

# *City of College Station Community Wildfire Protection Plan 2014*



*A collaborative approach to  
protecting lives, property and  
natural resources in the City of  
College Station*



In accordance with Title I of the Healthy Forest Restoration Act of 2003

This document was prepared by the College Station Fire Department  
and Texas A&M Forest Service  
and was completed on July, 2013.



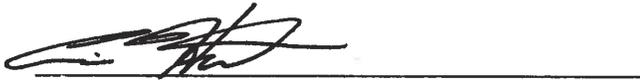
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# Introduction

Eighty percent of wildfires in Texas occur within two miles of a community. That means 80 percent of Texas wildfires pose a threat to life and property. A Community Wildfire Protection Plan (CWPP) can help protect against the threats of wildfire and reduce losses. By developing a CWPP, the City of College Station is outlining a strategic plan to mitigate, prepare, respond and recover.

## Statement of Intent

The intent of the City of College Station CWPP is to reduce the risk of wildfire and promote ecosystem health. The plan also is intended to reduce home losses and provide for the safety of residents and firefighters during wildfires.

## Goals

- Provide for the safety of residents and emergency personnel.
- Limit the number of homes destroyed by wildfire.
- Promote and maintain healthy ecosystems.
- Educate citizens about wildfire prevention.

## Objectives

- Complete wildfire risk assessments.
- Identify strategic fuels reduction projects.
- Address treatment of structural ignitability.
- Identify local capacity building and training needs.
- Promote wildfire awareness programs.

Some of the areas assessed and ranked as hazard areas are considered to be in Brazos County rather than in one of College Station Fire Department's response zone. College Station Fire Department provides mutual aid and responds to areas in the county when Volunteer Fire Department (VFD) personnel are not available.

## Working Group

### College Station Fire Department

- Fire Chief R.B. Alley III (Ret.)
- Fire Chief Eric Hurt
- Assistant Chief Jon Mies
- Battalion Chief Joe Warren
- Captain Tim Hamff
- Captain Mike Ruesink
- Driver / Engineer Andrea Ferrell
- Public Information Officer Bart Humphreys
- Emergency Management Coordinator Brian Hilton
- Public Education Officer Christina Seidel
- Training Coordinator Billy Bradshaw

### Texas A&M Forest Service

- Wildland Urban Interface Specialist II Melanie Spradling
- Wildland Urban Interface Specialist I Luke Kanclerz

# Planning Process

Meeting Date	Topics Covered	Attendees	Action Items
12/10/12	Review CWPP process	<ul style="list-style-type: none"> <li>* College Station EMC Brian Hilton</li> <li>* Bryan Fire Chief Randy McGregor</li> <li>* Bryan EMC Jerry Henry</li> <li>* Brazos County EMC Chuck Frazier</li> <li>* Texas A&amp;M University Office of Safety and Security representative Monica Weintraub</li> <li>* TFS Mitigation and Prevention Department Head Bruce Woods</li> <li>* TFS State WUI Coordinator Justice Jones</li> <li>* TFS WUI Specialist Jared Karns</li> <li>* TFS WUI Specialist Luke Kanclerz</li> <li>* TFS Communications Specialist April Saginor</li> </ul>	Each entity was tasked with determining whether it wants to pursue a CWPP and, if so, contacting Texas A&M Forest Service to begin the process
4/17/13	Risk assessment training for Response Zones 3, 4 and 5	<ul style="list-style-type: none"> <li>* Capt. Joe Warren</li> <li>* PIO Bart Humphreys</li> <li>* Lt. Kevin Simmons</li> <li>* Lt. Tim Sullivan</li> <li>* Lt. Tim Hamff</li> <li>* Lt. Tim Valdez</li> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li> </ul>	Add collected data to CWPP
4/18/13	Risk assessments for Response Zones 1, 2 and 6	<ul style="list-style-type: none"> <li>* Assistant Chief Jon Mies</li> <li>* Capt. Joe Warren</li> <li>* Public Education Officer Christina Seidel</li> <li>* Lt. Mike Ruesink</li> <li>* Lt. Jerry Duffy</li> <li>* Lt. Tim Hamff</li> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li> </ul>	Add collected data to CWPP
5/6/13	Risk assessment presentation and coordination of working group	<ul style="list-style-type: none"> <li>* Chief R.B Alley</li> <li>* Assistant Chief Jon Mies</li> <li>* Fire Marshal Eric Hurt</li> <li>* Captain Joe Warren</li> <li>* PIO Bart Humphreys</li> <li>* Assistant Fire Marshal Eric Dotson</li> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li> </ul>	Add collected data to CWPP and discuss Pre-Attack Plan

Meeting Date	Topics Covered	Attendees	Action Items
5/7/13	Risk assessment presentation	<ul style="list-style-type: none"> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li>   <li><b>CSFD A Shift:</b></li> <li>* Joe Gibson</li> <li>* Andrea Ferrell</li> <li>* Brent Sanders</li> <li>* Adam McCullough</li> <li>* Brad Ballard</li> <li>* Clint Anderson</li> <li>* Richard Westbrook</li> <li>* Fred Rapczyk</li> <li>* Michael Swoboda</li> <li>* David Gillis</li> <li>* Nathan Hooper</li> <li>* Joshua Harrington</li> <li>* Bradley McPherson</li> <li>* Patrick Dugan</li> <li>* Tony Ray</li> <li>* Andrew Byorth</li> <li>* Richard Weisser</li> <li>* Tim Hamff</li> <li>* Darryl Smith</li> <li>* Chet Barker</li> <li>* Justin Woodard</li> <li>* Benjamin Miller</li> <li>* Tom Thraen</li> <li>* Charles Almanza</li> <li>* Stuart Marrs</li> <li>* Dan McNeill</li> <li>* David Moore</li> <li>* Doug Smith</li> <li>* Scott Giffen</li> <li>* Tommy Tharp</li> <li>* Jason Neuendorff</li> <li>* Chris Poole</li> <li>* Carter Hall</li> <li>* Patrick Mattina</li> </ul>	Add collected data to CWPP

Meeting Date	Topics Covered	Attendees	Action Items
5/8/13	Risk assessment presentation	<ul style="list-style-type: none"> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li>   <li><b>CSFD B Shift:</b></li> <li>* James Crook</li> <li>* Grant McKay</li> <li>* Tim Valdez</li> <li>* Jeremy Murders</li> <li>* Ernie Goode</li> <li>* Michael Middleton</li> <li>* John Kimbrough</li> <li>* John Shultz</li> <li>* Tim Sullivan</li> <li>* Jacob Prazak</li> <li>* Michael Brown</li> <li>* Lewis Clinkscales</li> <li>* Wade Amy</li> <li>* Mike Armstrong</li> <li>* Matthew Brunson</li> <li>* Eric Falke</li> <li>* Leon Moore</li> <li>* Lance Norwood</li> <li>* Greg Rodgers</li> <li>* Charles Selensky</li> <li>* Chad Phillips</li> <li>* Matt Tomas</li> <li>* Andy Throne</li> <li>* Stan Stephenson</li> <li>* Jeff Kuykendall</li> <li>* K. Simmons</li> <li>* David Copeland</li> <li>* Derek Gallion</li> <li>* Jake Pickard</li> <li>* Jarrod Dreher</li> </ul>	Add collected data to CWPP

Meeting Date	Topics Covered	Attendees	Action Items
5/9/13	Risk assessment presentation	<ul style="list-style-type: none"> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li>   <li><b>CSFD C Shift:</b></li> <li>*Anthony C. Marino</li> <li>*Jason Giles</li> <li>*Jason Murrell</li> <li>*Dominic Beran</li> <li>*Michael Cole</li> <li>*Phillip Markert</li> <li>*Zac Lawson</li> <li>*Mike Rohach</li> <li>*Michael Macias</li> <li>*Travis Towers</li> <li>*Pat Quinlan</li> <li>*Matt Harmon</li> <li>*Johnny Ward</li> <li>*Bill Walton</li> <li>*Jeremy Engel</li> <li>*William Shelton</li> <li>*J.P. Moore</li> <li>*Robert Mumford</li> <li>*Mike Ruesink</li> <li>*George Rosier</li> <li>*Layne Dussetschleger</li> <li>*Deborah Hamff</li> <li>*Chris Kelly</li> <li>*Christina Seidel</li> <li>*Austin Hoggard</li> <li>*Josh Varner</li> <li>*Danny Driskell</li> <li>*Jimmy Yow</li> <li>*Nathan Noynaert</li> <li>*Mike Clemente</li> <li>*Curtis Donahoe</li> <li>*Derek Bishop</li> </ul>	Add collected data to CWPP

Meeting Date	Topics Covered	Attendees	Action Items
5/30/13	CWPP Working Group Meeting	<ul style="list-style-type: none"> <li>* TFS WUI Specialist Melanie Spradling</li> <li>* TFS WUI Specialist Luke Kanclerz</li> </ul> <p><b>College Station Fire Department</b></p> <ul style="list-style-type: none"> <li>*Fire Chief R.B. Alley III</li> <li>*Asst. Chief Jon Mies</li> <li>*Fire Marshal Eric Hurt</li> <li>*Capt. Joe Warren</li> <li>*Lt. Tim Hamff</li> <li>*Lt. Mike Ruesink</li> <li>*Public Information Officer Bart Humphreys</li> <li>*Emergency Management Coordinator Brian Hilton</li> <li>*Public Education Officer Christina Seidel</li> <li>*Training Coordinator Billy Bradshaw</li> </ul>	Discussed CWPP edits, signing ceremony and data needed for Pre-Attack Plan

# Community Background

## Location

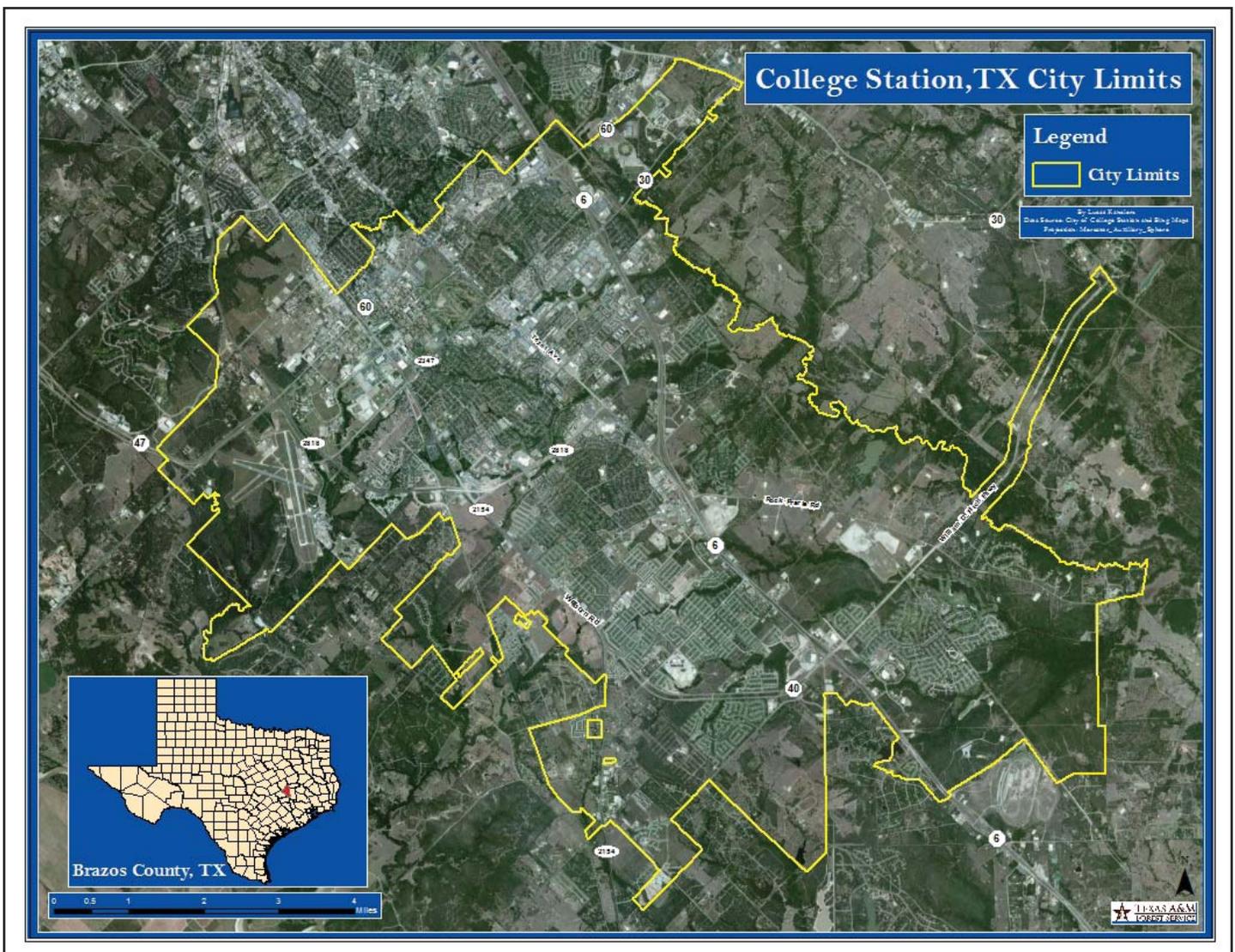
College Station, Texas

Brazos County

N 30° 34' 00"

W 96° 16' 04"

With a population of about 97,000 in 2012, College Station is the largest city in the metropolitan area, encompassing about 49 square miles. College Station is home to Texas A&M University, one of the country's largest public universities. The city is located in the heart of central Texas within a three-hour drive of five of the nation's 20 largest municipalities.



# General Landscape

Texas is one of the fastest-growing states in the nation, with much of this growth occurring adjacent to metropolitan areas. This increase in population across the state will impact counties and communities within the Wildland Urban Interface (WUI). The topography within the city limits is primarily flat plains and smooth plains.

Predictive Service Areas (PSA) represent regions where the weather reporting stations tend to react similarly to daily weather regimes and exhibit similar fluctuations in fire danger and climate. Seven PSA are delineated in Texas. Fire weather thresholds, fuel moisture thresholds and National Fire Danger Rating System thresholds have been developed for each PSA and are unique to the designated PSA.

Critical fire weather thresholds for the PSA in which College Station is located are:

Relative humidity: 30 percent or less

20-foot windspeed (meaning windspeeds that are calculated at 20 feet above the forest canopy): 15 mph or more

Temperature: 10 percent above average

In the tables below, at the low end of the scale in the greens and blues we see normal to below-normal conditions. Initial attack should be successful with few complexities. At the upper end of the scale in the oranges and reds we see unusual or rare conditions and we would expect to see complex fires where initial attack may often fail. So the difficult category to describe and thus maybe the most important category for initial attack is the middle or transition zone in the yellow. Somewhere in the yellow, fires transition from normal to problematic.

NFDRS - National Fire Danger Rating System

ERC - Energy Release Component

BI - Burning Index

KBDI - Keetch-Byram Drought Index

## Dead Fuel Moisture Thresholds

	Percentiles				
	3	4-10	11-25	26-50	51-100
1000-hr	13	14-15	16	17-18	19
100-hr	11	12-13	14	15-16	17
10-hr	5	6	7	8-9	10

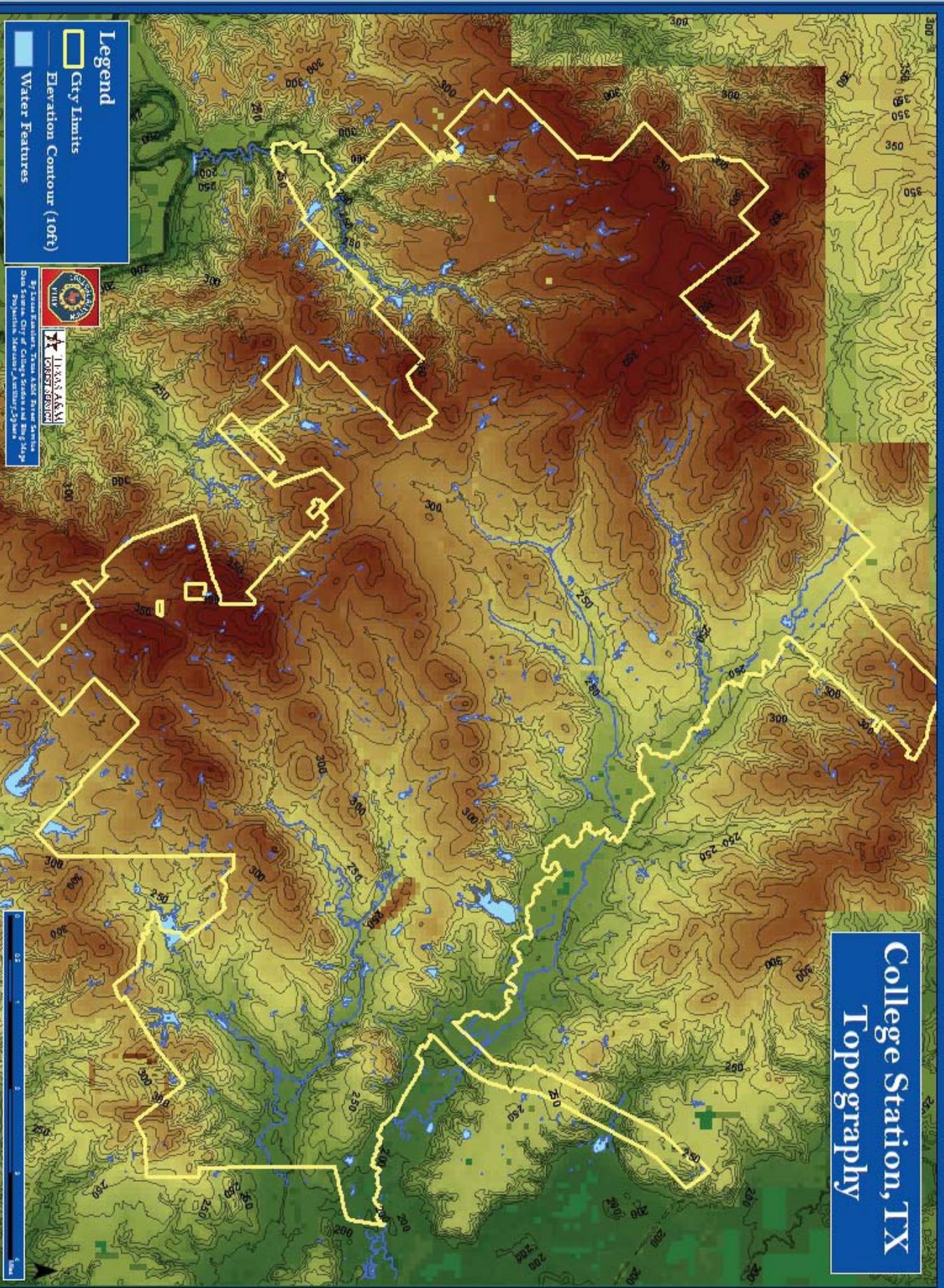
## NFDRS Thresholds (Fuel Model G)

	Percentiles				
	97	90-96	75-89	50-74	0-49
ERC	47	38-46	31-37	25-30	0-24
BI	52	44-51	34-43	25-33	0-24
KBDI	758	683-757	606-682	470-605	0-469

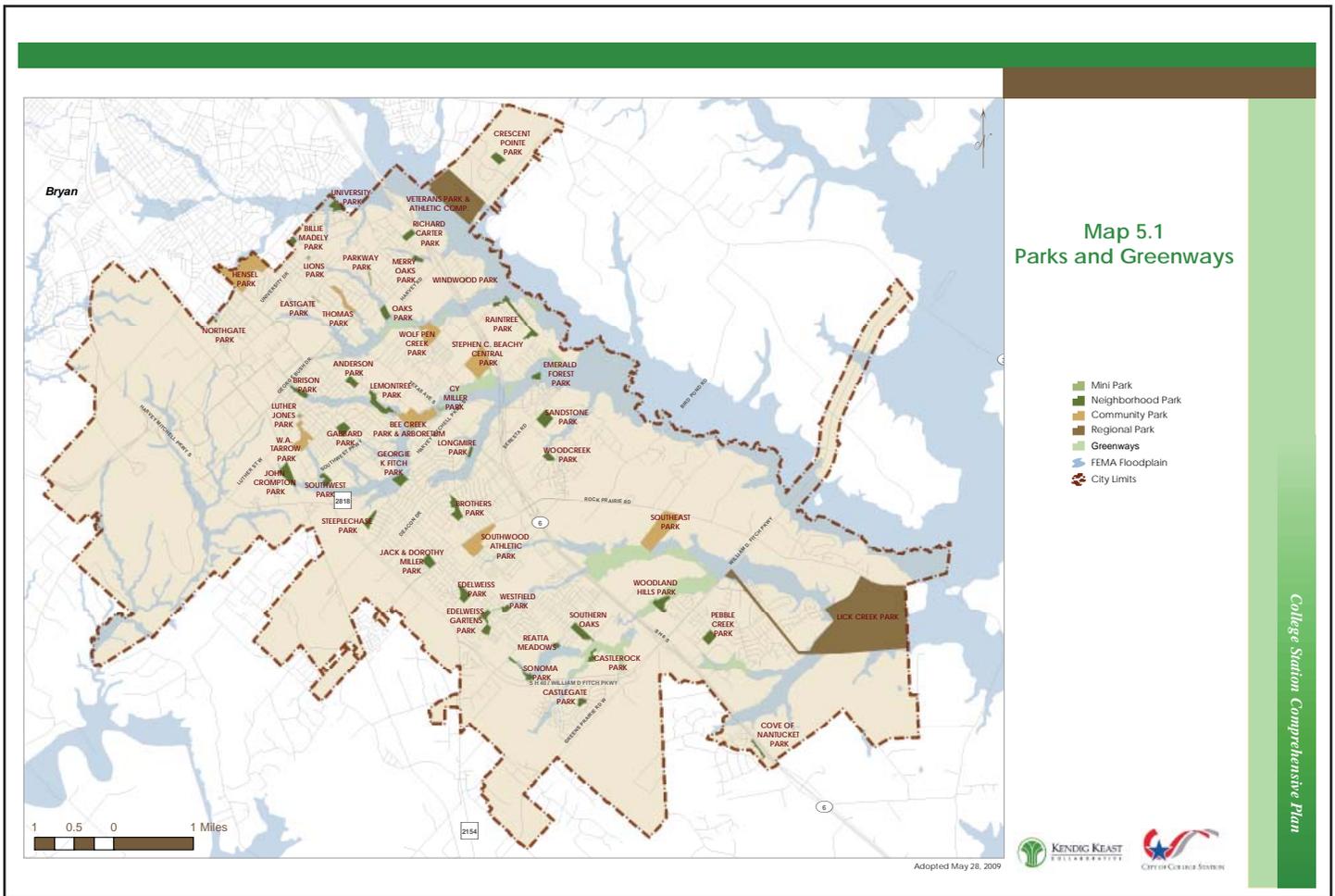
## Live Fuel Moisture

	Percentiles				
	3	4-10	11-25	26-50	51-100
Pine	105	106-120	121-130	131-150	151-300
Oak	75	76-90	91-100	101-125	126-300
Yaupon	100	101-115	116-130	131-150	151-300

# College Station, TX Topography



# Parks



The City of College Station currently has more than 1,305 acres of parkland and 500 acres of greenway that allow for active and passive recreation. They are classified as follows and displayed in the map above.

- Mini Parks – 7
- Neighborhood Parks – 34
- Community Parks – 8
- Regional Parks – 2 (Lick Creek Nature Park and Veterans Athletic Park)
- Special – 2 (Arboretum, Conference Center)
- Cemeteries – 2 (not included in total acreage above)
- Greenways trials – 3 miles of paved trails

Source: City of College Station Comprehensive Plan

# Climate

Climate data for College Station, Texas													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	86 (30)	99 (37)	94 (34)	91 (33)	100 (38)	104 (40)	109 (43)	107 (42)	105 (41)	99 (37)	88 (31)	86 (30)	109 (43)
Average high °F (°C)	61 (16)	66 (19)	73 (23)	79 (26)	85 (29)	92 (33)	95 (35)	96 (36)	91 (33)	82 (28)	71 (22)	63 (17)	80 (27)
Average low °F (°C)	42 (6)	44 (7)	50 (10)	57 (14)	65 (18)	72 (22)	74 (23)	75 (24)	69 (21)	59 (15)	49 (9)	42 (6)	58 (14)
Record low °F (°C)	7 (-14)	14 (-10)	17 (-8)	28 (-2)	42 (6)	53 (12)	58 (14)	60 (16)	44 (7)	29 (-2)	19 (-7)	3 (-16)	3 (-16)
Precipitation inches (mm)	3.32 (84.3)	2.38 (60.5)	2.84 (72.1)	3.20 (81.3)	5.05 (128.3)	3.79 (96.3)	1.92 (48.8)	2.58 (65.5)	3.97 (100.8)	4.24 (107.7)	3.18 (80.8)	3.23 (82)	39.72 (1,008.9)

Source: weather.com<sup>[9]</sup>

## Peak Fire Seasons:

### Primary – July through September with summer drying

Dry vegetation due to little or no rain, combined with temperatures of 98° to 105° F on a daily basis. Hurricanes or tropical storms close to Southeast Texas bring in dry, strong to gusty winds from the north and northeast.

### Secondary – December through March with cured grasses and wind events

Cold front moves in from the north ushering in drier air. Relative humidity drops below 20 percent during the afternoon hours with winds gusting anywhere from 25 mph to 50 mph.

## City of College Station Fuels

Fuel Model	Description	Rate of Spread	Flame Length	% of Land in City Limits	Acres of Land in City Limits
NB 91	Urban/Developed Land	n/a	n/a	46.1%	14,024
FM 9 HWD	Hardwood timber litter, with fluffy duff layer	Low	Low	15.9%	4,847
GR 1	Short, patchy, normally heavily grazed grass	Moderate	Low	14.2%	4,308
GR 2	Moderately coarse continuous grass (1 foot)	High	Moderate	13%	3,948
FM 8	Closed timber litter	Low	Low	8.4%	2,552

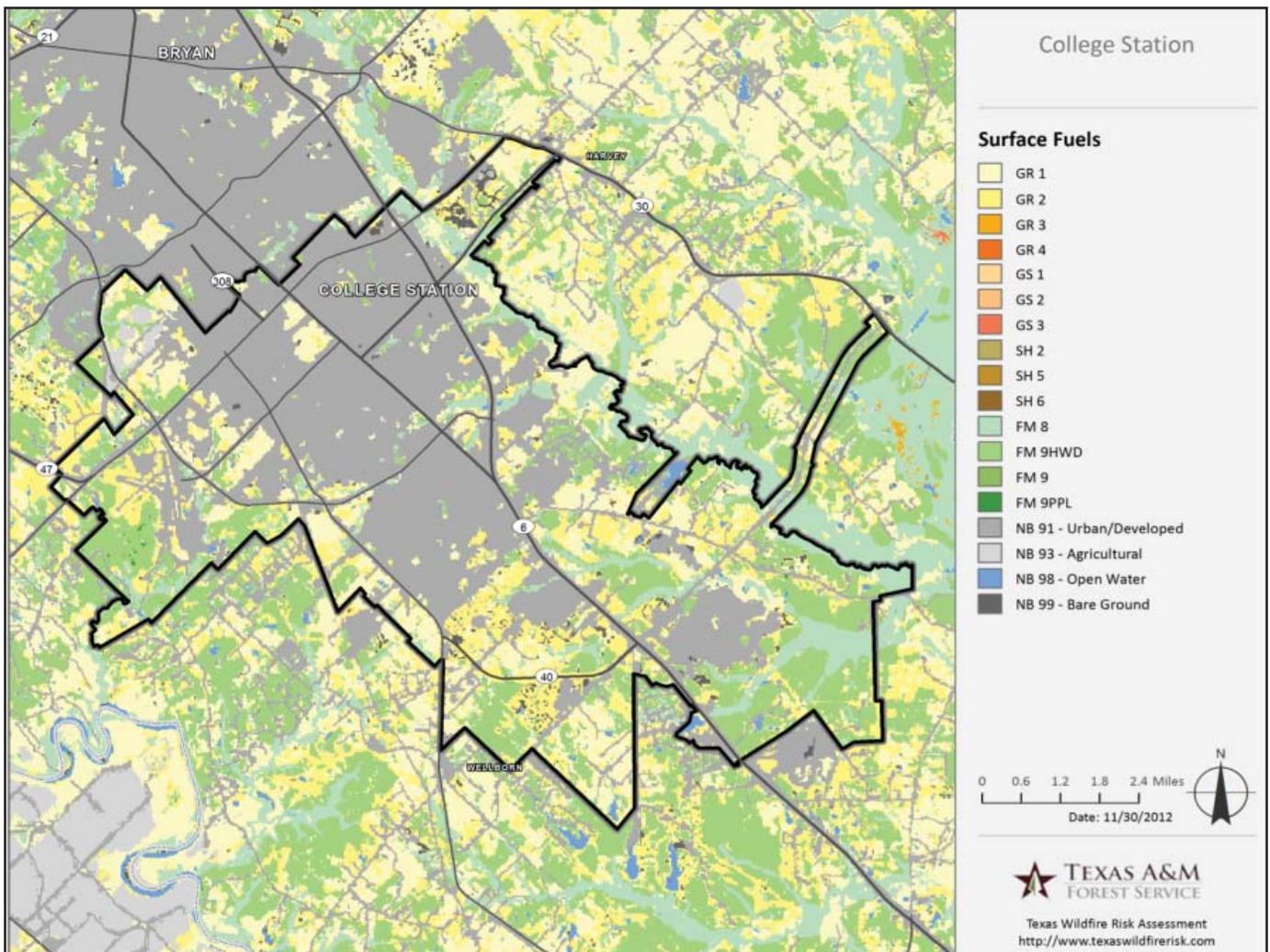
Surface fuels contain the parameters needed to compute surface fire behavior characteristics, such as rate of spread, flame length, fireline intensity and other fire behavior metrics. As the name might suggest, surface fuels only account for the surface fire potential.

Canopy fire potential is computed through a separate but linked process. The Texas Wildfire Risk Assessment accounts for both surface and canopy fire potential in the fire behavior outputs.

Surface fuels are typically categorized into one of four primary fuel types based on the primary carrier of the surface fire: 1) grass, 2) shrub/brush, 3) timber litter and 4) slash.

Surface Fuels - Acres

Surface Fuels	Description	FBPS Fuel Model Set	Acres	Percent
GR 1	Short, Sparse Dry Climate Grass (Dynamic)	2005	4,447	16.0%
GR 2	Low Load, Dry Climate Grass (Dynamic)	2005	2,829	10.2%
GR 3	Low Load, Very Coarse, Humid Climate Grass (Dynamic)	2005	12	0.0%
GR 4	Moderate Load, Dry Climate Grass (Dynamic)	2005	0	0.0%
GS 1	Low Load, Dry Climate Grass-Shrub (Dynamic)	2005	0	0.0%
GS 2	Moderate Load, Dry Climate Grass-Shrub (Dynamic)	2005	0	0.0%
GS 3	Moderate Load, Humid Climate Grass-Shrub (Dynamic)	2005	0	0.0%
SH 2	Moderate Load Dry Climate Shrub	2005	0	0.0%
SH 5	High Load, Dry Climate Shrub	2005	0	0.0%
SH 6	Low Load, Humid Climate Shrub	2005	0	0.0%
FM 8	Closed timber litter (compact)	1982	1,891	6.8%
FM 9 HWD	Hardwood litter (fluffy) - Low Load for Texas	Custom	2,967	10.7%
FM 9	Long-needle (pine litter) or hardwood litter	1982	18	0.1%
FM 9 PPL	Long-needle (pine litter, plantations) - High Load for Texas	Custom	7	0.0%
NB 91	Urban/Developed	2005	15,213	54.7%
NB 93	Agricultural	2005	58	0.2%
NB 98	Open Water	2005	126	0.5%
NB 99	Bare Ground	2005	247	0.9%
<b>Total</b>			<b>27,814</b>	<b>100.0%</b>

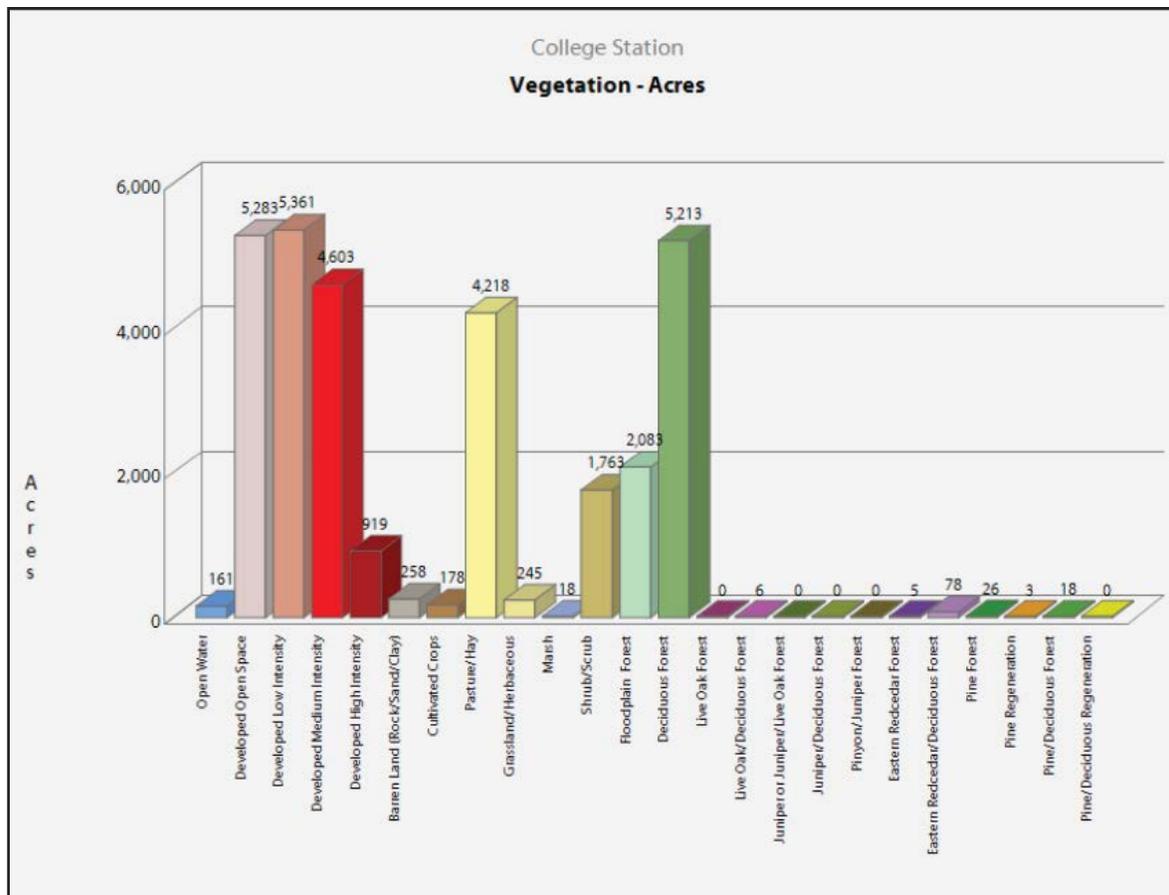
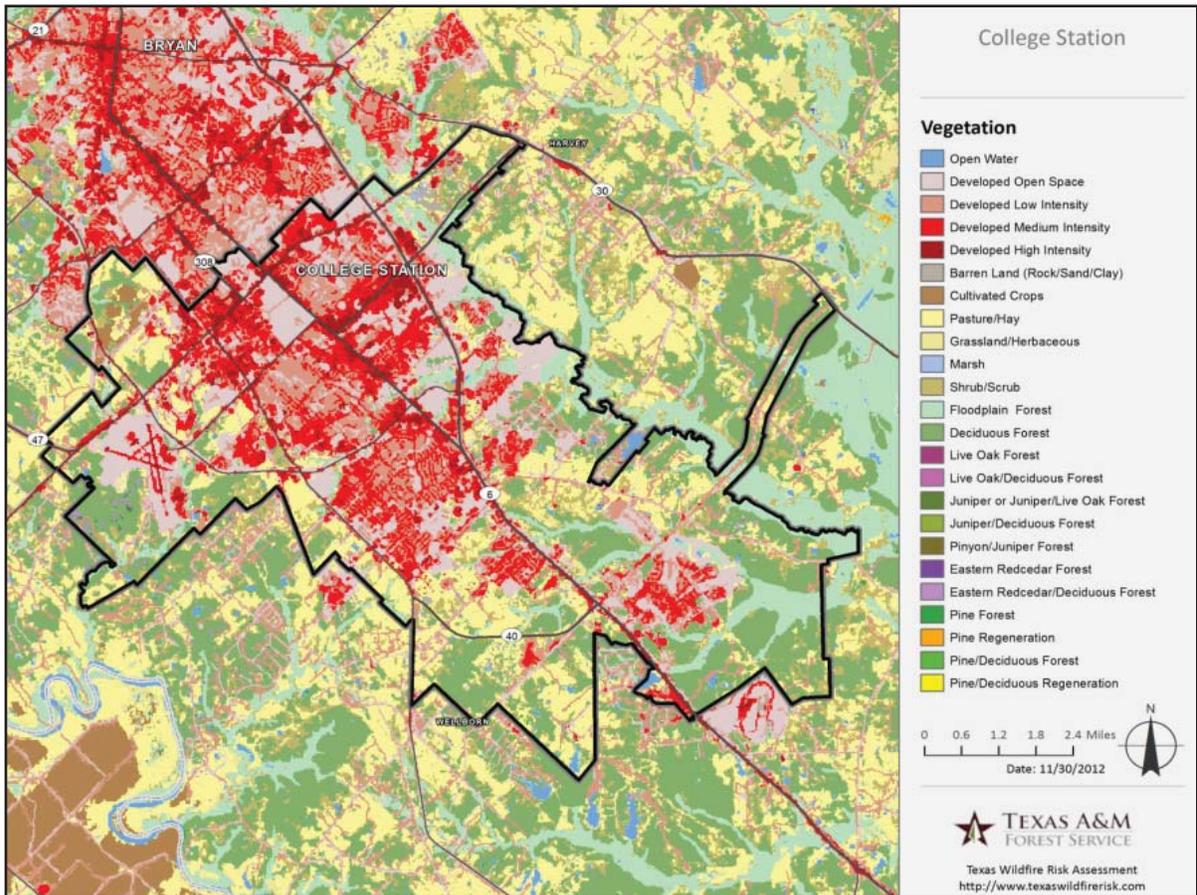




## Vegetation

The vegetation map describes the general vegetation and landcover types across the state of Texas. In the Texas Wildfire Risk Assessment (TWRA), the vegetation dataset is used to support the development of surface fuels, canopy cover, canopy stand height, canopy base height and canopy bulk density datasets. The vegetation classes with descriptions are shown in the following table.

Vegetation - Acres				
	Class	Description	Acres	Percent
	Open Water	All areas of open water, generally with < 25% cover of vegetation or soil	161	0.5%
	Developed Open Space	Impervious surfaces account for < 20% of total cover (i.e. golf courses, parks, etc...)	5,283	17.4%
	Developed Low Intensity	Impervious surfaces account for 20-49% of total cover	5,361	17.6%
	Developed Medium Intensity	Impervious surfaces account for 50-79% of total cover	4,603	15.1%
	Developed High Intensity	Impervious surfaces account for 80-100% of total cover	919	3.0%
	Barren Land (Rock/Sand/Clay)	Vegetation generally accounts for <15% of total cover	258	0.8%
	Cultivated Crops	Areas used for the production of annual crops, includes land being actively tilled	178	0.6%
	Pasture/Hay	Areas of grasses and/or legumes planted for livestock grazing or hay production	4,218	13.9%
	Grassland/Herbaceous	Areas dominated (> 80%) by graminoid or herbaceous vegetation, can be grazed	245	0.8%
	Marsh	Low wet areas dominated (>80%) by herbaceous vegetation	18	0.1%
	Shrub/Scrub	Areas dominated by shrubs/trees < 5 meters tall, shrub canopy > than 20% of total vegetation	1,763	5.8%
	Floodplain Forest	> 20% tree cover, the soil is periodically covered or saturated with water	2,083	6.8%
	Deciduous Forest	> 20% tree cover, >75% of tree species shed leaves in response to seasonal change	5,213	17.1%
	Live Oak Forest	> 20% tree cover, live oak species represent >75% of the total tree cover	0	0.0%
	Live Oak/Deciduous Forest	> 20% tree cover, neither live oak or deciduous species represent >75% of the total tree cover	6	0.0%
	Juniper or Juniper/Live Oak Forest	> 20% tree cover, juniper or juniper/live oak species represent > 75% of the total tree cover	0	0.0%
	Juniper/Deciduous Forest	> 20% tree cover, neither juniper or deciduous species represent > 75% of the total tree cover	0	0.0%
	Pinyon/Juniper Forest	> 20% tree cover, pinyon or juniper species represent > 75% of the total tree cover	0	0.0%
	Eastern Redcedar Forest	> 20% tree cover, eastern redcedar represents > 75% of the total tree cover	5	0.0%
	Eastern Redcedar/Deciduous Forest	> 20% tree cover, neither eastern redcedar or deciduous species represent > 75% of the total tree cover	78	0.3%
	Pine Forest	> 20% tree cover, pine species represent > 75% of the total tree cover	26	0.1%
	Pine Regeneration	Areas of pine forest in an early successional or transitional stage	3	0.0%
	Pine/Deciduous Forest	> 20% tree cover, neither pine or deciduous species represent > 75% of the total tree cover	18	0.1%
	Pine/Deciduous Regeneration	Areas of pine or pine/deciduous forest in an early successional or transitional stage	0	0.0%
	<b>Total</b>		<b>30,440</b>	<b>100.0%</b>





## Existing Land Use

### Urban

Urban character is currently concentrated in the Northgate area. It primarily involves the businesses along either side of College Main, immediately north of University Drive. The public parking garage and recent multi-story residential projects built close to the street continue this urban feel. This area currently includes vertical development, minimal setbacks, minimal surface parking lots and a high level of pedestrian activity.

### Suburban

Suburban character dominates College Station as a result of the time period of most of College Station's development (post-World War II), local preferences and building customs, and the dominance of the student population (dormitories and apartments). Much of this suburban character is auto-dominated, that is it consists of land uses that have extensive areas of parking in relationship to their floor area. Big-box retail areas and shopping malls are quintessential examples of this character. Most apartment complexes, duplexes, and even single-family residential developments catering to students exhibit similar auto-oriented character and design.

Areas of the City exhibit a less auto-dependent and more walkable character. These areas retain a balance between green areas (parks and open space) and the built environment. Often these areas include parks, schools, and small-scale, neighborhood-serving businesses.

The College Hills area is a good example of this type of suburban land use and character. A few of these areas are more specialized in land use, such as the College Station Business Center, which provides employment and business opportunities in a walkable environment with significant open space. There are also suburban areas that are dominated by open space. These estate areas are much more rural in character with homes generally placed on large lots. Foxfire subdivision is a good example of this type of suburban land use and character.

### Rural

Rural areas that currently exist in and around College Station include areas that exhibit countryside, agricultural, and natural character. Countryside is typically dominated by a few lots of estate size fronting a road surrounded by agricultural or natural lands. The latter two tend to be determined by uses – crop or ranching in agricultural areas and wooded or savanna lands in natural areas. Rural areas tend to be more auto-suburban commercial along Earl Rudder Freeway.

TABLE 2.1  
Future Land Use & Character

Designation	Acreage in City	% of Total	Acreage in ETJ	% of Total	Total	% of Total
Neigh. Conservation	1,408.6	5.0%	0.0	0.0%	1,408.6	1.0%
Rural	0.0	0.0%	94,930.4	87.6%	94,930.4	69.4%
Estate	3,498.9	12.4%	0.0	0.0%	3,498.9	2.7%
Restricted Suburban	4,030.4	14.3%	447.6	0.4%	4,478.0	3.3%
General Suburban	2,467.2	8.8%	601.7	0.6%	3,069.0	2.3%
Urban	2,690.8	9.6%	300.6	0.3%	2,991.5	2.1%
Urban Mixed Use	400.8	1.4%	0.0	0.0%	400.8	0.3%
General Commercial	882.3	3.1%	0.1	0.0%	882.4	0.6%
Suburban Commercial	912.8	3.2%	76.6	0.1%	989.4	0.7%
Business Park	1,203.2	4.3%	835.1	0.8%	2,038.3	1.5%
Institutional / Public	673.9	2.4%	0.0	0.0%	674.0	0.5%
Texas A&M University	5,259.4	18.7%	4.7	0.0%	5,264.1	3.9%
Natural - Protected	1,250.8	4.4%	17.9	0.0%	1,268.7	0.9%
Natural - Reserved	3,413.7	12.1%	11,137.7	10.3%	14,551.4	10.7%
Utilities	61.7	0.2%	2.4	0.0%	64.2	0.0%
<b>TOTAL</b>	<b>28,154.5</b>	<b>100.0%</b>	<b>108,354.7</b>	<b>100.0%</b>	<b>136,509.7</b>	<b>100.0%</b>

NOTE: The total area of the combined City limits and ETJ is approximately 141,370 acres. The total area in the land use categories is 136,509.7 acres. The difference is within street and highway rights-of-way (4,860.3 acres, or roughly 3.4% of the overall area).

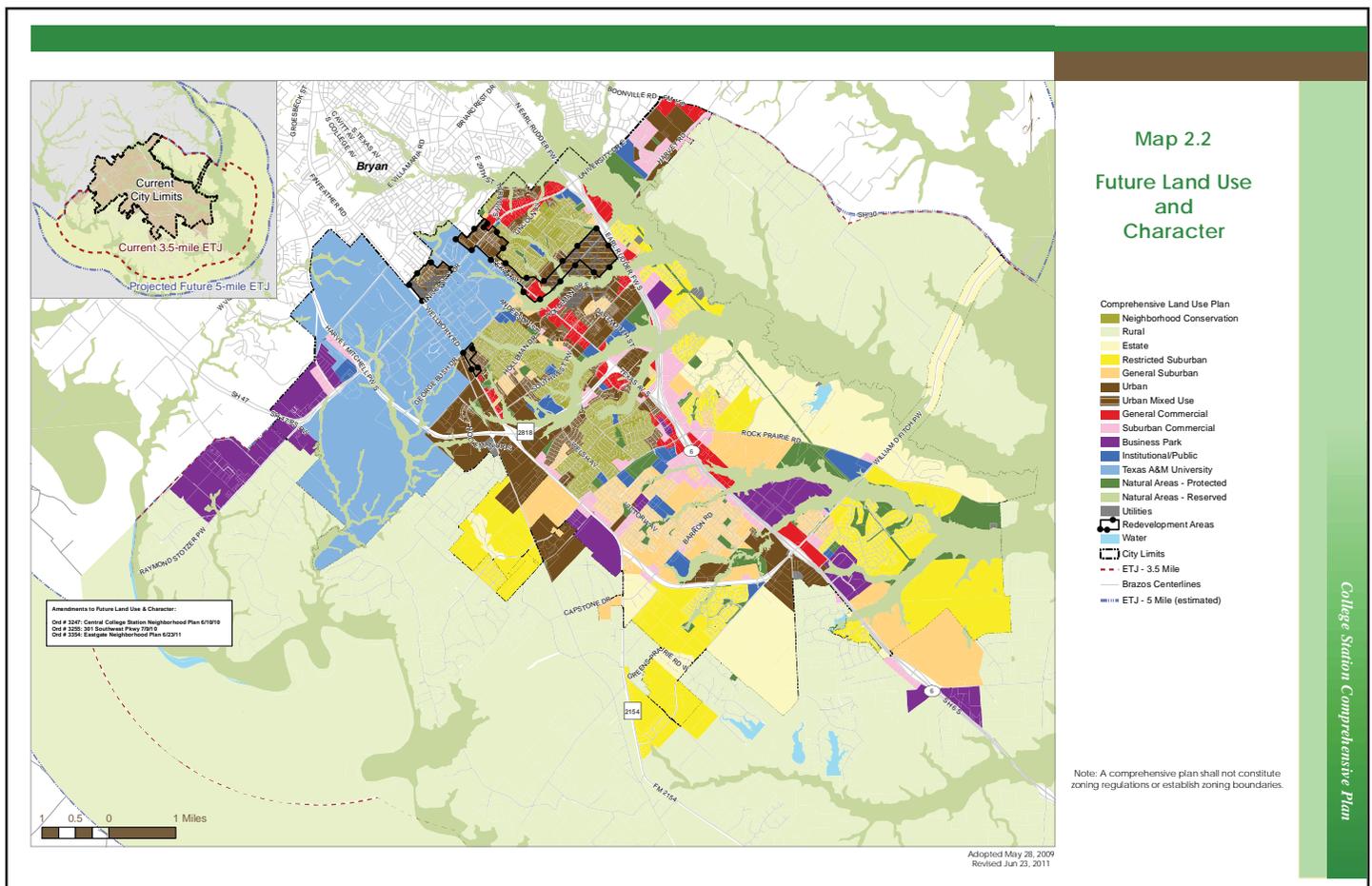
\* Totals down to decimal place level may vary slightly due to rounding.

## Future Land Use

The basic land use concept associated with the city's Comprehensive Plan is to achieve the highest quality of life by accommodating the projected demand for new housing, businesses and public facilities, resulting in multiple places of distinction. This concept focuses on:

- Strong and sustainable neighborhoods;
- Unique districts and corridors both natural and man-made;
- Growth areas flexible enough to respond to a changing marketplace while proscriptive enough to contribute to the community's quality of life;
- Rural areas that preserve open spaces and respect the limits of public infrastructure and services;
- Redevelopment areas that renew struggling or under-performing areas of the community through partnerships with public and private interests; and,
- Context-sensitive mobility system linking the community together.

In addition to meeting the projected demands associated with an increasing population, this concept enables the City to continue to strengthen its principal competitive advantage for attracting and retaining residents and visitors along with new businesses and the employment and tax revenues that accompany them – that is, a high quality of life.



Source: City of College Station Comprehensive Plan

# Fire Response Capabilities

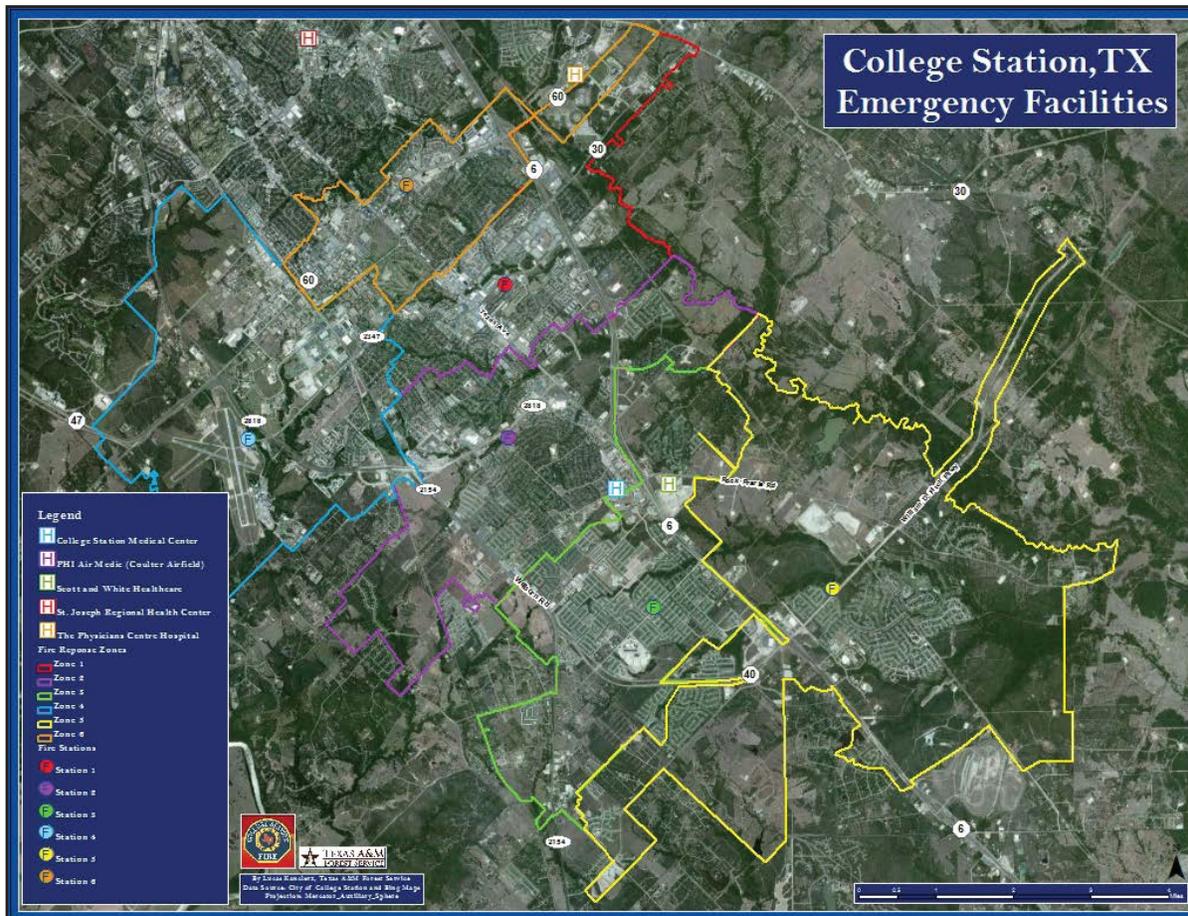
The College Station Fire Department has six fire stations and staffs six engines, one ladder tower, one tender, one aircraft rescue and firefighting vehicle, four Mobile Intensive Care Unit (MICU) capable ambulances, and one command vehicle.

There are 41 personnel assigned to each of three shifts, with minimum staffing daily at 33 personnel. Shift personnel work a 24-hour shift with 48 hours off between shifts, for an average of 56 hours worked each week.

The College Station Fire Department is the lead agency for a Hazardous Materials Response Group made up of personnel from the College Station and Bryan Fire Departments and personnel from the Environmental Health and Safety Office of Texas A&M University.

STATION	APPARATUS
Fire Station No. 1 304 Holleman Drive East	Engine – Compressed air foam (Unit # 721) Engine – reserve (#727) Ambulance (Unit # 761) Ambulance – reserve (Unit # 765) EMS Gator (Unit # 760) Fire/ EMS Gator (Unit # 799)
Fire Station No. 2 2100 Rio Grande Blvd.	Engine – compressed air foam (Unit # 722) Ambulance (Unit #762) Truck – 100 ft. ladder platform (Unit # 752) Truck – 75 ft. ladder – reserve (Unit # 751)
Fire Station No. 3 1900 Barron Road	Engine – compressed air foam (Unit # 723) Engine – reserve (Unit # 728) Ambulance (Unit # 763)
Fire Station No. 4 1550 George Bush Drive West	Engine – foam system (Unit # 724) Ambulance – reserve (Unit # 764) Truck – ARFF (Unit # 734) Truck – ARFF – reserve (Unit # 794)
Fire Station No. 5 1601 William D. Fitch Parkway	Engine – foam system (Unit # 725) Tender – 3,000 gal (Unit # 735) Truck – grass (Unit #745)
Fire Station No. 6 610 University Drive East	Engine – compressed air foam (Unit # 726) Ambulance (Unit # 766) Command Vehicle – Battalion Chief (Unit # 711) Command Vehicle – reserve (Unit # 706) Rehab/ Air (Unit # 796) Dodge Truck – dual utility truck (Unit # 790) HazMat Trailer – local and regional response Swift water/ dive trailer Inflatable Rescue Boat Flat Bottom Boat

# Emergency Facilities



## Treatment centers in the area include:

### College Station Medical Center, 1604 Rock Prairie Road

- 171 licensed beds; 12-bed medical/surgical ICU; eight operating rooms (plus two cath labs)
- MRI scanner; CT scanner; dialysis unit
- 13 isolation beds (one in ER)
- Emergency power for 158 hours
- **Emergency room: 29 acute care beds**

### Scott and White Healthcare, 700 Scott & White Drive

- 143 beds
- Level III emergency department
- MRI scanner, 64-slice CT scanner

### St. Joseph Regional Health Center, 2801 Franciscan

- 266 licensed beds; 36-bed medical/surgical ICU; 16 operating rooms
- MRI scanner; two CT scanners; dialysis unit
- 30 isolation beds
- Emergency power for indefinite number of hours
- **Emergency room: 28 treatment room beds**

### The Physicians Centre Hospital, 3131 University Drive

- 16 licensed beds; no ICU; four operating rooms and two minor procedure rooms
- MRI scanner, CT scanner, no dialysis unit
- Emergency power for 24 hours
- **Emergency Room: 16 patient suites**

### PHI Air Medic, located at St. Joseph Regional Health Center, 2801 Franciscan

- Transports patients by helicopter

## The closest burn units are:

- Shriners Hospitals for Children Pediatric Burn Center in Galveston
- University of Texas Medical Branch Blocker Adult Burn Center in Galveston

# Utilities and Transportation

## Utilities

### College Station Utilities

(979) 764-3535

### Bryan Texas Utilities

(979) 821-5700

### Texas A&M University Utilities

(979) 458-5500

### Mid-South Synergy

(936) 825-5100

### Navasota Valley Electric Co-op

(979) 828-3232

### Entergy

(800) 368-3749

### Atmos Energy

(866) 322-8667

UTILITY RESTORATION FOR CRITICAL FACILITIES						
Utility Service Restoration Priorities:	1= Highest 5= Lowest					
Emergency Generation:	Yes= Emergency Generator on site. Ltd.= Generator available, but powers only a limited portion of the facility.					
Facility Name:	Emer. Gen.	Elec.	Phone	Water	WW	Gas
City of College Station/ TAMU						
Reed Arena	Yes	1	1	1	1	1
TAMU Campus	No	1	2	1	1	2
City Hall Administration	Yes	2	1	1	1	2
City Hall Administration	Yes	2	1	1	1	2
Central Fire Station	Yes	3	2	1	1	1
Police Station	Yes	2	1	1	1	2
Lincoln Center	Yes	3	3	1	1	1
USC	Yes	3	2	1	1	1
Greens Prairie Substation	Yes	3	3	2	2	2
Southwood Valley Subdivision	Yes	3	3	2	2	2
Post Oak Subdivision	No	1	1	1	1	1
Switch Subdivision	Yes	1	1	2	3	1
Lick Creek Wastewater Plant	Yes	1	3	NA	NA	1
Dowling Road Pump Station	Yes	1	3	NA	NA	1
College Station Medical Center	Yes	1	1	1	1	1
Scott & White Clinic	Yes	2	2	1	1	1
CSISD Schools	No	1	3	1	1	1

## Hazardous materials transportation routes

Hazardous materials transportation routes are a concern in the event of a wildfire that prompts road closures or evacuations.

### Highways

#### Texas State Highway 6

Primary chemical hazards: LPG; gasoline  
Protective action distance: 800 meters-1,600 meters

#### Texas State Highway 21

Primary chemical hazards: LPG; gasoline  
Protective action distance: 800 meters-1,600 meters

#### Texas State Highway 30

Primary chemical hazards: LPG; gasoline  
Protective action distance: 800 meters-1,600 meters

#### Texas F.M. 2818

Primary chemical hazards: Ammonia  
Protective action distance: 1,600 meters



## Railroads

### Union Pacific Railroad

Primary chemical hazards: Liquid and dry chemicals; hydrofluoric acid  
Protective action distance: 800 meters, or as required for safety

## Pipelines

### Exxon/Mobil Pipeline

Primary chemical hazard: Petroleum  
Protective action distance: 300 meters-800 meters

### ConocoPhillips Pipeline

Primary chemical hazard: Petroleum  
Protective action distance: 300 meters-800 meters

### Teppco Pipeline

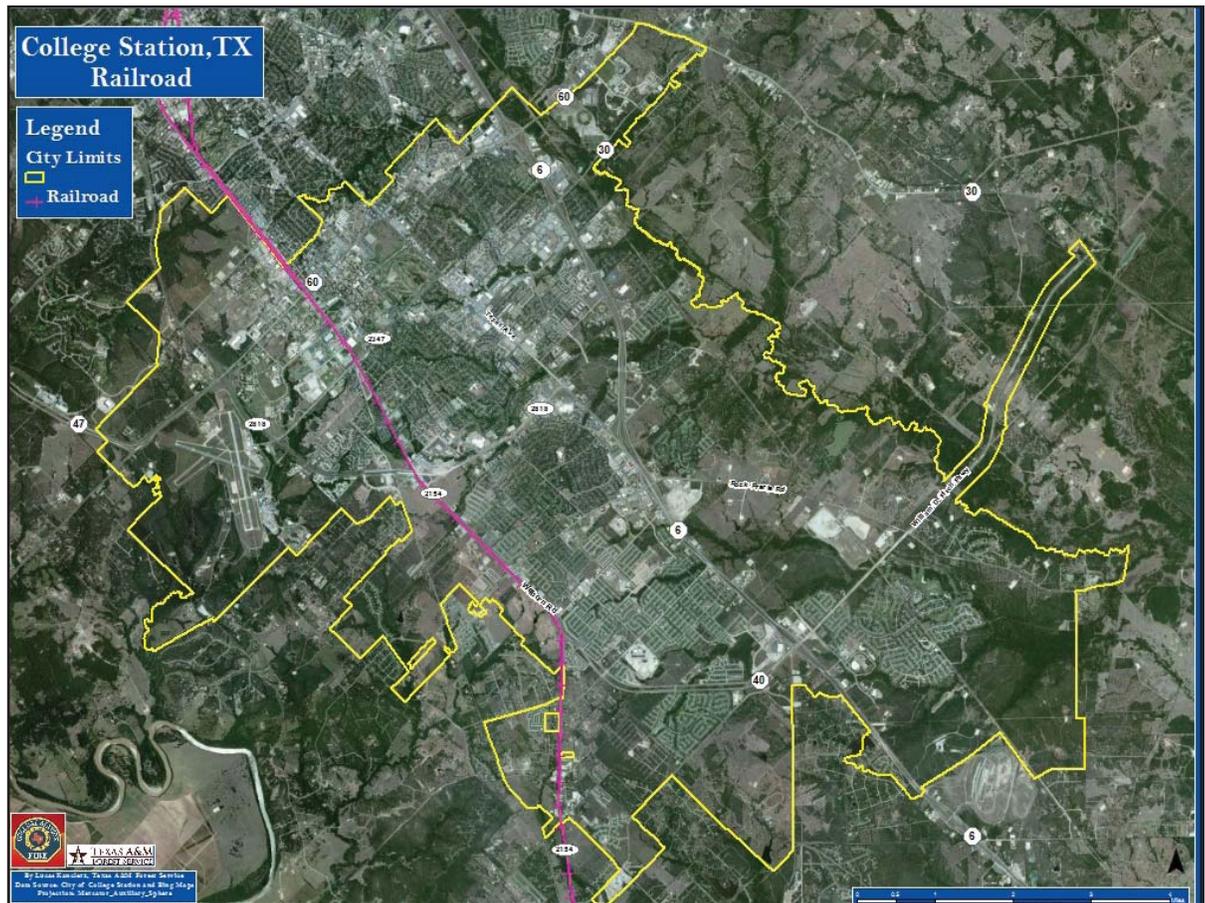
Primary chemical hazard: Petroleum  
Protective action distance: 300 meters-800 meters

### Koch Pipeline

Primary chemical hazard: Petroleum/crude oil  
Protective action distance: 300 meters-800 meters

### Enterprise Pipeline

Primary chemical hazard: Natural gas  
Protective action distance: 800 meters-1,600 meters



The pink line shows the railroad's route through the city.

## Pipeline Safety

Most highly explosive pipelines will be buried approximately three feet deep, but there are exceptions.

Some of the larger firefighting equipment will be powerful enough to rupture these lines. Other lines may not be as explosive but can also be very dangerous. Most of the plastic "flow lines" that lie on top of the ground are usually carrying less of a dangerous liquid but can still burn if ignited. This hazard requires the use of lookouts, especially at night. Some situations may require that the ground person walk in front of the equipment if pipelines are suspected in the vicinity.



Underground pipelines are marked with above-ground markers.

# Schools

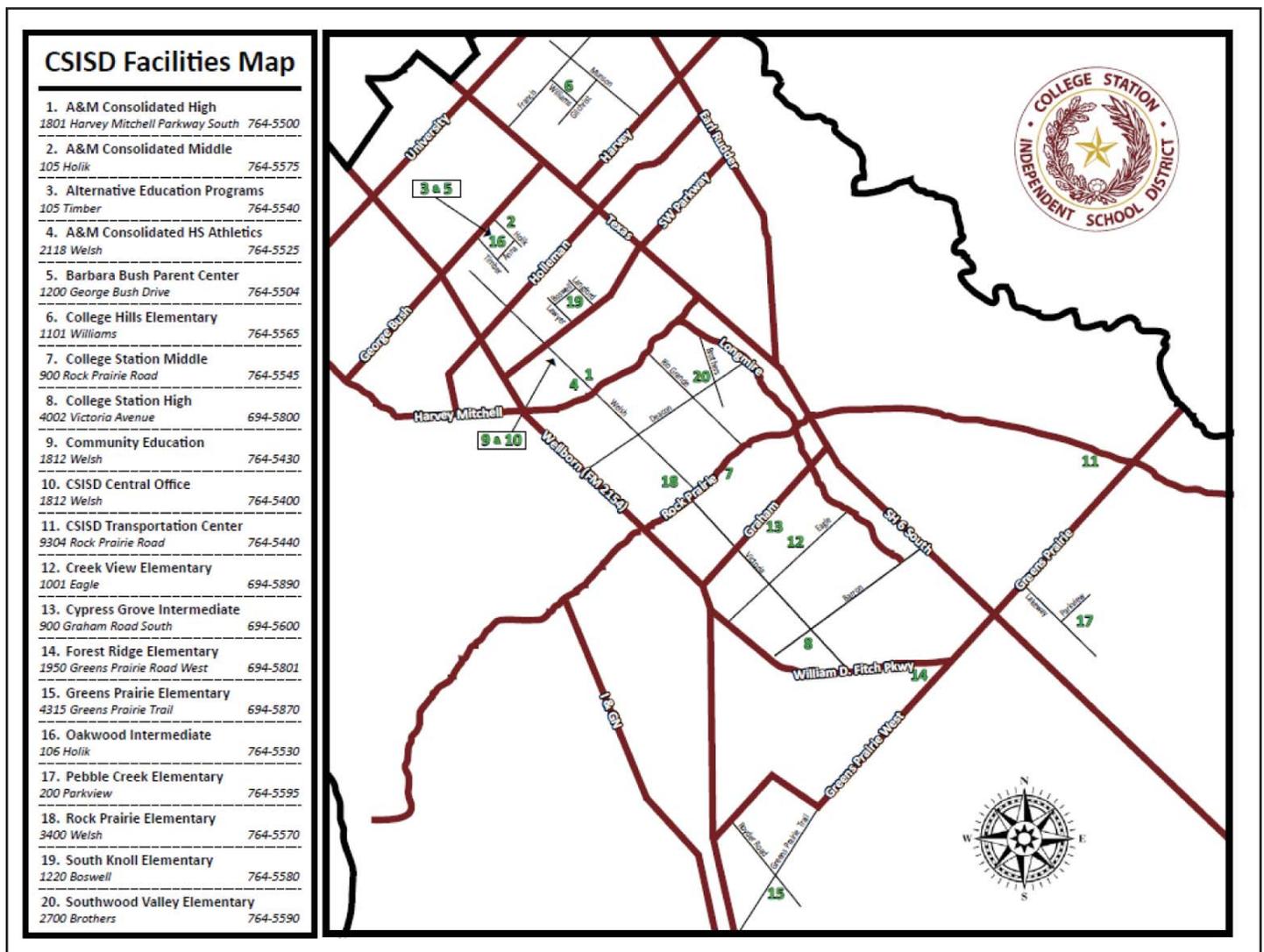
## Texas A&M University

College Station is home to Texas A&M University, attended by approximately 50,000 students. Evacuation orders for the Texas A&M campus are issued via Code Maroon messaging system.

According to Texas A&M Campus Safety and Emergency Procedures, when a campus evacuation notice is issued:

- Pedestrians should exit campus by the shortest route, walking north toward Church Street or south toward Anderson Park - use crosswalks, obey police direction, do not impede traffic flow.
- Exit campus as directed in the Code Maroon message.
- You may use your vehicle to leave campus unless directed otherwise in the Code Maroon message.
- If possible, Transportation Services will continue to operate off-campus routes, outbound only. Bus pickup locations may be altered, changes will be announced and posted at <http://emergency.tamu.edu>.
- Transportation Services Paratransit can be reached by calling (979) 845-1971.
- Visit <http://emergency.tamu.edu> for regular updates on the emergency situation and information on returning to campus.

## College Station Independent School District



## School Evacuation and Sheltering

College Station ISD has emergency operations plans for each campus, which were developed in 2005. The emergency response plans are evaluated and updated annually, and in 2011 the plans went through a formal evaluation with security and safety experts from the Texas Engineering Extension Service. Each plan takes into account the campus location, design and age of students.

These respective campus plans contain multiple possible responses which can be applied to emergency situations in order to maximize student safety. All CSISD campuses practice multiple emergency responses, including evacuations, lockdowns and shelter-in-place drills, on a routine basis.



All CSISD campuses have emergency radios, which have the capability to directly contact the College Station Police Department dispatch. CSISD also works closely with the College Station PD, which has engaged in emergency response training in CSISD buildings. Additionally, CSISD contracts with an outside agency to conduct a safety audit every three years.

When school is not in session, CSISD facilities could potentially be used as staging locations or Incident Command Posts. Such arrangements are coordinated through the College Station Emergency Management Coordinator, American Red Cross and CSISD Director of Facilities.

## Community Legal Authority

The City Council is composed of the Mayor and six council members elected at large. The Mayor is the presiding officer of the City Council and is recognized as the head of the city government for all ceremonial purposes. The Mayor is entitled to vote on all matters under consideration by the City Council. The City Council shall elect a Mayor Pro Tem from its membership who will act as Mayor during the absence or disability of the Mayor.

The Mayor and each council member will hold office for a period of three years until his or her successor is elected and qualified. No person shall be deemed elected to an office unless that person receives a majority of all the votes cast for such office.

In the event of an incident, the first responder on the scene will take charge and serve as the Incident Commander until relieved in accordance with local procedures (*Brazos County Interjurisdictional Emergency Management Plan, Annex N, Direction and Control*). The county judge or mayor will likely be responsible for declaring a disaster and ordering evacuations. The City of College Station employs Incident Command System principles during emergency response.

Burn bans are set by the Brazos County Commissioners Court for Brazos County. For the City of College Station, burning is only allowed by permit issued by the College Station Fire Marshal. Burn bans are evaluated based on the Keetch-Byram Drought Index (particularly when it is approaching 600), frequency of fire calls and other weather conditions.

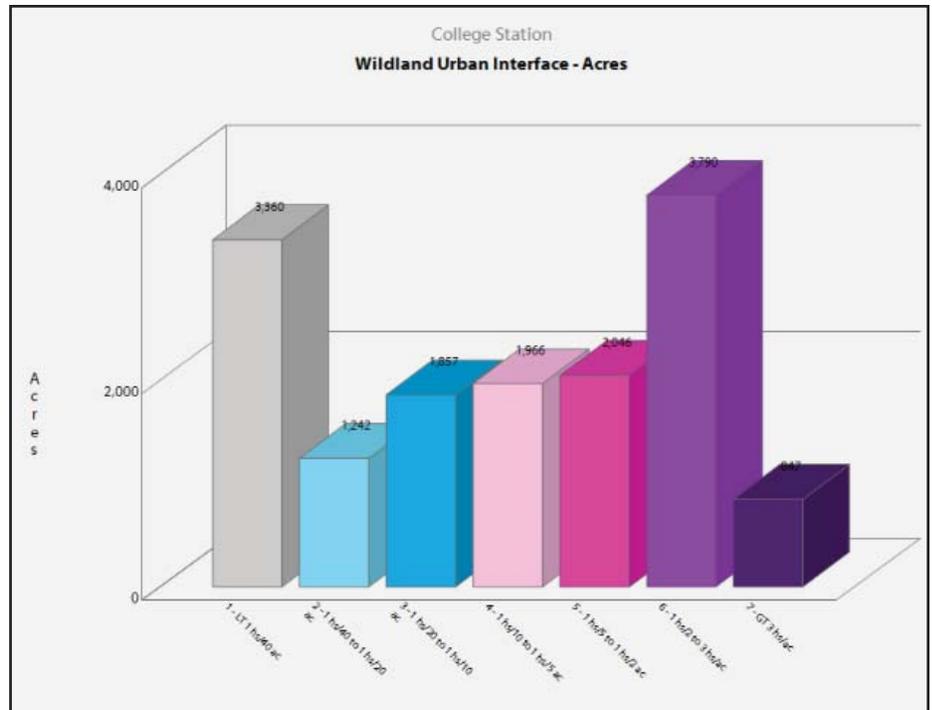
# Fire Environment

## Wildland Urban Interface

The Wildland Urban Interface (WUI) is described as the area where structures meet and intermingle with undeveloped wildland or vegetative fuels. Population growth within the WUI substantially increases wildfire risks. In Texas, more than 80 percent of wildfires occur within two miles of a community.

College Station's population is estimated to be 98,866.

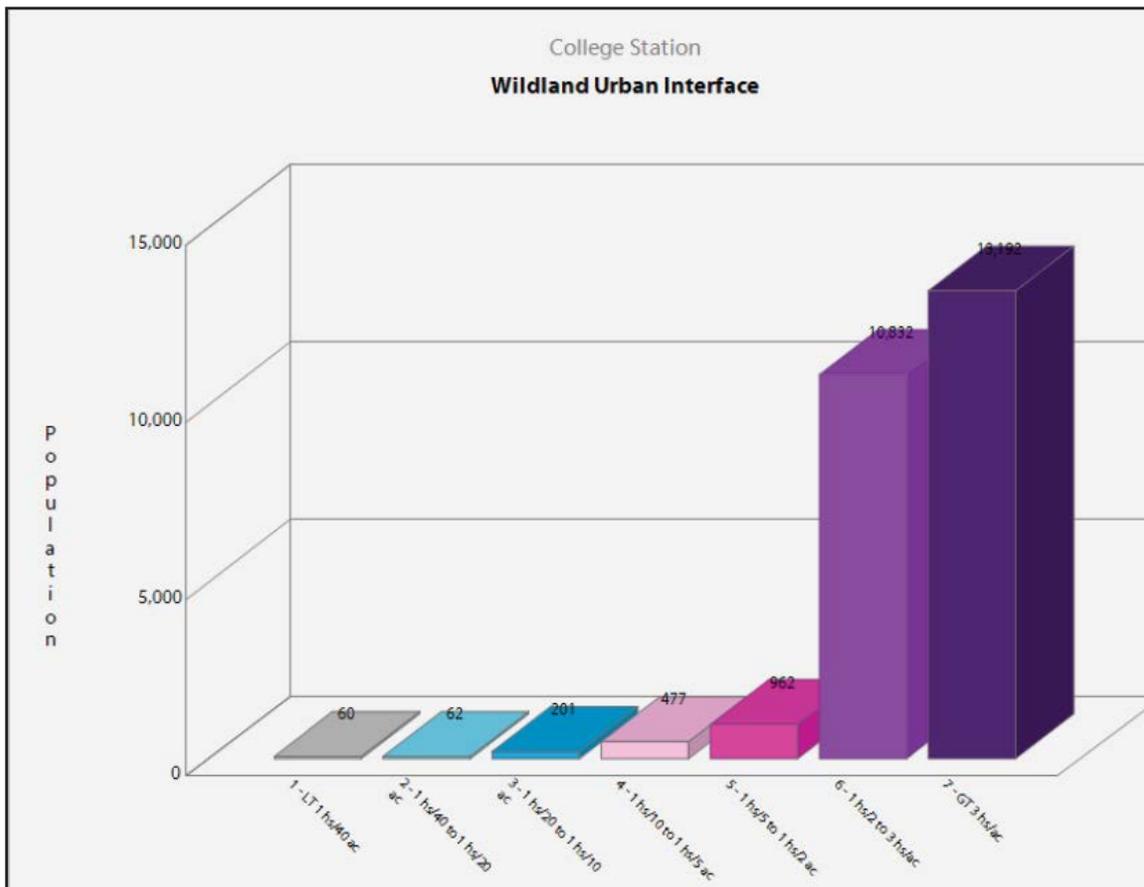
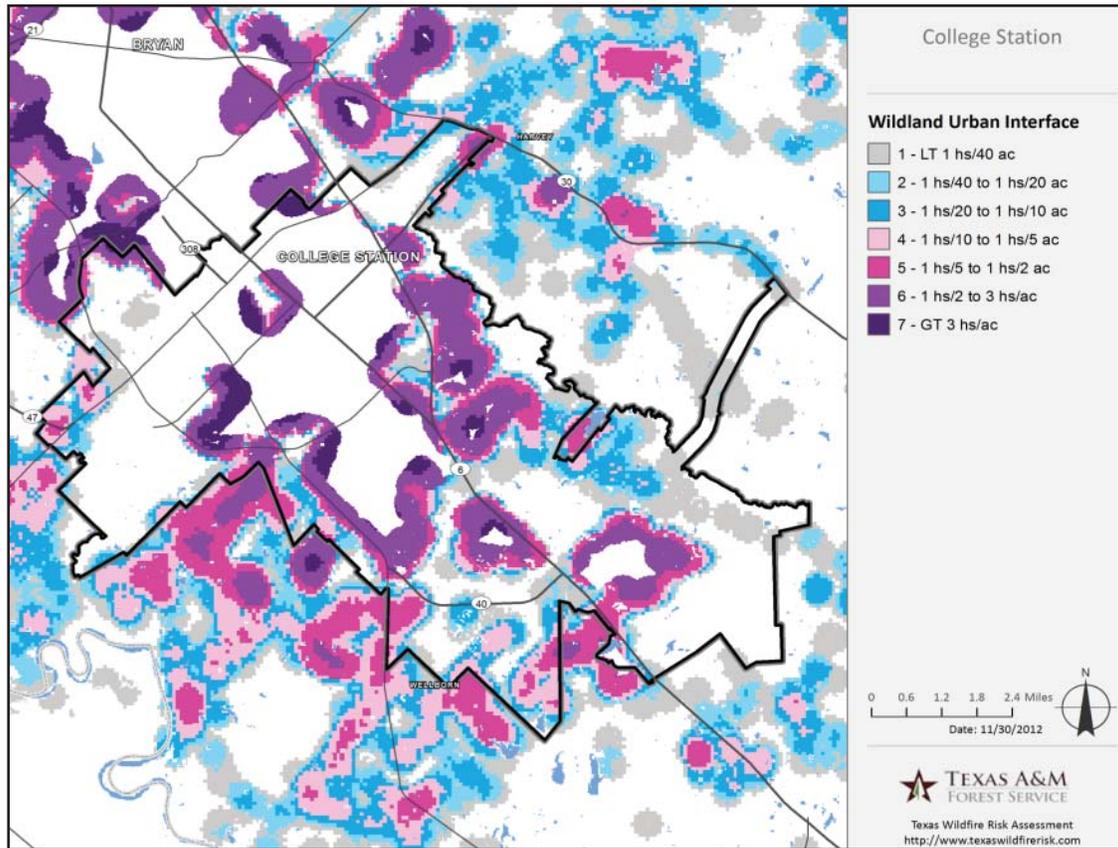
It is estimated that 25,786 people, or 45 percent of the population, live within the WUI.



Population is determined by the housing density of a certain area. This is measured in the number of houses per number of acres. The higher-density areas are calculated at three houses per acre and the less dense areas are calculated at one house per 40 acres. This information gives planners an idea of how many homes are at risk to wildfire and how many homes would need to be protected during a wildfire, which is useful when planning evacuations.

The scale below shows the lowest density (gray) to highest density (purple) and the WUI population and acreage reflected for each density level in College Station.

WUI – Population and Acres					
	Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
	LT 1hs/40ac	60	0.2%	3,360	22.2%
	1hs/40ac to 1hs/20ac	62	0.2%	1,242	8.2%
	1hs/20ac to 1hs/10ac	201	0.8%	1,857	12.3%
	1hs/10ac to 1hs/5ac	477	1.9%	1,966	13.0%
	1hs/5ac to 1hs/2ac	962	3.7%	2,046	13.5%
	1hs/2ac to 3hs/1ac	10,832	42.0%	3,790	25.1%
	GT 3hs/1ac	13,192	51.2%	847	5.6%
	<b>Total</b>	<b>25,786</b>	<b>100.0%</b>	<b>15,107</b>	<b>100.0%</b>

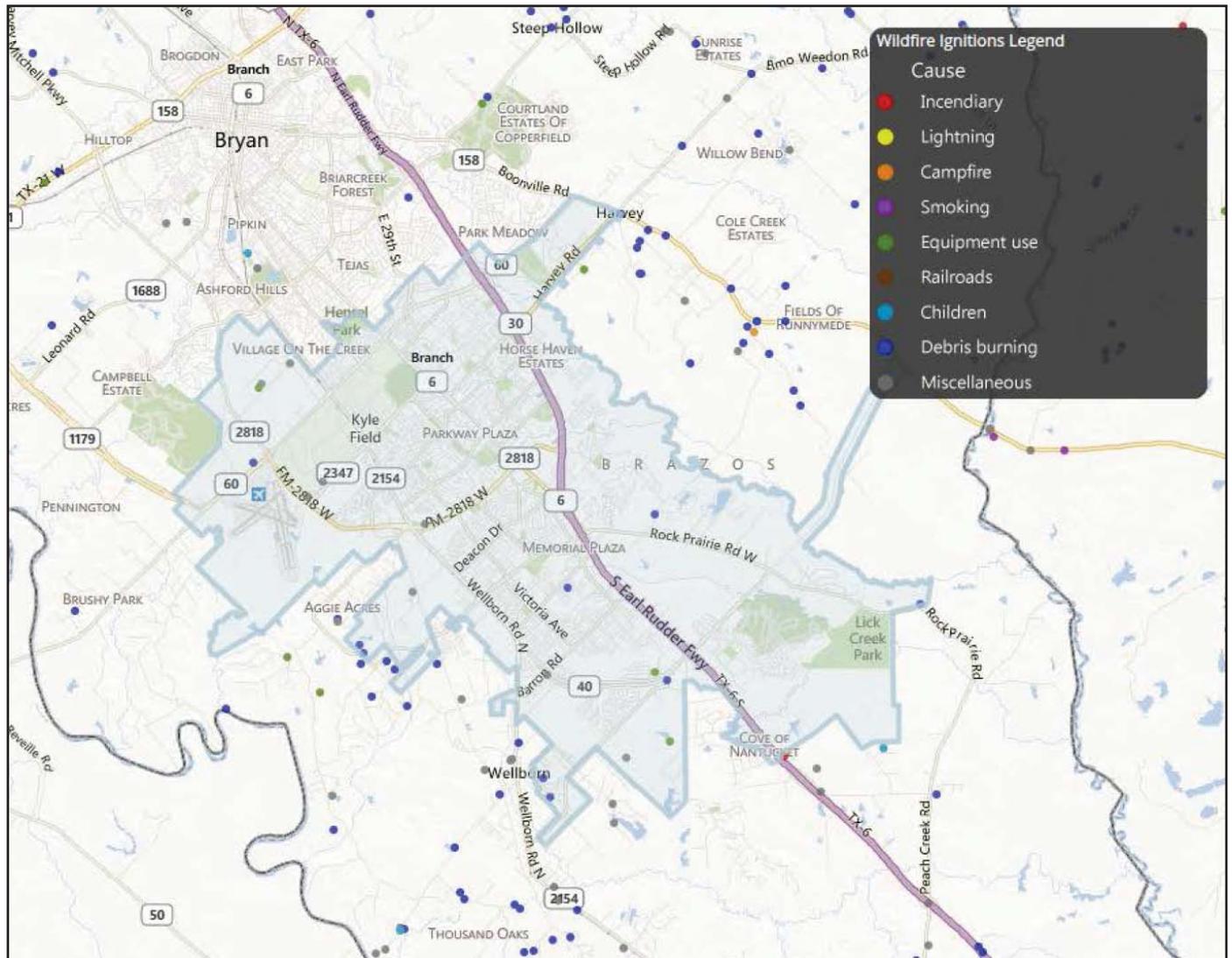


# Fire Occurrence

Wildfire occurrence statistics provide insight into the number of fires, the cause of fires and acres burned. These statistics are useful for prevention and mitigation planning. They can be used to determine the time of year most fires typically occur and develop a fire prevention campaign aimed at reducing a specific fire cause. The fire occurrence statistics are grouped by primary response agency, which include:

- **Federal** – Fires reported by U.S. Forest Service, U.S. Fish and Wildlife Service and National Park Service.
- **Texas A&M Forest Service (TFS)** – Texas A&M Forest Service’s fire occurrence database represents all state-reported fires.
- **Local** – The local category includes fires reported via Texas A&M Forest Service’s online fire department reporting system. It is a voluntary reporting system that includes fires reported by both paid and volunteer fire departments since 2005.

Five years of historic fire report data was used to create the fire occurrence summary charts. Data was obtained from federal, state and local fire department report data sources for the years 2005-2009.



## Fire Behavior

The City of College Station has two primary fuel types of concern: grasses and oak. During the dormant season, grasses pose the most risk especially during passing weather fronts. Cured grasses and high winds can produce extreme fire behavior during the dormant season. Depending on grazing practices, rates of spread and flame lengths can range from low to high. Since grasses are considered a one-hour fuel, they dry out quickly and burn rapidly.



Oak forests pose the most risk during late summer drying (July through September). Oaks can produce single-tree and group torching depending on live fuel moisture levels and the presence of understory fuels. Sustained crown runs also may be possible but are rare events. Oaks pose the most risk for spotting potential. Because oak leaves are large and thin, they retain heat well and can easily be lofted far ahead of the main fire, producing spot fires.



Yaupon and tall grasses are the primary ladder fuels in the area. Tall grasses can produce high flame lengths and under the right conditions, can cause oaks and eastern red cedars to torch. Yaupon can grow tall as well (6 to 12 feet) and can provide a route for a surface fire to climb and spread into the canopy.

While most wildland incidents will end with a successful initial attack, the City of College Station does have the potential for extended attack, especially during dry, windy conditions and when Energy Release Components are above the 97th percentile.

### Peak Fire Seasons:

Primary: July through September with summer drying.

Secondary: December through March with cured grasses and wind events.

**Fire Danger Tools:**

Probably the most effective tool for gauging the day-to-day fire behavior in the City of College Station is the Significant Fire Potential Matrix that can be found on the Texas Interagency Coordination Center website (<http://ticc.tamu.edu>). The matrix, pictured at right, takes into account Burning Index (BI) and Energy Release Component (ERC). The BI provides the potential for initial attack activity, while the ERC provides the potential for extended attack activity. Together, these two indices produce a simple and accurate outlook for fire behavior on any given day.

For the City of College Station, these values can be found at:

BI/ERC Calculations: <http://ticc.tamu.edu/PredictiveServices/WeatherStation.htm>

\* Click on "NFDRS Indices"

Fire Potential Matrix: <http://ticc.tamu.edu/PredictiveServices/WeatherStation.htm>

\* Click on the "Round Prairie RAWs"

Round Prairie	RAWS	Preparedness Level Energy Release Component G (ERC)			
		1 0-29	2 30-41	3 42-45	4 46+
Dispatch Level Burning Index G (BI)	1 0-42	Low	Low	Moderate	Moderate
	2 43-57	Low	Moderate	Moderate	Moderate
	3 58-64	Moderate	Moderate	High	High
	4 65+	Moderate	Moderate	High	Very High

**Texas Interagency Coordination Center**

Home | Fire Reporting | Fire Departments | Training | **Predictive Services** | Incident Response | Other Links

Fuels/Fire Danger | Fire Weather | Fire Outlooks | Fire Intelligence | Preparedness | Drought | Staff | Links

**Preparedness**

Texas Fire Danger | Fuel Dryness | Fuels | **NFDRS Indices** | Observations | Forecasts | Drought and Rainfall Deficits

**NFDRS Indices**

Forecast and Observed ERC and BI Data (Generated: 12/29/2010 12:00:13 AM)						
Station (SID)	Fuel Model	Obs ERC	Pcat ERC	Obs BI	Pcat BI	
CARDO (410202)	70	12	17	0	26	
CLARKSVI (410401)	80	8	6	0	0	
TEXARKAN (410501)	80	16	12	11	17	
LINDEN (411102)	80	20	13	19	19	
GILMER (411401)	80	26	16	22	21	
CARDO LA (411901)	80	20	13	14	13	
ATHENS (412101)	80	29	25	28	28	
HENDERSO (412202)	80	23	12	21	16	
PALESTIN (412601)	80	23	21	23	28	
SABINE V (413001)	70	21	11	20	18	
ROUND FR (413101)	80	30	28	28	35	
RATCLIFF (413302)	70	22	16	18	23	
LUFKIN (413509)	80	32	20	25	23	
HUNTSVIL (414102)	80	30	22	27	26	
COLDSPRI (414201)	70	20	14	17	23	
WOODVILL (414402)	80	29	19	31	22	
KIRBYVIL (414501)	80	27	16	30	22	
CONROE (415109)	80	29	19	30	26	
DAYTON (415201)	80	31	20	43	29	
DARTMOR (415501)	80	20	26	15	22	
LAGRANGE (415602)	80	32	30	37	30	
ANDREUC (416099)	80	29	-99	43	-99	
SOUTHERN (416101)	80	22	14	25	20	
ATWATER (416601)	80	24	16	40	31	

**SFP Matrices**

## Characteristic Rate of Spread

Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains\* per hour (ch/hr) or feet per minute (ft/min). For purposes of the Texas Wildfire Risk Assessment, this measurement represents the maximum rate of spread of the fire front.

Rate of spread is a fire behavior output, which is influenced by three environmental factors – fuels, weather and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high and extreme weather days for each weather influence zone in Texas. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform. There are 22 weather influence zones in Texas.

## Characteristic Flame Length

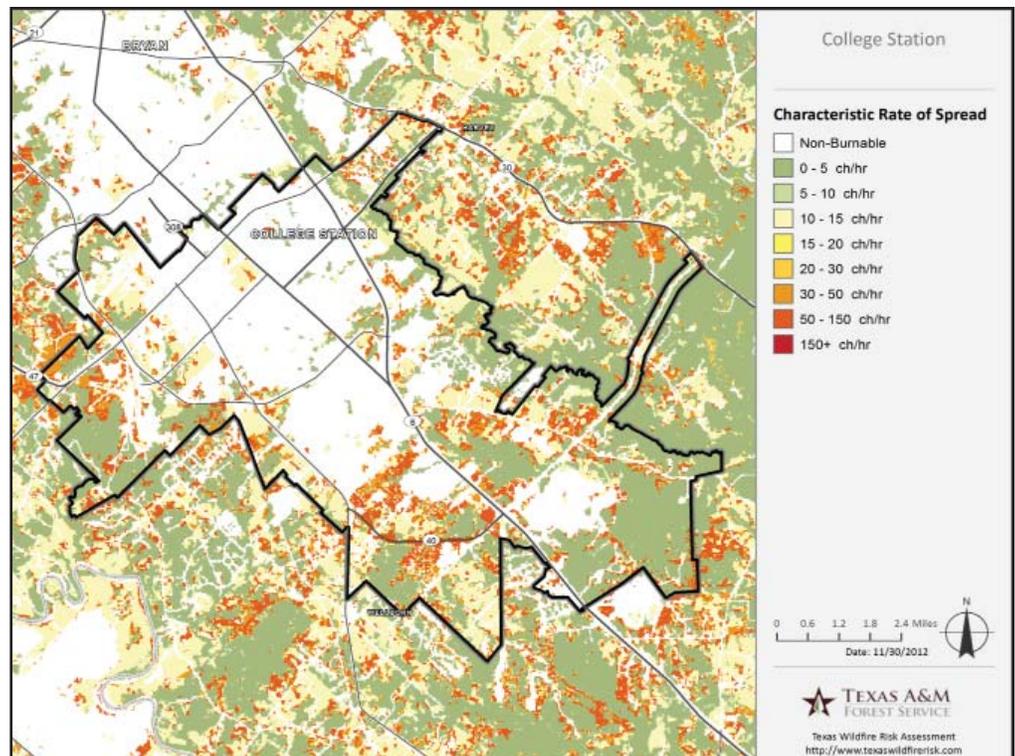
Characteristic Flame Length is the typical or representative flame length of a potential fire based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet.

Flame length is a fire behavior output, which is influenced by three environmental factors – fuels, weather and topography.

\* A chain is 66 feet.

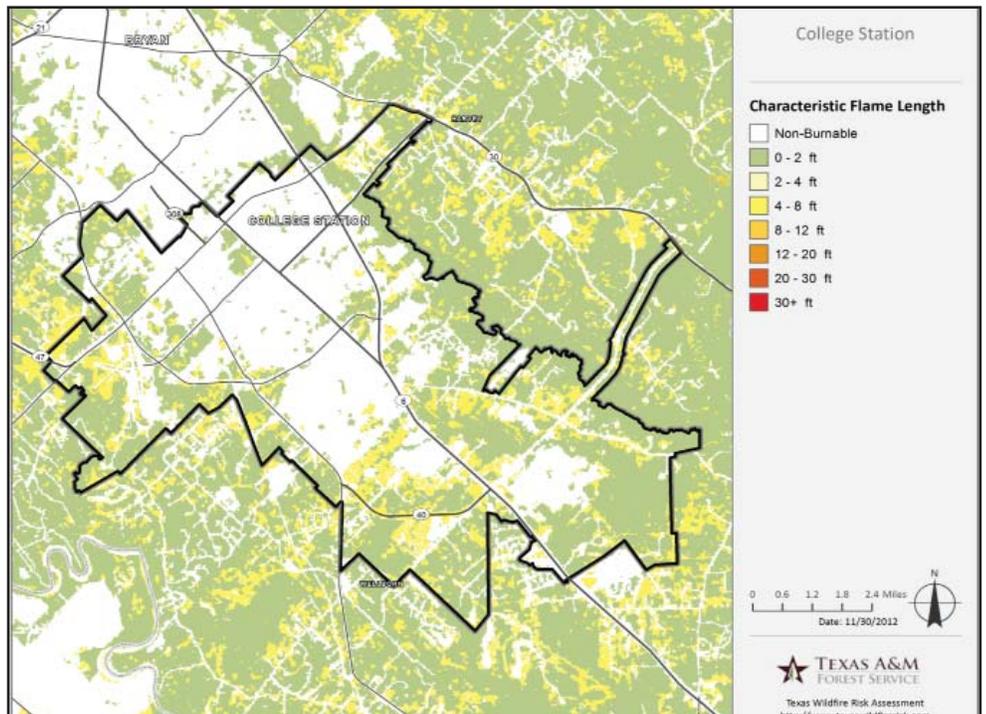
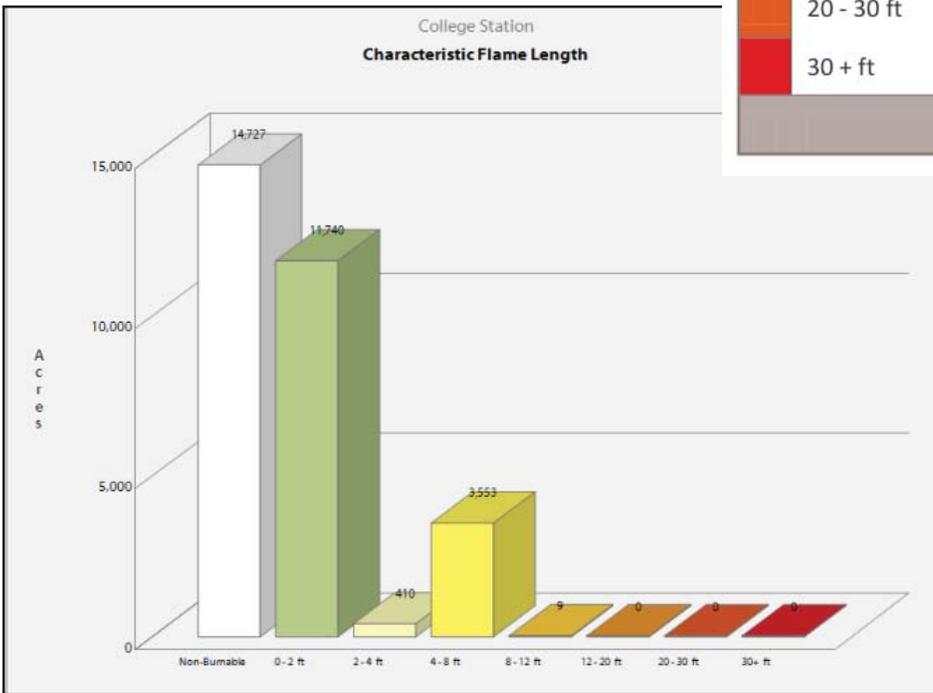
Characteristic Rate of Spread – Acres

Rate of Spread	Acres	Percent
Non-Burnable	14,727	48.4%
0 - 5 (ch/hr)	7,649	25.1%
5 - 10 (ch/hr)	364	1.2%
10 - 15 (ch/hr)	3,898	12.8%
15 - 20 (ch/hr)	239	0.8%
20 - 30 (ch/hr)	1	0.0%
30 - 50 (ch/hr)	1,077	3.5%
50 - 150 (ch/hr)	2,484	8.2%
150 + (ch/hr)	0	0.0%
<b>Total</b>	<b>30,440</b>	<b>100.0%</b>



Characteristic Flame Length – Acres

Flame Length	Acres	Percent
Non-Burnable	14,727	48.4%
0 - 2 ft	11,740	38.6%
2 - 4 ft	410	1.3%
4 - 8 ft	3,553	11.7%
8 - 12 ft	9	0.0%
12 - 20 ft	0	0.0%
20 - 30 ft	0	0.0%
30 + ft	0	0.0%
<b>Total</b>	<b>30,440</b>	<b>100.0%</b>



# Risk Assessments

Risk assessments are conducted to gauge wildland fire hazards for the lands and neighborhoods in a particular area. Assessments are crucial to developing an understanding of the risk of potential losses to life, property and natural resources during a wildland fire.

Specifically, the risk assessment:

- Assesses risks, hazards, fire protection capability, structural vulnerability and values to be protected.
- Identifies the Wildland Urban Interface (WUI) within the planning area.
- Identifies and prioritizes areas in which to conduct fuels reduction treatments.

Risk assessment criteria includes:

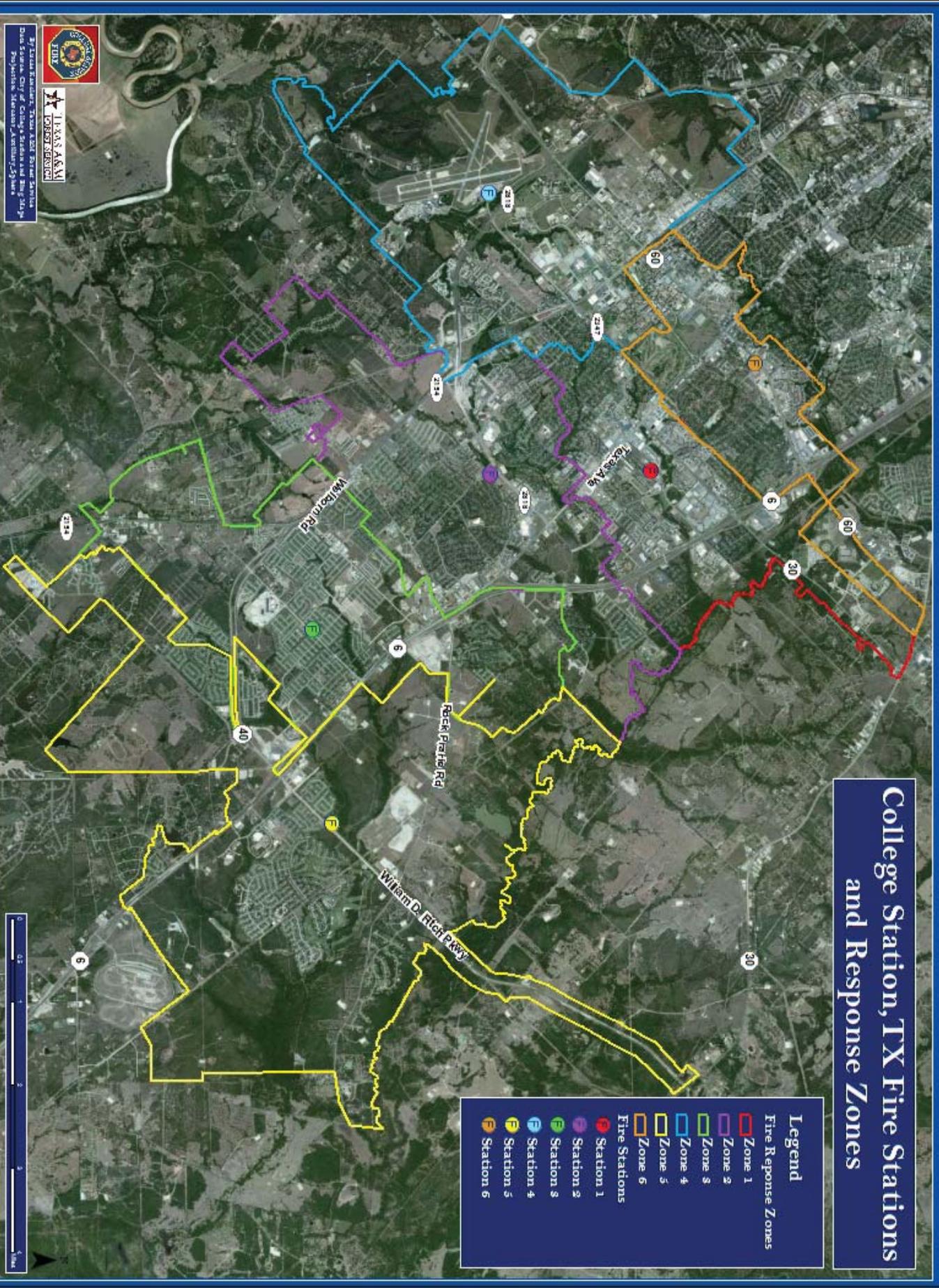
- Means of access (ingress and egress, road width, all-season road condition, fire service access and street signs)
- Vegetation (characteristics of predominate vegetation within 300 feet of a home, defensible space)
- Roofing assembly (roof class)
- Building construction (materials)
- Available fire protection (water source availability, organized response resources)
- Placement of gas and electric utilities

Risk assessments were conducted in the response zones for each of College Station's six fire stations. Members of the working group assessed 30 areas. The findings showed one extreme-risk area, seven high-risk areas, 15 moderate-risk areas and seven low-risk areas.

Once high-risk areas were identified, specific mitigation strategies were outlined to reduce wildfire risks.



# College Station, TX Fire Stations and Response Zones



- Legend**
- Fire Response Zones**
- Zone 1
  - Zone 2
  - Zone 3
  - Zone 4
  - Zone 5
  - Zone 6
- Fire Stations**
- Station 1
  - Station 2
  - Station 3
  - Station 4
  - Station 5
  - Station 6

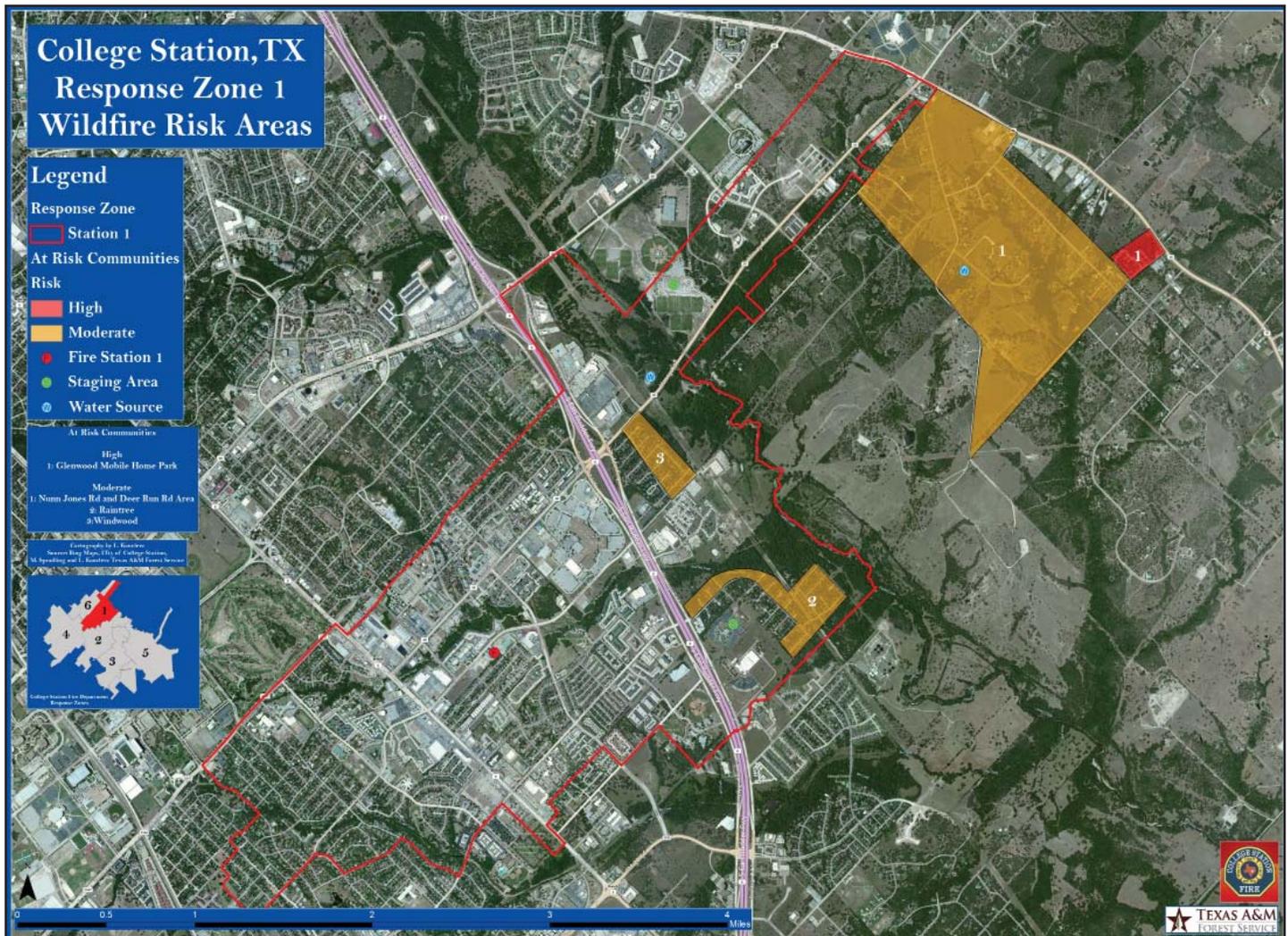

  

  
 Fire Station, City of College Station and the City of Pollock, Texas, Authority, 2014



# Risk Assessment Findings by Zone

## Response Zone 1



Seven individual risk assessments were conducted in Response Zone 1, which is covered by Fire Station No. 1 at 304 Holleman East.

Of the seven neighborhoods assessed, one was high risk, two were moderate risk and four were low risk.

Mitigation strategies identified for this response zone include the following:

- Fuels reduction
- Public education
- Code enforcement

# 1. Glen Oaks Mobile Home Park

## High Risk

75 points

30° 38' 36" N

96° 15' 29" W

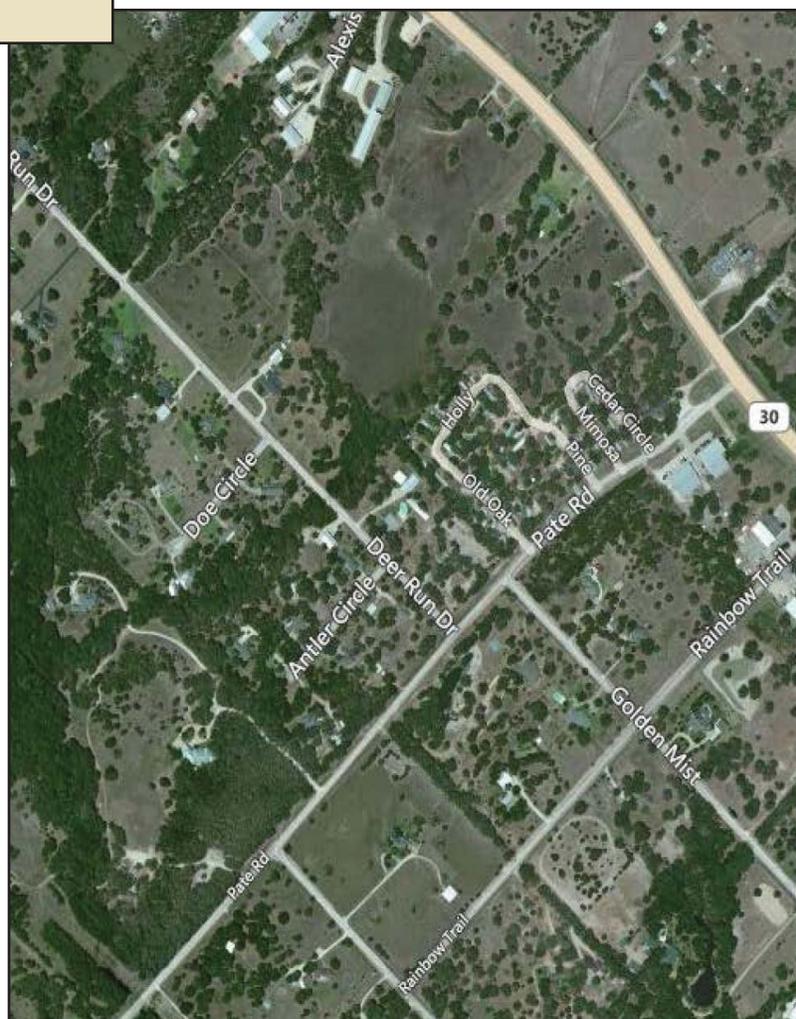
Located off Highway 30 and Pate Road, homes are built in and adjacent to 33 acres of dense cedar, yaupon and oak. There is sufficient access to homes. Homes are constructed of vinyl with wooden attachments. There are no fire hydrants present. This area is outside College Station's response zone, but Station 1 often responds to calls in this area.

### Values at Risk:

- No individual parcel data
- \$383,210 total value
- 10 acres

### Mitigation Strategies:

- Fuels reduction: mechanical, hand clearing
- Code enforcement
- Public Education (target defensible space, home construction and Ready, Set, Go!)



## 2. Nunn Jones Road

**Moderate Risk**

54 points

30° 38' 52" N

96° 16' 25" W

The area around Nunn Jones Road, Pamela Lane, Vista Lane and Deer Run Drive has many undeveloped lots containing a mix of grass, yaupon, oak and cedar. There are approximately 450 acres of wildland vegetation. Roads are paved, and there is readable address signage on homes. There are some dead-end streets in the area. Home construction is mainly brick and hardy plank with composite roofs. There are no fire hydrants in this area. The neighborhood is outside College Station's response zone, but Station 1 often responds to calls in this area.

### Mitigation Strategies:

- Ingress/egress plan
- Public education (target Ready, Set, Go!)
- Water sources

## 4. Deer Run

**Low Risk**

32 points

30° 38' 14" N

96° 15' 04" W

Home construction is mainly brick and hardy plank with composite roofs. Fuels are light to medium closed timber litter, hardwood litter and short grasses. Landscape is not well maintained throughout the area; tall grasses are not watered regularly.

## 3. Raintree

**Moderate Risk**

42 points

30° 37' 16" N

96° 17' 0" W

Located off Raintree Drive and Wilderness Drive, this subdivision is surrounded by 118 acres of yaupon, oak and a grassy floodplain. There is potential that grasses in the floodplain could dry out and increase fire spread during drought conditions. There is only one way in and out. This area is adjacent to a power line/oil pipeline easement. Homes are constructed of brick and have composite roofs with wooden fences attached. Many homes have shrubs and bushes growing next to and under windows. City fire hydrants are present.

### Mitigation Strategies:

- Ingress/egress plan
- Public education (target combustible attachments and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing

## 5. Windwood

**Low Risk**

29 points

30° 37' 49" N

96 17' 47" W

Located near Harvey Road and South Earl Rudder Freeway, Windwood is adjacent to 66 acres of oak and grasses. There is a power line and oil pipeline easement next to the subdivision. There are two ways in and out of the area. Many homes have wooden fences attached. Homes are mainly constructed of brick and composite roofs with good defensible space. City fire hydrants are present.

## 6. Horse Haven

Low Risk

25 points

30° 37' 41" N

96° 17' 34" W

The primary threat to the Horse Haven Lane area is a 38-acre hayfield on the backside of the development which could rapidly carry a surface fire. There are two ways in and out. Homes are constructed of brick and composite roofs with wooden fences attached. City fire hydrants are present. A power substation and police/ fire communication tower are in this area.

## 7. Summit Crossing

Low Risk

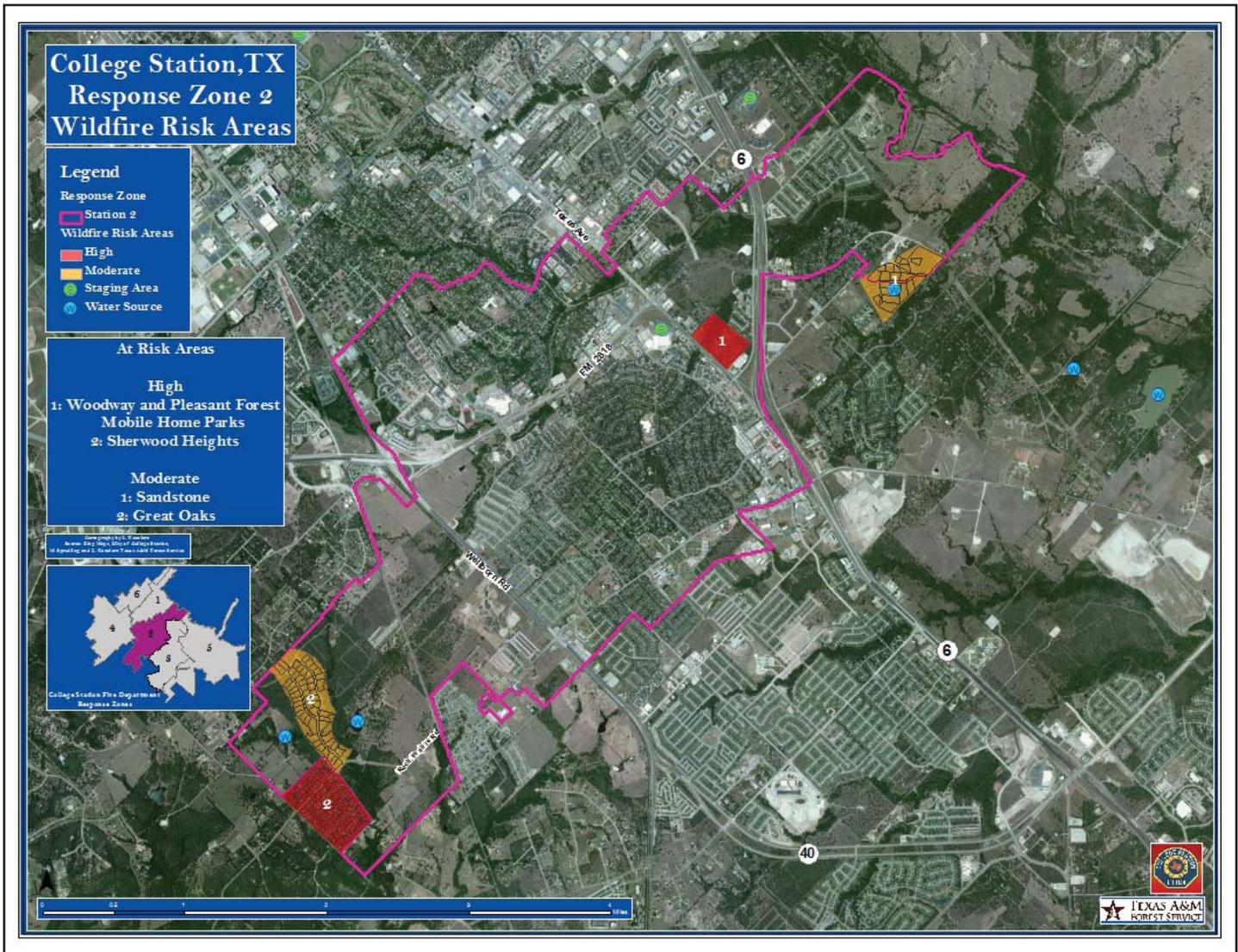
25 points

30° 38' 55" N

96° 17' 5" W

Located off of Harvey Road, Buena Vista Drive and Lonetree Drive, the primary fuel types in this area are grasses and oak. Homes are built close to each other and are constructed of fiber cement siding and composite roofing materials. City fire hydrants are present.

## Response Zone 2



Five individual risk assessments were conducted in Response Zone 2, which is covered by Fire Station No. 2 at 2100 Rio Grande Blvd.

Of the five neighborhoods assessed, two were high risk, two were moderate risk and one was low risk.

Mitigation strategies identified for this response zone include the following:

- Ingress/egress plan
- Public education
- Fuels reduction
- Hydrant system
- Code enforcement

# 1. Woodway and Pleasant Forest Mobile Home Parks

**High Risk**

87 points

30° 35' 48" N

96° 17' 39" W

Located near Mile Drive and Texas Avenue, the area is mostly developed, but there is a 20-acre stand of oak, juniper and yaupon that poses a risk. There is only one point of ingress/egress. Many homes are vinyl, not enclosed under the foundation and have wooden attachments.

## Values at Risk:

- No individual parcel data
- \$907,420 total value
- 34 acres

## Mitigation Strategies:

- Ingress/egress plan
- Public education (target building materials, defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing
- Code enforcement



## 2. Sherwood Heights/Robin Drive

### High Risk

84 points

30° 33' 23" N

96° 20' 0" W

Located off Rock Prairie Road and Dowling Road, this area is surrounded by 125 acres of oak, cedar and yaupon. There are two ways in and out. Residences are a mixture of brick construction and mobile homes with wooden attachments. There is poor defensible space around and adjacent to homes. There are no fire hydrants present.

### Values at Risk:

- 110 homes
- \$8,505,110 total value
- 74 acres



### Mitigation Strategies:

- Implement hydrant system
- Public education (target building materials, defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing
- Code enforcement

### 3. Sandstone Drive

**Moderate Risk**

55 points

30° 36' 9" N  
96° 16' 31" W

The primary fuels in this area are 30 acres of short grasses, oak and yaupon. There is only one point of ingress/egress. Home construction is mostly brick and composite roofs with wooden fences attached. City fire hydrants are present.

**Mitigation Strategies:**

- Ingress/egress plan
- Public education (target Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing

### 4. Great Oaks

**Moderate Risk**

46 points

30° 33' 38" N  
96° 20' 72" W

Homes are constructed of brick and composite roofs with wooden fences attached. There is good defensible space but just one point of ingress/egress. There is only one fire hydrant in the area.

**Mitigation Strategies:**

- Ingress/egress plan
- Public education (target combustible attachments, defensible space and Ready, Set, Go!)

### 5. Emerald Forest

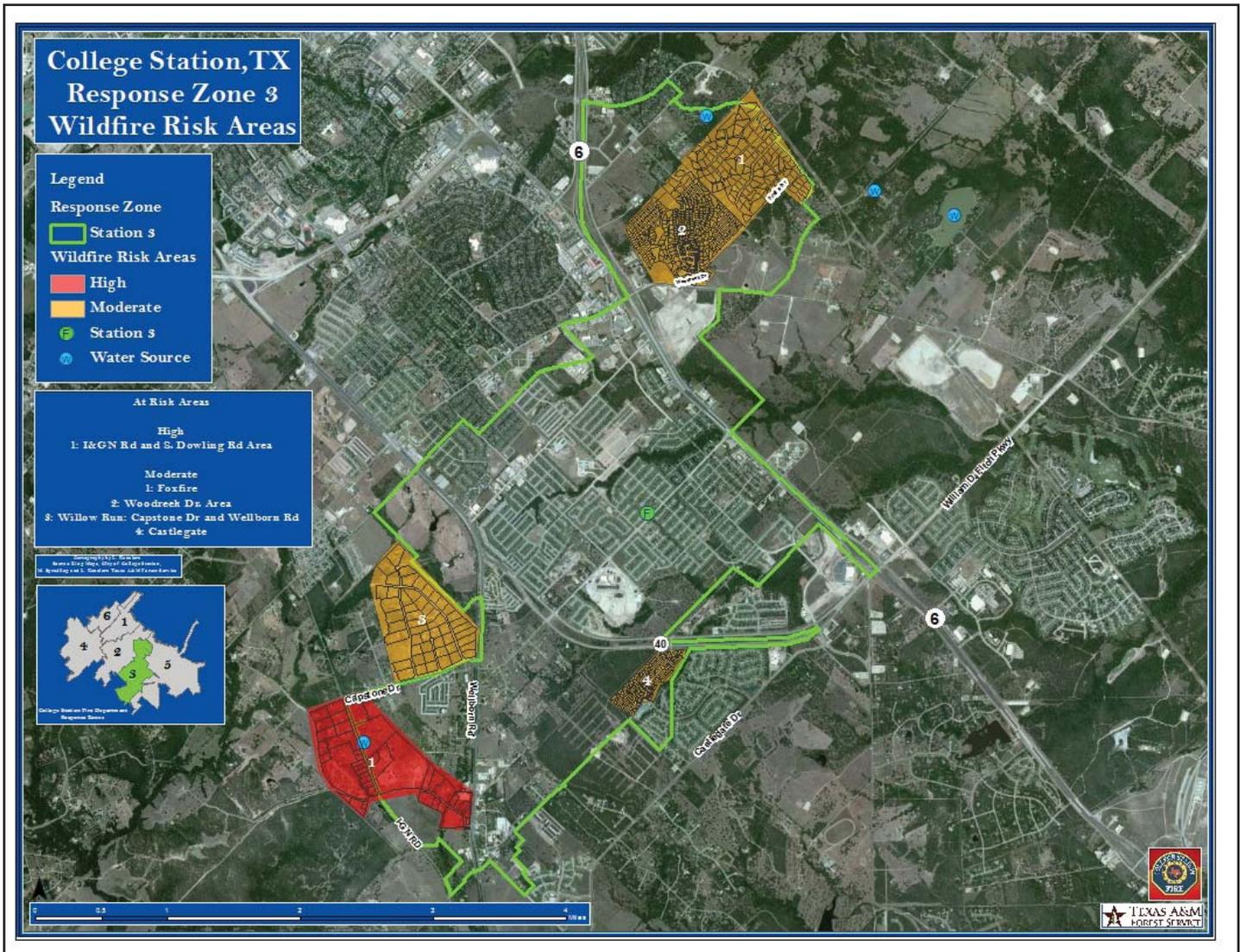
**Low Risk**

28 points

30° 36' 22" N  
96° 17' 2" W

Located near Emerald Parkway and Appomattox Drive, the primary fuels are 65 acres of oak and yaupon. There are three ways in and out of this area. Homes are constructed of brick and composite roofs with wooden fences attached. City fire hydrants are present.

## Response Zone 3



Five individual risk assessments were conducted in Response Zone 3, which is covered by Fire Station No. 3 at 1900 Barron Road.

Of the five neighborhoods assessed, one was high risk and four were moderate risk.

Mitigation strategies identified for this response zone include the following:

- Public education
- Fuels reduction
- Code enforcement

# 1. South Dowling and I&GN Road

**High Risk**

62 points

30° 32' 17" N

96° 18' 43" W

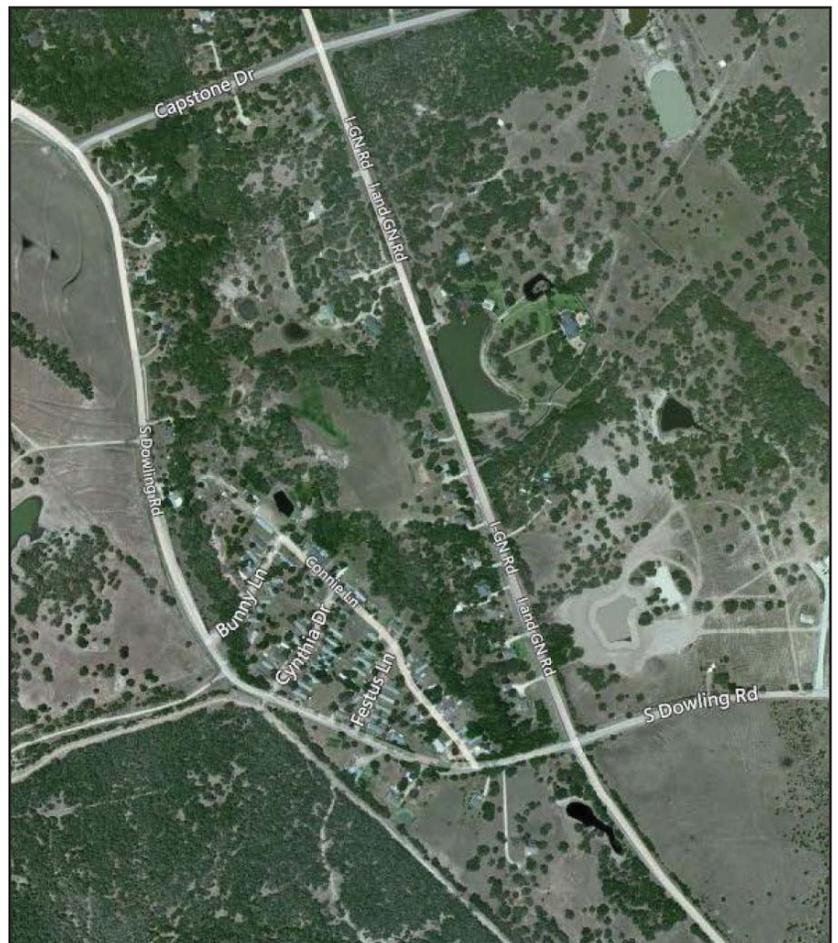
Primary fuels in this area are 80 acres of pasture land and tall grasses with some oaks stands. Grasses have the potential to rapidly carry a surface fire. There is good road access with more than one way in and out. Homes are constructed of brick and wood composite roofs with wooden attachments. There is good defensible space.

## Mitigation Strategies:

- Public education (target building materials and defensible space)
- Fuels reduction: mechanical, hand clearing
- Code enforcement

## Values at Risk:

- 36 homes
- \$12,538,680 total value
- 252 acres



## 2. Foxfire

**Moderate Risk**

46 points

30° 35' 47" N

96° 16' 9" W

Homes are located in and adjacent to 405 acres of dense oak and yaupon. There are at least two ways in and out of Foxfire with "No Outlet" signs posted at dead-end streets. Road width is at least 24 feet. Homes are constructed of brick and composite roofs, but some have open space under decks and porches. Defensible space needs to be improved. There is a power line and oil pipeline easement adjacent to the north and east of Foxfire.

### Mitigation Strategies:

- Public education (target home construction, defensible space and Ready, Set, Go!)

## 3. Wood Creek Drive

**Moderate Risk**

45 points

30° 35' 24" N

96° 16' 39" W

The predominant fuels are 57 acres of short grasses, oak and yaupon. There are at least three ways in and out of this area. Some road signs are low to the ground and made of wood, meaning they could be compromised during a fire. Homes are primarily brick and composite roofs. Defensible space could be improved. City fire hydrants are present.

### Mitigation Strategies:

- Public education (target signage, defensible space and Ready, Set, Go!)

## 4. Willow Run

**Moderate Risk**

41 points

30° 33' 10" N

96° 18' 14" W

Primary fuels in this area are 80 acres of pasture land and tall grasses with some oak stands. Grasses have the potential to rapidly carry a surface fire. There is good road access with more than one way in and out. Homes are constructed of brick and composite roofs with wooden attachments. There is good defensible space.

### Mitigation Strategies:

- Public education (target home construction and Ready, Set, Go!)

## 5. Castlegate

**Moderate Risk**

33 points

30° 32' 48" N

96° 16' 37" W

The primary risk area in this area is along Victoria Avenue where 65 acres of dense oak and yaupon is present. There is good access on the main road into the subdivision. Homes are built close to each other and constructed of brick with composite roofs and attached combustible fences. City fire hydrants are present.

### Mitigation Strategies:

- Public education (target combustible attachments and Ready, Set, Go!)

## Response Zone 4



Three individual risk assessments were conducted in Response Zone 4, which is covered by Fire Station No. 4 at 1550 George Bush Drive West.

Of the three neighborhoods assessed, one was high risk and two were moderate risk.

Mitigation strategies identified for this response zone include the following:

- Public education
- Fuels reduction

# 1. Highway 60 and Turkey Creek Road

## High Risk

75 points

30° 35' 51" N

96° 22' 37" W

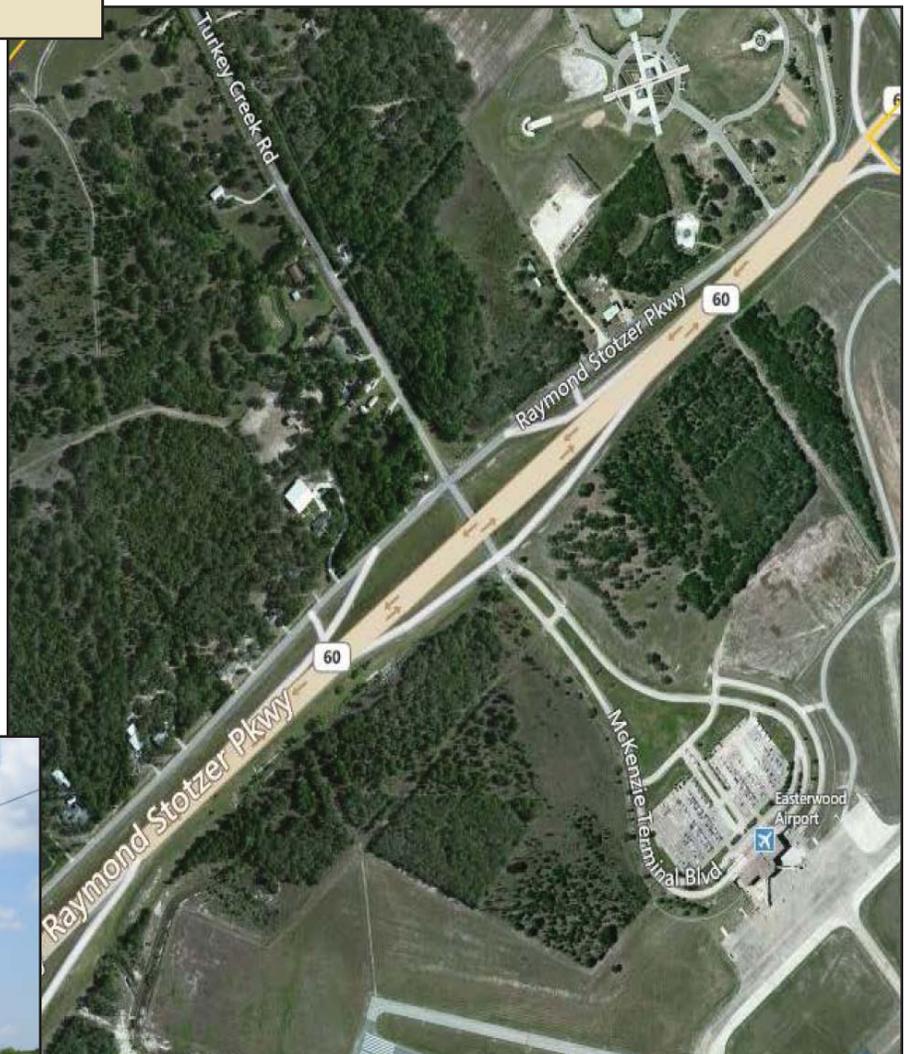
The primary fuels in this area are 140 acres of grass, oak and yaupon. There are two points of ingress/egress. Many homes are made of combustible materials and vinyl and have limited defensible space. There are no fire hydrants in this area.

### Mitigation Strategies:

- Public education (target defensible space, construction and Ready, Set, Go!)
- Fuels reduction: grazing, mechanical

### Values at Risk:

- 23 homes
- \$4,622,380 total value
- 108 acres



## 2. Nuclear Science Facility (Easterwood)

**Moderate Risk**

41 points

30° 34' 50" N

96° 21' 48" W

The primary fuels in this area are 610 acres of grasses, oak and cedar. There is only one way into this facility.

\*Special considerations: Radio failure can occur when keying radios next to certain landing system equipment.

### **Mitigation Strategies:**

- Ingress/egress plan

## 3. White Creek Road

**Moderate Risk**

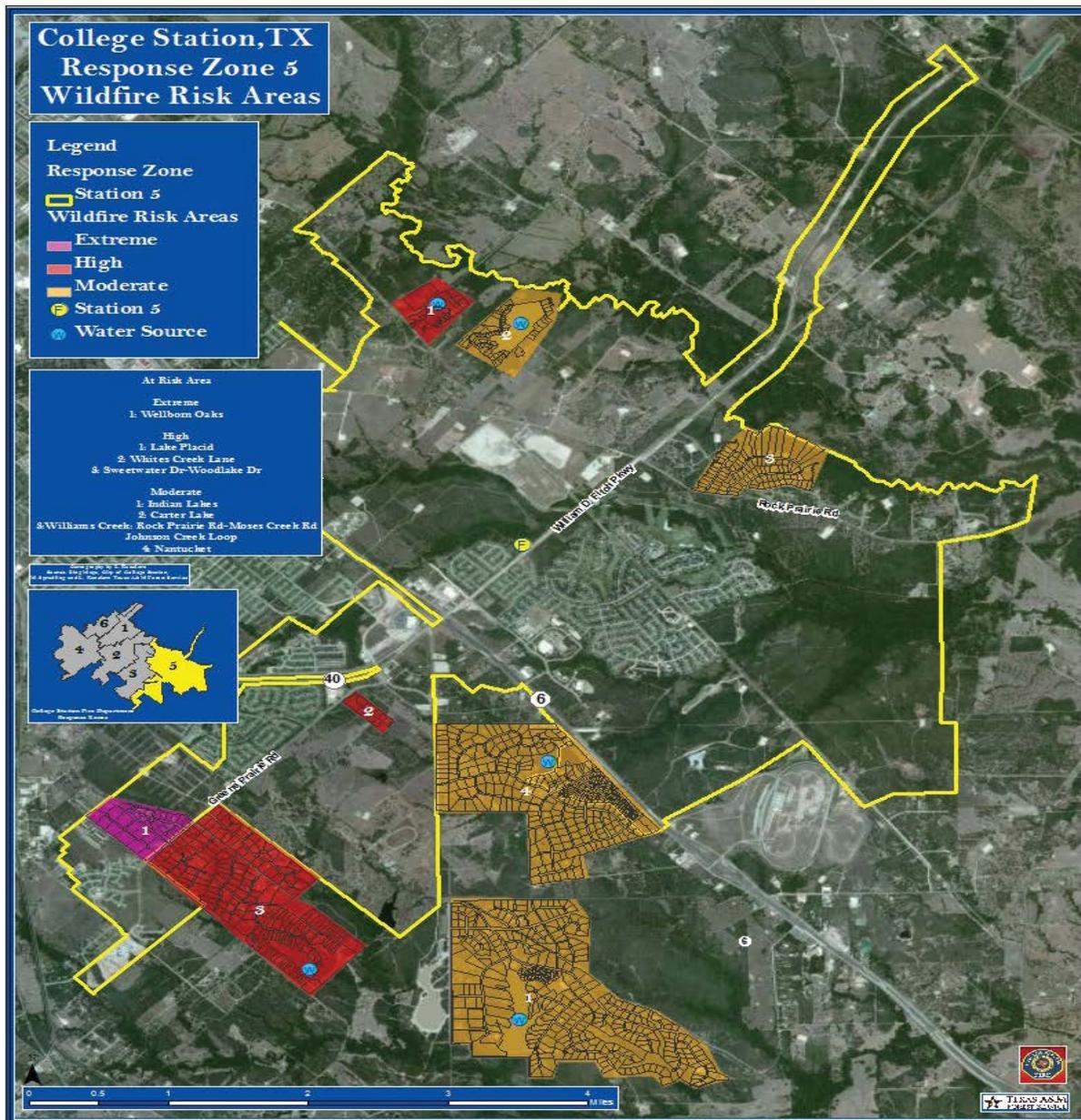
39 points

Fuels are primarily 610 acres of grass, oak, cedar and yaupon. There are at least two ways in and out, and road width is sufficient for engines to travel and turn around. There is a mixture of brick and wood homes with combustible fences attached. Defensible space could be improved around homes. There are no fire hydrants located in this area.

### **Mitigation Strategies:**

- Public education (target defensible space, combustible attachments and Ready, Set, Go!)

## Response Zone 5



Nine individual risk assessments were conducted in Response Zone 5, which is covered by Fire Station No. 5 at 1601 William D. Fitch Parkway.

Of the nine neighborhoods assessed, one was extreme risk, two were high risk, four were moderate risk and two were low risk.

Mitigation strategies identified for this response zone include the following:

- 911 addressing system
- Ingress/egress plan
- Structure protection plan
- Public education
- Hydrant system
- Code enforcement

# 1. Wellborn Oaks

## Extreme Risk

92 points

30° 32' 7" N

96° 17' 24" W

The primary fuels are 580 acres of dense grasses, oak and yaupon. There is limited road access in this area and poorly labeled addresses with few street signs. Home construction materials include a mix of brick and vinyl with combustible decks. No fire hydrants are present.

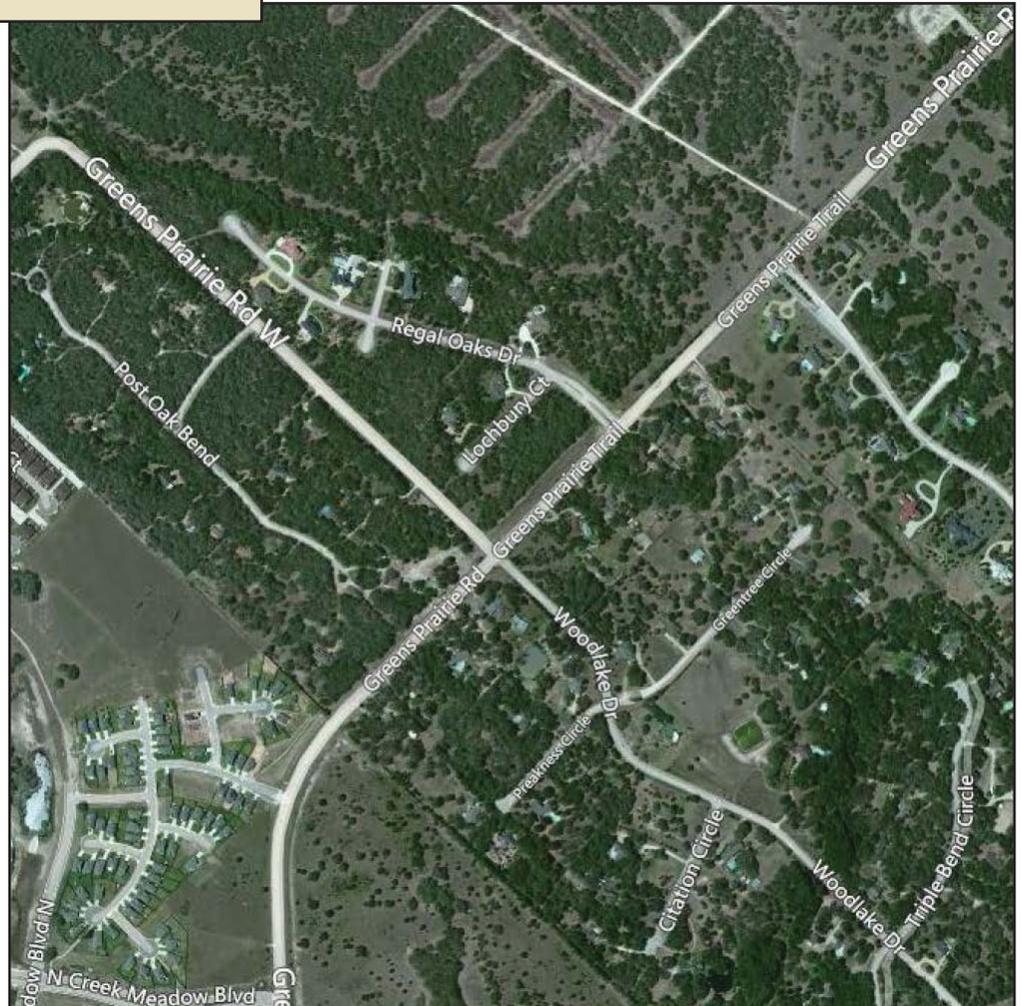
### Values at Risk:

- 25 homes
- \$10,768,530 total value
- 84 acres



### Mitigation Strategies:

- 911 addressing and street signs
- Ingress/egress plan
- Structure protection plan
- Public education (target defensible space, home construction and Ready, Set, Go!)
- Implement hydrant system
- Code enforcement



## 2. Lake Placid

### High Risk

67 points

30° 35' 36" N

96° 15' 24" W

Fuels in this area include 500 acres of dense grasses, oak, yaupon and floodplain forest around Lake Placid.

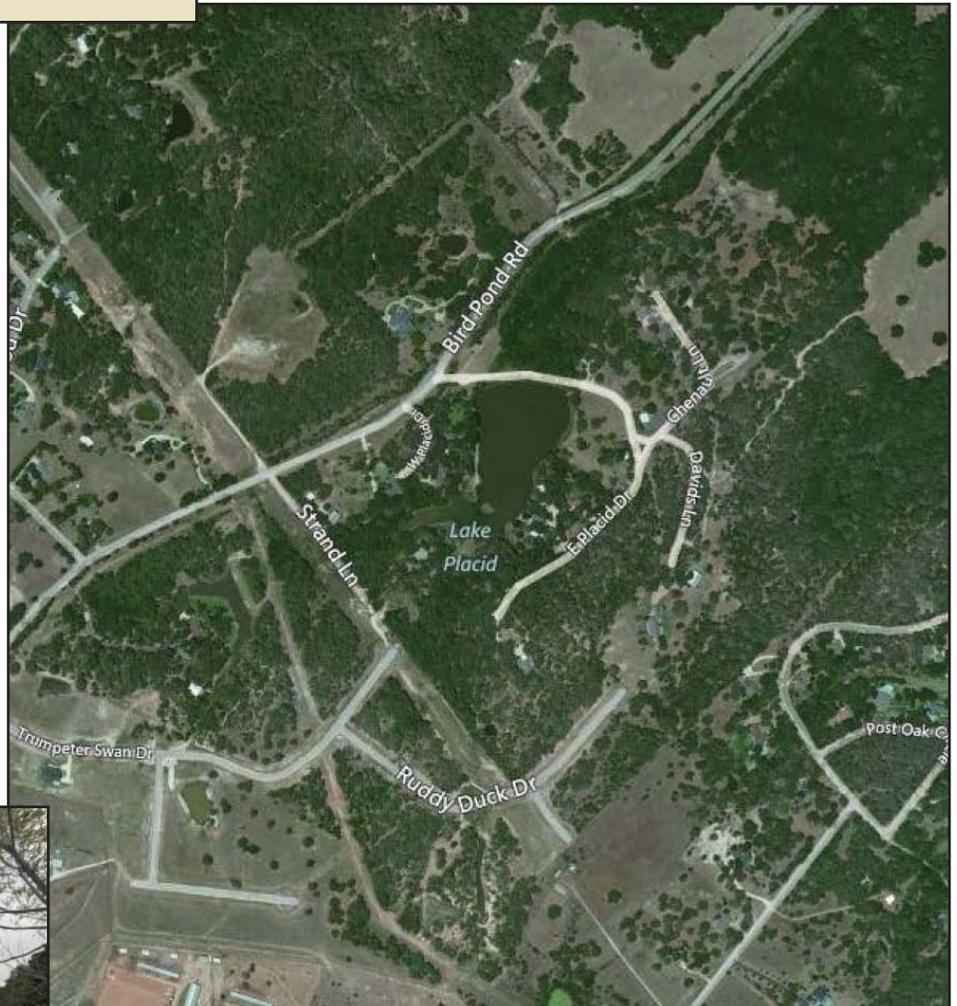
During drought conditions, there could be an abundant fuel source for fire in the floodplain forest. There is narrow, limited access with several dead-end streets. Homes are constructed of brick and composite roofs. Defensible space needs improvement. There is one dry fire hydrant in the area.

### Mitigation Strategies:

- Ingress/egress plan
- Public education (target building materials, defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing, code enforcement

### Values at Risk:

- 15 homes
- \$3,135,300 total value
- 50 acres



### 3. Whites Creek Lane

**High Risk**

62 points

30° 32' 58" N

96° 15' 57" W

The primary fuels are 308 acres of dense grass, oak and yaupon. There is narrow, limited access with a dead end street. Homes on Whites Creek Lane have the minimum 30 feet of defensible space, but the road is very narrow with thick vegetation surrounding it. There is one primary point of ingress/egress for the homeowners with no turnaround for fire service access. Homes are constructed of brick and composite roofs. Three city hydrants are scheduled to be installed by late 2013.

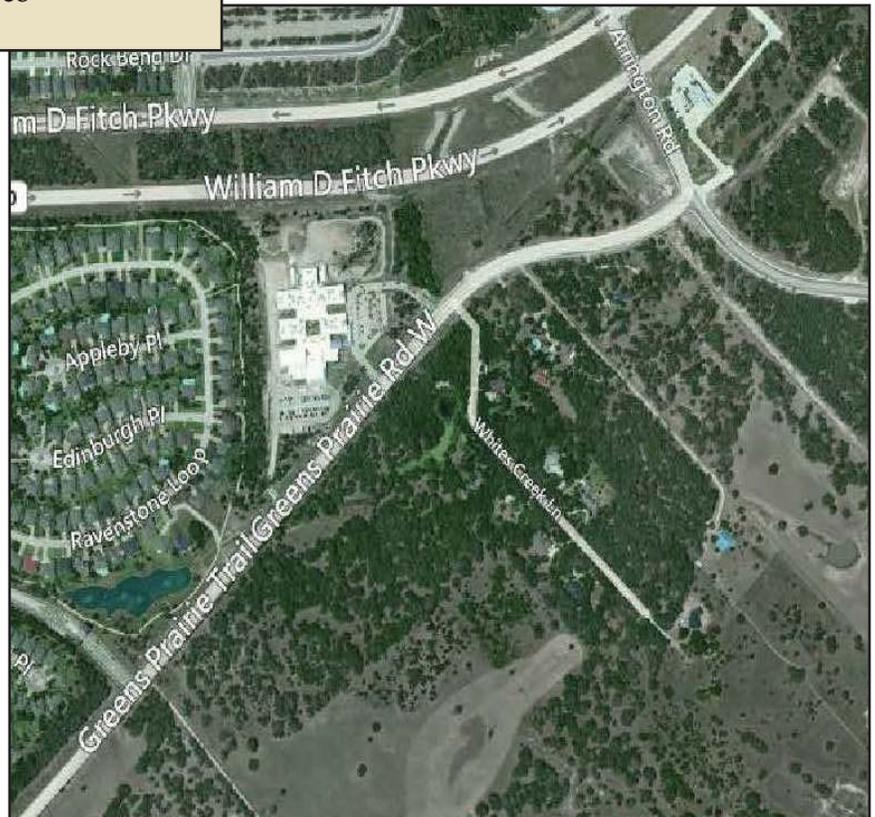


**Values at Risk:**

- 12 homes
- \$2,297,770 total value
- 21 acres

**Mitigation Strategies:**

- Ingress/egress plan
- 911 addressing
- Public education (defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing
- Code enforcement



### 3. Sweetwater

#### High Risk

61 points

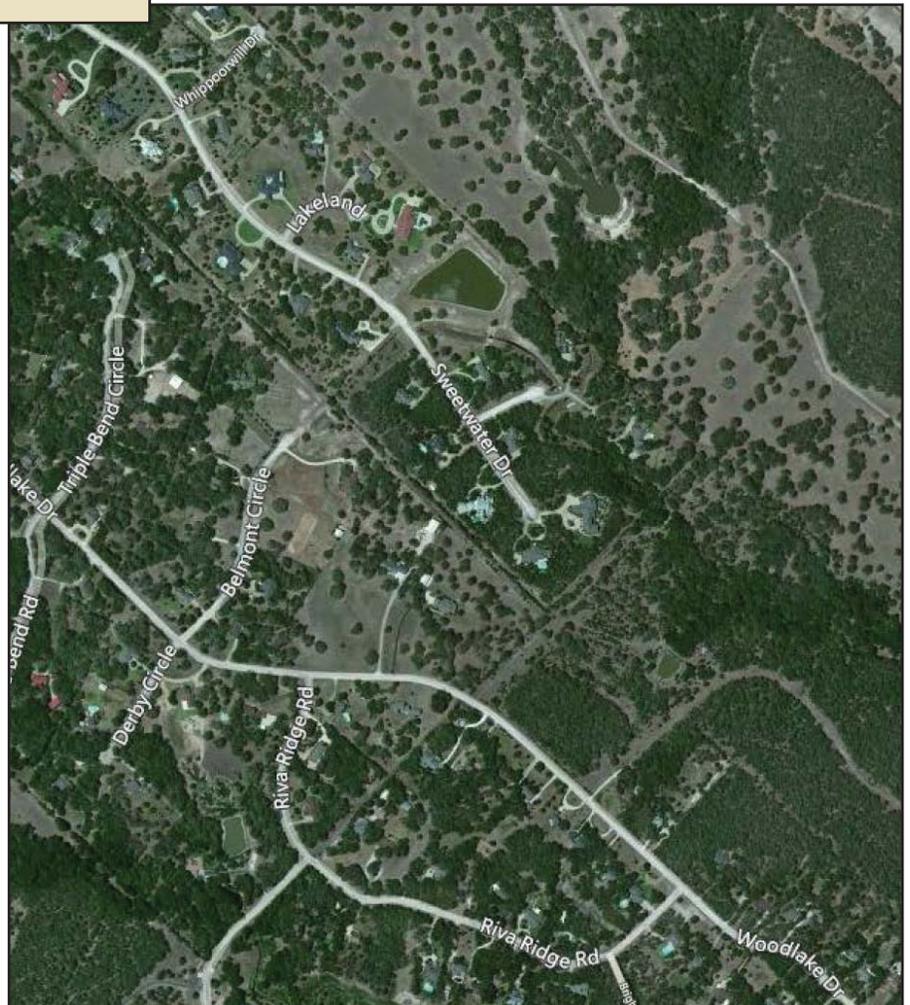
30° 31' 58" N

96° 16' 36" W

Homes are made of brick and stucco with composite roofs. Defensible space needs improvement. There is one primary point of ingress/egress for the subdivision. Primary fuels are medium to heavy hardwood litter and short grasses. Dry hydrants are present.

#### Values at Risk:

- 168 homes
- \$53,050,000 total value
- 470 acres



#### Mitigation Strategies:

- Ingress/egress plan
- Public education (defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, hand clearing
- Code enforcement

## 4. Indian Lakes

**Moderate Risk**

54 points

30° 31' 32" N  
96° 14' 34" W

This is a nature/equestrian area surrounded by 1,100 acres of grasses, oak and yaupon. There is good road access but there are dead-end streets. There is one primary point of ingress/egress for the subdivision. Homes are constructed of brick with metal and composite roofs. Defensible space needs improvement. Fire hydrants are limited.

### Mitigation Strategies:

- Ingress/egress plan
- Public education (target defensible space and Ready, Set, Go!)
- Fuels reduction: mechanical, grazing, hand clearing

## 5. Carter Lake

**Moderate Risk**

49 points

30° 35' 33" N  
96° 13' 31" W

The primary fuels in this area are 365 acres of oak, yaupon and floodplain forest around Carter Lake. During drought conditions, there could be an abundant fuel source for fire in the floodplain forest. There are two ways in and out of the area, but road access becomes narrow on the northeast side of the lake. Homes are constructed of both brick and wood with composite roofs. There are undeveloped lots, and defensible space needs improvement. No fire hydrants are present.

### Mitigation Strategies:

- Fuels reduction: mechanical, hand clearing
- Public education (target defensible space and Ready, Set, Go!)

## 6. Williams Creek

**Moderate Risk**

44 points

30° 34' 34" N  
96° 13' 31" W

Primary fuels include 460 acres of oak, yaupon and floodplain forest in Carter Creek. During drought conditions, there could be an abundant fuel source for fire in the floodplain forest. There is good access and at least three points of ingress/egress. The terrain is steep and homes are at different levels on opposite sides of the road. There is a green space in Johnson Creek Loop that could carry fire. Homes are constructed of brick and composite/metal roofs. Defensible space improvements are needed. Wellborn hydrants are present.

### Mitigation Strategies:

- Fuels reduction: mechanical, hand clearing
- Public education (target defensible space and Ready, Set, Go!)

## 7. Nantucket

**Moderate Risk**

40 points

30° 32' 41" N  
96° 15' 7" W

Primary fuels are 200 acres of grasses, oak and yaupon. There are multiple ways in and out of this area but some dead-end streets. Homes are constructed of brick and metal and have good defensible space. Hydrants are present, primarily serving Wellborn, but a few serve College Station.

### Mitigation Strategies:

- Public education (target Ready, Set, Go!)
- Fuels reduction: mechanical, grazing, hand clearing

## 8. Spring Meadows

Low Risk

30 points

30° 33' 56" N

96° 15' 15" W

Fuels are 470 acres of oak, yaupon, and floodplain forest. During drought conditions, there could be an abundant fuel source for fire in the floodplain forest. There is only one way in and out of the area. Homes are made of brick and composite roofs with wooden fences. There are city fire hydrants and this area is in close proximity to Fire Station No. 5.

## 9. Pebble Creek

Low Risk

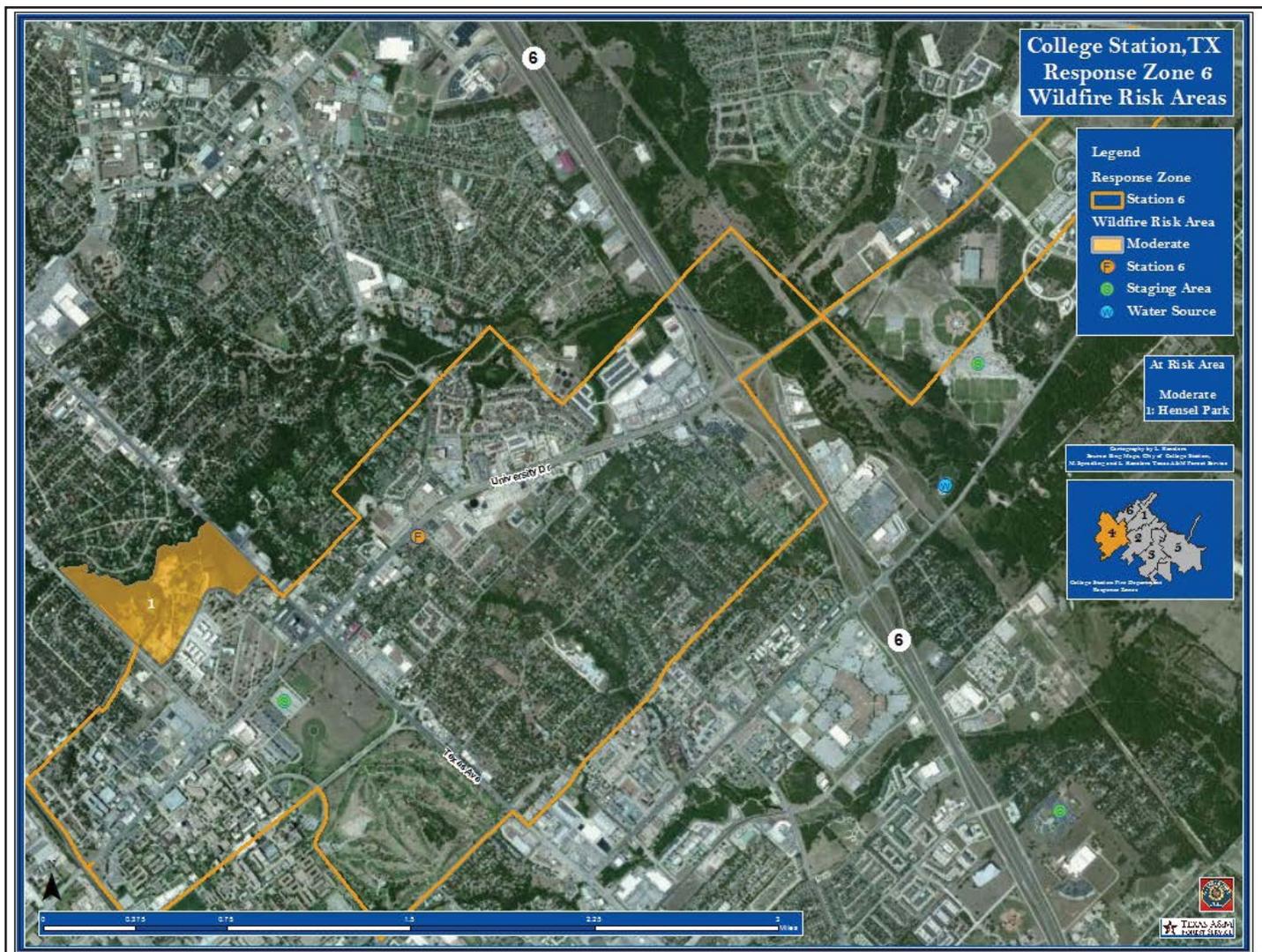
22 points

30° 33' 54" N

96° 13' 28" W

Fuels are primarily oak and yaupon. The area is adjacent to the 515-acre Lick Creek Park. The park is mostly a floodplain forest, and during drought conditions it could be an abundant fuel source for wildfire. There is one primary point of access for the subdivision. Homes are constructed of brick and composite roofs with combustible fences attached but have sufficient defensible space.

## Response Zone 6



One individual risk assessment was conducted in Response Zone 6, which is covered by Fire Station No. 6 at 610 University Drive East.

The assessed neighborhood was moderate risk.

### 1. Hensel Drive

**Moderate Risk**

43 points

30° 37' 43" N

96° 20' 31" W

This area is near Hensel Drive, South Texas Avenue and South College Avenue on Texas A&M University property. Texas A&M's horticulture garden, a day care center and Hensel Park are nearby. The structures are built with vinyl siding, metal siding and brick. The primary fuels are juniper and oak with an understory of short and tall grasses and leaf litter. Texas A&M University hydrants are present.

#### Mitigation Strategies:

- Public education (target defensible space and Ready, Set, Go!)

# Hazard Rating List

The following data was collected from risk assessments for Response Zones 1 through 6.

## Response Zone 1:

- One **high-risk** neighborhood
- Two **moderate-risk** neighborhoods
- Four **low-risk** neighborhoods

## Response Zone 2:

- Two **high-risk** neighborhoods
- Two **moderate-risk** neighborhoods
- One **low-risk** neighborhood

## Response Zone 3:

- One **high-risk** neighborhood
- Four **moderate-risk** neighborhoods

## Response Zone 4:

- One **high-risk** neighborhoods
- Two **moderate-risk** neighborhoods

## Response Zone 5:

- One **extreme-risk** neighborhood
- Two **high-risk** neighborhoods
- Four **moderate-risk** neighborhoods
- Two **low-risk** neighborhoods

## Response Zone 6:

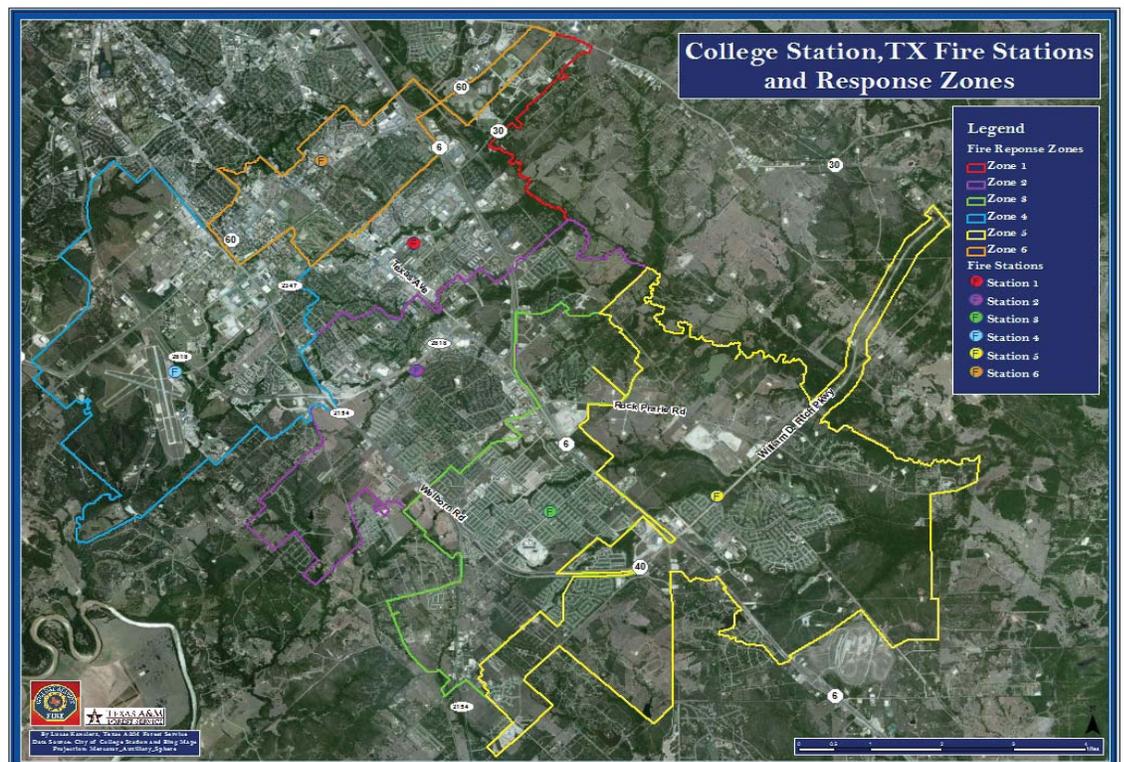
- One **moderate-risk** neighborhood

## City of College Station general wildfire risk

The City of College Station has a generally urban environment but there are pockets of wildland fuels within the city and bordering the outskirts that pose threats.

The most likely areas for wildfire ignition will have sufficient grasses in order to allow wildfire to spread.

These threats will most likely come from outside the city but some pockets within the city limits also have the potential to ignite and spread.



<b>NEIGHBORHOOD</b>	<b>SCORE</b>	<b>RESPONSE ZONE</b>	<b>RISK</b>
Wellborn Oaks	92	Response Zone 5	<b>Extreme</b>
Woodway and Pleasant Forest Mobile Home Parks	87	Response Zone 2	<b>High</b>
Sherwood Heights/Robin Drive	84	Response Zone 2	<b>High</b>
Glen Oaks Mobile Home Park	75	Response Zone 1	<b>High</b>
Highway 60 and Turkey Creek Road	75	Response Zone 4	<b>High</b>
Lake Placid	67	Response Zone 5	<b>High</b>
South Dowling and I&GN Road	62	Response Zone 3	<b>High</b>
Sweetwater	61	Response Zone 5	<b>High</b>
Sandstone Drive	55	Response Zone 2	<b>Moderate</b>
Nunn Jones Road	54	Response Zone 1	<b>Moderate</b>
Indian Lakes	54	Response Zone 5	<b>Moderate</b>
Carter Lake	49	Response Zone 5	<b>Moderate</b>
Foxfire	46	Response Zone 3	<b>Moderate</b>
Great Oaks	46	Response Zone 2	<b>Moderate</b>

<b>NEIGHBORHOOD</b>	<b>SCORE</b>	<b>RESPONSE ZONE</b>	<b>RISK</b>
Wood Creek Drive	45	Response Zone 3	<b>Moderate</b>
Williams Creek	44	Response Zone 5	<b>Moderate</b>
Hensel Drive	43	Response Zone 6	<b>Moderate</b>
Raintree	42	Response Zone 1	<b>Moderate</b>
Willow Run	41	Response Zone 3	<b>Moderate</b>
Nuclear Science Facility	41	Response Zone 4	<b>Moderate</b>
Nantucket	40	Response Zone 5	<b>Moderate</b>
White Creek Road	39	Response Zone 4	<b>Moderate</b>
Castlegate	33	Response Zone 3	<b>Moderate</b>
Deer Run	32	Response Zone 1	<b>Low</b>
Spring Meadows	30	Response Zone 5	<b>Low</b>
Windwood	29	Response Zone 1	<b>Low</b>
Emerald Forest	28	Response Zone 2	<b>Low</b>
Horse Haven	25	Response Zone 1	<b>Low</b>
Summit Crossing	25	Response Zone 1	<b>Low</b>
Pebble Creek	22	Response Zone 5	<b>Low</b>

# Mitigation Strategies

## Public Education

Public education campaigns are designed to heighten community awareness for wildfire risks. They may be general and cover the entire city or they may be specific and targeted for a certain area or issue (i.e. an awareness campaign on combustible attachments for a high risk-area). Texas A&M Forest Service has a large selection of public education materials on Ready, Set, Go!, Firewise Communities, home hardening, fuels management, basic fire behavior and Firewise landscaping that can be customized for the City of College Station.

Additional opportunities for public education include:

- Wildfire Awareness Week (second week of April)
- Fire Prevention Week
- National Night Out (October)
- Fire station tours
- Smoke alarm program
- Fire extinguisher training
- Citizens Fire Academy
- Fire Safety House
- Ready, Set, Go! (or other) town hall meetings with Texas A&M Forest Service
- College Station Fire Department and City of College Station social media sites
- College Station Fire Department web page and City of College Station website
- Targeted outreach with Fire Marshal's Office to high-risk areas
- Partnerships with local media outlets

## Hazardous Fuels Reduction

Fuels reduction projects are intended to clear overgrown vegetation, which can reduce the rate of spread and intensity of a wildfire and keep it out of the crowns of trees. In addition, these projects usually provide a safer environment for firefighters to work and extinguish a fire. Fuels reduction projects along evacuation routes may also give evacuees and incoming resources a safer ingress/egress.

Methods of treatment can vary. Treatment options include:

- Mechanical (mulcher, chipper)
- Hand clearing (chainsaws, handsaws)
- Herbicide application
- Prescribed fire

Some methods may be more effective than others, depending on the fuel types. Some methods may also be preferred when working around neighborhoods. The scope of each project will vary, but generally fuels reduction projects are completed along the border of neighborhoods and/or breaks in fuels (i.e. roads). Generally, fuels reduction projects are 100 to 200 feet wide depending on the fuel type.

# Fuels Management Program

By establishing a self-sustaining fuels management program in the city, the College Station Fire Department can continuously identify and mitigate high-risk fuels. Fuels reduction projects can slow the spread of wildfire and create a safer atmosphere for firefighters to protect structures.

Equipment and training needs should be identified by the fire department before a fuels management program is implemented.

Considering the fuel types in the City of College Station, mulchers, chippers and chainsaws would be beneficial for fuels reduction. Such equipment could target oak, cedar and yaupon. Grazing, prescribed fire and herbicide treatments would be more beneficial in the grass fuel types.

Fuels management crews should invest time and training in wildfire behavior, fuels treatment methods, prescribed fire and best management practices. Texas A&M Forest Service can offer all these courses, either through one of its wildfire academies (<http://ticc.tamu.edu/Training/training.htm>) or by contacting a local TFS office.



## Code Enforcement

Code Enforcement may involve adopting new codes or enforcing previously adopted codes. The International Code Council WUI code is designed to create safer living conditions in the Wildland Urban Interface. This code may give a jurisdiction the opportunity to enforce vegetation management, ignition-resistant construction, sprinkler systems, storage of combustible materials and land use limitations.

Adopting and enforcing certain parts of the International WUI Code could be beneficial to the City of College Station, particularly the sections of code that reference combustible attachments and vegetation management. High-risk neighborhoods would especially benefit from this during wildfire response. The goal of these codes is to develop neighborhoods that are more resilient to wildfires.

Existing College Station code already addresses some of these issues. For example, the following could help mitigate potential fire hazards:

**Addressing requirements:** This ordinance provides addressing requirements for both commercial and residential properties. All commercial structures shall have street numbers on the face of the building and on any rear door. Residential properties are required to have numbers on both sides of the mailbox, on the building or on a free standing structure. (*Chapter 12, Article 6*)

**Open storage:** Open storage of commodities and materials for sale, lease, inventory or private use shall not be permitted in residential areas. (*Chapter 7.3 B-9, #2302*)

**Property maintenance:** Occupancy limitations, garbage and rubbish, plumbing, mechanical, electrical and fire safety maintenance requirements are examples of violations addressed in this chapter. The property maintenance codes are adopted from the 2000 International Property Maintenance Code, referenced in the Unified Development Ordinance. (*Chapter 12, Article 3.3*)

**Hazardous materials:** Oil or any other hazardous substances shall be prohibited from being placed into a residential container. Motor oil can be properly disposed of for FREE at the O.R.C. at the Public Works Department. Oil shall not be dumped on the ground, according to Chapter 371 of the Texas Health and Safety Code. (*Chapter 11.5 2J*)

**Weeds and grass:** This ordinance refers to objectionable or unsightly vegetation including weeds and grass that exceed 12 inches in height. (*Chapter 7.1 C, #2592*)

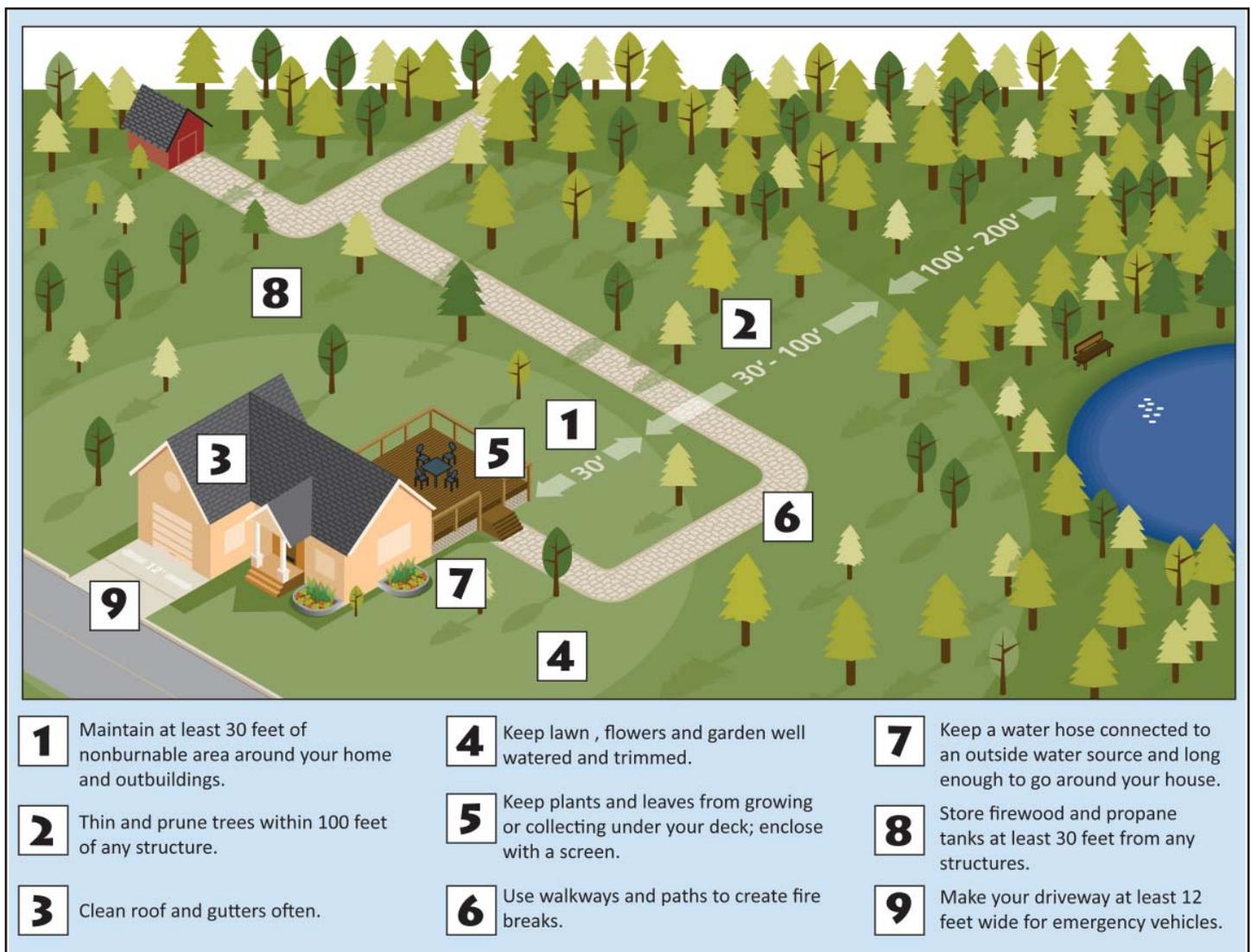


## Defensible Space

The area immediately surrounding a home is critical to its survival in a wildfire. Thirty feet is the absolute minimum recommended defensible space zone.

The Home Ignition Zone (HIZ) extends to 200 feet from the home. The fuel loading and continuity in the HIZ is a critical part of the risk assessment process and the results should direct defensible space mitigation projects. Vegetation placement, lawn care and use of fire-resistant materials (such as rock) will play an important role during a wildfire. While home hardening – the practice of making your home fire-resistant – is important for everyone, it is especially important for those homeowners who cannot mitigate the entire HIZ.

The primary type of mitigation project regarding defensible space is public education.



## Evacuation Planning

Evacuation plans can be created for high-risk neighborhoods, especially those with minimal egress routes, large populations or special populations. Plans should incorporate routes of ingress for emergency responders.

Emergency management, law enforcement, fire department, public works and the mayor's office may all be involved in the evacuation process.

### General Evacuation Checklist

#### Planning:

- Determine area(s) at risk:
  - Determine population of risk area(s).
  - Identify any special needs facilities and populations in risk area(s).
- Determine evacuation routes for risk area(s) and check the status of these routes.
- Determine traffic control requirements for evacuation routes.
- Estimate public transportation requirements and determine pickup points.
- Determine temporary shelter requirements and select preferred shelter locations.

#### Advance Warning:

- Provide advance warning to special needs facilities and advise them to activate evacuation, transportation and reception arrangements. Determine if requirements exist for additional support from local government.
- Provide advance warning of possible need for evacuation to the public, clearly identifying areas at risk.
- Develop traffic control plans and stage traffic control devices at required locations.
- Coordinate with special needs facilities regarding precautionary evacuation. Identify and alert special needs populations.
- Ready temporary shelters selected for use.
- Coordinate with transportation providers to ensure vehicles and drivers will be available when and where needed.
- Coordinate with school districts regarding closure of schools.

#### Evacuation:

- Advise neighboring jurisdictions and the local Disaster District that evacuation recommendation or order will be issued.
- Disseminate evacuation recommendation or order to special needs facilities and populations. Provide assistance in evacuating, if needed.
- Disseminate evacuation recommendation or order to the public through available warning systems, clearly identifying areas to be evacuated.
- Provide amplifying information to the public through the media. Emergency public information should address:
  - What should be done to secure buildings being evacuated
  - What evacuees should take with them



The Ready, Set, Go! program, which can be accessed at [texasfirewise.org](https://www.texasfirewise.org), provides information on how to prepare for wildfire, stay aware of current conditions and evacuate early when necessary.

- Where evacuees should go and how should they get there
- Provisions for special needs population and those without transportation
- Staff and open temporary shelters.
- Provide traffic control along evacuation routes and establish procedures for dealing with vehicle breakdowns on such routes.
- Provide transportation assistance to those who require it.
- Provide security in or control access to evacuated areas.
- Provide Situation Reports on evacuation to the local Disaster District.

Depending on the situation and availability of facilities, one or more of the following approaches will be used to handle evacuees arriving with pets:

- Provide pet owners information on nearby kennels, animal shelters and veterinary clinics that have agreed to temporarily shelter pets.
- Direct pet owners to a public shelter with covered exterior corridors or adjacent support buildings where pets on leashes and in carriers may be temporarily housed.
- Set up temporary pet shelters at fairgrounds, rodeo or stock show barns, livestock auctions and other similar facilities.

#### **Return of Evacuees:**

- If evacuated areas have been damaged, reopen roads, eliminate significant health and safety hazards and conduct damage assessments.
- Determine requirements for traffic control for return of evacuees.
- Determine requirements for and coordinate provision of transportation for return of evacuees.
- Advise neighboring jurisdictions and local Disaster District that return of evacuees will begin.
- Advise evacuees through the media that they can return to their homes and businesses; indicate preferred travel routes.
- Provide traffic control for return of evacuees.
- Coordinate temporary housing for evacuees who are unable to return to their residences.
- Coordinate with special needs facilities regarding return of evacuees to those facilities.
- If evacuated areas have sustained damage, provide the public information that addresses:
  - Documenting damage and making expedient repairs
  - Caution in reactivating utilities and damaged appliances
  - Cleanup and removal/disposal of debris
  - Recovery programs
- Terminate temporary shelter and mass care operations.
- Maintain access controls for areas that cannot be safely reoccupied.

#### **SPECIAL CONSIDERATIONS FOR LIVESTOCK:**

- Livestock are sensitive and responsive to wildfire anywhere within their sensory range.
- Normal reactions vary from nervousness to panic to aggressive and resistive escape attempts.
- Livestock often are injured or killed by fleeing from a wildfire into fences, barriers and other fire risks.
- Once the flight syndrome kicks in, it is retained long after the smoke, heat and noise stimuli are removed.
- Some animal species such as alpacas, llamas and especially horses become virtually unmanageable in the face of oncoming wildfire.
- In situations like this, experienced handlers (as many as possible), proper equipment and a firm and prompt evacuation approach is needed.
- If time is limited because of fire ground speed, open possible escape routes and recapture animals later.
- In the case of a fast-moving fire, some landowners spray paint their phone numbers on the sides of livestock before setting them free. Others attach identification tags to animals.
- If you choose to leave a halter on your animal, consider attaching identification, such as a luggage tag.
- Firefighters may cut fences and open gates if time and safety concerns allow.

In addition to **Emergency Facilities** (Page 23) and Schools (Pages 26-27), nursing homes also should be considered when evacuating special populations.

### **Local nursing homes include:**

#### **Arbor on the Brazos**

1103 Rock Prairie Road

#### **Bluebonnet House**

3901 Victoria Ave.

- 39 beds; emergency power for 168-plus hours; propane generator

#### **The Waterford at College Station**

1103 Rock Prairie Road

- 40 beds; 18 memory care

#### **Fortress Health and Rehab**

1105 Rock Prairie Road

- 120 beds; emergency power for 72 hours

#### **Magnified Health and Rehab**

1115 Anderson

- 115 beds; emergency power for 24 to 48 hours



Special populations to consider for smoke management and evacuation needs include schools, hospitals and nursing homes.

## **Structure Protection Planning**

Structure protection planning can involve home assessments or structure triage planning. It can be generalized for a neighborhood or target a specific block of homes that are at a greater risk to wildland fire. The goal is to have a general plan in place of how homes will be protected (including number of resources needed, access issues, tactical considerations and defensible/non-defensible list).

The Firescope publication *Wildland Urban Interface Structure Protection* suggests the following tactics may be implemented after a fire behavior forecast is made and assigned structures are triaged.

### **Check and Go**

*“Check and Go” is a rapid evaluation to check for occupants requiring removal or rescue.*

*Structure Triage Category – Threatened Non-Defensible*

- This tactic is most appropriate when there is no Safety Zone or Temporary Refuge Area present and the forecasted fire spread, intensity and projected impact time of the fire front prohibit resources from taking preparation action to protect the structure.
- Complete a rapid evaluation to check for occupants and evaluate life threat.
- Used when fire spread, intensity, lack of time or inadequate defensible space prohibit firefighting resources from safely taking action to protect the home when the fire front arrives.
- Evaluate the structure for follow-up action when additional resources become available, the fire front passes or fire behavior intensity is reduced.

## Prep and Go

*“Prep and Go” implies that some preparation of the structure may be safely completed prior to resources leaving the area.*

*Structure Triage Category – Threatened Non-Defensible*

- A tactic used when a Safety Zone and Temporary Refuge Area are not present and/or when fire spread and intensity are too dangerous to stay in the area when the fire front arrives but there is adequate time to prepare a structure for defense ahead of the fire front.
- Utilized for structures where potential fire intensity makes it too dangerous for fire resources to stay when the fire front arrives.
- There is some time to prepare a structure ahead of the fire; resources should engage in rapid, prioritized fire protection preparations and foam the structure prior to leaving.
- Resources should leave with adequate time to avoid the loss of Escape Routes.
- Advise residents to leave and notify supervisors of any residents who choose to stay so that you can follow-up on their welfare after the fire front passes.
- As with Check and Go, Prep and Go is well suited for engine strike teams and task forces.



## Prep and Defend

*“Prep and Defend” is a tactic used when a Safety Zone and Temporary Refuge Area are present and adequate time exists to safely prepare a structure for defense prior to the arrival of the fire front.*

*Structure Triage Category – Threatened Defensible*

- An ideal multiple resource tactic especially in common neighborhoods where efforts may be coordinated over a wide area. A tactic used when it is possible for fire resources to stay when the fire front arrives. Fire behavior MUST be such that it is safe for firefighters to remain and engage the fire.
- Adequate escape routes to a safety zone must be identified. A safety zone or Temporary Refuge Area must exist on site.
- Adequate time must exist to safely prepare the structure for defense prior to the arrival of the fire front.

## Fire Front Following

*“Fire Front Following” is a follow-up tactic employed when Check and Go, Prep and Go or Bump and Run tactics are initially used.*

- A tactic used to come in behind the fire front.
- This action is taken when there is insufficient time to safely set up ahead of the fire or the intensity of the fire would likely cause injury to personnel located in front of the fire.
- The goal of “Fire Front Following” is to search for victims, control the perimeter, extinguish spot fires around structures, control hot spots and reduce ember production.

## **Bump and Run**

*“Bump and Run” is a tactic where resources typically move ahead of the fire front in the spotting zone to extinguish spot fires and hot spots, and to defend as many structures as possible.*

- Bump and Run may be effective in the early stages of an incident when the resource commitment is light and structure protection is the priority.
- Bump and Run may be used on fast-moving incidents when there are adequate resources available but where an effort must be made to control or steer the head and shoulders of the fire to a desired end point.
- Perimeter control and structure protection preparation are secondary considerations with the Bump and Run tactic.
- Resources must remain mobile during Bump and Run and must constantly identify escape routes to Safety Zones and Temporary Refuge Areas as they move with the fire front.
- Control lines in front of the fire should be identified and prepared with dozers and fire crews enabling the bump and run resources to direct the fire to a logical end point. This is a frontal attack strategy and a watch out situation.



## **Anchor and Hold**

*“Anchor and Hold” is a tactic utilizing control lines and large water streams from fixed water supplies in an attempt to stop fire spread. The goal is to extinguish structure fires, protect exposures and reduce ember production.*

- Anchor and hold can be referred to as taking a stand to stop the progression of the fire.
- Anchor and hold tactics are more effective in urban neighborhoods where the fire is spreading from house to house.
- Establishing an anchor and hold line requires considerable planning and effort and utilizes both fixed and mobile resources.

## **Tactical Patrol**

*“Tactical Patrol” is a tactic where the key element is mobility and continuous monitoring of an assigned area.*

Tactical Patrol can be initiated either:

- After the main fire front has passed and flames have subsided but when the threat to structures still remains.
- In neighborhoods away from the interface where there is predicted to be significant ember wash and accumulated ornamental vegetation.
- Vigilance, situational awareness and active suppression actions are a must.

# Wildland Capacity Building

Capacity building should address training, personal protective equipment and apparatus or equipment needs within the department. This can include National Wildfire Coordinating Group (NWCG) classes, wildland engines, dozers, prescribed burning opportunities, etc.

## Fire Department Assistance Programs

### Rural Volunteer Fire Department Assistance Programs (HB 2604)

The Rural VFD Assistance Program (2604) provides grants for qualified fire departments to assist in the purchase of PPE, equipment and training. The program is designed to fund a full spectrum of cost-share projects and continues to make a significant impact on firefighters and communities.

### GSA Wildland Fire Program

The Rural VFD Assistance Program  
The U.S. General Services Administration permits non-federal organizations to purchase wildfire suppression equipment. The purpose is to help fire departments acquire standardized equipment, supplies and vehicles in support of wildland fire suppression efforts. Texas A&M Forest Service provides enrollment sponsorship.

### Firesafe Program

The Firesafe program provides low-cost wildland and structural protective clothing, hose, nozzles and other water-handling accessories to rural and small community fire departments.

### VFD Vehicle Liability Insurance

The Texas Volunteer Fire Department Motor Vehicle Self Insurance Program (risk pool) provides low-cost vehicle liability insurance to qualified volunteer fire departments.

### Rural VFD Insurance Program

The Rural VFD Insurance Program provides grants to qualified fire departments to assist in the purchase of workers' compensation insurance, life insurance and disability insurance for their members.

### TIFMAS Grant Assistance Program

The TIFMAS grant assistance program provides grants to qualified fire departments to assist in the purchase of training, equipment and apparatus.

### Helping Hands Program

The Helping Hands Program provides liability relief to industry, businesses, cities and others to donate surplus fire and emergency equipment. Texas A&M Forest Service then distributes it to departments around the state.

### Department of Defense Firefighter Property Program (FPP)

In partnership with the Department of Defense, Texas A&M Forest Service administers the Firefighter Property Program (FPP), which provides excess military property to emergency service providers.

### Fire Quench Program

Fire Quench is a Class A Foam distributed to Texas A&M Forest Service offices throughout the state and made available for sale to local fire departments. Fire Quench is sold in 55-gallon drums and 5-gallon pails.

<http://texasfd.com>



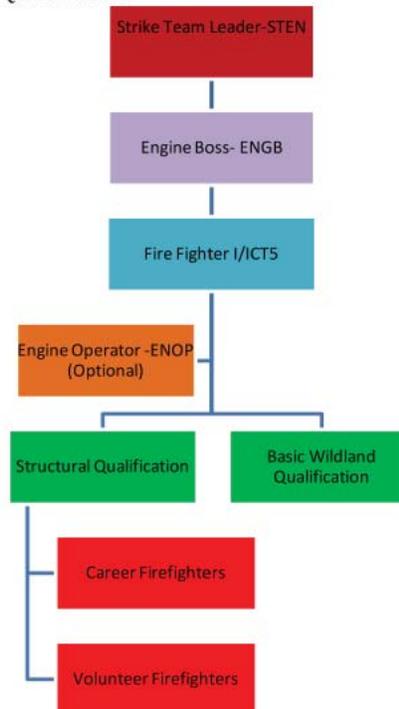
## Training

The College Station Fire Department is highly motivated to invest in wildland training and equipment so firefighters can respond to wildland incidents in the safest and most efficient manner. The NWCG typically sets standards for wildland firefighting, but Texas fire departments must meet certain criteria to participate in the Texas Intrastate Fire Mutual Aid System (TIFMAS).



## Texas Intrastate Fire Mutual Aid System (TIFMAS)

TIFMAS Organization Chart and Position Qualifications



## Training Recommendations

### Basic Wildland Qualification

Recognized National Standard to meet this qualification – S130/190, L180, I100

Approved Basic Wildland Training to meet the TIFMAS Wildland qualification:

1. S130/S190, L180, I100 delivered at TFS sanctioned academies
2. TFS contracted Fire in the Field (FIF) 100 (I-100, S-190, S-130, and L-180) with Skills day.
3. TIFMAS Adjunct Instructor delivered (S130/S190, L180, I100) basic wildland fire training with a skills proficiency day.
4. TFS Training Section delivered S130/S190, L180, and I100.
5. Approved TFS sponsored training events
6. S130/S190, L180, I100 delivered by TEEX wildland approved instructors
7. SFFMA Curriculum with Wildland Certification completed on or after June 2008
8. Basic wildland training (S130/S190, L180) delivered by instructors with current Red Card qualifications meeting the 901-1 standards for instructors.

Recognized Certifications include but are not limited to:

1. NWCG S130/S190/L180 Course certification
2. TIFMAS S130/S190/L180 Course certification
3. SFFMA Wildland Certification completed as of June 2008
4. TCFP Basic Wildland (FFI) certification

Other recommended training:

TIFMAS Engine Module

### Structural Qualification

Recognized National Standard to meet this qualification - NFPA 1001 Standards for Firefighter

Recognized Certifications include but are not limited to:

1. TCFP Basic Firefighter
2. SFFMA – NFPA Fire Fighter I/II (Was Advanced Firefighter).

### Engineer – Pump Operator (ENOP) Qualification

Pre-requisites:

1. All Hazards-structural qualification
2. Basic Wildland qualification and complete one of the following
  - TCFP 60 hour Pump Operator Certification or
  - SFFMA 40 hour Driver/Operator class or
  - TFS/NWCG 40 hour Engine Operator course

and complete

TIFMAS Engine Operator (ENOP) task book  
and receive a

Positive position task book review

### Wildland Firefighter I (FFI)/ICT 5 Qualification

Pre-requisites:

1. All Hazards-structural
2. Basic Wildland  
and complete

- Crosswalk G 131 for FFI/ICT5 or
- NWCG S131, S 133

and complete

NWCG Task Book PMS 311-14  
and receive a

Positive position task book review

Other recommended NWCG training:

1. S211 Portable Pumps and Water Use
2. S212 Wildland Fire Chain Saws

### Engine Boss (ENGB) Qualification

Pre-requisites:

1. All Hazards-structural qualification
2. Basic Wildland qualification
3. FFI-ICT5 qualification
4. Meet NFPA 1021 Fire Officer I standards
5. Current position of Driver/Operator or higher at home jurisdiction
6. NIMS Certifications through I-300

and complete

- Crosswalk G231 course for Engine Boss or
- NWCG S230, S231, S290

and complete

NWCG Task Books PMS 311-13  
and receive a

Positive position task book review

Recognized Certifications for NFPA 1021 for Fire Officer I include but are not limited to:

1. TCFP Fire Officer I certificate
2. SFFMA Fire Officer I certificate completed as of June 2008 with Pro Board or IFSAC certification is recognized
3. Note Fire Officer I:
  - Completed prior to 12-31-11- course certificate will be recognized
  - Completed 1-1-2012 or after must have a TCFP, IFSAC, or Pro Board Certificate to be recognized

Other recommended NWCG training:

1. S234 Ignition Operations
2. S270 Basic Air Operations
3. L280 Followership to Leadership

### Strike Team Leader (STEN) Qualification

Pre-requisites:

1. All Hazards-structural qualification
2. Basic Wildland
3. FFI-ICT5 qualification
4. Engine Boss qualification
5. Meet NFPA 1021 Fire Officer II standards
6. Current position of Company Officer or higher at home jurisdiction  
and complete

- Crosswalk G330 course for Strike Team Leader or
- NWCG S330 Strike Team Leader and S215 Fire Operations in the Urban Wildland Interface  
and complete

NWCG Task Book 311-10  
and receive a

Positive position task book review.

Recognized Certifications for NFPA 1021 for Fire Officer II include but are not limited to:

1. TCFP Fire Officer II certificate
2. SFFMA Fire Officer II certificate completed as of June 2008 with Pro Board or IFSAC certification is recognized
3. Note:
  - Completed prior to 12-31-11- course certificate will be recognized
  - Completed 1-1-2012 or after must have a TCFP, IFSAC, or Pro Board Certificate to be recognized

Other recommended NWCG training:  
L380 Fireline Leadership

## Recommended Training

The NWCG requires firefighters to complete classes alongside position-specific task books. The task books outline specific assignments required to be completed by the trainee. The trainee is evaluated by a qualified trainer on wildland incidents. Once the trainee completes the task and gains experience on wildland incidents, the task book is completed and the individual is qualified to respond in that capacity. NWCG task books can be found at: <http://www.nwcg.gov/pms/taskbook/taskbook.htm>

The following is a list of recommended training for the College Station Fire Department:

**S-130/190** (includes **L-180** and **I-100**) – Basic Firefighter/Introduction to Wildland Fire Behavior

**S-131** – Firefighter Type 1

**S-133** – Look Up, Look Down, Look Around

**L-280** – Followership to Leadership

**S-215** – Fire Operations in the Wildland Urban Interface

**S-290** – Intermediate Wildland Fire Behavior

**S-200** – Initial Attack Commander (ICT4)

**S-234** – Ignitions Operations

**S-230** – Crew Boss (Single Resource)

**S-330** – Task Force/Strike Team Leader

**O-305** – All-Hazard Incident Management Team Training

Texas wildfire academy class schedules can be found at <http://ticc.tamu.edu/Training/TrainingMain.htm>

## NWCG Engine Types

Using the Fire Equipment Working Team (FEWT) and the National Fire Protection Association (NFPA), the National Wildfire Coordinating Group (NWCG) categorizes information on fire engines into logical groups and provides common options often requested by fire managers. The Incident Command System (ICS) uses this engine type system based on the equipment. The NWFC Wildland Fire Engine Classes used throughout this guide (LP, A, B, C, and D) are based on its mission and engine capability in relation to fire behavior. Table 2 shows NWCG minimum requirements for engine and water tender resource types.

Table 2—NWCG Engine Types—Minimum Requirements.

Components	STRUCTURE ENGINES		WILDLAND ENGINES				
	1	2	3	4	5	6	7
Pump Rating							
minimum flow (gpm)	1000+	250+	150	50	50	30	10
at rated pressure (psi)	150	150	250	100	100	100	100
Tank Capacity Range (gal)	400+	400+	500+	750+	400–750	150–400	50–200
Hose (feet)							
2-1/2 inch	1200	1000	~	~	~	~	~
1-1/2 inch	400	500	500	300	300	300	~
1 inch	~	~	500	300	300	300	200
Ladders (ft)	48	48	~	~	~	~	~
Master Stream (GPM)	500	~	~	~	~	~	~
Personnel (minimum)	4	3	2	2	2	2	2

Wildland engine types are described below.

**Type 3** — An engine that features a high-volume and high-pressure pump. The Gross Vehicle Weight Rating (GVWR) is generally greater than 20,000 pounds.

**Type 4** — A heavy engine with large water capacity. Chassis GVWR is in excess of 26,000 pounds.

**Type 5** — Normally an initial attack engine on a medium duty chassis. GVWR of the chassis is in the 16,000 to 26,000 pound range.

**Type 6** — Normally an initial attack engine on a medium duty chassis. GVWR of the chassis is in the 9,000 to 16,000 pound range.

**Type 7** — A light duty vehicle usually on a 6,500 to 10,000 pound GVWR chassis. The vehicle has a small pump and is a multipurpose unit used for patrol, mop up or initial attack.

Source: U.S. Forest Service Wildland Fire Engine Guide



Type 3 engine



Type 6 engine

## Recommended Equipment

College Station Fire Department works closely with Brazos County resources to suppress wildfires. College Station Fire Department currently has one Type 6 engine that has been and will continue to be effective. However, it would be beneficial for CSFD to invest in a Type 3 or an additional Type 6 engine. This would give the department an additional asset in case county resources are not available.

## Recommended Protective Equipment

- Nomex coveralls
- Nomex pants (should be made of flame-resistant Aramid cloth)
- Nomex shirt (should be made of flame-resistant Aramid cloth)
- Nomex jacket (should be made of flame-resistant Aramid cloth)
- Wildland gloves
- Wildland hardhat
- Eye protection
- Ear/neck/face protectors
- Fire shelter
- Wildland fire pack
- Chainsaw chaps



## Wildland Firefighting Tools

### Pulaski Tool



This ax-and-hoe combination tool is designed for fire-line digging and chopping. Cutting edges: 3-3/8" (hoe); 4-1/2" (ax); handle 36" long. Forest Service Spec 5100-355. (NFES #0146)

### Collapsible Firefighting Rake



Collapsible metal rake is designed for fire-line construction. Features stainless steel tines that extend to 16" in width. Features a foam-grip handle. Lengths: 59-1/2" (extended) and 49-2/5" (collapsed). Weight: 3.3 lbs. REC Drawing No. 90-5700C. (NFES #0659)

### McLeod Tool



Fire-line digging tool is a rake-and-hoe combination. Handle is 48" long. Forest Service Spec 5100-353. (NFES #0296)

### • Drip Torch



### Swatter



Source: U.S. General Services Administration

## Engines

Smaller than a typical municipal fire engine, wildland fire engines are specially-designed to handle remote, off-road areas and difficult terrain. The trucks carry 50 to 800 gallons of water, as well as a complement of hand tools and hoses. Generally, they're staffed by a crew of two to five wildland firefighters.

## Heavy Equipment

Bulldozers fitted with safety cages are critical tools for containing wildfires. Large, commercial bulldozers often are used on the open plains in South and West Texas, while smaller tractor-plow units are more common in forested areas in Central and East Texas. Both dozers and tractor plows are used to put a control line — often called a fire line or fire break — around the flames. Doing so removes all the vegetation, or fuel, that would spread the fire.

## Water Tenders

Because wildland firefighters don't have access to fire hydrants, they must bring the water they need with them.

Tenders are capable of ferrying large quantities of water — up to 5,000 gallons — to fire engines working on the fireline, allowing crews to fight the fire without stopping. When empty, these water-shuttling trucks can return to a nearby city or town where hydrants are available or they can draft from a lake, pond or stream in the area.

## Hand Crews

A hand crew consists of highly-skilled wildland firefighters who use hand tools and chainsaws to clear the vegetation in front of an advancing fire. These crews are used in areas where heavy equipment can't go, such as remote areas with rugged terrain. Generally, there are about 20 people on the crew, though that number can vary slightly.

## Aircraft

Firefighting aircraft are a valuable tool for wildland firefighters. The specially-equipped helicopters and airplanes can be used to drop water or fire retardant, but they don't always extinguish the fire. Helicopters often drop water, which can help put out a blaze. Air tankers, however, often drop retardant, a move that slows down the spread of flames and cools off the surrounding area, allowing ground crews to get closer and make more progress in containing the fire.



# Mitigation Funding Sources

## FEMA Hazard Mitigation Grant Program

The Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

<http://www.fema.gov/hazard-mitigation-grant-program>

## Texas A&M Forest Service – Integrated Hazardous Fuels Program (Mitigation and Prevention Department)

One of the tools in hazard reduction efforts is the removal of heavy vegetation growth under controlled conditions to reduce the fuels available for future wildfires. Vegetation is generally removed using mechanical methods – such as mulching or chipping – or prescribed (controlled) fires under manageable conditions. The local TFS office can provide assistance in determining the best treatment methods for the area.

<http://texasforestservicetamu.edu/main/article.aspx?id=8510>

## Texas A&M Forest Service Capacity Building

Texas A&M Forest Service provides eligible fire departments with programs designed to enhance their ability to protect the public and fire service personnel from fire and related hazards. Ten highly successful programs are currently administered to help fire departments discover and achieve their potential. Citizens are better served by well-trained and equipped fire department personnel.

<http://texasfd.com>

## Texas Intrastate Fire Mutual Aid System

Texas Intrastate Fire Mutual Aid System (TIFMAS) is maintained by Texas A&M Forest Service. The program includes training, qualification and mobilization systems to make statewide use of local resources. The program was first used during Hurricane Ike, and has since been used in response to the Presidio flooding, the April 9, 2009, wildfire outbreak in North Texas, Hurricane Alex and the 2011 wildfire season. The system was successful in all incidents.

TIFMAS, a product of Senate Bill 11 enacted in 2007, does not require departments to send resources to incidents. It is a voluntary process. During the 2011 wildfire season, TIFMAS mobilized 13 times with a total of 207 departments, 1,274 firefighters and 329 engines.

<http://texasforestservicetamu.edu/main/article.aspx?id=9216>



# Appendix

This section can be used for supplemental materials and resources that will be useful to emergency responders and members of the working group.

* CWPP Leader's Guide .....	81
* Glossary .....	82
* Contact List .....	83-84
* Implementation Progress Checklist .....	85
* City of College Station Proclamation .....	86
* References .....	87

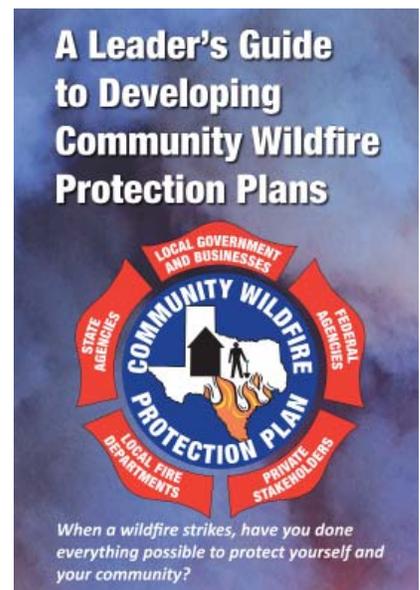


# Community Wildfire Protection Plan Leader's Guide

## A LEADER'S GUIDE TO DEVELOPING A COMMUNITY WILDFIRE PROTECTION PLAN

PHASE 1: PLAN	PHASE 2: ASSESS	PHASE 3: FINALIZE
<input type="checkbox"/> <b>Engage local Texas A&amp;M Forest Service.</b> Contact local Wildland Urban Interface Specialist at <a href="http://www.texasfirewise.com">www.texasfirewise.com</a> <input type="checkbox"/> <b>Contact fire association/local law enforcement and fire services.</b> <input type="checkbox"/> <b>Contact state and federal partners.</b> <p><i>If the above are supportive, then continue with:</i></p> <input type="checkbox"/> <b>Adopt Community Wildfire Protection Plan.</b> Discuss adopting CWPP into annex of emergency management plan and mitigation action plan. <input type="checkbox"/> <b>Declare proclamation.</b> Present proclamation to city council.	<input type="checkbox"/> <b>Identify priority areas with fire service and federal agencies.</b> <ul style="list-style-type: none"> <li>• This can be accomplished with a one-on-one meeting or a group meeting.</li> <li>• Develop a base map of Communities At Risk (CARs).</li> </ul> <input type="checkbox"/> <b>Assemble</b> fire department response area maps. <input type="checkbox"/> <b>Assemble</b> checklist of topics to cover during assessments. <input type="checkbox"/> <b>Interview</b> fire department to identify needs, concerns and update contact information. <input type="checkbox"/> <b>Conduct</b> assessments in cooperation with fire department. <input type="checkbox"/> <b>Identify</b> safety issues. <input type="checkbox"/> <b>Identify</b> recommendations/projects. <input type="checkbox"/> <b>Compile</b> assessment results. <input type="checkbox"/> <b>Finalize</b> CAR map. <input type="checkbox"/> <b>Prioritize</b> recommendations/projects. <input type="checkbox"/> <b>Develop</b> local CWPP draft. <input type="checkbox"/> <b>Deliver</b> draft CWPP to fire department for edits.	<input type="checkbox"/> <b>Assemble draft city CWPP</b> using information gathered from risk assessments and fire department CWPPs. <input type="checkbox"/> <b>Research and identify</b> potential funding sources. <ul style="list-style-type: none"> <li>▶ Reconvene core group for second meeting.</li> <li>▶ Present findings from assessments.</li> </ul> <input type="checkbox"/> <b>Prioritize projects</b> within city plan. <ul style="list-style-type: none"> <li>• Fuels reduction</li> <li>• Education</li> <li>• Structural ignitability</li> </ul> <input type="checkbox"/> <b>Finalize</b> city CWPP with edits from core group. <input type="checkbox"/> <b>Present</b> for public opinion. <input type="checkbox"/> <b>Deliver</b> draft to core group participants. <input type="checkbox"/> <b>Present</b> final copy to city council. <input type="checkbox"/> <b>Plan</b> signing/recognition ceremony.
<div style="border: 1px solid black; height: 100px; width: 100%; margin-top: 10px; text-align: center; line-height: 100px;">NOTES</div>		

Source: Texas A&M Forest Service



Download A Leader's Guide to Developing Community Wildfire Protection Plans at

[texasfirewise.org](http://texasfirewise.org)

# Glossary

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**Community Emergency Operations Center (CEOC)** - A multi-jurisdictional facility that offices Brazos County, City of Bryan, City of College Station and Texas A&M University emergency management personnel.

**Defensible space** — The area immediately encircling a home and its attachments.

**Extended attack** — Suppression activity for a wildfire that has not been contained or controlled by initial attack or contingency forces and for which more firefighting resources are arriving, en route or being ordered by the initial attack incident commander. *(National Wildfire Coordinating Group definition)*

**Fuel loading** — The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area. This may be available fuel (consumable fuel) or total fuel and is usually dry weight. *(National Wildfire Coordinating Group definition)*

**Healthy Forests Restoration Act** — Signed into law in 2003, this act authorizes Community Wildfire Protection Plans as a tool to reduce hazardous fuels and maintain healthy forests.

**Home hardening** — Retrofitting process that reduces a home's risk to wildfire. This involves using non-combustible building materials and keeping the area around your home free of debris.

**Home Ignition Zone (HIZ)** — An area of up to 200 feet immediately surrounding a home.

**Incident Action Plan (IAP)** — Contains objectives reflecting the overall incident strategy, specific tactical actions and supporting information for the next operational period. When written, the plan may have a number of attachments, including incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan and incident map. *(National Wildfire Coordinating Group definition)*

**Incident Command System (ICS)** - A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. *(National Wildfire Coordinating Group definition)*

**Initial attack** — Fire that is generally contained by the attack units first dispatched, without a significant augmentation of reinforcements, and full control is expected within the first burning period. *(National Wildfire Coordinating Group definition)*

**Mitigation Action Plan** — A document that outlines a procedure for mitigating adverse environmental impacts.

**Pre-Attack Plan** — A resource for first responders that includes information specific to the community where an incident is taking place. Pre-Attack Plans may include possible Incident Command Post locations, shelter locations, radio frequencies, maps, high-risk areas and contingency plans.

**Structural ignitability** — A home's design, construction materials and immediate surroundings are factors that contribute to how easily a home will ignite when wildfire threatens.

**Wildland Urban Interface (WUI)** — Areas where human habitation and development meet or are intermixed with wildland fuels (vegetation).

# Contact List

District Coordinator, Texas Department of Public Safety,  
 Division of Emergency Management  
 979-412-0003

## Texas A&M Forest Service contacts:

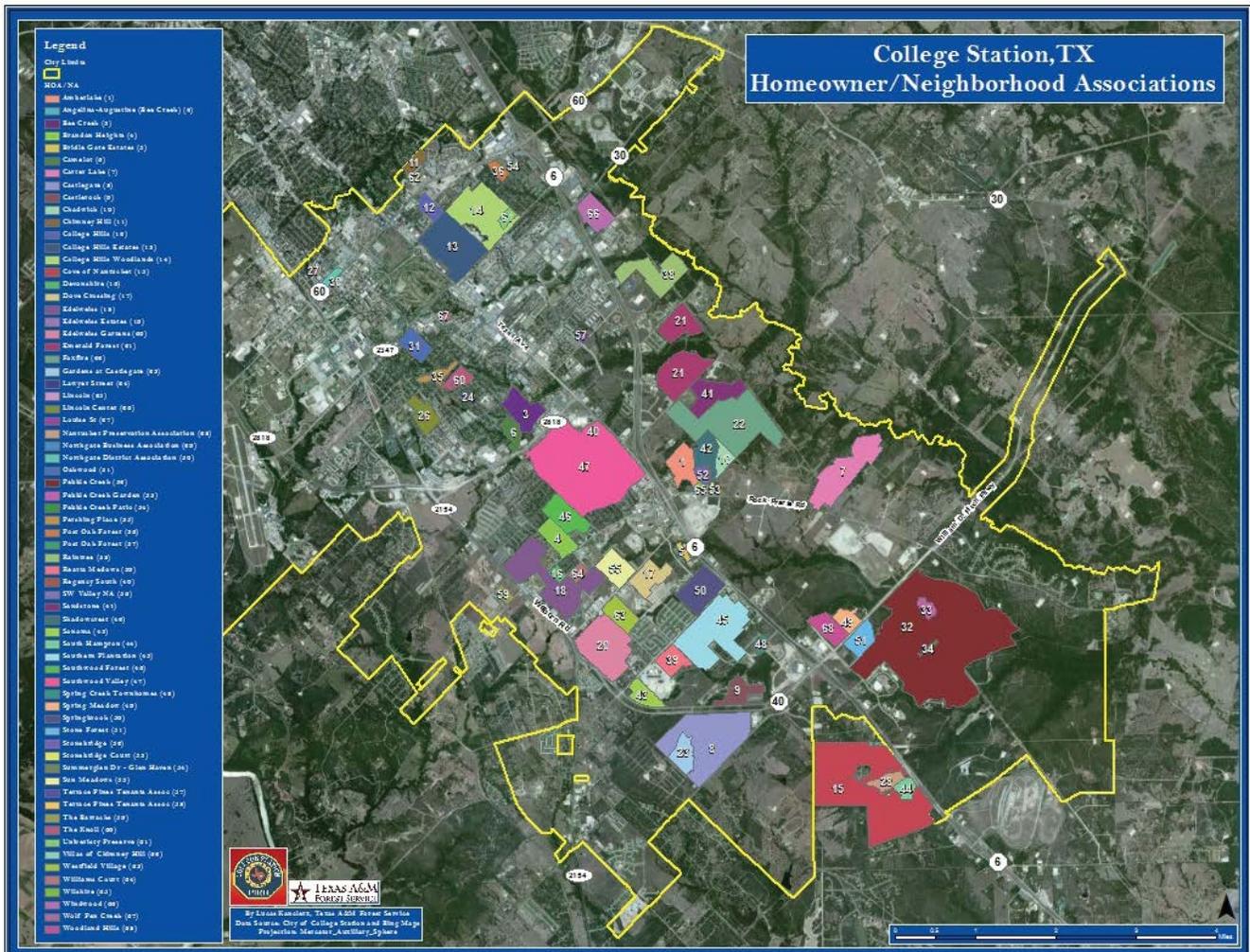
Regional Fire Coordinator  
 200 Technology Way, Suite 1162  
 College Station, TX 77845-3424  
 979-458-6507



Assistant Chief Regional Fire Coordinator  
 700 South Reynolds Street  
 La Grange, Texas 78945  
 979-968-5555

LaGrange Dispatch  
 979-968-5555

## Homeowners' Associations:



## College Station Homeowner/Neighborhood Associations

1. Amberlake
2. Angelina/Augustine (Bee Creek)
3. Bee Creek
4. Brandon Heights
5. Bridle Gate Estates
6. Camelot
7. Carter Lake
8. Castlegate
9. Castlerock
10. Chadwick
11. Chimney Hill
12. College Hills
13. College Hills Estates
14. College Hills Woodlands
15. Cove of Nantucket
16. Devonshire
17. Dove Crossing
18. Edelweiss
19. Edelweiss Estates
20. Edelweiss Gartens
21. Emerald Forest
22. Foxfire
23. Gardens at Castlegate
24. Lawyer Street
25. Lincoln
26. Lincoln Center
27. Louise Street
28. Nantucket Preservation Association
29. Northgate Business Association
30. Northgate District Association
31. Oakwood
32. Pebble Creek
33. Pebble Creek Garden
34. Pebble Creek Patio
35. Pershing Place
36. Post Oak Forest
37. Post Oak Forest
38. Raintree
39. Reatta Meadows
40. Regency South
41. Sandstone
42. Shadowcrest
43. Sonoma
44. South Hampton
45. Southern Plantation
46. Southwood Forest
47. Southwood Valley
48. Spring Creek Townhomes
49. Spring Meadow
50. Springbrook
51. Stone Forest
52. Stonebridge
53. Stonebridge Court
54. Summerglenn Drive/Glen Haven
55. Sun Meadows
56. Southwood Valley
57. Terrace Pines Tenants Assoc. (1)
58. Terrace Pines Tenants Assoc (2)
59. The Barracks
60. The Knoll
61. University Preserve
62. Villas of Chimney Hill
63. Westfield Village
64. Williams Court
65. Wilshire
66. Windwood
67. Wolf Pen Creek
68. Woodland Hills

# Implementation Progress Checklist

Mitigation Strategies	Completed (√)	Date
<b>Zone 1</b> Code enforcement Fuels reduction Public education		
<b>Zone 2</b> Code enforcement Fuels reduction Hydrant system Ingress/egress plan Public education		
<b>Zone 3</b> Code enforcement Fuels reduction Public education		
<b>Zone 4</b> Fuels reduction Public education		
<b>Zone 5</b> 911 addressing system Code enforcement Hydrant system Ingress/egress plan Public education Structure protection plan		
<b>Zone 6</b> Public education		



CITY OF COLLEGE STATION  
*Home of Texas A&M University\**

## *Proclamation*

**WHEREAS,** Texas is experiencing unprecedented growth and development in areas that were once rural, coupled with an increase in the occurrence of wildfires; and

**WHEREAS,** it is in these areas where development meets vegetation or the wildland urban interface that the greatest risk to public safety and property from wildfire exists; and

**WHEREAS,** the best defense is preparedness and public education concerning the dangers that wildfire poses to the residents and natural resources of the City of College Station; and

**WHEREAS,** a Community Wildfire Protection Plan (CWPP) is authorized under the provisions outlined in Title I of the Healthy Forests Restoration Act of 2003; and

**WHEREAS,** a CWPP is a written document, mutually agreed upon by local and state representatives and stakeholders that identifies how a community will reduce its risks to wildland fire; and

**WHEREAS,** a CWPP addresses structural ignitability, prioritizes hazardous fuel reduction efforts on public and private lands and is developed collaboratively; and

**WHEREAS,** communities with a CWPP receive priority when state and federal funding is allocated for mitigation; and

**WHEREAS,** a CWPP offers the best solution for communities at risk from wildfire to mitigate said risks.

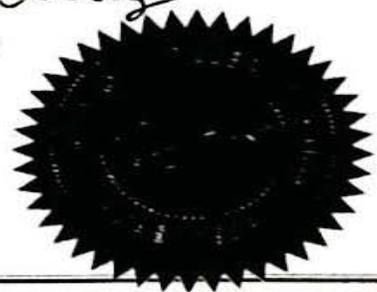
**NOW, THEREFORE, IT IS RESOLVED,** that the College Station City Council urges all residents of this city and this community to participate in the implementation of a Community Wildfire Protection Plan in accordance with the Healthy Forests Restoration Act.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused to be affixed the seal of the City of College Station, Texas this 27th Day of June, 2013.

Nancy Berry  
Mayor

Attest:

Sherry Mashburn  
City Secretary



# Writers

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Texas A&M Forest Service

**Luke Kanclerz**  
Texas A&M Forest Service

# Contributors

Fire Chief R.B. Alley III (Ret.)  
Fire Chief Eric Hurt  
Assistant Chief Jon Mies  
Battalion Chief Joe Warren  
Captain Tim Hamff  
Captain Mike Ruesink  
Driver / Engineer Andrea Ferrell

Public Information Officer Bart Humphreys  
Emergency Management Coordinator Brian Hilton  
Public Education Officer Christina Seidel  
Training Coordinator Billy Bradshaw  
Fire Behavior Analyst Brad Smith  
Communications Specialist April Saginor

# References

**Brazos County Interjurisdictional Emergency Management Plan**  
<http://www.bcdem.org/emergencyManagementPlan.php>

**Texas A&M Forest Service Predictive Services**  
<http://ticc.tamu.edu/PredictiveServices/predictiveservices.htm>

**City of College Station Comprehensive Plan**  
<http://cstx.gov/Index.aspx?page=2471>

**Texas A&M University**  
<http://www.tamu.edu>

**College Station Code of Ordinances**  
<http://cstx.gov/Index.aspx?page=513>

**Texas Intrastate Fire Mutual Aid System business manual**  
[http://ticc.tamu.edu/Documents/IncidentResponse/TIFMAS/TIFMAS\\_Business\\_Deployment\\_Manual.pdf](http://ticc.tamu.edu/Documents/IncidentResponse/TIFMAS/TIFMAS_Business_Deployment_Manual.pdf)

**College Station Independent School District**  
<http://www.csisd.org/>

**Texas Fire Response Handbook**  
<http://ticc.tamu.edu>

**Firescope: Wildland Urban Interface Structure Protection**  
<http://www.firescope.org/ics-guides-and-terms/WUI-SP.pdf>

**Texas Wildfire Risk Assessment Portal**  
<http://www.texaswildfirerisk.com/>

**National Wildfire Coordinating Group**  
<http://www.nwccg.gov/>

**U.S. Forest Service Wildland Fire Engine Guide**  
<http://www.fs.fed.us/eng/pubs/pdf/00511203.pdf>

**Texas A&M AgriLife Extension Service**  
<http://agrillifeextension.tamu.edu/>

**The Weather Channel**  
<http://www.weather.com/>

**Texas A&M Forest Service Capacity Building**  
<http://texasfd.com>

