

Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201

More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



APPEAL SUMMARY

Status: Decision Rendered - Reconsideration of ID 21860

Appeal ID: 21900

Project Address: 5616 NE 35th PI

Hearing Date: 9/18/19

Appellant Name: Kayu Lam

Case No.: B-013

Appellant Phone: 9178031163

Appeal Type: Building

Plans Examiner/Inspector: Renay Radtke-Butts, John Cooley

Project Type: residential

Stories: 1 **Occupancy:** Residential **Construction Type:** Wood

Building/Business Name:

Fire Sprinklers: No

Appeal Involves: Alteration of an existing structure, Reconsideration of appeal

LUR or Permit Application No.: 19-217153-RS

Plan Submitted Option: pdf [File 1] [File 2]

Proposed use: Garage/Workshop

APPEAL INFORMATION SHEET

Appeal item 1

Code Section

ORSC 302.1

Requires

ORSC 302.1 requires that any exterior wall parallel to a property line must comply with the requirements of Table R302.1 for Fire Resistant Construction. Table R302.1 require that any wall less than three feet from a property line, the Fire Separation Distance, must be constructed with a fire-resistance rating time period of 1-hour with exposure from both sides. The 1- hour Fire Rated construction must be at a minimum per Table 721.1(2) the installation of 5/8" Type X Gypsum Wall Board applied to protect the structure of the wall, the Gypsum Wall Board is required to be installed at the exterior between the siding and the wall studs and at the interior to the face of the wall studs.

Proposed Design

Reconsideration of ID 21860

ORIGINAL APPEAL:

The project is a conversion of an existing, unfinished wood-framed garage to a conditioned garage/workshop for personal use. The south wall of the garage is less than 3' from the property line.

The proposed design for the south wall would be half of the detail "Modified 2-Hour Firewall Perpendicular to Property Line" shown on figure R302.2(c) in the code. The proposed wall would have 2 layers of 5/8" Type X GWB on the interior side only. The assembly would consist of the existing wood siding, weather membrane, existing sheathing, existing 2x4 Studs at 24" O.C., R-15 batt insulation, (2) Layers 5/8" Type X GWB, and interior shiplap cladding.

RECONSIDERATION:

Appeal 21860 was granted under the condition of:

Two layers 2x blocking between top of double top plate and underside of roof sheathing

One layer of 5/8" Type X GWB installed in rafter bays directly against roof sheathing on underside of roof adjacent to property line for minimum of 4 feet from inside face of finished wall surface

We request that Appeal 21860 be reconsidered with the alternate protection technique below:

Two layers of 5/8" Type X GWB installed on entire interior ceiling of roof adjacent to property line to form continuous 1-hour fire-resistant protection with south wall assembly as approved in Appeal 21860. This design is based on based on GA File No. RC-2601 and OSSC Table 720.1(3), Item # 21-1.1.

The roof assembly would consist of the existing asphalt shingles, existing roof underlayment, existing plywood roof sheathing, existing 1x roof deck planking, existing 2x4 rafters at 24" O.C., insulation to meet ORSC code requirements (R-15 batt insulation with 1" airgap OR R-20 closed cell foam), and (2) layers 5/8" Type X GWB.

Reason for alternative ORIGINAL APPEAL:

The south wall of the garage is existing. We are finishing the interior of the structure and are easily able to apply (2) layers of wallboard to the interior. We are not making any alterations to the exterior of the structure, or to the structure itself. It would be costly and difficult to apply a layer on the outside as there is existing wood siding in place on the exterior. This siding is in good condition and does not otherwise need to be altered. Applying the Type X GWB to the interior only would save time and resources while still providing fire protection.

RECONSIDERATION:

Installing 2x blocking between the top plate and roof sheathing, and one layer of 5/8" Type X GWB directly against the roof sheathing as stipulated by Appeal Decision 21860 would create issues with either a vented or unvented vaulted roof assembly in our garage's existing 2x4 rafters.

For a vented vaulted roof assembly, ridge and eave vents would be the logical option. However, eave vents are not permitted along the south roof eaves (which are within 3' of the property line) – and the 2x blocking would prevent continuous airflow through the entire roof/eave assembly. Roof vents for air intake would be a poor solution as they would have to be installed in every 2x4 rafter bay in a vaulted roof assembly. Moreover, to avoid penetrating the Type X GWB, the air intake vents would have to be located more than halfway up the roof slope rather than towards the base of the roof slope. Additionally, the 2x blocking would create an enclosed air cavity in the soffited eaves where moist air would have no possibility of reaching the ridge vent and would potentially create future rot issues.

An unvented vaulted roof assembly using R-20 spray foam (per ORSC R806.5) would also be problematic. As ORSC R806.5 states: "Where only air-impermeable insulation is provided, it shall be applied in direct contact with the underside of the structural roof sheathing."

There are gaps between the existing 1x roof decking boards (which are installed between the rafters and plywood wood sheathing – see photo). Installing GWB on top of these boards and then air-sealing the assembly would create enclosed air pockets on the underside of the roof sheathing that would be prone to condensation and rot issues in the future. A similar issue exists with the 2x blocking – behind the air-sealed blocking, there would be an enclosed air cavity in the soffited eaves where moist air would be trapped and potentially create future rot issues.

Finally, regardless whether we opt for a vented or unvented roof assembly, there would not be sufficient remaining space in the existing 2x4 rafters after applying 5/8" GWB in the rafter bays to be able to install roof insulation of sufficient R-value to meet ORSC code requirements.

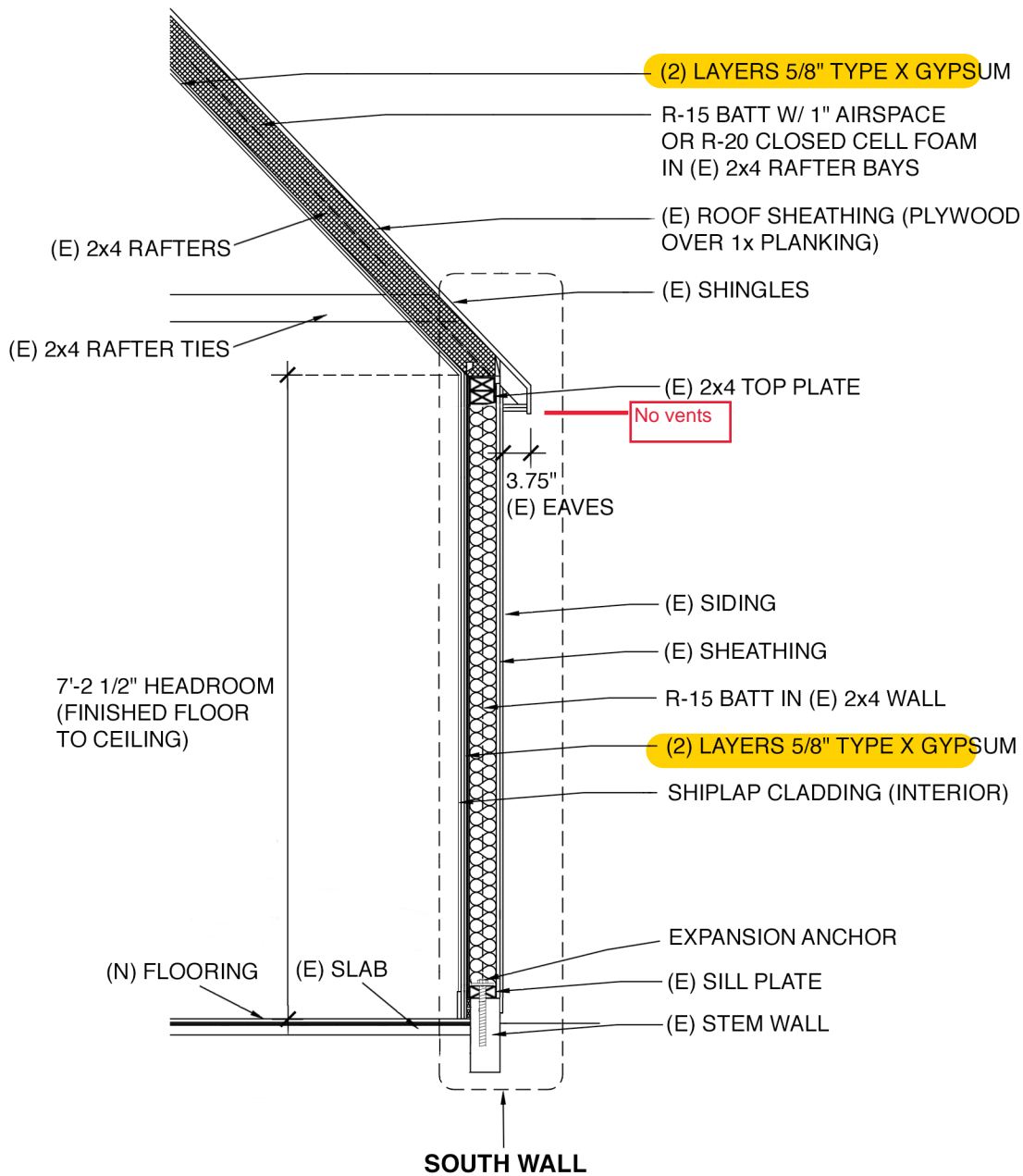
Our proposed roof assembly would combine with the approved wall assembly to form a continuous 1-hour fire-resistant barrier along the entire southern half of the garage structure. The proposed roof assembly would allow for us to sufficient insulation to meet code requirements and work for either a vented or unvented vaulted roof structure.

APPEAL DECISION

Alternate 1 hour wall assembly for East wall of existing garage within 3 feet of the property line: Denied. Proposal does not provide equivalent Life Safety protection. Appellant may contact John Butler (503 823-7339) with questions.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

Reconsideration



WALL SECTION @ SOUTH WALL

1/2" = 1'-0"

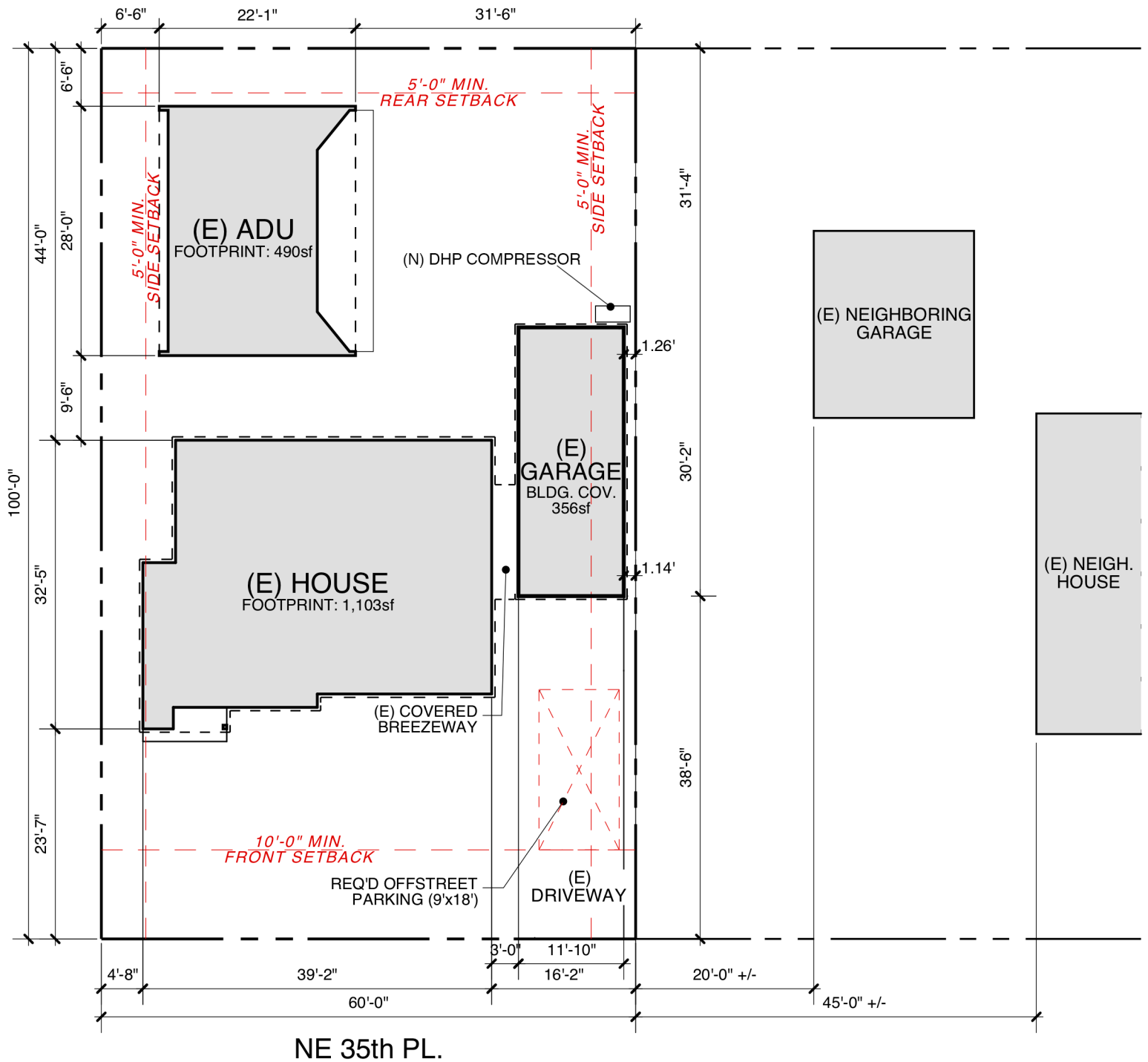
A6

Garage Remodel

5616 NE 35th Pl. Portland, Oregon 97211

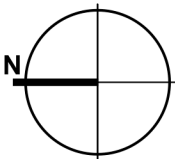






SITE PLAN

1/16" = 1'-0"



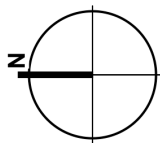
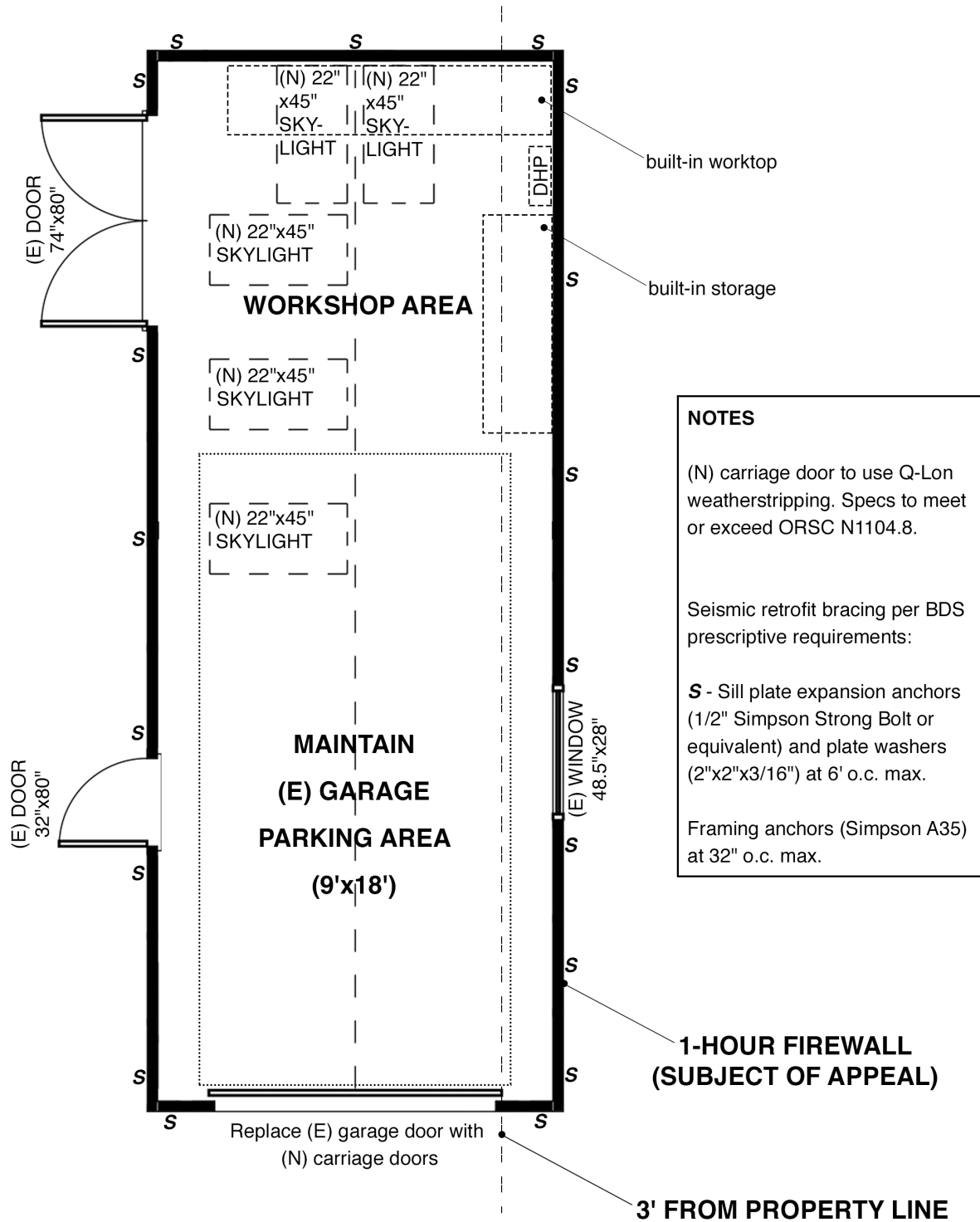
SITE DATA

Address 5616 NE 35th Place

Lot Area 6,000sf

Building Coverage 1,949sf (E) = (32%)

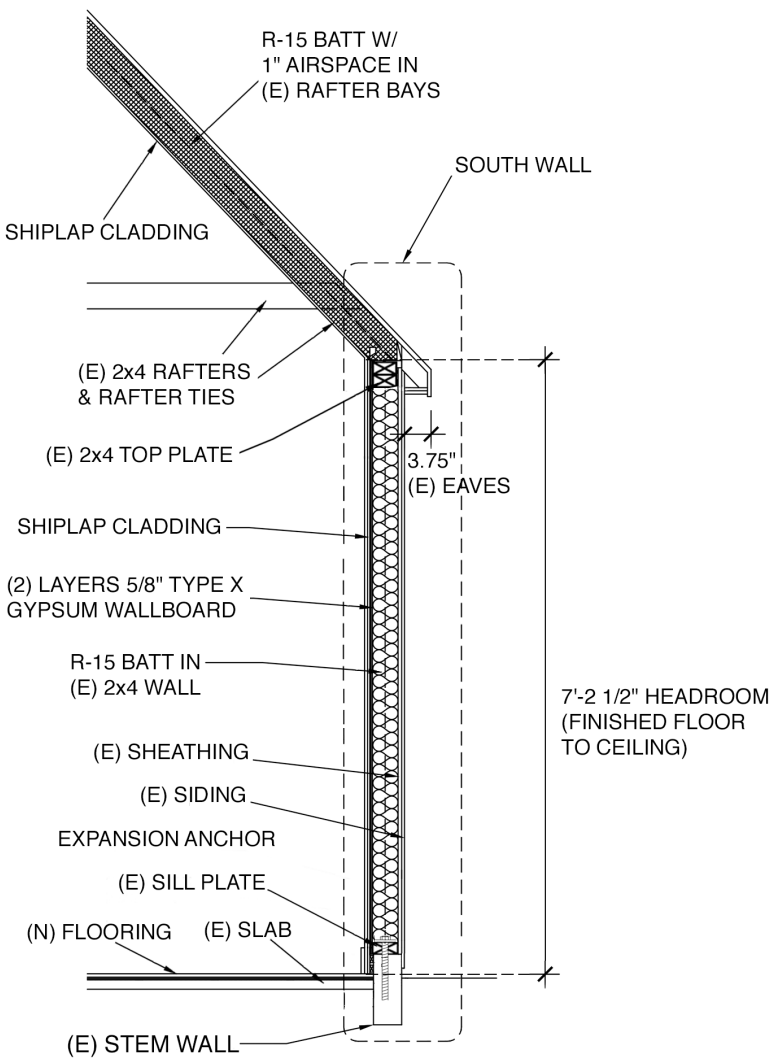
Garage Remodel
5616 NE 35th Pl. Portland, Oregon 97211



FLOOR PLAN

1/4" = 1'-0"

Garage Remodel
5616 NE 35th Pl. Portland, Oregon 97211



WALL SECTION @ SOUTH WALL
1/2" = 1'-0"