

	TRAVIS COUNTY ESD #5 MANCHACA FIRE RESCUE	<h1>A402</h1>
	Department Best Practices	
Authorized by:  Fire Chief Chris Barron		Effective: 1/26/2018
<h2>WUI Firefighting Operations</h2>		Rescinds:
		Reference: AFD A402.2
		Application: Shift Personnel

I. Purpose

To provide a description of operational procedures to be used when structures are threatened by an approaching wildland fire. A Wildland/Urban Interface (WUI) Task Force will be used for instances when structures are threatened by a wildfire. A WUI Task Force will be called by on-scene resources and not used as an initial response.

II. Background

Central Texas saw many wildfires destroy thousands of homes in 2011. Lessons learned from the 2011 fire season demonstrated that neighborhoods on all sides of the county may be exposed to the dangers of wildfire during certain conditions. Conventional structural firefighting procedures as well as wildland firefighting procedures do not address large-scale fires of these types. Our auto-aid partner, The Austin Fire Department, has adopted the Cohesive National Strategy for wildland fire management. This strategy includes public education promoting hardened homes through Fire-Adapted Communities and Firewise programs. It also involves fuels management programs that provide a balanced and ecologically sound vegetation reduction program. Finally, the strategy includes improved response protocols. This best practices document takes all three components of the strategy into consideration to reduce the threat of devastating wildfires on our county.

It was noted from the 2011 wildfires that an organized response to WUI incidents was critical. Also noted was that a WUI response would need to operate as a component of an overall incident rather than a separate incident. While a WUI Task Force may not have time to assemble and brief prior to responding to a threatened area, it is preferred for accountability reasons.

This document is a direct adaptation of the Austin Fire Department SOG on WUI Firefighting Operations. It has been adopted by Manchaca Fire Rescue as an Auto Aid partner to maximize standardization between partner agencies. Variations and additions to the language from the parent AFD document will be signified by text in italics. Generic changes that do not affect content such as formatting and changing “AFD” to “MFR” will not be noted.

III. Policy

- A. **Requesting the WUI Task Force.** A WUI Task Force should be requested by on-scene Command in the event resources are needed to protect structures from a wildfire. When requesting a WUI Task Force, Command must also provide Dispatch with a location for the WUI Task Force to respond and indicate if additional radio channels are needed. A WUI Task Force shall consist of the resources listed in MFR Policy G101 Alarm Types, Resources and Response Plans.

- B. **Assignment to a WUI Task Force.** When dispatched to a wildfire incident, companies should check the incident call text on the MDC for a possible WUI Task Force assignment and related information such as a response location, Task Force Leader and assigned radio channel. Companies will operate according to the WUI guidelines and should consider wearing approved wildland PPE. Companies assigned as a WUI Task Force will normally operate in the defensive mode. An offensive attack of a structure should only be considered after structural triage of all threatened exposures has been completed and a risk-benefit analysis has been performed. Follow MFR Best Practices A101 Fireground Operations when changing to the offensive mode at a structure fire.

IV. Best Practices

The following best practices should be followed at all firefighting and emergency scene operations, except where deviation can be justified by Fire Officers. Any significant deviation should be communicated to responding/on-scene units as soon as possible.

- A. **Dispatched destination.** A WUI Task Force may be assigned to respond to a location in which structures are threatened, or to a rally point, depending on the situation and resource need.
 - 1. **Direct to incident.** For local response and during initial attack, the WUI Task Force may be needed for immediate structure protection. In this case, the Task Force will respond directly to the assigned location to begin immediate defensive measures. The Task Force Leader will also respond to the assigned location, account for, and lead the Task Force. The Task Force will operate together under the direction of the Task Force Leader at all times.
 - a. **Placement in ICS.** When a WUI Task Force is initiated, it may be treated as a Branch, Division or Group depending on the potential for expansion. In the event that the WUI Task Force Leader becomes the Branch Director or Division/Group Supervisor, the Task Force Leader position must be filled.
 - 2. **Rally point.** For out of area responses, the WUI Task Force may be assembled at a rally point. All Task Force units will assemble and await the arrival of the Task Force Leader. They will then respond as a unit to the incident. The WUI Task Force Leader is to maintain accountability of all units and personnel assigned to the Task Force. Company officers within the Task Force will report to the Task Force Leader and maintain accountability for all crewmembers. The Task Force will operate as a team throughout the incident until demobilization.

- B. **Risk-benefit.** A risk-benefit analysis must be continually performed during a WUI event. The MFR rule of thumb for risk-benefit analysis is characterized by the following:
1. We will risk a lot, within a structured plan, to save a savable life.
 2. We will risk a little, within a structured plan, to save savable property.
 3. We will risk nothing to save nothing (lives or property that cannot be saved).
- C. **RECEO.** The objectives of RECEO (Rescue, Exposures, Confinement, Extinguishment, Overhaul) should be considered. If extreme fire behavior or a large fire front is evident and quickly approaching structures, rescue and/or evacuation may be the only tactic(s) available.
- D. **Safety principles.** The following safety principles should be adhered to.
1. **LCES.** LCES will be considered at all times.
 2. **WUI watch outs.** Additional WUI safety “watch outs” should also be considered:
 - 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 within thirty feet of a structure
 - g. Structures in chimneys, box canyons, narrow canyons and steep slopes
 - h. Extreme fire behavior
 - i. Strong winds
 - j. Evacuation of the public (panic)
- E. **Size-up.** 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. **The fire.** Consider fire behavior, size and intensity.
 2. **The structure.** Items to be considered in evaluating the structure:
 - a. **Roof.** 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.** Siding may be combustible.
 - c. **Ember traps.** Overhanging decks, open gables and eaves can trap heat and embers, causing ignition.
 - d. **Access to fire brands.** Openings where fire brands may enter should be located. Some of these would include gable vents, crawl spaces and under decks.
 - e. **Windows.** The number and size of windows on the exposed side of the building can make protection more difficult. The size of the structure(s) should be evaluated and the resources needed for protection should be determined.
 - f. **Position on slope.** 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. **Defensible space.** The defensible space around the structure should also be analyzed, noting the general rule of thumb is 30 feet from the structure to flammable brush and trees. This area can be used for companies to operate in while protecting the structure. Some work may be done to reduce the exposure hazard if time allows. Proper pre-treatment and removal of yard accumulation, wooden fences, and patio furniture has been noted to save many homes in the WUI.

F. **Structure Triage.**

1. **Levels of structure triage.** If conditions have deteriorated rapidly and resources are limited, there may become a need to triage structures. The following four triage levels are listed in the Incident Response Pocket Guide (IRPG):
 - a. **Defensible – Stand-alone.**
 - 1) **Determining factor:** Safety zone present.
 - 2) **Size-up:** Structure has very few tactical challenges.
 - 3) **Tactics:** Firefighters may not need to be directly assigned to protect the structure as it is not likely to ignite during initial fire front contact. However, no structure in the path of a wildfire is completely without need of protection. Patrol following the passage of the fire front will be needed to protect the structure.
 - b. **Defensible – Prep and Hold.**
 - 1) **Determining factor:** Safety zone present.
 - 2) **Size-up:** Structure has some tactical challenges.

- 3) **Tactics:** Firefighters needed on-site to implement structure protection tactics during fire front contact.

c. **Non-Defensible – Prep and Leave.**

- 1) **Determining factor:** No safety zone present.
- 2) **Size-up:** Structure has some tactical challenges.
- 3) **Tactics:** Firefighters not able to commit to stay and protect structure. If time allows, rapid mitigation measures may be performed. Set trigger point for safe retreat. Remember, pre-incident preparation is the responsibility of the homeowner. Patrol following the passage of the fire front will be needed to protect the structure.

d. **Non-Defensible – Rescue Drive-by.**

- 1) **Determining factor:** No safety zone present.
- 2) **Size-up:** Structure has significant tactical challenges.
- 3) **Tactics:** Firefighters not able to commit to stay and protect structure. If time allows, ensure people are not present in the threatened structure (especially children, elderly, and invalid). Set trigger point for safe retreat. Patrol following the passage of the fire front will be needed to protect the structure.

G. **Apparatus Positioning.**

1. **Road positioning.** 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

H. **Structure Protection.**

1. **Apparatus per structure.** Position pumping apparatus at threatened structures. The number of structures a single engine company can defend will vary depending on the size of the structures, the intensity of the fire, and the rate of spread of the fire.

2. **Ember hazard.** The majority of structures that become involved during a WUI fire are the result of embers igniting roofs and decks as well as entering gable and soffit vents. It is important to continually observe and patrol for hidden fires due to ember penetration into the structure, under decks, and in any area where the embers may accumulate.
3. **Hoseline deployment.** When deploying hoselines, consider using 1½" wildland hose to access the rear of structures. Wildland hose can be picked up quickly or cut with a pocket knife if escape is necessary. Consider larger hoselines or deck guns when larger fires are approaching. If the fire has shifted to house-to-house combustion through auto exposure, consider large flow hoselines and master streams to stop the progression of the conflagration.
4. **Defensible space.** Clear a defensible space around threatened structures, if time permits. Remove leaves and litter from exposed areas under decks and crawl spaces and in gutters.
 - a. **Limb up trees.** 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.
 - b. **Moving exterior combustibles.** 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 wheelbarrows and dollies could be useful in moving some of these items. Do not overlook highly combustible items such as doormats.
 - c. **Combustible fences.** 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.
 - d. **Laddering.** Ladder structures as necessary to access roofs for inspection and to provide protection after fire passage. A hoseline should also be stretched which can be used on the roof, if necessary.
 - e. **Class A foam.** Consider using class A foam, gels, or retardants to coat structures, plants, and shrubs within the defensible space.
 - f. **Gas.** Shut off gas supply for structures equipped with LPG tanks.
 - g. **Electricity.** Consider leaving electricity on unless the structure becomes involved in fire.
 - h. **Windows.** Ensure all windows are closed and leave window screens attached. Light, combustible window coverings should be removed. Close interior doors. Turn off fans and HVAC.

5. **Patrol.** Once the fire passes, patrols must be scheduled. Many homes lost to WUI fires have ignited hours after the flame front has passed.

I. **Water Supply.**

1. **Location.** Determine water supply locations and position at least one pumping apparatus at hydrant if it can be done without blocking access/escape routes.
2. **Supply placement.** When possible, stretch a 3" supply line from a hydrant without blocking roadways. Keep booster tanks full when possible since water supplies can quickly become overwhelmed.

J. **Evacuation.**

1. **Law enforcement.** Law enforcement will have the primary responsibility of evacuation. If arrival is prior to law enforcement and there is a need for evacuation, request law enforcement response through Fire Dispatch.

K. **Other Considerations.**

1. **Rotary wing aircraft.** Rotary wing aircraft are effective in the WUI for precise water delivery with a quick turnaround (follow procedures outlines in the IRPG blue section).
2. **Air tankers.** Air Tankers are able to place retardant adjacent to homes to delay the spread of the wildfire (follow procedures outlines in the IRPG blue section).
3. **Dozers.** Firefighting bulldozers can be used to create firelines behind structures if time permits.