The International Association of Structural Movers (IASM) is the 501c-4 professional organization comprised of member companies involved in projects to elevate and or relocate buildings for flood hazard mitigation.

**COMBATING RISING FLOOD INSURANCE COSTS**

Flooding is increasing across the US, requiring communities to examine alternatives to the cycle of repetitive flooding. The cost of the flood recovery cycle is VERY EXPENSIVE, not only monetarily, but everyone involved has lifetime challenges as they navigate through it. Flood recovery, This is now compounded by rapidly rising flood insurance policy rates on all older buildings built before the first flood insurance rate map for the community. Elevation can help offset those rates dramatically.

**FLOOD INSURANCE PREMIUMS:**

- **4 ft below BASE FLOOD ELEVATION**
  - $9,500/yr
  - $95,000/10 yrs
- **level with BASE FLOOD ELEVATION**
  - $1,410/yr
  - $14,100/10 yrs
- **3 ft above BASE FLOOD ELEVATION**
  - $427/yr
  - $4,270/10 yrs

**WHY ELEVATE?**

1. **Engages multiple construction trades & labor**
2. **Environmentally responsible**
   - Recycling and reuse of existing buildings results in a reduction of TONS of solid waste to landfills.
3. **Saves natural resources**
   - Every 1,000 sq ft of wood frame building uses approximately 250 TREES.
4. **Preserves historic buildings**
5. **Stabilizes the real estate market & property values**
6. **Reduces recovery expenditures**
   - $1 invested in elevation saves $7 in recovery expenditures.
7. **Significantly reduces**
   - The risk of flooding
   - Flood insurance policy rates
8. **Reverses the cycle of flooding**
9. **Preserves property tax revenues**
   - Which support schools & government operations, infrastructure & public safety, & bonding for public projects.
10. **Keeps the community together**
    - Tearing down homes to create green space not only results in the loss of property taxes critically needed to fund public services and schools, you lose the families that built the community. This option should often be the last alternative.

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There are three main phases in these flood hazard mitigation elevation/relocation projects: FINANCING, PLANNING / DESIGN AND IMPLEMENTATION.

FINANCING

1. EVALUATE FINANCING OPTIONS
   - Are there elevation grants available? Local government will have information.
   - If the property has flood insurance, the Initial Cost of Compliance (ICC) is currently a $30,000 one-time payment to the policy holder if the home is over 50% damaged and there is a claim on the policy.
   - Small Business Administration (SBA) – if the building is 50% or more damaged by flooding, the SBA allows up to $200,000 in additional loan funding to elevate.
   - FHA203 K loan/mortgage – This is a financing package available from any bank. There is a construction loan followed by a conversion into a 30-year mortgage. The total funding available is $240,000.
   - As always, cash or equity financing is the easiest for the contractors and the customer.

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3. ENGINEERED FOUNDATION AND ARCHITECTURAL DESIGNS
   - The new or additional foundation must be designed in compliance with the American Society of Civil Engineers (ASCE) flood zone construction requirements, ASCE 24 & 7 are the publication numbers. The foundation work on these projects is always more than half of the project costs. In addition to the foundation structural design requirements, we need to consider what the result of the project will look like. Remember, these buildings are new built much more solid than originally and will be around for some time. The owners and the community care about this and if the building is designated historic there may be a pre-permit design review if required by community or federal funding. The site soils determine the design of the foundation, so a soil sample is the best way to go at this point. The soil type and load bearing capacity will determine if piles or helicals will need to be driven below the new foundation. Some communities and design professionals require this testing.

4. CONTRACT ESTIMATES
   - If it is a grant program job, most states/communities require two to three estimates using the plans generated in step two. If it is a “turn key” job where the GC manages the entire project, the estimate is generated after the design phase in step three. (G&M members need to carry workman’s compensation, liability and workers’compensation and casualty type insurance, because once the building is off its foundation the homeowner’s policy no longer covers the building and contents. The community and property owners should have a copy of your coverages.

5. CONTRACT SIGNED AND PERMITS
   - If the project is grant funded, there is often additional contract documents; the GC will need to sign that are approved by the community and, usually, the state. In addition, many communities are now requiring bonding to insure completion of the project. If the project is a private contract, then just your contract is sufficient. Some communities require a beam/crib design be submitted as part of the permitting processes. The permitting authority will review the plans, note any needed plans changes and issue a construction permit.

6. UTILITIES AND FIRE PROTECTION
   - Lift the building higher to be removed, along with lower kitchen cabinets, bathroom fixtures and cabinets. The entire building must have new utilities installed. This is a very expensive alternative.

7. STRUCTURE ELEVATION / RELOCATION
   - The slab on grade has two types of construction and therefore there are two types of projects to elevate:
     - Structural Slab on Piles (slab and grade beam footing, poured at one time)
     - Non-Structural Slab (sep foundation and slab)

8. FOUNDATION
   - A. Remove and rebuild the old foundation. Many old buildings have substandard foundation design and construction. These foundations need to be removed completely and a new foundation constructed to the plans design.
   - B. Add to the old foundation. In some cases, the structural engineer design will allow the reuse of the existing foundation and the new elevated portion to be added.

9. LOWER HOME ONTO NEW / IMPROVED FOUNDATION
   - The relocated or elevated building is placed onto the new foundation. The building always needs to be strapped down to the new foundation in order to meet the building codes. Some property owners may wish to strap several or all of the vertical studs to improve high wind survivability. An added wind measure is to strap the wall studs to the rafters at the top plate/rafters connection.

10. RECONNECT UTILITIES, BUILD STAIRS / RAMPS
    - All of the utilities are reconnected and the final stairs, landings and any exterior porches are now built according to the construction plans.

11. FINISH CLEANING, CONCRETE WORK, SOD/GRASS
    - A final cleaning and the final code inspection is completed to finish the job.