SECURING HEAVEY FUNISHINGS

NON-STRUCTURAL HAZARDS MITIGATION – HOME

We are counseled by the experts not to run out of a building during an earthquake. This is because we are not as likely to see total structural failure as in other countries. Our wood frame homes generally do very well in earthquakes. Strict building codes reduce the risk of structural failures in our modern (post 1935) buildings. Our greatest risk of injury during an earthquake is from non-structural hazards. A large percentage of the injuries come from falling decorative pieces, fixtures, and heavy furniture.

WINDOWS AND MIRROR GLASS

Sharp shards may fall or be thrown across a room. Consider safety glass, wire glass or solar / safety film. The solar / safety film has the advantage of improving the insulating factor of the window. The energy savings may pay for the cost of the film. There are cost free protective measures that you can use if the glass where you are is not safety type. You can pull down and close shutters or draw drapes. Even blinds that are pulled downed, but not closed, offer protection form flying glass.

HEAVEY FURNITURE

Furniture will move and fall during many types of disasters, especially tall, top-heavy items. Secure the furniture to the wall. Use braided metal cable, chain, or angle brackets to secure all furniture to a wall anchor. Most often a wall anchor is an appropriately sized eye screw. Be sure you screw wall anchors into a stud (A stud is the vertical, 2” x 4” wood post that supports your wall. They are normally spaced at 16” intervals.) Use of an inexpensive electronic stud finder makes the job much easier with less damage to your walls. Screws should always be used, never nail. Nails will pull out during a large quake.

GAS APPLIANCES

Many appliances may run on natural or propane gas. Unsecured gas appliances may crush someone or rupture their gas feed line during a quake. If these objects move or topple the resulting gas leak may destroy your home, a home which would otherwise have survived with only minor damage. Secure all gas appliances to a wall stud and also use flexible gas lines to allow necessary movement. The appliance should be secured top and bottom to prevent tipping, rolling and sliding. Use heavy plumber’s tape or braided cable to secure your water heater to the studs in the wall. See “securing your Water Heater”.

REFRIGERATORS

A Refrigerator is extremely heavy and may crush someone if it falls on them. Secure refrigerators, top and bottom, to insure they remain in place and upright during any earth movement. Use commercially available straps. Fasten one end into a wall stud and adhere the strap securely to a structural component of the refrigerator. Do not secure anything to the coils in the rear of the box. These are made of lightweight material and will not support the weight of the unit. Make sure you follow the manufacturer’s directions.

HANGING WALL OBJECTS

Anything hanging on a wall can, and will, come flying off in a large shake. Use an appropriately sized eyebolt and a hollow wall anchor for lighter items. Larger items will require an eye screw that is screwed into a wall stud.

NICK-NACKS ON SHELVES

Unsecured objects will fall during a shock. Run a wire, monofilament fishing line, or guardrail across the shelf front. (The line / rail should be placed 1/3 the height of the shelf, from the bottom.) Objects can be secured in place with Velcro (2-sided type) or porcelain glue. Place large or heavy objects on the bottom shelf. Heavy items can be secured with industrial strength Velcro.

HAZARD MITIGATION FOR BUSINESSES

Good employees are your most valuable asset. Protect them with a safe working environment.

EQUIPMENT AND FURNISHINGS

- Strap rows of multiple file cabinets, mainframes, bookcases, etc. together. High rack should be secured together on top and to the floor on the bottom.
- Secure desktop computers, typewriters.
- Keep computer CPU on the floor next to their workstation.
- Secure hazardous material correctly and educate all your employees about them.
- Secure freestanding, moveable partitions.

SECURE ANYTHING HEAVEY THAT IS AT OR ABOVE DESKTOP LEAVEL

OVERHEAD

Seen and unseen objects overhead and above suspended ceilings may pose hazards to workers below. Secure all objects that are above desktop level.

- Check for diagonal bracing wire in suspended ceiling.
- Ensure proper restraint of “stem” light fixtures and fluorescent light panels.
- Securely attach decorative ceiling panels, spotlights, speakers, air conditioning units, etc.
- Check above suspended ceiling for poorly attached ducts, cables, etc.

ELECTRICAL EQUIPMENT

Shock hazards exist if unsecured electrical equipment breaks its connections, or exposes energized lines. Unsecured equipment may short out the power in your office or building.

- Secure any electrical equipment
- Have backup power generators for emergency lighting and to protect computers against data loss. Ensure that generators, their fuel tanks, battery packs, and fuel lines are properly secured.
- Secure emergency lighting
- Secure telecommunication equipment, switches, and control boxes.

PLANT EQUIPMENT

Loss of plant equipment may prevent you from continuing your business after a quake.

- Secure water heaters, furnaces, boilers, fans, pumps, heating, ventilation, Air conditioning equipment, and the ducting or pipes that go with them.

HAZARDOUS MATERIALS

Unsecured or improperly stored hazardous chemicals may force your business out of an otherwise undamaged building.

- Secure large containers of production chemicals or cleaning supplies.
- Ensure that all toxic items are in the correct containers and properly labeled.
- Ensure that all employees know what to do in case of a spill.
- Keep all large containers or vats of toxic, hot or hazardous items covered to prevent spilling in an earthquake.

EMPLOYEES

- Establish an education and awareness program for work and home, encourage family involvement.
- Encourage employees to be prepared at home and at work.
- Give each employee specific instructions as to areas of responsibility before, during, and after a disaster.
- Establish a safety program; Keep the employees continuously informed regarding hazards, safety warnings, emergency plans, and supplies.

NEIGHBORS

- Find out what your business neighbors do. Their enterprise may put your business in greater jeopardy and you may need to plan for problems related to their potential problems.