

# Wildland-Urban Interface Code

Environmental Commission  
October 21, 2020



Chief Tom Vocke - Austin Fire Marshall

# Key Stakeholders



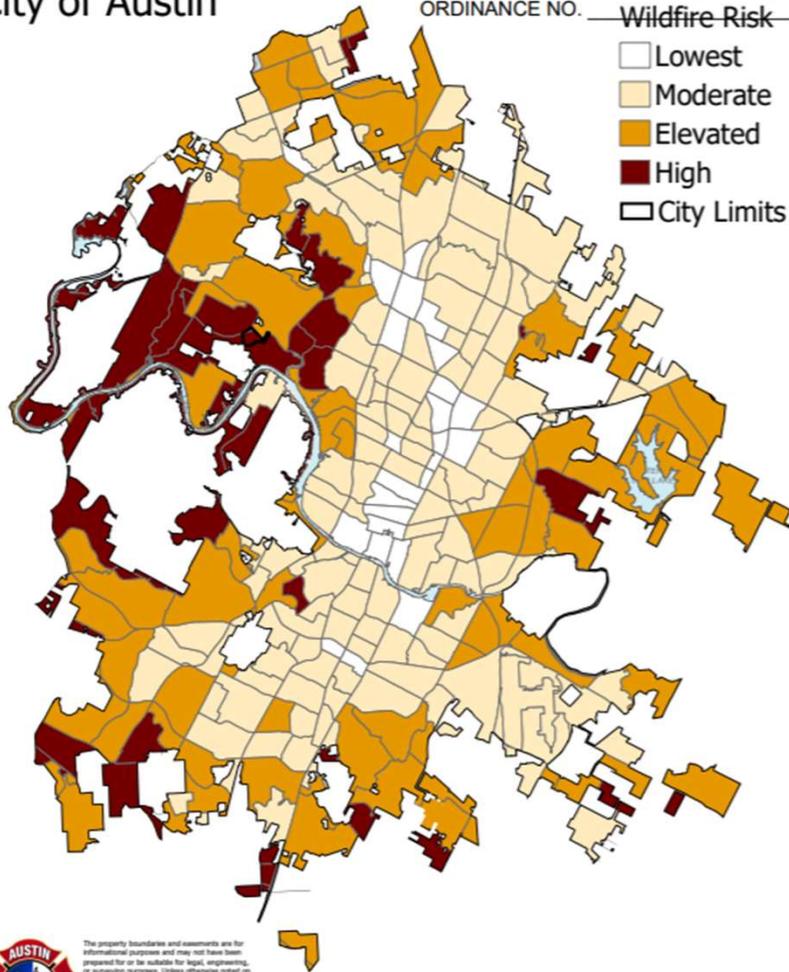
- Public Safety Commission, Environmental Commission, Building and Fire Code Board of Appeals
- Greater Austin Home Builders Association and Real Estate Council of Austin
- City, County, State departments, agencies, programs
- Neighborhood organizations



# Community Wildfire Risk City of Austin

EXHIBIT B  
ORDINANCE NO. ~~Wildfire Risk~~

Legend:  
□ Lowest  
□ Moderate  
□ Elevated  
□ High  
□ City Limits



The property boundaries and assessments are for informational purposes and have not been approved for or be suitable for legal, engineering, or surveying purposes. Unless otherwise noted on the drawing they do not represent an on-the-ground survey and represent only the approximate relative location. The boundaries have been produced by the Austin Fire Department Wildfire Division for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

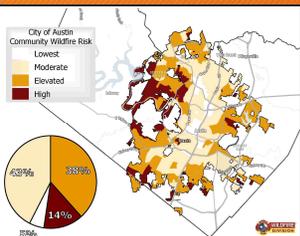
AFD Wildfire Division | January 2020



## WUI Risk



- Fire Behavior and Built Environment
  - Fire spread and intensity
  - Topography
  - Structure Density



# Risk Statistics



District	At-Risk Structures					Total	Risk Classification
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5		
CD1	5,567	5,868	7,770	8,180	9,666	37,051	Elevated
CD2	4,822	5,998	10,051	7,628	6,539	35,038	Elevated
CD3	1,710	2,107	4,178	3,689	16,314	27,998	Elevated
CD4	313	532	1,329	4,122	19,173	25,469	Moderate
CD5	3,920	5,245	8,315	11,736	9,805	39,021	Elevated
CD6	4,314	3,864	6,108	11,611	4,713	30,610	High
CD7	2,171	2,383	5,062	2,109	27,026	38,751	Moderate
CD8	7,145	7,610	11,822	5,855	998	33,430	High
CD9	211	419	1,298	317	23,635	25,880	Moderate
CD10	5,652	4,395	6,849	7,307	10,404	34,607	High
<b>Total</b>	<b>35,825</b>	<b>38,421</b>	<b>62,782</b>	<b>62,554</b>	<b>128,273</b>	<b>327,855</b>	

Zones are proximity to Wildlands

- 1 - within 150 feet
- 2 - within 400 feet
- 3 - within 1,000 feet
- 4 - within 1.5 miles (Ember Zone)
- 5 - beyond 1.5 miles

# Three potential types of ignition sources:



## Ember Attacks (aka Firebrands)

- Most home losses in a wildfire are from embers, not by direct contact with flames.



## Surface Fires

- Typically small flames burning through grass and ground litter.
- Can reach houses if there's no interruption in fuel.
- Use of Shaded Fuel Break to help reduce the risk.
- Flames touching a house can cause them to ignite.



## Crown Fire

- Large flames burning in the tops or canopies of trees.
- Radiate heat that can ignite wood walls from up to 100' away.



# Firewise USA®



- More than 1,500 recognized
  - Residents reducing wildfire risks
    - Taking action and ownership
    - Preparing
    - Protecting their homes
- There are over 100 in Texas
  - 18 in Austin
- Austin Firewise Alliance
  - Communities coming together to educate and promote FAC
- Many more are engaged with AFD



# Austin Fire Department



## Effective Fire Fighting

- Quick initial response
- Continuous training
- Proper equipment

# Wildland-Urban Interface (WUI) Code



- Council adopted April 9, 2020
- Implementation January 1, 2021
- Administrative rules in development now



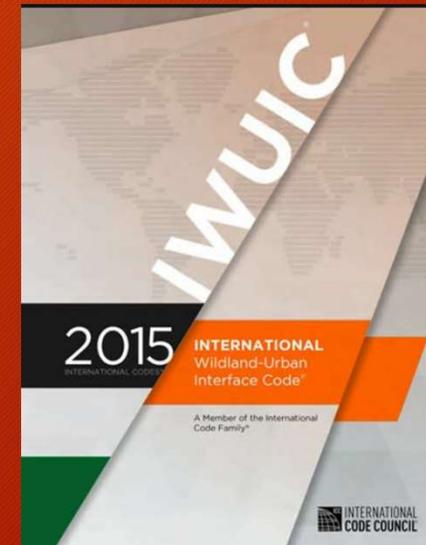
# WUI Code



- Technical Building Code
- 2015 ICC Model Code - IWUIC
- Ignition resistant construction
- Defensible space allowed to mitigate distinct hazard

CHAPTER 25-12. - TECHNICAL CODES.

§ 25-12-181 - INTERNATIONAL WILDLAND-URBAN INTERFACE CODE.



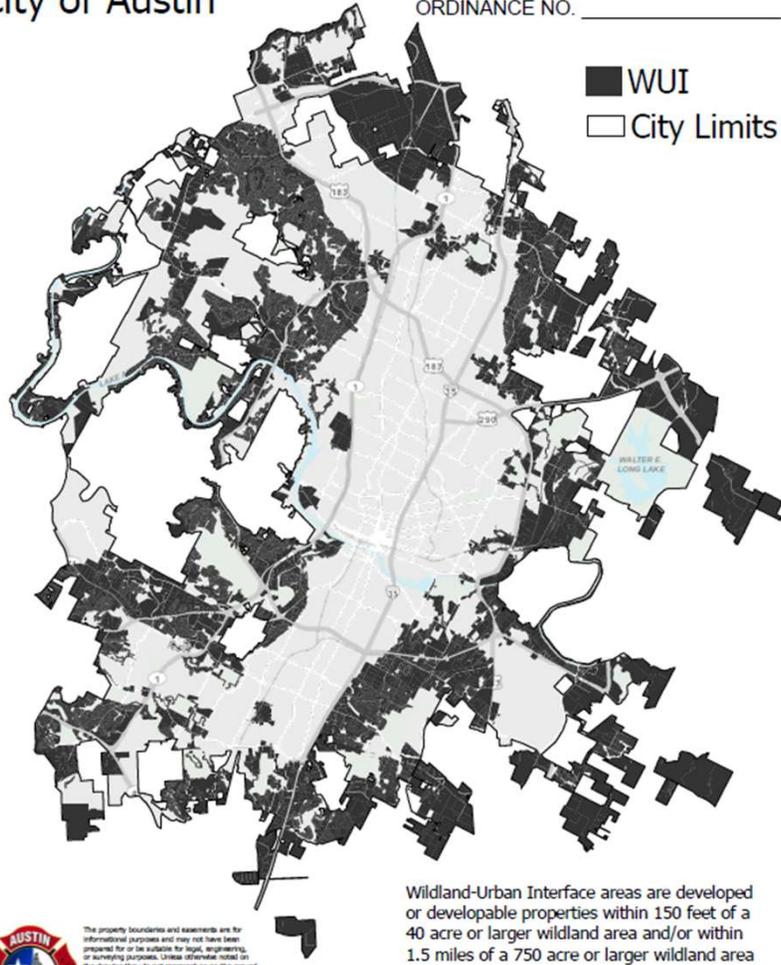
<https://codes.iccsafe.org/content/IWUIC2015>

# Wildland Urban Interface Code Areas City of Austin

EXHIBIT B

ORDINANCE NO. \_\_\_\_\_

■ WUI  
□ City Limits



Wildland-Urban Interface areas are developed or developable properties within 150 feet of a 40 acre or larger wildland area and/or within 1.5 miles of a 750 acre or larger wildland area



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## WUI Code Areas



- Developable properties near wildlands
  - 150' from 40 acre
  - 1.5 miles from 750 acre
- Ignition resistant roofs and vent screening throughout
- Ignition resistant walls, doors, windows if within 50' of wildland

# WUI Code

## Ignition Resistant Construction



- New and remodeled structures in the WUI area
- Ember protection throughout the WUI area
  - Class A roof, vent screens, decks and fences, underfloor enclosures
- Increased requirements closest to wildlands
  - Ignition resistant exterior walls, doors, windows
- Defensible space for hazardous conditions



# WUI Code

## Ignition Resistant Construction Materials



- Fire-resistant-rated exterior walls, doors, and windows
- Class A roofs with firestops if openings at eaves
- Eaves and Soffits protected exposed underside
- Enclosed underfloors or ignition resistant materials
- Vents covered with 1/8" or less screening or mesh
- Appendages and structures (decks and fences) attached to or within 10' of structure to be fire resistant except fence materials beyond 10'



# WUI Code

## Defensible Space



- Ignition resistant construction table removed
  - Defensible space cannot be used to avoid ignition resistant construction
  - Not permitted category handled separately

Defensible Space <sup>c</sup>	Fire Hazard Severity					
	Moderate Hazard		High Hazard		Extreme Hazard	
	Water Supply <sup>b</sup>		Water Supply <sup>b</sup>		Water Supply <sup>b</sup>	
	Conforming <sup>d</sup>	Nonconforming <sup>e</sup>	Conforming <sup>d</sup>	Nonconforming <sup>e</sup>	Conforming <sup>d</sup>	Nonconforming <sup>e</sup>
Nonconforming	R	R	R	R	R	NP
Conforming	NR	R	R	R	R	R
1.5 x Conforming	NR	NR	NR	R	R	R

NR-not required

R-required

NP-not permitted

# WUI Code Defensible Space



- Existing use or occupancy allowed if
  - Legal at time of code adoption
  - Does not constitute distinct danger to life or property
- Distinct Hazard - permit not allowed
  - Extreme Hazard Severity and
  - Non-conforming water supply, access, defensible space

# WUI Code Defensible Space



## Hazard Severity

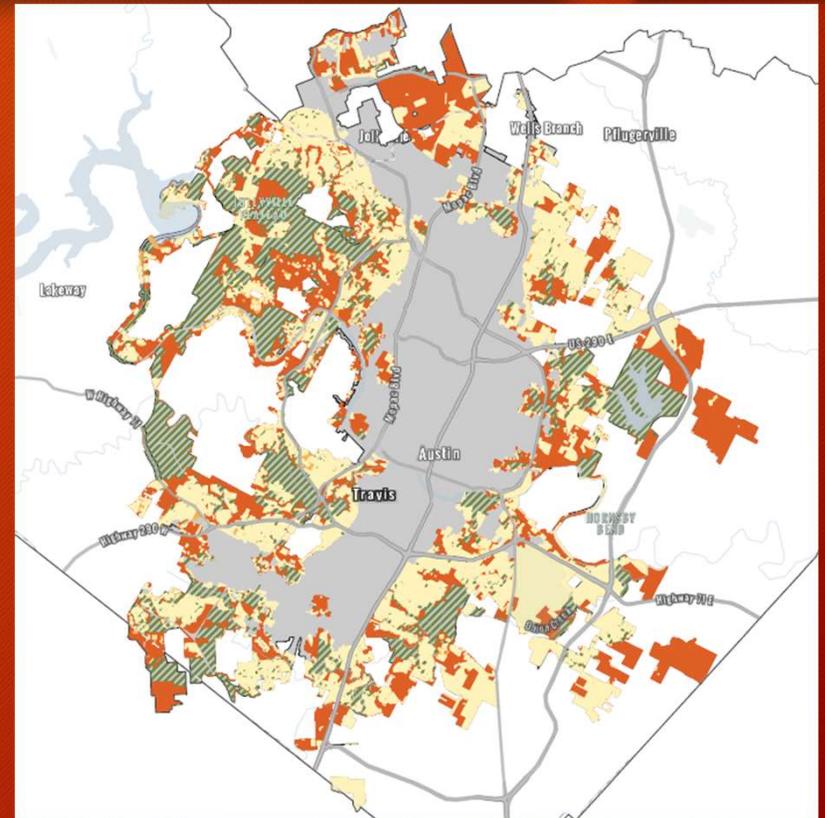
Fuel Model <sup>b</sup>	Proximity to Contiguous (40 Acres) Wildland Fuels					
	150' to 1.5 miles			< 150'		
	Slope (%)					
	< 10	10 to 25	> 25	< 10	10 to 25	> 25
Light	M	M	M	M	M	H
Medium	M	M	H	E	E	E
Heavy	H	H	H	E	E	E

M - Moderate

H - High

E - Extreme

Appendix C - Hazard Severity Form

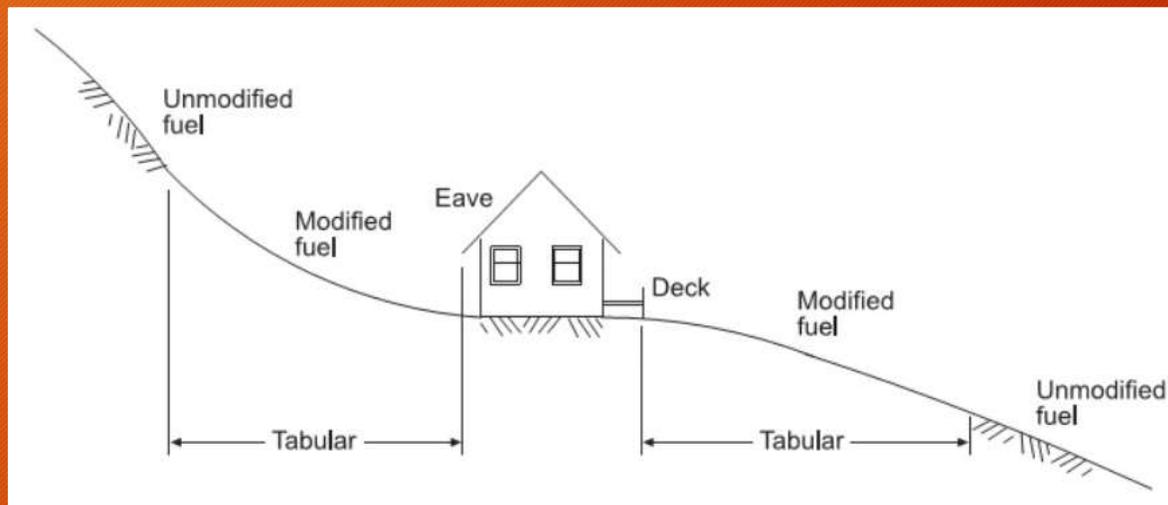


# WUI Code

## Defensible Space



Area of modified fuel to slow the rate and intensity of a wildfire and to create space for fire suppression operations



Distances based on Hazard Severity

Moderate	30 feet
High	60 feet
Extreme	100 feet

# WUI Code

## Defensible Space



- 30 feet or to property line or more based on site conditions
- Ground cover and tree canopy
  - Break continuity
  - Reduce structure ignition potential
- 6' wide by 8' high clear zone within 15' of structure
- Maintain separations and clearances

# WUI Code

## Defensible Space



- Tree canopy separation from ground cover and structures
  - 6 feet or less if demonstrated low risk of fire transfer
  - Ground cover includes any understory vegetation
  - Plan for future growth and maintain separation
  - Plan can be prepared by a qualified professional

# WUI Code

## Defensible Space



- Not all fire transfer materials and methods regulated by this code
  - leaf litter, debris, lattices, door mats, open doors or windows
- Determine risk and follow recommendations
  - On-line: ATX wildfire, WUI Code, Firewise USA<sup>®</sup>, Ready Set Go<sup>®</sup>, Austin Travis County Community Wildfire Protection Plan
  - Home Ignition Zone Assessment from AFD or Firewise USA<sup>®</sup> member, or other qualified professional such as wildfire qualified arborist

# WUI Code Recap



- Focus on ignition resistant construction
- WUI Area includes ember zone
- Defensible space not allowed to avoid ignition resistant construction
- Know risk and follow recommendations
- Assistance available: AFD, Firewise USA<sup>®</sup> members, Certified Arborist with Texas Wildfire Risk Reduction Qualification

# WUI Code



AFD Wildfire Division - Station 46 Shady Hollow



Intact structure after exposure to fire in California