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# Level I Minor Residential Permit Application

## 40 Quebec Street

Portland, Maine

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**Contents**

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Code & Zoning Assessment
Project Description
Design Principles & Standards for Alternative Design Review

Evidence of right, title and interest
*N/A Copies of required state and/or federal permits*
*N/A Written Description of existing and proposed easements or other burdens*
*N/A Written requests for waivers from individual site plan and/or technical standards*
Written summary of fire safety - See Fire Dept. Drawings and Plan Note

Attached Separately:
Drawing Set
*Includes Fire Dept. Drawing*
Site Plan and Boundary Survey (3 copies)
*Boundary survey*
*Zoning district, setbacks and dimensional requirements.*
*Existing and proposed structures*
*Location and dimension of existing and proposed paved areas*
*Proposed ground floor area of building.*
*Finish floor elevation (FEE) or sill elevation*
*Exterior building elevations*
*Existing and proposed utilities*
*Existing and proposed grading and contours*
*Proposed storm water management and erosion controls*
*Total area and limits of proposed land disturbance*
*Proposed protections to or alterations of watercourses*
*Proposed wetland protections or impacts*
*Existing vegetation to be preserved and proposed site landscaping and street trees*
*Existing and proposed curb and sidewalk, except for a single family home*
*Existing and proposed easements or public or private rights of way*
*Show foundation/perimeter drain and outlet*
*Additional requirements may apply for lots on unimproved streets.*

Construction Drawing Set (1 copy)

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# Introduction + Project Team

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**Introduction**

We are pleased to submit the enclosed materials for Level I Minor Residential Permit Application, for the construction of our two-unit home at 40 Quebec Street, Portland Maine. We are requesting that the design be assessed under the Alternate Design Review process of the R-6 zoning district Design Manual.

We have hired GO Logic LLC, an Architecture and Construction firm (ME Licensed Architect, Lic #3810), to provide design services to develop the planning for the house and the garage, and they have prepared this application on our behalf.

**Project Overview**

The property is a 2975 square foot parcel located at 44 Quebec Street. The nearest cross-streets are Emerson and Howard. The current use of the property is single-family residential; the existing house is in poor condition and will be demolished as part of this scope of work.

The proposed construction is a two-family residential unit. A schematic design and siting of the building have been determined. The bulk and height of the proposed building are in compliance with the R-6 zoning district limitations. In addition, all setbacks have been met along with total lot coverage limitations. No accessory structures are planned, and no easements are required of neighboring properties.

**Project Team**

*Property Owners* – Matthew Murrell and Katherine Howe
*Architect* – GOL Logic, LLC; Matt O'Malia, Project Architect
*Surveyor* – Owen Haskell
*Structural Engineer* - Becker Structural Engineers

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# Code + Zoning Assessment

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Quebec St. Residence
40 Quebec St. Portland, ME 04101

**Summary Of Zoning Regulations**

**Zoning District – R6 Proposed Amendments**

**Minimum Setback Requirements**

Principal Structure:
Front: 5 ft. (need not exceed average depth of adjacent lots)
Side: 5 ft.
Cumulative 10'
Side yard can be reduced to 0 –requires 5' min. easement
Rear: 10 ft.

**Lot Restrictions**

| | |
|---|---|
| Minimum Street Frontage: | 20 ft. |
| Minimum Lot Area: | 2,000SF |
| Maximum Lot Coverage: | 60% |
| Open Space Ratio: | 20% (does not include impervious or parking) |

**Bulk Restrictions**

| | |
|---|---|
| Maximum Structure Height: | 45 ft. principle structure (above average finished grade at fronting street) |
| | 18' detached accessory structure |

**Other**

| | |
|---|---|
| Off Street Parking: | Only required with 3 or more units |
| Garage Openings | On front facades shall not exceed 9' or forty % of the front facade to a max. of 20 ft. |

Historic District: No
Shoreland Zoning: No

**Building Code**
2009 International Building Code / 2009 IRC

**Design Certification Program R-6 Infill Development**
Option – Alternate Design Review

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# Project Description

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**Project Description**
Occupying a small, infill lot in the R-6 district on Quebec Street on Munjoy Hill, 40 Quebec Street is a proposed construction of a two-unit high performance residential dwelling. The property owners are a Portland couple looking to build their family home.

GO Logic is a Belfast based architecture and construction firm specializing in thermally efficient buildings based on the German Passive House standard. With all of our projects we believe there is an inherent synergy between designing for human comfort and long-term sustainability. If the building's design is based on specific and local climatic conditions well integrated with the building's function, the comfort of occupant and interaction with the site and surrounding buildings will be optimized. When the building envelope is designed and executed well, the building will require almost no supplemental heating energy and will provide a stable and comfortable interior environment. The relationship between thermal performance and human comfort results in an inherently compelling architectural response, as climate, form and function work in unison.

Technically, we set a goal for all of our projects to have the energy demand for space heating and cooling reduced to almost zero, allowing for the installation of renewable energy systems to create more energy than is consumed. Our design approach starts with a highly-insulated building shell that makes use of passive solar gain to lower space heating demands, allowing the cost and complexity of the mechanical systems to be minimized. Our target level of energy performance for the building as a whole is the German Passive House standard for space heating and air infiltration, which represents a 90% improvement on the buildings' space heating loads from typical code-compliant construction. These improvements over conventional construction, in conjunction with heat recovery ventilation, result in a building with an extremely small energy demand. Furthermore, due to the minimized heat load, a solar electric system can cover the building's space and domestic water heating demands in most climate regions, resulting in a cost-effective, grid-tied, Energy-Plus building as measured on an annual basis. While all of our projects are designed and built to these standards, we have officially certified three single-family residences in Maine, Connecticut, and Michigan, a dormitory for Unity College in Unity, Maine, and the first Passive House Certified laboratory in North America for the University of Chicago.

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# Design Principals + Standards for Alternative Design Review

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## Principle A – OVERALL CONTEXT

*A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood. (Standards: Scale and form; Composition and principal facades; Relationship to the street)*

Munjoy Hill is the quiet neighborhood surrounding the site at 40 Quebec Street, located at the northeastern end of Portland's peninsula. It is densely settled with residential buildings and is relatively isolated from the major commuter routes. While the neighborhood was originally developed in the last quarter of the 19th century with timber frame Victorian houses, the original housing stock has seen significant aging, and has transformed over the last century as the buildings have been renovated, added to, and replaced with wide variation in quality, care and style. As a result, the neighborhood today includes a diverse housing stock of single and multi-family dwellings.

40 Quebec Street is situated approximately 1.5 blocks west of the Eastern, in the middle of the block between Howard St and Emerson St. Its topography slopes gently downward from west to east toward the Eastern Promenade.


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**Overview of existing building forms on both sides of the street within the block of the proposed site:**
The houses on the 40 Quebec St. Block are a mix of flat and sloped roofs, primarily constructed with traditional stick frame and a natural wood or painted siding. A significant number of residences provide off-road parking.








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40 Quebec St. Rendering

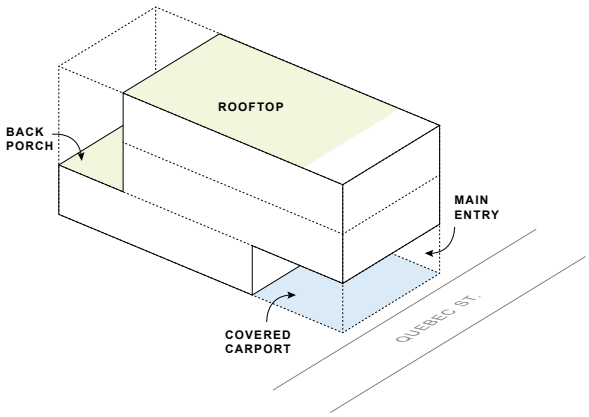
☑ **Standard A1: Scale and Form**

*Height, massing, proportion of principle facades, roof shapes and scale of the architectural features of the structure.*

The residential buildings within a two-block radius of the site are a blend of small 2 and 3 story historical houses and large 5 story multi-family apartment buildings. Our proposed 3 story building (with fourth story roof access) nestles between two single family houses, and has a similar building height to the buildings directly downhill and across the street.

Of the 17 residential structures on the block, 4 have flat roofs and an additional 3 have partial flat roofs, and the buildings directly to the south and north (across the street) have flat roofs. Our proposed flat roof maximizes the interior living space while keeping the overall building height to a minimum. The deck area on the rooftop is accessed by an enclosed stair, which projects above the primary roof plane but is set back substantially from the street.

Like many of the surrounding buildings, the proposed structure is long and compact, with carefully considered cuts out of the overall mass to create pockets for added program; the first floor recess serves as a covered car-port for off-street parking and main entry into the garage, and the second floor recess creates a sunny back porch condition on the south side of the house.



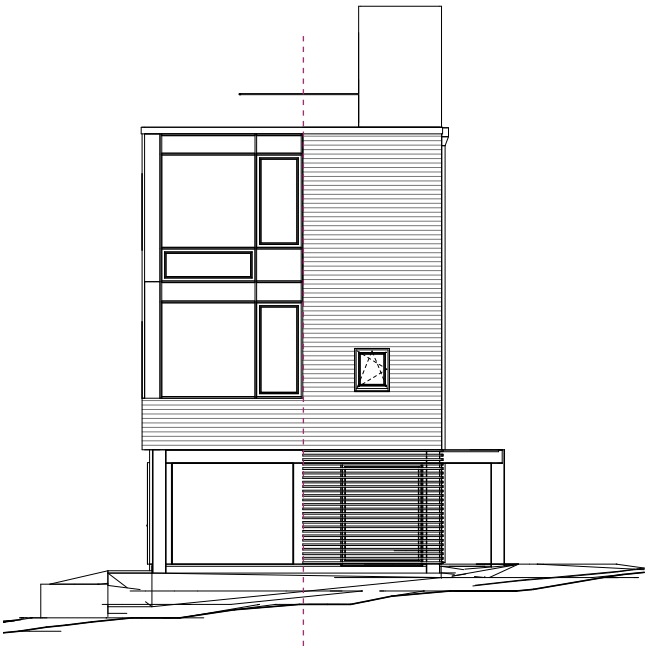
☑ **A2 Composition of Principal facades -**
*Proportion of facades; orientation of openings; ratio of solids to openings; rhythm of fenestration; entrance porches and other projections; and relations of materials, texture and color*

The principal street-facing facade is 3 stories tall, with a deep recessed space on the first floor that acts as a covered car port and main entry. When viewed from the downhill sidewalk, this recession essentially reduces the facade at the street to two upper stories. Though contemporary in design language, the principal facade employs a historical 2-bay rhythm which is common in the neighborhood. The left side of the facade is articulated with large windows on the upper two floors, while the right half is fronted by a slatted wood screen. A sense of verticality is achieved by bringing the wood screen all the way to the ground level, which anchors the upper two stories. The screen also provides the required screening of the parking.

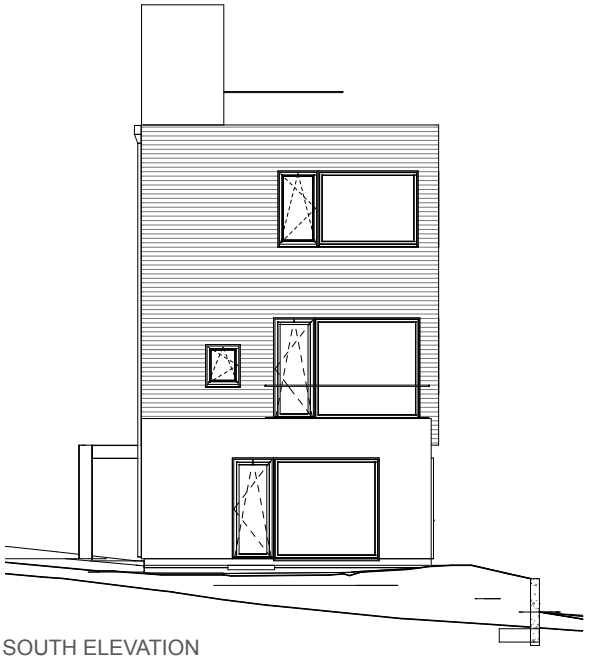
The exterior materials were chosen for their long-lasting durability and ability to age with grace over time. Wood, Glass and Stucco are combined in a way that anchors the ground floor and articulates the living spaces above. The siding and wood screen are a stained horizontal cedar, a common material expression in the neighborhood, and adds texture to the facade. The ground floor is finished with stucco, a durable material with a monolithic appearance that is known for its solid rock-like appearance. Large glass windows add a smooth, clean look to the facades.

The slatted wood screen on the right half of the facade offsets the bulk of the building by introducing thin, almost delicate repeating lines. Light and air are able to pass through the screen while providing some spatial separation and privacy. The wood slats could also provide an opportunity for greenery on the facade if the owners choose, which will increase the leafy vegetation in the neighborhood.

A covered entry porch on the West facade creates a sheltered path to the front door.



NORTH ELEVATION



SOUTH ELEVATION

☑ **A3 Relationship to the street**
*Walls of continuity; rhythm of spacing and structures on streets; orientation of principal elevations and entrances to the street*

By occupying the same footprint as the original structure, we are maintaining the rhythm and spacing of the buildings along the 40 Quebec St. Block. The facade orientation and main access are also preserved from the front of the building. Many of the neighborhood buildings have a “permeable” facade in the form of front porches, stoops, or recessed parking areas which allow for outside occupancy at the street level; our recessed entry, carport, and perimeter landscaping also serve this purpose, and encourage moments of interaction between the residents and neighbors.

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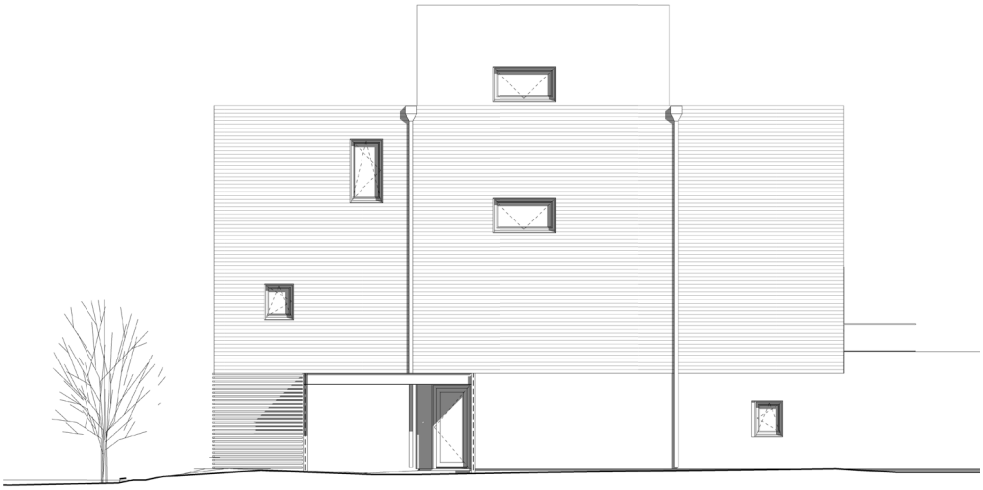
EAST ELEVATION



WEST ELEVATION

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**Principle B – MASSING**
*The massing of the building reflects and reinforces the traditional building character of the neighborhood through a well composed form, shape and volume.*

☑ **Standard B-1 - Massing**

The buildings shape and pure volumetric form is not uncommon in the immediate neighborhood, especially with multi-family dwellings (1). There are also several flat-roofed single-family contemporary buildings within a two block radius (2).

The bulk and physical volume references the larger flat-roofed multi-family structures, while maintaining an overall size much closer to the single-family structures. In this way, the structure nestles amongst the smaller buildings on the block, and the massing and form give a clue that there are two separate dwellings within.

☑ **Standard B-2 - Roof Forms**
The roof forms along both sides of the street within the block of the proposed site are a mix of flat and sloped (3).

☑ **Standard B-3 - Main Roofs & Subsidiary Roofs**
The building maintains a clear roof form for the overall structure. The “subsidiary” roofs are occupiable, and therefore become decks for the adjacent living spaces.

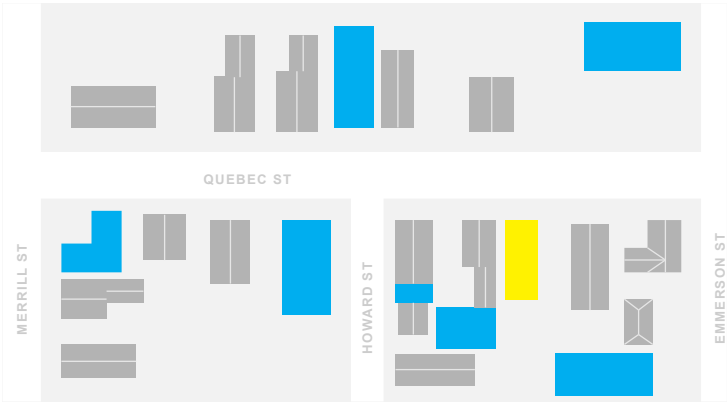
☐ **Standard B-4 - Roof Pitch**
We use a standard parapet cap detail with a projected metal edge to give definition to the building outline. There are other similar cornice details in the neighborhood. (2, 4)

☑ **Standard B-5 - Facade Articulation**
The proposed structure meets the required 2 of the 5 architectural elements:
3. Recessed Entries; by shifting the first floor wall back 18’ from the front facade, we have created a sheltered entry for bikes, pedestrians, and vehicles.
4. Covered Porches, covered entries, or stoops; the main pedestrian entry on the northwest corner of the building is articulated with a covered porch structure.

NEIGHBORHOOD EXAMPLES:

(1) 46 Turner St
Multi-family flat roof structure on the project block

(2) 35 Lafayette St
Contemporary materials and pure volumetric form



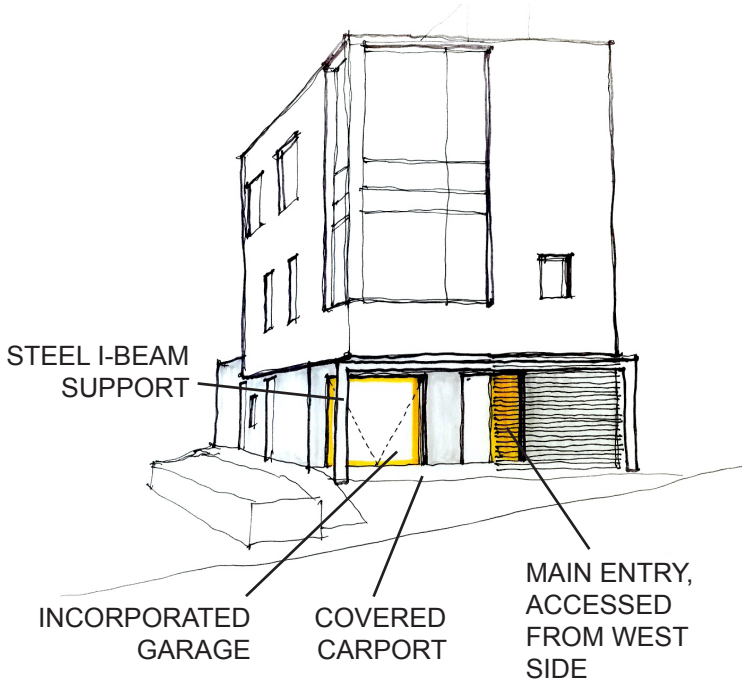

(3) Roof forms along the block are a mix of flat (blue) and sloped (gray). The proposed building site is in yellow.

(4) 70 Merrill St, Alternative Cornice Detail

☑ **Standard B-6 - Garages**

As allowed by Zoning regulations and Standard B-6, a single-car garage is integrated into the building form in the structure on the first level. The entry to the garage surpasses the minimum 4' required; it is recessed 18' from the main front facade.

The 9' garage door is recessed 18' from the front facade so its presence is reduced considerably. There are two full stories of living space above the garage.




*Neighborhood garage designs, for reference:*

70 Merrill St, incorporated garage

30 Melbourne St, incorporated garage and covered carport

45 Emerson St, detached garage with additional parking in front

**Principle C – ORIENTATION TO THE STREET**
*The building's facade shall reinforce a sense of the public realm of the sidewalk while providing a sense of transition into the private realm of the home.*

☑ **Standard C-1 - Entrances**
We have situated the building to provide clear entry from the street frontage along Quebec St.

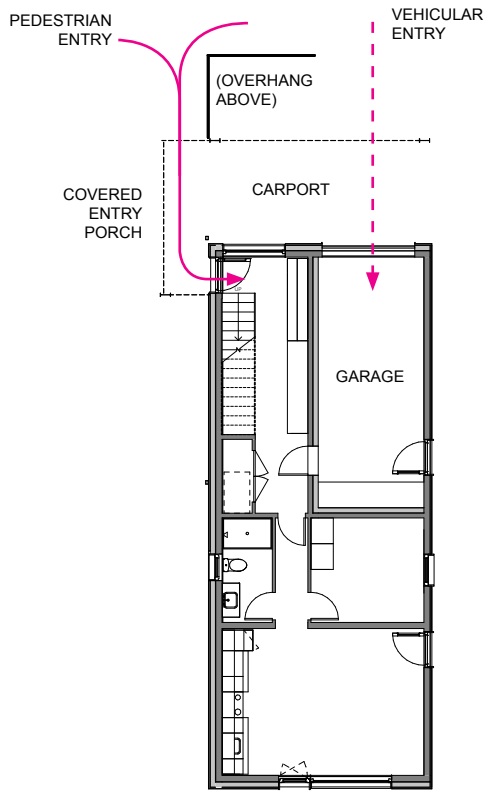
As described previously, the first floor facade is recessed 18', and is protected by the overhang of the building mass. There is a wooden screen on the right half, and an opening to the garage on the left. The main pedestrian entry to both dwellings is on the west side of the building, where the support beam slips past the edge of the structure to create a covered entry into the building. This main entry condition is reinforced through a change in materiality and details, and is clearly expressed at the curbside with articulated paving, lighting, and plantings. We have included a large street facing window adjacent to the entry door.

The generous overhang provides a protected carport that can be used for two additional parked cars. The recessed entry wall houses the garage door on the left and a window into the entrance hall on the right.

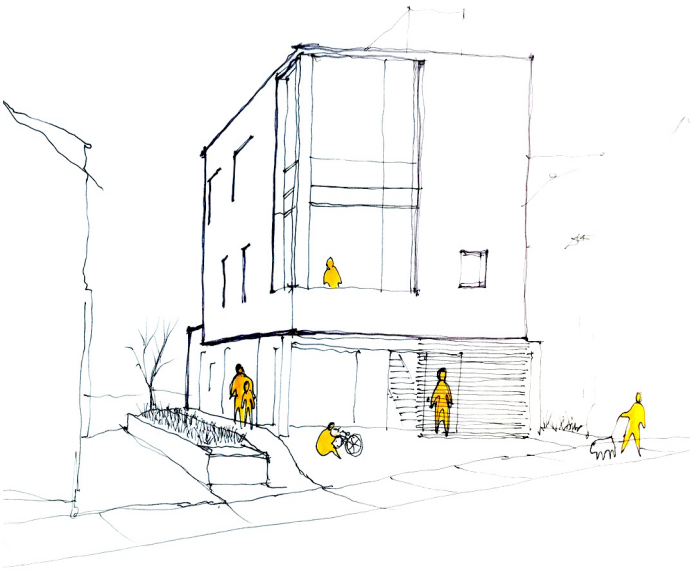
☑ **Standard C-2 - Visual Privacy**
The deep recessed entry also provides a sheltered space for the inhabitants. Screening along the front facade plane gives a sense of privacy to the entry while maintaining a connection with the public street-scape (2). The primary living spaces are located above public eye level on the second and third floors. Meanwhile, the upper windows provide opportunities to engage with the public realm of the sidewalk, while window treatments allow for privacy for those residing inside when needed.

☑ **Standard C-3 - Transition spaces**
The building elements of front facade and the way one accesses the building provides a sense of permeability; a gradual transition from public to private. There are many opportunities to occupy spaces along the front of the building, which increases chances for social encounters along the street-scape (2).

The proposed design meets the street with a neighborly presence, while also providing for sheltered parking on the property to keep residents' vehicles out of street spaces and deal with the reality of large winter snowfall and citywide parking bans.




(1) Ground Floor Plan



(2) Occupied Building Facade

**Principle D – PROPORTION AND SCALE**
*Building proportions must be harmonious and individual building elements shall be human scaled.*

Care has been taken to design a building that is pleasingly proportioned, simple, and scaled to the human being.

☑ **Standard D-1 - Windows**
The primary facade presents a large rectangular and vertically proportioned grouping of windows. In keeping with the standard, a small accent window also provides scale to the face.

The windows on the back (south) side of the building are large plate glass windows to take advantage of the solar gain in the winter and shoulder seasons. The front facade is divided into two bays; the uphill (western) half of the facade has little/no fenestration, while the downhill (eastern) half has large corner windows, mainly to take advantage of the morning light and to provide views downhill to the Eastern Promenade.

☑ **Standard D-2 - Fenestration**
All doorways are glass. All other openings are scaled appropriately, both for the amount of sunlight needed for solar gain and for the inhabitants within, (i.e. bathroom windows have a sill height of 3'4", for adequate privacy, and western windows are significantly smaller to avoid overheating in the afternoon). The area of fenestration of the front facade surpasses the minimum requirement at 22% of the total area, which does not even include the glass door and window on the first floor, which are partially screened.

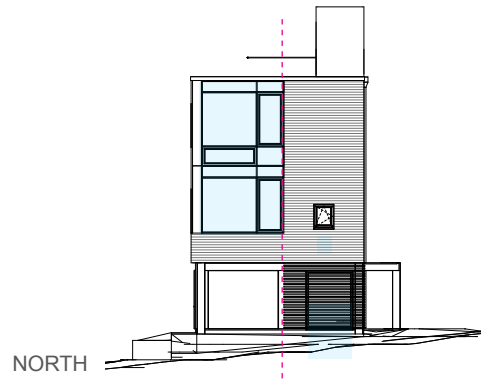
☑ **Standard D-3 - Porches**
While the proposed entry porch does not align with the specific details in standard D-3, we have endeavored to create a pleasing entry sequence that works with the overall massing and articulation of the home.

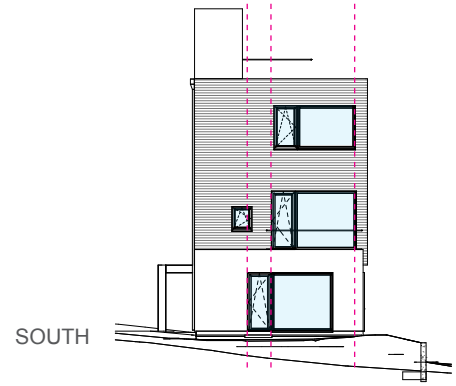
**Principle E – BALANCE**
*The building's facade elements must create a sense of balance by employing local or overall symmetry and by appropriate alignment of building forms, features and elements.*

We have articulated the face around a centerline that divides the overall mass into two equal proportions. Smaller facade elements, including fixed and operable windows, are incorporated into this overall bilateral composition.

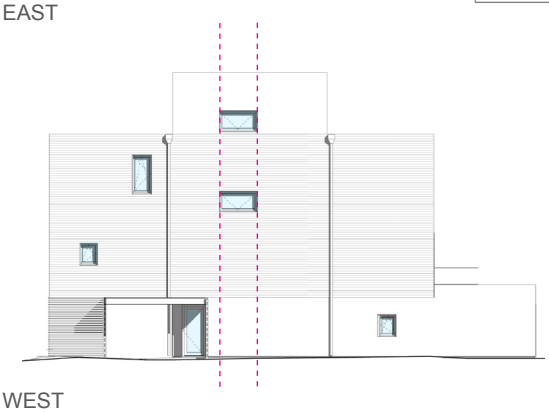
☑ **Standard E-1 - Window & Door Height**
Most window and door head heights align along a common horizontal datum line.

☑ **Standard E-2 - Window & Door Alignment**
The majority of windows are in vertical alignment.


NORTH


SOUTH


EAST


WEST

**Principle E – BALANCE** *(continued)*

☐ **Standard E-3 - Symmetrically**
Though the front facade is not strictly symmetrical, we have designed to a principle of balance of equal elements within a two-bay system.

**Principle F – ARTICULATION**
*The design of the building is articulated to create a visually interesting and well composed residential facade.*

The design of the building has been carefully considered to create a visually cohesive and well composed residential facade.

☑ **Standard F-1 - Articulation**
The windows and doors are recessed slightly from the exterior wall to create slight articulation with depth and shadows.

☑ **Standard F-2 - Window Types**
There are three main window types employed throughout the building:

- 30” x 48” small “private” window, used on west facade and private spaces
- 36” x 72” medium living/bedroom window
- 94” x 66” large living / bedroom window used on south facade for solar gain and for visual connection between living and the porch

There is also a large 2-story corner curtain wall on the northeast corner of the building, which allows for ample morning light into the bedroom and living room and potential views down the street to the promenade.

The four doors in the project are all the same, consisting of an operable 41” x 90” with an adjacent fixed window.

☑ **Standard F-3 - Visual Cohesion**
The weight of the materials on the first floor anchor the building in place, with exposed I-beams, and stucco walls. Sitting atop this base, the stained cedar siding on the second and third floor creates a surface pattern that relates to many buildings throughout the neighborhood.

Together, these materials provide a neutral color palette that have been arranged to create sufficient visual interest, while seeking a minimal, understated, overall aesthetic that will age gracefully, and with little maintenance, over time.

☑ **Standard F-4 - Delineation between Floors**
The division between the first and second floor is delineated by a material change, clearly defining the two distinct living spaces within. The division at the second and third floor is accomplished by the articulation of the curtain wall element at the facade.

☑ **Standard F-5 - Porches, etc.**
The proposed porch on the western side is integrated directly into the structural expression of the lower level. The exposed structural steel moment frame provides the architectural language for the porch.

☑ **Standard F-6 - Main Entries**
The main entry is from the northwest corner of the building, and is emphasized by a covered overhang that extends over the pathway to the front door. A large street facing window adjacent to the entry door highlights the entry from the street.

☐ **Standard F-8 - Articulation**
*6” eaves and rakes, 4” window trim, 12” setbacks, and pronounced decorative cornices.*
None of the above suggested architectural elements apply to our design.

**Principle G – MATERIALS**
*Building facades shall utilize appropriate building materials that are harmonious with the character defining materials and architectural features of the neighborhood.*

☑ **Standard G-1 - Materials**
Materials have been chosen for their harmony with the character defining materials of the neighborhood; their robustness in light of the marine environment and harsh winters; and their contribution to the energy-efficiency required to meet the Passive House standard. The primary siding material is stained cedar (1), which can be found in abundance in the neighborhood. The first floor is finished in stucco (2), which protects the building from weathering and deterioration due to proximity to the ground plane, and gives a solid stone-like appearance to the base of the building. The right half of the main facade is clad with a slatted wooden screen (3), which allows light and air to penetrate the carport and entry while providing some privacy.

☑ **Standard G-2 - Material & Facade Design**
The facade materials are appropriate to their use and nature, and all overhangs have visual columnar support.

☑ **Standard G-3 - Chimneys**
n/a

☑ **Standard G-5 - Window Types**
All of the doors and windows will be of a single source, design, material, color, and detailing.

☑ **Standard G-6 - Patios and Plazas**
n/a


(1) Natural Cedar Siding, stained dark gray


(2) Stucco Wall


(3) Slatted Wood Screen - Cedar