	ROFR Section: 3800		TFCA Best Practices:	
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Wildland

I. Purpose

To provide guidelines for wildland firefighting procedures. However, this guideline is not intended to teach all strategy and tactics pertaining to wildland firefighting. It should instead provide the basics needed to operate at a wildland fire response within the City of Red Oak and allow us to safely respond on Automatic and Mutual Aid incidents.

II. Background

Wildland firefighting requires different strategies than that of structural fire suppression. Therefore an understanding of associated terminology is needed before strategies and tactics can be discussed.

III. Definitions

A. **Anchor Point** - An advantageous location, usually a barrier to fire spread. The anchor point is used to minimize the chance of being flanked by the fire while attempting to control it. An anchor point is generally located at roadways, a secured and completely extinguished location near the fire origin, at creeks or river beds, etc.

B. **Backing Fire** - Fire that is moving against the wind or downslope, this fire behavior tends to have a slow rate of spread.

C. **Crown Fire** - Fire that is carried from tree to tree or bush to bush above the ground. Crown fires are sometimes classed as running or dependent to distinguish the degree of independence from the surface fire.

D. **Direct Attack** - Working directly on the burning fireline while mainly operating from the back to extinguish the fire.

E. **Extreme Fire Behavior** - Fire conditions during high wind driven fires such as individual torching of trees.

F. **Fingers** – Long narrow strips extending out from the main fire. These are a result of a mixture of light and heavy fuels, with the fire advancing more rapidly in the light fuel.

G. **Fireline** – The general area of a working wildland fire.

H. **Fuel Load** - The mass of combustible materials available for a fire usually expressed as weight of fuel per unit area (e.g., 20 tons per acre).

I. **Fuel Type** - An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics that will cause a predictable rate of spread or resistance to control under specified weather conditions.

J. **Head** – The leading part of the fire that is usually moving with the wind and does the most damage.

K. **Heel** - The area of the fire where it originated. All references for the flanks, head and fingers should be related to the “heel” of the fire.

L. **Indirect Attack** - Working from a position distant from the fire and using mechanical methods of extinguishment with hand tools or dozers, possibly with the additional use of back firing techniques to create a fire line to control the boundaries of the fire. This method is commonly used after the initial attack period.

M. **Island** – An area within the main body of fire that has not burned.

N. **LCES** - An acronym that stands for Lookout, Communication, Escape routes and Safety zones.

O. **Left Flank** – Somewhat cooler than the right flank and should be contained after the right flank is controlled.

P. **Mop-up** - Extinguishing or removing burning material near control lines, felling snags and trenching logs to prevent rolling after an area has burned to make safe or to reduce residual smoke.

Q. **Origin** – The area where the fire started.

R. **Perimeter** – The outside boundary of the fire. The perimeter is constantly changing throughout the fire.

S. **Pockets** – Indentations in the main fire line formed by fingers or slow burning fuels.

T. **Rear** – The area of the fire backing against the wind.

U. **Red Flag Day** - Days in which the possibility of a brush fire is increased due to an increase in wind speed, decrease in humidity, and elevated temperatures.

V. **Right Flank** – Generally the hottest flank of the fire. The temperature difference is due to the tendency of the wind to blow in a clock-wise fashion in the Northern Hemisphere.

W. **Snag** - A dead standing tree that can be hazardous.

X. **Spot Fire** – The effect of burning materials carried by the wind ahead of the main body of fire.

Z. **Surface Fire** - A fire that is burning the surface fuels such as leaf litter and grass.

AA. **Tanker** - Fixed wing aircraft capable of delivering water or retardant on a fireline.

BB. **Tender** - Apparatus carrying 1000 gallons or more of water as defined by NFPA 1901.

CC. **Wildland Urban Interface (WUI)** - the mix of residential interspersed with wildland fuels that create the situation that requires the use of both wildland firefighting tactics simultaneously with structural firefighting defensive tactics.

IV. Policy

A. The National Incident Management System (NIMS) will be used on any wildland incident.

B. Incident Priorities are consistent with other incidents: Life Safety, Incident Stabilization and Property Conservation.

C. A basic philosophy of fighting a wildland fire “from the black” shall be adhered to as this is one of the safest methods of operation given the nature of direct fire attack.

D. Apparatus not designed for off-road use will not be driven off of any improved roadways.

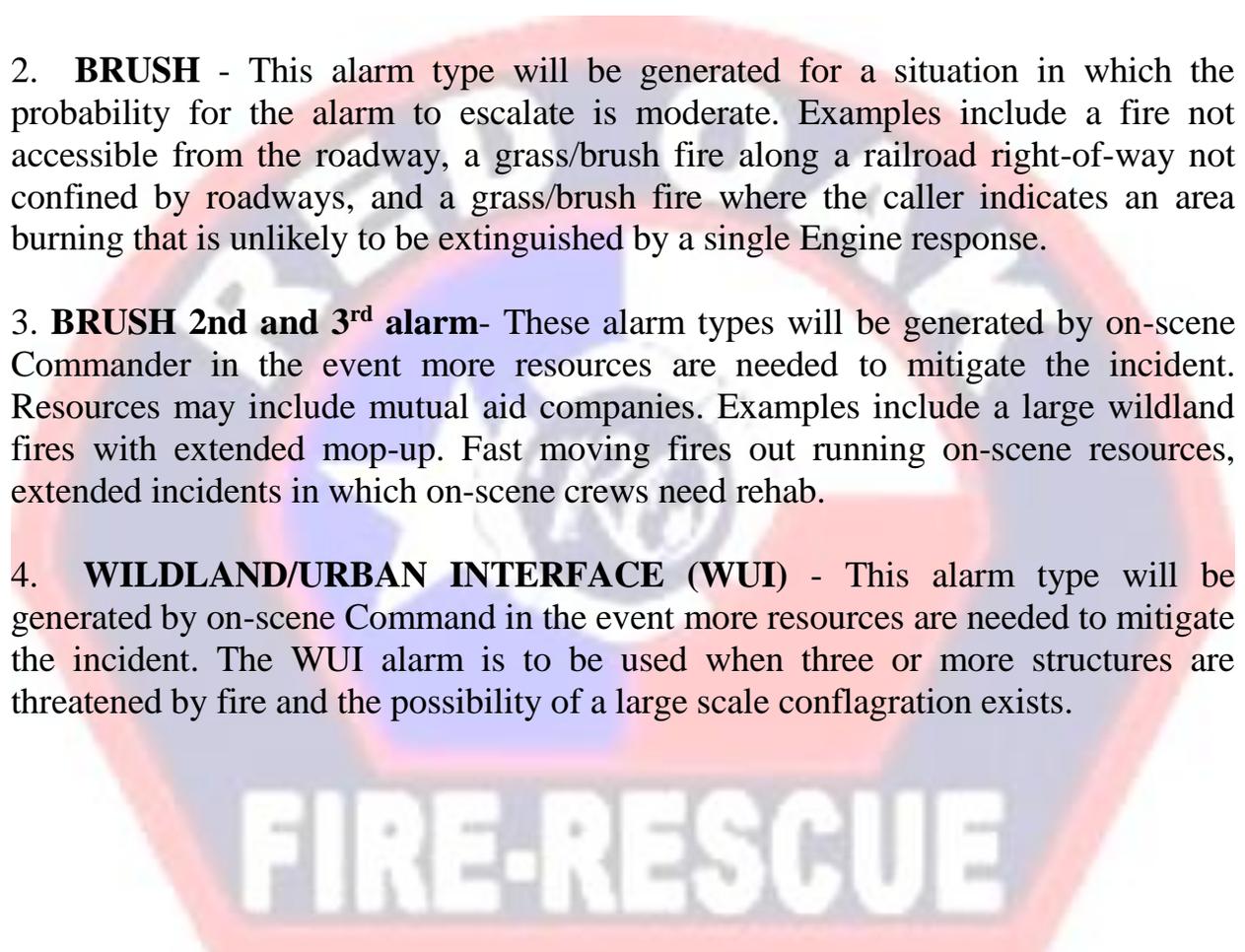
E. Alarm Types:

1. **GRASS** – This alarm type will be generated for a situation in which the probability for the alarm to escalate is low. Examples include a grass fire in the median of a roadway and a grass fire where the caller indicates an extremely small area in short fuels.

2. **BRUSH** - This alarm type will be generated for a situation in which the probability for the alarm to escalate is moderate. Examples include a fire not accessible from the roadway, a grass/brush fire along a railroad right-of-way not confined by roadways, and a grass/brush fire where the caller indicates an area burning that is unlikely to be extinguished by a single Engine response.

3. **BRUSH 2nd and 3rd alarm**- These alarm types will be generated by on-scene Commander in the event more resources are needed to mitigate the incident. Resources may include mutual aid companies. Examples include a large wildland fires with extended mop-up. Fast moving fires out running on-scene resources, extended incidents in which on-scene crews need rehab.

4. **WILDLAND/URBAN INTERFACE (WUI)** - This alarm type will be generated by on-scene Command in the event more resources are needed to mitigate the incident. The WUI alarm is to be used when three or more structures are threatened by fire and the possibility of a large scale conflagration exists.



FIRE-RESCUE

The following guidelines should be followed at Wildland Fire Response except where deviation can be justified by Fire Officers. Any significant deviation should be communicated to responding/on-scene units as soon as possible.

V. Guidelines for Wildland Firefighting

A. The first arriving officer shall assume command and direct the operations of later arriving companies until relieved of command by another officer. Utilization of officers and highly experienced and/or trained members in key incident management positions should be considered.

B. When giving the initial size-up report, Command should:

1. Assume Command
2. Identify the primary fire ground channel (VFIRE21)
3. Identify the approximate size of the fire
4. State the type of fuels that are burning
5. State the estimated rate of spread
6. State what action is being taken by the company.
7. Direct other responding companies' actions (this may include identifying a staging area).

C. Additional size-up information that may be included:

1. Location of the head of the fire
2. Fuel loading (light, medium, or heavy fuels)
3. Pertinent access points
4. Known exposures
5. Request a weather forecast.

D. Orientation at a wildland fire is accomplished by giving directions in relation to the origin of the fire. An easy way to orient yourself on the scene is to imagine yourself standing in the burned area with the wind to your back. Directly in front will be the head of the fire, to the right is the right flank, etc. When communicating with other firefighters the use of these directions will greatly aid Command, lookouts and other responding units.

E. It is vitally important that all personnel, but especially personnel with Command responsibilities, consider all factors contributing to wild fire behavior. The three main influences of this behavior are:

1. **Weather** – High temperatures with drought conditions can lead to

catastrophic fires. Many severe wildland fires also occur during the winter months due to commonly dry conditions, low humidity and high winds. Wind normally has the greatest effect on fire spread. The level of humidity will also affect the moisture in fuels and can have a profound effect at lower levels, especially in finer fuels such as grasses. The time of day has some effect on humidity as it will generally be higher in the morning and drop in the afternoon. Changes in weather conditions can also have a profound effect on fire conditions. Storm fronts can cause erratic and gusting winds. Frontal passages can cause increased winds speeds and abrupt wind direction changes.

2. Fuels

Wildfire intensity is dependent upon:

- Fuel type
- Fuel moisture
- Size and shape
- Fuel loading (Light, medium, and heavy fuel)
- Horizontal continuity
- Vertical arrangement

b. Light fuels such as dry grasses have a tendency to ignite easily and burn quickly.

c. Medium fuels such as tall grasses, brush and small trees can burn with great intensity, depending on species and moisture content, and will burn for a longer period of time. Ashe Juniper (Cedar) under drought conditions can become highly flammable.

d. Heavy fuels such as large stands of mature trees, thickets of bamboo, and thick stands of large brush over eight feet will burn with great intensity and require extensive mop up and overhaul.

e. Some fuels will produce large quantities of embers which can contribute greatly to fire spread ahead of the fire front. Nearby structures are especially susceptible to ignition due to fire brands or embers.

3. Topography - Steep terrain can greatly effect a wildland fire direction and speed.

Fires will burn quickly upslope and slowly down slope. Features like canyons, especially box canyons or narrow canyons, can intensify fires with the radiant heat from each side of the canyon along with the increase in slope. Unburned canyons

should be avoided by fire fighters. Slopes facing the South and West will normally be drier and will burn more readily.

F. Extreme fire behavior should be watched for and precautions taken if found.

Signs of extreme fire behavior include:

1. Rapid rate of spread due to high winds, fuel type changes, and increase in slope
2. Intense burning
3. Spotting, where sparks or embers carried by the wind or slope beyond the main fire
4. Crowning, where the fire is advancing from tree top to tree top independent of the surface fire

If a fire has any of the above listed signs it needs to be communicated over the radio to all unit on the scene.

G. “LCES” is extremely important for ensuring firefighter safety in a wildland fire environment.

1. **L-Lookout:** A trained member(s) in WUI and wildland fire tactics, other than

Command or an operational unit should be assigned to an elevated position(s) (aerial, helicopter or terrain feature). The lookout(s) will be tasked with:

- a. observing fire behavior and recognizing changes in due to weather, fuels or topography
- b. alerting Command of changes in fire behavior or fire conditions
- c. maintaining visual contact of the fire at all times.

2. **C- Communications:** all personnel on the incident should have a radio. The use of the tactical channel(s) and/or face to face should provide adequate coverage in most situations. Should there be a radio failure or “dead spots” in an area, the Lookout can serve as a relay.

3. **E is for Escape Routes:** These are paths of egress from the fire back to a safe zone. These escape routes must be communicated to all personnel on scene. It is the officer’s responsibility and the firefighters’ personal duty to establish or request an escape route depending on their location on the incident. Roads, trails

and the “black” can serve as escape routes. All escape routes shall be flagged with bright green flagging. This will bring consistency with our flagging uses and minimize any confusion when attempting to access escape routes. Caution must be used when following this guideline in other jurisdictions. There are not any national standards on flagging color uses and green could potentially indicate a hazard.

4. S- Safety Zones: Areas of refuge where a large body of fire will not affect personnel or apparatus regardless of flame length or radiant heat. The Engine Boss/Officer is responsible for designating safety zones during incidents with the help of lookouts. Safety zone should provide a separation of four feet for every one foot of flame. If a fire has flame length of 5 feet then a separation distance of 20 feet is required for an adequate safety zone. All personnel on a wildland fire should be aware of escape routes and safety zone location at all times. Roadways may suffice in some instances, but in extreme fire behavior these may not be adequate if they are in the path of the fire. Fire apparatus is not considered a safety zone, but may be utilized in an emergency as a temporary shelter until a fire passes if none other is available.

H. Another acronym commonly used with incident objectives for structural firefighting, RECEO, is also applicable to wildland fires.

- 1. R- Rescue:** Anyone who may be adversely affected by a wildland fire should be informed of the situation as early in the incident as possible. The determination to evacuate should be made cautiously, but as early in the incident as possible. Occupants should be told to prepare to evacuate, if necessary. The evacuation may be performed by fire or police resources. During evacuations, safe exit routes and evacuations centers should be established. A Community Services Group should be assigned if persons will need to be relocated.
- 2. E is for Exposures:** During size up of a wildland fire, note any properties that may be threatened. Every attempt should be made to prevent the fire from reaching areas where structures may be threatened. Structural fire units should be positioned to protect any structures which may be exposed. If more than three structures will be threatened a WUI alarm should be requested.
- 3. C is for Confinement:** Every attempt should be made to control the fastest moving part of the fire, the head. This is usually done by working up the flank, often the right flank, from a secure anchor point to the head of the fire.

The whole fire should be confined in this manner while controlling the perimeter line, which will be the most active part of the fire. To assist in confinement, it can often be helpful to utilize natural and manmade barriers to fire spread. Some examples of natural “fire breaks” may be stream beds, lakes, rocky outcroppings, etc. Man- made barriers include roadways, parking lots, etc.

4. **E is for Extinguishment:** Depending on the fuel type and fuel condition, in addition to factors such as weather, the perimeter fire may reignite several times and may require constant attention to ensure it is under control. Extinguishment of the interior areas of the fire can take place once the perimeter is under control.

Note that class “A” foam can be very useful in all phases of wildland fire fighting, but especially when extinguishing deep seated fires in all fuel types.

4. **O- Overhaul:** This is commonly termed “mop-up” or “spotting-out” on a wildland fire. On smaller fires of less than five acres, this will usually require that the whole area be completely extinguished. On larger fires this may not be practical or necessary. Depending on expected wind conditions it may only be necessary to ensure that the fire is “cold” within 100 feet of the perimeter. If winds are expected to be over 10 mph in the next 24 hours a wider area should be completely extinguished on the downwind side of the fire area. Heavier smoldering fuels can be dragged inside the perimeter to prevent a rekindle and to conserve water.

I. When beginning an attack on a wildland fire, an anchor point should be established. This is considered a road, terrain feature or waterway that would prevent the fire from wrapping back around on working crews. Wind, fuel loading and type and topography should be considered in selection of an anchor point as these conditions will strongly influence method of attack and strength of the anchor point. While working from this anchor point and performing a direct attack which involves working the flank or flanks of the fire, crews will strive to work from the back as much as possible. A direct attack on the head fire should only be undertaken when adequate resources have been assembled and there is a significant risk/benefit analysis that indicates that direct attack on the head is advised.

J. While working with Brush Trucks, an effort should be made by Command to work the Brush Trucks in tandem so as to maximize their suppressive efforts.

K. Specialized tools are often used to assist in control of a wildland fire. The Austin Fire Department has some of these tools, others may be found on apparatus from assisting agencies.

1. Pulaski - Tool with an axe on one side and an adz on the other. It can be useful for cutting small trees or for digging to remove grass to mineral soil or uncover smoldering roots, etc.
2. McCloud – A type of rake with large triangular teeth which is useful for pulling duff, leaves, etc. from around trees or other combustibles to allow for complete extinguishment.
3. Pump Vest – Carries approximately five gallons of water to extinguish small fires and to assist in “mop-up”.
4. Fire Swatter – Used for smothering the fire by dragging across the fire. Often used at the perimeter for smaller volume grass fires. It is not used for “swatting” the fire.

L. All personnel involved in fighting a wildland fire will wear appropriate protective equipment.

M. If three or more structures are in danger of fire exposure, a Wildland Urban Interface (WUI) Alarm should be requested.

N. Any request made by ROFR for Wildland Mutual Aid from an outside agency should be specific as to the number and type of units needed (ex. Two Brush Trucks and one Tender).

O. The use of aerial ladders and platforms as highpoints for lookouts is strongly encouraged. A firefighter experienced in wildland tactics or a trained lookout should be used as a lookout. At larger incidents, it may be advantageous to request the use of a helicopter for aerial observation. Command should consider having an representative trained in wildland and WUI tactics aboard the helicopter. Personnel in the helicopter should relay information concerning the need for rescue, exposure protection, fire behavior, overall conditions of the incident so as to maximize resources on the fireground. Also relayed should be information about terrain problems or natural fire breaks such as large bodies of water or hard surface roads that would be pertinent to the control and extinguishment of the fire.

P. Command should evaluate early the possible need for helo support. Army Reserve Black Hawks and other state resources are capable of carrying a limited water supply to perform aerial drops. The use of rotary winged aircraft for this type of operation should be weighed against the risks to pilot, crew and ground forces. The use of larger aircraft, such as Black Hawks, should be considered in the use of

individual resource protection as well as direct attack on a flame front, but care should be taken so as not to split the head of the fire. All firefighters need to be fully aware that operating in the vicinity of water drops from aircraft is extremely hazardous.

Q. Another specialized resource that may be requested is a firefighting dozer, often operated by the Texas Forest Service (TFS). The dozer crew is made up of a Dozer Operator and a Dozer Boss. Similar equipment may also be available through the city or local contractors. However, the use of untrained persons in firefighting operations could be extremely dangerous. If used, they should be in constant contact with fire personnel. Assigning someone to work with each piece of equipment is strongly suggested. Firefighters assigned to a TFS dozer crew should make contact with the Dozer Boss and maintain radio contact with the division supervisor at all times.

Wildland Urban Interface “WUI BOX” Response

ALARMS	CHIEF OFFICER	TYPE I ENGINES (CLASS A PUMPER)	TYPE VI ENGINE (BRUSH UNITS)	MEDIC	WATER TENDER	AIR RECON	ELLIS Co EMERG MGMT
1 ST ALARM	2	4	3	1	1	Standby Air Evac	
2 ND ALARM	2	4	3	1	1	Launch Air Evac	Notify 972-937-6060 Dispatch and 972-921-8065 Joe Stewart
3 RD ALARM	2	4	3	1	1		

Our Thoughts

*For a WUI Box to be called a minimum of 3 structures shall be threatened. Therefore we believe a minimum of 3 type I engines should be requested for each alarm.

*Type I engines can be placed within the incident as either a Structure Protection Group and spread throughout the incident, placed in Divisions, or operate as a combined or individual Task Force.

*The need for additional alarm is dependent on the number of homes threatened, spacing (policy states homes with a separation of less than 50 feet 1 engine can cover 2 homes) and any other local factors.

VI. Guidelines for Wildland Urban Interface

A. Several important factors need to be included in a WUI size up. These include wildland fire behavior, the composition and condition of the structure itself, and the area surrounding the structure (defensible space).

1. Items to be considered in evaluating the structure.

- a. The roof is the most vulnerable to fire spread. Wood shingles are the most likely to ignite. Also note whether metal and tile roofs are sealed at the eaves and ridge as this is a location for the possible entry of embers into the attic.
- b. Siding may be combustible.
- c. Overhanging decks, open gables and eaves can trap heat and ignite.
- d. Openings where fire brands may enter should be located. Some of these could include gable vents, crawl spaces, under decks.
- e. The number and size of windows on the exposed side of building can make protection more difficult. Leave window screens attached.
- f. The size of the structure should be evaluated and the number of resources needed to protect should be determined.
- g. The position of the structure on a slope, whether mid-slope, or at the top of a ridge can have an effect on the intensity of the exposure to fire.

3. The defensible space around the structure should also be analyzed, noting the general rule of thumb is 30' from the structure to flammable brush and trees. This area can be used for companies to operate while protecting the structure. Some work may be done to reduce the exposure hazard.

B. Apparatus Positioning

1. Apparatus should remain to the fire side of the road to allow other apparatus and evacuees to pass. Hose lines should be placed on the fire side of apparatus when possible.
2. Apparatus placement tips:
 - a. For dead end streets, position heading out
 - b. Position apparatus to face toward designated escape routes
 - c. Avoid parking under power lines
 - d. Avoid parking near flammable trees or shrubs
 - e. Leave apparatus doors and windows closed.

C. Safety

1. Establish lookouts to maintain current information on the fire location and intensity. This may involve posting personnel in positions with view of the fire from the ground or an aerial apparatus may be used if it can be done without causing a blockage of access/evacuation routes. A constant visual on the fire observing current conditions and recognizing changes in fire behavior should be maintained. Changing weather conditions should also be noted. It is best if each group has at least one person acting as a lookout, but at a minimum the leader of each group should be in constant contact with someone who can maintain a full awareness of fire and weather conditions.
2. Safety zones should be determined in case apparatus need to pull back or for use by residents during evacuation. Ensure that there is room for fire apparatus and the estimated number of evacuating residents. In most cases moving apparatus one or two blocks back from the fire area should suffice as long as the area would not be subjected to heavy smoke or embers. Safety zones should be no more than two minutes travel time. They should not subject escaping apparatus or residents to heavy fire conditions. Location of power lines should be considered when establishing safety zones.
3. Additional WUI safety “watch outs”:
 - a. Narrow one way roads
 - b. Only one way in or out of the area
 - c. Bridge load limits
 - d. Wooden construction and wood shake roofs

- e. Inadequate water supplies
- f. Natural fuels 30' or closer to a structure
- g. Chimneys, box canyons, narrow canyons and steep slopes
- h. Extreme fire behavior
- i. Strong winds
- j. Evacuation of the public (panic).

D. Structure Protection

1. Position pumping apparatus at threatened structures. Generally, for structures less than 50 feet apart one apparatus may cover two structures. For buildings spaced farther apart, one apparatus will be needed to cover each structure. For large structure (larger than 5,000 square feet) two apparatus may be required to provide protection.
2. Use 1 3/4" hose to access the rear of structures. Deploy lines to cover all areas of the structure that could be exposed to fire.
3. Clear a defensible space around threatened structures. Remove leaves and litter from exposed areas under decks and crawl spaces and in gutters.
4. Use discretion in cutting landscape trees and shrubs. Trimming lower branches to prevent fire spread to the canopy can be helpful if in close proximity to the structure. Place cleared vegetation where it will not add to the fuel load and outside the defensible space.
5. Other material such as wood piles, furniture, fuel containers, awnings and swing sets should be moved away from close proximity to the structure. Homeowner property such as wheel barrows and dollies could be useful in moving some of these items. Do not overlook highly combustible items such as doormats.

6. Combustible fencing should be removed for at least eight feet where it connects to the house. If there are gates they should be left open to leave a break in the fence. If these actions are not taken, the fence may act as a “fuse” to the structure.
7. Ladder structures as necessary to access roofs for inspection and to provide protection after fire passage. A line should also be stretched which can be used on the roof, if necessary.
8. Use class A foam to coat structures, plants, and shrubs within the defensible space, but no more than 15 minutes before the expected arrival of the fire front. If left any longer it will probably not be effective.
9. Shut off gas supply. Consider leaving electricity on unless the structure becomes involved in fire.
10. On the interior of the structure, ensure all windows are closed. Light, combustible window coverings should be removed. Close interior doors. Turn off fans and HVAC.
11. Mobility can become of prime importance when structures are threatened by fire. The fire direction may change and apparatus may need to be repositioned quickly to protect structures in a different area.
12. If it appears that structures will become involved in fire, an additional WUI alarm should be requested and apparatus staged until needed. If the companies are brought to the scene for a structure fire they should be assigned to a group and given another fireground channel. Apparatus positioning for a structure fire should still attempt to ensure that roadways are not blocked.

E. Water Supply

1. Determine water supply locations and position at least one pumping apparatus at a hydrant if it can be done without blocking access/escape routes.
2. When possible, stretch a 3” supply line from a hydrant without blocking roadways. This can be accomplished by deploying the supply hose in the yard of the threatened structures. If needed, additional pumping apparatus may be

linked with 3” supply hose from one apparatus to the next. Keep booster tanks full when possible.

3. If there are no hydrants available:

A. a static water supply may be utilized if floating pumps or hard suction hose requested

B. water tenders may be requested

C. rotary wing aircraft may also be requested.

F. Evacuation

1. Determine evacuation routes for occupants and escape routes for fire apparatus.

2. A “census” of all occupants should be made, noting any physical disabilities and ages. Occupants should be informed that they should prepare to leave and gather all necessary property. Note occupants who are willing and able to assist in the protection of their home.

3. Ensure that a Community Services Group is established if evacuation is being considered.

4. When conducting the evacuation, ensure that structures are left unlocked for fire department access. Security should be maintained, enlisting the help of law enforcement when possible.

5. If it is determined that occupants should evacuate the following items should be considered:

a. Designated escape routes should be located and cleared. Marking of these routes may be necessary under heavy smoke conditions with the use of traffic cones or apparatus placement.

b. Use law enforcement to assist with evacuation and traffic control.

c. Evacuation transportation and shelters may be necessary for larger incidents. Consider using school buses for transportation and schools and churches for shelters, per EMP.

d. Persons who are ambulatory may need to walk to an evacuation

location for mass transit pick up if escape routes are blocked to vehicular traffic.

G. Structure Triage

1. If conditions have deteriorated rapidly and resources are limited, there may become a need to triage structures. Determine whether the structure is defensible, defensible with some improvements, or non-defensible. The designation of a non-defensible structure should be approved by the Division Supervisor. Out buildings should not require extensive work to protect if that attention may make other structures vulnerable. The key here, as with other prioritizing decisions is to “risk a lot to save a lot, but only risk a little to save a little”. If firefighter safety will be jeopardized and there is no threat to human life then “the cost would not justify the means”.

a. **Defensible** – structures that due to type of construction and/or additional distance between the structure and combustible vegetation may need little or no protection, or may be a structure which would only require hand line placement with some fire control. In all cases structure condition should be monitored as long as the structure is exposed.

b. **Defensible with some improvements** – structures that may require some work to remove combustible material in the yard, on porches, or under decks. Some openings subjected to fire brands may need to be blocked.

c. **Non-defensible** – structures that may not be defensible due to problems with access, inability for improvements or impending fire involvement. This type of structure should be assessed immediately after the wildland fire intensity abates.

H. Flying Sparks and Brands

1. A large wildland fire will produce flying sparks and brands. The same conditions which contribute to fire spread in wildland areas can also move fires into structures. Fire brands are one of the leading factors in structure loss during a wildland fire event.

2. Sparks and embers can enter through very small openings in roof

assemblies including gable vents and under eaves and ridges, especially on metal or tile roofs which are not sealed in these areas.

3. Spaces under porches and decks should also be evaluated. Embers may also ignite material such as leaves and other material in gutters and next to structures.

4. Other combustible items such as door mats can also be dangerous in close proximity to wood exterior assemblies.

5. Assigning a “Downwind Exposure Group” should be deemed a necessity at most large wildland fires.

6. Areas within close proximity to the fire and fire brands should be patrolled by personnel on foot if at all possible, with special attention paid to windward facing sides of structures.

