distance to the exterior.**



*Level 1 Plan*

Existing louver and storefront beyond occupied by mechanical equipment behind with no clear space for the supply and exhaust. Storefront door serves as part of the egress path out of the building.

Existing metal panel does not have available space behind due to mechanical equipment.




Existing roll up door required for maintenance and storage.

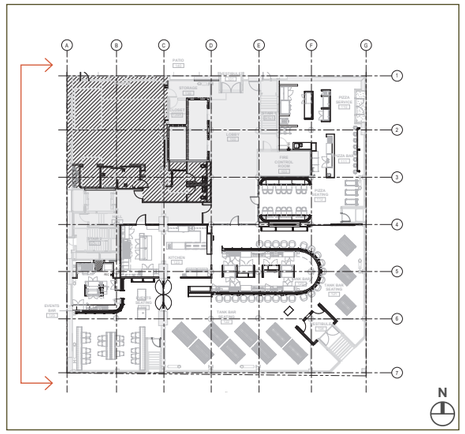
Openings located in a new tenant space with a high level of finish. Priority to maintain views out and reduce the quantity of infrastructure within the tenant space.

# SECONDARY FACADE - WEST

## EXISTING NON-HISTORIC FACADE ELEMENTS

The blue and red dotted regions below note the architectural elements at level 1 on the West facade of 419 Occidental. These areas were prioritized to find pathways for the supply and exhaust outlets.

Explanations for why these pathways are not viable are noted below.

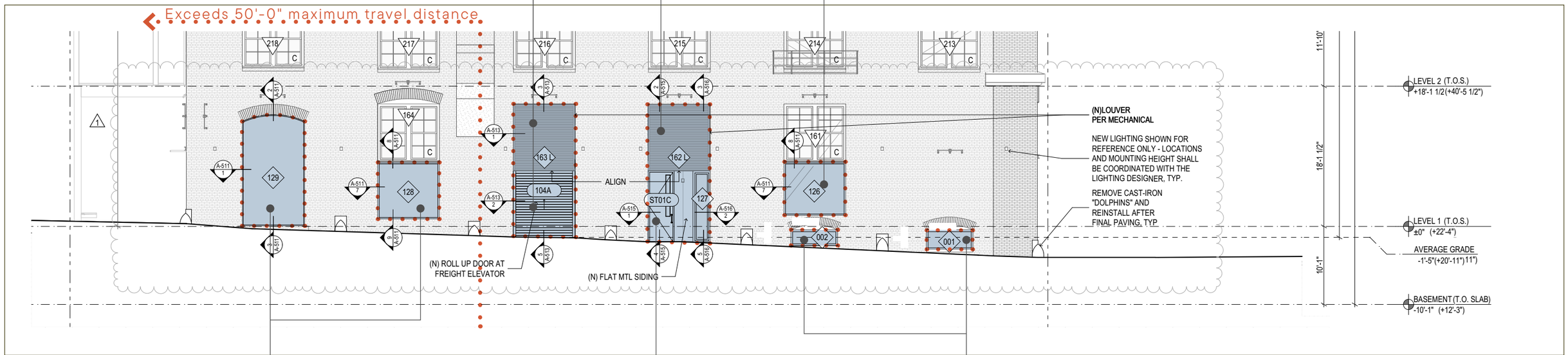


*Level 1 Plan*

Existing louver and freight elevator openings are occupied by mechanical equipment and an elevator.

The existing louver and window openings are occupied by mechanical equipment behind with not enough clear space for the supply and exhaust lines.

Existing opening would locate the piping within a kitchen space and cause a tripping hazard. Additionally, the pathway would exceed four 90 degree turns.




Openings located in a new tenant space with a high level of finish. Priority to maintain views out and reduce the quantity of infrastructure within the tenant space.

The existing door enters onto a 2-hour rated stair enclosure. Locating two pipes in this area conflict with egress space requirements.

Routes to the basement require more than the maximum four 90 degree turns. Additionally, a walk-in cooler and exhaust hood are located directly behind these openings.

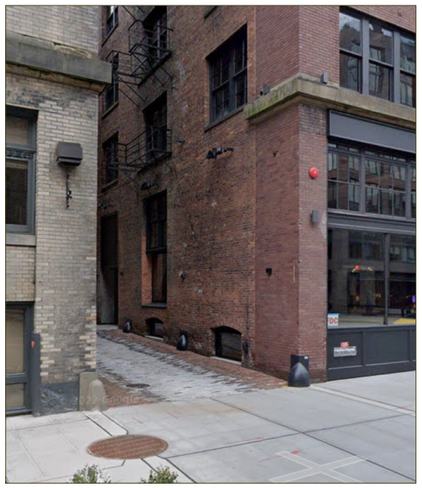
# PROPOSED PATHWAY

After considering all potential pathways, there is only one outlet to the exterior of the building which satisfies all supply and exhaust install requirements.

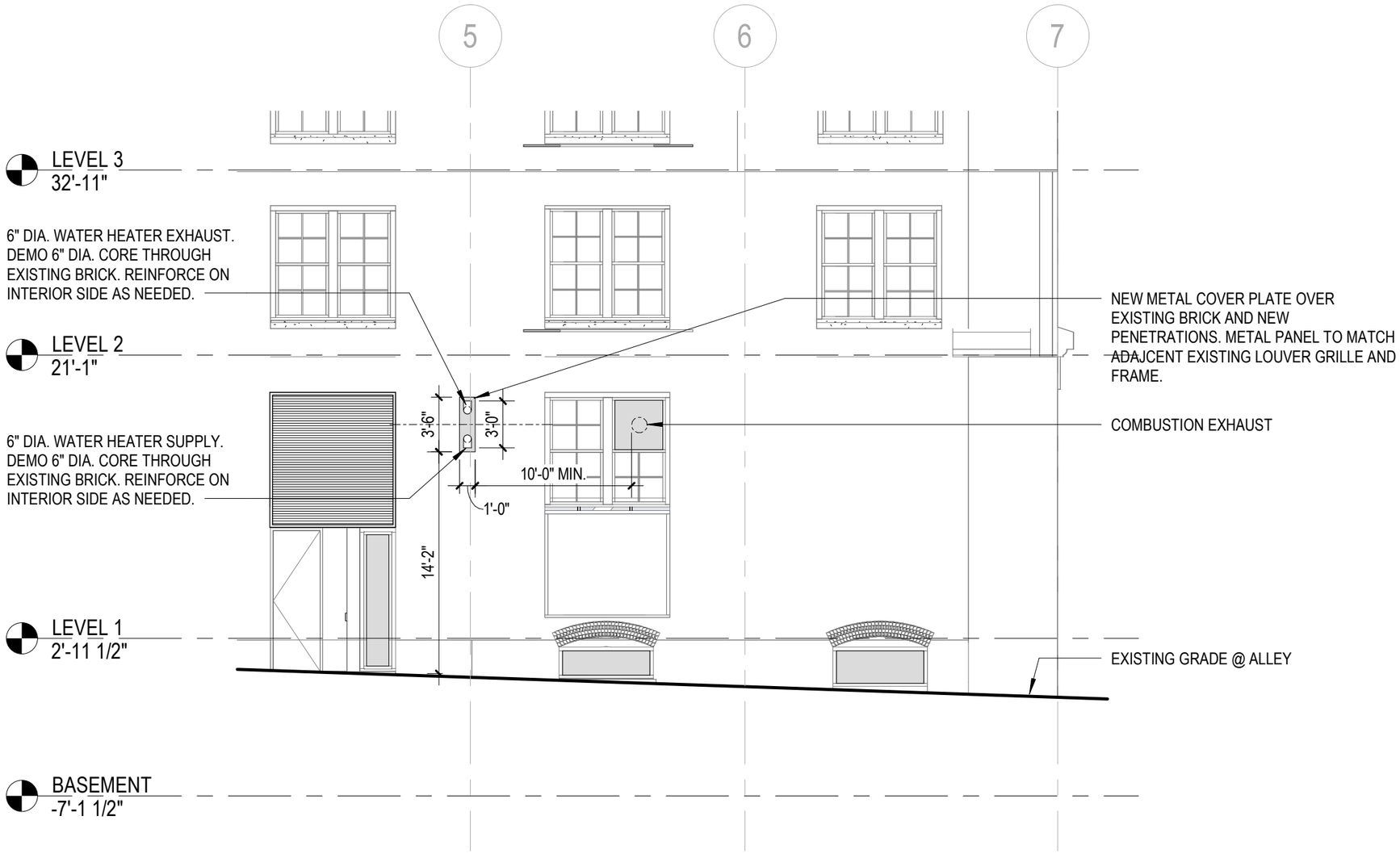
# EXISTING WEST FACADE



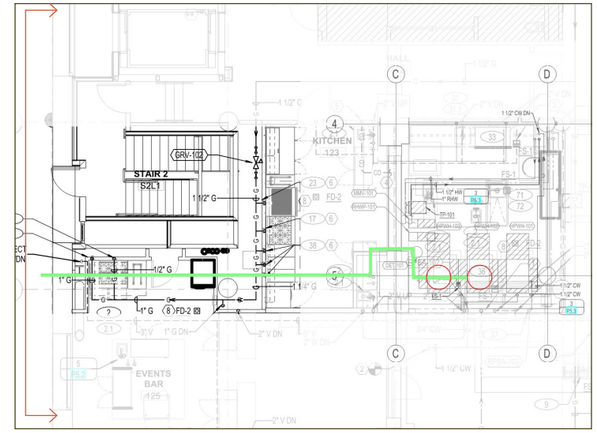




# PROPOSED WORK AT WEST EXTERIOR ELEVATION




*West Exterior Elevation*




*Level 1 Plumbing Plan*

## HISTORIC BRICK REMOVAL

The proposed supply and exhaust pathway at the exterior of the building requires two 6" diameter cores through the existing historic brick.

## NEW BUILT PIECES

A new metal cover plate is proposed to provide support at the brick and a water tight seal where penetrations occur. The metal panel will be painted to match the adjacent metal louver panel (black) that is consistent throughout the ground plane storefront. The total area the metal panel will cover is approximately 42"x12".

The two penetrations will contain 6" diameter UV resistant black PVC pipes. These pipes will be painted black to match the adjacent storefront (black). The top pipe turns up 6" and the bottom pipe turns down 6".

# PROPOSED WORK AT WEST EXTERIOR ELEVATION

*Proposed Demo Extents*

*Proposed New Supply & Exhaust*

*Existing Storefront Black Paint*

*Existing Dark Metal Panel*