



BUILD SMALL LIVE LARGE

Accessory Dwelling Units



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ADU DESIGNS

Examples of Our Work

Our design process leads to custom designed ADUs that respond to your unique site, your aesthetic values, and the style of the main house. Each design meets the restrictions within the zoning codes but takes years of creative experience to deliver designs that our clients are proud of.

On the following pages we share examples of recently built projects and designs that are still on-the-boards. We've included floor plans, renderings and some of our process work so you can get some insight on how we work and some ideas to help with the layout of your ADU project.

If you would like to set up a consultation email us:
info@propelstudio.com

To see more examples of our work visit our website:
www.propelstudio.com







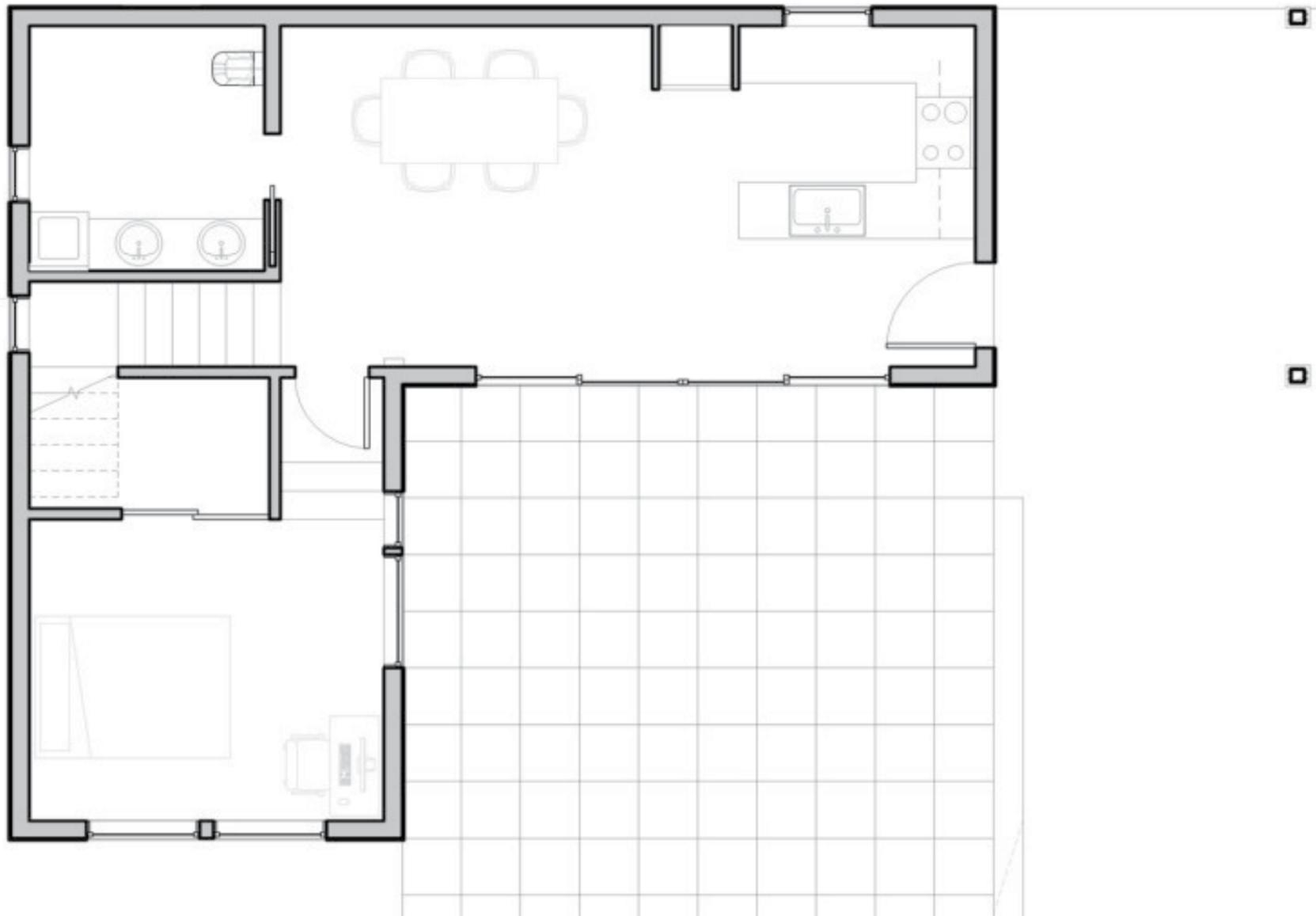
The Split

Area = 790 sf

This split-level ADU in SE Portland creates an open living environment that makes the home feel much larger than its modest size.

With the tight constraints of the site, our design challenge was to create a 2-bedroom home that feels spacious within 800sf. To accomplish these goals we created a great room, with large south facing sliding glass doors that open to a beautiful, south-facing garden patio. This outside living room makes the interior feel larger, making use of the mild Portland climate. The large overhangs of the roof shade the glass walls during the summer while letting the winter sun warm the interior. To maintain the landscaped area of the site, we stacked the bedrooms and submerged the lower level to create more ceiling height within the zoning height limits.

Sustainable features include sustainably harvested wood products, locally sourced materials where possible, sun shades on the windows, energy efficient LED lighting, low-flow appliances, radiant heating in the floor slab, on-demand hot water, closed-cell spray foam insulation, thermal mass in the exposed concrete, and native plantings in the landscape, eliminating the need for irrigation.







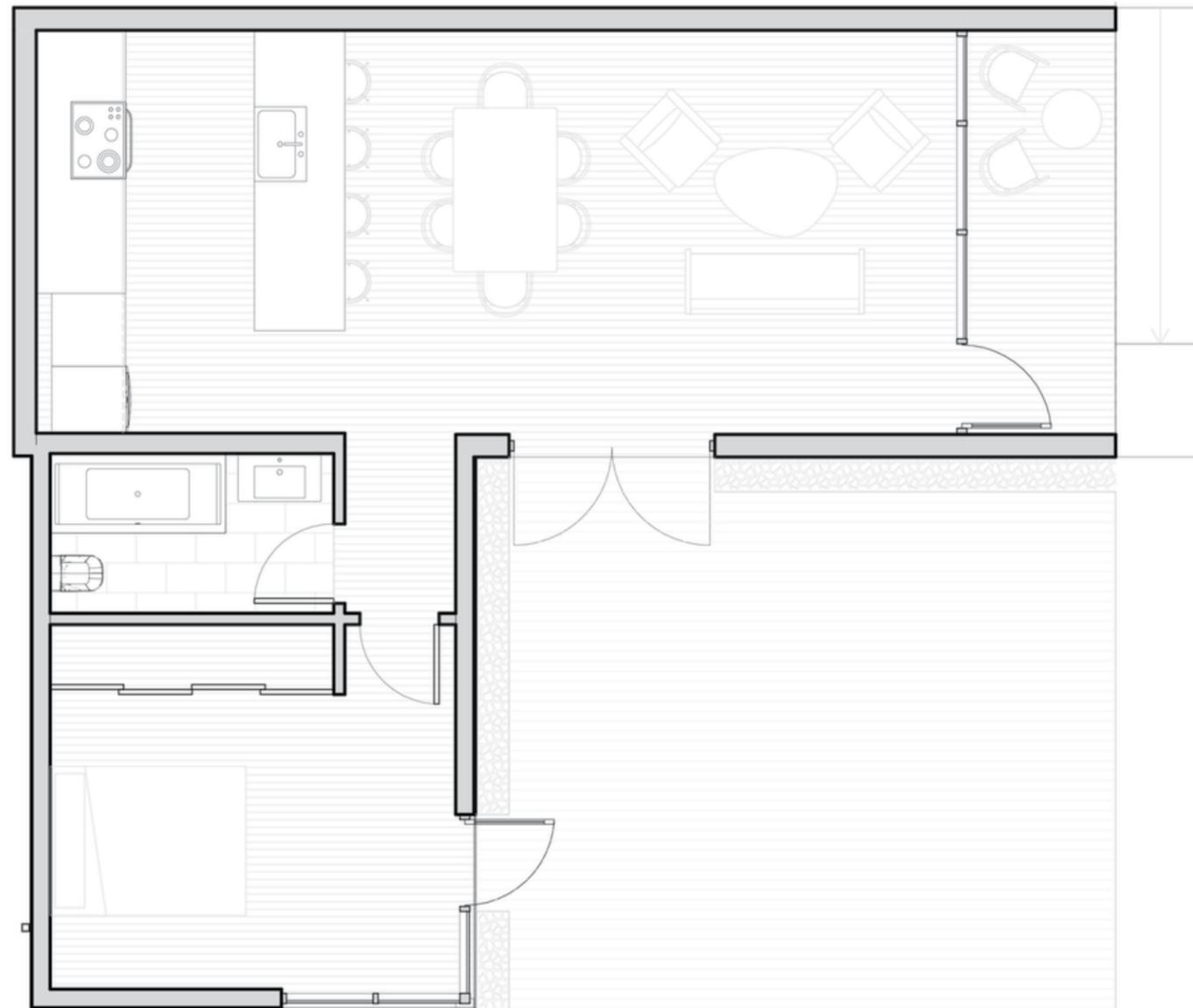
The Frame

Area = 725 sf

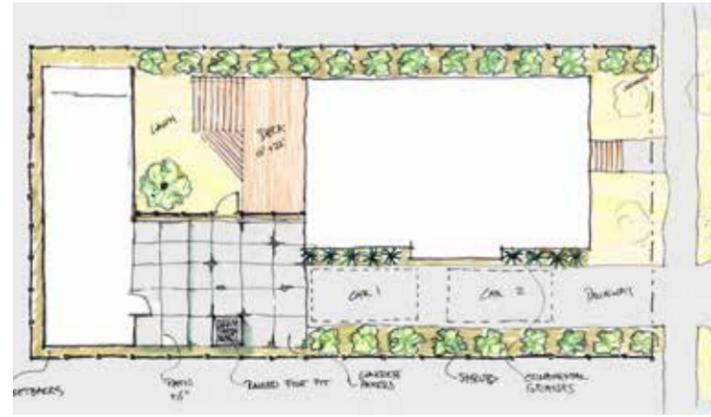
A twist on a traditional house form; a modernist wood clad box intersects with a contemporary standing seam metal gable roof creating a contemporary L-shaped ADU.

With the stylistic restrictions within the Portland ADU code loosening up, clients are starting to challenge us to design ADUs with a more modern aesthetic. This 750 sf custom ADU, nestled into a beautifully landscaped backyard in SE Portland, aims to create a large "Great Room" combining an open Kitchen, Dining and Living room with a separate private master suite wing.

This layout preserves privacy between the functions of the house while allowing both to open up to an outdoor deck. The public wing of the house took on a contemporary twist on a traditional house form, with a gable roof that folds down into walls. The end of this gable form is a floor to ceiling glass wall allowing the indoors to visually flow into the surrounding garden. The bedroom on the other hand, is a more modern aesthetic with horizontal wood siding terminating at a flat, planted roof. Both the bedroom and living room have large glass doors that open up onto the deck that sits in the crux of the L-shaped plan.







The Shotgun

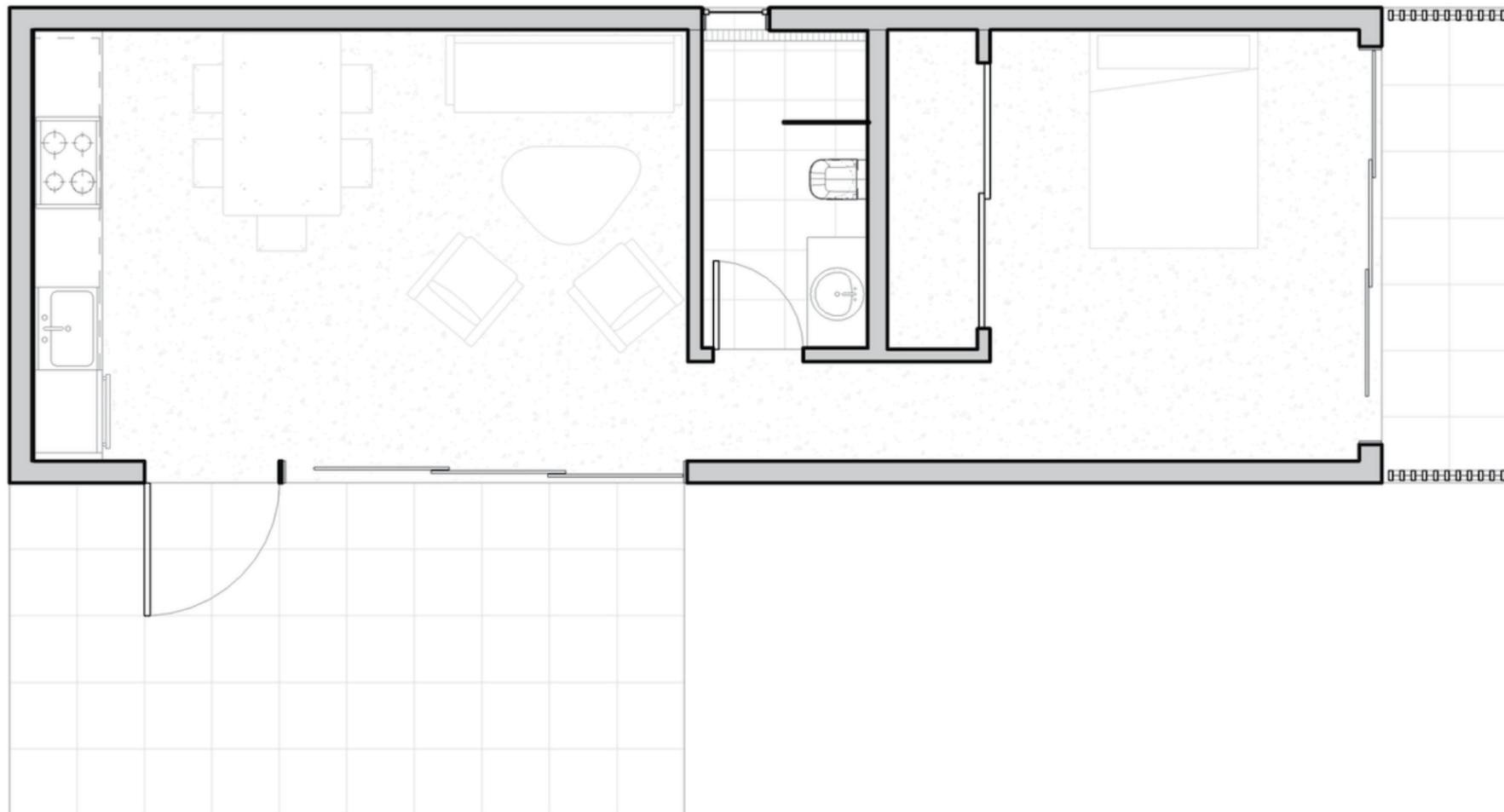
Area = 520 sf

Large sliding doors and multiple skylights dissolve the boundaries between the inside and outside

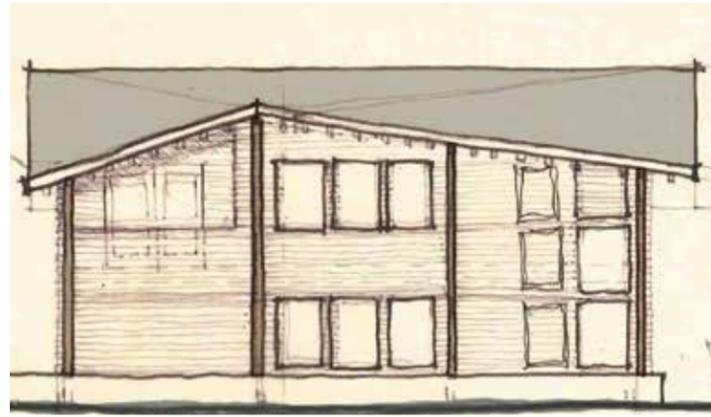
This compact ADU sits at just over 500sf, yet offers all the amenities needed for a comfortable home. The living room opens up to an outdoor terrace through a three panel sliding glass door. The master bedroom also flows out to a covered deck, making the interior feel open and spacious, despite its limited size.

The simple form and vaulted ceiling allow the exposed trusses and other details to shine. The exterior is clad with a sustainably harvested vertical cedar rainscreen. A series of skylights, rhythmically placed between the trusses, bring in ample daylight. The floor is sealed concrete, providing thermal mass throughout the space. Low-flow fixtures and LED lighting also contribute to the goal of a minimal environmental impact.

This design, as a single level ADU is also easily converted into an accessible design for aging-in-place. This is becoming a common theme for ADUs as often they are being built for aging family or retirees to downsize.







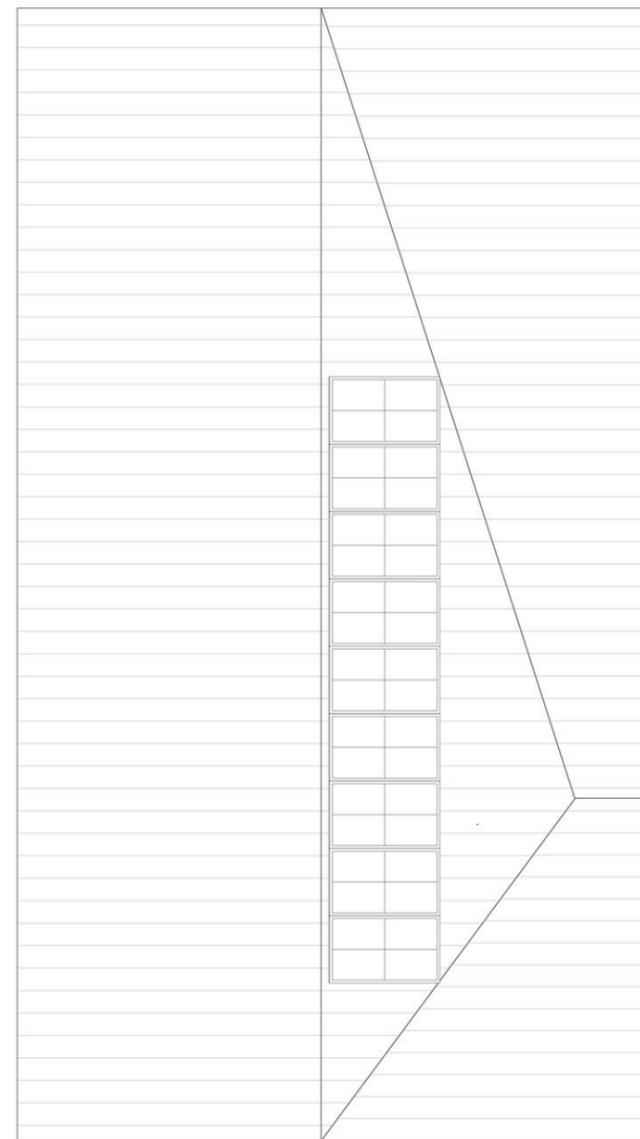
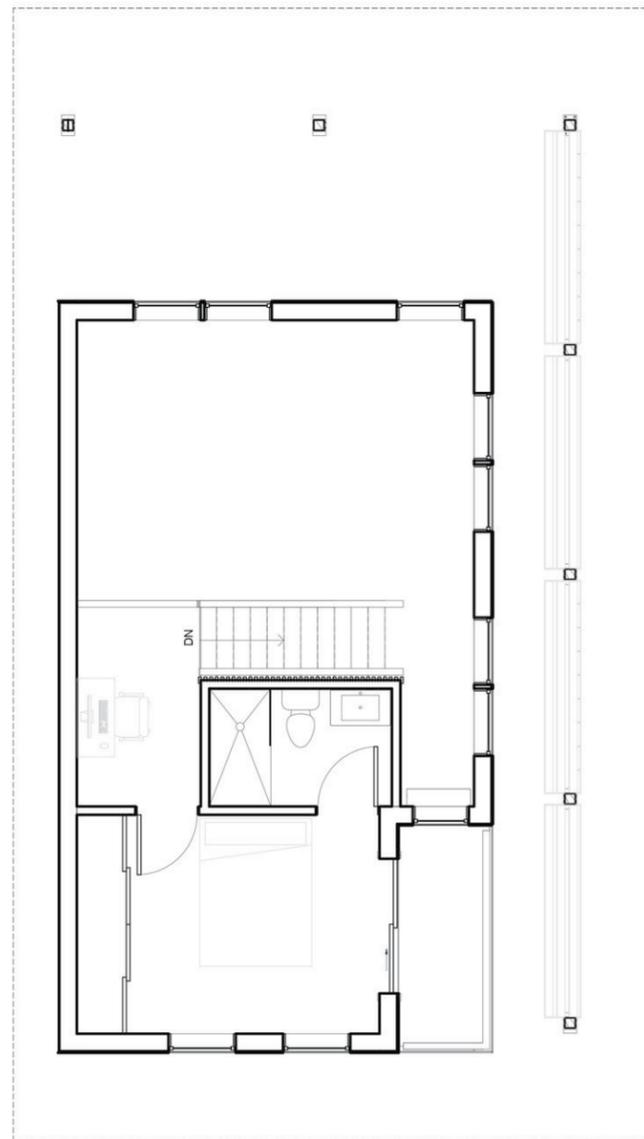
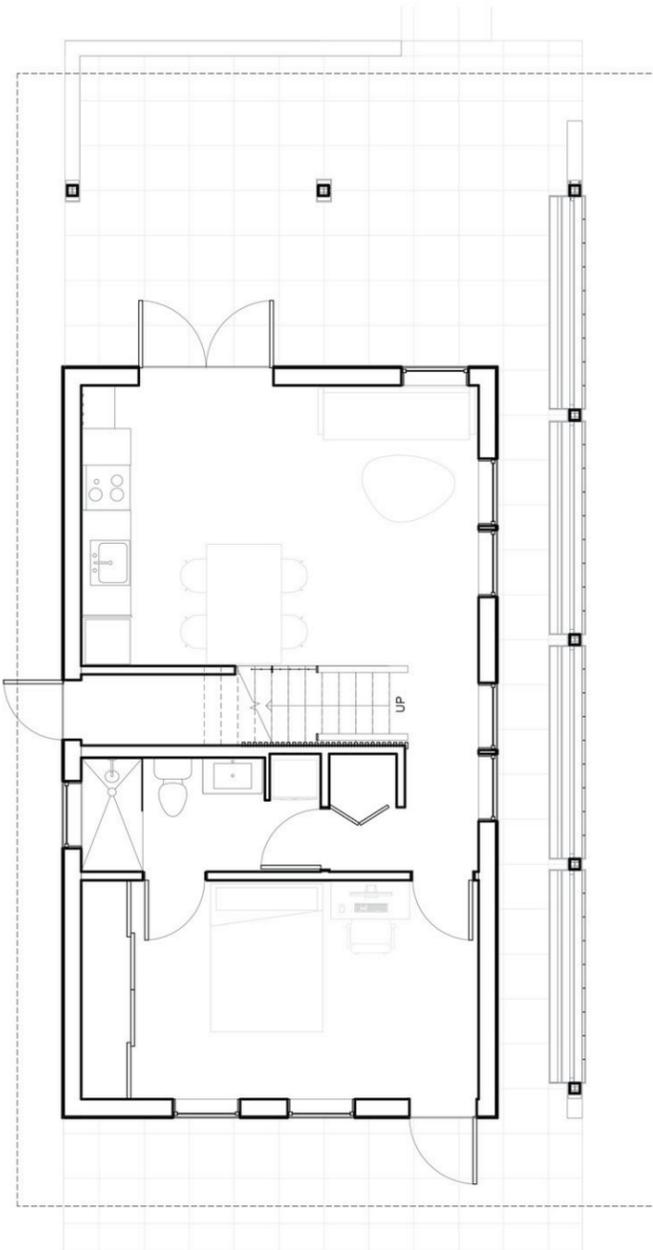
The Lift

Area = 800 sf

This ADU was created to take advantage of passive solar principles while beautifully integrating into the surrounding context. The large roof overhangs, window placement, sun screens, and thermal insulation manage interior comfort first, before mechanical heating and cooling systems kick on. This results in low energy bills for the life of the building and provides for a quiet and comfortable interior. The ADU's deep roof overhangs and exterior patio area offers plenty of weather protected outdoor space for year-round use in our moderate northwest climate.

The roof form was conceived as a dynamic composition to create visual interest from the property's side yard and street views. The south row of columns support sunshades and a cable system for climbing plants to provide additional shading from the summer heat as well as privacy from the main house. The exposed structural connections and framing demonstrate the craft and attention to detail and give the ADU a unique base, middle, and top.

The ground floor offers an easily accessible and universal living area for this family to age in place, together and gracefully.







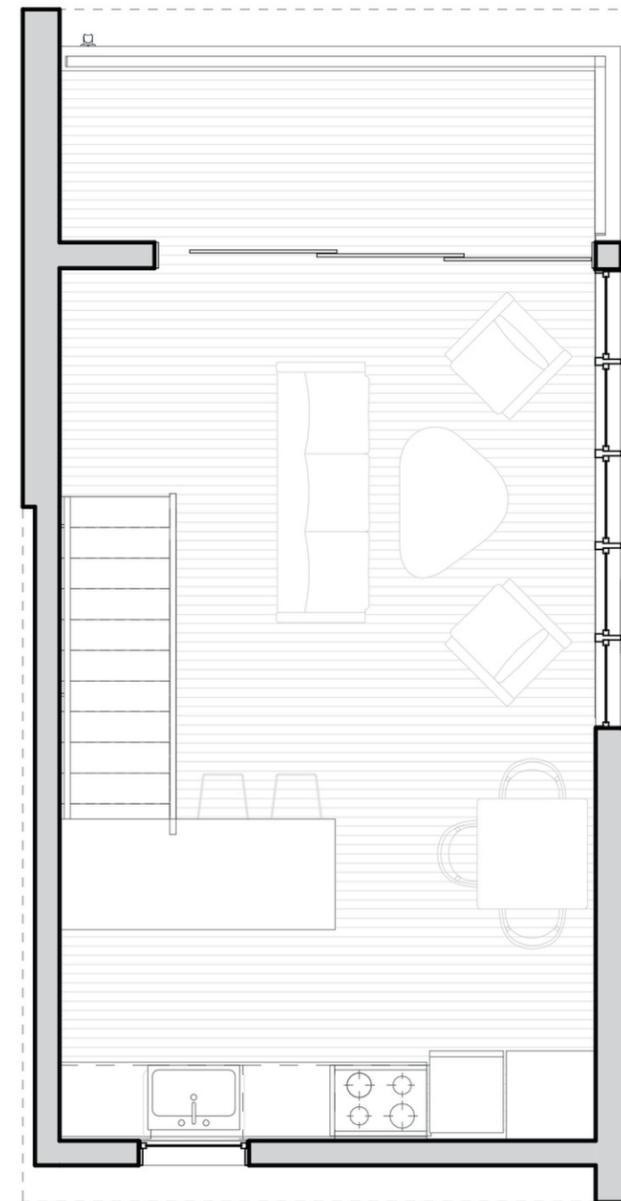
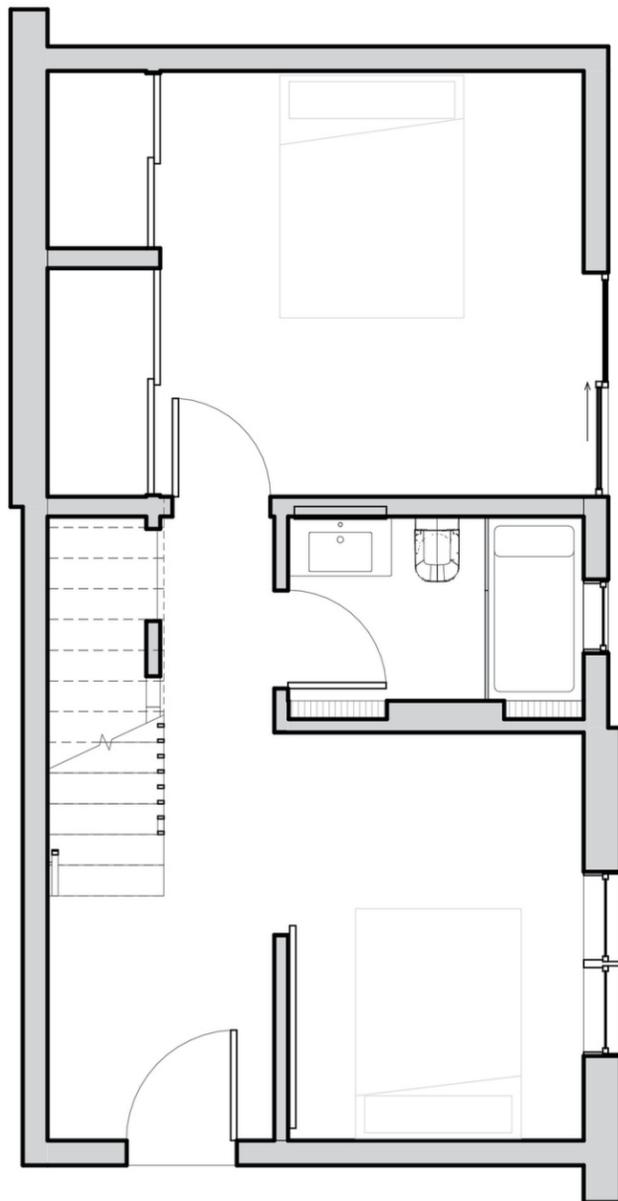
The Wrap

Area = 800 sf

Wrapping the standing seam metal roof down over the walls creates a contemporary twist of the traditional house form.

The ADU sits in a wonderful backyard surrounded by beautiful old trees. To respond to this natural context, we decided to flip the traditional house - putting the living spaces on the second floor amidst the trees, with bedrooms and bathroom on the ground floor. The single open space on the second level provides for wonderful views into the leaves and branches, and out over the neighborhood. The master bedroom has sliding glass doors that open directly into the garden. A small guest room/office and bathroom fill out the main level.

The exterior consists of standing seam metal that folds down from the roof over the sides of the structure. A wooden sided box is then slid into this folded roof form. The natural siding beautifully compliments the more industrial metal walls and roof. Sustainable features included extra insulation, LED lighting, on-demand hot water, ductless mini-split, locally sourced wood, and low flow water fixtures and appliances.







The Butterfly

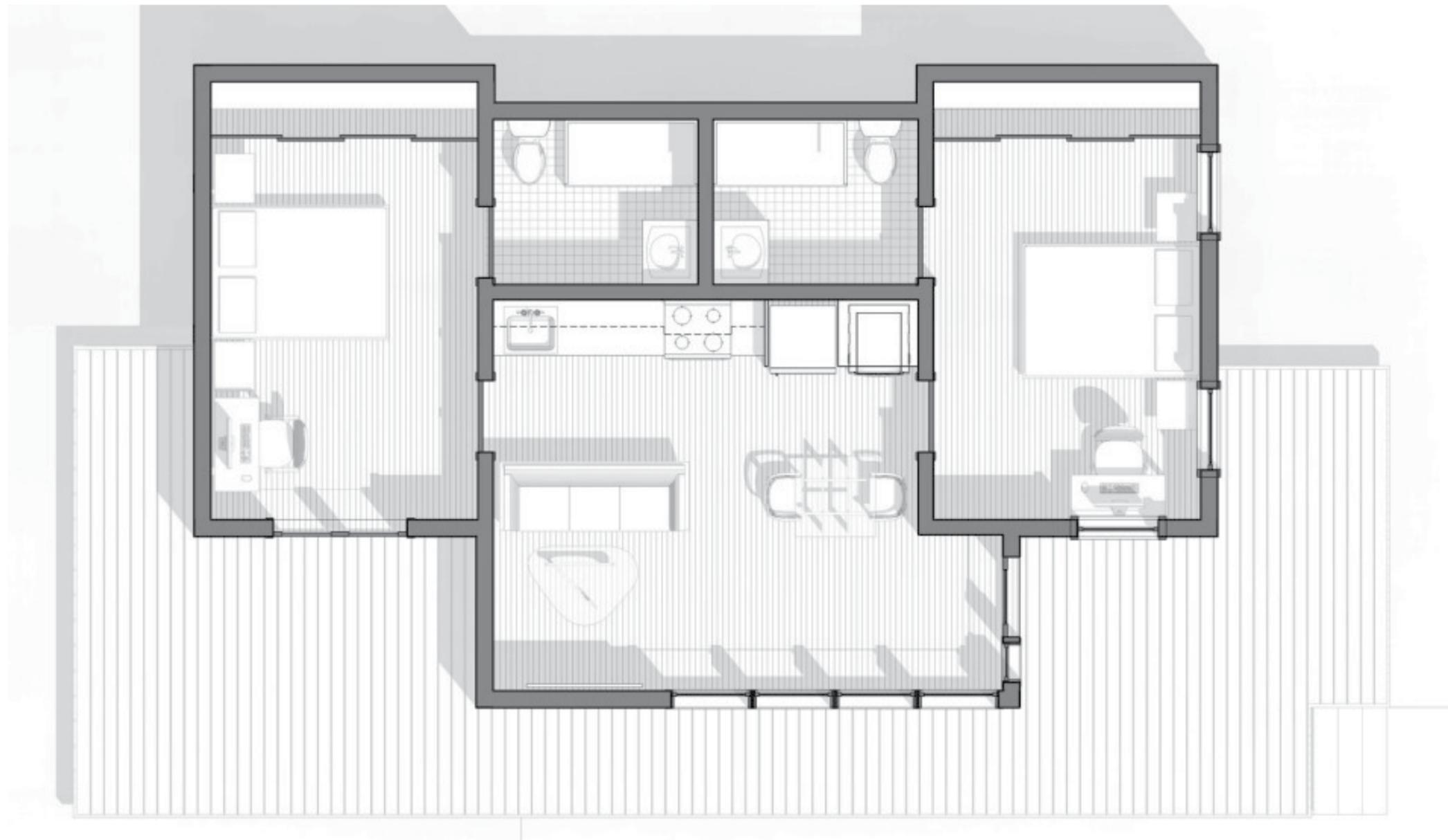
Area = 704 sf

The design concept is derived from shifting boxes, creating two private bedrooms flanking a large shared common room.

The client for this ADU values privacy but desired to share the small living space with a renter. The solution involved creating three boxes, one for each bedroom, and the third for the living room, kitchen and bathrooms. The two bedrooms were pulled apart and the living areas were placed in-between acting as a buffer.

To get around the strict design guidelines we created shed roofs over each box, matched the pitch to the roof of the original house, but then alternated their slope to create a butterfly form. The living room roof is lifted towards the south, with floor to ceiling windows, allowing for ample natural daylight to enter the space. The roof overhangs provide shade in the summer months but allow sunlight to enter during the winter.

Ductless mini-splits provide heating and cooling while highly efficient appliances and lighting further reduce the energy load of the small home.







The Carve-out

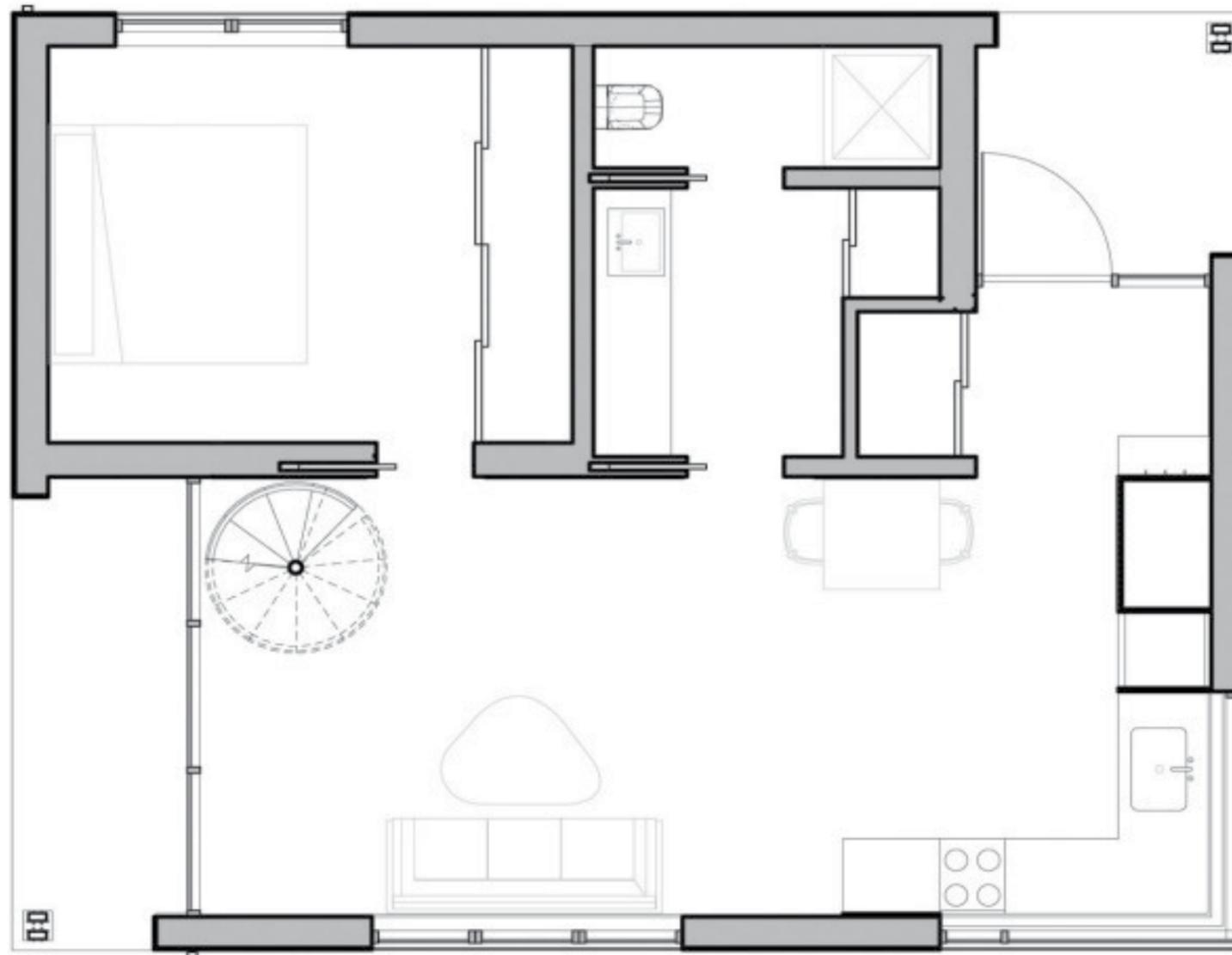
Area = 795 sf

This northwest modern ADU puts a contemporary twist on a traditional craftsman bungalow aesthetic, utilizing natural wood siding and exposing the interior wood structure.

The inherent beauty of natural wood and tectonics drove the design for this Accessory Dwelling Unit. The form of the small dwelling has been carved away, balancing cool gray siding with the natural warmth of vertical cedar planks. Delicate details throughout the project, such as the split columns at the exterior terraces, emphasize the tectonics of the architecture.

The interior offers a simple, open plan with a single, vaulted, great room that houses the kitchen, dining and living areas. The bedroom and bathroom are tucked to one side, leaving large windows, skylights and sliding glass door bringing ample natural light into the main living spaces.

Sustainable features include a radiant heated slab, a super-insulated envelope, on-demand tankless hot water, high performance windows, and ample thermal mass, lowering year-round energy costs.







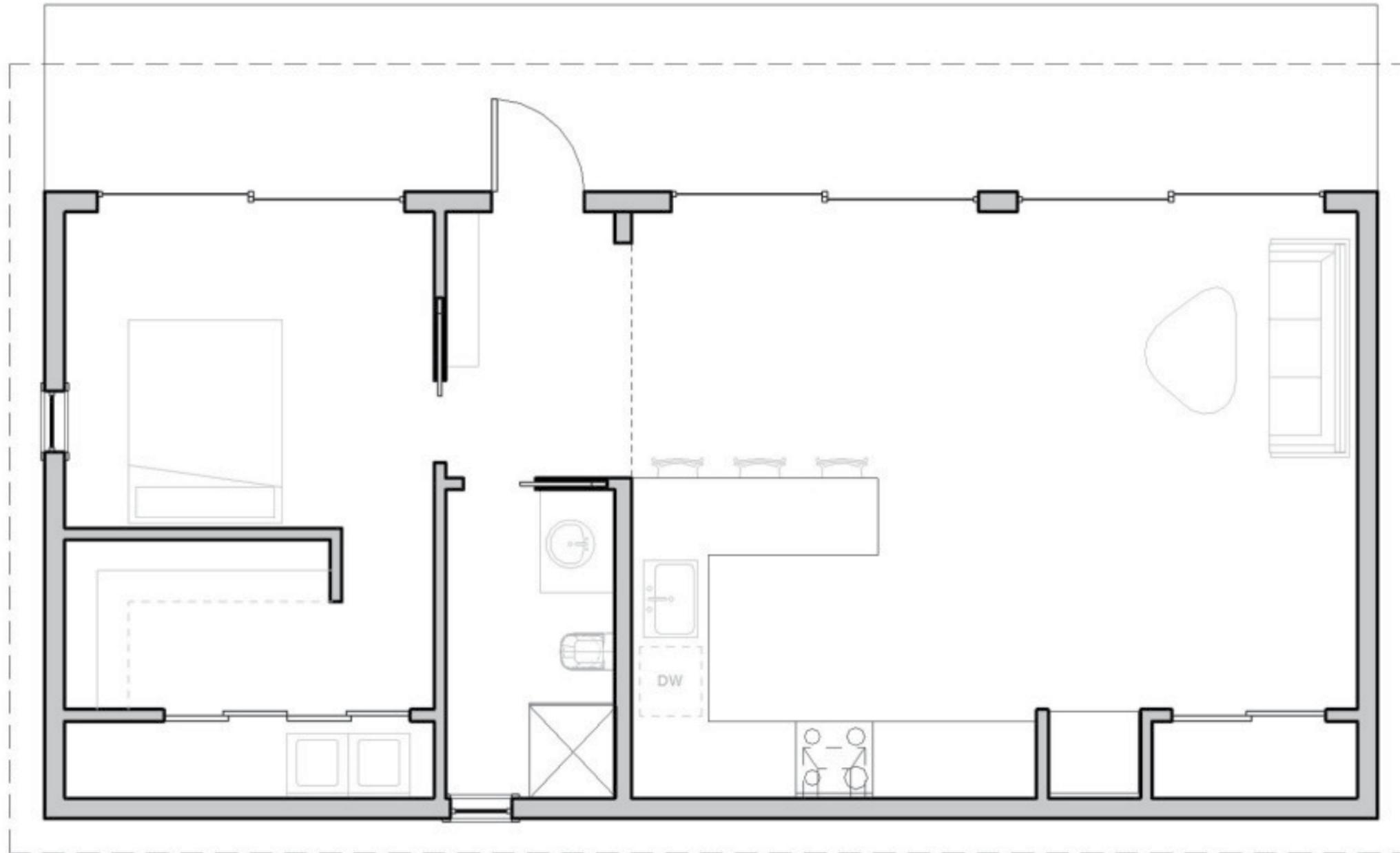
The Suncatcher

Area = 640 sf

Nicknamed "The Suncatcher," we created a form that maximizes the benefits of the sun for both daylight and passive heating.

The form of the building became long and thin, allowing the sunlight to stream all the way through to the back of the building. A simple shed roof was optimally angled to shade the windows during the heat of the summer while allowing sun to penetrate the facade in the winter. The exposed concrete floor provides thermal mass to regulate temperature fluctuations and maintain a comfortable interior atmosphere. Along with the deep roof overhang we also introduced a series of light shelves and operable shading devices to regulate the amount of light and heat that enters the building.

With the form of the building set, we looked to local materials to create a northwest modern aesthetic. The exterior siding is horizontal cedar. Inside, we exposed the wooden roof structure to give a sense of warmth and texture. These beams align between the windows and continue under the roof overhang, visually connecting the interior and exterior. The concrete floor flows out through 5 large sliding glass doors to a patio, expanding the living spaces into the surrounding garden.



Inspiration

Precedent Studies

Each project we design draws from our experience as well as inspiration from other creative design solutions. We begin the design process by doing precedent research, capturing images of cool projects that relate to the design challenge we are addressing. This research also helps identify the style and aesthetic tastes of each unique client, allowing us to customize our design work to fit your needs and preferences.

Being small structures, it is important to be efficient with each space within an ADU. This early precedent studies helps identify opportunities to create beautiful, functional spaces throughout your project.

THE SKIN

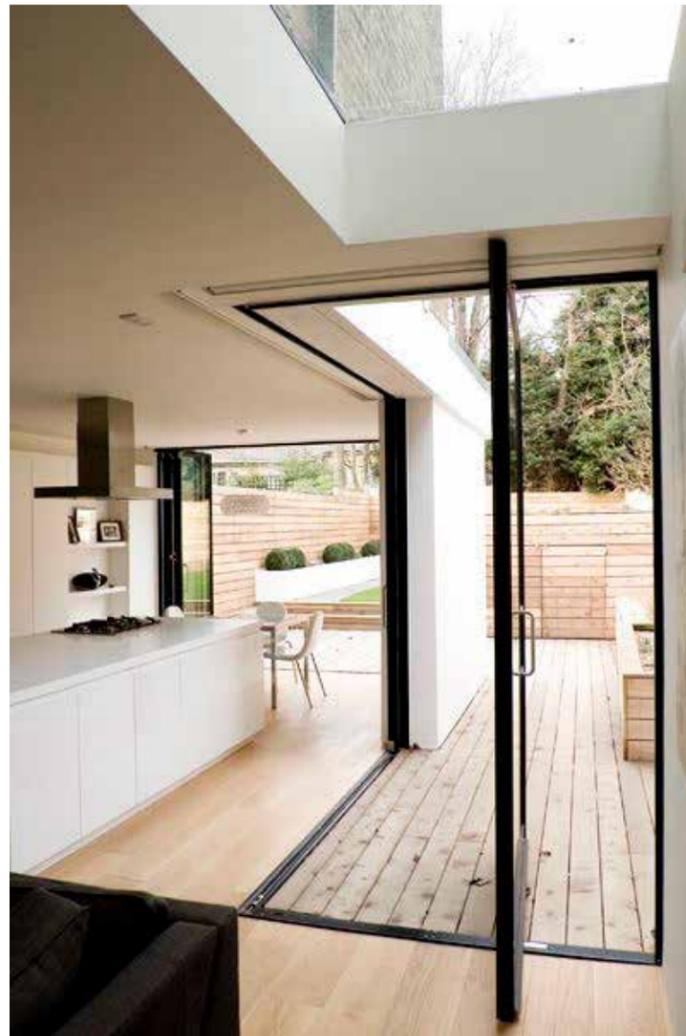
Exterior Design

Building an ADU is one of the most effective ways to increase property value, gain income via rent or AirBnB, downsize your own living quarters, or house family members or friends for extended periods of time.

With all of these uses, it is important the the ADU is beautiful, meets your aesthetic values, and fits within the context of your property. Whether you have a historic home or a modern dwelling, we can design an ADU that works for your property.

To us, the materiality of the skin of the structure makes the largest impact. The warmth of wood, the precision of metal, or the transparency of glass defines the feel of a building almost as much as the form itself.





SLIDE OR SWING

Doors and Windows

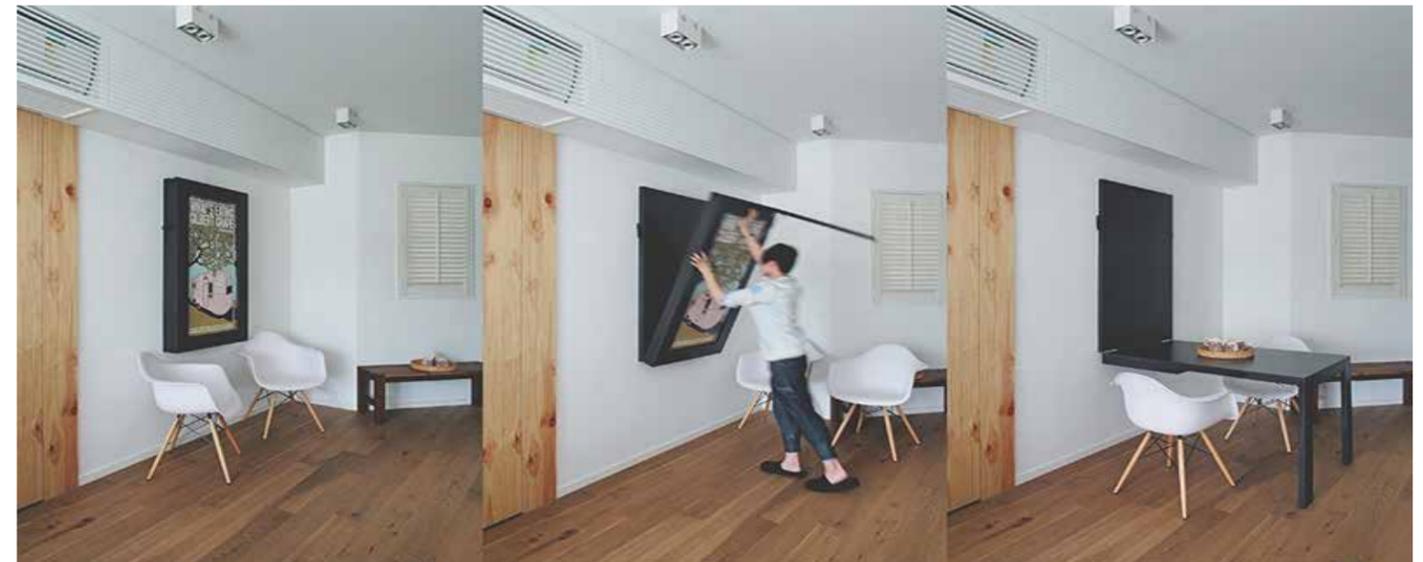
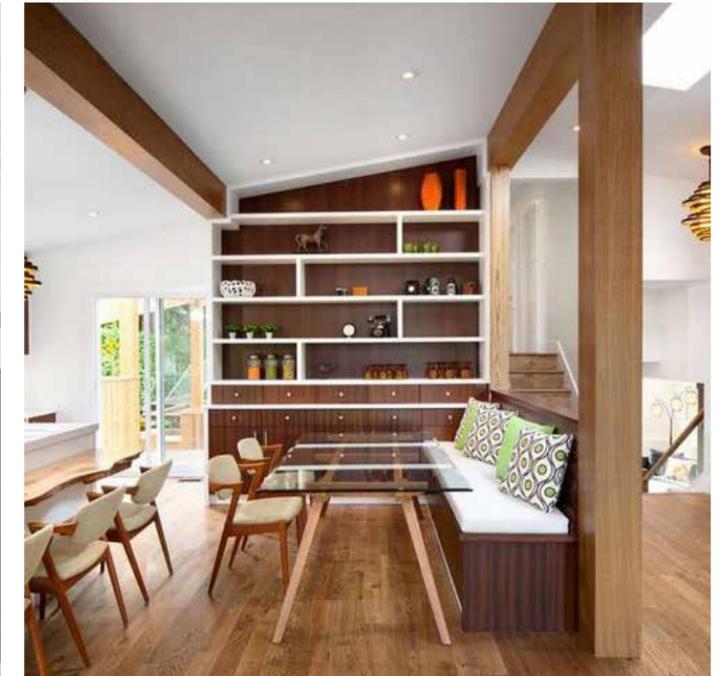
A connection to nature is something we aim to achieve in each of our projects - building a sustainable lifestyle and making small spaces feel larger. Doors and windows become a vital aspect of our design work. Large windows that frame views or sliding doors that dissolve a wall, are just a few of the creative ways the architecture and landscape can complement each other.

Window and door placement, proportion and operability also impact the performance of the ADU. We look for ways to bring in natural light, create cross breezes, and control solar heat gain to optimize the comfort of our interior spaces.

LET'S EAT

Dining Areas & Breakfast Nooks

Eating areas are places where families gather, stories are shared, and friendships are built. Careful attention needs to be paid to how these are situated within the home. Whether we are placing chairs and tables and furniture or designing built-in benches or booths, we look to how these flow from the kitchen and family rooms, how they are connected to the outdoors, and how comfortable they will be for individuals or small groups to gather and share a meal.





CHOP CHOP

Rebellious Kitchens

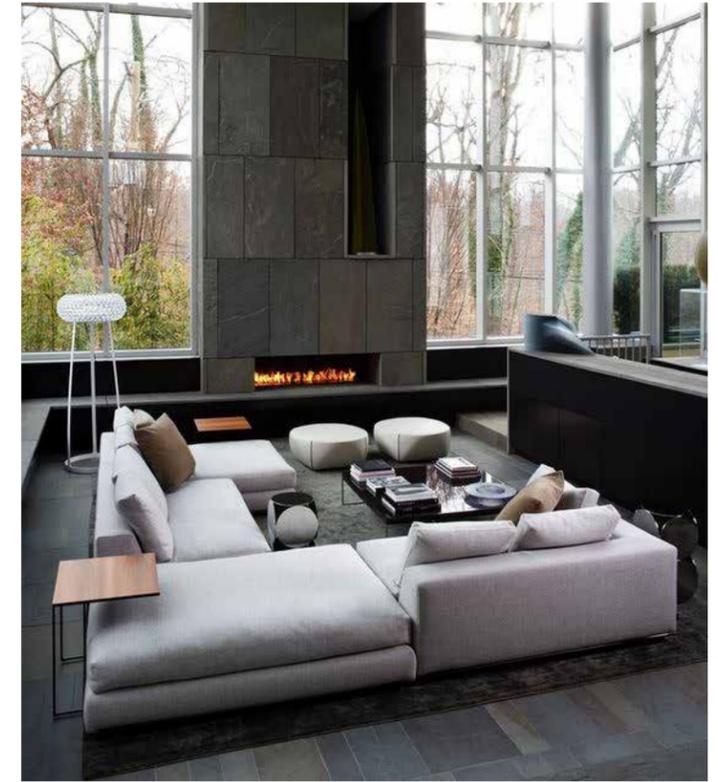
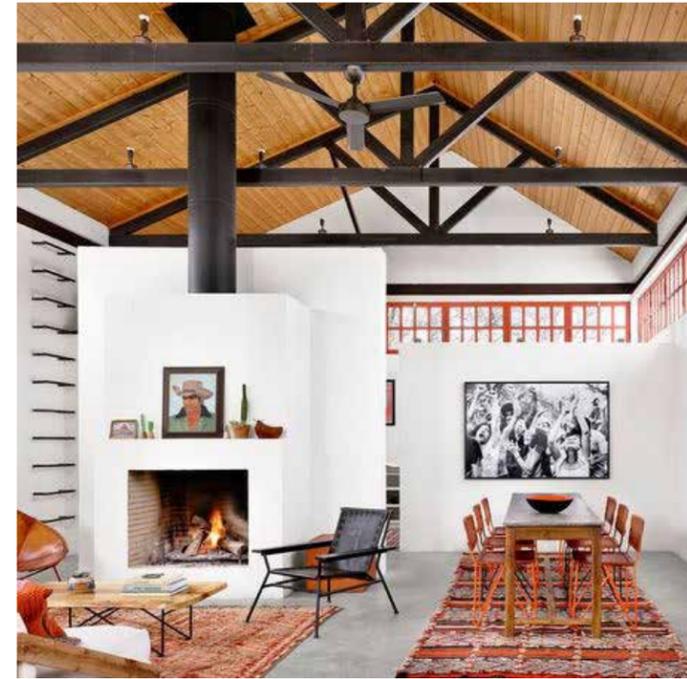
The kitchen often grows into the heart of every home. It is a space where it can be difficult to compromise on space, despite the restrictions of ADU square footage. Although it is common to have all of the standard appliances in an average home, the ADU environment can warrant downsizing certain necessities, such as an under-counter refrigerator, integral stove and counter top, and single compartment sinks. Within a smaller household these changes are only a matter of adapting to what is appropriate instead of what is "standard." We design our kitchens to give you what you need in a simple, functional and beautiful environment.

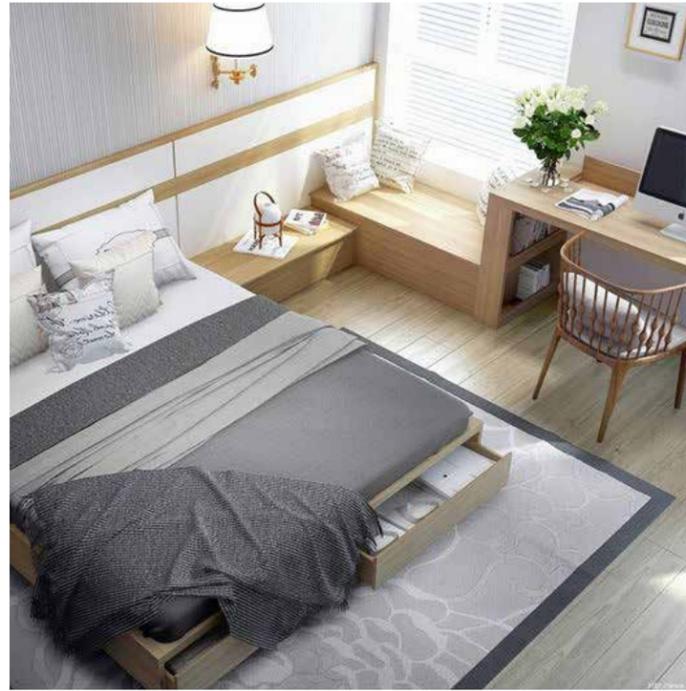
TAKE A LOAD OFF

Living Rooms

The layout of living rooms vary greatly from project to project. Because of their inherent flexibility with shape and size, living rooms can fit into the extra space of your ADU or be the center piece that connects all of the adjacent spaces together. Overall, natural light, even if it's indirect, is crucial to composing an inviting living space.

We listen to our clients, try to understand their lifestyles and design the "great rooms" accordingly. We look at built-in book shelves and creative storage, fireplaces or wood burning stoves, and furniture layout among others, to create an inviting comfortable place to gather, entertain, or relax from the bustle of life.





ALL TUCKED IN

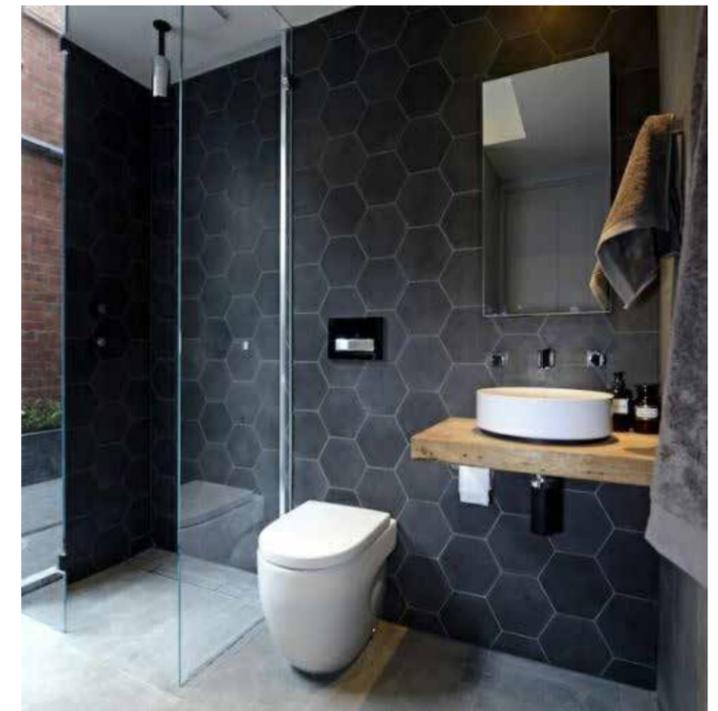
Bedrooms

Whether it is a traditional separated bedroom, or a murphy-bed that transforms a more public living area into a quiet and peaceful space to unwind, the bedroom can have a large impact on the overall layout of your ADU. Each design needs to blend the efficient use of space with a spiritual sense of relaxation. These spaces need to be neat, orderly and uncluttered while natural light, views, and acoustics are all vital elements to balance in the design of a comfortable bedroom.

SINK & SOAK

Bathrooms

Although bathrooms are one of the essential spaces in any living arrangement, they are also too often overlooked or treated as an afterthought. However, it is important for these spaces to be well thoughtout as we need to be super efficient with space. Creative storage, integrated laundry, and durability are all things we look at while designing bathrooms for ADUs. Further, we like these spaces to take on some personality of their own. With a creative use of materials, color and textures, these small rooms can become unique environments to carry out your daily rituals.

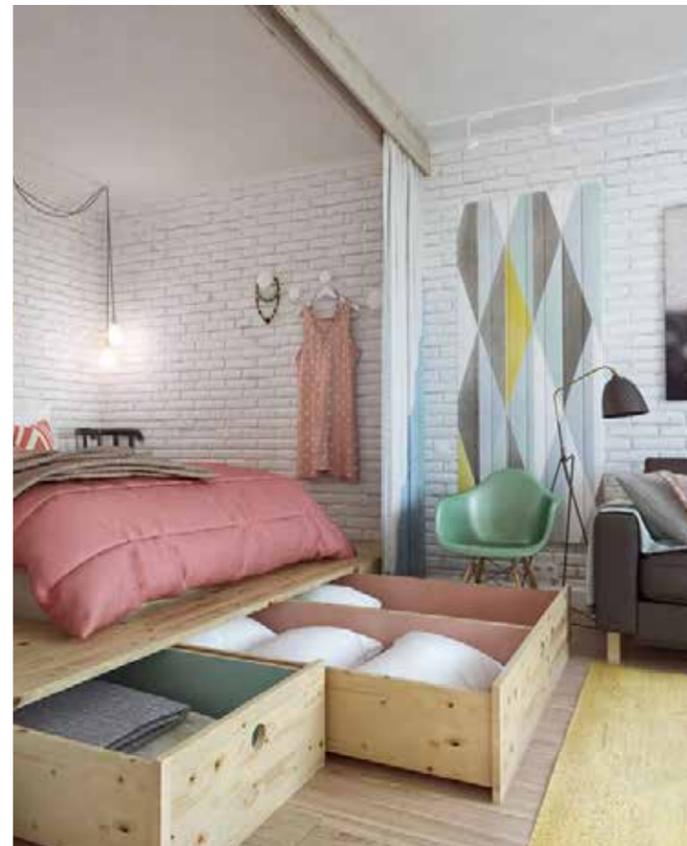




THAT GOES HERE

Storage

One of the biggest challenges with ADUs is finding a way to downsize your belongings to fit into a smaller space. It is also imperative that each square inch of space is utilized as efficiently as possible. Finding places to tuck in shelves, hide drawers, or multi-task functions is one of the greatest design challenges. We look for ways to utilize the spaces under stairs, areas under built-in benches and other under utilizes space to maximise places to store and organize belongings.



FAQ

We understand that the process of building an Accessory Dwelling Unit can be confusing and stressful. Below are some frequently asked questions about designing and building an ADU and hiring an architect.

Question 1: How much does it cost to build an ADU?

One of the first questions we always get asked is how much a project costs and what our design fee is. This is a difficult question to answer without knowing more specifics about your project, but we can at least give you some insight into the typical construction cost of a brand new, detached ADU in Portland. Note, the numbers below are just rough estimates and can vary greatly depending on the site, size, design, and final materials and finishes.

- \$150,000 to \$250,000 | Construction costs
- \$10,000 to \$20,000 | Architectural fees
- \$2,500 | Structural Engineering fees
- \$5,000 | Permits (most of Portland's System Development Charges (SDC) fees are waived until the summer of 2018, saving up to \$12,000)
- \$167,500 to \$277,500 | ESTIMATED TOTAL PROJECT COST

Of course, this is just a rough breakdown and the specifics of each site, the building conditions, the availability of contractors and materials, among many other factors can dramatically alter the final costs of the project. Also, the quality of finish materials, appliances, fixtures and other design elements can vary greatly. Please use these numbers as a rough estimate as you learn more about the ADU process. Location also plays a big role in the cost of the project as labor and materials prices can be dramatically different across the country. We are familiar with the costs of building a Portland ADU but would need to do more research on your area to give a more accurate estimate.

Question 2: How long does it take to design and build an ADU?

This is another tough one to answer as every project and client is different. In our experience it can take about 8-12 weeks to design an ADU, about 8-10 weeks to get permit approval from the City of Portland, and another 3 to 6 months to build depending on weather, unexpected delays and other unforeseen setbacks. Design time depends on your availability, schedule and time needed for you to make decisions about the design.

Question 3: What services do architects provide?

Our role as the architect is to see the big picture when it comes to your project, and bring that concept through to the intimate details. We will help you explore what is allowed on your property, what appeals to you aesthetically, and what you require functionally. We will coordinate the team of designers, engineers, city permitting staff, and construction professionals. We will also guide your project through the maze of building codes and zoning requirements. Our job is to work with you and all of the other people involved, so that your project is built the way it was intended, and that the final project meets your needs. We can help you with everything from creating a site plan, developing the architectural concept and floor plans, all the way to selecting tiles, counters, and other finish materials. In short, we follow your project from early concept design through completed construction working with your best interests at heart.

Question 4: At what point in my project should I involve an architect?

As soon as you decide you want to build something new or renovate a space you already have, you should start looking for an architect. Architects provide important pre-design services including site evaluation, feasibility studies, programming, and can help you explore options you may not have considered. Involving an architect early in the process can help avoid costly mistakes, and increase the likelihood of your satisfaction with the project. We are trained to consider the challenges, opportunities and hurdles in each unique project and navigate the best path towards a beautiful solution.

Question 5: Don't architects add substantial cost to a project?

Although architects' fees are part of the project cost, hiring an architect can actually save you money in many ways. We can monitor your budget and negotiate to get the best materials and workmanship at a good price. Our designs can reduce energy and water consumption, maintenance and lifecycle costs. We can turn a difficult lot into a successful building site. We also spend time planning and fully developing your ideas to hopefully avoid costly changes once construction is underway - one of the biggest reasons projects can go over budget and schedule. We can also work within your budget, meaning architectural fees don't have to increase the total cost of the project, as we know that budgets are always limited.

Question 6: How are architects compensated?

Our fees can be based on time, a stipulated sum, a percentage of the construction cost or the project's square footage. We are open to various forms of compensation to best fit the specifics of the project and the client. However, our most common fee structure is a lump sum fee. We find that clients prefer to have cost certainty when it comes to the design fees. We develop a proposal with a fee breakdown for each individual client based on the project scope and complexity.

Question 7: What's the client's role in the design process?

We will depend on you to communicate your design preferences, functional requirements, and budget. Your timely response to questions and design submissions will help keep the project on schedule. It is also important for you to raise any concerns you have as the project proceeds, so they can be addressed in the earliest stages. Working in partnership with us will help ensure the best possible outcome for your project. All design decisions are made as a collaboration between us as the designers and you as the client and you approve the work at the end of each phase before we proceed with work.

Question 8: Do I need an architect for my project?

Architects are required for most commercial buildings and projects over a certain square footage. Although many residential projects and Accessory Dwelling Units don't specifically require an architect, the value that an architect brings to a project can't be overstated. Architects act as a client representative, working for you so each project is designed and built with integrity. Just like you wouldn't hire an electrician to do plumbing work, you shouldn't hire a builder to design an ADU. We bring years of design experience to each project and enjoy bringing our client's vision to life.

THANK YOU

If you have any specific questions about your project or would like to discuss design services don't hesitate to contact us. We are always happy to offer advice and help people move their projects forward in any way we can.

We understand that ADUs, although small in size, represent a significant investment of time and money. Our goal is to make these projects as easy and painless as possible, while allowing you to enjoy participating in the design process. We are currently looking for new clients and would love to collaborate with you on the design of your Accessory Dwelling Unit.

Although our studio is based in Portland, Oregon, we do work further afield. Regardless of where you live, tell us about your project and we will see how our team can help.



OUR TEAM

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Here at Propel Studio, we are excited to begin a partnership with you on your ADU endeavor. This book was put together in an effort to make your process easy and successful.

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OREGON**



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