

FEMA Resilience Resources and Funding Opportunities

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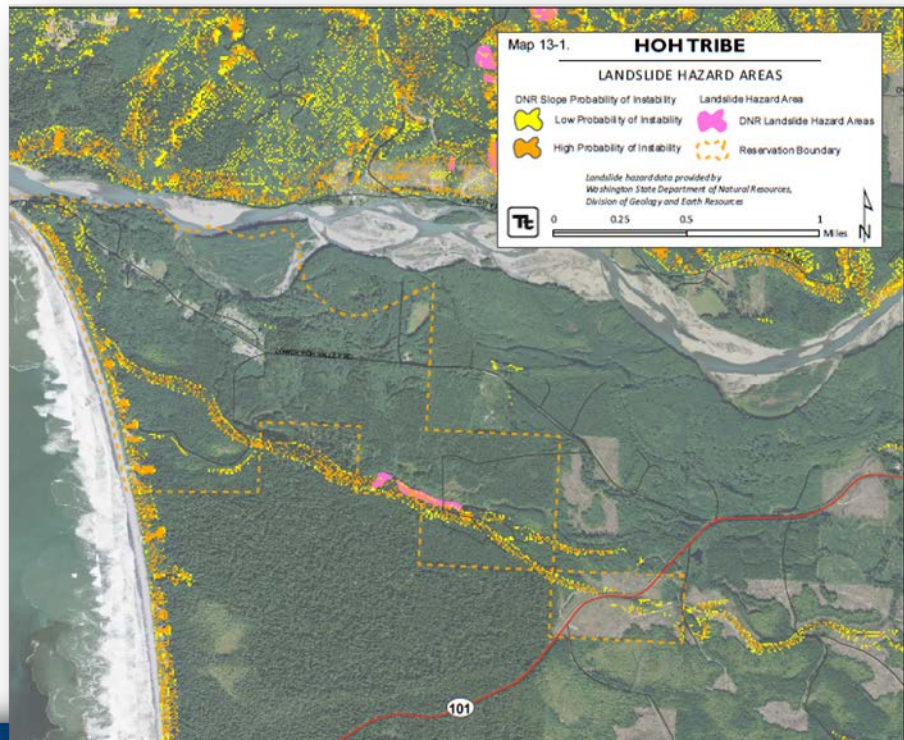
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HAZARD MITIGATION PLANNING

- Risk Analysis
- Vulnerability Assessment
- Mitigation Strategies
- Implementation
- Integration



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FEMA's three Hazard Mitigation Assistance grant programs (HMA)

HMGP – Hazard Mitigation Grant Program

Post-Disaster – allocated to single State or Tribe

PDMC – Pre-Disaster Mitigation Grant Program

Nationally competitive - Annual funding cycle

\$10 Million Tribal set-aside in 2017

FMA – Flood Mitigation Assistance Grant Program

Funded by National Flood Insurance Program (NFIP)

Nationally competitive – Annual funding cycle

\$70M for Community Mitigation Projects



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HMA project criteria

- Eligible project type – *HMA Guidance is not exhaustive*
- Hazard Mitigation Plan compliance
 - State, Tribe, and Community must all have FEMA-approved HM Plans
 - Project must be “in” the Plan or “consistent” with the Plan
- Project must be “cost-effective”
- Project must be sound engineering & technically feasible
- Project must provide a long-term solution + be functionally independent – can be Phase of larger project
- Project must comply with Environmental requirements



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COMMUNITY FLOOD MITIGATION PROJECT TYPES

- Eligible community flood mitigation projects
 - Floodplain and stream restoration
 - Floodwater storage and diversion
 - Infrastructure protective measures
 - Localized flood control to protect critical facility
 - Aquifer storage and recovery
 - Stormwater management
 - Utility protective measures
 - Water and sanitary sewer system protective measures
 - Wetland restoration/creation

Oregon – East Lents Johnson Creek Stream Restoration



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Floodprone Property Acquisition: Portland – Johnson Ck



1994, Pre Land Acquisition



2011, Post Phase I Restoration



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Flood Storage and Stream Restoration – Portland, OR



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Green Infrastructure (GI)

Examples

- Rain Gardens
- Bio-retention Areas
- Bio-swales
- Green Roofs
- Green Streets
- Porous Pavement
- Stream Buffer Restoration
- Constructed Wetlands



Benefits

- Improved air & water quality
- Local water supply
- Local flood control
- Groundwater replenishment
- Energy reduction
- GHG reduction
- Urban heat island reduction
- Increased open space
- Increased recreation
- Increased/improved habitats
- Deferment of grey infrastructure
- Green jobs
- Public education



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Flood elevations – structures: Snoqualmie, WA + coastal



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Infrastructure Protection – roads, bridges, utility systems

HMA grants can fund projects to protect against erosion or flooding of roads, bridges, wastewater treatment and water treatment facilities, pumping stations, etc.

Examples: bridge upgrade and bank erosion protection



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SEA LEVEL RISE (SLR)



Since 2013, FEMA will now pay for including Sea Level Rise in the design of HMA Projects

This is a result of Hurricane Sandy

The extra cost to build to protect for the design life of the structure are **ELIGIBLE COSTS** for the HMA grant – fully FEMA cost-shared

The extra damages posed by Sea Level Rise are **ALSO** included in the Benefit Cost Analysis

The Sea Level Rise “Freeboard” is based on:

- Design life of the structure
- Nationally or Regionally-accepted SLR projections

EXAMPLES: elevating public buildings; retrofit of roads and utility systems; stormwater management.



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Wildfire mitigation

Retrofits for existing homes and neighborhoods:

- *Defensible Space*
- ignition resistant construction
- vegetation management for common areas

A Firewise® Home

FIREWISE LANDSCAPING

1. Home Ignition Zone

Keep leaves and needles off your roof and deck. Create a fuel-free area within 3-5 feet of your home's perimeter. From 5 feet to a minimum of 30 feet out, thin and space vegetation, remove dead leaves and needles, prune shrubs and tree limbs. Keep areas around decks, sheds, fences and swing sets clear of debris and vegetation.

2. Landscaping and Firewise Plants

To prevent fire spread, trim back branches that overhang structures and prune branches of large trees up to 6 to 10 feet from the ground. Remove plants containing resins, oils, and waxes; make sure organic mulch is at least 5 feet from structures. Choose Firewise plants – find lists at www.firewise.org or from your local Cooperative Extension service.

BE PREPARED

3. Disaster Plan

Develop, discuss and practice an emergency action plan with everyone in your home. Include details for pets, large animals and livestock. Program cell phones with emergency numbers. Know two ways out of your neighborhood and have a pre-designated meeting place. Have tools such as a shovel, rake, axe, handsaw, or chainsaw available, and maintain an emergency water source. Always leave if you feel unsafe – don't wait to be notified.

4. Emergency Responder Access

Identify your home and neighborhood with legible, clearly marked street names and numbers. Make your driveway at least 12 feet wide with a vertical clearance of 15 feet and a slope of less than 5 percent to provide access to emergency vehicles.

FIREWISE CONSTRUCTION

5. Fire-Resistant Roof Construction

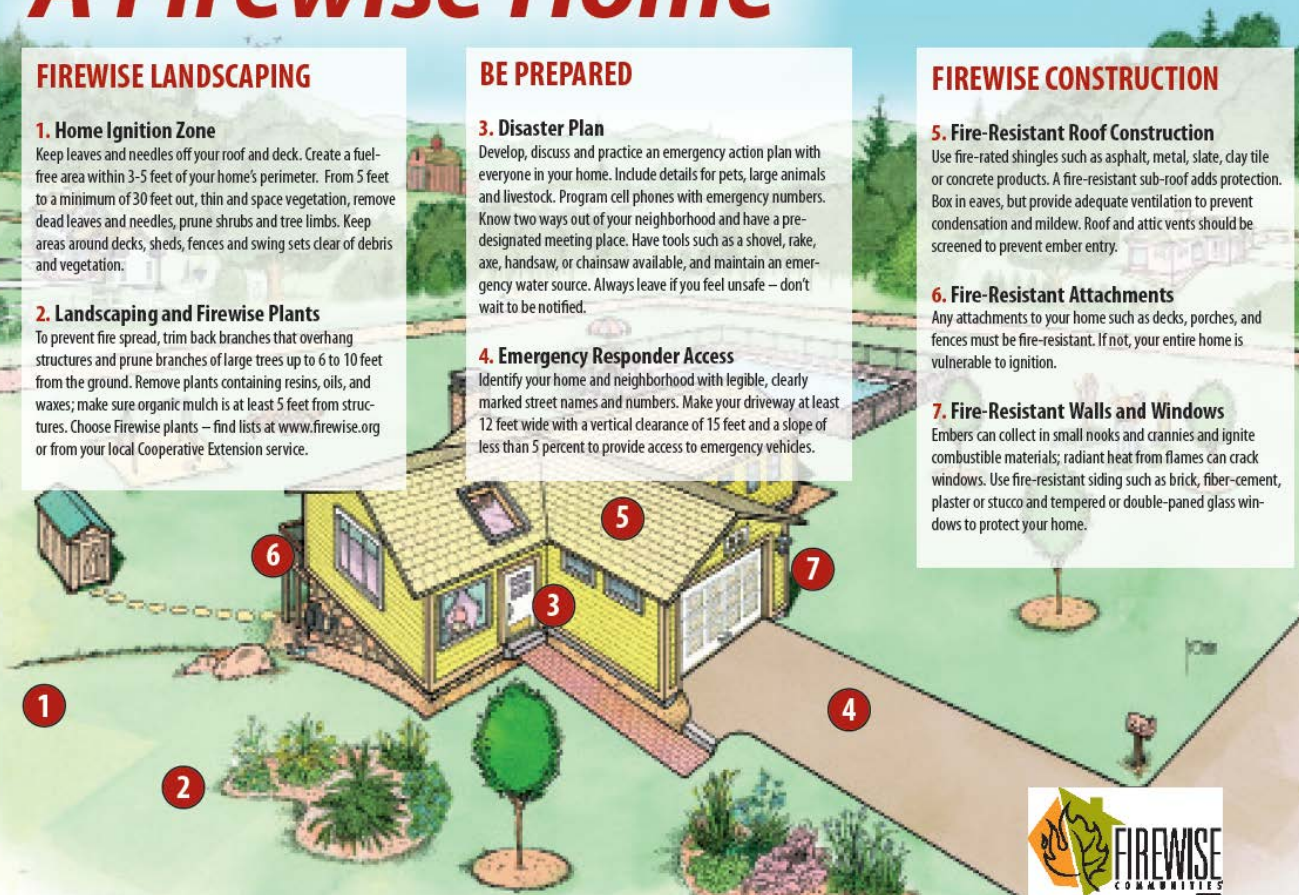
Use fire-rated shingles such as asphalt, metal, slate, clay tile or concrete products. A fire-resistant sub-roof adds protection. Box in eaves, but provide adequate ventilation to prevent condensation and mildew. Roof and attic vents should be screened to prevent ember entry.

6. Fire-Resistant Attachments

Any attachments to your home such as decks, porches, and fences must be fire-resistant. If not, your entire home is vulnerable to ignition.

7. Fire-Resistant Walls and Windows

Embers can collect in small nooks and crannies and ignite combustible materials; radiant heat from flames can crack windows. Use fire-resistant siding such as brick, fiber-cement, plaster or stucco and tempered or double-paned glass windows to protect your home.



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Mitigation Ideas

A Resource for Reducing Risk to Natural Hazards



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Resources

Hazard Mitigation Planning site

<https://www.fema.gov/hazard-mitigation-planning>

Hazard Mitigation Assistance Site

<https://www.fema.gov/hazard-mitigation-assistance>

Mitigation Ideas publication

<https://www.fema.gov/media-library/assets/documents/30627>



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