



Town of Paradise
Community Development Department
Building Resiliency Center
6295 Skyway
Paradise, CA 95969
(530) 872-6291 x411

Operation and Maintenance Manual

In compliance with the California Green Building Standards Code Section 4.410, this Operation and Maintenance Manual shall be available at final inspection and remain with the building throughout the life-cycle of the structure.

This manual has been prepared for the dwelling located at:

Address

City/State/Zip

Builder

Address

City/State/Zip

Phone/Website

Electricity for this property is provided by:

☐ Check if solar or alternate source of electricity is used.

Service Provider

Address

City/State/Zip

Phone/Website

Alternate Source

***Information to reduce use of electricity is included.**

Water for this property is provided by:

☐ Check if well or alternate source of water is used.

Service Provider

Address

City/State/Zip

Phone/Website

***Information to reduce consumption of water is included.**

***NOTE: The provider of this manual is required to supply information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.**

Sewer for this property is provided by:

☐ Check if private sewage disposal/septic is used.

Service Provider

Address

City/State/Zip

Phone/Website

***Information to reduce demand on sewage system is included.**

Fuel Gas for this property is provided by:

☐ Check if Liquid Propane tank is used.

Service Provider

Address

City/State/Zip

Phone/Website

***Information to reduce consumption of fuel gas is included.**

***NOTE: The provider of this manual is required to supply information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.**

Garbage/Trash removal for this property is provided by:

Service Provider

Address

City/State/Zip

Phone/Website

***Information on waste reduction is included.**

Recycling for this property is provided by:

Service Provider

Address

City/State/Zip

Phone/Website

***Information about local recycling programs and their locations is included.**

***NOTE: The provider of this manual is required to supply information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.**

Public Transportation

Regional and local public transportation options, including address, phone and web addresses are provided below.

Bus line

Phone/Website

Light Rail/Train

Phone/Website

Car Pool/Van Pool

Phone/Website

Ride Share or Other

Building Department

Occupancy of this dwelling was authorized by the local enforcing agency.

Local Enforcing Agency

Town of Paradise, Building Division

Address

6295 Skyway

City/State/Zip

Town of Paradise CA 95969

Phone

530-872-6291

Special Inspection Verification/Certification

Special inspection required by the CALGreen code or by the local enforcing agency shall be verified. Upon completion, a copy of inspection verification and/or certificates of completion shall be included in this manual.

- HVAC system commissioning
- HERS Verification
- Cool roof verification
- Material conservation
- Blower door testing
- Attic Insulation
- Thermal insulation
- Cement reduction
- Other third party requirements

Note: The above listed items are not all-inclusive measures that may need “Special Inspection.” Check with the local enforcing agency to verify mandated special inspections and verification requirements.

Fill in any other verifications or certifications below:

Solar Incentive Programs

California Programs

Information about state renewable energy incentive programs, such as the California Solar Initiative, is available through the California Energy Commission or through Go Solar California at the websites below.

- <http://www.energy.ca.gov/>
- <http://gosolarcalifornia.ca.gov>

Other Programs

Contact your local government or public utility (provided previously in this manual) for more information regarding energy conservation tips, strategies and public/private partnerships that promote enhanced sustainability and/or save money.

Tax breaks, including rebates, credits or discounts may also be available through the local government, public utilities or the Federal Government, US Department of Energy.

The U.S. Department of Energy website: <http://www.energy.gov/yourhome.htm>

Water Conserving Landscape

To comply with the California Green Building Standards Code, automatic irrigation system controllers for landscaping installed at the time of final inspection must be weather- or soil moisture-based.

Irrigation Controllers

There are several types of irrigation controllers that base the irrigation schedule on evapotranspiration data. Other irrigation controllers may use a combination of historical data and real-time data feeds from on-site temperature sensors, soil moisture sensors, sunlight intensity indicators or they may use data from weather stations. Weather and/or soil moisture- based controllers represent technological advances in irrigation that enable the proper amount of water required by the landscape plants or postpone irrigation during periods of rain. Utilizing these "smart" controllers is an improvement over irrigating by an arbitrary "run time" where the amount of water needed and the amount of water applied may not be effectively matched.

Landscape Water Use Conservation Methods

There are many methods to reduce the amount of water used in a landscape and still maintain the health, appearance and function of the landscape. Following are a few examples:

- Conform to local or the California Department of Water Resources' model Water Efficient Landscape Ordinance.
- Use water-efficient landscape designs utilizing native and drought tolerant plants and minimize turf areas.
- Use mulch, soil amendments or other soil improvement methods to reduce water loss through evaporation or runoff and to improve water availability for plant use.
- Install efficient irrigation systems and follow a regular maintenance schedule. Adjust irrigation controllers as necessary to accommodate changes in seasons and plant needs.
- Schedule landscape irrigation during early or late hours.
- Stay current on new technologies, strategies or products that promote efficient water use.

Irrigation System Design

Homeowners or a design professional can develop an efficient system design meeting homeowner expectations while also reducing waste and conserving natural resources.

When planning landscaping and irrigation, the following ideas can help:

- Design irrigation systems to be consistent with hydrozones (areas of plants with similar water needs.)
- Minimize the usage of spray heads.
- Install a low consumption irrigation system such as drip or subsurface.
- Use graywater or recycled water when possible.
- Consider rainwater catchment and storage systems.
- Follow the manufacturer's installation instructions to ensure optimum system efficiency.

Operation and Maintenance Information

This property and structure require periodic maintenance of the grounds, equipment and appliances.

Manufacturer installation, operation and maintenance instructions must be followed for all equipment and appliances.

Examples of these manuals include, but are not limited to:

- HVAC system
- Water heater
- Water saving devices and water reuse systems
- Water pump and/or well
- Water treatment system
- Kitchen appliances
- Garage door and opener
- Whole house fan
- Security alarm system
- Smoke, fire and carbon monoxide alarms
- Landscape irrigation system
- Photovoltaic electrical system
- Septic system

Included or attached to this manual are the installation and maintenance instructions provided by the manufacturer for each specific appliance and/or equipment installed.

Checklist
Proper maintenance will extend the life of a building and the systems installed therein. In addition to specific manufacturer instructions for maintenance and service, the following checklist will assist setting a typical maintenance schedule required for a building.
Weekly
Survey the property, check overall condition
Check landscape irrigation system for leaks and broken heads
Check exterior lighting for burned out bulbs
Monthly
Change return air filters
Check caulking: exterior and interior at plumbing fixtures and at floors (tub, toilet, etc.)
Check exterior drainage and swales
Check exhaust fan and damper door for correct operation
Dust off and test smoke and carbon monoxide detectors for operation
Check plumbing for leaks (bathtubs, dishwasher, sinks, lavatories, showers, laundry hook ups, water heater, toilets and any other plumbing)
Check plants and shrubs – trim to avoid contact with house
Check irrigation sprinklers and adjust as necessary – avoid water spray on building and ensure uniform coverage
Test ground fault circuit interrupter (GFCI) outlets
Semi-Annually
Check clothes dryer vent pipe and remove any lint
Clean out roof gutters and downspouts
Inspect roof system for broken or missing roofing material
Check and clean window weep holes
Check weather stripping
Check outdoor AC condenser unit for obstructions and/or debris, clean unit per manufacturer's recommendation for optimal performance
Check house for evidence of termites and other pests
Check all painted surfaces
Drain water heater to remove sediment
Annually
Change batteries in smoke detectors and carbon monoxide devices
Check condensate drain lines for blockage
Trim trees to avoid contact with house and obstruction of solar panels
Check chimney flue and vents for obstructions and debris

Portions of this Property will Require Routine Maintenance for which There May Not Be a Specific Manual

Grading

The grading around the building is sloped away from the structure, which is not only functional, but a building code requirement enforced during the final inspection. The yard drainage must not drain onto neighboring property or near the building foundation. It is important the owner or tenant maintain this grade or swale to protect the building from moisture. An inspection after any landscaping, construction or a storm is necessary so the swale or grade always directs the flow of water away from the foundation of the building and to storm sewer systems or other appropriate locations approved for the structure.

Gutters

The gutter and downspouts will need periodic maintenance to ensure proper function. The required interval for this maintenance will vary by season; however, gutters and downspouts should be inspected for debris before the rainy season. When trees and other deciduous vegetation shed leaves that drop into the gutters, this will inhibit the flow of water and possibly clog downspouts. The leaves and/or debris must be removed in order for the system to work as designed. The downspouts should direct the storm water away from the foundation at least 5 feet to avoid damage to the structure. Always keep the area clear where the storm water flows out of the downspout. If a clear area is not possible, subsurface drains may need to be installed.

Irrigation

Inspect the landscape irrigation systems weekly for leaking or broken heads.

Frost-Protected Foundation Systems

When the building utilizes a Frost-Protected Shallow Foundation, as allowed by local conditions, the monthly mean temperature of the building must be maintained at a minimum of 64°F (18°C).

Relative Humidity (RH)

RH is the percent of moisture in the air compared to the maximum amount of moisture this air can hold at the same condition. Warm air will hold more moisture than cold air. The design of the HVAC system should include controlling the moisture levels appropriate to the climate. The addition of moisture (humidification) may be required in colder climates during the winter season and removed (dehumidification) during the summer months.

Automatic, computer controlled humidifiers can control the humidity levels, providing enough moisture for a healthy comfortable dwelling and within the limits to prevent

window and cold surface condensation. These levels are usually between 30 to 60 percent RH although certain health conditions may dictate benefits at either the higher or lower ranges.

Hygrometer

The hygrometer will show RH. Although the RH will not be exactly the same throughout the structure, one hygrometer is usually sufficient. It should be placed where the humidity symptoms are most obvious (e.g., in the room that you are most concerned about.)

Low Relative Humidity

Below 30 percent RH, people can be uncomfortable and can suffer from dry mucus membranes, which can lead to nosebleeds and infections. In general, low RH is only a problem during the winter months when the outside air contains very little moisture. It is this dry outside air entering through cracks and openings in the building shell that causes the inside air to become dry. The greater the amount of outside air that leaks into the building, the dryer the indoor air becomes. By air-sealing and using energy-efficient construction, uncontrolled air leakage is greatly reduced, a more controlled indoor environment is created, and RH can be maintained at acceptable levels without the use of a humidifier.

Humidifiers require maintenance to avoid becoming breeding grounds for biological contaminants. The effects of bacteria, viruses, fungi, respiratory infections, allergic rhinitis, asthma, and ozone production can be minimized by higher humidity levels. Studies have shown that wintertime operation at 68° F at 70% RH provides the same level of occupant comfort as does 72° F at 30% RH. Lower utility bills and a healthier environment are both benefits of controlled RH.

High Relative Humidity

High RH can lead to occupant discomfort, annoyances, and possibly serious health issues as they relate to bacteria, viruses, fungi, mites (dust mites and mold), allergic rhinitis, asthma, and chemical interactions with mold, dust mites, and other biological pollutants.

The air conditioning system and/or stand-alone dehumidifier are designed to remove moisture (latent load) and decrease the RH levels. Studies show that summertime operation at 78° F at 30% RH provides the same level of occupant comfort as does 74° F at 70% RH. The lower humidity level will provide increased comfort, lower utility bills and lessen the risk of health issues associated with high humidity.

Using exhaust fans in the bathrooms and kitchen can remove much of the moisture that builds up from everyday activities and help keep RH below 50%. Having a humidistat connected to an exhaust fan is required in bathrooms. This is an effective way to control RH in moisture prone areas. When using an adjustable humidistat, the setting should be adjusted according to the season: lower RH in the summer and higher RH in

the winter. Another benefit to using kitchen and bathroom exhaust fans is removal of odors and pollutants. These fans can also be part of an active whole house ventilation system for the entire house and help to reduce humidity levels.

Know Your Home Fire Sprinkler System

The water main coming into your home supplies the water for the fire sprinkler and the domestic (plumbing) systems.

A main water control valve (1) is on the pipe that supplies water to the sprinkler system. You may also have a control valve on your domestic (3) and sprinkler (4) pipes. The water flows through a check valve (5), or if required by plumbing code, a backflow valve. The water flows through a check valve (5), or if required by plumbing code, a backflow valve.

WARNING

Turning off the water to your home will also turn off the water to your fire sprinkler system. Contact your fire sprinkler contractor if you have questions.

Fire Station 81

767 Birch St. Paradise CA 95969

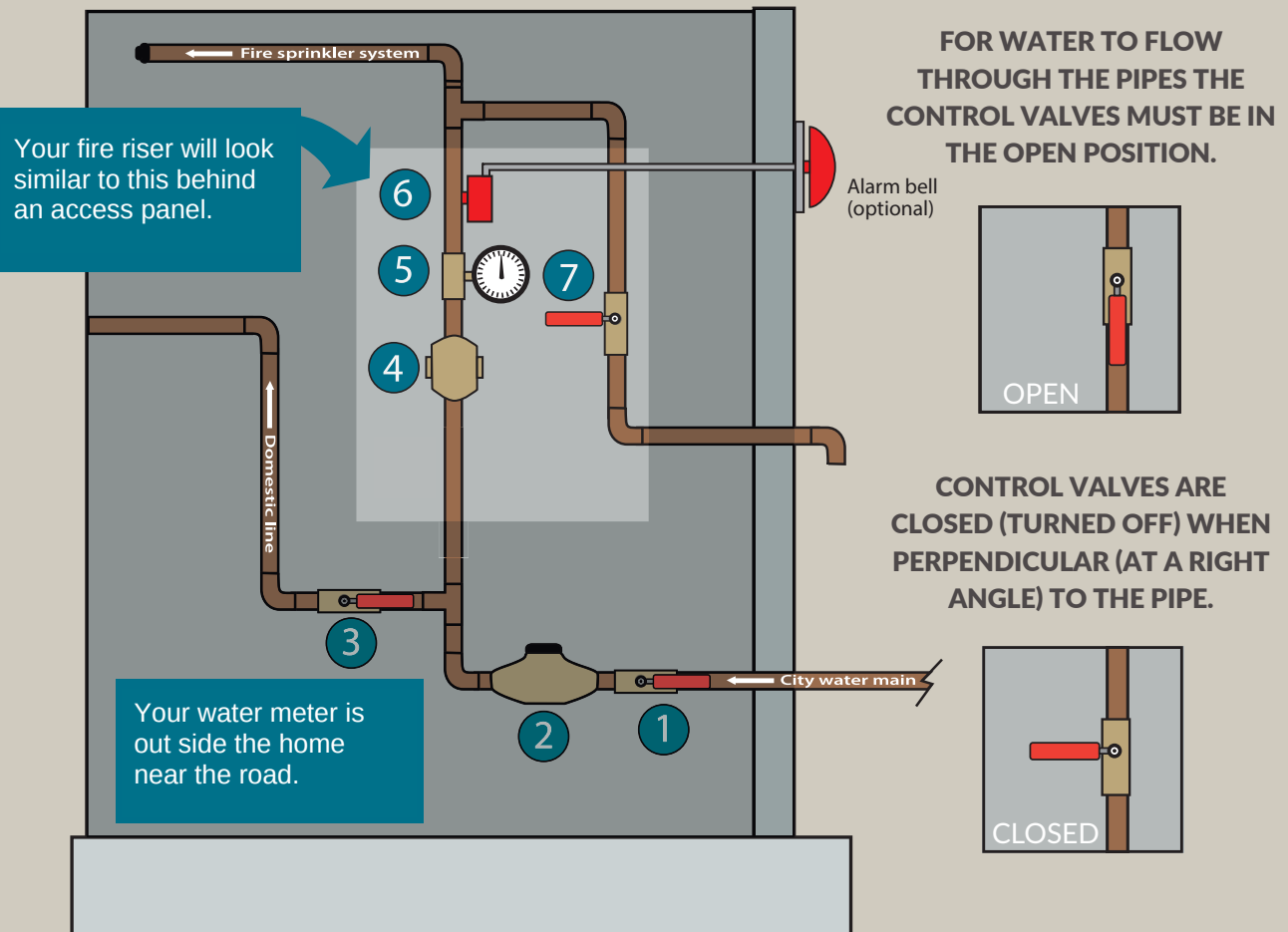
(530) 872-6264

Recorded Burn info: (530) 872-6264

Mon. – Fri. 9 am to 1 pm

Fire Prevention Message Line

(530) 872-6291 ext. 417



1. Main Control Valve
2. Water Meter
3. Domestic Control Valve

4. Check Valve or Backflow Valve
5. Pressure Gauge
6. Flow Switch for Alarm
7. Flow Test Control Valve (Inspector Test Valve)

Keep Your Fire Sprinklers Working To Protect Your Family and Home

DO NOT HANG anything on fire sprinklers or pipes. Even lightweight items can damage sprinklers.

PROTECT FIRE SPRINKLERS FROM BUMPS. Be careful when carrying ladders and other large or tall items. Don't bump fire sprinklers or exposed pipes.

DO NOT PAINT the fire sprinkler or the cover. While doing messy work, such as painting, cover the sprinklers with plastic. Remove the plastic as soon as you are finished painting.

DO NOT BLOCK your fire sprinklers. Keep pictures and large/tall furniture away from sprinklers on the walls. Hang lamps and plants away from ceiling fire sprinklers.

CONSIDER LOCATION OF PIPES BEHIND THE WALL. Avoid using nails or screws to hang pictures on the wall near the sprinkler pipe.

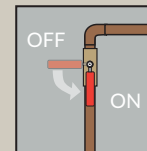
TEACH CHILDREN not to touch or play with sprinklers or exposed pipes.

HOW TO DO A FLOW TEST*

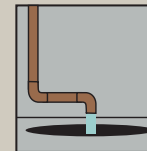
1. Find your flow test control valve. It may be labeled main drain, inspector test or test and drain. The valve is located on the sprinkler drain and test connection.
2. If your sprinklers are connected to a central alarm, inform the alarm monitoring company or fire department that you are going to do a test.
3. Slowly turn the flow test control valve to the "on" position (bring the valve in line with the pipe). This will start the water running. Let the water run for about 90 seconds. If your system has an alarm, you will hear it as the water is running.
4. You may see a drop in water pressure upon opening the valve. The pressure should stabilize for the 90 seconds it is left open. The stream should be steady and not choppy with air pockets after the initial opening. Water should look relatively clear.
5. Slowly turn the flow test control valve to the "off" position (the valve handle will be perpendicular to or make a right angle to the pipe).
6. Write down the date you tested your system.

CONTACT YOUR FIRE SPRINKLER CONTRACTOR IF YOU HAVE QUESTIONS.

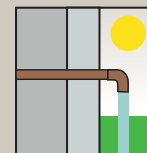
*NFPA 13D recommends conducting a flow test two times a year.



The flow test control valve is on when it is in line with the pipe. It is off when it is perpendicular to the pipe.

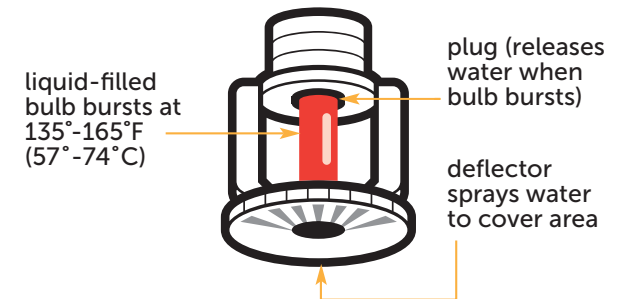


Water may run into a sump pump in the basement.



Water may run outside the home.

Your home has a built-in fire sprinkler system. If you have a fire, the high heat will activate the sprinkler closest to it. Water will control it or put it out so you can escape.



Write down the date of each test here:

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HOME FIRE SPRINKLER
COALITION
HomeFireSprinkler.org

LWSCardUS-3/24-3M-F

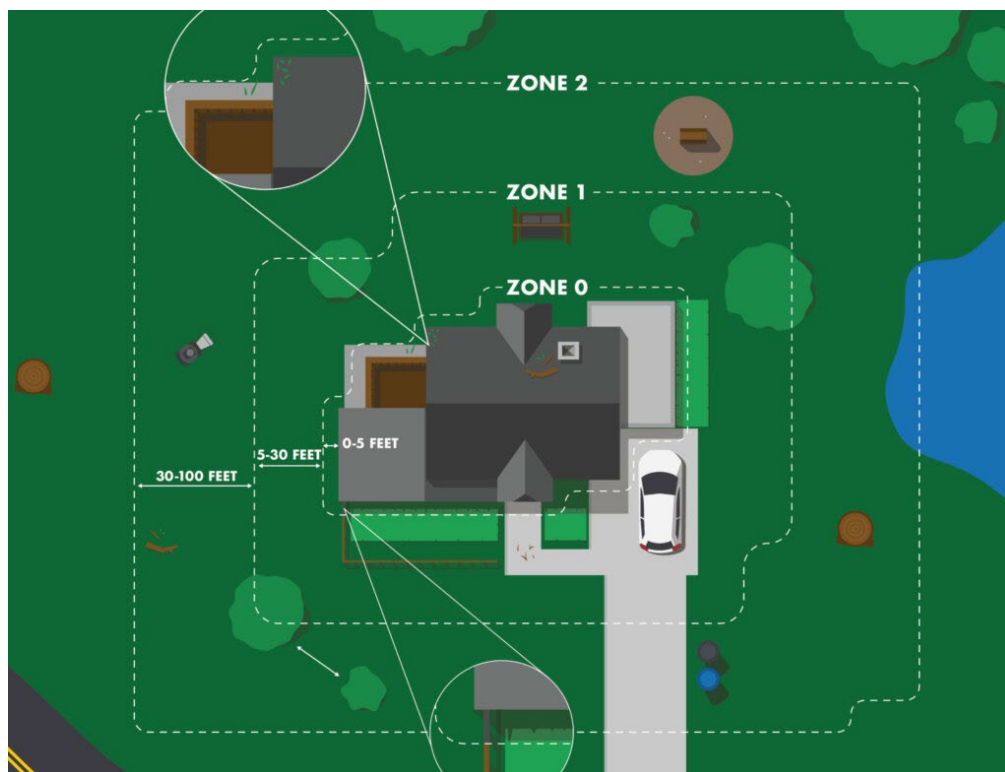
The Town of Paradise is classified as a very high fire hazard severity zone, and the residents should be aware of the increased risk of wildfires and take proactive measures to mitigate this risk.

Residents living in a Very High Fire Hazard Severity Zone in a Local Responsibility Area (LRA) such as Paradise are responsible for ensuring that their property complies with California's building codes, fire codes, and Town municipal codes. These codes that call for homeowners to take proactive steps to protect their property from wildfire. A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, shrub-covered lands, grass-covered lands, or land that is covered with flammable material, shall maintain 100 feet of Defensible Space as required by law. [Public Resource Code § 4291]

Defensible Space

Defensible space is crucial for your home's wildfire safety. It's the buffer zone you create between your property and the surrounding wildland area. This space is key to slowing or stopping wildfire spread and protecting your home from embers, flames, and heat. It also gives firefighters a safer area to defend your property.

Defensible space is divided into zones, each with specific guidelines.



Zone 0 The ember resistant zone extends 5 feet from buildings, structures, decks, etc.

- No vegetation of any kind shall exist or overhang within five (5) feet of the structure.
- Move firewood and lumber to Zone 2 (30-100 feet from home) for safety
- Use gravel, pavers, or concrete instead of combustible mulch
- Clear dead weeds, grass, and debris; check roofs, gutters, and outdoor areas
- Keep branches trimmed 10 feet away from chimneys and stovepipes
- Minimize combustible items like furniture and planters on decks
- Clear flammable vegetation and items from under decks, balconies, and stairs
- Replace combustible fencing and gates with non-combustible materials
- Shift garbage and recycling containers to a safer area outside this zone
- Relocate boats, RVs, and vehicles away from this zone to reduce fire risks

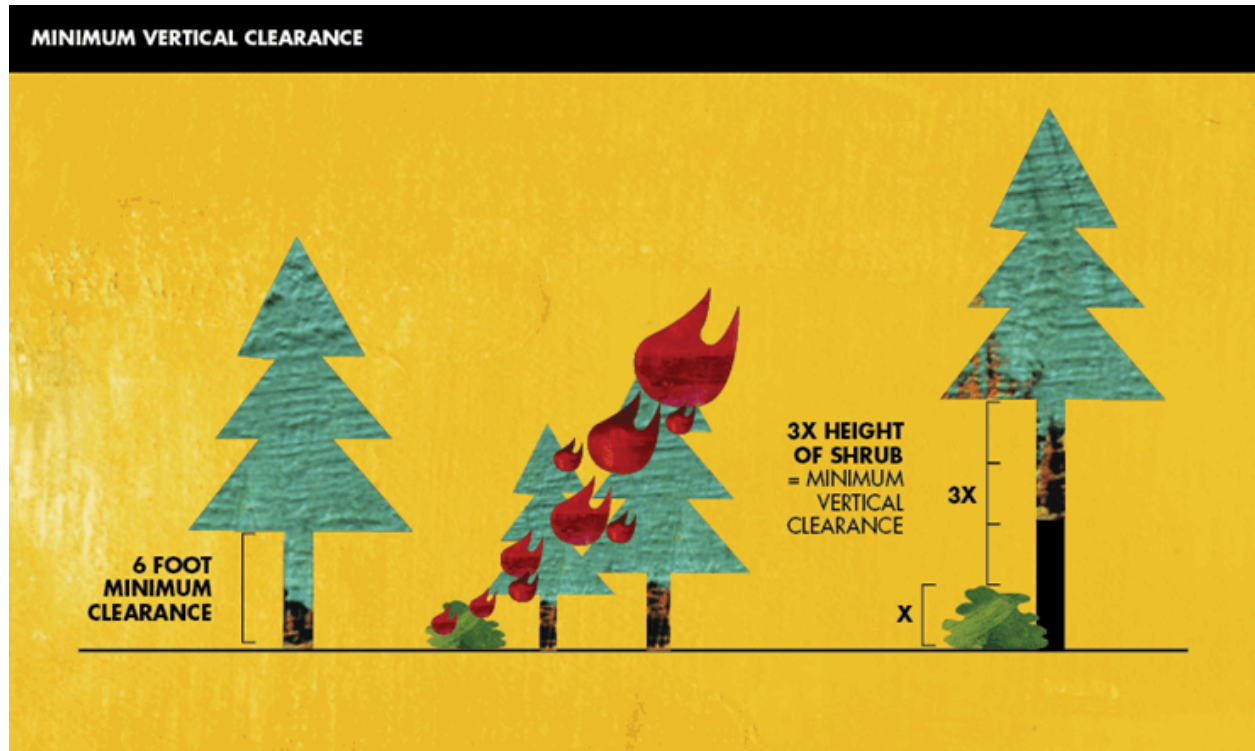
Zone 1 Extends 30 feet from buildings, structures, decks, etc. or to your property line, whichever is closer.

- Clear all dead plants, grass, and weeds
- Regularly trim trees to maintain a 10-foot gap from others and 6 feet of clearance from the ground or 1/3 the height of the tree for trees shorter than 18'
- Move wood piles to Zone 2
- Maintain space between trees, shrubs, and flammable items like patio furniture and wood piles
- Ensure outbuildings and LPG tanks have 10 feet of clear space to bare soil and no flammable vegetation within an additional 10 feet around them

Zone 2 extends from 30 feet to 100 feet out from buildings, structures, decks, etc. or to your property line, whichever is closer.

- Trim annual grass to a maximum height of 4 inches
- Space out shrubs and trees horizontally (See diagram below)
- Ensure vertical spacing between grass, shrubs, and trees (See diagram below)
- Regularly trim trees to maintain a 10-foot gap from others and 6 feet of clearance from the ground or 1/3 the height of the tree for trees shorter than 18'

- Remove fallen leaves, needles, and small branches, but can leave up to 3 inches
- Keep exposed wood piles at least 10 feet clear from surroundings, down to the soil
- Ensure outbuildings and LPG tanks have 10 feet of clear space to bare soil and no flammable vegetation within an additional 10 feet around them



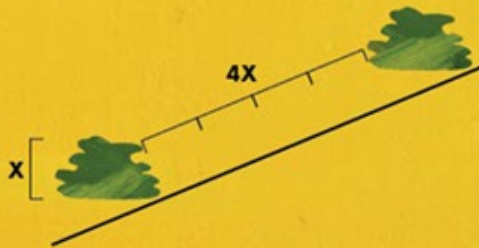
MINIMUM HORIZONTAL CLEARANCE

SHRUBS

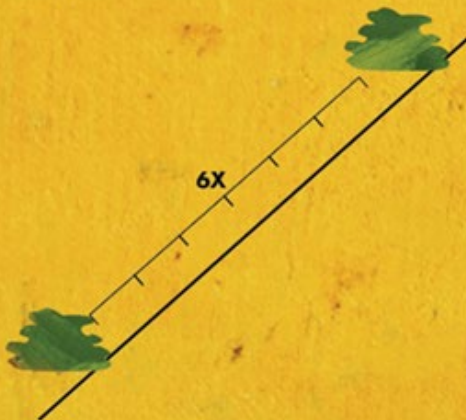


FLAT TO MILD SLOPE (LESS THAN 20%)

TREES



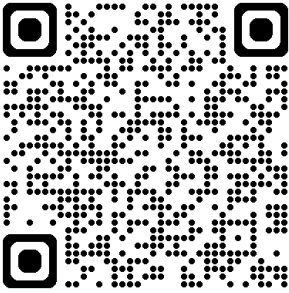
MILD TO MODERATE SLOPE (20%-40%)



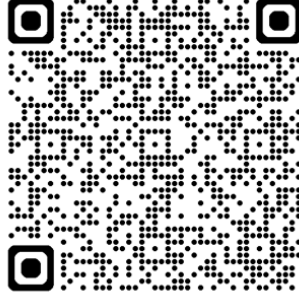
MODERATE TO STEEP SLOPE (GREATER THAN 40%)



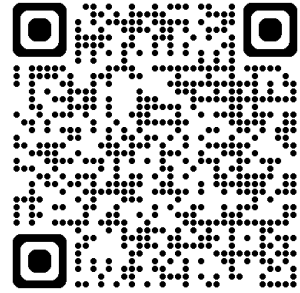
Please scan below for more information.



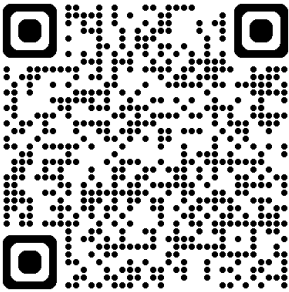
Defensible Space Info



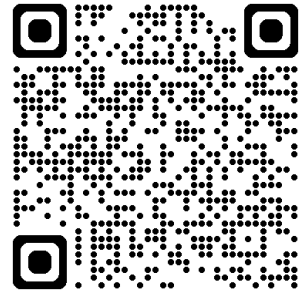
Paradise Municipal Code



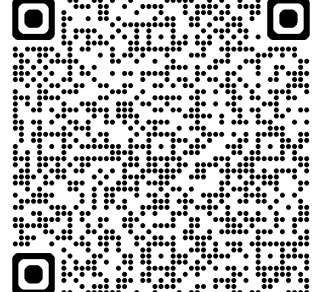
Town of Paradise



Find Your Evacuation Zone



Weed Abatement
Business List



Burn Permit Information