Garrett Parcel Split
APN: 102-010-72

Wildland Fire Safe Plan

Prepared for:

Tammy Garrett

Prepared by:

CDS Fire Prevention Planning
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February 1, 2011

Garrett Parcel Split

Approved by:

Guy Delaney
Fire Marshall
Rescue Fire Protection District

9-16-11
Date

Chris Anthony, Battalion Chief
Fire Prevention
California Department of
Forestry and Fire Protection

9-20-11
Date

Prepared by:

William F. Draper
RPF 898

9/20/11
Date

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I. PURPOSE AND SCOPE

Communities are increasingly concerned about wildfire safety. Drought years coupled with flammable vegetation and annual periods of severe fire weather insure the potential for periodic wildfires.

The purpose of this plan is to assess the wildfire hazards and risks of the Garrett parcel split, to identify measures to reduce these hazards and risks and protect the native vegetation. There are light fuel hazards and gentle topography associated with this proposed project both on and adjacent to the project.

The possibility of large fires occurring when the parcel split is complete will be greatly reduced. However, small wildfires in the open space areas and on the larger lots may occur due to the increase in public uses.

Incorporation of the fire hazard reduction measures into the design and maintenance of the future parcels will reduce the size and intensity of wildfires and help prevent catastrophic fire losses. State and County regulations provide the basic guidelines and requirements for fire safe mitigation measures and defensible space around dwellings. This plan builds on these basic rules and provides additional fire hazard reduction measures customized to the topography and vegetation of the development with special emphases on the interface of homes and wildland fuels.

The scope of the Garrett Wildland Fire Safe Plan recognizes the extraordinary natural features of the area and designs wildfire safety measures which are meant to compliment and become part of the community design. The Plan contains measures for providing and maintaining defensible space around future homes. Plan implementation measures must be maintained in order to assure adequate wildfire protection.

Homeowners who live in and adjacent to the wildfire environment must take primary responsibility along with the fire services for ensuring their homes have sufficient low ignitability and surrounding fuel reduction treatment. The fire services should become a community partner providing homeowners with technical assistance as well as fire response. For this to succeed it must be shared and implemented equally by homeowners and the fire services.

II. FIRE PLAN LIMITATIONS

The Wildland Fire Safe Plan for the Garrett parcel split does not guarantee that wildfire will not threaten, damage or destroy natural resources, homes or endanger residents. However, the full implementation of the mitigation measures will greatly reduce the exposure of homes to potential loss from wildfire and provide defensible space for firefighters and residents as well as protect the native vegetation. Specific items are listed for homeowner's attention to aid in home wildfire safety.

III. THE GARRETT WILDLAND FIRE SAFE PLAN

1. PROJECT DESCRIPTION

The Garrett parcel split is located on the north side of Deer Valley Road at Kanaka Valley Road in the Rescue area. The property is .75 miles from Starbuck Road and 2.5 miles to Green Valley Road. Vista Cielo accesses the property and has been built It is approximately 749' long and will only require minor finishing and the completion of the "T" turn-around will be needed. At the east side of the project there is an existing driveway serving Parcel 1. A turnaround will need to be constructed at the west end of Vista Cielo. The west end of the "T" will provide access to the property north of the project. The road is 20' wide of travel surface with the necessary ditches. Vista Cielo will provide access to 3 of the 4 parcels involved in this project. The fourth parcel will have a long driveway off of Kanaka Valley Road which will comply with Fire Safe regulations. A new turn-around will be constructed at the end of the driveway. The driveway and turn-around will conform to fire department standards. All lots shall have their own well and fire hydrant/standpipe. There is not any road work anticipated to Deer Valley or Kanaka Valley Roads. The gate and opener on Vista Cielo shall meet the requirements for Rescue Fire Protection District. See the appendix for the gate policy from the fire district. A knox lockbox has been agreed to with the fire department. A fuel hazard reduction zone along the entire length of Vista Cielo will be needed. This project is planning to split parcel APN:102-010-72 totaling 40 acres into 4 lots. Two lots (lot 1 and 2) will be a minimum of 5.0 acres in size and the largest lot 9lot 3) will be 20 acres. Lot 4 is 10 acres. All the lots shall have well water provided by the individual owners. The individual wells shall provide for domestic and individual fire protection. A fire department connection/standpipe will be installed near each new residence. Residential fire sprinklers shall be required by the California Residential Building Code. All houses shall have their own water tank for its domestic water, fire protection and fire sprinklers. These tanks need to be a minimum of 4,250 gallons. The actual size of the tank will be determined by the fire sprinkler system once designed for each specific residence.

The requested "T" turnaround on Vista Cielo will comply with DOT and fire district standards and allow for future access to the remaining property north of this parcel split. The "T" will be placed at the northwest corner of Parcel 3. Parcel 3 (20 acres) lies to the east of Vista Cielo and has frontage along Deer Valley Road. Parcels 1 and 2 are 5 acres each and are across the Vista Cielo on the west from Parcel 3. Parcel 4 has frontage along Kanaka Valley Roads and is accessed from Kanaka Valley Road.

A Home Owners Association (HOA) needs to be formed for the purpose of maintaining the fuel hazard reduction zone along Vista Cielo and the entrance gates. Any automatic gate opener must meet the standards acceptable to the fire department. Annual maintenance is essential for keeping fire safe conditions viable.

The Rescue Fire Protection District provides all fire and emergency medical services to this project. The California Department of Forestry and Fire Protection (CAL FIRE) has wildland fire responsibility in this state responsibility area (SRA).

2. PROJECT VEGETATION (FUELS)

For wildfire planning purposes the vegetation is classified as follows:

(a) ground fuels- annual grasses, scattered manzanita, chamise, poison oak, and toyon with downed limbs (Brush)
(b) overstory- scattered live oaks and California gray pines.

The property is on slopes from west, northwest, and north to east facing slopes up to approximately 20%. Fire hazard reduction of the fuels will be extremely important around the house sites and surrounding areas. Ladder fuels will need to be eliminated. Limbing of trees is important to reduce their susceptibility from a ground fire. Tree spacing on the slopes is a critical component to attaining the required fire safe clearances. A separation of the brush fuels and trees are essential for creating the defensible space around the residence. CDF guidelines for the 100 foot clearance requirements are attached.

3. PROBLEM STATEMENTS

A. The brush fuels on the slopes will ignite and have a rapid rate of spread.

Fire in the grass and brush fuels on the slopes is the most serious wildfire problem for this project.

B. Risk of fire starts will increase with development.

The greatest risk from fire ignition will be along roads and on large lots as human use on these areas increases.

C. Provisions must be made to maintain all fuel treatments.

The wildfire protection values of fuel reduction are rapidly lost if not maintained. Continued review of potential ladder fuels to maintain a fire safe environment is very important. Annual maintenance by June 1 of each year is necessary.

D. Typical home design and siting often does not recognize adequate wildfire mitigation measures.

A review of many wildfires has conclusively shown that most home losses occur when: (1) there is inadequate clearing of flammable vegetation around a house, (2) roofs are not fire resistant, (3) homes are sited in hazardous locations, (4) firebrand ignition points and heat traps are not adequately protected and (5) there is a lack of water for suppression.

4. GOALS

A. Modify the continuity of high hazard vegetation fuels.
B. Reduce the size and intensity of wildfires.
C. Ensure defensible space is provided around all structures.
D. Design fuel treatments to minimize tree removal.
E. Ensure fuel treatment measures are maintained.
F. Identify fire safe structural features.
G. Help homeowners protect their homes from wildfire.

5. WILDFIRE MITIGATION MEASURES

Wildfire mitigation measures are designed to accomplish the Goals by providing and maintaining defensible space and treating high hazard fuel areas. Fire hazard severity is reduced through these mitigation measures. The Wildland Fire Safe Plan places emphasis on defensible space around structures.

The driveway placement, fire hydrant location at each residence and fuel treatments will be extremely important in the development of these new lots. Fuel treatment zones of at least 10 feet in width shall be installed along the road and driveways and around the new fire hydrants.

All residences shall be required to have NFPA 13D fire sprinkler systems. A water storage tank shall be required. The individual water tanks for fire protection must be kept full at all times as they will be incorporated into the domestic water system. A minimum of 4,250 gallons for domestic and fire protection is required. Actual tank size will be determined by the square footage of the residence. Consulting with Rescue Fire Protection shall be required for water tank sizing. See the appendix for the County Standard for Water Supply. It must have an external sight gauge to determine the actual water level in the tank. All external plumbing shall have freeze protection. The fire hydrant/standpipe on this system needs a minimum of 20psi at the hydrant. A valve with a 21/2" NTS male outlet shall be required on the fire hydrant. The fire hydrant/standpipe does not have to meet the same standard as a commercial fire hydrant. Annual maintenance should include flushing of the system and testing of the pump to ensure proper pressure.

This parcel split is in a Moderate Fire Hazard Severity Zone. Wildland-Urban Interface Fire Areas Building Standards will be required in new construction. These standards address roofing, venting, eave enclosure, windows, exterior doors, siding, and decking.

Clearance along the road and around structures is very important and necessary. Fire Safe specifications state that all trees in the fuel treatment zones shall be thinned so the crowns are not touching. Branches on remaining trees shall be pruned up 10 feet as measured on the uphill side of the tree. Brush shall be removed. Grasses shall be kept mowed to a 2 inch stubble annually by June 1. Any tree crown canopy over the driveways shall be pruned at least 15 feet up from the driveway surface.

The fuel treatment zone shall continue along both sides of the common driveway and be at least 10 feet wide. This zone is in addition to the clearances required by state law. The State required Fire Safe clearances (PRC 4291) shall be implemented around all structures (See CDF Guideline). Clearances may be required at the time of construction.

More restrictive standards may be applied by approving El Dorado County Authorities. Approval of this plan does not by itself guarantee approval of this project.

Mitigation Measures:

- **Lots I acre and larger shall be landscaped to Firescaping Standards Zones I and II. (See Appendix A)**
  - **a. Responsibility- homeowner at the time construction starts and completed after construction**

- **Driveways shall be 12 feet wide. Driveways shall comply with the DOT weight standards. Any driveway over 300' long shall have a turnout at or near the midpoint. Driveways over 400' in length shall also have a turn-around at the residence.**
  - **a. Responsibility- homeowner**

- **All private driveway gates shall be inset on the driveway at least 30 feet from the road. Gate opening shall be 2 feet wider than the driveway. Knox lock assess shall be provided to the fire department.**
  - **a. Responsibility- homeowner**

- **All homes shall have Class A listed roof covering.**
    a. **Responsibility- homeowner**

- **Decks that are cantilevered over the natural slope shall be enclosed.**
    a. **Responsibility- homeowner (See Appendix C for guidelines)**

- **The houses shall be constructed with exterior wall sheathing that shall be rated noncombustible.**
    a. **Responsibility-developer**

- **Windows and glass doors on the sides of the structure shall have tempered glass and fire resistant frames.**
    a. **Responsibility-builder**

- **Rafter tails shall be enclosed with noncombustible material on the sides of the structure.**
    a. **Responsibility-builder**

- **Gutters and downspouts shall be noncombustible.**
    a. **Responsibility-builder**

- **Attic and floor vents shall be covered with ¼ inch, or less, noncombustible mesh and horizontal to the ground.**
    a. **Responsibility-builder**

- **All lots shall have a 30 foot setback for buildings and accessory buildings and a 30 foot setback from the center of the road.**
    a. **Responsibility- builder**

6. **OTHER FIRE SAFE REQUIREMENTS**

A. New driveway turn-arounds shall be constructed after consulting with Rescue Fire Protection District for specifications.

B. Each new property owner prior to construction shall be required to contact El Dorado County Planning Services/Building Department to have the residential fire sprinklers plans approved. All fire sprinkler systems shall be designed and installed by a licensed contractor.

C. Each residence on a well shall have a minimum of 4,250 gallons of water stored for domestic and fire protection usage. Water storage supply may need to be more than the minimum based on the square footage of the residence. Rescue Fire shall be consulted prior to construction to determine the actual tank size needed. The domestic well shall be the source of water supply for this system.

D. The private fire hydrant at each residence shall be located within 150' but not closer than 50' to the residence and have a turn-around for emergency equipment. Each fire hydrant shall a valve with a 21/2" NTS male outlet and 20 psi at the hydrant.

E. Any new road and turn-around shall be built to DOT standards. Driveways can only serve one parcel.

F. 10' fuel treatment zone along both sides of the road and driveways shall be installed and annually maintained by June 1 to the Fire Safe specifications.

G. The developer shall file with DOT to get the road named and have the name posted at the intersection with Deer Valley Road.

H. The entrance gate opener shall meet the requirements of Rescue Fire Protection District. Knox lockbox access shall be provided at a minimum.

I. A Homeowners Association (HOA) shall be formed for the specific purpose of maintaining the fuel treatment zone along Vista Cielo and the entrance gates.

J. Roads shall be posted "No Parking" on both sides of the road.

K. A Notice of Restriction shall be filed with the final parcel map which stipulates that a Wildland Fire Safe Plan has been prepared and wildfire mitigation measures must be implemented.

L. The project shall meet all the Public Resource Codes 4290 as amended (the 1991 SRA Fire Safe Regulations- Article 2 Access, Article 3 Signing, Article 4 Water, Article 5 Fuels), County and Fire Department ordinances.

M. The home/property owners are responsible for any future fire safe or building code changes adopted by the State or local authority.

N. Only fire rated composite deck material shall be allowed.

V. Appendix

APPENDIX A

GARRETT PARCEL SPLIT
FIRESCAPING STANDARDS

Firescaping is an approach to landscaping to help protect homes from wildland fires. The goal is to create a landscape that will slow the advance of a wildfire and create a Defensible Space that provides the key point for firefighting agencies to defend the home. This approach has a landscape zone surrounding the home containing a balance of native and exotic plants that are fire and drought resistant, help control erosion, and are visually pleasing. Firescaping is designed not only to protect the home but to reduce damage to oaks and other plants.

Zone I

The zone extends to not less than 30 feet from the house **or to the property line whichever is less** in all directions and has a traditional look of irrigated shrubs, flowers gardens, trees and lawns. All dead trees, brush, concentrations of dead ground fuels (tree limbs, logs etc. exceeding 1inch in diameter) shall be removed. All native oak trees and brush species are pruned up to 10 feet above the ground as measured on the uphill side but no more than 1/3 of the live crown. The plants in this zone are generally less than 18 inches in height, must be slow to ignite from windblown sparks and flames. Such plants should produce only small amounts of litter and retain high levels of moisture in their foliage year around. Gray pines shall be excluded from this zone. Native and exotic trees are permitted inside the Zone, but foliage may not be within 10 feet of the roof or chimney. Grass and other herbaceous growth within this zone must be irrigated or if left to cure must be mowed to a 2 inch stubble, chemically treated or removed. Such treatment must be accomplished by June 1, annually. This zone has built in firebreaks created by driveways, sidewalks etc.

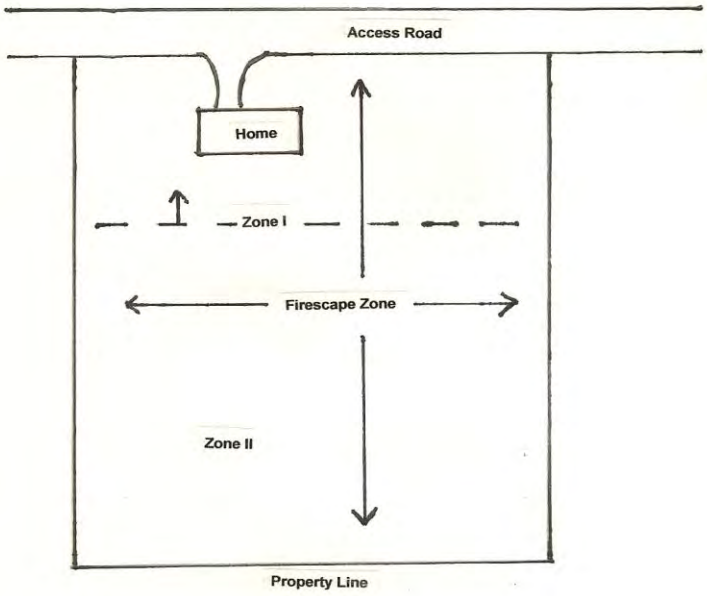
Zone II

This Zone adds 70 feet to Zone I and extends a minimum of 100 feet from the house in all directions, **or to the property line whichever is less,** and is a transition area to the outlying vegetation. The zone is a band of low growing succulent ground covers designed to reduce the intensity, flame length and rate of spread of an approaching wildfire. Irrigation may be necessary to maintain a quality appearance and retain the retardant ability of the plants. All dead trees, brush, concentration of dead ground fuels (tree limbs, logs etc.) exceeding 2 inches in diameter shall be removed. Annual grasses shall be mowed after they have cured to a 2 inch stubble by June 1, annually. Native trees and brush species may be preserved and pruned of limbs up to 8 feet above the ground as measured on the uphill side.

For All Zones With Oaks

Mature, multi stemmed Oaks can present a serious wildfire problem if untreated. Treat the Oaks as to the following specifications: (a) remove all dead limbs and stems and (b) cut off green stems at 10 feet above the ground as measured on the uphill side that arch over and are growing down towards the ground.

APPENDIX A-1
FIRESCAPING ZONES
EXHIBIT



Typical Lot in Oak Woodland

(SCHEMATIC, NOT TO SCALE)

APPENDIX B

GARRETT PARCEL SPLIT
FUEL TREATMENT SPECIFICATIONS
For
OAK WOODLAND
Within The Designated Fuel Treatment Areas

1. Leave all live trees where possible.

2. Remove all dead trees.

3. Remove all brush.

4. Prune all live trees of dead branches and green branches 10 feet from the ground as measured on the uphill side of the tree, except no more than 1/3 of the live crown is removed. All slash created by pruning must be disposed of by chipping or hauling off site.

5. Annually by June 1, reduce the grass or weeds to a 2 inch stubble by mowing, chemical treatment, disking or a combination of treatments.

6. Mature, multi stem Oak trees: remove all dead limbs and stems, cut off green stems at 10 feet above the ground as measured on the uphill side that arch over and are growing down towards the ground.

7. Gray pines within 30 feet of a house shall be removed. Those pines in Zone II shall be isolated with no brush understory within the dripline of the tree.

APPENDIX C

GARRETT PARCEL SPLIT
ENCLOSED DECK GUIDELINES

The purpose of enclosing the underside of decks that are cantilevered out over the natural slope is to help prevent heat traps and fire brands from a wildfire igniting the deck or fuels under the deck.

1. Does not apply to decks that are constructed using fire resistant materials such as concrete, steel, stucco etc.

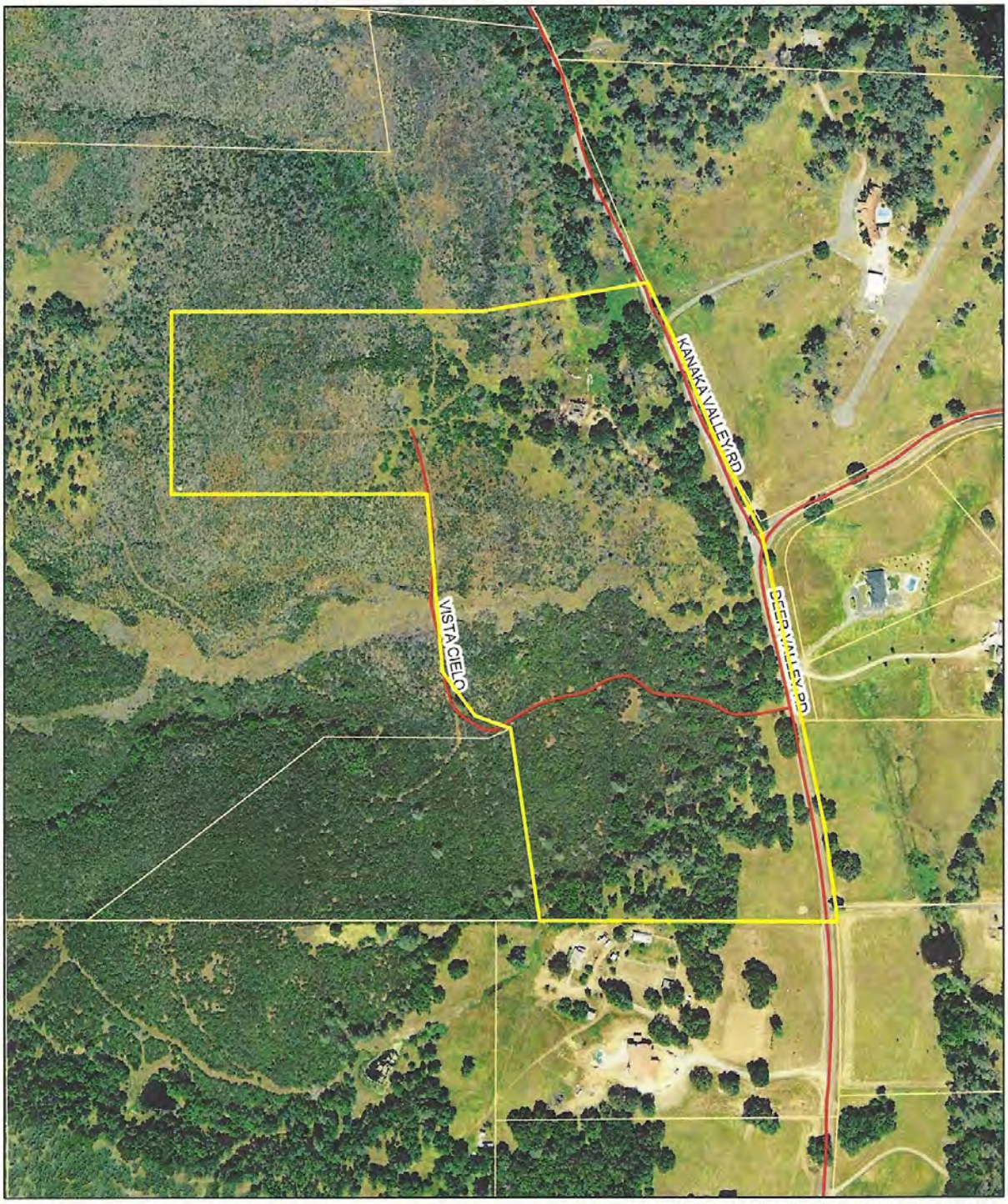
2. Any deck shall not include composite deck material.

3. This applies to decks one story or less above natural slopes.

4. Combustible material must not be stored under the deck.


A
B
C
D
E
F
1
2
3
4
5
6
7
8
DEER VALLEY RD
GREEN VALLEY RD
JURGENS RD
STARBUCK RD
CAMBRIDGE RD
BASS LAKE RD
CAMERON PARK DR
Pine Hill 2059'
Reservoir
Green Spring
CAMERON PARK

APN 10201072



Disclaimer: This depiction was compiled from unverified public and private sources and is illustrative only. No representation is made as to accuracy of this information. Parcel boundaries are particularly unreliable. Users make use of this depiction at their own risk.

Printed on 4/4/2011 from El Dorado County Surveyor's Office

N
W E
S

0 230 460 690
Feet

Map displayed in State Plane Coordinate System
(NAD 1983 California Zone 2, feet)

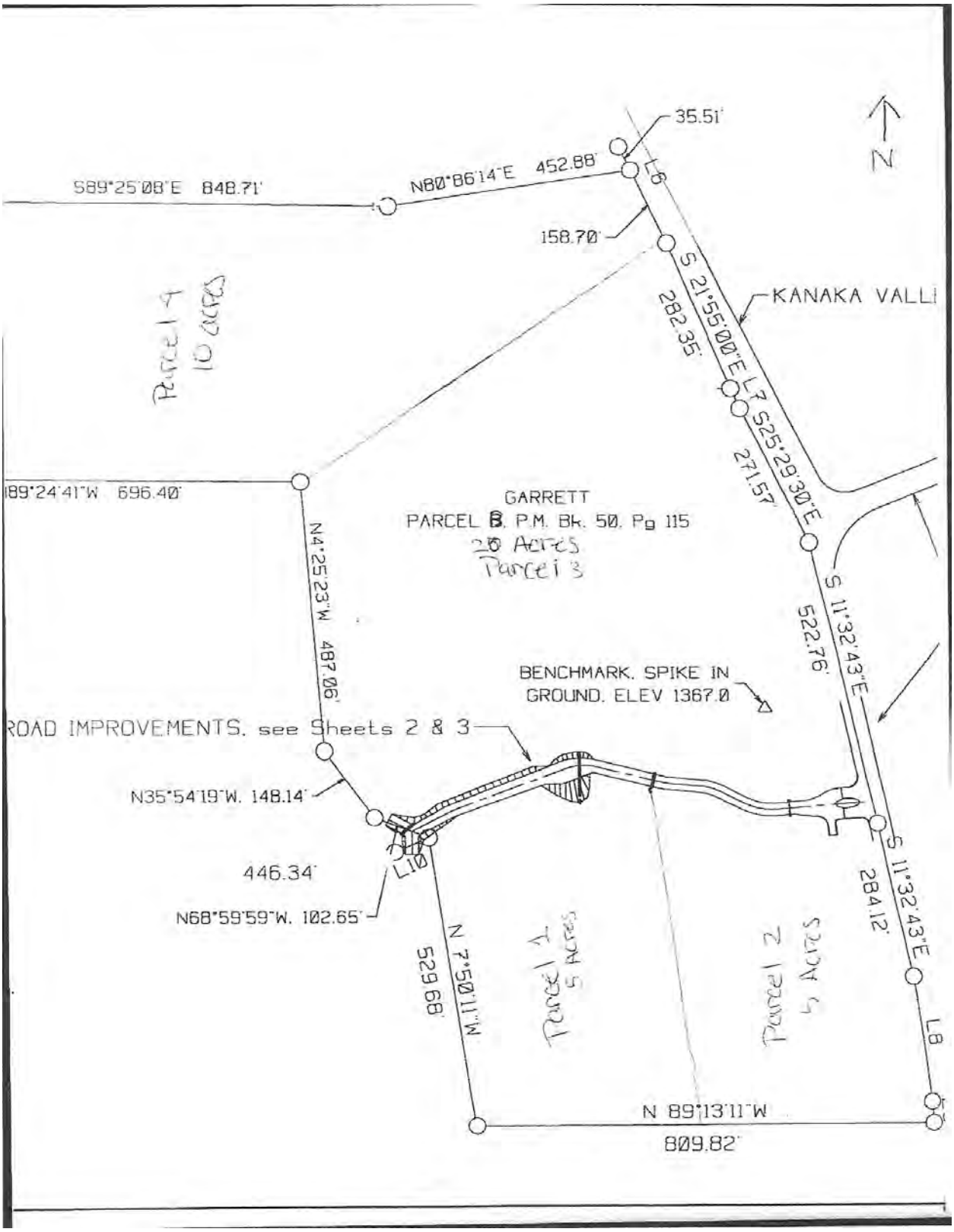

35.51'
N
S89°25'08"E 848.71'
N80°86'14"E 452.88'
L6
158.70'
S 21°55'00"E
282.35'
KANAKA VALLI
Parcel 4
10 ACRES
L7 S25°29'30"E
271.57'
S89°24'41"W 696.40'
GARRETT
PARCEL B. P.M. Bk. 50, Pg 115
20 Acres
Parcel 3
N4°25'23"W 487.06'
S 11°32'43"E
522.76'
BENCHMARK. SPIKE IN
GROUND. ELEV 1367.0
ROAD IMPROVEMENTS. see Sheets 2 & 3
N35°54'19"W. 148.14'
L10
446.34'
N68°59'59"W. 102.65'
N 7°50'11"W
529.68'
Parcel 1
5 ACRES
Parcel 2
5 ACRES
S 11°32'43"E
284.12'
L8
N 89°13'11"W
809.82'

DIAGRAM B

DRIVEWAY TURNOUT

DIAGRAM
(NOT TO SCALE)

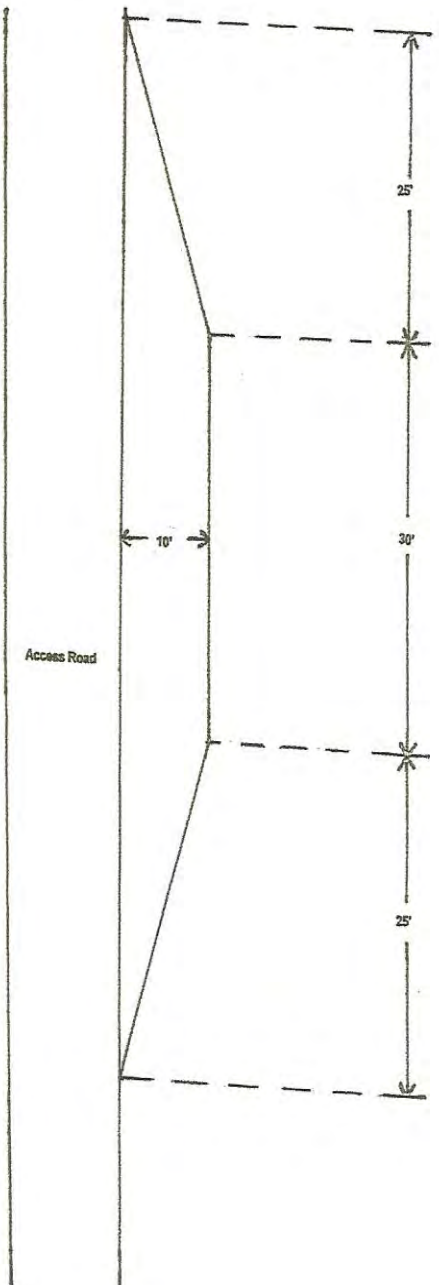
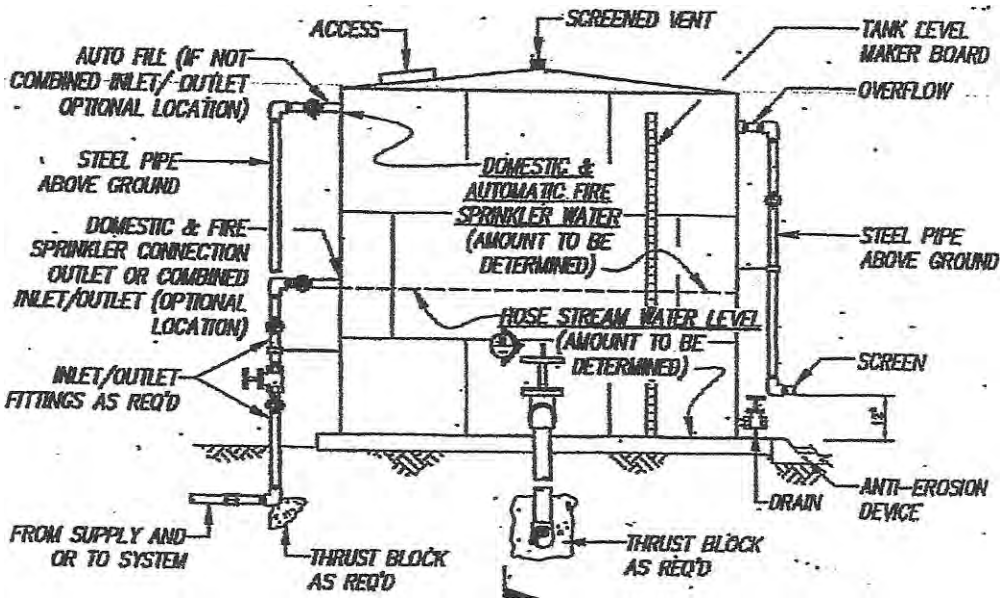


DIAGRAM C


ACCESS
SCREENED VENT
TANK LEVEL MAKER BOARD
AUTO FILL (IF NOT COMBINED INLET/OUTLET OPTIONAL LOCATION)
OVERFLOW
STEEL PIPE ABOVE GROUND
DOMESTIC & AUTOMATIC FIRE SPRINKLER WATER (AMOUNT TO BE DETERMINED)
DOMESTIC & FIRE SPRINKLER CONNECTION OUTLET OR COMBINED INLET/OUTLET (OPTIONAL LOCATION)
STEEL PIPE ABOVE GROUND
HOSE STREAM WATER LEVEL (AMOUNT TO BE DETERMINED)
SCREEN
INLET/OUTLET FITTINGS AS REQ'D
DRAIN
ANTI-EROSION DEVICE
FROM SUPPLY AND OR TO SYSTEM
THRUST BLOCK AS REQ'D
THRUST BLOCK AS REQ'D

CAL FIRE GUIDELINE

100' DEFENSIBLE SPACE

Make Your Home FIRE SAFE

Contact your local CDF office, fire department, or Fire Safe Council for tips and assistance.

www.fire.ca.gov

Why 100 Feet?

Following these simple steps can dramatically increase the chance of your home surviving a wildfire!

A **Defensible Space** of 100 feet around your home is required by law.[1] The goal is to protect your home while providing a safe area for firefighters.

1 "Lean, Clean and Green Zone"

– Clearing an area of 30 feet immediately surrounding your home is critical. This area requires the greatest reduction in flammable vegetation.

2 "Reduced Fuel Zone."

– The fuel reduction zone in the remaining 70 feet (or to property line) will depend on the steepness of your property and the vegetation.

Spacing between plants improves the chance of stopping a wildfire before it destroys your home. You have two options in this area:

a. Create horizontal and vertical spacing between plants. The amount of space will depend on how steep the slope is and the size of the plants.

b. Large trees do not have to be cut and removed as long as all of the plants beneath them are removed. This eliminates a vertical "fire ladder."

When clearing vegetation, use care when operating equipment such as lawnmowers. One small spark may start a fire; a string trimmer is much safer.

Remove all build – up of needles and leaves from your roof and gutters. Keep tree limbs trimmed at least 10 feet from any chimneys and remove dead limbs that hang over your home or garage. The law also requires a screen over your chimney outlet of not more than ½ inch mesh.

1. These regulations affect most of the grass, brush, and timber-covered private lands in the State. Some fire departmen jurisdictions may have additional requirements. Some activities may require permits for tree removal. Also, some activities may require special procedures for, 1) threatened an endangered species, 2) avoiding erosion, and 3) protection o water quality. Check with local officials if in doubt. Current regulations allow an insurance company to require additional clearance. The area to be treated does not extend beyond your property. The State Board of Forestry and Fire Protection has approved Guidelines to assist you in complying with the new law. Contact your local CDF office for more details.

April 2006

State of California
Department of Forestry and Fire Protection

NOTICE OF FIRE HAZARD INSPECTION

A fire department representative has inspected your property for fire hazards. You are hereby notified to correct the violation(s) indicated below.

Failure to correct these violations may result in a citation and fine.

Occupant:	Physical Address:	Phone #:

Occupant Not Home: 1st Attempt: ___/___/___	Occupant Not Home: 2nd Attempt: ___/___/___	Refused Inspection: ___/___/___	For Questions, Contact Inspector at: (_____) _____ - _____

Roof Construction Combustible/Non-Combustible	Exterior Siding Combustible/Non-Combustible	Window Panes Single Pane/Multi-Pane	Eaves Enclosed/Unenclosed	Decks or Porches Masonry/Composite/Wood	Location of Structure Flat Ground/Slope/Ridge Top

Checked boxes indicate violations.

	Corrected	
	2	3	**Defensible Space Zone (within 30 feet of all structures or to property line):**
☐	2	3	A. Remove all branches within 10 feet of any stovepipe or chimney outlet. PRC §4291(a)(4)
☐	2	3	B. Remove leaves, needles or other vegetation on roofs, gutters, decks, porches and stairways etc. PRC §4291(a)(6)
☐	2	3	C. Remove all dead or dying trees, branches, shrubs or other plants adjacent to or overhanging buildings. PRC §4291(a)(5)
☐	2	3	D. Prune lower branches of trees to a height of 6 to 15 feet (or 1/3 tree height for trees under 18 feet). PRC §4291(a)(1)
☐	2	3	E. Remove all dead or dying grass, leaves, needles or other vegetation. PRC §4291(a)(1)
☐	2	3	F. Remove or separate live flammable ground cover and shrubs. PRC §4291(a)(1)
			Reduced Fuel Zone (within 30 - 100 feet of all structures or to property line):
☐	2	3	G. Mow dead or dying grass to a maximum of 4 inches in height. Trimmings may remain on the ground. PRC §4291(a)(1)
☐	2	3	H. Live flammable ground cover less than 18 inches in height may remain, but overhanging and adjacent trees must be pruned to a height of 6 to 15 feet. PRC §4291(a)(1)
☐	2	3	I. Reduce fuels in accordance with the Continuous Tree Canopy Standard (see back). PRC §4291(a)(1)
☐	2	3	J. Reduce fuels in accordance with the Horizontal Spacing Standard (see back). PRC §4291(a)(1)
			Defensible and Reduced Fuel Zone (within 100 feet of all structures or to property line):
☐	2	3	K. Logs or stumps embedded in the soil must be removed or isolated from structures and other vegetation. PRC §4291(a)(1)
☐	2	3	L. Remove all dead or dying brush and trees, and all dead or dying tree branches within 15 feet of the ground. PRC §4291(a)(1)
			Other Requirements:
☐	2	3	M. Clear all flammable vegetation, trash and other combustible materials 10 feet around and above propane tanks. CFC §3807.3
☐	2	3	N. Address numbers shall be displayed in contrasting colors (4" Min. Size) and readable from the street or access road. CFC §505.1
☐	2	3	O. Equip chimney or stovepipe openings with a metal screen having openings between 3/8 inch and 1/2 inch. CBC §2113.9.1

Recommendations:

- ☐ Clear 10 feet around and 15 feet above fuels (e.g. Woodpiles, lumber, scrap etc.). Move woodpiles as far as possible from structures.
- ☐ Remove flammable materials stored under decks and similar overhangs of structures.
- ☐ Clear vegetation 10 feet from sides and 15 feet above all driveways and turnaround areas.

☐ **No violations observed.**

Comments: _____

_____

_____

_____

_____

_____

_____

Additional Information on Back

1. Inspector: _____ Date: ___/___/___ A re-inspection will occur on/after: ___/___/___
2. Inspector: _____ Date: ___/___/___ A re-inspection will occur on/after: ___/___/___

Rescue Fire Protection District

• P.O. Box 201 Rescue, CA 95672 • Phone: (530) 677-1868 • Fax: (530) 677-9609
www.rescuefiredepartment.org

The Recue Fire Protection District has adopted a policy regarding the installation and maintenance of driveway gates. We have put together a list of items that you must consider prior to any installation.

- All driveways must meet all current fire code requirements.
- Gates shall be two feet wider than the required 12' driveway.
- All automatic gates shall be equipped with a "Knox" key switch.*
- All manual gates shall have a "Knox" padlock in series with the homeowner's lock.*
- All automatic gates shall also be equipped with a receiver and transmitter with a minimum 25' range.
- All automatic gates shall be equipped with a mechanical release.
- A loop system shall be provided to keep the gate open as long as traffic is passing through the gate.
- All automatic gates must reach the fully open position within a total time not to exceed one second for each one foot of width.
- All automatic gates shall be designed to automatically open and remain in a fully opened position during power failures.
- Gates creating a dead-end driveway in excess of 150' shall provide provisions for turning around fire apparatus.
- No device may be used which will delay or prohibit either ingress or egress of emergency responders including, but not limited to, fixed tire spikes and speed bumps.
- The total number of vehicle access control gates or systems through which emergency equipment must pass to reach any address shall not exceed one.
- It is the homeowner's responsibility to check with the county planning department for any needed permits.
- One set of plans for the installation of gates and fire department access shall be submitted and approved by the Rescue Fire Protection District prior to installation.
- Gates and access control equipment shall not be placed into service prior to being inspected and tested by the Rescue Fire Protection District.

* Applications for Knox key switches and padlocks can be obtained from the Fire District.

We are here to assist you with your project. If you have any questions, please feel free to contact our office.

El Dorado County Fire Prevention Standard
WATER SUPPLIES
RESIDENTIAL, WITHOUT A PURVEYOR
(Storage Tank and Piping)

SCOPE: This standard identifies minimum water supply requirements (fire sprinklers and fire fighting) for one and two family dwellings in rural and suburban areas in which an adequate reliable water supply does not exist.

TIMING OF INSTALLATION: Operable Fire Hydrants (water supply) and required access roads shall be provided prior to and during the time of combustible construction.

WATER PURVEYOR WATER SYSTEM: Projects located within a water purveyor's service area shall utilize the water purveyor's system for the most reliable water system. With the approval of the local Fire District, a water tank system may be used in lieu of the water purveyor's system.

DEFINITIONS

FIRE FLOW: The flow rate of a water supply, measured at 20 pounds per square inch (PSI) (137.9kPa) residual pressure that is available for firefighting. When water supply tanks are approved for use, the flow rate of a water supply may be at draft.

FIRE FLOW CALCULATION AREA: The total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of the building. This calculation will determine the square footage and in turn will determine the size of the water tank.

WATER PURVEYOR: A public utility, a mutual water company, a governmental body, or other entity, owning and operating a water system and holding a valid permit from the State Department of Public Health to purvey water (El Dorado County Irrigation District, Georgetown Divide Public Utility District, etc…).

HOSE STREAM ALLOWANCE: Water supply that is used for fire department personnel specifically for the purpose of suppressing a fire of any type.

SPRINKLER DEMAND- NFPA 13D: This standard shall cover the design and installation of automatic sprinkler systems for protection against fire hazards in one and two-family dwellings and manufactured homes.

DOMESTIC WATER SUPPLY: Water that is used for domestic consumption only.

1. TANKS:

A. Storage Tanks shall be constructed in accordance with the American Water Works Association Standards (AWWA). Some examples could be;

1) Plastic Tanks for potable use with UV Protection
2) Underground metal tanks that are protected against corrosion and lined
3) Fiberglass tanks approved for potable use
4) Above ground metal tanks that are corrosion protected and lined for potable use.

B. Location

1) Water tank(s) shall be located a minimum of 30 feet from the structure to be protected and a minimum of 10 feet from the property line. This will limit the water tanks exposure to a wildland fire. Where this is impractical, fire proofing of not less than two hours may be required. All combustible vegetation shall be cleared and maintained 30 feet around the tank, or to the property line, to prevent damage in a wildland fire.
2) Footings or foundational supports shall be required per tank manufacturer's specifications. The foundation around the outside edge of the tank shall be tapered away from the tank to avoid undermining from outside water runoff.
3) Water tanks 5,000 gallons and greater require a building permit and could require additional agency approvals.
4) Elevation of the tank floor shall not be more than 5 feet below the fire hydrant outlet.
5) Where topography allows, the water tank should be located as high of an elevation as possible to create the greatest amount of head pressure.
6) The water tanks may be located within a structure as long as the vegetation and setback requirements are met.

C. Venting

1) An air vent shall be located above the maximum water level. It shall have a cross sectional area at least equal to one half the area of the draft dwarf hydrant supply pipe or fill pipe, whichever is larger.
2) Screens and filters shall be installed to prevent animals and insects from entry into the vent pipe. The vent shall be installed so that the open end is facing downward to keep debris and litter from falling in. Filters must be on the inlet side.

D. Sight Gauge

1) A mechanical level indicator gauge board shall be furnished using a stainless steel float and cable. Recommended manufacturer is Varec or equal (the clear tube has a tendency to become obscure and is not allowed).

E. Automatic Fill

1) A suitable means shall be provided to automatically maintain the water level in the tank. The auto fill feature shall be set to the amount indicated on either Chart A or B. The water level shall not drop below the domestic water use level. It is optimum that the tank will completely refill within 8-10 hours.

F. Freeze Protection

1) All above ground water supply or discharge piping shall be designed to protect against freezing. If the tank installation is at an elevation greater than 3,000 feet, the tank water shall be protected against freezing.
2) Where anti-freeze protection is utilized (example- glycol in the sprinkler piping), a backflow prevention device that is approved by the Fire District shall be installed.

G. Tank Circulation

1) The water inlet and outlet shall be configured in such a way as to create water movement at all levels of the tank. This will prevent contamination or growth that would render the hose supply and the fire sprinkler water storage unreliable when used.

1) Tanks may serve up to three separate buildings on the same parcel. Approval from the Fire District shall be obtained to serve more than one parcel off of one tank system. Reciprocal use and maintenance easements & agreements shall be recorded for each property being served by a single tank. *See Figure 3 and Appendix A for additional information and limitations.*

I. Large Buildings

1) Buildings greater than 10,000 square feet may be subject to additional design requirements a required by the Fire District.

2. CALCULATING TANK SIZE

Tank size shall be calculated using one the following 3 cases:

CASE	WATER TANK TO SUPPLY…	MINIMUM WATER SUPPLY REQUIRED
1.	Sprinklers, Domestic & Hose Stream	Use Table "A"
2.	Hose Stream Only	Use Table "B"
3.	Sprinklers & Domestic	Tank Size: 2,250 Gallons Auto Fill: 1,500 Gallons

3. CONNECTIONS TO THE TANK

Refer to *Figure 1* for all the connections to the water tank.

4. PIPING AND HYDRANT OUTLET REQUIREMENTS

A. The hydrant outlet shall be no closer than 30 feet nor farther than 250 feet from the structure that is being protected.

B. The hydrant outlet shall be visible and accessible within 5 foot of the driveway access road. A turnout shall be required per 2007 CFC, D103.1. Final location of the hydrant outlet and turnout shall be subject to Fire District approval. *See Figure 2 for hydrant outlet details.*

C. A permanent sign, on a minimum of 1/8 inch metal, aluminum or painted steel shall be at the outlet which states the following: "DRAFTING FIRE HYDRANT" _____Gallons. *See Figure 2 for sign details.*

D. Hydrant

1) The outlet size shall be a 2 ½ inch with male threads NST (also known as NH & NS). This size may be increased for larger applications.
2) Threads must be protected with a threaded cap that is removable with a lugged hydrant wrench.
3) Hydrant shall be painted red with a white bonnet and identified per *Figure 2* when static head pressure is less than 20 psi.
4) Hydrant outlet shall be 18 to 24 inches above the finished grade. *See Figure 2*
5) The hydrant outlet shall be located no more than 5 feet from the access road edge. This is to allow the use of a 10-foot long hard suction hose from the engine to the hydrant outlet. A turnout may be required so the access road will be passable when the engine is connected to

the hydrant outlet. See Appendix D103.1, Min. Clearance around a hydrant, in the 2007 California Fire Code.

6) A blue reflective hydrant location marker (dot or paddle per Fire District) shall be provided along the access road.
7) All exposed pipes, elbows, fill line and risers shall be steel and painted with a rust inhibiting paint or galvanized.

E. Piping

1) Size (minimum)
   - 11/2 inch for domestic and fire sprinkler supply.
   - 4 inch pipe from the water tank to the wharf hydrant.
   - 6 inch and above may be used to protect larger structures.
2) PVC may be allowed for horizontal runs when not subject to damage, I.E. vehicle traffic, etc. The pipe shall be a minimum of schedule 40.
   - 2 inch to 4 inch pipe, schedule 40
   - 6 inch and above – C900
3) All exposed pipes, elbows, fill line and risers shall be steel and painted with a rust inhibiting paint or galvanized.
4) The following applies to underground installations:
   - Steel pipe shall be coated and wrapped.
   - Steel pipe joints shall be field coated and wrapped after assembly.
   - After assembly, all metallic parts such as rods, nuts, bolts, washers, clamps, and other restraining devices, except thrust blocks, shall be cleaned and thoroughly coated with bituminous or other acceptable corrosion-retarding material.
5) Where above ground piping passes through an area subject to freezing, it shall be protected by a reliable means to maintain the temperature of the water in the piping between 40° F and 120° F.
6) Depth of cover shall be not less than 2 feet to prevent mechanical damage. Pipe under driveways shall be buried a minimum of 3 feet and under railroad tracks a minimum of 4 feet.
7) Any piping system with a head-pressure of 50 PSI or greater shall be provided with thrust blocks. Basically, any tank located 100' or more above the hydrant outlet will result in 50 psi or greater head-pressure at the hydrant. (0.5 psi per foot of elevation change).
8) A flexible connector shall be installed between the tank and the suction line. A flexible connector shall also be installed between tanks when more than one tank is connected together.

F. Vegetation, Snow and other obstructions shall be kept clear of fire apparatus access.

5. PLANS

A. The size and location of the hydrant outlet, piping and storage tank shall be approved by the Fire District prior to installation.
B. A minimum of two scaled site plans, including plan and profile view, shall be submitted to and approved by the Fire District. The plans shall include:
   - All structures; indicate square footage of each
   - Access roads; indicate width
   - Proposed tank size and location
   - Elevation view of the tank indicating point of connections to the tank relative to the structure to be protected
   - Proposed outlet size and location
   - Type, size and location of piping

- If the hydrant outlet is remote from the tank, the elevations (feet) of the tank and hydrant outlet shall be indicated. Tanks located 100 feet or more above the hydrant outlet will require thrust blocks for the piping.
- If plastic tanks are used, they must be UV rated and the manufactures listing specifications must be provided.

6. INSPECTIONS

A. The following inspections by the Fire District are required:

1) Any below ground piping shall have a visual inspection prior to being covered.
2) Installation shall be inspected prior to filling the tank
3) Final installation shall include testing of the auto-fill

BUILDING SQUARE FOOTAGE	MINIMUM WATER SUPPLY REQUIRED (HOSE STREAM+SPRINKLERS +DOMESTIC) (GALLONS)	RESERVED FOR HOSE (GALLONS)	AUTO FILL LEVEL (GALLONS)*
Up to 2,800	4,250	2,000	3,500
2,800 – 3,500	4,750	2,500	4,000
3,501 – 4,200	5,250	3,000	4,500
4,201 – 4,900	5,750	3,500	5,000
4,901 – 5,600	6,250	4,000	5,500
5,601 – 6,300	6,750	4,500	6,000
6,301 – 7,000	7,250	5,000	6,500
7,001 – 7,700	7,750	5,500	7,000
7,701 – 8,400	8,250	6,000	7,500
8,401 – 9,100	8,750	6,500	8,000
9,101 – 10,000	9,250	7,000	8,500
10,001 – 10,500	9,750	7,500	9,000
10,501 – 11,200	10,250	8,000	9,500
11,201 – 11,900	10,750	8,500	10,000
11,901 – 12,100	11,250	9,000	10,500
12,101 – 12,800	11,750	9,500	11,000
12,801 – 13,500	12,250	10,000	11,500
13,501 – 14,200	12,750	10,500	12,000
14,201 – 14,900	13,250	11,000	12,500
14,901 – 15,600	13,750	11,500	13,000
15,601 – 16,300	14,250	12,000	13,500
16,301 – 17,000	14,750	12,500	14,000
17,001 – 17,700	15,250	13,000	14,500
17,701 – 18,400	15,750	13,500	15,000
18,401 – 19,100	16,250	14,000	15,500
19,101 – 19,800	16,750	14,500	16,000

BUILDING SQUARE FOOTAGE	HOSE STREAM ONLY STRUCTURES WITHOUT SPRINKLERS (Gallons)*	HOSE STREAM ONLY STRUCTURES WITH SPRINKLERS (Gallons)*
Up to 2,800	4,000	2,000
2,801 – 3,500	5,000	2,500
3,501 – 4,200	6,000	3,000
4,201 – 4,900	7,000	3,500
4,901 – 5,600	8,000	4,000
5,601 – 6,300	9,000	4,500
6,301 – 7,000	10,000	5,000
7,001 – 7,700	11,000	5,500
7,701 – 8,400	12,000	6,000
8,401 – 9,100	13,000	6,500
9,101 – 10,000	14,000	7,000
10,001 – 10,500	15,000	7,500
10,501 – 11,200	16,000	8,000
11,201 – 11,900	17,000	8,500
11,901 – 12,100	18,000	9,000
12,101 – 12,800	19,000	9,500
12,801 – 13,500	20,000	10,000
13,501 – 14,200	21,000	10,500
14,201 – 14,900	22,000	11,000
14,901 – 15,600	23,000	11,500
15,601 – 16,300	24,000	12,000
16,301 – 17,000	25,000	12,500
17,001 – 17,700	26,000	13,000
17,701 – 18,400	27,000	13,500
18,401 – 19100	28,000	14,000
19,101 – 19,800	29,000	14,500