

# Fire Mitigation

**A presentation from our state agency partners sharing the latest on hazard mitigation for fire hazards.**

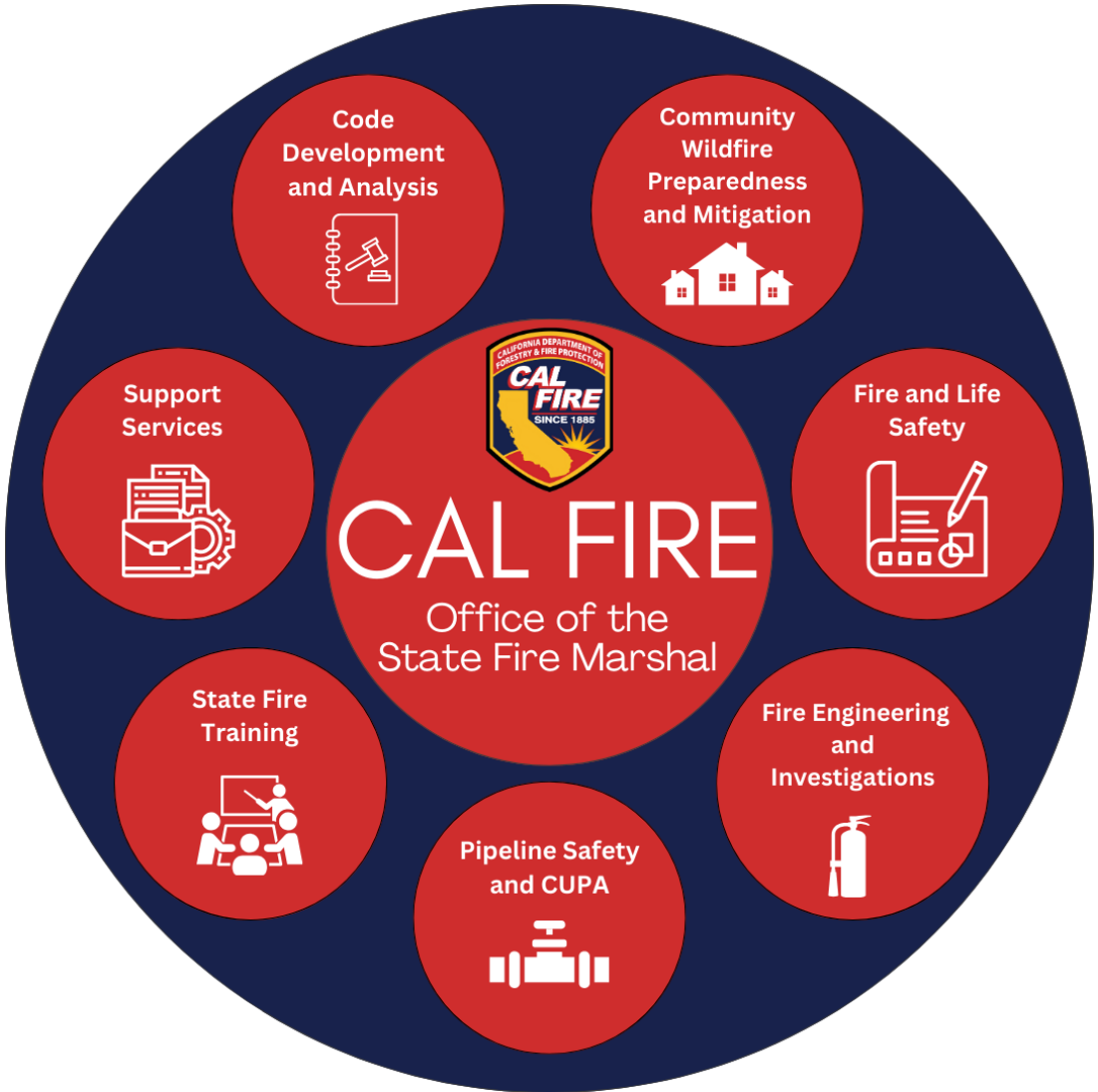
# INTRODUCTIONS

- Heather McCulley, CAL FIRE
- J. Lopez, CWMP/ Dennis (Denny) O'Neil, CAL FIRE
- Stacy Rodgers, HCD
- Yegor Lyashenko, HCD



# CAL FIRE - OFFICE OF THE STATE MARSHAL

## OSFM OVERVIEW





# CODE DEVELOPMENT AND ANALYSIS





- ▶ Code Interpretations
- ▶ Information Bulletins
- ▶ Title 19 regulations
- ▶ Title 24 Regulations – WUI Codes are here
- ▶ ESS Clearing House
- ▶ Building in the Wildland
- ▶ I-3 Interpretative Manual
- ▶ Statutes and Regulations
- ▶ Webinars / Training / Stakeholder meetings / Presentations / Panel Discussions



# FIRE ENGINEERING AND INVESTIGATIONS





- Automatic Ext. Systems
- Building Material Listings
  - Wildland Urban Interface (WUI) Listed Products Handbook
- Vapor Recovery
- Lab Accreditation
- Fire Extinguishers
- Fireworks
- Motion Picture & Entertainment Safety
- Flame Retardant Chemicals & Fabrics





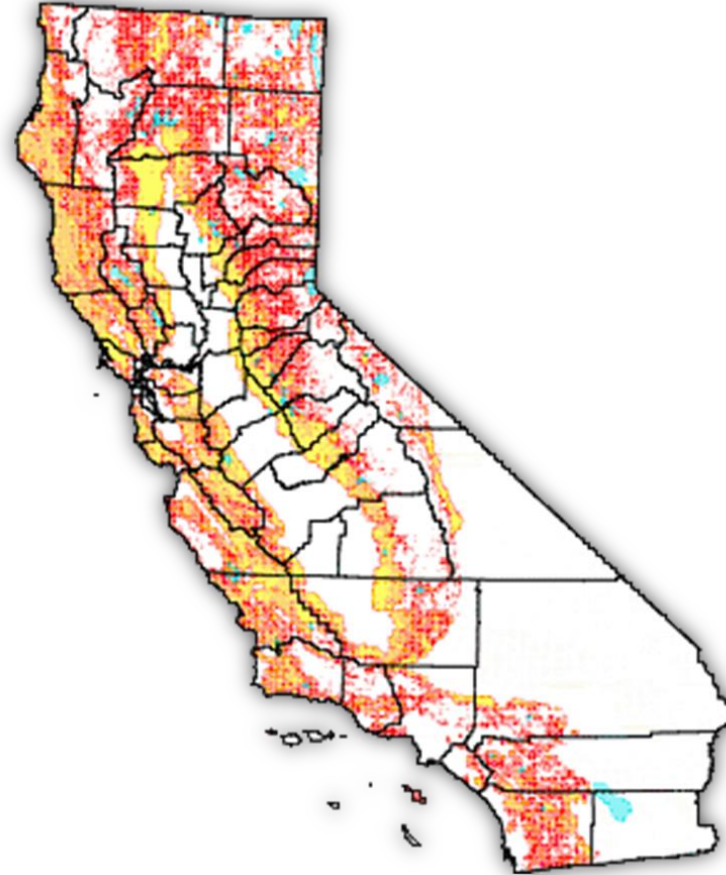


# COMMUNITY WILDFIRE PREPAREDNESS AND MITIGATION



# Community Wildfire Preparedness and Mitigation

- ▶ Fire Hazard Severity Zones:
  - ▶ State Responsibility Area (SRA):
    - We have finalized the State Responsibility Area Remap Project, our efforts are now focused on roll out for the Local Responsibility Area maps pursuant to the recent updates to Government Code 51178. We will continue to communicate updates as the plan is drafted.
    - The final regulation and map for SRA become effective April 1, 2024.
    - We have updated our website and posted the adopted map. To view the changes and for more information about FHSZs visit: [osfm.fire.ca.gov/FHSZ](https://osfm.fire.ca.gov/FHSZ)



# Community Wildfire Preparedness and Mitigation

- ▶ **Land Use Planning Program (LUPP):**
  - Safety Element Assessments
  - Government Code 65302(g)(3)
  - 30 jurisdiction Safety Elements were successfully updated and reviewed by the Board of Forestry and Fire Protection (BOF) in 2023.
- ▶ **NFPA Firewise USA:**
  - LUPP Deputy Chief is State Liaison to NFPA
  - We currently have 959 communities in good standing statewide.
  - This number represents about 40% of the communities participating in the program nationwide.



# Community Wildfire Preparedness and Mitigation

- ▶ **FHSZ Support:**
  - SRA
  - LRA
- ▶ **Subdivision Review Program (SDR):**
  - Required by PRC 4290.5
- ▶ **Community Wildfire Mitigation Assistance Clearinghouse:**
  - Required by PRC 4209.5
- ▶ **State Minimum Fire Safe Regulations Support:**
  - Assists CAL FIRE Units and Local Jurisdictions with implementation of State Minimum Fire Safe Regulations (PRC 4290)



# Community Wildfire Preparedness and Mitigation

## ▶ Wildfire Risk Reduction:

- This branch of CWPM oversees the public outreach, education, and enforcement specific to mitigations that can enhance the survivability of people and property during a wildfire. The program focuses on These functions are described as follows:

## ▶ Wildfire Preparedness:

### ▶ Defensible Space (DSpace):

- A key component of the survivability formula, DSpace is the buffer between the built environment and the surrounding vegetation. It slows the approaching fire, brings the flames to ground level, and provides a safer area for firefighters to work within.



# Community Wildfire Preparedness and Mitigation

## Wildfire Preparedness, continued:

- ▶ **Qualified Entity Assessment Program:**
  - ▶ PRC 4291.5, this program provides training and resources to eligible local and state government agencies, academic staff, and other approved organizations.
  - ▶ DSpace and Home Hardening education and assessments are the primary goals, with force multiplication as a secondary benefit.

## Home Hardening:

- ▶ This is another key component of the survivability formula. Using ignition resistant construction material, homes have an increased chance of withstanding a wildfire and embers associated with them.
- ▶ This team plays a pivotal role in the California Wildfire Mitigation Program (pilot). A grant program, retrofitting homes in 5 counties with ignition resistant materials.



# Community Wildfire Preparedness and Mitigation



- ▶ **Wildfire Preparedness, continued:**

- ▶ **Damage Assessment Coordination:**

- ▶ The Department is committed to assessing damage to all qualifying structures after a wildfire. These assessments provide critical data used to inform the Department on key structure resiliency issues.
    - ▶ Resources have assessed over 56,993 damaged or destroyed homes and buildings, and thousands more that did not sustain reportable damage.

- ▶ **Statewide Burn Permit Program:**

- ▶ PRC 4423 and 4494, burning vegetation and other materials is prohibited without a valid burn permit.
    - ▶ Since the application was launched in January of 2023, CAL FIRE has issued over 136,000 permits, more than 4,100 of which, are designated as cultural burn projects.





# Community Wildfire Preparedness and Mitigation

- ▶ **Utility Wildfire Mitigation:**
  - ▶ Created in 2018 by Senate Bills 1028 and 901 as a response to loss of property and lives from utility-caused fires and climate change. The Utility Wildfire Mitigation Program serves as a liaison between CAL FIRE and electric utilities and other state agencies.
  - ▶ It represents CAL FIRE in various interagency efforts, including consulting in review of the annual investor-owned utility (IOU) wildfire mitigation plans (WMPs), legislation review, public safety power shutoff (PSPS) event monitoring, and assisting in the annual development of a list of qualified independent evaluators tasked with inspecting IOU assets.







# QUESTIONS?

RESOURCES CAN BE FOUND AT [OSFM.FIRE.CA.GOV](https://OSFM.FIRE.CA.GOV).



December 6, 2024



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# California Wildfire Mitigation Program Authority

## Home Hardening Initiative



## 2024 Hazard Mitigation Summit

**J. Lopez, CWMP Authority Executive Director**

**Dennis O'Neil, Assistant Chief, CAL FIRE**

*Every noble work is at first impossible.*

*~Thomas Carlyle*

# California Wildfire Mitigation Program

In 2019, the California Legislature passed [Assembly Bill No. 38](#). This bill required the California Governor's Office of Emergency Services (Cal OES) to enter into a Joint Powers Agreement (JPA) with the California Department of Forestry and Fire Protection (CAL FIRE).

The two agencies established the **California Wildfire Mitigation Program Authority** in late 2021 and in mid 2022 the CWMP Board was formed.

The goal of the CWMP Authority is to develop and administer a comprehensive wildfire mitigation program to:

# California Wildfire Mitigation Program

- Encourage cost-effective wildfire structure hardening and retrofitting that creates fire-resistant homes, businesses, and public buildings.
- Facilitate vegetation management, the creation and maintenance of defensible space, and other fuel modification activities that provide neighborhood or communitywide benefits against wildfire.

# Program Vision

- Develop a robust program model that empowers and enables California communities to create successful wildfire home hardening programs
- Neighborhood and Communitywide hardening approach
- Locally-led programs with state support
- Targeting low income and socially vulnerable homeowners. All Project area members are able to participate



# CWMP Demonstration Communities

## Sub-Applicant Organization

## County

San Diego County Fire Protection District

San Diego

Shasta County Fire Safe Council

Shasta

North Coast Opportunities

Lake

Tuolumne County

Tuolumne

El Dorado County

El Dorado

Shasta Valley Resource Conservation District

Siskiyou

# CWMP Support to Local and State Wildfire Home Hardening Efforts

Sub-applicant	Program	TPC	# of homes - IRC	D-Space Parcels	# of acres
• Sonoma County	BRIC-2020	\$49,318,245.00	2,420	4,103	5,410
• Nevada County	BRIC-2021	\$43,447,940.00	1,285	1,285	1,390
• Mendocino County	BRIC-2022	\$50,116,590.00	750	750	1,820
• Napa County	BRIC-2022	\$52,500,000.00	662	662	2,929
• Santa Cruz County	BRIC-2022	\$28,589,234.00	1,400	1,800	450
• City of Auburn	BRIC-2022	\$21,672,632.00	2,000	2,000	100
• Karuk Tribe	BRIC-2022	\$12,365,318.00	64	40	192
Totals		\$ 258,009,959.00	8,581	10,640	12,291

- California Fire Safe Council
- Ventura Regional Fire Safe Council
- City of Colfax

BRIC - Building Resilient Infrastructure and Communities





# California Wildfire Mitigation Program Alignment

- National Institute of Standards and Technology (NIST)
- Insurance Institute for Business & Home Safety (IBHS), Wildfire Prepared Home Designation
- California Department of Insurance, Safer from Wildfires Program
- California Department of Housing and Community Development, ReCoverCA Program
- Headwaters Economics, Wildfire Retrofit Reports
- NFPA, Firewise USA

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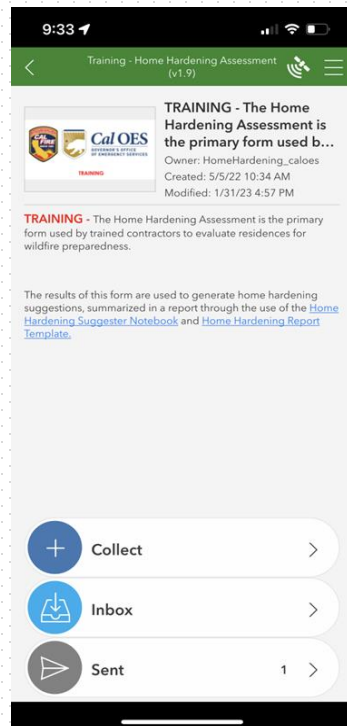
# California Wildfire Mitigation Program Authority

## Home Hardening Initiative

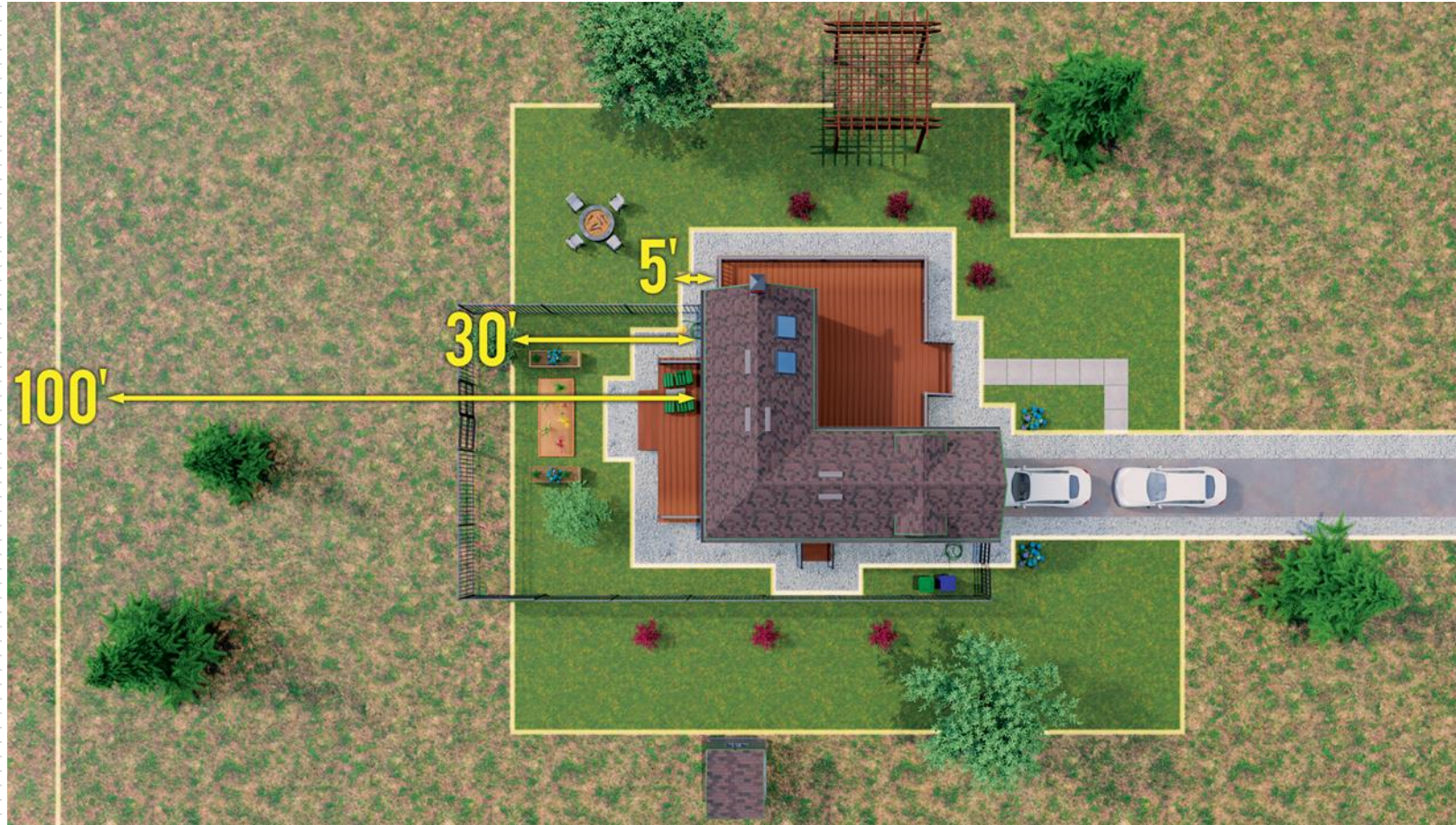


## Methodology

# CWMP Assessor Training and Assessment Application



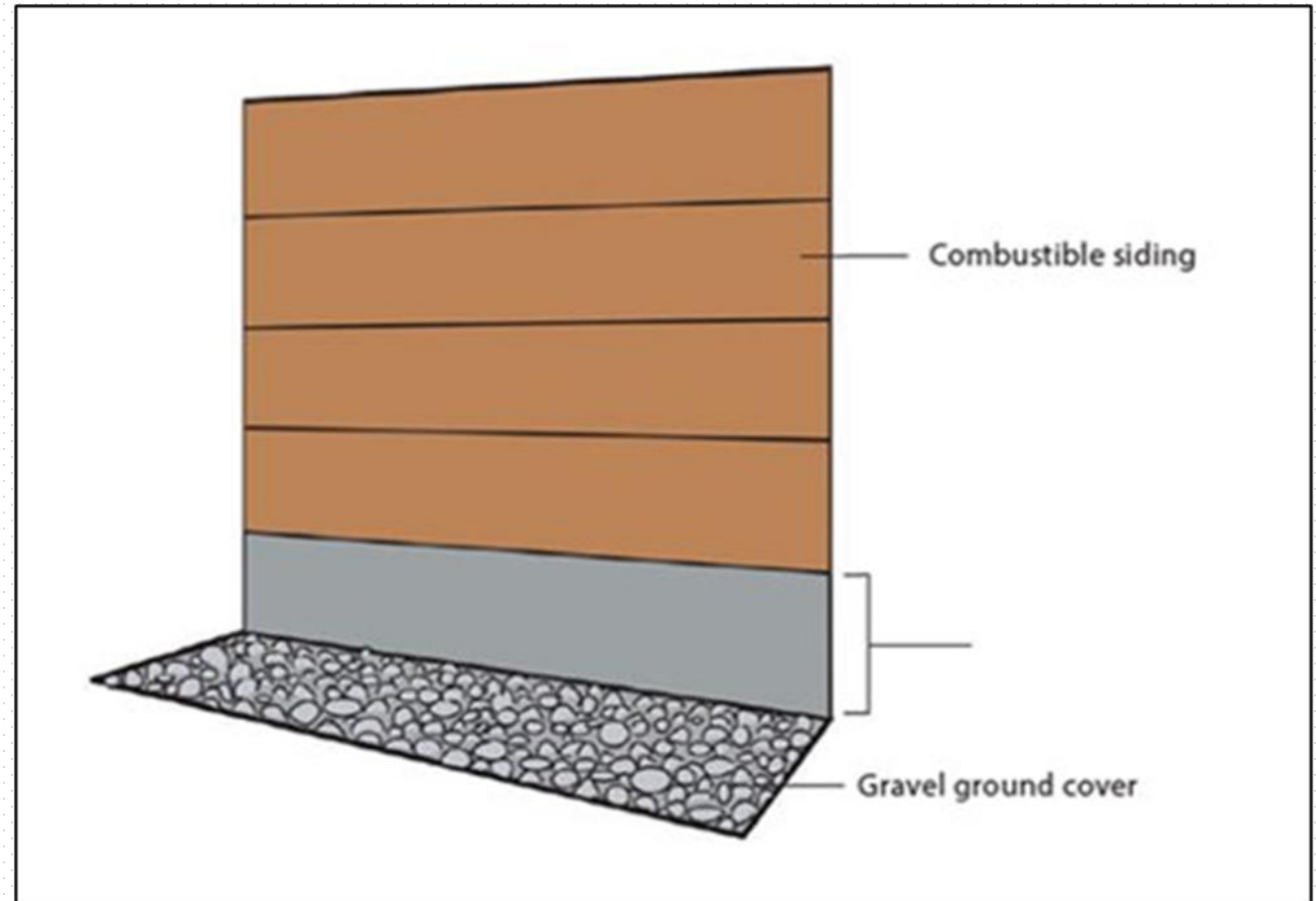
# Defensible Space Treatments



- Based on PRC 4291 and Government Code 51182
- CWMP Zone 0 Treatment
- CWMP Zone 1 Treatments
- CWMP Zone 2 Treatments

# Home Hardening Retrofits

- **Retrofit** - Exterior Covering Partial Retrofit - Bottom 2 Feet
- **Performance Goal** - Prevent embers, windblown debris and local fuels from igniting the wall
- **Hardening Action** - Replace exterior wall covering with noncombustible material for the bottom 2 ft (from ground); add metal flashing to protect bottom edge of sheathing



# CWMP Minimum Quality Standards

WAL-WPR	Exterior Wall Partial Retrofit	<p>The "Exterior Wall Partial Retrofit" involves replacing flammable exterior coverings within 2 feet of the ground with ignition-resistant materials. This retrofit, which should be compatible with existing building components, aims to decrease vulnerability to embers, direct flames, and radiant heat. Typical risk areas are gaps, holes, ground-level spaces, and corners. This retrofit is a temporary measure until a complete exterior covering replacement can be done.</p>	<p>*Replace exterior wall covering for the bottom 2 ft (from ground).          *The replacement of the exterior covering shall comply with one or more of the following requirements as described in CBC 707A.3 Exterior Wall Coverings or R337.7.3 Exterior Wall Coverings or equivalent local ordinance:          1. Noncombustible material          2. Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.          3. Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2.          *Flashing will be installed at the base of the exterior covering if there is a gap between the covering and foundation that would allow for the intrusion of embers.          *Building components being replaced will be the responsibility of the contractor to remove and disposed of at an approved disposal site.          *The installation of the exterior covering shall comply with the products manufacturer's installation instructions          *The installation of the exterior covering shall comply with CBC Chapter 14 Exterior Walls, Section 1404.1-1404.18 or CRC Chapter 7 Wall Covering, Section R703.1-703.17.          *Wall penetrations shall be protected by an approved penetration firestop system installed as tested in accordance with ASTM E119, ASTM E814, UL 263, or UL 1479 with a positive pressure differential of not less than 0.01 of an inch of water (0.002 kPa).          *Replacement building components shall have a primer and paint applied that matches current the building color.</p>



# Shasta Valley Resource Conservation District in Siskiyou County

## In Progress



Before





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# California Wildfire Mitigation Program Authority

## Home Hardening Initiative



## Wildfire Structure Retrofits, CWMP Examples

# San Diego County Fire Protection District in San Diego County



Re-screening Window Screens



Removing the Combustible Skirting

# San Diego County Fire Protection District in San Diego County



Metal Flashing where the deck meets the wall



New Deck and Porch built with Treated Lumber

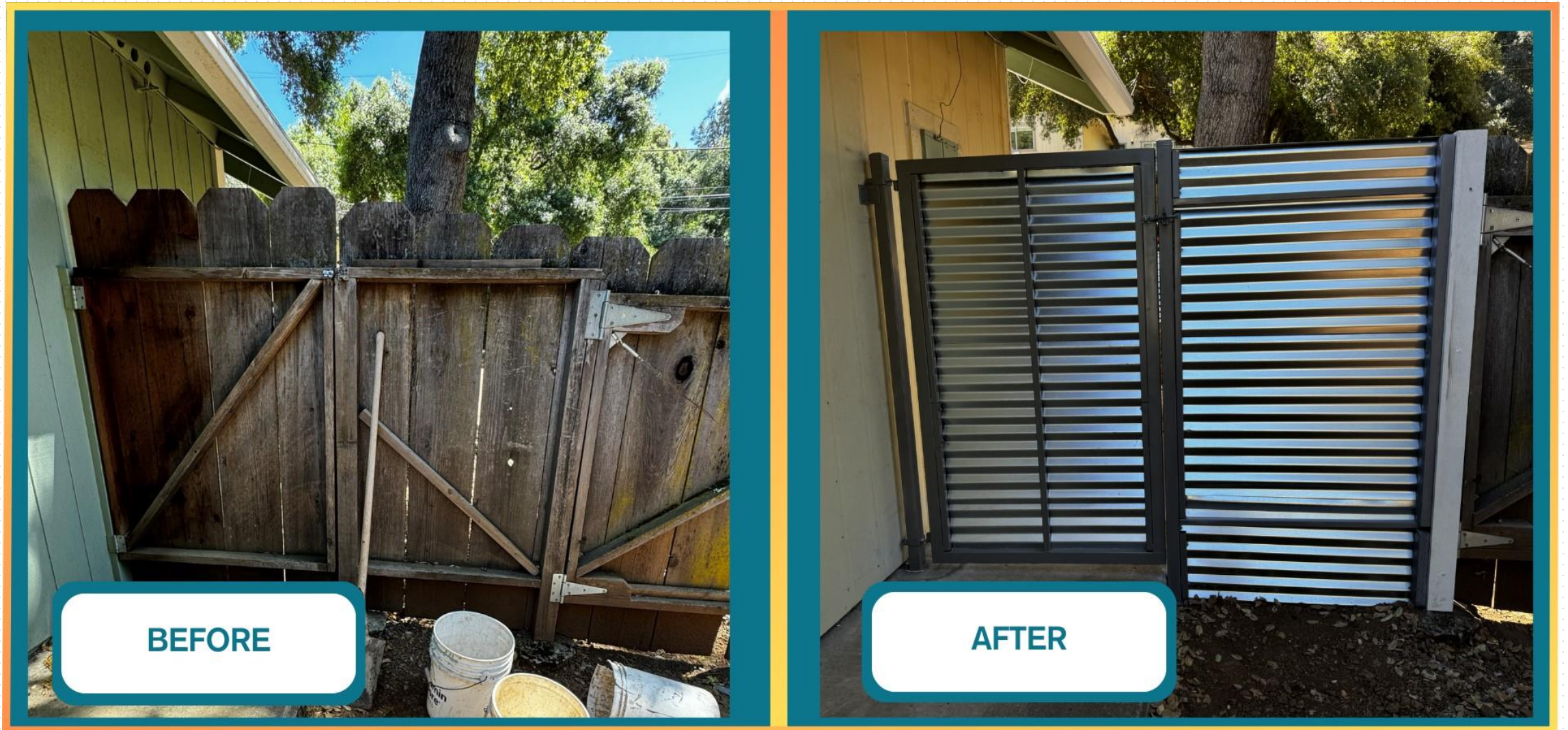


# San Diego County Fire Protection District in San Diego County



New Crawl Space and Electrical Panel Door built from non-combustible Hardie Board

# Non-Combustible Fencing in Lake County



# Decking Retrofits in Lake County



# Retrofits in Lake County



# Wall Retrofits in Lake County







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# California Wildfire Mitigation Program Authority

## Home Hardening Initiative

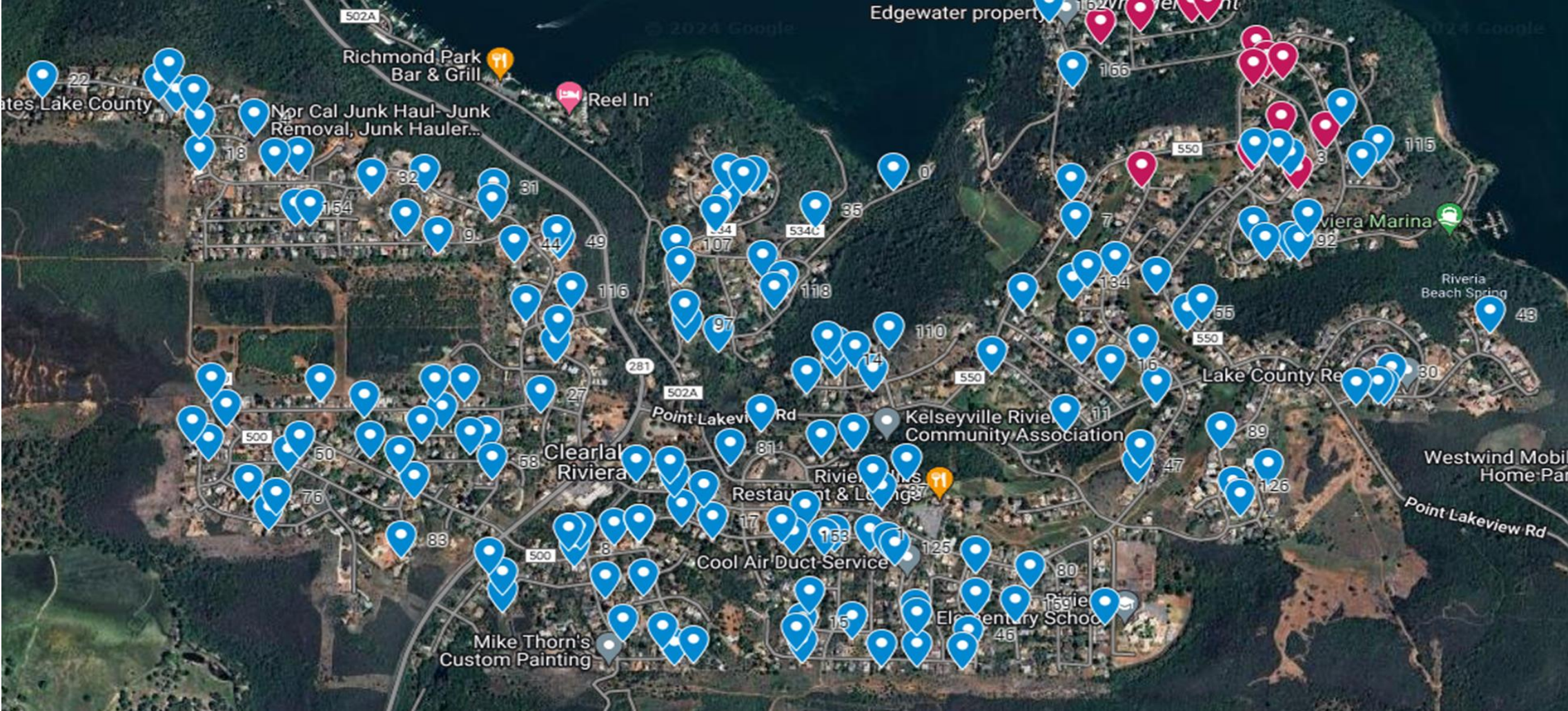


## North Coast Opportunities Lake County

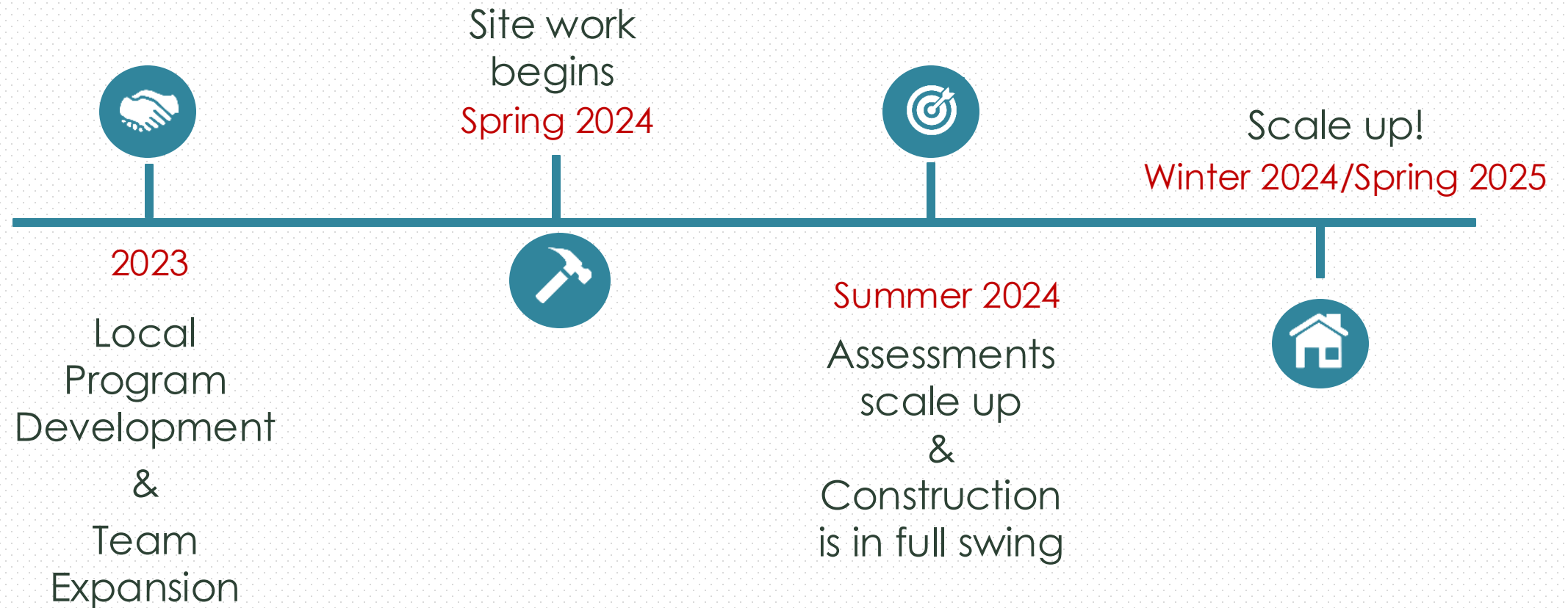
# Lake County Project Area - Kelseyville



# Cluster Hardening



# NCO Project Timeline



# Homeowner Statement

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“I feel a lot safer knowing that this program will make my home safer from wildfires. I’m very happy with the communication from the NCO team and recommend this program to my neighbors and even someone in the supermarket.”

– Cheryl C.



*Hope is not a strategy*

*~ Vince Lombardi*



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# California Wildfire Mitigation Program Authority

## Home Hardening Initiative



Thank you!



[www.caloes.ca.gov/cwmp](http://www.caloes.ca.gov/cwmp)

# ReCoverCA

Mitigation Retrofits Programs

CA Department of Housing and  
Community Development (HCD)

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ReCoverCA  
California



# ReCoverCA Mitigation Retrofits Programs



- Purpose: Provide defensible space and home hardening retrofits to enhance resilience and mitigate from future wildfire disasters.
- Available to households earning up to 120% AMI in eligible counties.
- Federal grant funding of up to \$75,000 per eligible household.
- Eligible work is based on “Levels of Importance”.
- The Program manages all aspects including eligibility, inspection, permitting and construction, from start to finish.

# Levels of Importance

- The **Levels of Importance** was developed based on the California Wildfire Mitigation Program (CWMP) Minimum Quality Standard and review from CalFire.
- The Levels of Importance offers over **30 fire mitigation** retrofit items and **15 flood mitigation** retrofit items.
- Work is prioritized in Level 1 items first, then Level 2, and Level 3, until the grant cap is achieved.

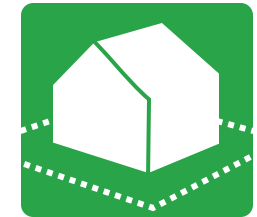
GOAL FOR LEVEL 1: To protect the envelope of the home from fire and water intrusion and install a Zone 0 protective (5'-0") barrier around the primary structure without altering aesthetics.	Level 1 Importance Items
	<p><b>1.01</b> – Remove any debris/combustible material items and vegetation (live or dead) under and within five feet (5'-0") from each structure, excluding decks and pergolas, unless deteriorated.</p> <p><b>1.01A *</b> – Provide minimal grading away from the home to achieve positive drainage.</p> <p><b>1.02</b> – Install pea gravel or other non-combustible hardscape under and within five feet (5'-0") from each structure, and if applicable, an attached deck in Zone 0.</p> <p><b>1.03</b> – Remove any tree limbs and brush (live or dead) that is within five feet (5'-0") from each Zone 0 structure. Must have ten feet (10'-0") above roof and ten feet (10'-0") away from any chimneys and stovepipe outlets.</p> <p><b>1.04</b> – Remove any combustible material items and vegetation (live or dead) on roof, including roof covering, roof valleys, and gutters.</p> <p><b>1.05</b> – Remove any deteriorated and combustible means of egress within (5'-0") of primary structure, which include combustible porches, stairs and landings, ramps, and railings. Replace it with ignition resistant standard grade material.</p> <p><b>1.06</b> – Remove any deteriorated combustible decks and/or pergolas attached to structure, that are beyond repair, and replace with ignition resistant standard grade steps and landings (5'-0" x 5'-0" or 5'-0" x 10'-0").</p> <p><b>1.07</b> – Enclose underside of elevated porches, stairs, landings, decks, ramps, and steps with ember resistant wire mesh to prevent combustible material accumulation and penetration of embers.</p> <p><b>1.08 *</b> – Coat exposed foundation/stem wall/perimeter foundation with waterproof coating paint and sealant.</p> <p><b>1.09 *</b> – Seal penetrations in walls up to the flood line with waterproof coating paint and sealant.</p> <p><b>1.10 *</b> – Seal cracks in windows and doors which are below the flood line.</p> <p><b>1.11</b> – Replace the following vents with OSFM approved flame and ember resistant vents. These include fresh air intake, dryer, attic, gable, soffit, and under-floor ventilation vents. *Switch to flood vents in foundation walls.</p> <p><b>1.12</b> – Repair any deteriorated areas or holes in combustible roof eaves, soffit, or fascia to prevent ember penetration into roof cavity.</p> <p><b>1.13</b> – Repair or remove and replace damaged or deteriorated windows, doors, siding, shingles, or other critical items affecting the living conditions of the applicant and home, with non-combustible materials.</p> <p><b>1.14</b> – Install metal flashing around the bottom, tops and sides of combustible garage doors to seal from embers.</p> <p><b>1.15</b> – Install a spark arrester for non-compliant chimneys and stovepipes.</p> <p><b>1.16</b> – Install metal flashing or ignition-resistant material at roof-to-wall intersection to extend a minimum of 6" up the combustible wall and repair small gaps or holes in a combustible exterior.</p> <p><b>1.17</b> – Remove any attached combustible fences, gates and retaining walls and replace with noncombustible alternative, up to eight feet (8'-0") on each side of the primary structure.</p> <p><b>1.18</b> – Remove damaged gutters, or plastic gutters and downspouts and/or install metal gutters, gutter guards, downspouts, and underground downspouts.</p> <p><b>1.19</b> – Replace AND/OR install aluminum window, door and sliding glass door screens.</p> <p><b>1.20</b> – Install visible address marker on structure for emergency services if not clearly visible from street.</p>
	<p>Items are exhausted, then minimal alterations to aesthetics of home by repainting or replacing damaged items or items beyond useful life.</p> <p>Class A asphalt shingles, underlayment, with ember-resistant venting, flashing, drip edge and fascia (remove any skylights during roof repair or replacement).</p> <p><b>3.03</b> – Full roof replacement with Class A asphalt shingles, underlayment, with ember-resistant venting, flashing, drip edge and fascia (remove any skylights during roof repair or replacement).</p> <p><b>3.04</b> – Replace combustible door(s) and/or window(s) with fire rated compliant alternatives.</p> <p><b>3.05</b> – Replace or Repair damaged siding and/or trim with ignition resistant siding and trim.</p> <p><b>3.06</b> – Replace combustible garage door(s) if mitigation is not possible.</p> <p><b>3.07 *</b> – Elevate electrical enclosures, junction boxes, panels, outlets, and switches above the flood line.</p>
	<p>ve slopes. If not possible ls or riprap. d house n doors and windows ors and windows below towards property to ants, grass and weeds, d piles within 30' radius to a minimum of 10' one 1 (5'-0" to 30'-0"), d nonflammable cable, an attached deck, d nonflammable 2 (30'-0" to 100'-0"), tion (live or dead) on ubs to a minimum of 4' ical space between all tree branches 5' from leaves twigs and bark ick cannot be mitigated.</p> <p>Panel Mounts, HVAC th non-combustible metal</p> <p>T) of existing roof with</p> <p><b>3.08</b> – Install grommets/rains/turkeys interspersed 10'-away in areas prone to water exposure. If not possible, make enclosures, wire and junctions rated for water submersion.</p> <p><b>3.09 *</b> – Install a separate electrical main shut-off switch outside of main electrical panel.</p> <p><b>3.10 *</b> – Provide backflow preventer on main water line.</p> <p><b>3.11 *</b> – Install check valve on sewer line.</p> <p><b>3.12 *</b> – Include rainwater harvesting tank or barrels.</p>



# Levels of Importance

- Three Levels of Importance:

- **Level 1** goal is to protect the envelope of the home from fire and install a Zone 0 protective (0" - 5') barrier around the primary structure without altering aesthetics.



- **Level 2** goal is to clear defensible space per CalFIRE Requirements working from Zone 1 (5' to 30') to Zone 2 (30' - to 100') to reduce ember quantity and travel.



- **Level 3** goal is to repair or replace exterior combustible items or items beyond useful life.



# Challenges



## #1 - Program Design

- First iteration of Levels of Importance called for a significant amount of aesthetic-altering changes to homes in Level 1.
  - e.g. Demolition of non-deteriorated combustible features, like porches, decks and pergolas.
- Program received strong pushback from homeowners during discussions about scopes, with the potential for widespread program dropout.

## Program Adjustment:

- Program updated Levels of Importance to prioritize protecting the envelope of the home and defensible space before altering the aesthetic of the home.

# Challenges



## #2 – Local and Federal Requirements

- The process of planning and permitting can be unclear in some jurisdictions.
- Federal funds subject all projects to:
  - NEPA Environmental Reviews – Tier I and II
  - Testing and Remediation of Lead Based Paint and Asbestos



# Challenges



## #3 – Mitigation Enabling Repairs

- Significant deferred maintenance making mitigation impractical and ineffective until necessary repairs are completed.
- Deferred maintenance that is not addressed can reduce the lifespan of mitigation measures.

## Program Adjustment:

- Grant cap increase to \$75,000 to implement “mitigation enabling” repairs.
- Sound investment of public funds and extend useful life of mitigation work.

# Pipeline



- Both 2020 and 2021 Programs are fully subscribed!
- **186 applications in the pipeline** at various stages of the process, with **6 applicants on the waitlist**.
  - 93 applications are in the Pre-Construction phase.
- The team is finalizing project **Scopes of Work** based on:
  - Levels of Importance
  - Results from Environmental Reviews, Lead-Based Paint, and Asbestos Testing
- The Program anticipates **8** projects to start construction before the end of **2024!**

# Learn More About ReCoverCA



Eligible Counties:

## 2020 Program

Butte, Fresno, Napa, Los Angeles, Santa Cruz, Shasta, Siskiyou, Solano, and Sonoma

## 2021 Program

Plumas

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## Questions?