

## Summary

We interpreted the results of a survey of accessory dwelling unit (ADU) owners in Portland, Oregon. By comparing survey responses to Census summaries and other data, we made an initial investigation into some common claims and questions about the effects of ADUs. This analysis finds that in Portland:

1. ADUs do provide housing. At any one time about 80% of ADUs are in use as long-term residences. The remaining 20% have alternative uses, but can be converted to housing with no further construction or permitting. Changing uses is part of the attraction for owners.
2. Most properties with ADUs (64%) are occupied by their owner, even though Portland has no requirement they do so.
3. ADUs seem to be at least as attractive to renters as apartments in multifamily buildings, and may be preferred by them.
4. ADUs are likely to have a low environmental impact compared to other dwellings. Their median area per resident is 44% lower than newly constructed single family residences, and some ADUs have a notable number of above-code green features.
5. ADUs are associated with an average of 0.93 cars per dwelling, lower than the Portland average of 1.31 for all new rentals. Of those 0.93, an average of 0.46 are parked on the street. Since ADUs are also extremely rare, ADUs have had negligible impact on parking conditions citywide. ADUs may be as effective in reducing vehicles owned per household as transit-oriented developments.
6. ADUs do serve older persons, both as places to live and assets to own, but not to a greater extent than other forms of housing. However, many Portland ADUs are owned by 55-64 year-olds, who will be 65+ in a decade. The beneficial effect of ADUs for older persons will likely be larger then.
7. ADUs support the community economically through one-time construction costs, averaging \$78,760 per unit, and ongoing property taxes, estimated to average \$1134/yr (using recent tax levy rates).
8. The claim that ADUs provide affordable rental housing is a complex one to evaluate. Housing affordability has been defined in many ways, and ADUs have unusual properties as rentals. 18% of Portland ADUs are occupied for free or extremely low cost. This unregulated, “volunteer” affordable housing has been created with little subsidy or intervention from the government. Meanwhile, about 80% of ADUs rent for market rates, or a slight premium, compared to apartments of similar size and location.
9. Financial gain through rental income is the most common motivation for the homeowner-developers who create ADUs, followed by housing for a family member or helper. Construction costs, design constraints and financing are the most common barriers to ADU development.

Overall, ADUs seem to differ from other housing in the individualistic ways they are created, owned, and managed by typical homeowners rather than developers and investors. In Portland, this “grassroots,” nonprofessionalized kind of development appears to be providing a variety of benefits to owners and community.

Executive Summary from 2013 Accessory Dwelling Unit Survey in Portland, Oregon  
Evaluation and interpretation of a survey of ADU owners

**Table 1. Single Family Price and Cost Breakdowns  
2015 National Results**

	Average Lot Size:	20,129
	Average Finished Area:	2,802
<b>I. Sale Price Breakdown</b>	<b>Average</b>	<b>Share of Price</b>
A. Finished Lot Cost (including financing cost)	\$85,139	18.2%
B. Total Construction Cost	\$289,415	61.8%
C. Financing Cost	\$6,285	1.3%
D. Overhead and General Expenses	\$26,345	5.6%
E. Marketing Cost	\$3,739	0.8%
F. Sales Commission	\$15,104	3.2%
G. Profit	\$42,292	9.0%
<b>Total Sales Price</b>	<b>\$468,318</b>	<b>100%</b>
<b>II. Construction Cost Breakdown</b>	<b>Average</b>	<b>Share of Construction Cost</b>
<b>I. Site Work (sum of A to E)</b>	<b>\$16,092</b>	<b>5.6%</b>
A. Building Permit Fees	\$3,601	1.2%
B. Impact Fee	\$1,742	0.6%
C. Water & Sewer Fees Inspections	\$4,191	1.4%
D. Architecture, Engineering	\$4,583	1.6%
E. Other	\$1,975	0.7%
<b>II. Foundations (sum of F to G)</b>	<b>\$33,447</b>	<b>11.6%</b>
F. Excavation, Foundation, Concrete, Retaining walls, and Backfill	\$32,576	11.3%
G. Other	\$871	0.3%
<b>III. Framing (sum of H to L)</b>	<b>\$52,027</b>	<b>18.0%</b>
H. Framing (including roof)	\$44,640	15.4%
I. Trusses (if not included above)	\$3,884	1.3%
J. Sheathing (if not included above)	\$1,238	0.4%
K. General Metal, Steel	\$1,272	0.4%
L. Other	\$993	0.3%
<b>IV. Exterior Finishes (sum of M to P)</b>	<b>\$43,447</b>	<b>15.0%</b>
M. Exterior Wall Finish	\$20,717	7.2%
N. Roofing	\$10,069	3.5%
O. Windows and Doors (including garage door)	\$12,127	4.2%
P. Other	\$534	0.2%
<b>V. Major Systems Rough-ins (sum of Q to T)</b>	<b>\$37,843</b>	<b>13.1%</b>
Q. Plumbing (except fixtures)	\$12,302	4.3%
R. Electrical (except fixtures)	\$12,181	4.2%
S. HVAC	\$12,623	4.4%
T. Other	\$738	0.3%
<b>VI. Interior Finishes (sum of U to AE)</b>	<b>\$85,642</b>	<b>29.6%</b>
U. Insulation	\$6,467	2.2%
V. Drywall	\$11,744	4.1%
W. Interior Trims, Doors, and Mirrors	\$12,409	4.3%
X. Painting	\$9,002	3.1%
Y. Lighting	\$3,517	1.2%
Z. Cabinets, Countertops	\$16,056	5.5%
AA. Appliances	\$4,463	1.5%
AB. Flooring	\$13,367	4.6%
AC. Plumbing Fixtures	\$4,465	1.5%
AD. Fireplace	\$2,760	1.0%
AE. Other	\$1,393	0.5%
<b>VII. Final Steps (sum of AF to AJ)</b>	<b>\$19,567</b>	<b>6.8%</b>
AF. Landscaping	\$6,156	2.1%
AG. Outdoor Structures (deck, patio, porches)	\$4,349	1.5%
AH. Driveway	\$6,240	2.2%
AI. Clean Up	\$2,054	0.7%
AJ. Other	\$768	0.3%
<b>VIII. Other</b>	<b>\$1,349</b>	<b>0.5%</b>
<b>Total</b>	<b>\$289,415</b>	<b>100%</b>

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**Common Types of Contracts Used in the Construction Industry**  
(from [http://www.engineeringtoolbox.com/contract-types-d\\_925.html](http://www.engineeringtoolbox.com/contract-types-d_925.html))

### **Lump Sum Contract**

With this kind of contract the engineer and/or contractor agrees to do the a described and specified project for a fixed price. Also named "Fixed Fee Contract". Often used in engineering contracts.

A Fixed Fee or Lump Sum Contract is suitable if the scope and schedule of the project are sufficiently defined to allow the consulting engineer to estimate project costs.

### **Unit Price Contract**

This kind of contract is based on estimated quantities of items included in the project and their unit prices. The final price of the project is dependent on the quantities needed to carry out the work.

In general this contract is only suitable for construction and supplier projects where the different types of items, but not their numbers, can be accurately identified in the contract documents.

It is not unusual to combine a Unit Price Contract for parts of the project with a Lump Sum Contract or other types of contracts.

### **Cost Plus Contract**

A contract agreement wherein the purchaser agrees to pay the cost of all labor and materials plus an amount for contractor overhead and profit (usually as a percentage of the labor and material cost). The contracts may be specified as

- Cost + Fixed Percentage Contract
- Cost + Fixed Fee Contract
- Cost + Fixed Fee with Guaranteed Maximum Price Contract
- Cost + Fixed Fee with Bonus Contract
- Cost + Fixed Fee with Guaranteed Maximum Price and Bonus Contract
- Cost + Fixed Fee with Agreement for Sharing Any Cost Savings Contract

This types of contracts are favored where the scope of the work is indeterminate or highly uncertain and the kinds of labor, material and equipment needed are also uncertain. Under this arrangement complete records of all time and materials spent by the contractor on the work must be maintained.

#### **Cost + Fixed Percentage Contract**

Compensation is based on a percentage of the cost.

### **Cost + Fixed Fee Contract**

Compensation is based on a fixed sum independent the final project cost. The customer agrees to reimburse the contractor's actual costs, regardless of amount, and in addition pay a negotiated fee independent of the amount of the actual costs.

### **Cost + Fixed Fee with Guaranteed Maximum Price Contract**

Compensation is based on a fixed sum of money. The total project cost will not exceed an agreed upper limit.

### **Cost + Fixed Fee with Bonus Contract**

Compensation is based on a fixed sum of money. A bonus is given if the project finish below budget, ahead of schedule etc.

### **Cost + Fixed Fee with Guaranteed Maximum Price and Bonus Contract**

Compensation is based on a fixed sum of money. The total project cost will not exceed an agreed upper limit and a bonus is given if the project is finished below budget, ahead of schedule etc.

### **Cost + Fixed Fee with Agreement for Sharing Any Cost Savings Contract**

Compensation is based on a fixed sum of money. Any cost savings are shared with the buyer and the contractor.

## **Incentive Contracts**

Compensation is based on the engineering and/or contracting performance according an agreed target - budget, schedule and/or quality.

The two basic categories of incentive contracts are

- Fixed Price Incentive Contracts
- Cost Reimbursement Incentive Contracts

Fixed Price Incentive Contracts are preferred when contract costs and performance requirements are reasonably certain.

Cost Reimbursement Contract provides the initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to total target costs. This type of contract specifies a target cost, a target fee, minimum and maximum fees, and a fee adjustment formula. After project performance, the fee payable to the contractor is determined in accordance with the formula.

# A Sample Site Plan

## For Successful New Single Family Residential (NSFR) Project Submittals

Instructions: This sample site plan provides an example of how to prepare a site plan. Your submittal must include a site plan that includes all of the existing and proposed conditions included on this sample site plan.

**Your site plan must be drawn on 11"x17" or larger paper and drawn to a scale of 1" = 10'.**

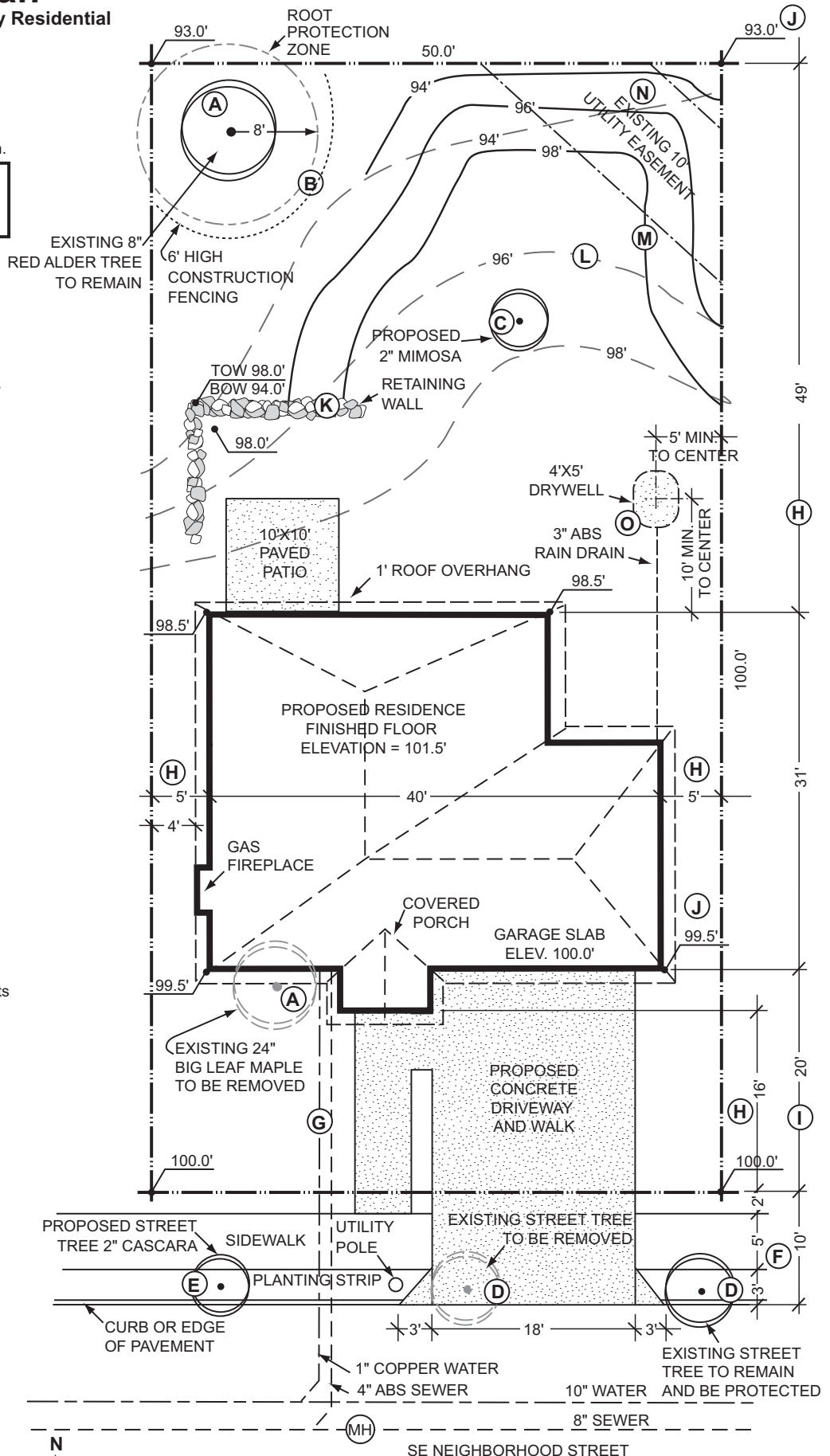
Please be aware that since every project is unique there may be some situations where you will be asked to provide additional information.

- (A) Existing on-site tree to be retained or removed
- (B) Root protection zone/fencing - typically 1 foot radius per inch of tree diameter (measured 4 1/2 feet above the ground)
- (C) Proposed on-site new tree with species and size
- (D) Existing street tree to be retained or removed
- (E) Proposed street tree
- (F) Right-of-way configuration (sidewalk, planting strip, curb and street name)
- (G) Existing and proposed locations of underground utilities
- (H) Distance from building to property lines
- (I) Distance from garage entry to property line
- (J) Finished grade elevations at property corners and building corners
- (K) Retaining wall with top of wall (TOW) elevation and bottom of wall (BOW) elevations
- (L) Two foot grade elevation contours, existing
- (M) Two foot foot grade elevation contours, proposed
- (N) Location and size of existing easements
- (O) Stormwater disposal type and size
- (P) White space for City stamps

<b>LOT AREA</b> .....	5,000 SQ FT
<b>IMPERVIOUS AREA</b>	
DRIVEWAY .....	360 SQ FT
PATIO .....	100 SQ FT
WALK .....	90 SQ FT
ROOF AREA (INCL. OVERHANG) .....	1,334 SQ FT
<b>TOTAL</b> .....	<b>1,884 SQ FT</b>
<b>BUILDING COVERAGE</b>	
BUILDING FOOTPRINT .....	1,196 SQ FT

**LEGAL DESCRIPTION**  
 PARCEL 1,  
 PARTITION PLAT 1992-X,  
 R-12345X

**PROJECT ADDRESS**  
 3030 SE NEIGHBORHOOD STREET  
 PORTLAND, OR 97207



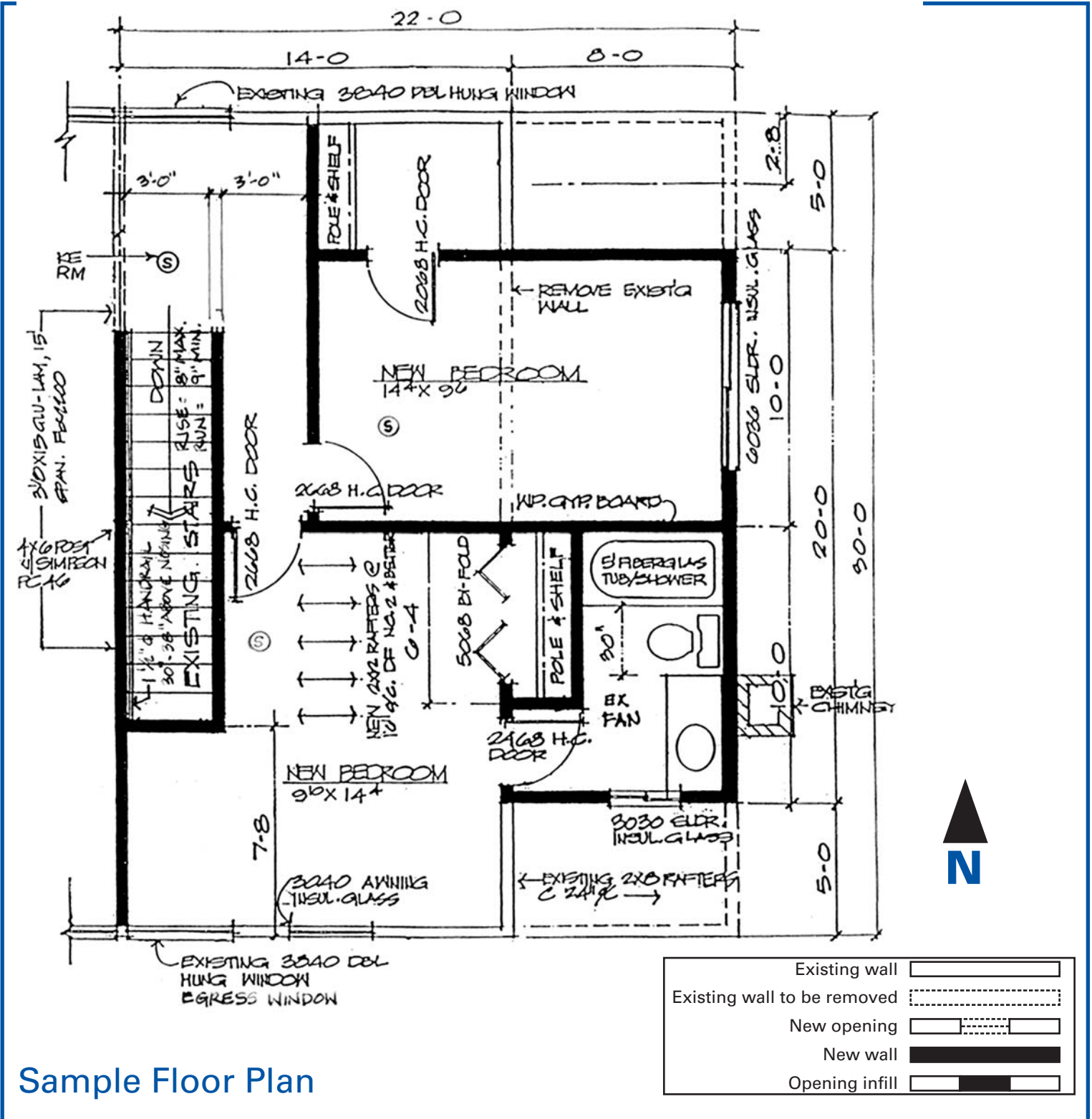
**SITE PLAN**

SCALE 1" = 10'

# Floor plans and foundation plans

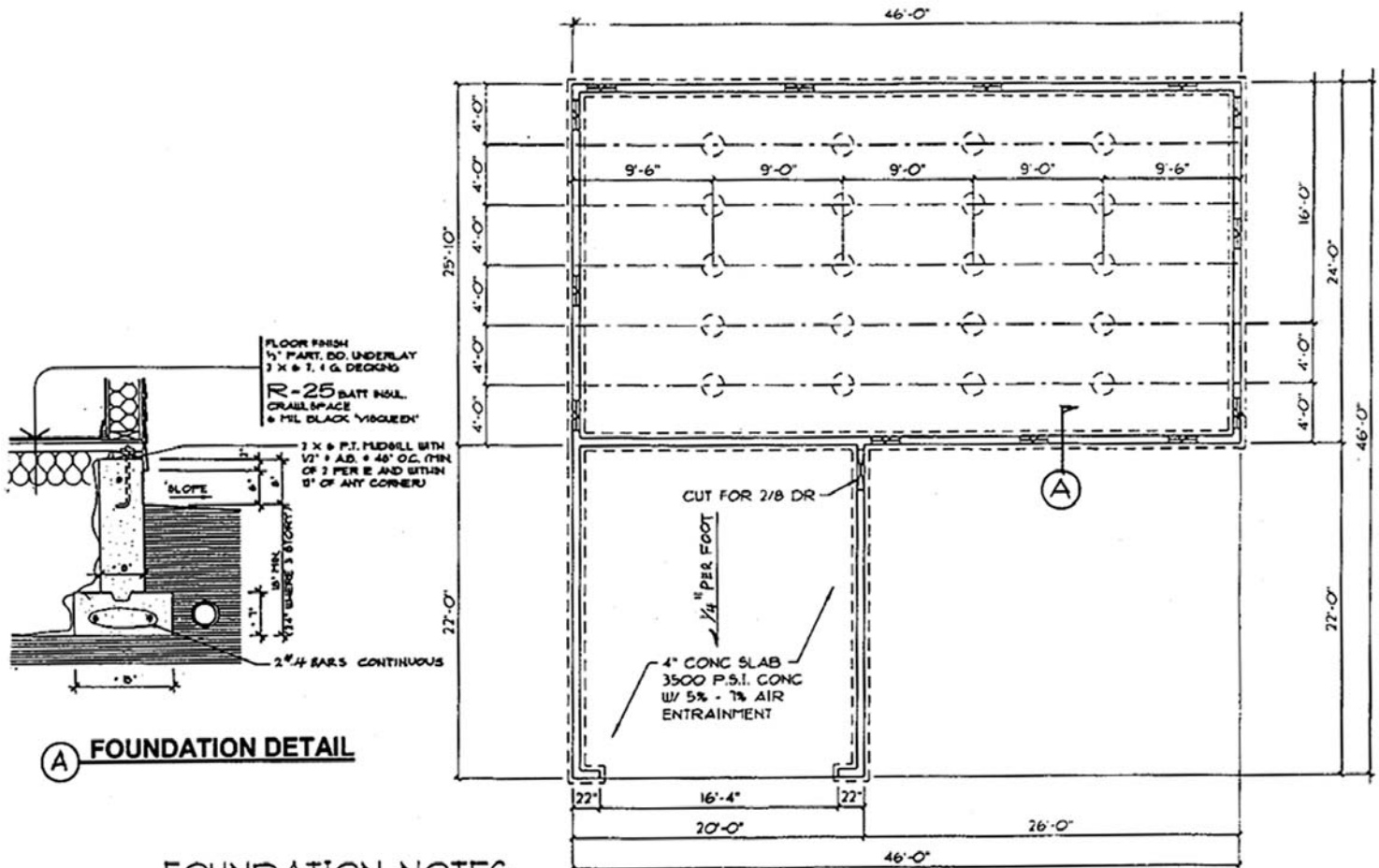
A floor plan, also known as a plan view, is what you would see if you were to look straight down at a floor or basement with the roof or floors above removed. You will need to provide one floor plan for each level of the building on which work is being done.

- If you are constructing a new building or an addition, you will also need to provide us with a foundation plan. This plan should show the layout, dimensions and details of continuous concrete slabs, footings, reinforcing steel, and the strength of the concrete to be used. The location of the crawl space access and the foundation vents must also be shown.



Sample Floor Plan

- A floor plan for each level of the building being constructed or remodeled must show the location of all full and partial height walls, the size and proposed use of all rooms affected by the work and a north arrow.
- The location, size and type of each window must be shown on the floor plan.
- The location of bearing walls, headers and beams supporting loads from above must also be shown on the floor plans or shown on separate framing plans. Floor plans must show all steps and stairs.
- Plumbing fixtures, heating and cooling equipment, electrical outlets, switches, etc. are typically shown on the floor plan, but can be shown on separate plans.
- The floor plan must also show the location of all smoke detectors.



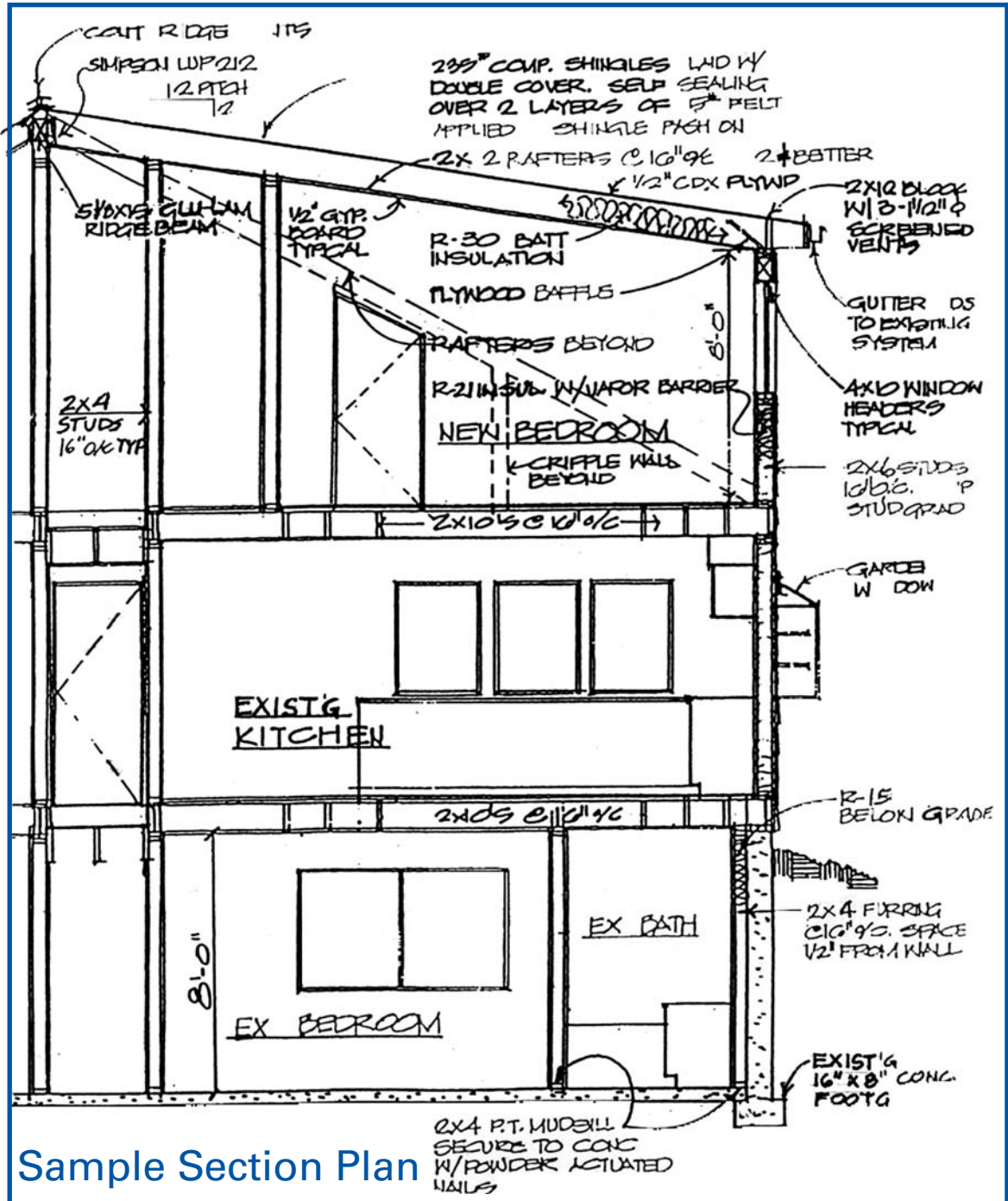
## Section drawings

- Section drawings, sometimes called cross sections, are what you would see if you cut vertically through a building from the tip of the roof down through the ground, and then looked at what the cut exposed.
- Section drawings are a useful way of displaying structural information and information about construction materials that are needed to do our code review. Full sections for residential construction are usually drawn at a scale of at least 1/4 inch = 1 foot and wall section and details at a scale of least at 1/2 inch = 1 foot. Partial sections may be drawn at a larger scale to show something in detail such as footings, overhangs and stairs.
- To get a building permit for new construction or an addition, you must provide section drawings that show typical building conditions.

- For simple projects, a single section drawing showing:

- the size of the footing and the distance between ground level and the bottom of the footing;
- the size of the foundation wall and how high it will rise above the ground;
- the size and spacing of structural members such as beams, joists, studs and rafters which are not shown on other drawings;
- wall, ceiling and roof coverings and finishes;
- wall, floor and ceiling insulation;
- ceiling heights;
- eaves, decks and other projections.

- For more complex buildings or additions, full sections through the work in multiple directions and at different locations may be required to fully explain the work. Separate structural section drawings or details may be required, in addition to building or architectural sections, to show the structural connections.



- For buildings containing new or revised stairways, stair details must be provided which indicate the construction materials, structural support and dimensional relationships to surrounding construction.
- The purpose of building plans is to provide the City of Portland with a complete and accurate description of your proposed project. If there is something you think you will need to explain when you come to the Development Services Center, please put it on the drawings.

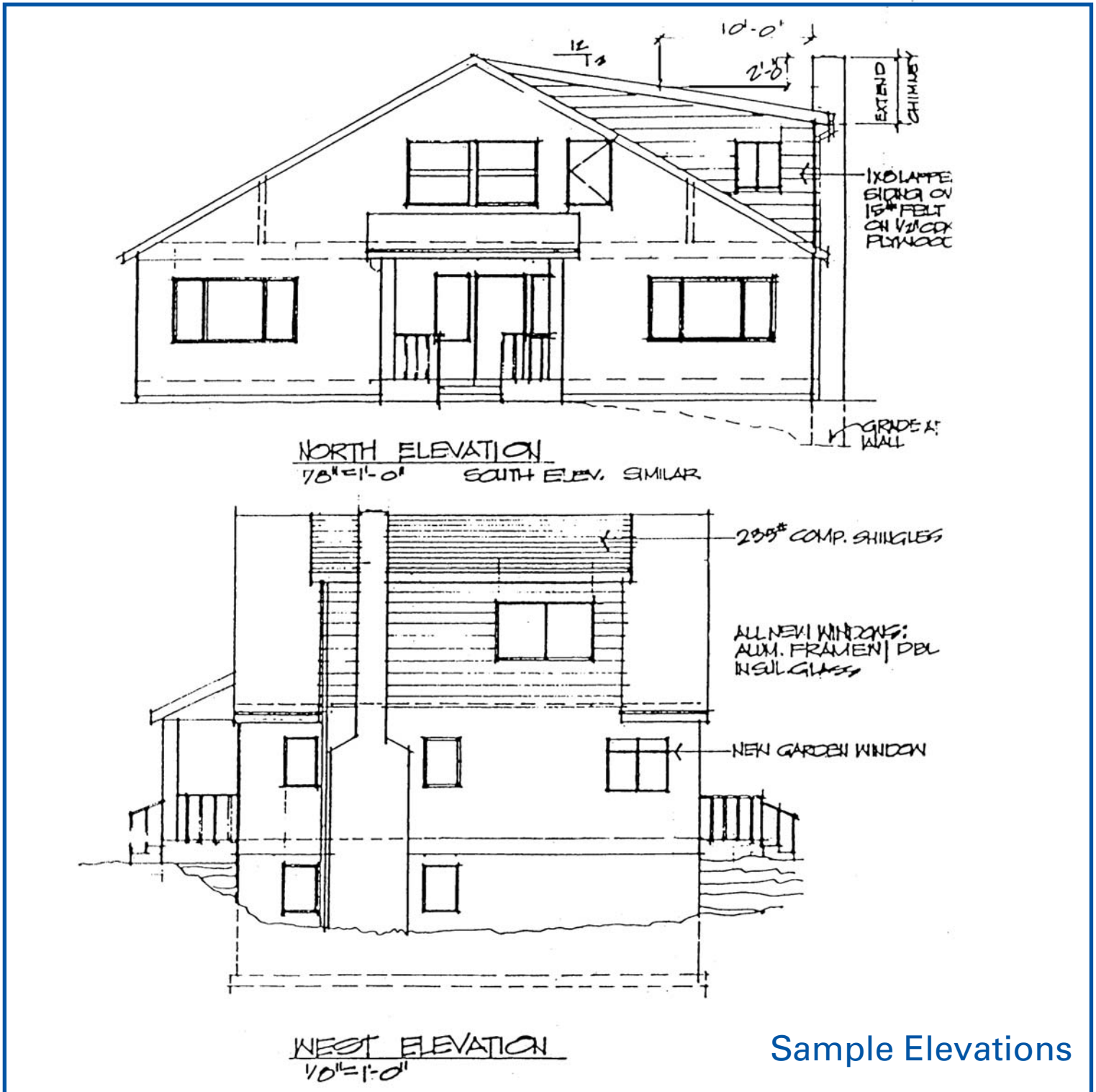


# Building elevation drawings

Building elevation drawings are exterior views of the building, sometimes identified as front, rear, left, right; or north, south, east, west. Any project that requires a change in the exterior of the building must have building elevation drawings.

Elevations must be drawn to scale,  
1/4 inch = 1 foot  
is the normal scale.

Elevations show the level at which the ground meets the building, the slope of the ground where it meets the building, the vertical location, size of windows and doors, the type of siding and roofing, the height and configuration of guard-rails and similar features on the exterior of the building.



Sample Elevations

# A Practitioner's Guide to Appraising ADUs

An accessory dwelling unit (ADU) is a small self-contained dwelling, typically with its own entrance, cooking, and bathing facilities, that shares the site of a larger, single-unit dwelling. ADUs may be attached, as in the case of a basement apartment, or detached, as in the case of a backyard cottage. An ADU is not a separate property; it has the same owner as the primary dwelling.

Because ADUs are an emerging type of residential development with unique legal uses, real estate appraisers frequently misunderstand how to account for them. We recommend you follow these four steps when appraising any property with an ADU.

## 1 | **Ensure ADU is legal and confirm that main house + ADU can be rented.**

In the City of Portland and most parts of the Portland metropolitan region, *both* the main home on the property *and* a legally created ADU on the lot can be simultaneously rented. In other words, *the property owner does not need to live in either unit.* These legal, income-producing uses of the property with an ADU may affect your opinion of the Highest and Best Use (HBU) of the property. If the ADU is not in the City of Portland, then it is important to check with the local municipality to find out if both units can be rented. Typically, "owner occupancy" requirements will be listed in the ADU section of a city's zoning code.

### » FOOD FOR THOUGHT

*If only the main home or ADU can be rented, but not both simultaneously, consider how to best develop the opinion of contributory value of the ADU alone. Is income data available? Is cost data available? What is the usability of the ADU's square footage compared to the main home?*

## 2 | **Conduct the HBU.**

Consider these questions: What are market rents for the main home and the ADU? What are the Gross Rent Multipliers (GRMs) for the area and property type? Does a consideration of rents for the main home and the ADU affect the test of "maximally productive" for the property -- does it lead to a higher opinion of value through the income approach?

## 3 | **Decide on which approaches to value will be developed in the appraisal.**

Based on the HBU, will the sales comparison, cost, *and* income approaches be developed? The number of approaches being developed will inform the reporting format.

## 4 | **Report the findings.**

If all three approaches to value are developed, then Fannie Mae form 1025 (the 2-4 unit form) may be the best way to report your appraisal results because it provides a simpler income format than Fannie Mae form 1004. If using form 1004, remember to check the "One with Accessory Unit" box in the **Improvements** section, and add your rent schedules to the report.



State of Oregon  
Department of  
Environmental  
Quality

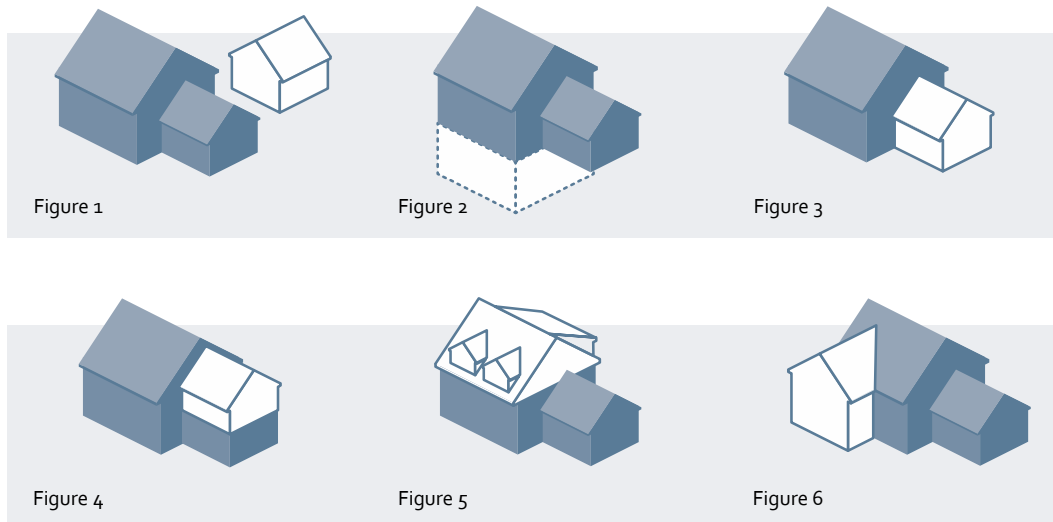


AccessoryDwellings.org



## ADU Configurations:

ADUs may be detached, as in the case of a backyard cottage (figure 1), or attached, as in the case of a basement (figure 2), garage conversion (figure 3), garage conversion above garage (figure 4), attic conversion (figure 5), or addition.



## Real-World Appraisal Considerations:

Most single-unit residential appraisals do not involve the income approach to value. Therefore, developing the HBU for an ADU property may result in a significantly more complex appraisal. When receiving an order to appraise an ADU property, it may be best to do a records search to determine if the ADU is legal. If it is, then the scope of work for the assignment needs to be adjusted to resemble that of a duplex property. For more information on how to value an ADU in the Portland area, please reference "Understanding and Appraising Properties with Accessory Dwelling Units" in *The Appraisal Journal*.

### Tips for Homeowners:

- Ask your lender to require an appraiser with knowledge of ADUs.
- Talk with your lender about different lending guidelines for single-family and income-producing properties.
- Provide the appraiser with information about the ADU that could be helpful in the appraisal process, including proof of the legality of the ADU, rental agreements, and cost breakdowns for building the ADU.
- Understand that the appraisal fee on a property with an ADU is likely to be higher than a normal appraisal, and always remember to tell the appraiser that there is an ADU on the property when he or she makes an appointment to see your home.

## ADU Design and Permitting Process

- Funding- Ensure that you have access to sufficient funds
- With rough budget in mind, brainstorm project scope
- Talk to a City planner to determine feasibility. Read up on municipal bylaws for ADUs. Also, uncover any major property specific design/cost red flag issues, including:
  - a buried oil tank or cess p. These systems may have to be removed if they are near where a foundation will be placed.
  - poor sewer line. If the existing sewer line is in a state of deferred maintenance, the ADU could trigger the need to update it. Sewer work in the public right of way is notoriously expensive.
  - special deed restrictions, homeowners associations with Covenants, Conditions & Restrictions, historic design overlays, conservation or wetland overlay districts. Depending on the location and deed of the property, there may be restrictions that go beyond the restrictions listed in the standard municipal zoning ADU code
- Rough sketch some ideas for site plans
- Talk to neighbors for early feedback
- Interview architects or designers. Optimally, select professionals who have a passion for, or knowledge about, small space residential design or have experience with ADU design.
- Find builders and subs. Ideally, you want to identify a builder, plumber, mechanical, electrical subcontractor. You may base your assessment of them on their costs, references, and communication skills.
- Initiate financing as needed
- Architect draws up schematic drawing (or rough 3D models) for consideration based on your project goals and sketches
- Integrated Design Process- Meet with designer, builder, and subs to talk through objectives and schematics to get their input on schematic design
- Designer refines schematics
- Have designer build a 3D model of the design)
- Designer finalizes design with input from owner and builder
- Develop drawings and structural engineering calculations for City
- Submit drawings to the City for permit
- Hire land surveyor to determine property line locations and install survey pins and construction staking if the City will require it before allowing the foundation to be poured.

## Resources

- For current ADU information, subscribe to [AccessoryDwellings.org](http://AccessoryDwellings.org)
- Personal project blog- [pdxadu.blogspot.com](http://pdxadu.blogspot.com)
- ADU consulting, classes, tours- [accessorydwellingstrategies.com](http://accessorydwellingstrategies.com)

*Coming soon...*

# Backdoor Revolution:

## The Definitive Guide to ADU Development