



# PIKE PLACE MARKET PC-1S ELEVATOR DESIGN AND STAIR UPGRADE

## REVIEW OF DESIGN OPTIONS AND DECISIONS

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## PIKE PLACE MARKET

### PC-1S ELEVATOR REPLACEMENT AND SOUTHWEST STAIR UPGRADES

Our office was contracted by the Pike Place Market Preservation Development Authority to provide a feasibility report for the installation of a new elevator to replace elevator number 3 to serve the southwest corner of the PC-01 South parking garage. This effort included review of the existing stair structure at this location for code compliance and connection improvements to the right of way on Alaskan Way.

The following is a written summary and graphical depictions of the identified options for both the elevator and stairs.

#### ELEVATOR REPLACEMENT

Elevator number 3 (installed in 1990) is a hydraulic elevator currently located at the southwest corner of the garage facility, and serves all six floors of the parking garage. For its location and use, it is considered a slow elevator, and it is subject to frequent service disruptions. It is a moderate to highly used elevator facility, connecting people between Alaskan Way and Western Avenue, between the Waterfront and the Pike Place Market. When the new Waterfront Seattle promenade, realigned Alaskan Way, the new Overlook Walk, and the new Seattle Aquarium Ocean Pavilion are complete, this corner of the garage and the elevator will become a more highly utilized access point between the Waterfront and Alaskan Way. The Pike Place Market has undertaken an effort to improve the mobility for people at this location, and evaluated improvements to the elevator that include the size of the elevator and the speed of the elevator.

Three elevator options were evaluated in detail.

1. Enlarge existing elevator shaft, install new larger traction type elevator.
2. Rehabilitate existing elevator within existing shaft, add new traction elevator for express travel between grade and top level.
3. Rehabilitate existing elevator, code upgrades.

Among these identified options for the elevator, the Pike Place Market team determined the most cost effective solution would be to replace the existing hydraulic elevator with a new traction elevator (referred to as Option 1). The new traction elevator will be both larger and faster than the current hydraulic elevator, and can be accommodated in approximately the same shaft location – with a wall expansion on the east side of the shaft. The project costs associated with utility disruption and building structure limitations were primary factors for selecting this option.

The size of the elevator shaft will be increased by approximately 18 inches on the east side, and the penthouse for the elevator will need to extend five (5) feet higher on Level 6 of the garage, than exists today. The south side of the existing shaft will be enclosed, eliminated the existing glass window. The new elevator shaft not have any windows, and the new siding material for the shaft is proposed to be a metal siding to match the siding installed at the recently completed MarketFront Addition to the Pike Place Market.

The new larger surface area of the elevator shaft provides opportunity for the Market to install iconography, visual graphics, or other visual cues to communicate the location as an entry to Pike Place Market from the newly realigned and completed Waterfront Promenade. The current proposal is to design and install a large neon/led lighted clock to match the iconic clock incorporated within the signage at the Pike Street market entrance. The final design of this element is subject to Pike Place Market PDA, Council, and Historical Commission approvals.

## STAIR STRUCTURE

In our overall analysis of the vertical transportation at this corner of the building, we also completed a detailed review of the existing stair structure.

The existing stair is a steel structure supported by the south and west concrete walls at the corner of the parking structure, and by two vertically placed steel columns that extend the full height of the stair structure. Each column is supported by a below grade cast concrete foundation pile. The design of the existing garage and stairs conformed to the adopted building code at that time, the 1985 Uniform Building Code with amendments.

The stair is comprised of concrete landings with steel horizontal pipe railings. The mid-landings are rounded, which makes the overall user experience feeling constrained. The pipe railing spacing does not comply with current Seattle Building Code (2018 International Building Code with amendments) requirements – namely, the railing spacing of 6 inches exceeds the maximum allowable spacing of 4 inches for openings within the railing system, and the height of the guard railing varies in a number of locations from the current code requirements of 42 inches.

The City of Seattle is currently redeveloping the Seattle Waterfront, which includes realigning Alaskan Way, adding new park promenades on both the east and west sides of Alaskan Way, adding a new dedicated bicycle track, new connections at Union and Marion streets, and a new Overlook Walk. The Alaskan Way roadway elevation will be raised approximately ten feet, and realigned to be adjacent to the garage, requiring a new entrance be created at the southern west-facing corner of Level 2 to meet the new street alignment. The old entrance and exit located on Level 1 have been permanently closed and decommissioned.

The existing stair currently lands at ground level, adjacent to the Fix Madore parking lot and City right of way. Once the Alaskan Way roadway realignment is complete, the stairs will no longer connect to the sidewalk on Alaskan Way, forcing pedestrians to walk through the Fix Madore parking lot, up a steep driveway grade to reach the new sidewalk and promenade.

The Pike Place Market, in collaboration with the Waterfront Seattle program, sought to improve the connections between the Market, Western Avenue, and the new Alaskan Way for pedestrians using the garage for vertical movement. Key programmatic criteria for potential modifications to the stair were as follows:

1. Make modifications necessary to upgrade stair to comply with current building code requirements.
2. Provide modifications to reflect the location of the stair as a major pedestrian circulation element for the southern entry to Pike Place Market from Alaskan Way and the Waterfront Promenade.

3. Safety and security are to be considered primary determinants for any proposed modifications.
4. Respond to the new configuration of Alaskan Way whereby Level 2 becomes the primary entry point for vehicles and pedestrians – directly from Alaskan Way. Specifically create a direct entry to stair from Alaskan Way.
5. Provide a solution that reflects the location of the stair as the first point of connection to the Market, visually connecting the stair and elevator to the remainder of the Market.
6. The cost for any proposed modifications is to be evaluated to conform to the overall project budget.

Our feasibility report provided four potential options for satisfying the issues noted above. Key constraints and considerations include location of property lines at two sides of the stair structure, the need to maintain the stair as a required means of the egress for the parking structure, and the current location of the fire department connection at the southwest corner of the garage. All options listed below increase the landing size at each floor return to improve user experience and circulation. Similarly for all options, the ground level space (Level 1) below the new stair landing will be converted to an enclosed storage area for Market use. Material vocabulary is the same across options, and is designed to match the recent Marketfront addition, providing visual connections to the users, and establishing the stairs as a more intentional entry to the Pike Place Market. The stair railings are flat galvanized steel with an infill of wire mesh, using the same specific details to match railings at the MarketFront Addition. Photos of the existing railing are provided in the graphics following the written descriptions.

**Option 1** proposes minimal modifications to the overall stair layout, maintaining the existing circulation design and extends the stair in a straight run from Level 3 to Level 2, landing at the sidewalk along Alaskan Way. The existing stair above Level 3 is to remain intact. The Seattle Building Code allows for 12 feet (vertical) of continuous run of stairs before a landing is required. Because the existing floor-to-floor dimension at the garage is 10 feet, the new stair section complies with the code. The new stair landing at the sidewalk would be adjacent to the south wall of the garage, and extend into the right of way by approximately 12 inches. For this option, the proximity of the stair to the interior garage entry creates a problematic and awkward relationship between the stair and entry to the garage by extending past the wall (see graphics).

**Option 2** used the same extension concept described in Option 1 (straight run from Level 3 to Level 2), but switched the stair direction to allow for the extension from Level 3 to Level 2 be separated from the interior garage entry. This design resolves the stair/entry issues created in Option 1. This design meets Seattle Building Code standards.

**Option 3** altered the direct stair run from Level 2 to Level 3 to provide an intermediate landing, as well as creating additional space at the new base of the stair for improved queuing and circulation. To achieve more circulation space at Alaskan Way, this design extends south over the right-of-way approximately three (3) feet to avoid the southern most steel support column supporting the stairs structures.

**Option 4** seeks to open the space at the new base of the stair for queuing and circulation, a creates a small transition plaza area to serve as the symbolic entry to the Market. This design allows the new landing to better integrate with the sidewalk at Alaskan Way, by extending over the right of way approximately 9-and-half feet, and matches up with the east-west run of the new bioretention wall and railing. This creates a more open and seamless connecting plaza, and eliminates constrained spaces created by stair overhangs. The wider plaza space allows the Pike Place Market an opportunity to create invitation to the Market by activating the space with Market related graphics or art.

All of the options evaluated will require a right-of-way easement. Options 1 and 2 have the smallest right of way footprints, and will extend over the west property line approximately 12 inches. The easement required would be at grade level to accommodate the end of the reconfigured stair. Options 3 and 4 have larger right of way footprints, and extend over the south property line, 3 feet and 9'-6" respectively. In contrast to the first two options, both Options 3 and 4 are above-grade, with no apparently limitation created to the at-grade access, including the utility maintenance lids. Once the new Waterfront promenade is completed, this area will not be used as a through passage right-of-way for vehicles or pedestrians.

Per the Seattle Municipal Code, Annual/Renewable (Non-Construction) Permits are issued for long term use of the right-of-way such as signs, retaining walls, canopies, structural overhangs and sidewalk cafes. The proposed stair/landing overhangs fall into this category of improvements. These permits require an annual fee and in some cases liability insurance or a public place indemnification agreement. Although these permits are issued for uses that may seem permanent they are considered temporary in nature and are by statute allowed to be revoked within 30 days.

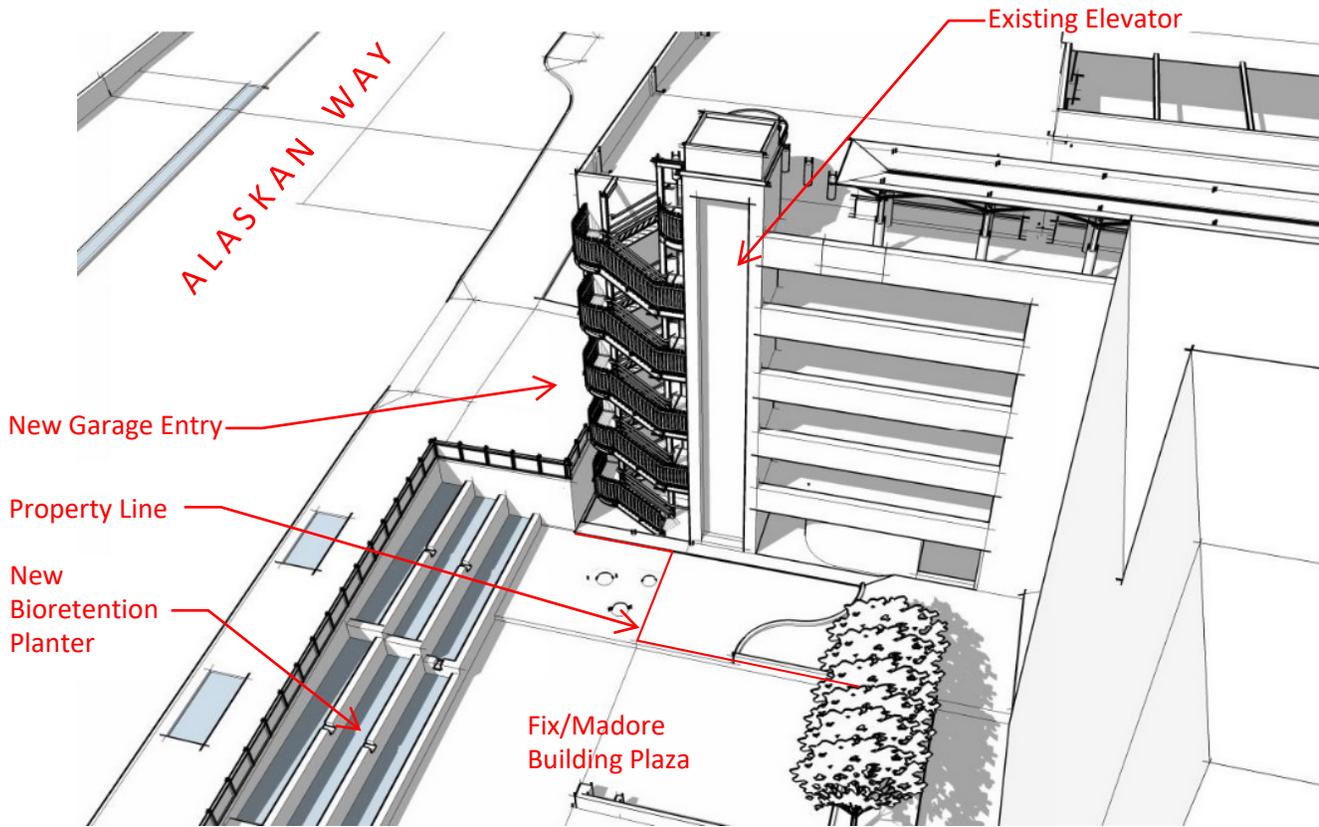
Annual/Renewable Permits are scheduled to renew yearly and are subject to annual issuance and renewal fees. The current approximate annual issuance/renewal cost is \$400.

The table on the next page summarizes each option's performance against the key programmatic criteria described above. Options that create confined spaces were deemed undesirable because of potential safety and security concerns. Based upon a review of the options presented, Option 4 was selected to be best option for satisfying the most program requirements.

**KEY PROGRAMATIC CRITERIA AND COMPARISON OF OPTIONS**

	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>	<b>Option 4</b>
Make modifications necessary to upgrade stair to comply with current Seattle Building Code requirements.	All proposed stair runs, railings and dimensions meet code requirements.			Stair runs, railings, and design meet code requirements; revised stair runs between Levels 3 and 2 create shorter vertical runs.
Provide modifications to reflect the location of the stair as a major pedestrian circulation element for the southern entry to Pike Place Market from Alaskan Way and the Waterfront Promenade.	Stair landing meets code clearance requirements; user experience is constrained between stairs and railing, utilitarian feel	Stair landing meets codes requirements for clearances and widths, user experience is constrained between stairs and building, little space or design area to activate or invite entry and use.	Stair landing meets code requirements for clearances, widths, and rise; wider grade-level landing provides more space for volumes, circulation, and queuing.	Stair landing meets code requirements for clearances, widths, and rise; mid-level platform allows stair configuration to extend out from grade level, opening up a more plaza entry feel, exposing walls for signage and art, and providing space for queuing at stairs or elevator.
Safety and security are to be considered primary determinants for any proposed modifications.	Design creates constrained space beneath stairs at Level 2, between stairs and exit doorway; stairs land at sidewalk, extending approximately 12" into right of way, creating problematic relationship between stairs and interior garage entry/exit.	Design creates constrained shelter space beneath stairs at Level 2; narrow walkway and user experience.	Design creates additional constrained shelter space beneath stairs at Level 2; improved walkway width between stairs and building.	Design creates wider plaza area for activation and entry use, eliminates shelter spaces beneath stair runs.
Provide a solution that reflects the location of the stair as the first point of connection to the Market, visually connecting the stair and elevator to the remainder of the Market.	Stairs and landing connect to Alaskan Way sidewalk with minimal design modification; look and feel of platform area is constrained in space, minimally functional, no queuing or circulation space	Similar to Option 1.	Similar to Options 2 and 1, more space at Alaskan Way sidewalk landing for queuing and circulation.	Creates small plaza type entry way, exposing walls and space for signage, interpretive installations and wayfinding, and queuing and circulation space for users to access stairs or elevator lobby.

### OVERHEAD VIEW - EXISTING ELEVATOR AND STAIR

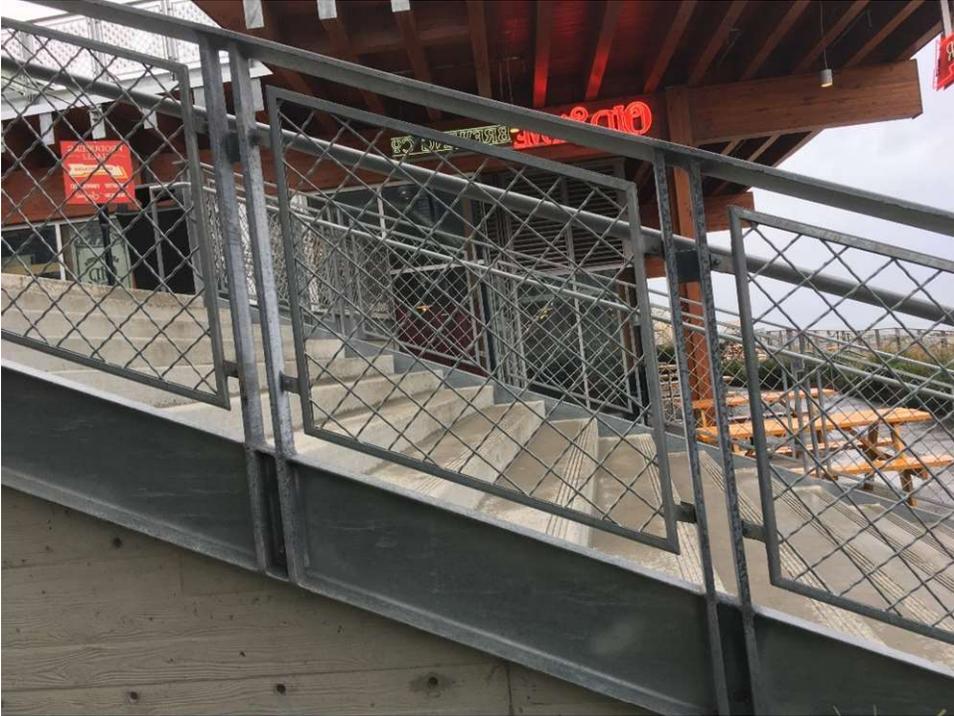


Sketch showing existing base condition after completion of Alaskan Way Improvements – with no changes shown for stair or elevator.

REVIEW OF VOCABULARY OF THE MARKETFRONT ADDITION



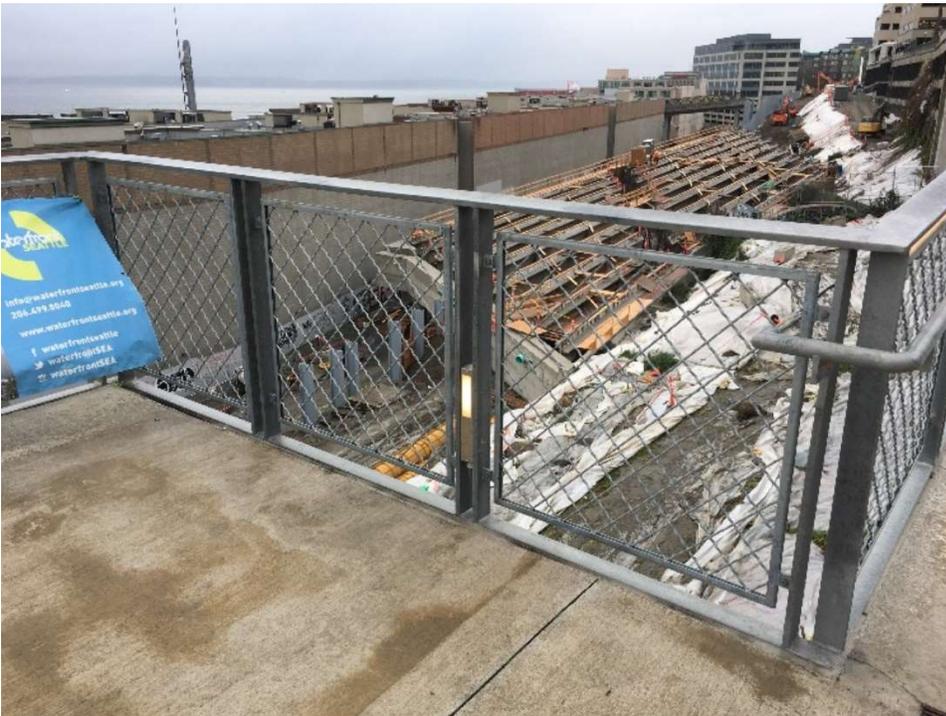
Typical screen railing at overlook.



Screen railing at stair.



Screen railing at stair.



Screen railing at overlook.

## EXISTING CONDITIONS

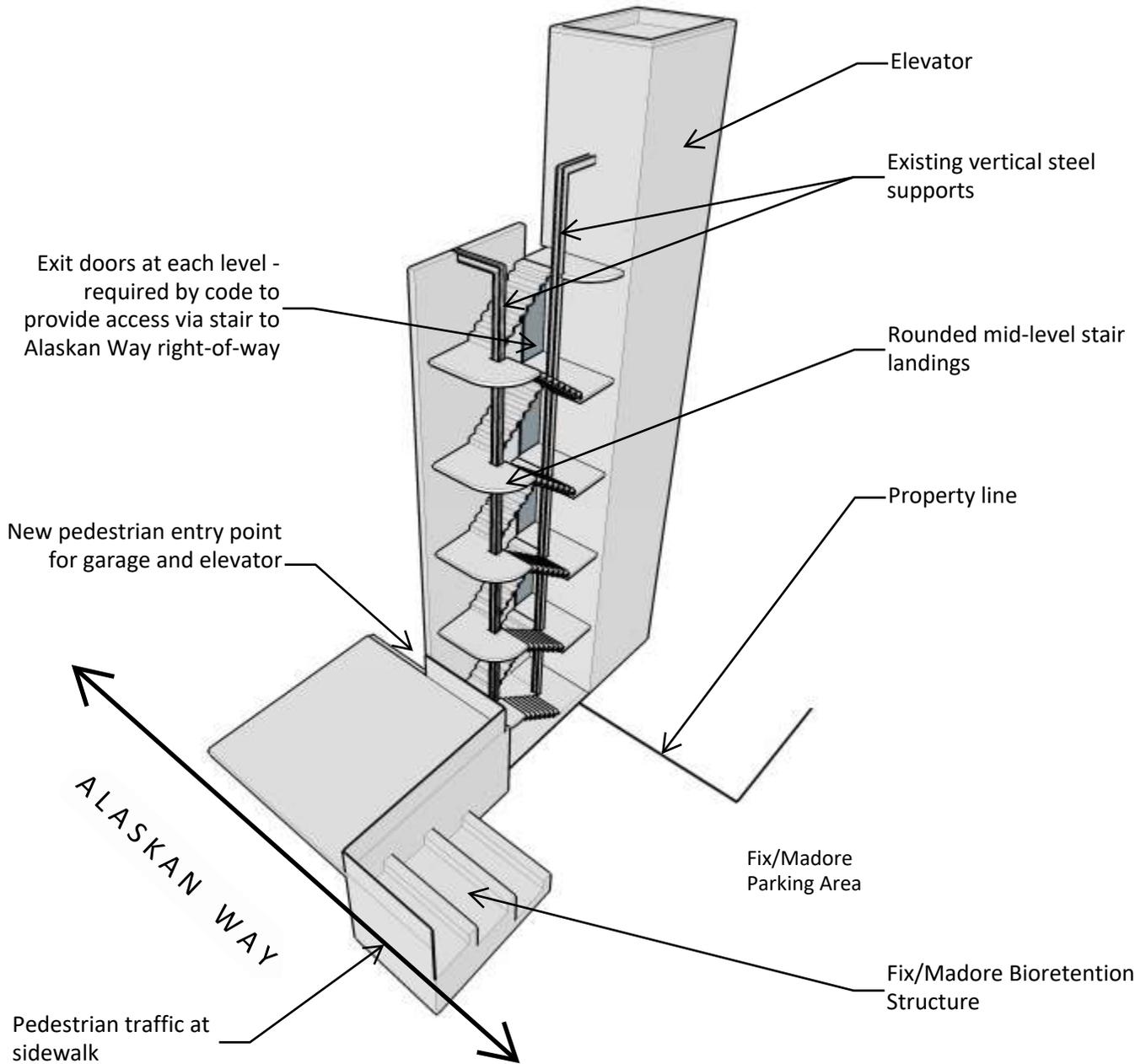


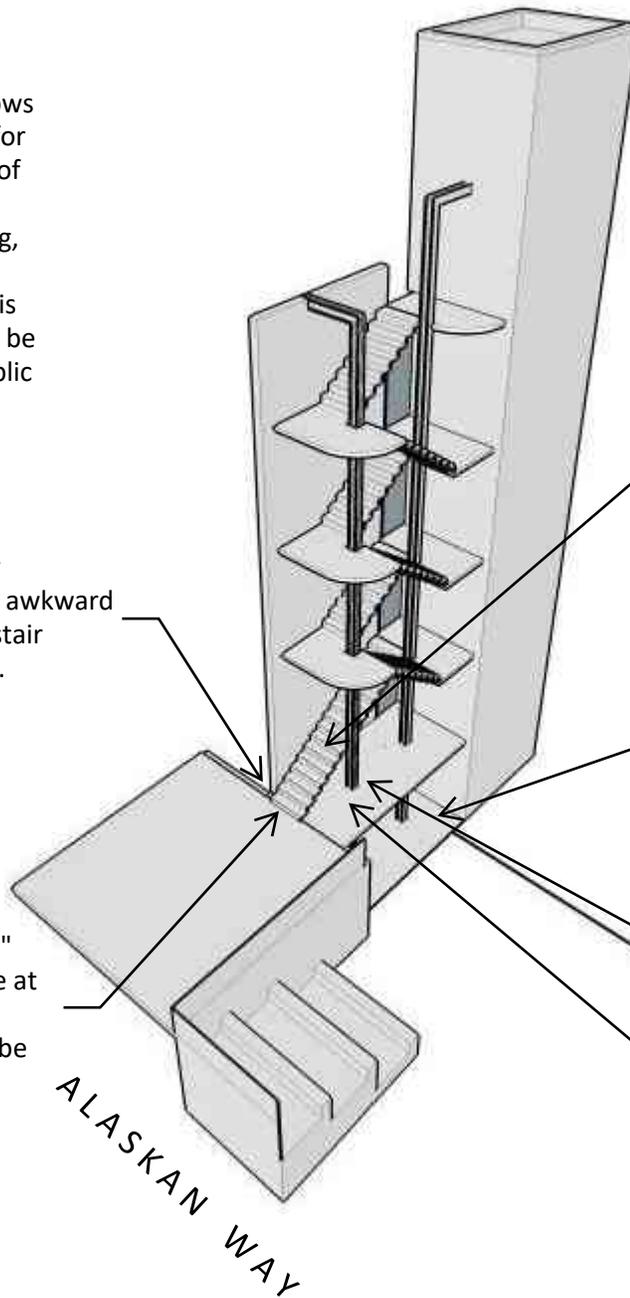
Diagram showing base condition with existing stair extending to Level 1 with no connection to Alaskan Way.

## OPTION 1

While the Seattle Building Code allows 12 feet (vertical) for a continuous run of stairs before requiring a landing, a long flight of continuous stairs is not considered to be an acceptable public design element.

Adjacency of stair extension creates awkward condition where stair projects past wall.

Stair extends approximately 12" over property line at right-of-way - easement would be required.



New extension of stair from Level 2 to Level 3 (10 feet vertical in a continuous run)

Existing stair access to grade at Fix/Madore parking area removed  
The area below landing becomes a storage area.

The space below and behind the stair will create a bad security situation - allowing for a concealed area

New concrete deck and railing

Access to Alaskan Way with stair in existing configuration.

**OPTION 1**



Path to Level 2  
exit door

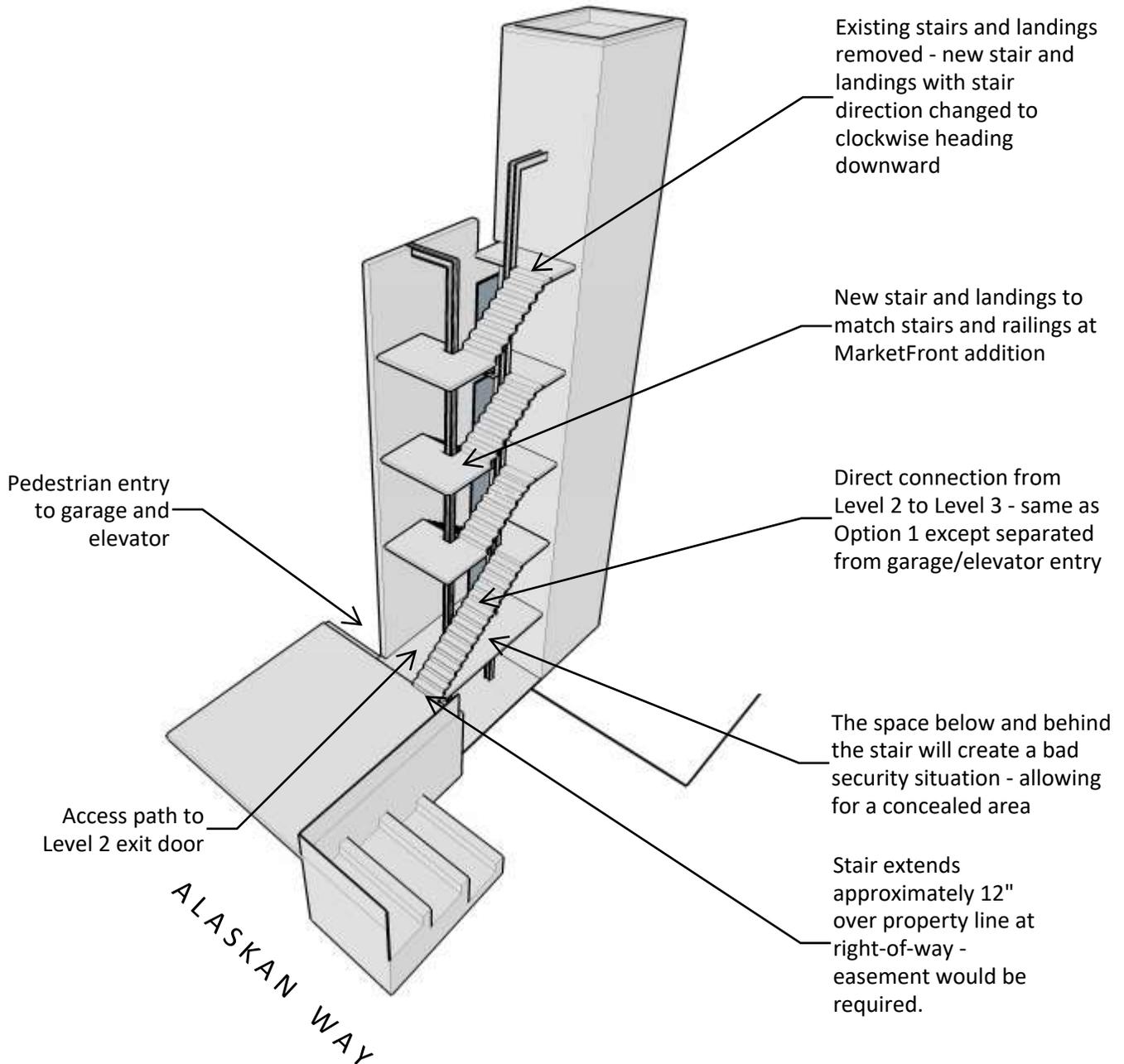
Note the gap created by the  
alignment of the garage  
railing at the property line  
and the location of the  
railing at the bioretention  
wall - this would need to be  
resolved.

Chain link gate/fence to be  
installed at this location

Stair extends  
approximately 12"  
over property line at  
right-of-way -  
easement would be  
required.

New steel pipe railing to match  
existing stair railing to be  
installed at this location by  
Garage Project

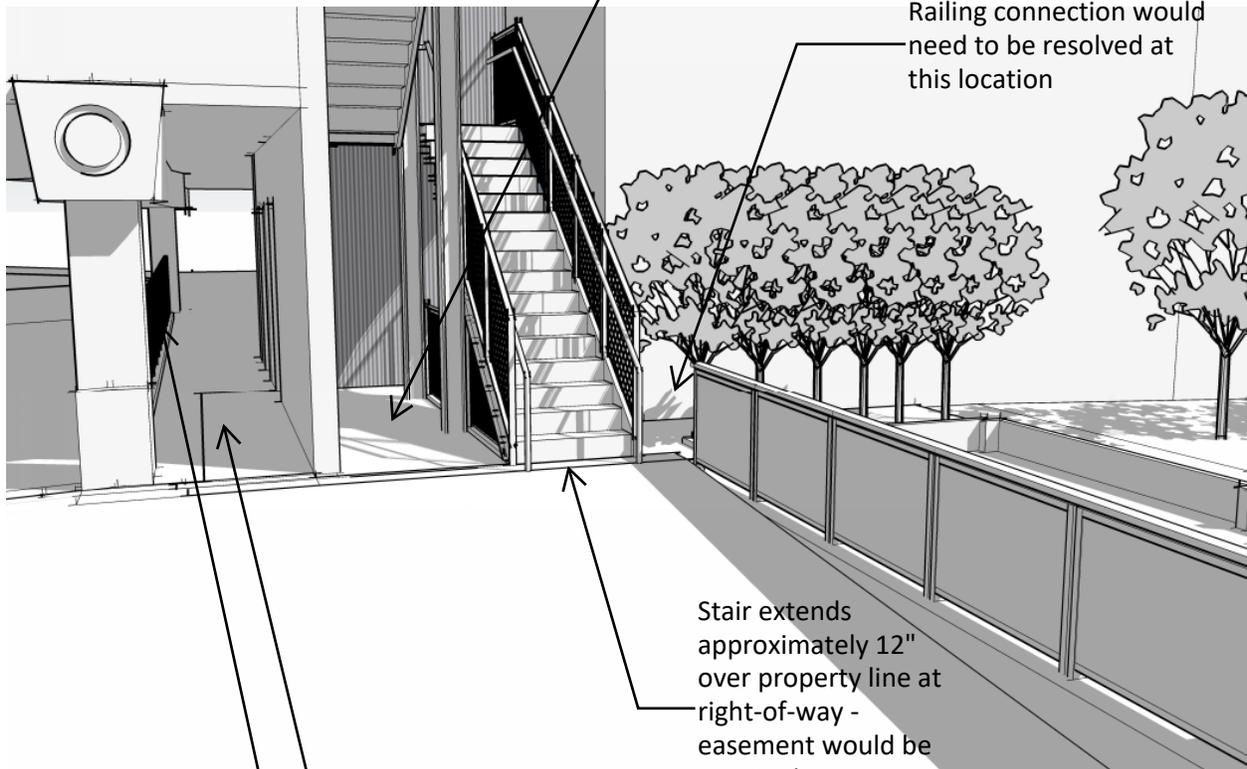
## OPTION 2



Change stair direction, with new stair construction to match MarketFront stair vocabulary.

The new stair is complies with the building code, and is separated from the garage entry.

**OPTION 2**



Path to Level 2  
exit door

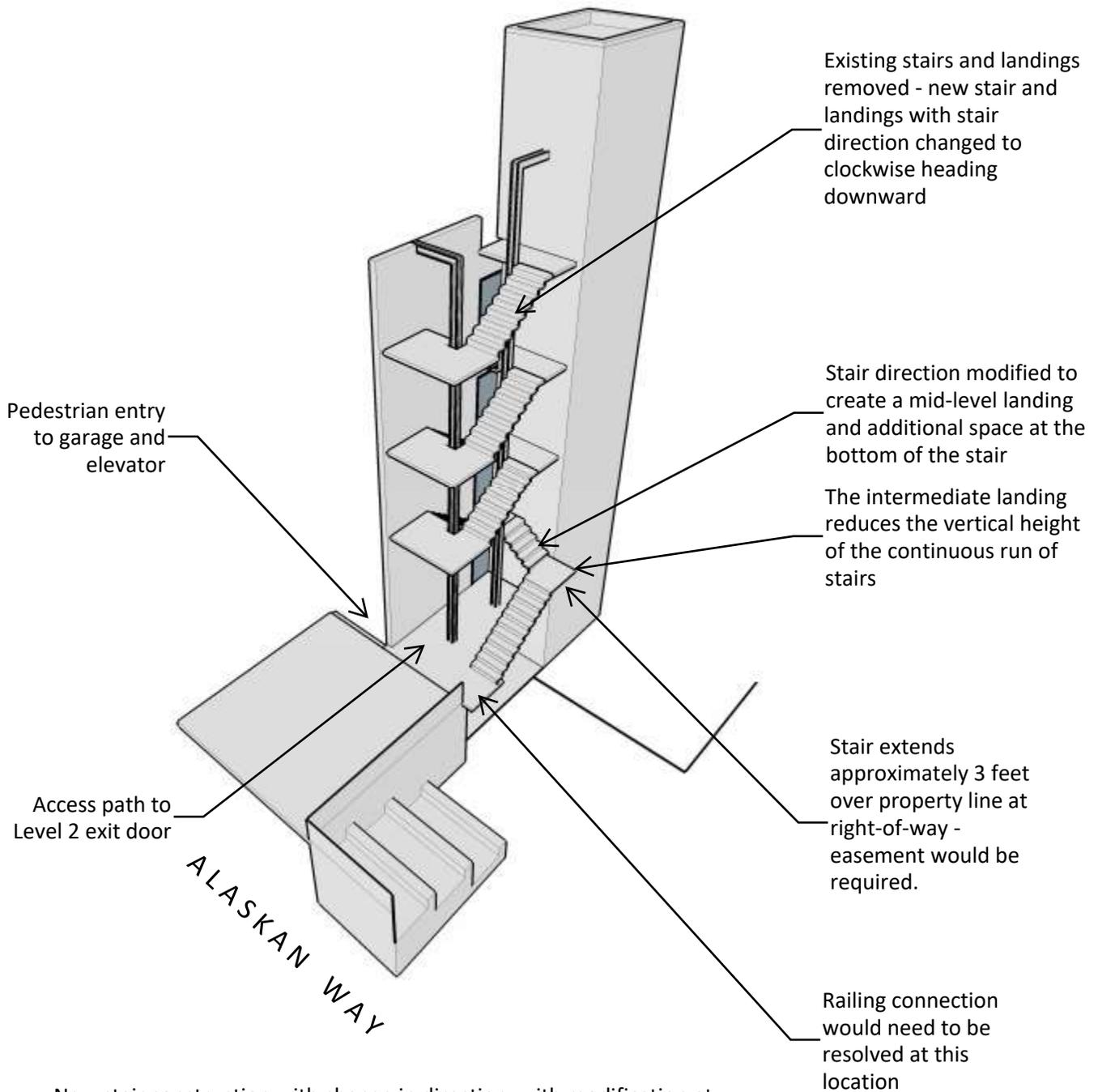
Railing connection would  
need to be resolved at  
this location

Stair extends  
approximately 12"  
over property line at  
right-of-way -  
easement would be  
required.

Chain link gate/fence to be  
installed at this location

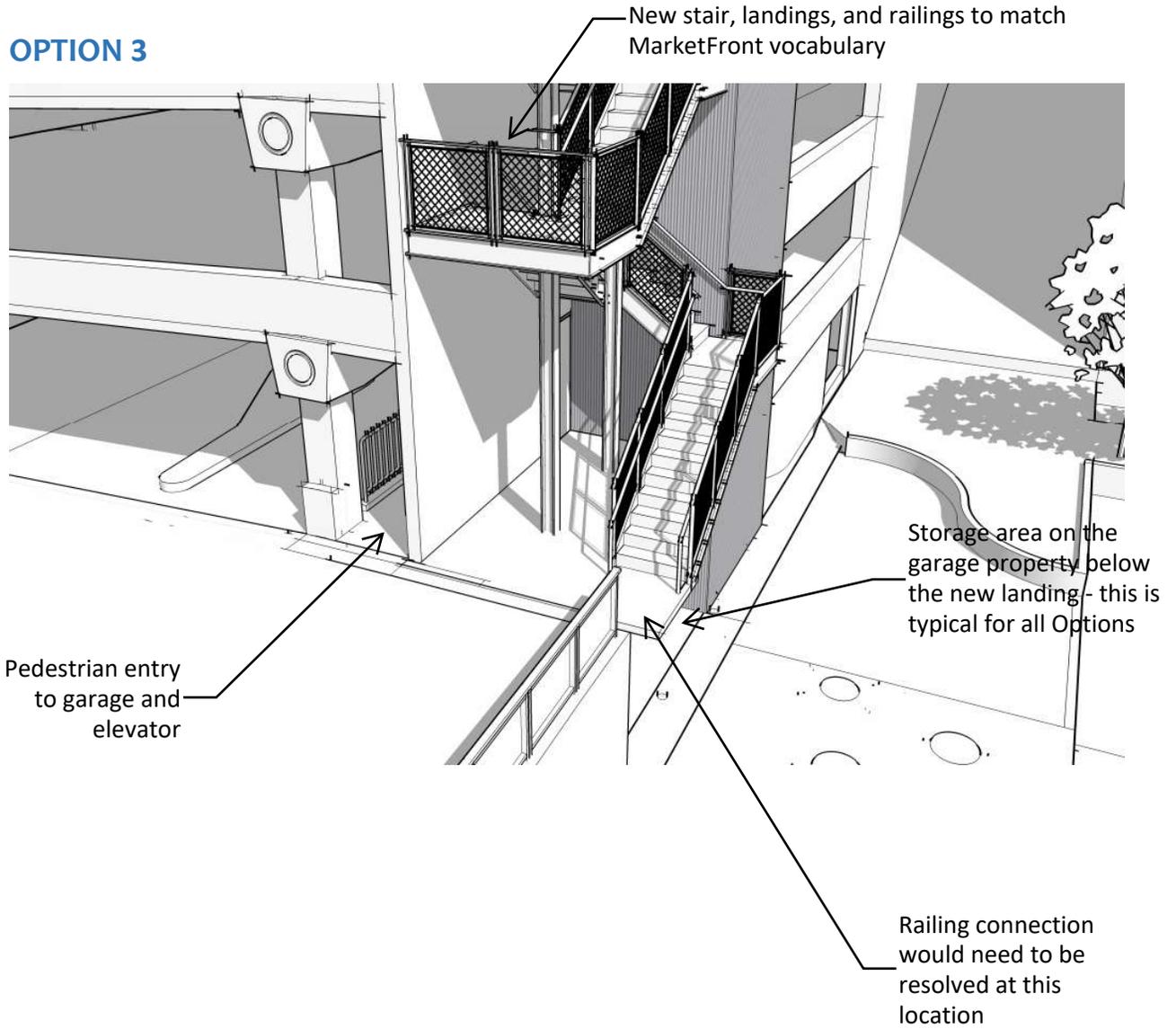
New steel pipe railing to match  
existing stair railing to be  
installed at this location by  
Garage Project

### OPTION 3

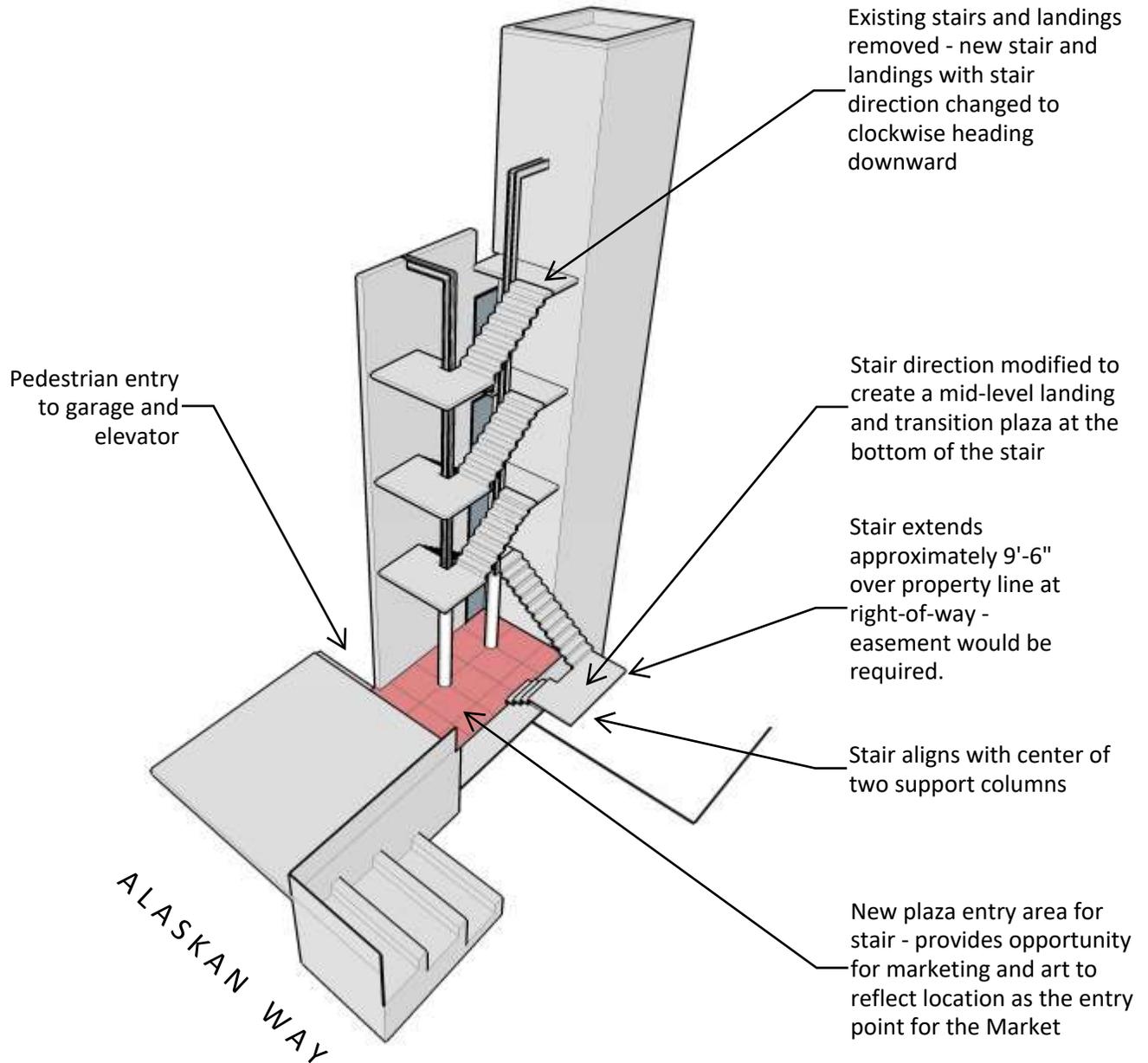


New stair construction with change in direction, with modification at Level 2 to allow start of stair to be set back from property line.

**OPTION 3**



## OPTION 4

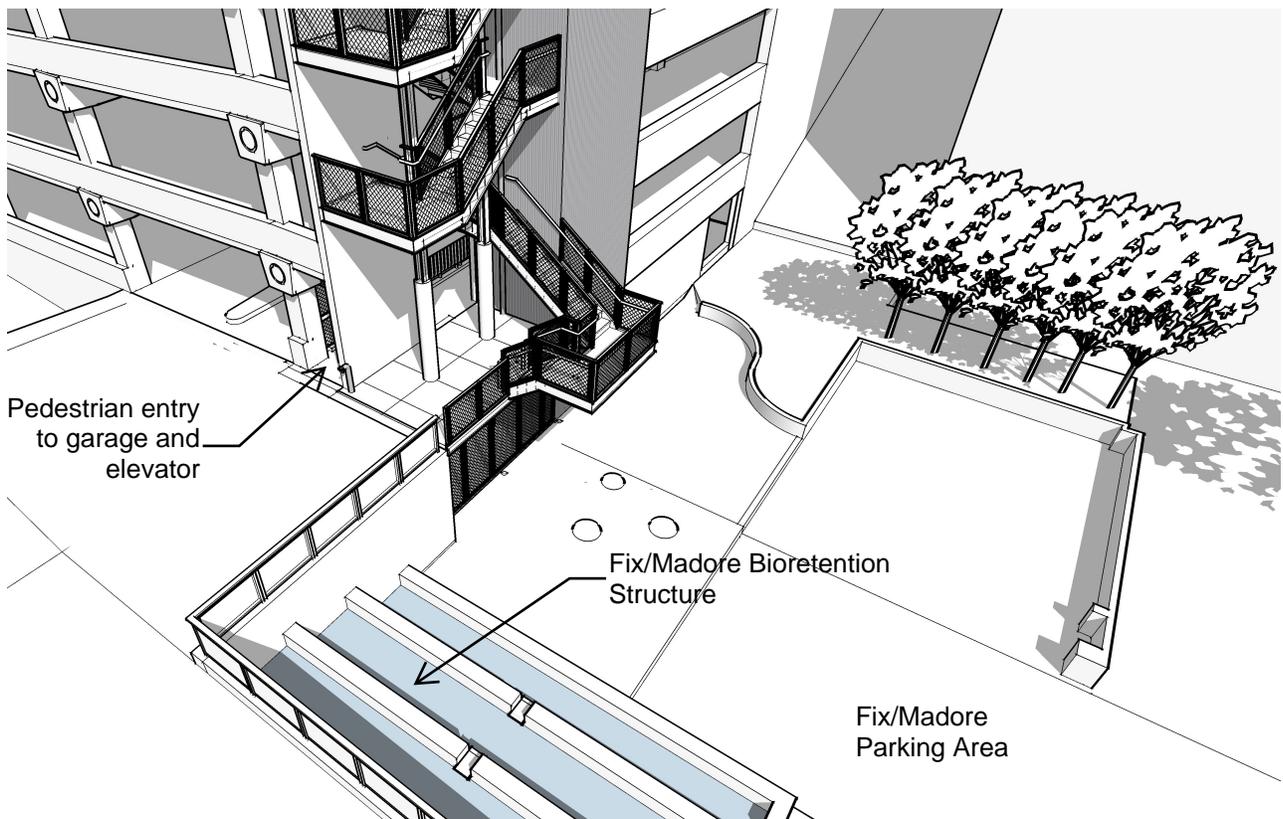
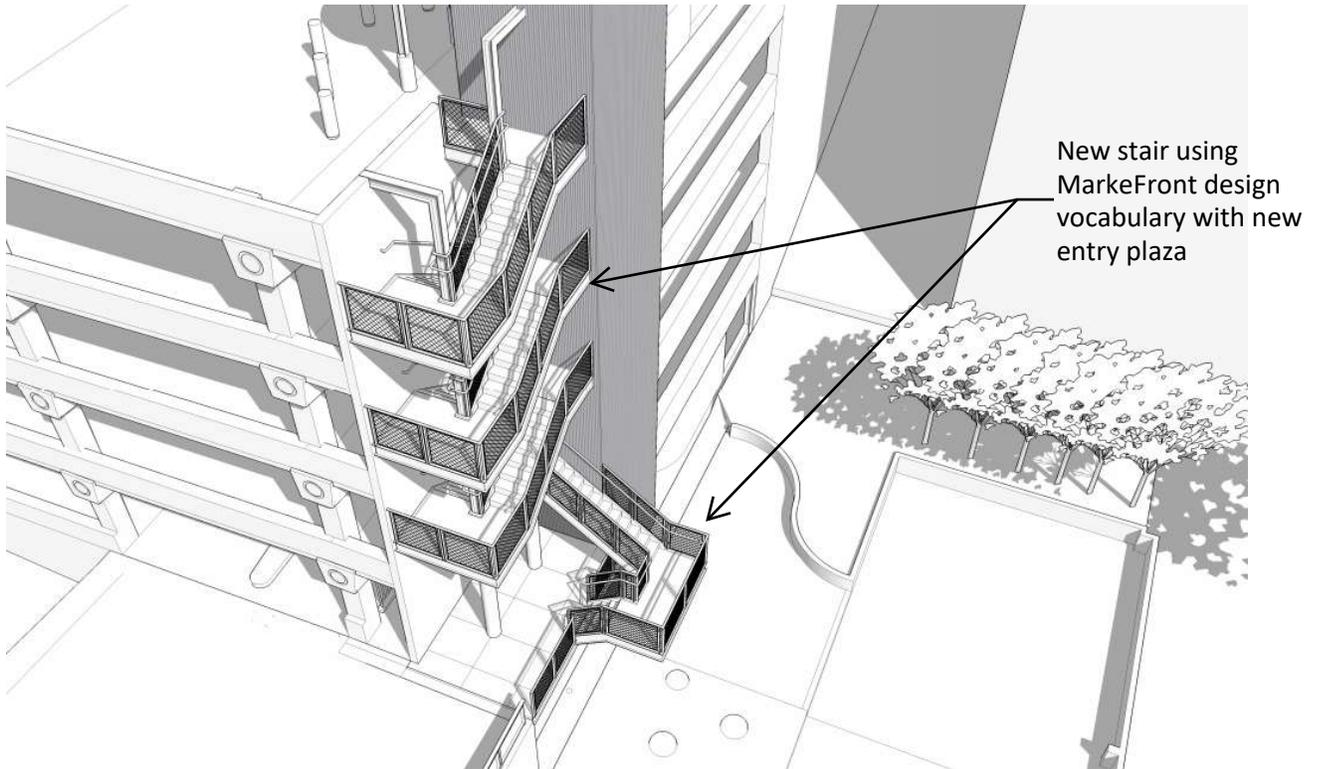


New stair construction with change in direction, with modification at Level 2 to create a stair plaza area at Level 2.

Stair length between Level 2 and 3 is reduced by new landing, which is oriented to allow for an open queuing area at the base of the stair structure.

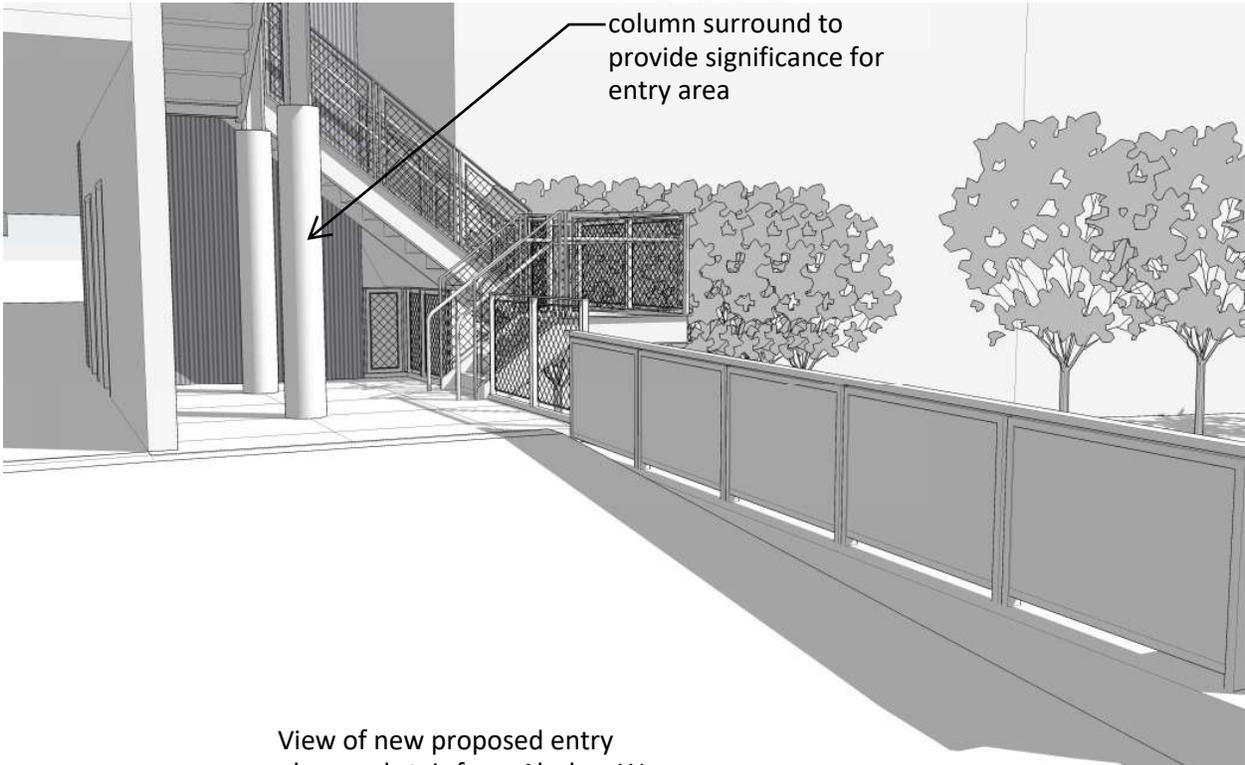
This solution also eliminates any nooks or hidden areas that could compromise security. The area below the new landing is proposed to be physically and visually closed off.

OPTION 4



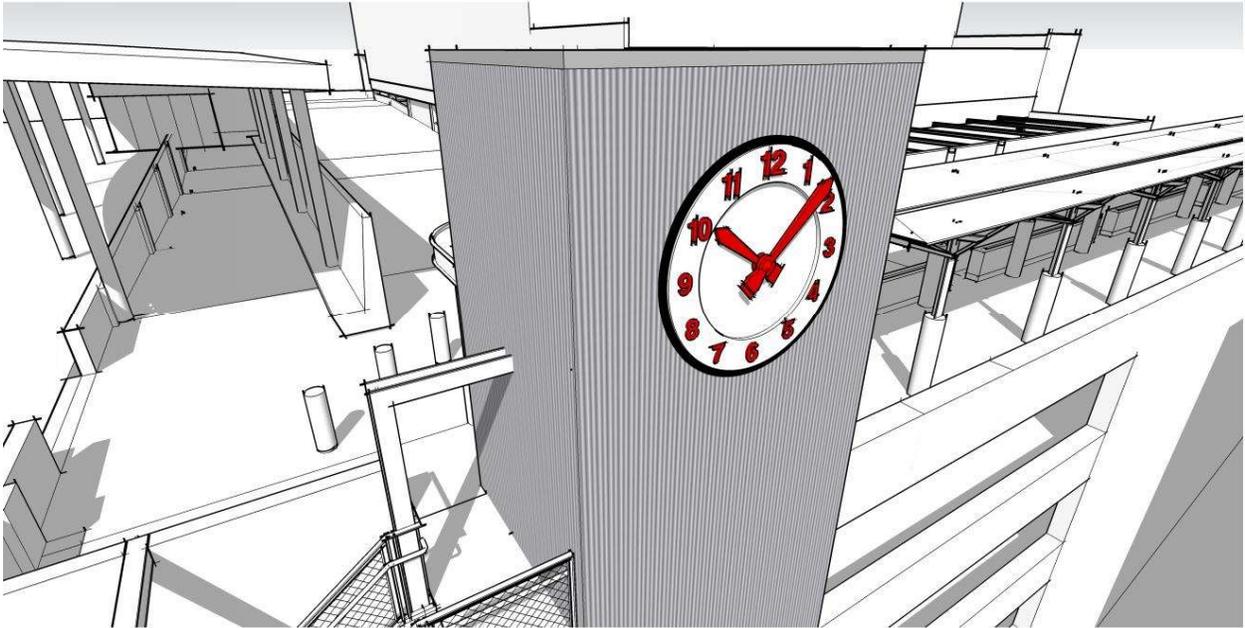
**OPTION 4**

Vertical steel columns  
shown with concrete  
column surround to  
provide significance for  
entry area



View of new proposed entry  
plaza and stair from Alaskan Way

## PROPOSED CLOCK AT ELEVATOR SHAFT STRUCTURE



**OVERALL VIEW – ELEVATOR AND STAIR UPGRADE**

