

Earthquake retrofitting our home:

My wife Rita and I have done some basic earthquake retrofitting of our homes attachment to its foundation to help keep it from falling off of its foundation during a large earthquake. If you're interested, here is our experience in researching and getting started on this effort to prepare our home, within reasonable cost and effort limits, to try and help limit damage in a large earthquake.

Previously, during our last Fall neighborhood HOA yearly meeting I gave a short presentation on the large risk the Pacific Northwest faces for a 9.0 level earthquake. A PDF of that talk is available on our neighborhood website www.lakeforestestateshoa.com . Just click the "Current Resident" link at the top and you'll find it in the "Earth Quake Preparedness & General Resources" section if you'd like a short refresher on what I said there. Here is the official FEMA report that was done in 2016 on the risks we all face living in the PNW. It's called the Cascadia Rising 2016 After Action Report: www.fema.gov/media-library/assets/documents/128345

Wayne Anderson give me an article from **Fine** Home Buildings website about doing a basic seismic retrofit of your home and that was the road map we followed, applying it logically to the layout of our home. This article, numerous trips to the local hardware stores and finding a contractor was needed in order to get this accomplished.

See the following link for the article if you'd like to **read it** for yourself:

<https://www.finehomebuilding.com/2011/09/08/protect-your-home-with-a-basic-seismic-retrofit>

The contractor I used was Tony Flaherty of Integrity Handyman Service and Repair out of Enumclaw. He was fast, efficient and lent a load of real world practical knowledge and advice to the project as we proceeded. Keep in mind that these types of companies are usually pretty busy and you need to get into line in their existing schedules to get them onsite.

If you have earthquake insurance that is a great thing, but in the event of a 9.0 quake, **ALL** of these kinds of service companies **and contractors** are going to be swamped for a very long time, so good luck finding one! If you home falls off of its foundation, it could possibly be condemned and become a tear down. Even with the insurance money to put you up somewhere, you mind find that you have nowhere to go. Hotels and motels and are all going to be at full capacity with an event of this magnitude for a long time.

With this all in mind taking some preventative measures ahead of time, like my wife and I are have done, is going to help limit serious damage to your homes.

Examples of hardware connections we added:



Example of a floor support beam being attached to the foundation. We did this in numerous locations.



Main support beam attached to vertical supports that go to 12 concrete piers. This important structural beam that the rest of the house is built upon, was barely attached with a thin piece of 1 inch wood to the vertical posts shown here, and the posts were **NOT** attached to the concrete piers. These act as vertical load bearing support only and in the event of an earthquake, the houses' mass will shift from side to side freely. If these wooden supports crumble, the house is going to sag downward in its middle badly. We added these metal plates to join the beam to the vertical supports.



Under the heavy black plastic sheet is one of the 12 concrete piers that were cast in place. Shown is the heavy 90 degree attachment hardware we added joining the posts to their piers.



Finally, this shows more of the foundation to floor joice connectors and another hardware piece between the two that bolts the foundation better to the main wood that sits on top of the foundation.

I am in no way an expert on this topic and this information is presented here as an example of what we did to our own home. No guarantees or warrantees are implied here. Your neighbor, Giles Nelson.