Village of Timbercreek Canyon

Wildfire Risk Assessment

August 2020

NFPA FIREWISE USA™
Residents reducing wildfire risks

TEXAS A&M FOREST SERVICE

Introduction

The Firewise, USA® Program is designed to provide an effective management approach for preserving wildland living aesthetics in areas of Wildland Urban Interface (WUI). This program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following community assessment is intended as a resource to be used by the Village of Timbercreek Canyon residents for the ongoing implementation of their wildfire risk reduction action plan. The plan developed from the information in this assessment should be implemented in a collaborative manner, and should be updated and modified every 5 years.

This assessment was conducted by Wildland Urban Interface Specialist James DeGrazia of the Texas A&M Forest Service on August 27th, 2020.

Definition of the Home Ignition Zone

The Village of Timbercreek Canyon is located in a wildfire environment. Wildfires will happen—the only variables are when and where they will occur. This assessment addresses the wildfire-related characteristics of the Village of Timbercreek Canyon. It examines the area's exposure to wildfire as it relates to ignition potential. This assessment does not focus on specific homes, but examines the community as a whole.

A house burns because of its interrelationship with its immediate surroundings. To avoid a home ignition, a homeowner must prepare their home to withstand ember attacks and minimize the likelihood of flames or surface fire touching the home or any attachments. The home ignition zone (HIZ) determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings up to 100 to 200 feet from the home's foundation. Diverting a fire's path through modification of the HIZ is a simple task that can result in avoiding home loss. To accomplish this, flammable items must be modified or removed from the area immediately around the structure to prevent flames from contacting it. Reducing the volume of live vegetation and ladder fuels will affect the intensity of the wildfire as it enters the home ignition zone.

Included in this assessment are observations made while visiting The Village of Timbercreek Canyon. The field assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and the steps the community has taken to be a more fire resistant landscape having been a Firewise USA® Community for 5 years.

The Village of Timbercreek Canyon residents have already taken many actions to create defensible space around their homes. All residents are currently in the process of clearing land of hazardous fuels or trimmed juniper and misket trees up to approximately 5 feet in an effort to reduce ladder fuels effect. Residents can continue to reduce their risk of destruction during a wildfire by maintaining defensible space and educating new residents on fire resistant landscaping practices.

The result of the assessment is that any future wildfire behavior will be dominated by the residential characteristics of this area—primarily that of the surrounding property. The good news is that residents will be able to substantially reduce their exposure to loss by maintaining the defensible space around structures, especially the space 30-70 feet from homes and buildings. Relatively small investments of time and effort will reap great rewards in wildfire safety.

Characteristics of a Severe Case Wildland Fire that Threatens the Area

Fire intensity and spread rate depend on the fuel type (natural and manmade) and condition (live/dead), the weather conditions prior and during ignition, and the topography. Generally the following relationships hold between the fire behavior and the fuel, weather, and topography:

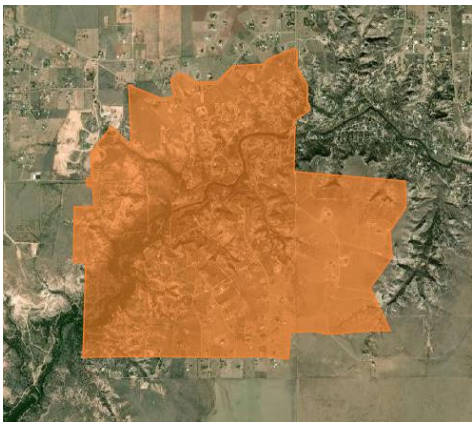
- Fine fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels.
- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. As relative humidity decreases and the sun exposure increases, fuel moisture content decreases. Lower fuel moistures produce higher spread rates and fire intensities.
- Wind speed significantly influences the rate of fire spread and fire intensity. As wind speed increases, spread rate and fire intensity increase.
- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity.

Homes in The Village of Timbercreek Canyon are spread out and not located within close proximity to one another, therefore the probability of structure- to-structure ignition if a wildfire were to occur is low in most areas. The majority of homes are more than 30 feet from natural vegetation and defensible space between 30-70 feet from homes has been or residences are in the process creating, which makes them less susceptible to ignition by direct flame

contact and radiant heat.

Embers are another characteristic of a wildfire that are not often considered by homeowners. Embers are small burning pieces of vegetation or wood that are carried by the wind ahead of a wildfire. An ember shower can be carried over a mile away from a wildfire and creates spot fires, which ignite vegetation on the roof, gutters, and garden beds. Ember showers lead to structure loss even if the wildfire is not within the boundaries of the neighborhood. Wildfire researchers know that embers are the leading cause of home loss in a wildfire due to post fire assessments. Based on the assessment in The Village of Timbercreek Canyon, most residents should continue to harden their homes from ember transplant.

Site Description



The Village of Timbercreek Canyon is a rural, gated, private access community located in Randall County off Timbercreek Dr. The community is adjacent to The Village of the Palisades community. Slopes range from 1–30% in the community with steeper slopes (20-30%) prevalent. Homes exist on the hilltops of this area. The steepest slopes (50–75%) are found near the community's boundary.

Evergreen woodlands (live oak/juniper), misket with the presence of fine fuels (herbaceous vegetation) are dominant in The Village of Timbercreek Canyon.

The Village of Timbercreek Canyon currently has approximately 185 homes spread over approximately 1196 acres. Lots vary in acreage size. Most homes are constructed with brick, stone, or stucco materials on concrete foundations. Some older houses made of wooden construction materials still exist in the community and are the focus of attention. Manicured yards consisting of hardwood, shrubs, and landscape modifications are present with some metal fencing to separate backyards from wildland areas. There is more than one main ingress and egress for all residents within the Village of Timbercreek Canyon.

The community maintains working relationships with nearby emergency services. Resources from Randall County, Timbercreek Canyon Fire Department and Palisades Fire Department share response in this area.

Assessment Process

During the field assessment, observations were made about the general fire-resistant characteristics of home ignition zones in the neighborhood. Common landscaping practices, plants species, construction materials, road widths and topography were all taken into consideration. Photos were taken to provide examples of certain characteristics.

Important Considerations

The Firewise USA® program acknowledges that there are many reasons and values that lead a person to live in the WUI and that there may be a desire for certain flammable components to exist on their property. It is important for residents to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones during a wildfire.

Observations & Recommendations

Initial observations when assessing the home ignition risk in the Village of Timbercreek Canyon were the noticeable slopes that are characteristic of local canyon topography, as well as the prevalence of dense oak, juniper and misket trees throughout the surrounding landscape.

During a wildfire, fire can burn more quickly up a steep slope. Additionally, burning vegetation or embers from hazardous fuels can potentially ignite homes. Among the homes observed, at least 30 feet of defensible space has been created in most areas. Continued push for increased defensible space should be a continued focus. In the instance that trees remained near homes, they should be adequately spaced so that they don't pose an immediate threat to the homes themselves from a potential crown fire. Trees and shrubs should be removed or pruned so that there is separation between a home's property line and greenbelt areas in the community. This vegetation should either be removed from growing directly or be "limbed up". "Limbing up" involves pruning branches close to the ground. This will help prevent a fire occurring on the ground surface from igniting the shrub. Ladder fuels should be removed to prevent ignition of taller trees and shrubs. Ladder fuels are fuels that can carry ground fires to taller vegetation; an ex- ample is a shrub growing under the canopy of a larger tree. Removing ladder fuels and "limbing up" break up the vertical continuity of fuels, which keep fires on the ground instead of in tree/shrub canopies. It is also important to break up the horizontal

continuity of fuels.

A few homes observed had numerous shrubs and plants throughout yards and near homes. Any dead vegetation under the plants should be removed regularly, as this acts as path for fire. Regular watering of foundation plants in landscaping beds will make them more resistant to ignition from an ember shower.

Photos detail site recommendations from more (Figure 1 and 2) to less (Figure 3) attention needed in defensible space.

The overall landscaping in the Village of Timbercreek Canyon helps to reduce the wildfire risk. Residents are currently taking measures to maintain defensible space within the HIZ and should continue their mitigation and prevention efforts.

There are not many wooden structures within the Village of Timbercreek Canyon. Some homes did have wooden porches which, when flammable material gathers underneath, may provide a heat source which would threaten the home. Replacing/modifying these with fire-resistant materials or providing a barrier between the home and these attachments (such as metal flashing) is recommended. Vents, undersides of decks, and other openings should be screened with 1/8" metal screens to prevent embers from entering homes. If modifications cannot be made to structures, simply cleaning leaf litter from underneath porches can lower the risk of ignition should a fire or embers be present.

Successful Firewise Modifications

When adequately prepared, a house can likely withstand a wildfire without the intervention of firefighters. Further, a house and its surrounding community can be both ignition-resistant and compatible with the area's ecosystem. The Firewise USA® program is designed to enable communities to achieve a high level of protection against WUI fire loss even as a sustainable ecosystem balance is maintained. A homeowner/community must focus attention on the HIZ and eliminate the fire's potential relationship with the house.

This can be accomplished by disconnecting the house from high- and/or low-intensity fire that could occur around it. Combining fire-resistant construction with fire-resistant landscaping will increase a home/community's probability of surviving a wildfire. Solutions to "harden a home" from a wildfire include:

- Using noncombustible roofing, siding, fencing, and decking materials.
- Installing metal screens over vents and underneath decks.
- Installing double-paned or tempered glass windows with metal frames.
- Boxing in eaves with non-combustible material.
- Installing metal gutters and gutter guards.

Twice a year Timbercreek Canyon holds neighborhood brush removal/trimming efforts. Timbercreek Canyon designates a central drop off location for residents to bring brush and limbs. Open top dumpsters are provided for the waste to be mulched into for removal. Labor to clean up the site after the chipping is done to ensure residual debris is mitigated. Timbercreek Canyon also arranges for volunteers to cut back overgrowth along the roads and to assist residents needing help with managing defensible space. In the past, Timbercreek Canyon has rented a chipper and provided labor to operate this device. In the past two clean up events Texas A&M Forest service has handled the chipping for the community.

Past areas of focus have included brush removal at the area to the north and west of the Fire Station and areas along roadways that might pose threat to egress in the event of a wildfire, such as

downslope/west side of roads, brush/trees too close to the road, etc. Timbercreek Canyon has most recently completed rock gardens and Firewise landscaping at two of the community entrances to the community. Other smaller efforts are handled on an ongoing basis by Timbercreek Canyon, such as park maintenance, roadway right of way vegetation mitigation, creek bed cleanup, etc. Once a year we hold a Firewise awareness event, jointly with Village of Palisades and Texas A&M Forest Service. Timbercreek Canyon keeps residents up to date with bi-monthly newsletters and reminders monthly in our Mayor's Message. The Timbercreek Canyon Fire Department, Firewise Committee, TC Garden Club, TC Building Committee and Village Board are always working with residents to embrace Firewise principals in homesite maintenance and construction.

Next Steps

If the site assessment and recommendations are accepted the Village of Timbercreek Canyon will upload this document to their Firewise USA® Portal upon completing their 2020 renewal application. Texas A&M Forest Service WUI Specialists are available to assist in community wildfire education events if desired.