



# **City of Sunset Valley Wildfire Protection Plan**

Approved March 6, 2012

## EXECUTIVE SUMMARY

The City of Sunset Valley's Community Wildfire Protection Plan (CWPP) is a written document, mutually agreed upon by local and state representatives and community stakeholders and identifies how Sunset Valley will reduce its risks from wildland fire through public education, infrastructure development and reduction of fuels. Making the decision to develop a CWPP, Sunset Valley is joining the Firewise community and taking an active role to influence the reduction of wildland fuels, which in turn will maintain our community's healthy ecosystems and reduce the risk wildfires pose to property, critical infrastructure, natural resources, and most important lives in Sunset Valley.

Over the past months, Texas, and more specifically, neighboring Bastrop County has experienced the most devastating wildfire season in history, resulting in the loss of lives, property, homes, critical infrastructure and natural resources. During the past few years Sunset Valley has been discussing a CWPP. However, considering Sunset Valley potentially faces the same fire devastation as that which struck Bastrop County, there is a need to educate our citizens regarding wildfire seriousness and prepare a plan of action to mitigate its severity.

This plan was prepared following the requirements for a CWPP, as described in the Healthy Forest Restoration Act. (1) Collaboration: The CWPP was collaboratively developed by local and state government representatives, in consultation with other interested parties. (2) Prioritized Fuel Reduction: The CWPP identifies and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect the community and essential infrastructure; and, (3) Treatment of Structural Ignitability: The CWPP recommends measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

The result of this plan is a list of strategies for the community working with regional stakeholders to meet the following goals:

Goal 1: Reduce the wildland fire risk to lives and property in the City of Sunset Valley

Goal 2: Support Austin Fire Department by identifying risks, ensuring appropriate training of Sunset Valley staff and maintaining critical fire suppression infrastructure

### 1.0 PURPOSE AND AUTHORITY

Community Wildfire Protection Plans are authorized and defined in Title I of the Healthy Forest Restoration Act (HFRA), passed by United States Congress on November 21, 2003 and signed into law on December 3, 2003.

The City of Sunset Valley City Council authorized the development of a written document that outlines recommendations and priorities regarding wildland fire preparedness and mitigation in the City of Sunset Valley and its ETJ.

## **1.1 COLLABORATION**

HFRA requires that the local government, local fire authority, and a state forestry representative mutually agree to the contents and actions recommended in the CWPP. For the development of this plan, the City requested data, advisory input and draft recommendations from representatives of local and regional organizations, including: Austin Fire Department, Austin Independent School District, Texas Forest Service, and Travis County Emergency Management.

## **1.2 STATEMENT OF INTENT AND GOALS FOR PLAN DEVELOPMENT**

The goals for the development of this Community Wildfire Protection Plan are to:

- 1) Identify wildland fuel hazards throughout the City;
- 2) Identify critical structures and community assets needing protection;
- 3) Develop collaborative preparedness and mitigation activities to reduce hazardous fuels and structure ignitability on both public and private lands within the City.

## **1.3 LEAD PLANNING TEAM**

The Core Planning Team assigned by the City Council to review and make recommendations to this plan is the Public Safety Committee, with the City Council having final approval of the Community Wildfire Protection Plan.

## **1.4 PLANNING PROCESS**

### **A. COMMUNITY PREPARATION**

In June 2011, the City convened a team of representatives from local government, local fire departments, and the Texas Forest Service to discuss and gain collaborative consensus on:

- 1) Intent to develop the City's Wildfire Plan
- 2) Process for achieving a plan document
- 3) Specific issues and risks to be included in the document

### **B. RISK ASSESSMENT**

- 1) Develop community profile - collaborative establishment of maps defining inhabited areas, areas containing critical human infrastructure, and forest areas at risk for large-scale fire disturbance.
- 2) Develop a community risk assessment - assessment of: fuel hazards; risk of wildfire occurrence; homes, businesses, and essential infrastructure at risk; other community values at risk (environmental, historical, cultural, endangered species, etc.); and the local preparedness capabilities to protect and address these risks.

**C. PRIORITY SETTING**

Establish community priorities and recommendations - to determine priority fuel reduction, structural protection, identified values protection, and improvements to fire response capabilities.

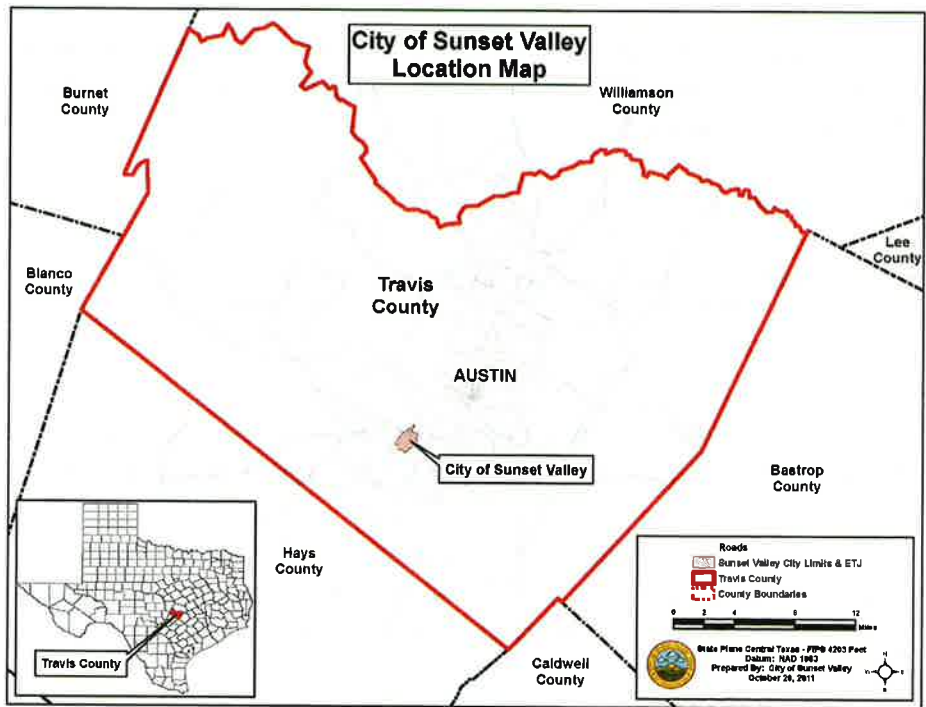
**D. ACTIONS AND EVALUATION**

- 1) Develop action priority-related implementation.
- 2) Finalize the Community Wildfire Protection Plan.
- 3) Obtain commitment to annual funding of Community Wildfire Protection Plan by the City during the budget process
- 4) Implement, monitor, evaluate, and revise the plan as necessary.

**2.0 COMMUNITY PROFILE**

The City of Sunset Valley is located in Travis County, Texas; and is wholly surrounded by the City of Austin. The first land transaction in the area dates back to 1835, but it wasn't until the early 1950s that the residential community of Sunset Valley was developed. In September 1954, Sunset Valley was incorporated as a town and is governed by the Mayor and City Council. Sunset Valley is organized as a General Law City with jurisdiction over all areas of the City. There is a homeowners association in the Meadows subdivision which will be contacted for inclusion as a cooperative partner in proposed future mitigation activities.

**Figure 1: Location Map**



## 2.1 POPULATION AND DEVELOPMENT

According to the Texas State Data Center, in 2000, the population of Sunset Valley was 365 and by 2010, the estimated population had grown to 624. Residential development in the City is limited to redevelopment of existing lots, and a few opportunities for larger lot subdivision in the older neighborhoods. Commercial development is also limited to redevelopment of existing space in the shopping centers, and certain lots along the Highway 290 frontage road.

## 2.2 CLIMATE

Drought is a major climatic issue in Central Texas. Several months of extensive drought occur on a 5 to 7 year cycle, broken by rains that may cause severe flooding. Seasonal rains generally occur in April-May and October-November encouraging the growth of foliage that during the drought periods becomes wildfire fuel.

## 2.3 STRUCTURE INVENTORY

The majority of structures in the community are residential and located on private property. (for map of residential subdivisions see Figure 10). Governmental facilities include buildings owned and operated by the City of Sunset Valley, as well as the Austin Independent School District (AISD). AISD facilities include an elementary school, Sunset Valley Elementary, a large multipurpose facility, Toney Burger Event Center, and the district bus facility. There are three commercial shopping areas in the City, which comprise the dense development along the City's major thoroughfare, Brodie Lane. Structures in the ETJ are primary residential.

**Table 1: Structure Inventory**

<b>Residential</b> Acres: 295.34 Structures: 446 Homes: 254	<b>Government</b> Acres: 323.88 Structures: 25
<b>Commercial</b> Acres: 159.49 Structures: 38	<b>ETJ</b> Acres: 53.44 Structures: 68

## 2.4 CONSERVATION AND OPEN SPACES

The City of Sunset Valley has five dedicated conservation areas and a trail system that are maintained in accordance with the City's Open Space Management Plan. Residential areas abut all of the described areas. Below are descriptions of these open spaces mapped in Figure 4.

## **A. SOUTH HILLS CONSERVATION AREA**

The South Hills Conservation Area is located at the southern edge of the City of Sunset Valley, along the western edge of the Cherry Creek neighborhood. The tract is 42.83 acres. The South Hills Conservation Area has a peak elevation of approximately 740 feet above sea level and the lowest elevation is 670 feet. Soils within the area include Ferris-Heiden along slopes and flats. The plant community of the South Hills Conservation Area is: Ashe Juniper-Oak Series.

## **B. GAINES GREENBELT**

The Gaines Greenbelt is located at the northern edge of the City of Sunset Valley, and connects with the City of Austin's Barton Creek Greenbelt. The area is bisected several times by Gaines Creek. Gaines Creek is often dry and is a tributary for Barton Creek. The tract is 22.08 acres in extent. The Gaines Greenbelt has an elevation varying from 570 to 660 feet along the plateau. The soil of the Gaines Greenbelt is mostly Tarrant soils and rock outcrops. This is a soil that is commonly found on steep slopes along rivers. The plant community of the Gaines Greenbelt is that of an Oak – Juniper woodland.

## **C. INDIAN GRASS PRAIRIE PRESERVE**

The Indian Grass Prairie Preserve is located along Williamson Creek between Country White Lane, Home Depot Boulevard, Brodie Lane, and the apartment complex. Part of the western boundary is adjacent to watershed protection lands of the City of Austin. Contained within the preserve area are a radio tower, an associated small building, and a gravel road. A wastewater line is also located north of Williamson Creek. The area comprises 21.43 acres. Located approximately 700 feet above sea level, the Indian Grass Prairie Preserve has several interesting physical features. The substrate of the Indian Grass Prairie Preserve is Edwards Limestone and a cave occurs along the northern edge of the area. This cave commonly called Sunset Valley Cave (Goat's Head Cave) and Rattlesnake Sink is a recharge feature for the Edwards Aquifer. The cave is composed of two main chambers and is home to a variety of invertebrate species. The Indian Grass Prairie Preserve is located within the Edwards Aquifer recharge zone.

The site is bisected by Williamson Creek, which is composed of Mixed Alluvial Land. Mixed Alluvial Land is comprised of beds of exposed limestone and gravely alluvium (USDA, 1974). The majority of the site is composed of Tarrant and Speck soils. Tarrant soils are well-drained clay soils found atop limestone. Speck soils are reddish brown and also overlay a limestone substrate. The plant community of the Indian Grass Prairie Preserve is that of a Plateau Live Oak – Midgrass vegetative community (*Quercus spp.*).

## **D. COUGAR CREEK GREENBELT**

The Cougar Creek Greenbelt is located along the Sunset Valley Branch (commonly called Cougar Creek) of Williamson Creek. The tract extends from Brodie Lane, across Ernest Robles Way, and south of Jones Road. The tract is 23.37 acres.

The Cougar Creek Greenbelt has an elevation ranging from 680 to 700 feet above sea level. Soil types include Crawford clay, Speck stony clay loam, and Tarrant soils. The construction of berms along the tributary along with a nearby re-irrigation system has caused the formation of an ephemeral wetland on a southwestern portion of the property. The berms were constructed to constrain the flow of the creek; a concrete dam was also constructed at the terminus of the berm. The plant community of the Cougar Creek Greenbelt is that of a Plateau Live Oak (*Quercus spp.*) – Midgrass series.

## **E. SUNSET VALLEY NATURE AREA**

The Sunset Valley Nature Area is located between Lovegrass Lane and Oakdale Drive. The tract surrounds a portion of the main branch of Williamson Creek and connects with the South Hills Conservation Area. Brodie Lane separates the Sunset Valley Nature Area from the Indian Prairie Grass Preserve. The flow of Williamson Creek is ephemeral and no permanent body of water is located on the tract. The tract is 64.59 acres in extent. The elevation of the Sunset Valley Nature Area extends from approximately 670 to 700 feet. A third of the tract has an Edward's Limestone substrate and the remainder of the site is Buda Limestone. The tract is bisected by Williamson Creek, which is composed of Mixed Alluvial Land (Md). The majority of this tract is composed of Tarrant and Speck soils. The Sunset Valley Nature Area is considered to be a Plateau Live Oak (*Quercus fusiformis*) - Midgrass plant community.

### **2.5 Wildlife Description**

Wildlife observed within the City of Sunset Valley includes White-tailed Deer (*Odocoileus virginianus*), Coyote (*Canis latrans*), Raccoon (*Procyon 8 lotor*), Striped Skunk (*Mephitis mephitis*), Virginia Opossum (*Didelphis virginiana*), Eastern Cottontail Rabbit (*Sylvilauus floridanus*), Bobcat (*Lynx rufus*), Common Gray Fox (*Urocyon cinereoargenteus*), Nine-banded Armadillos (*Dasypus novemcinctus*), Squirrels (*Spermophilus sp.*) and other various rodent species. Texas Rat Snake (*Elaphe obsoleta lindheimeri*), Prairie Kingsnake (*Lampropeltis calligaster calligaster*), Western Diamondback Rattlesnake (*Crotalus atrox*), Rough Earth Snake (*Virginia striatula*), Red-eared Slider (*Trachemys scripta elegans*), Texas River Cooter (*Pseudemys texana*), Green Anole (*Anolis carolinensis*), Reticulated Gecko (*Coleonyx reticulates*), and American Toad (*Bufo americanus*) are the reptile and amphibian species identified to date. Central Texas is along a migratory bird path and has a rich diversity of bird species. Over 100 bird species have been identified in Sunset Valley.

### **2.6 Endangered Wildlife Description**

The Gaines Greenbelt is unique in that it provides habitat for the endangered Golden-cheeked Warbler (*Dendroica chrysoparia*). Golden-cheeked Warblers nest in the Ashe-Juniper and Oak woodlands surrounding canyons and ravines (Figure 5). These small songbirds (~4.5 inches) were listed as endangered in 1990, their decline is related to habitat loss and fragmentation. Migratory in nature, these birds spend the winter in Mexico and Central America, and Central Texas is the only place known to where these birds nest and raise their young.

### **3.0 COMMUNITY RISK ASSESSMENT**

#### **3.1 Historical Fire Occurrence**

Sunset Valley has not experienced a wildfire that has burned acres. There have been incidents of grass fires along the major thoroughfares in the City that have been quickly extinguished with handheld suppression equipment.

Drought conditions, extreme weather – high winds and lightning resulting in downed power lines, and human error, such as illegal trash burning, fireworks, unsafe disposal of burning tobacco materials, and human carelessness are reported to be factors in the recent wildfires in Travis, Bastrop and Hays Counties.

According to the Texas Forest Service, from the beginning of 2011 to October 31, 2011 27,976 fires burned 3,959,040 acres (double the previous record), 2,862 homes, and over 2,700 other structures. On September 4, 2011, a firestorm known as the Bastrop County Complex Fire engulfed Bastrop, Texas and by September 30 had destroyed 1,645 homes, burned 34,068 acres, and killed two people. This fire is now regarded as the most catastrophic wildfire in Texas history. Bastrop County is adjacent to Travis County and approximately 35 miles due east of Sunset Valley.

#### **3.2 Access/Egress/Evacuation**

Evacuation from the City, in conjunction with fire and emergency vehicle entry will be challenging and dangerous for both residents and responders as neighborhoods in Sunset Valley are characterized by single entrance/exits and narrow roadways with limited turning space. Because residential roadways expected to provide escape routes may become impassible depending on the size of the wildfire and the direction of blowing smoke, alternate vehicular and pedestrian routes across private property have been identified. Figure 6 identifies the primary evacuation routes along paved roadways and Figure 9 identifies planned or future pedestrian and vehicular routes in the event the primary routes are not available.

#### **3.3 Topography**

Topography in Sunset Valley is characterized by rolling hills, with elevation varying from 570 to 740 feet. With the exception of the Gaines Greenbelt, topography is not an impediment to fighting wildfires in Sunset Valley.

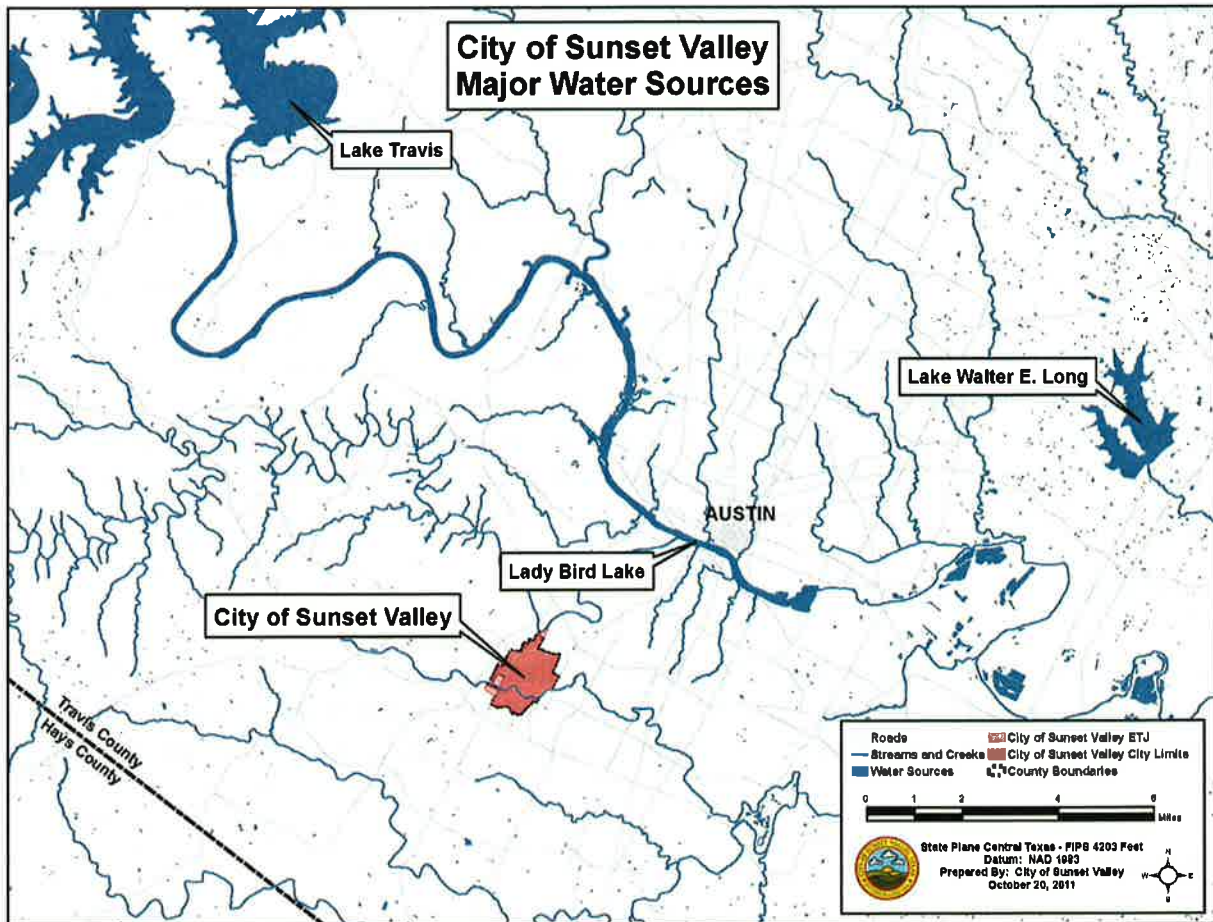
#### **3.4 Predominant Construction Materials**

Residential construction materials vary throughout the City. Recent site-built subdivision houses are built with non-flammable or flame-resistant materials, while homes built in earlier eras are more likely some type of wood construction. Local code requires new construction to a standard of 50 percent masonry. Manufactured homes are prohibited within the City. Commercial construction is primarily of non-flammable materials.

### 3.5 Critical Water Sources

The major water source in Travis County which could provide potential water drafting is the Colorado River.

Figure 2: Major Water Sources Map



Portions of the City are connected to the public water system (PWS), though private wells are in use on many properties. A major water resource issue is that water lines in some housing areas are of insufficient capacity to effectively pressure water hydrants for fire suppression. Costs for upgrading water lines have historically been planned and budgeted with a long term plan to make all the City's hydrants effective for fire fighting. It is expected that the fire department will utilize water vehicle shuttle tactics or water body drafting to fight fires in parts of the City.

### 3.6 Expected Fire Behavior

According to Texas Forest Service, fire behavior in Central Texas is wind and fuel driven. Strong wind events will cause the most severe fire behavior. With winds above 20 mph, flame lengths in grass may reach 15-20 feet. In heavy juniper, spotting of blown burning embers up to six tenths (.06) of a mile is possible.

Critical fire behavior situations include: live fuel moisture less than 80 percent, humidity below 25 percent; and eye level winds greater than 8 mph can cause high flame lengths, resulting in fires crowning in juniper and hardwoods.

Continuing drought conditions will increase the risk for extreme fire seasons in Sunset Valley. With appropriate defensible space around these homes and the mitigation of fuels near residential developments, wildfire risk, even in extreme conditions will be reduced.

### **3.7 Wildfire Assessment**

Sunset Valley covers approximately one square mile and has over 200 acres of greenspace. The majority of the greenspaces are in tracts ranging from 20 to 65 acres in extent located throughout the City. This means that the majority of the City is an occluded wildland urban interface with patches of greenspace surrounded by more developed urban areas. Each of these greenspaces has different vegetative communities, topography, and present different management challenges. Fire risk differs throughout the City, based on maintenance, season and vegetation. Fire hazard will range from low in the commercial areas, to medium and high in less maintained and high vegetative areas of the City. Property owners will be encouraged to have their property assessed for wildfire risk; and education and mitigation support will be provided based upon the results of the risk assessment.

#### **A. Objective**

To provide base information on the status of the Wildland Urban Interface (WUI) issues that might have an impact of the safety of person and/or property in Sunset Valley, Texas. The Wildland Urban Interface is the area where fire can spread from vegetation (wildland fuels) to man-made fuels.

#### **B. Method**

Windshield and walking surveys were conducted throughout the city limits of Sunset Valley. Descriptions of each area and recommendations for each greenspace and residential area were documented and discussed.

#### **C. Wildland Assessment**

Fire is a natural part of an ecosystem. However, with increased urbanization fire has been removed from the environment and wildland fuels have been allowed to accumulate. The wildland areas of Sunset Valley consist of closed canopy oak-juniper woodland, mixed oak-prairie, and grassy prairie areas. In many instances these plant communities flow seamlessly into the residential areas. These plant communities represent ground, ladder, and canopy fuels in a patchwork across the City. In most areas the encroachment of Ashe Juniper has increased and during prolonged droughts this poses an increased fuel risk. When the moisture content of Ashe Juniper falls below a specific threshold the tree's flammability increases and thinning of Juniper throughout Sunset Valley is recommended. Below are descriptions and recommendations for each of the City's greenspaces.

## 1) South Hills Conservation Area

**Description:** The most southern greenspace within Sunset Valley is the South Hills Conservation Area consisting of 42.83 acres. Elevations in the South Hills Conservation Area range from 670 to 740 feet above sea level. This area is a predominately oak-juniper woodland, with approximately 90% canopy cover. Due to the lack of light at ground level there is significant dead wood in the understory, however there is little grass in these areas. The most common trees on this tract are Ashe Juniper (*Juniperus asheii*) and Cedar Elm (*Ulmus crassifolia*). Along the eastern boundary, Live Oak (*Quercus fusiformis*), Sugar Hackberry (*Celtis laevigata*), Texas Persimmon (*Diopyros texana*), and Pencil Cactus (*Opuntia leptocaulis*) are more prevalent. Shin Oak (*Quercus durandii* var. *breviloba*), Texas Ash (*Fraxinus texensis*), Mexican Buckeye (*Ungnadia speciosa*), and various other trees are also present. Grasses such as Side-oats Grama (*Bouteloua curtipendula*), Silver Bluestem (*Bothriochloa laguroides*), and Tall Dropseed (*Sporobolous asper*) are common in open areas. This greenspace borders the Cherry Creek Neighborhood which is located within the City of Austin. Homes within this neighborhood have smaller lots and the homes are in close proximity to the greenspace.

**Recommendations:** This area has a very dense canopy and high brush content. It is recommended that a brush truck accessible path be created along the southern property line bordering the Cherry Creek neighborhood. Necessary passing locations and a turnaround near the creek should be included in the path development. Many of the houses in the Cherry Creek neighborhood are near the upper elevations and this should also be considered in predicting fire behavior. Based on soil types, this area may at one time have had areas that more closely resembled the Blackland Prairie and thinning juniper in areas may help restore some of the grassy areas. Strategic reduction of brush including Ashe Juniper is highly recommended. This area also connects with privately owned greenspace and a fire break (20 feet wide) along the eastern boundary is also recommended.

## 2) Sunset Valley Nature Area

**Description:** The Sunset Valley Nature Area is 64.59 acres and is considered to be a mixed oak (*Quercus fusiformis*) – prairie plant community. Elevations range from 680 to 700 feet above sea level. Trees found commonly in the upland area include Live Oak (*Q.fusiformis*), Cedar Elm (*Ulmus crassifolia*), Juniper (*Juniperus asheii*), and Honey Mesquite (*Prosopis gradulosis*). The understory is composed of Texas Croton (*Croton fruticulosus*), Elbowbush (*Foresteria pubescens*), and Yaupon (*Ilex vomitoria*). The grassland areas are composed of Side Oats Grama (*Bouteloua curtipendula*), Purpletop (*Tridens flavus*), Curley Mesquite (*Hilaria berlanderi*), and Buffalo grass (*Buchloe dactyloides*). This area has significant Juniper encroachment throughout and has approximately 70% canopy cover. Recent clearing has helped reduce the amount of Juniper. Williamson Creek runs through the center of this greenspace and much of the juniper has been removed from the central creek bed. Two distinct neighborhoods border this greenspace: Lovegrass Lane and Oakdale Drive. The homes that neighbor this wildland have large one acre or larger lots and the homes are not located near the property boundary.

**Recommendations:** Many of the trails within this area are brush truck accessible and an increase in accessibility is recommended. An accessible route on the southern boundary

along the fence line and widening the access from Oakdale is recommended. Increased Juniper and brush control to restore the prairie areas and reduce ladder fuels is also recommended throughout the greenspace. Protection of the riparian areas, buffering trails and private property, while reducing fuel loads is the balance that should be found within this greenspace.

### **3) Cougar Creek Greenbelt**

**Description:** The Cougar Creek Greenbelt is a 23.37 acre area that encompasses the Sunset Valley tributary of Williamson Creek. On the eastern portion of the greenbelt, two berms have been constructed parallel to the creek to help in flood control. Elevations in this greenspace range from 680 to 700 feet above sea level. The plant community of the Cougar Creek Greenbelt is that of a mixed oak (*Quercus spp.*) – prairie. Live Oak (*Quercus fusiformis*) and Cedar Elm (*Ulmus crassifolia*) are the dominant canopy trees, with Agarita (*Berberis trifoliata*), Elbowbush (*Foresteria pubescens*), Prickly Pear (*Opuntia lindheimeri*), and Pencil Cactus (*Opuntia leptocaulis*) common understory species. Other common woody plants include Ashe Juniper (*Juniperus ashei*), Honey Mesquite (*Prosopis glandulosis*), Prairie Sumac (*Rhus lanceolata*), and Sugar Hackberry (*Celtis laevigata*). This area has had some Juniper and Mesquite encroachment and there are several thick brush areas.

The area has significant grassy open areas and approximately 30% canopy cover. Common grasses include Buffalo grass (*Buchloe dactyloides*), Annual bluegrass (*Poa annua*), and Silver Bluestem (*Bothriochloa laguroides*). Among other common grasses were several invasive species including Bermuda grass (*Cynodon dactylon*), Johnsongrass (*Sorghum halapense*), Common Oats (*Avena fatua*), Wheat (*Triticum aestivum*), and King Ranch Bluestem (*Bothriochloa ischaemum*).

**Recommendations:** Increased juniper and mesquite control is recommended to restore this area to a savannah-like state with open grassy areas and the occasional hardwood. Riparian areas along the creek should stay in their wooded state where they currently exist. This area is fairly accessible by truck and with increased vegetative management access will remain available. Seasonal mowing to decrease the accumulation of tall dead grasses is also recommended.

### **4) Indian Grass Prairie Preserve**

**Description:** The Indian Grass Prairie Preserve is located along Williamson Creek between Country White Lane, Home Depot Boulevard, Brodie Lane, and the Grand Reserve apartment complex. Part of the western boundary is adjacent to watershed protection lands of the City of Austin. Contained within the preserve area are a radio tower, an associated small building, and a gravel road. A wastewater line is also located north of Williamson Creek. The area comprises 21.43 acres in extent and is approximately 700 feet above sea level.

The plant community of the Indian Grass Prairie Preserve is that of a mixed oak – prairie plant community and has approximately 60% canopy cover. The site consists of an open prairie area located near the radio tower. Many invasive species such as Johnson (*Sorghum halepense*) and Bermuda grass (*Cynodon dactylon*) inhabit this area. Native species found here include Silver Bluestem (*Bothriochloa laguroides*), Indiangrass (*Sorghastrum nutans*), Purple Threeawn (*Aristida purpurea*), Curley Mesquite (*Hilaria berlangerii*), and Side Oats

Grama (*Bouteloua curtipendula*). This area is also being encroached by Honey Mesquite (*Prosopis gradulosa*).

The major tree species include Live Oak (*Quercus fusiformis*), Ashe Juniper (*Juniperus asheii*), Cedar Elm (*Ulmus crassifolia*), Sugar Hackberry (*Celtis laevigata*), and Texas Ash (*Fraxinus texensis*). The understory is composed of Elbowbush (*Foresteria pubescens*), Texas Persimmon (*Diospyros texana*), and Wafer Ash (*Ptelea trifoliolata*). The northern section of the property has a significant Ashe Juniper presence.

**Recommendations:** This area has existing roads that can be used for brush truck access to parts of the property. Increasing access along the western trail is also recommended. Since a regional trail (Violet Crown Trail) may be going through this area, increasing brush truck access with the placement of that trail is recommended. It is also recommended that brush be removed in areas near the apartment complex. This will require working in conjunction with the apartment complex as much of their property is heavily wooded.

## 5) Gaines Greenbelt

**Description:** The Gaines Greenbelt is located at the northern edge of the City of Sunset Valley, and connects with the City of Austin's Barton Creek Greenbelt (Figure 4). This area is bisected several times by Gaines Creek, which is ephemeral and is a tributary for Barton Creek. The tract is 22.08 acres in extent. Elevations range from 570 to 660 feet above sea level. Topographically this area has steep cliffs and is a series of hills and valleys.

The plant community of the Gaines Greenbelt is that of an Oak – Juniper woodland (*Quercus spp.* and *Juniperus ashei*). Although mostly wooded, the area does support a few small, open grasslands. The most common tree on this tract is Ashe Juniper (*Juniperus ashei*). Other common trees are Live Oak (*Quercus fusiformis*), Texas Oak (*Quercus texana*), Cedar Elm (*Ulmus crassifolia*), Shin Oak (*Quercus durandii var. breviloba*), Texas Ash (*Fraxinus texensis*), Sugar Hackberry (*Celtis laevigata*), and Escarpment Black Cherry (*Prunus serotina*). Shrubs and small trees of the understory include Texas Persimmon (*Diospyros texana*), Carolina Buckthorn (*Rhamnus caroliniana*), and Red Buckeye (*Aesculus pavia*). The slopes and cliffs provide habitat for various ferns including the Southern Shield Fern (*Thelypteris kunthii*), Purple Cliffbrake (*Pallaea atropurpurea*), Alabama Lipfern (*Cheilanthes alabamensis*), and Blackstem (*Asplenium resiliens*).

The Gaines Greenbelt is unique in that it is included in the designated and Federally protected habitat for the endangered Golden-cheeked Warbler (*Dendroica chrysoparia*). Golden-cheeked Warblers nest in the Ashe-Juniper and Oak woodlands surrounding canyons and ravines. These small songbirds (~4.5 inches) were listed as endangered in 1990, their decline is related to habitat loss and fragmentation. Migratory in nature, these birds spend the winter in Mexico and Central America, and Central Texas is the only place where these birds are known to nest and raise their young.

**Recommendations:** Due to the sensitive nature of this habitat and the difficult topography, brush truck accessibility is not recommended. Removal of small junipers in order to maintain a diverse plant community outside of breeding season is recommended. Residents living in homes bordering this area should have an increased educational focus to understand defensible space along this tract.

## D. Neighborhood Assessment

Sunset Valley has a mixture of residential, commercial, and governmental facilities including an elementary school and a regional AISD sports complex. Nearly all roads in the City, with the exception of major thoroughfares (Jones Road, Brodie Lane, and Highway 290) are dead end streets. This plays a role in access and evacuation plans within Sunset Valley. Sunset Valley has several distinct neighborhoods as seen in the Figure 10. For all neighborhoods, there are also infrastructure considerations such as hydrant fire flow and street conditions that may need to be addressed. With dead end streets, alternative routes for evacuation across private property are being considered. These routes could be used in the case of wildfire or flooding. Overall education and raising awareness are key components to wildfire preparedness. Over 90% of wildfires have a human cause. Educating people on fire's role in an ecosystem and prevention are essential.

The neighborhoods have been broken down into four areas (Figure 10):

**Area 1:** Jones Road, Lone Oak Trail, Pillow Road, Reese Drive, and Sunset Trail

**Area 2:** Sunflower Trail, Lovegrass Lane, Yellowtail Cove, Curley Mesquite Cove

**Area 3:** Oakdale Drive, Brodie Lane, Country White Lane

**Area 4:** Stearns Lane, Highway 290

**Area 1 Recommendations:** This area includes homes on large lots, however many of these homes lack defensible and survivable space around structures. This is especially important with the homes that border the greenspaces. Education on Firewise principles including evacuation plans, landscaping, building materials, and defensible space is highly recommended. Residents in this area may also have livestock and evacuation plans need to address livestock removal.

**Area 2 Recommendations:** Homes in this area have large lots or smaller lots surrounded by grassland. These houses have similar building materials and are mostly masonry with composite asphalt roofs. Education efforts for this area should focus on Firewise landscaping and evacuation plans.

**Area 3 Recommendations:** Oakdale Drive is one of the areas within the City of Sunset Valley most vulnerable to wildfire. There is greenspace on three sides of the neighborhood and there is a single access point from Brodie Lane. Country White Lane is part of Sunset Valley's extraterritorial jurisdiction and is in a similar situation as Oakdale Drive. The homes within this area are on large lots and some of these lots are heavily wooded. Education on Firewise principles including evacuation plans, landscaping, building materials, and defensible space is highly recommended. Residents in this area may also have livestock and evacuation plans need to address livestock removal.

**Area 4 Recommendations:** This area is more urbanized and uphill from the wildland fuels. Homes in Sunset Valley's on Stearns Lane are particularly at risk due to greenbelt on three sides, steep slopes, and dead end roads. A fire in the Gaines or Barton Creek Greenbelt could move rapidly upslope to these homes. Education on Firewise principles including evacuation plans, landscaping, building materials, and defensible space is highly recommended.

### 3.8 Fuels Identification

Wildland fuels are broken into four basic categories classified on their vertical distribution: ground fuels (organic soils, forest floor duff, stumps, dead roots, and buried fuels), surface fuels (litter layer downed woody materials, and dead and live plants to 6ft in height, Ladder fuels (vine or liana fuels and draped foliage) and Canopy fuels (tree crowns). The plant communities within Sunset Valley: grassland, mixed oak- prairie, and oak-juniper woodland. Wildfire would move through these areas in different patterns depending on the type of fuel.

The grassland areas are dominated by a mixture of grasses including side oats grama, Indian grass, KR bluestem, little bluestem, and various forbs. These areas consist of mostly fine or one hour fuels that burn quickly. Mixed oak-prairie areas are predominantly grasslands with occasional oak and understory areas. Although the composition of these areas is dominated by grasses occasional ladder and canopy fuels are also present. The areas with trees and ladder fuels are in isolated islands. The final plant community is the oak-juniper woodland. This is a predominately closed canopy area consisting of Live Oak (*Quercus fusiformis*), Ashe Juniper (*Juniperus ashei*), Yaupon (*Ilex vomitoria*), Elbowbush (*), Agarita (*trifoliata*) and greenbriar (*smilax bona nox*). This area also has several invasive species including Japanese Ligustrum (*ligustrum japonica*) and Heavenly Bamboo (*Nandina domestica*). The fuels in this area vary from ground to canopy. The encroachment of Ashe Juniper is the most prevalent increase in fuel load throughout the area.*

### 3.9 Firefighting Capacity

Since 1998, the City of Sunset Valley has contracted with Austin Fire Department for fire suppression and emergency response services. Figure 8 is map of the Austin Fire Department Service area and the proximity to the City for response.

## 4.0 SITUATION SUMMARY AND RISKS

**A. Situation: Historical fire behavior in Sunset Valley may not represent future expectations in the event of a wildfire in the City.**

Risk: Potential loss of life due to lack of understanding wildfire behavior.

**B. Situation: Residential and commercial development to meet the needs of a community wanting to remain “rural” and in a natural setting.**

Risk: Inadequate ingress and egress for emergency vehicles and evacuation.

Risk: Inadequate wildfire defensible space around structures.

Risk: Inadequate operational space for firefighting and emergency equipment.

Risk: The safety of first responders is at risk in neighborhoods with inadequate accessibility.

**C. Situation: Unequal firefighting water resources exist in portions of the City.**

Risk: Problematic water supplies for fighting fires.

Risk: Potential loss of life and property due to water hydrants with inadequate pressure and sizing.

**D. Situation: Deficient homeowner understanding regarding wildfire behavior, defensible space, Firewise landscaping material and Firewise building construction and construction materials.**

Risk: Potential loss of life due to lack of understanding wildfire threat.

Risk: Potential loss of life due to use of flammable construction materials.

Risk: Loss of structures due to inappropriate landscaping materials.

Risk: Dangers to life and property from wildfires due to inadequate or non-existent wildfire defensible space around homes.

**E. Situation: Lack of Governmental planning and allocation of resources to address and mitigate wildfire risks.**

Risk: Potential loss of life and property

Risk: Inability to efficiently coordinate with regional partners in emergency situations

Risk: Potential threat to surrounding non-Sunset Valley communities from wildfires that originate in the City of Sunset Valley

Risk: Potential litigation

## **5.0 PRIORITY SETTING**

### **Goal 1: Reduce the wildland fire risk to lives and property in the City of Sunset Valley.**

**Objective 1:** Implement and maintain an on-going public information and education campaign addressing wildfire preparedness actions. These homeowner education programs include the "Ready, Set, Go! Wildfire Preparedness for Homeowners" Workshop, which covers Firewise construction, rehabbing for fire prevention, non-flammable construction materials, and strategies on how families can effectively create defensible space around their home. Annual outreach activities include educational table at the Public Works Spring Cleaning Event, and acknowledgment/recognition of positive activities during Wildfire Awareness Week and in National Fire Prevention Week.

Tactic 1: Utilize existing resources, such as Texas Forest Service and Austin Fire Department Public Education programs and materials.

Tactic 2: Host an annual educational event.

Tactic 3: Distribute educational materials at existing City activities, such as National Night Out (October) and Public Works Open House (April).

Tactic 4: Utilize City newsletter and website to distribute wildfire preparedness information and resources.

Tactic 5: Implement Neighborhood Strategies identified in Section 3.7 (D) Neighborhood Risk Assessment.

**Objective 2:** Conduct wildfire mitigation on public land and on priority assets in the City.

Tactic 1: Maintain and adhere to the Park and Open Space Management Plan.

Tactic 2: Implement Fire Break Maintenance described below for each of the identified Woodland Areas.

**A. South Hills Conservation Area.**

Construct a brush truck accessible route along the eastern edge of the tract which interfaces the Cherry Creek Neighborhood. An approximate fifteen foot section shall be maintained clear of debris and low-growing vegetation. In locations where this would precipitate the removal of large trees a shaded fire break technique shall be used. Shaded fire breaks will require the removal of the understory and small limbs below 6 feet in height. Shaded fire breaks remove the ladder fuels that provide easy, readily combustible fuel for a fire. Where possible a fifteen to twenty foot firebreak along fence lines will also be maintained.

**B. Gaines Greenbelt.** The eastern edge of the Gaines Greenbelt that borders the houses on Stearns Lane is a plateau that drops down into the main portion of the Gaines Greenbelt. The topography makes the removal of vegetation and the formation of a fire break difficult. This area is also critical habitat for the endangered Golden-cheeked Warbler. The area shall be maintained with current land management practices to reduce the abundance of Ashe Juniper and increase canopy diversity. It is recommended that residential properties that border this area increase their defensible space.

**C. Indian Grass Prairie Preserve.** The Indian Grass Prairie Preserve has two distinct areas an open prairie area and a section of Oak-Juniper woodlands. The prairie area is maintained through a series of seasonal mowing to reduce the fuel load. The woodland area should have selective juniper removal to increase diversity of species. Maintaining existing hiking and maintenance trails should act as small firebreaks. Due to the narrow nature of this tract and the need to buffer critical environmental features, additional fire breaks are not recommended at this time. This area is also bordered by natural areas owned and managed by other private and municipal entities. Working with these neighbors, especially the apartment complexes will help reduce the wildland fire risk to these areas.

**D. Cougar Creek Greenbelt.** The Cougar Creek Greenbelt is mainly an Oak-midgrass plant community; however, there is significant Ash Juniper and Mesquite encroachment. Although no official fire break is recommended for this area, brush control is recommended to keep this area in a savannah-like state. Additionally, seasonal mowing to reduce the fuel load from dead grasses and help in the establishment of a healthy prairie is also recommended.

**E. Sunset Valley Nature Area.** The Sunset Valley Nature Area is the largest greenspace in Sunset Valley. Establishing additional brush truck accessibility and a firebreak along the southern border are a priority. Additionally, along the rear property

lines of houses along Lovegrass Lane and Curley Mesquite Cove brush will be thinned and a shaded fire break strategy employed to reduce fuels along the fence line. Overall, this area has a large amount of Ashe Juniper. Reducing the concentration of Ashe Juniper and increasing diversity is another goal.

Tactic 3: Develop mitigation plans for priority assets.

Tactic 4: Implement hazardous fuel mitigation projects in each of the identified Woodland areas as identified in Section 3.7 (C) 1-5 Wildland Risk Assessment

**Objective 3:** Incorporate wildfire planning and mitigation measures into City Development Processes. Information on wildfire, defensible space and non-flammable construction materials will be made available when homeowners and contractors apply for development and construction permits with the City. Similar information will be available on the City's website: [www.sunsetvalley.org](http://www.sunsetvalley.org).

Tactic 1: Distribute information on flame resistant building materials to property owners and builders.

Tactic 2: Encourage increased use of non-flammable construction materials.

Tactic 3: Distribute information on defensible space and landscape maintenance to property owners.

Tactic 4: Develop safety factors and guidelines for ingress, egress, and evacuation; water supply adequacy, standards of road width which will allow emergency vehicles access and effective operation.

Tactic 5: Make available Wildfire Risk Assessments on new home constructions and remodels requiring construction permits.

**Goal 2: Support Austin Fire Department by identifying risks, ensuring appropriate training of Sunset Valley staff and maintaining critical fire suppression infrastructure.**

**Objective 1:** Develop a strategy for at risk properties to include:

Tactic 1: Conduct home assessments for property owners identifying risks and mitigation strategies.

Tactic 2: Identify on-site hazards, including terrain and structure challenges.

Tactic 3: Identify water sources and the placement of utilities.

Tactic 4: Develop area specific hazard maps.

**Objective 2:** (Sunset Valley Emergency Management Preparedness.

Tactic 1: Conduct annual table top exercise with cooperative stakeholders.

**Objective 3:** Improve efficiency of water resources.

**6.0 PLAN IMPLEMENTATION**

Implementation will require collaboration, action, and leadership among the City's stakeholders, residents, and staff to realize the fulfillment of the recommendations of this Community Wildfire Protection Plan. Implementation will be lead by the City staff, providing reports to the Council, as requested, and submitting requests for project funding in accordance with the established budget process.


This plan will be reviewed every two years by the Public Safety Committee, Environmental Planning Committee and the Public Works Committee to recommend to the City Council plan revisions and prioritized actions, as needed.

**APPROVED**

This Community Wildfire Protection Plan was approved by the Sunset Valley City Council on March 6, 2012.

  
\_\_\_\_\_  
Mayor Barbara Wilson

**ATTEST**

  
\_\_\_\_\_  
Rae Gene Greenough  
City Secretary

\_\_\_\_\_  
Texas Forest Service

\_\_\_\_\_  
Date

\_\_\_\_\_  
Austin Fire Department

\_\_\_\_\_  
Date

Figure 3: Area Schools

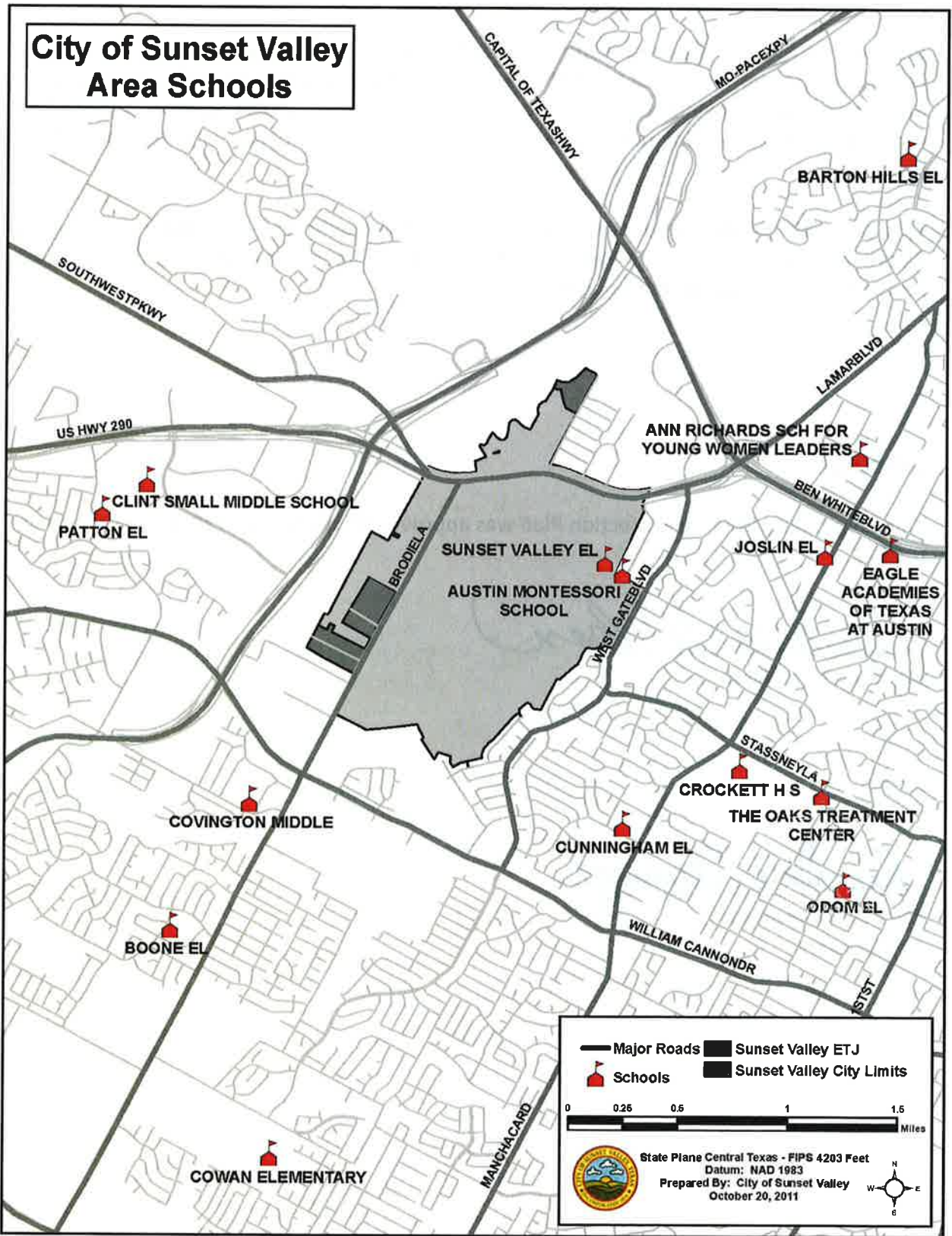


Figure 4: Sunset Valley Wildlands

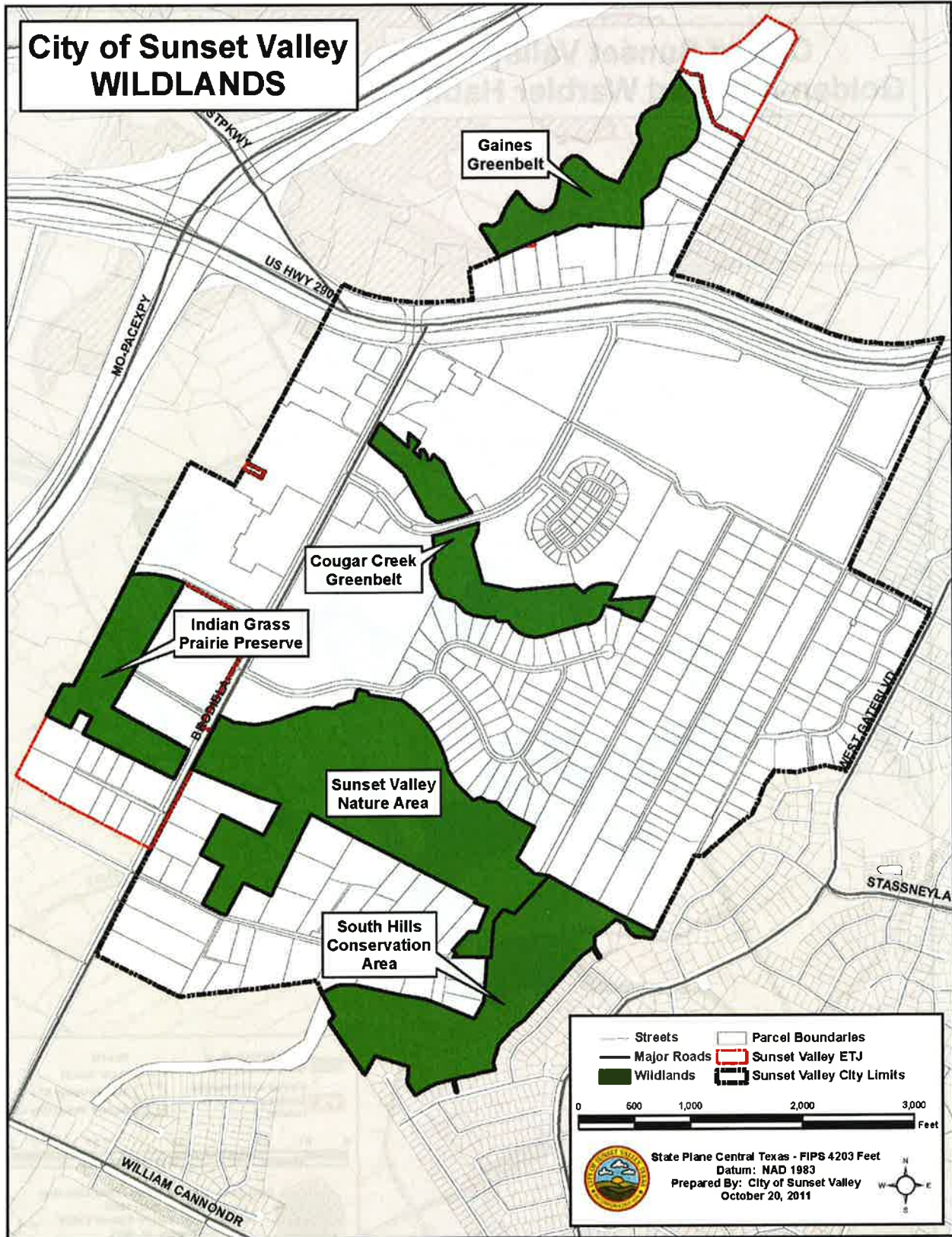


Figure 5: Golden-Cheeked Warbler Habitat

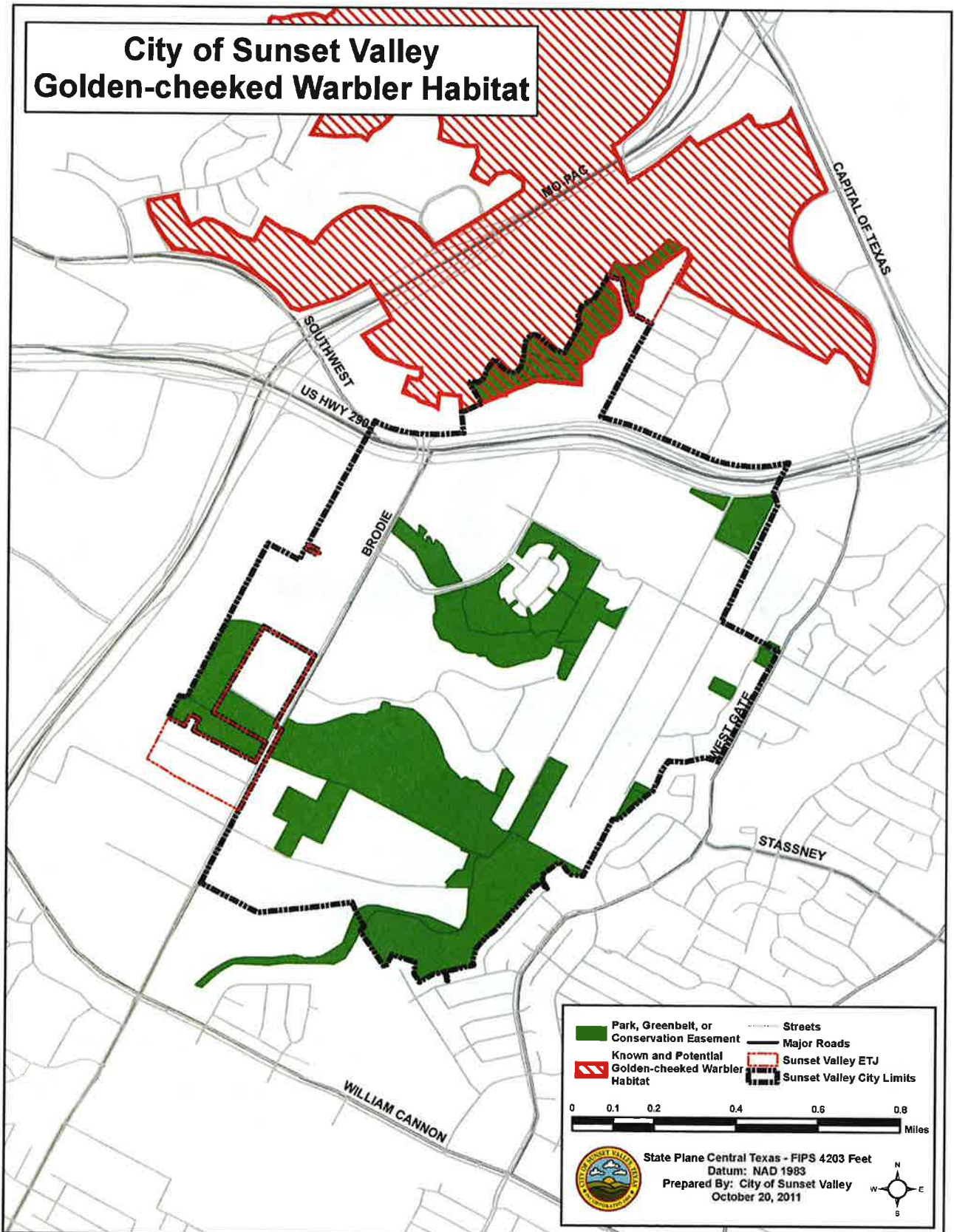


Figure 6: Evacuation Routes

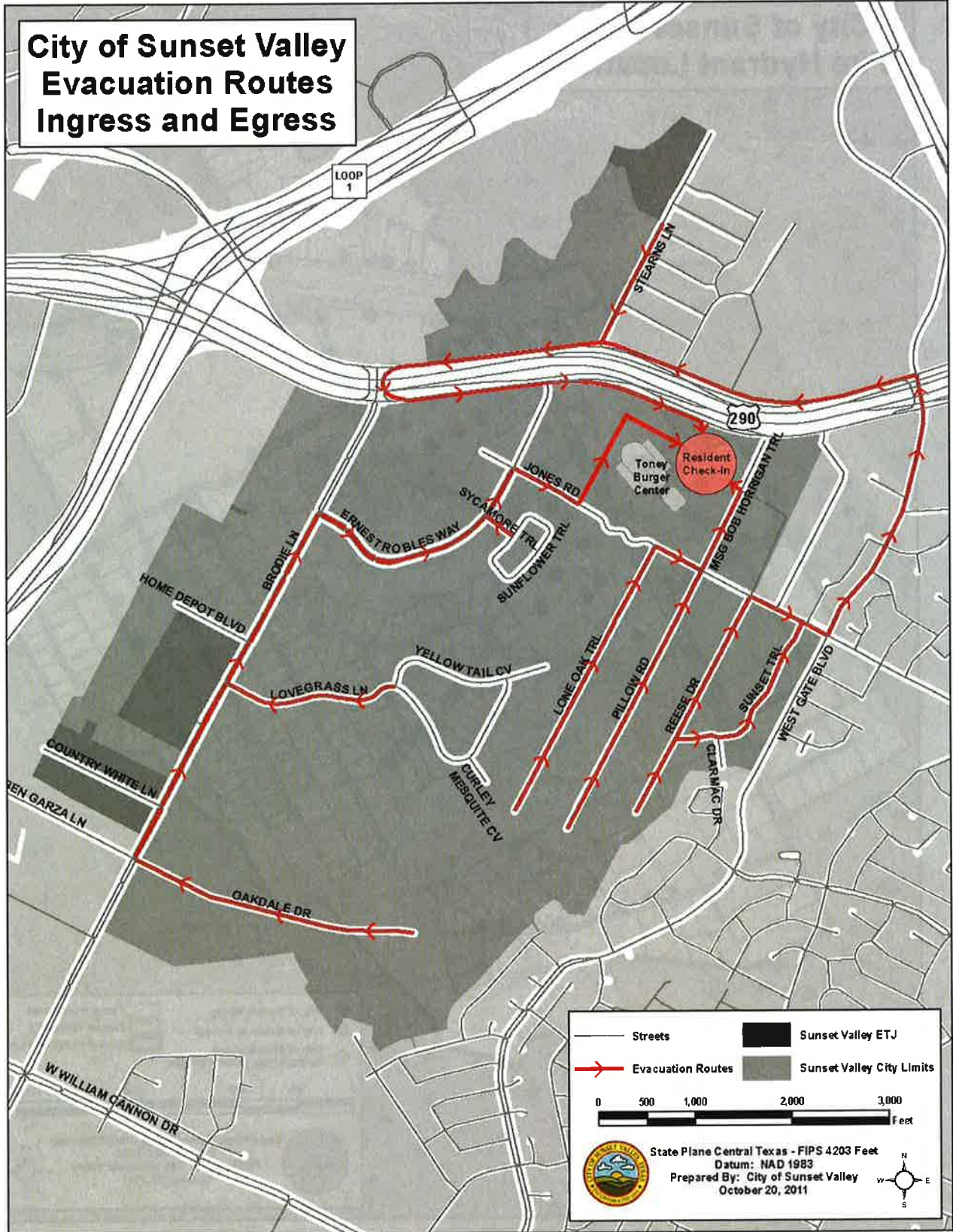


Figure 7: Sunset Valley Fire Hydrant

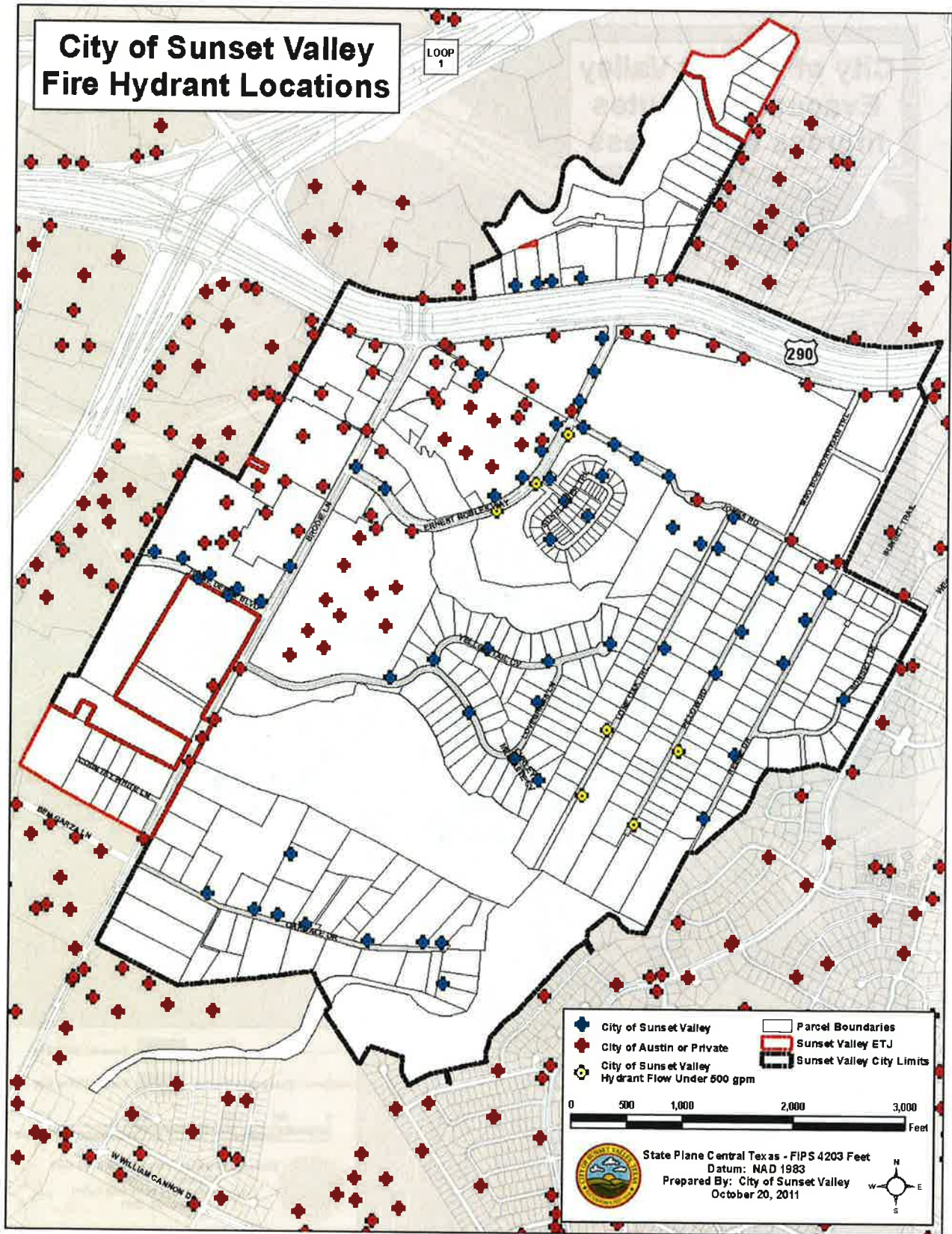


Figure 8: Austin Fire Department Service Area and Station Map

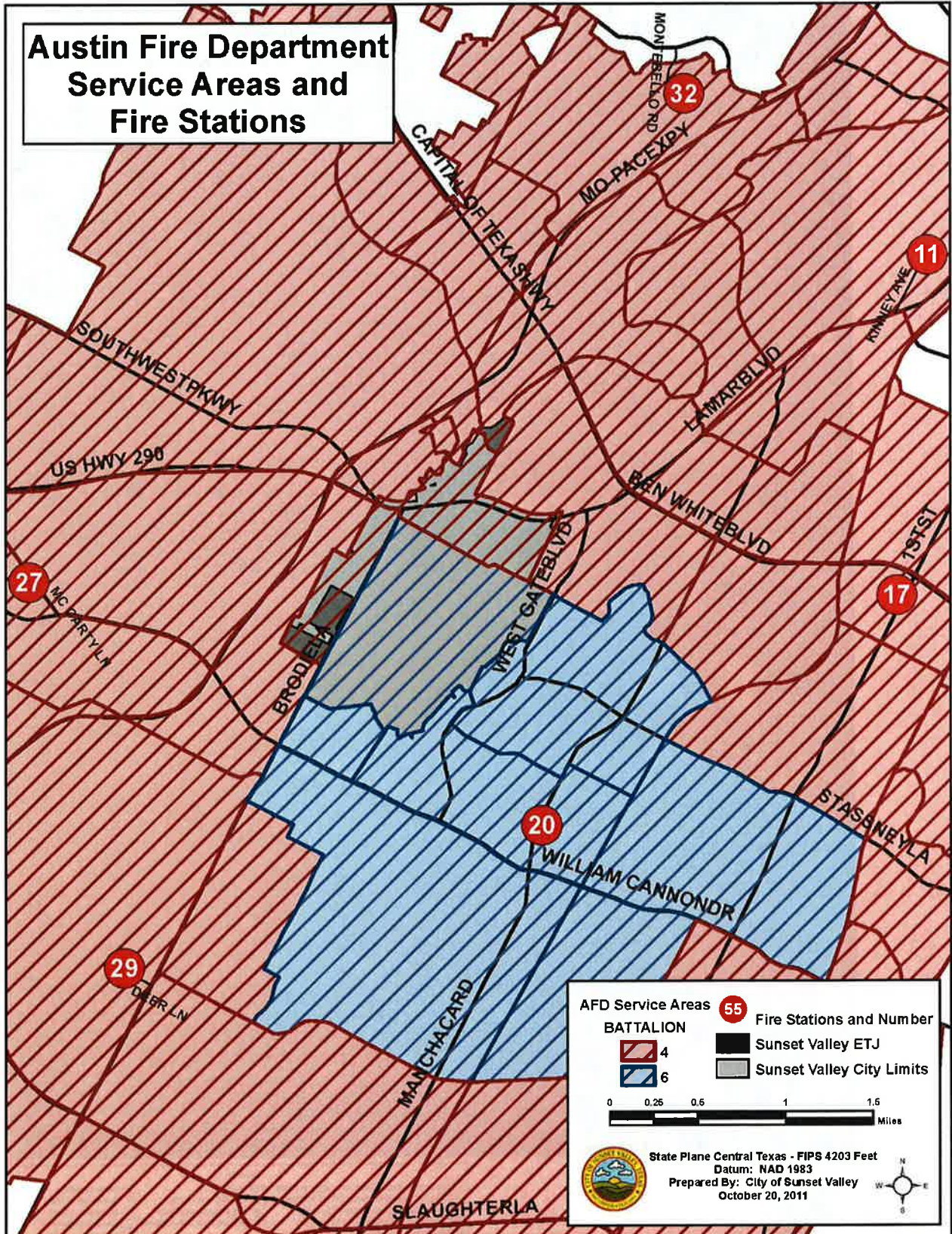


Figure 9: Existing and Proposed Access Routes



Figure 10: Inhabited Areas Map

