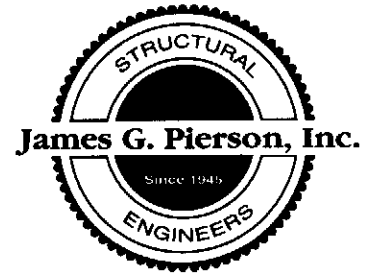


June 14, 2006

Paul Klein
William Hawkins Architects
1425 SW 20th Ave
Portland, Oregon 97201



**Inspection of Framing and Shearwalls
3425 SW Heather lane**

Dear Paul:

I have been sent a copy of the City of Portland's building inspector's report from 6/1/06. During the framing inspection, they had a few comments or corrections that they wanted the structural engineer to review. Since that time, I have made a site visit to observe these questions or issues and met with the General Contractor on site to discuss. This letter documents my review of these issues.

- 2) At the new shearwalls that have the TDS tie-down system, the sill plate is a 2x. The drawings required a 3x or larger plate. I have been asked for input.

The building code (OSSC 2305.3.10) requires the 3x plate but does have an exception for 2x plates with loads less than 600 plf (ASD) to use 2x plates if the anchor bolts are doubled up and plate washers are used. We have more than 600 plf of force at the basement, however, the force from wind, not seismic. For wind, the code allows a 40% increase for shear capacities. I believe that any attempt to remove and replace the sill plate with a thicker member will now do more harm than good unless the wall is completely rebuilt.

Using the wind increase and the short wall segment with the TDS holdown system and 6x posts almost every 8", I could justify the 2x plate with larger (2" x 2") washers that are used. The failure mode that required the code change to 3x plates isn't applicable in this wall. Since the 2nd face of plywood is not on, a 2nd plate (blocking) should be added on top of the sill plate and nailed down with 10d nails at 4" o/c (at center of wall). The 2nd plywood sheet should have the bottom nails staggered between the two plates. One additional 5/8" diameter wedge anchor can also be added in the center of the pier away from the other anchors and tie-down system.

- 9) Clarify the load path from the TDS walls to the remainder of the structure.

The actual force to these shearwalls isn't that high, the walls are just short and very tall. At the upper (new) floor where most of the wind load comes in, the floor is 4x tongue and groove boards with plywood over. The 4x boards work as a drag strut and transfer the shear to the wall. No modifications to the existing framing is required.

At the main floor, the floor joists run the opposite way and the old floor sheathing is cut at

the new shearwalls. Therefore, there should be a Simpson CS16 strap (or similar) that aligns with the wall (next to the plate) and extends between 4 and 6 ft into the living room to help transfer the forces the walls. (The strap would be about 8 ft long). This strap can be installed to flat blocking from underneath (at the lower level ceiling). The wind force in this diaphragm is low enough that the plywood could take the load without the strap if the plywood splice was fully blocked.

If you have any questions on these items, please feel free to call and discuss.

Sincerely yours,

Peder Golberg, P.E., S.E.
Principal



EXPIRES: JUNE 30, 07