



AUSTIN FIRE DEPARTMENT

*Proposed 2024 Wildland-Urban Interface (WUI)
Code and Related Local Amendments*

Briefing Intent

Purpose: To provide a briefing on the City's Wildland-Urban Interface (WUI) Code and the proposed 2024 Code and related local amendments.

Goals: Clarify previously adopted local amendments with changing technology and published code.

Adjust requirements based on challenges and successes of initial implementation of the International Wildland-Urban Interface Code (WUI).

Reasons for amendments:

1. To support operating procedures for Wildfire Operations.
2. Formalize WUI Proximity Zones to clarify structure hardening requirements.
3. Align requirements with current wildfire research.
4. Clarification purposes and formalizing 2015 WUIC interpretations.



2024 WUI Highlights

Clarifications

- Formalize allowances and interpretations
 - Increased use of the Fire Protection Criteria Manual
- Added reference alignment to the Fire Code
- Extreme Hazard Condition clarified
 - Fire Hazard Severity Form (amended) required for
 - Development under City of Austin Homes Options for Mobility and Equity initiatives
 - Where a single fire apparatus access road serves more than 30 dwelling units
- Wildland definition clarified
- Compliance with roof fire-rating
 - No wood or green roof coverings
 - Raised-deck systems to comply with International Building Code (IBC)
- Exterior ceilings, same treatment as soffits
- Artificial turf requirements provided



2024 WUI Highlights

Changes

- Unofficial “Proximity Classes” defined and renamed Proximity Zones A, B, and C
 - Zone A & B modified protection of accessory structures
 - Zone B enhanced protection of walls
 - Zone C enhanced eave and ceiling protection
 - Zone C reduced roofing, underfloor enclosure, and slope requirements
- NEW Ember Ignition Zone
- Expiration of initial code launch leniency
- Reduced full roof replacement requirement
- Reduced boat dock requirements
- Driveways, 202 Definitions, 403.2, 403.2.3
 - Required for Residential* buildings >150’ from fire apparatus access road where a new fire lane is not otherwise provided
 - Group buildings >200’ from fire apparatus access road require a new fire lane or may provide a driveway and automatic fire sprinklers
 - Serve up to three buildings and three dwelling units max, otherwise a Fire Lane is required

*Residential buildings defined as R-3 occupancy in the IBC/IFC



Post-Engagement Update

2024 WUI Map

Proximity Zones:

Zone A: Within 50' of 40 acre+ wildland

Zone B: Within 150' of 40 acre+ wildland

Zone C:

- Within 1.5 miles of 750 acre+ wildland
- Within 0.5 miles of 40 acre+ wildland (new)

Legend:

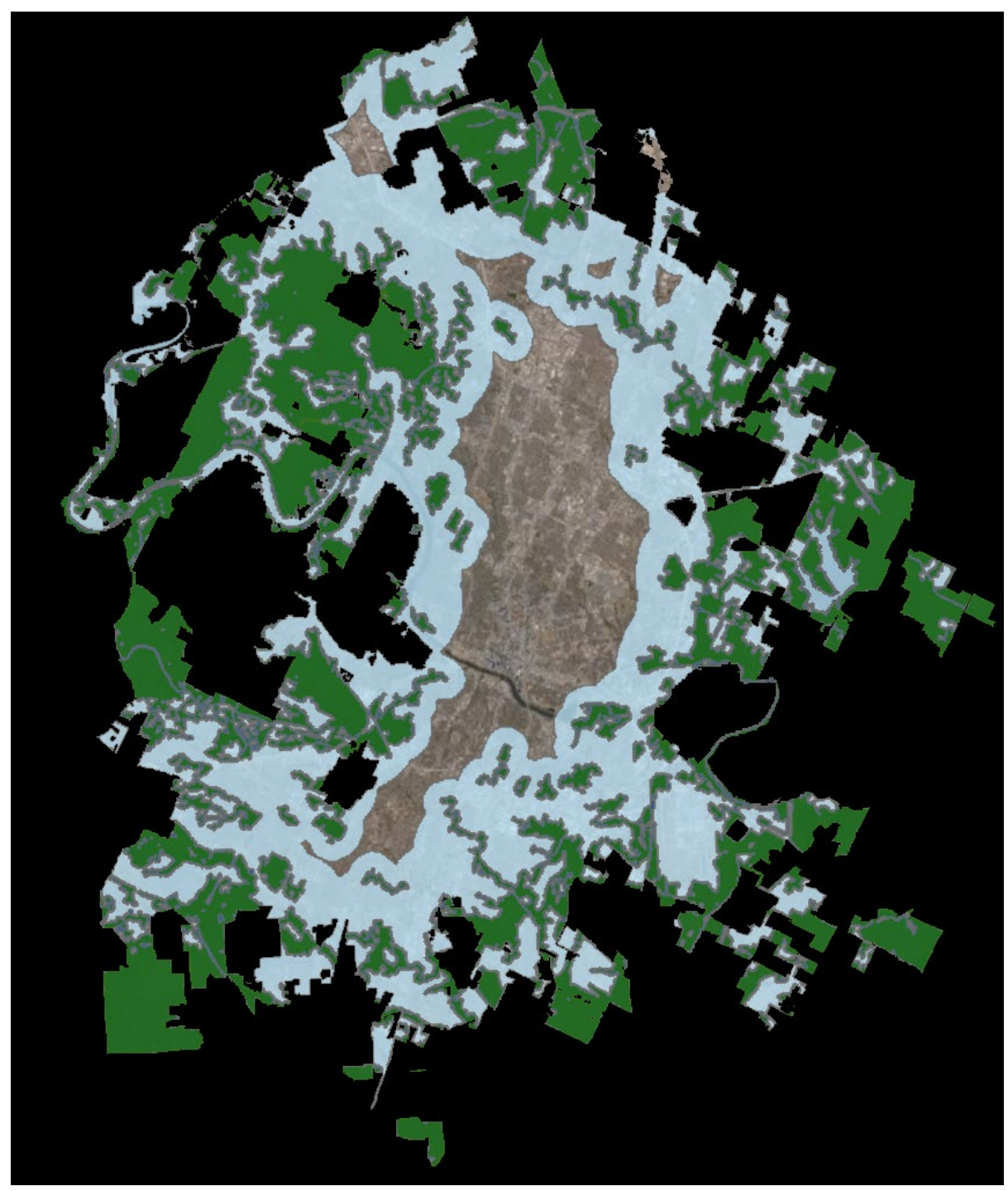
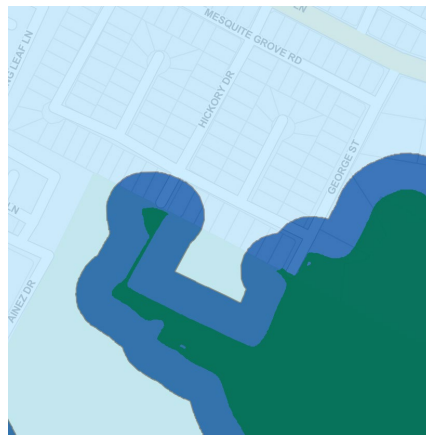
Green/Dark Blue = Wildland & Proximity Zones A & B

Light Blue = Proximity Zone C

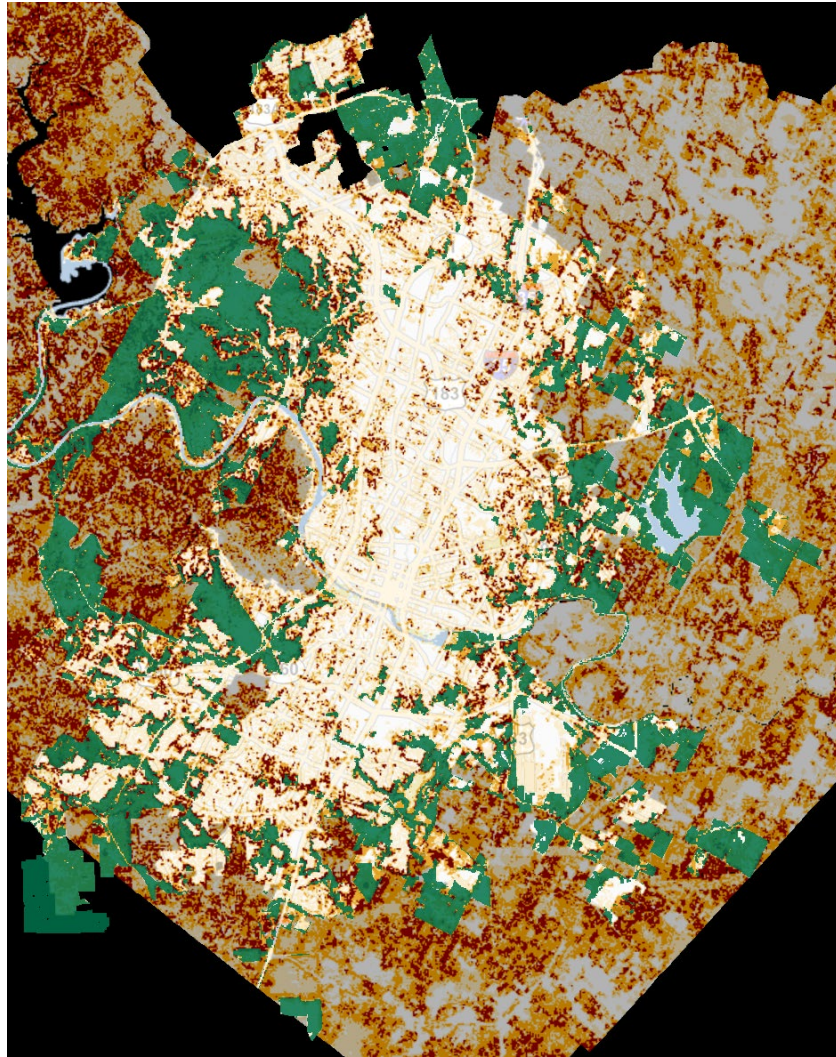
New map shows “offsets” or “buffer zones” from wildland to show more clearly where Proximity zones end.



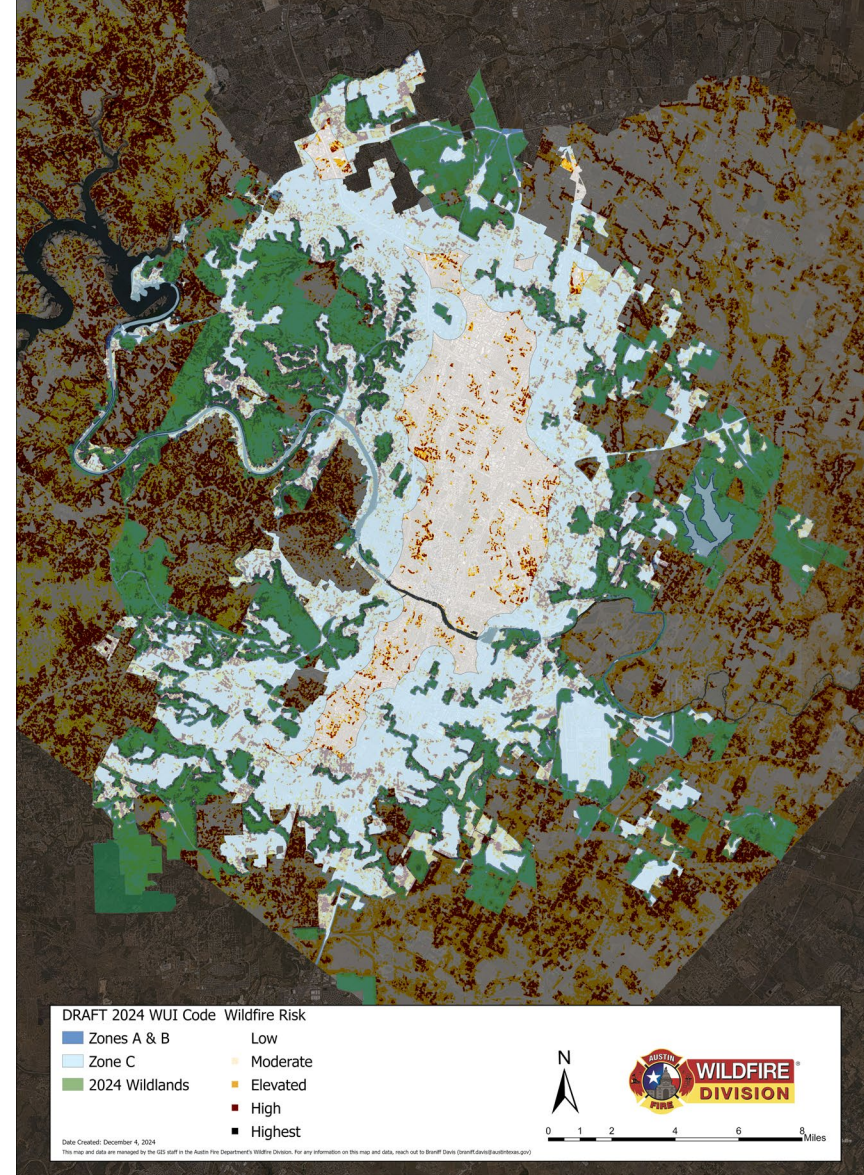
*Note: Map is a visual draft, additional cleanup will be conducted.



Austin WUI Code
Current WUI Code and Wildfire Risk



Austin WUI Code
Proposed 2024 WUI Code and Wildfire Risk



Austin-Travis County Wildfire Risk

WUI Map - Overlay on Wildfire Risk Map

Side-By-Side Map Data

	Parcels		Area (acres)							
Austin Full & Limited Purpose	232,340 parcels		212,940 acres		2015 WUI Map			2024 WUI Map		
	Parcels	% Austin	Area (acres)	% Austin	Parcels	% Increase	% Austin	Area (acres)	% Increase	% Austin
WUI Area	79,263 parcels	34%	80,365 acres	38%	139,271 parcels	76%	60%	98,267 acres	22%	46%
Proximity Zone A & B <i>(currently Proximity Zone, Class A & B)</i>	23,790 parcels	10%	60,960 acres	29%	23,790 parcels	0%	10%	80,930 acres	33%**	38%
Proximity Zone C <i>(currently Ember Zone, Class C)</i>	55,473 parcels	24%	19,405 acres	9%	118,295 parcels	113%	51%	82,886 acres	327%	39%
Total Contributing Wildland*			64,349 acres	30%				64,349 acres	0%	30%

*Wildland is all wildland 40 acres or greater, which is inclusive of wildland 750 acres or greater.

**New mapping for Zone A & B has an increase in area because of the nature of using the buffer zones, as opposed to WUI zone designation per parcel.



Ember Ignition Zone (EIZ)

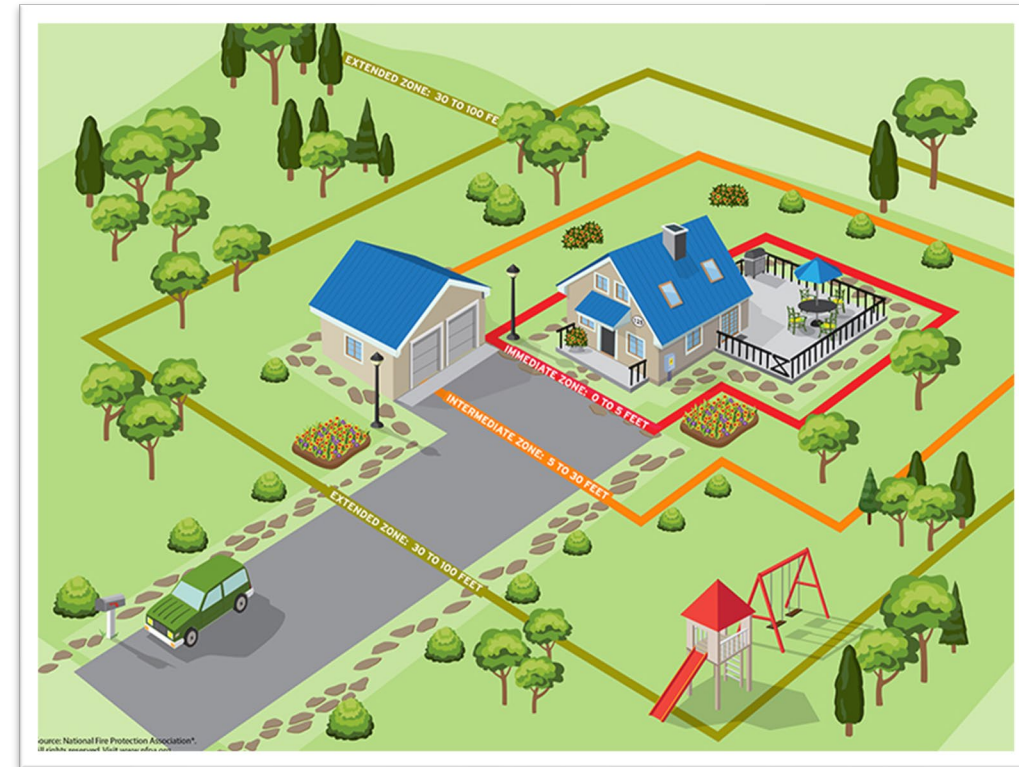
Section 603.2.1

Research from the National Fire Protection Association (NFPA) and Insurance Institute for Business & Home Safety (IBHS) show

- 5 feet around a structure has greatest impact
- Noncombustible zone can protect a building from ignition due to
 - direct flame
 - radiant heat
 - wind-blown embers collecting at the base of an exterior wall or structure

<https://www.nfpa.org/education-and-research/wildfire/preparing-homes-for-wildfire>

<https://ibhs.org/wildfire/near-building-noncombustible-zone/>



Ember Ignition Zone (EIZ)

Section 603.2.1

The **Ember Ignition Zone (EIZ)** requires a 5-foot wide, noncombustible area to surround all structures and appendages.

The EIZ surface is gravel, pavers, or other non-combustible materials and maintained free of all combustible materials at all times. Artificial turf may not be used in the EIZ, and if used within any defensible space area must have Class A rating per ASTM E108*.

Exceptions:

- Protected and Heritage trees are allowed to remain in all existing conditions.
 - New construction should aim to maintain appropriate distance from such trees.
 - Protective mulch for critical root zone (CRZ) is allowable during construction and shall be removed at the completion of construction.
- For structures of fire resistive and hardened construction**, the EIZ shall only be required 10 feet to each side of required egress points of the structure.
- Proximity Zone C to allow green, moist, closely mowed lawn grass, dormant grass shall be overseeded with perennial Rye.



*ASTM is the American Society for Testing and Materials

** Categorized as Type I and Type II building construction type under the IBC

Proximity Zone A Section 504	Proximity Zone B Section 505	Proximity Zone C Section 506
Roof & Accessories	Roof & Accessories	Roof & Accessories REDUCED sloped roof underlayment
Skylights	Skylights	Skylights
Protection of Eaves	Protection of Eaves REDUCED	Protection of Eaves REDUCED eaves & rafter tails
Gutters & Downspouts	Gutters & Downspouts	Gutters & Downspouts
Appendages & structures	Appendages & structures REDUCED distance	Appendages & structures REDUCED distance & protection at slopes >10%
Ventilation	Ventilation	Ventilation REDUCED - soffit vents allowed
Boat Docks REDUCED	Boat Docks	Boat Docks
Underfloor Enclosure	Underfloor Enclosure	Underfloor Enclosure REDUCED
Exterior Walls	Exterior Walls REDUCED flashing	
Exterior Glazing		
Exterior Doors		



*REDUCED items are a reduction compared to standard Proximity Zone A Ignition-Resistant (IR) Construction Requirements

Proposed Adoption

- Final presentation to Building and Fire Board of Appeals in January 2025
- Adoption of the 2024 IWUIC and amendments will follow the adoption timeline of other technical Codes (IBC, IRC, IFC, etc).
- We are estimating bringing the other technical Codes before Council in March 2025 with an implementation timeframe of June 2025



Proposed 2024 Wildland-Urban Interface (WUI) Code and Related Local Amendments

Questions?

Thank you for
your time!



Appendix – Backup Slide



Ember Ignition Zone (EIZ)

Section 603.2.1

Wildfire Defense Mesh, IBHS
Combustible Vs Non-Combustible
Burn Demonstration

- Right Side: Traditional wood deck, vegetation, wood mulch
- Left Side: Noncombustible zone with ignition-resistant deck, Wildfire Defense Mesh skirting, rock mulch



Current WUI Map

Concerns:

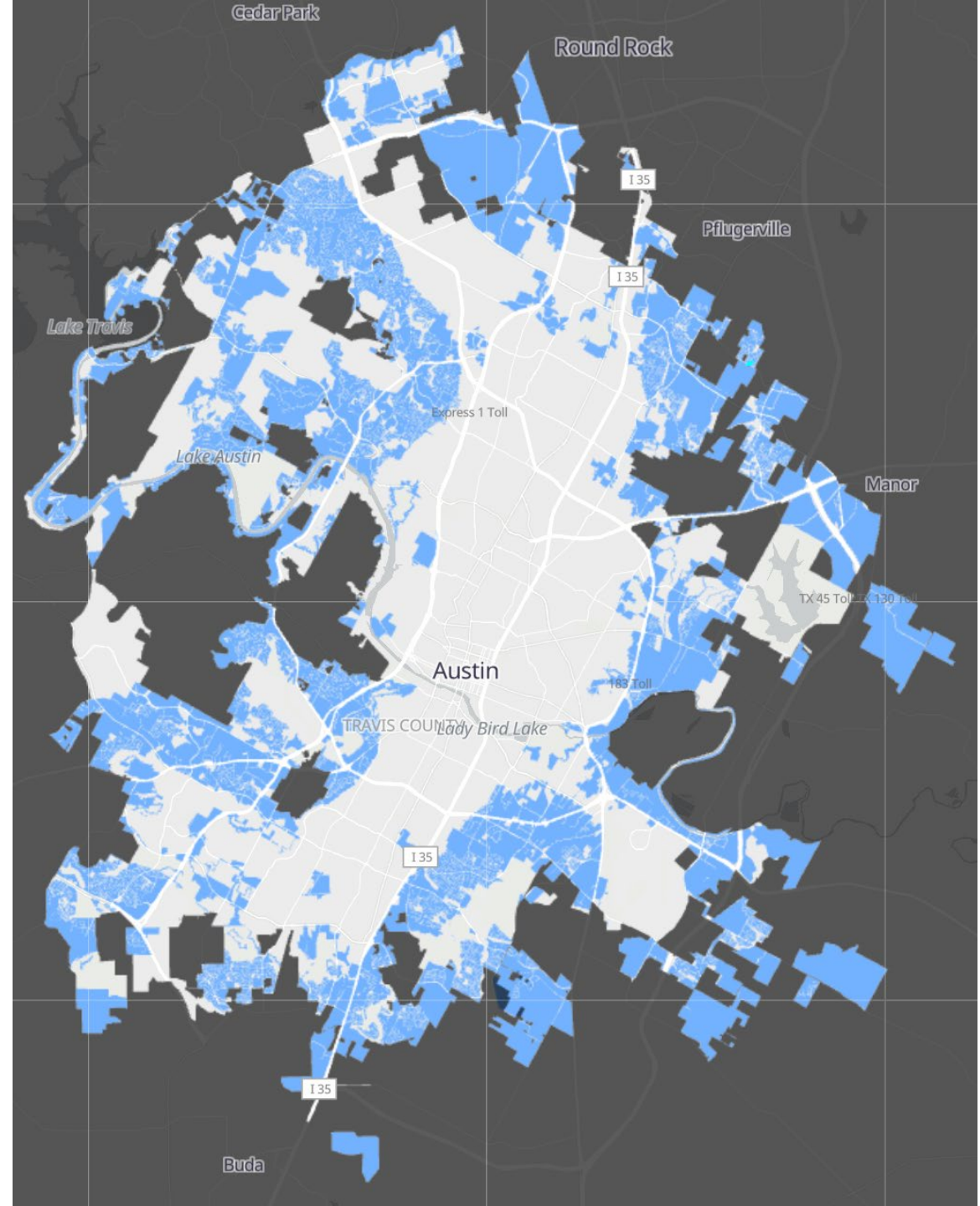
- Discrepancy created by using 40 acres of wildland for Zones A and B, versus 750 acres of wildland for Zone C
- High risk areas of Austin are unprotected
- Ease of application and determining site conditions

Current Proximity Classes:

Class A: Within 50' of 40 acre+ wildland

Class B: Within 150' of 40 acre+ wildland

Class C: Within 1.5 miles of 750 acre+ wildland



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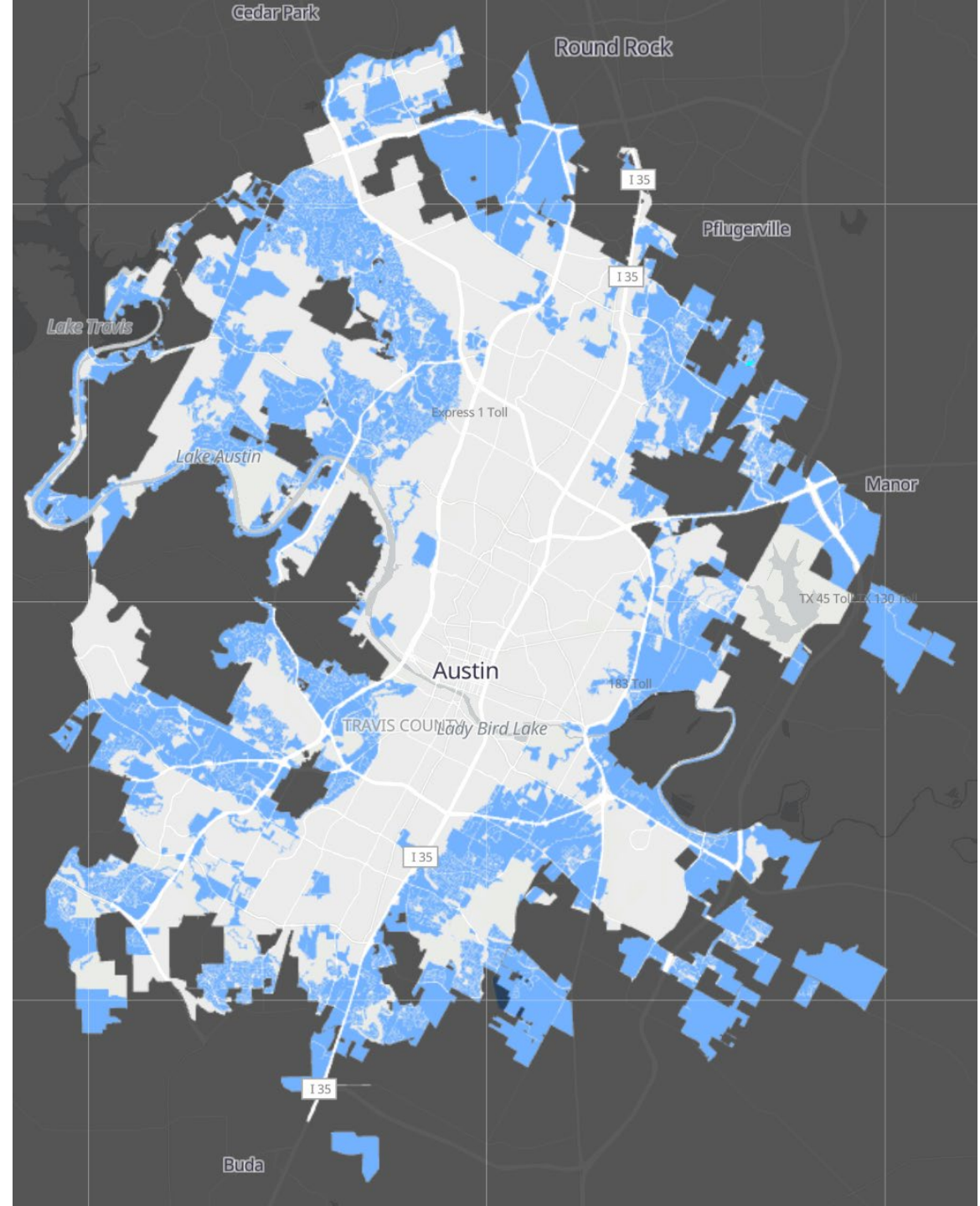
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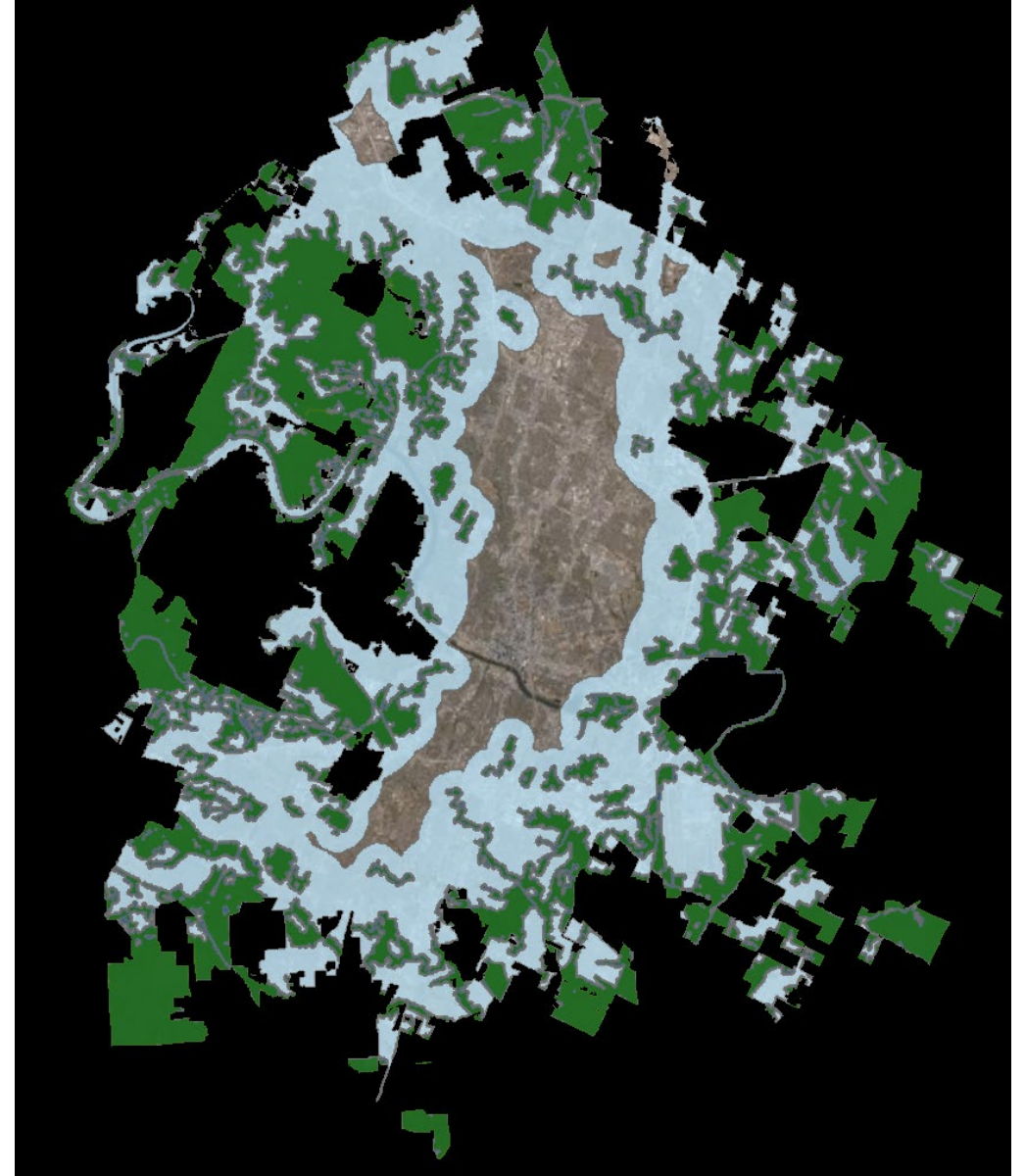
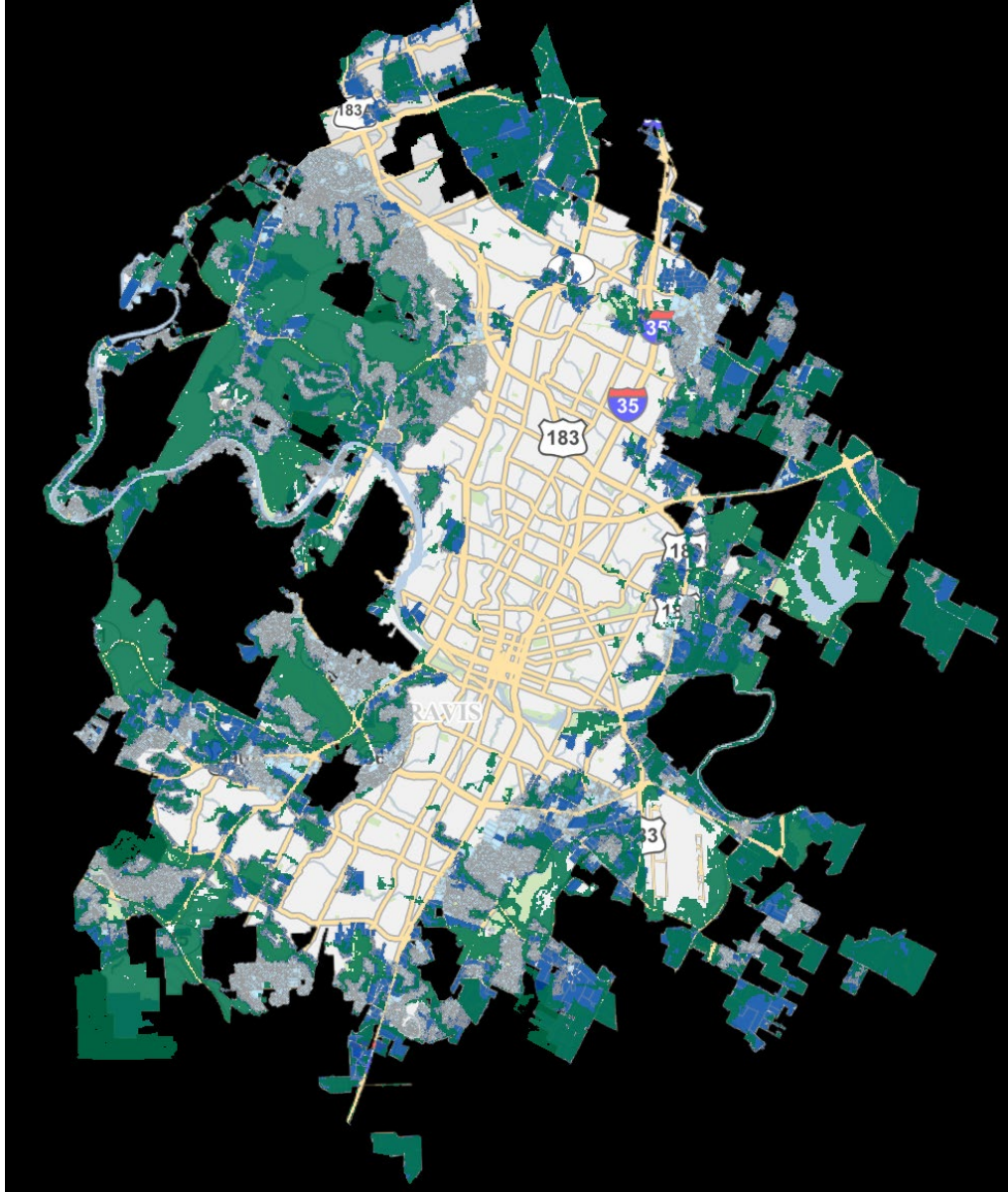
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Class C: Within 1.5 miles of 750 acre+ wildland





2015 WUI Map
*Shown visually similar to new map, with
 wildland shown in green*

2024 WUI Map
Including new "offset" or "buffer zone" visualization

Ember Ignition Zone (EIZ)

Section 603.2.1

Wildfire Defense Mesh, IBHS
Combustible Vs Non-Combustible
Burn Demonstration

- Right Side: Traditional wood deck, vegetation, wood mulch
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Stakeholder Engagement Updates

07/03/2024 Changes in response to stakeholder feedback:

- **WUI Map** – Option B, included in June 24 engagement, reduces Proximity Zone C
- **Driveways 403.2**, clarified this section applies to buildings under the Residential Code
- **Wood roof coverings 503.2.3**, clarification to include fire-retardant-treated wood in body of code
- **Fasciae 504.3.2, 505.3.2, 506.4.2**, reduced minimum number of layers and clarified options
- **Gaps between materials 504.3.3, 505.3.3, 506.4.3**, clarified this applies to all gaps in eave
- **Exposed rafter tails 504.3.4, 505.3.4**, clarified exposed roof deck testing requirements are 30 minutes for Zone A and 10 minutes for Zones B and C
- **Roof Assembly 506.2**, added missing number for Exception 4
- **Exposed rafter tails 506.4.4**, added option to use ignition-resistant material for rafter tails in Zone C
- **Exterior Ceilings 504.3.5, 505.3.5, 506.4.5**, clarified this includes ceilings below a covered porch roof or below a deck/balcony/floor above
- **Fences 506.6.1**, reduced requirement for residential Zone C fences to have ignition-resistant construction when located within 5' of a building or structure, in lieu of 10'



Post-Engagement Updates

07/09/2024 Additional update in response to stakeholder feedback:

- **WUI Map** – Option C, reducing minimum wildland size to 20 acres in lieu of 10 acres.
- **EIZ 603.2.1 Ember Ignition Zone (EIZ)**, exception 5 added for Proximity Zone C to allow green, moist, closely mowed lawn grass, dormant grass shall be overseeded with perennial Rye.

07/25/2024:

- **Driveways 202 Definitions, 403.2, 403.2.3** applies to individual lots, not joint use driveways
- **WUI Map** – Final
 - Retaining existing wildland size of 40 acres and 750 acres.
 - Zones A & B continue to be up to 50' and up to 150' from 40 acres of wildland, respectively
 - Zone C continues to be up to 1.5 miles from 750 acres of wildland, adding in a 0.5 miles from 40 acres of wildland
 - Zones shown as “offsets” or “buffer zones” from wildland in lieu of an entire parcel being shown as one zone.





2024 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE®	
TABLE C101.1—FIRE HAZARD SEVERITY FORM	
PART 1	
A. Subdivision Design Points	
1. Ingress/Egress	
Two or more primary roads	1__
One road, 30 or less dwelling units (two-way)	3__
One road, more than 30 dwelling units (two-way)	5__
One road (one way direction)	10__
2. Width of Primary Road	
25 feet (7620 mm) or more	1__
Less than 25 feet (7620 mm) to 20 feet (6096 mm)	3__
Less than 20 feet (6096 mm)	5__
3. Accessibility	
Road grade 5% or less	1__
Road grade more than 5%	3__
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with an outside turning radius of 50 feet (15 240 mm) or greater	1__
Cul-de-sac turnaround	2__
Dead-end roads 150 feet (45 720 mm) or less in length	3__
Dead-end roads greater than 150 feet (45 720 mm) in length	5__
5. Site Specific Access (fire lanes, driveways)	
Fire lane <u>provided</u>	1__
12 foot (3658 mm) or greater Driveway provided	3__
Less than 12 foot (3658 mm) <u>driveway provided</u>	5__
6. Street Signs	
Present	1__
Not present	3__
B. Proximity to existing structures (includes adjacent properties)	
Greater than 10 feet (3048 mm) from nearest structure	1__
10 feet (3048 mm) to 5 feet (1524 mm) from nearest structure	5__
Less than 5 feet (1524 mm) from nearest structure	10__
C. Fire Protection—Water Source	
Hydrant less than 500 feet or 600 feet for Group R-3 and U occupancies With fire sprinklers provided	1__
Hydrant farther than 500 feet or 600 feet for Group R-3 and U occupancies With fire sprinklers provided	2__

Hydrant farther than 500 feet or 600 feet for Group R-3 and U occupancies With no fire sprinklers provided	5__
Hydrant farther than 1,000 feet with fire sprinklers provided	7__
Hydrant farther than 1,000 feet with no fire sprinklers provided	10__
Fire flow less than required per Appendix B	10__
Part 1 Total	
PART 2	
D. Vegetation (IWUIC Definitions)	
1. Fuel Types	
Light	1__
Medium	5__
Heavy	10__
2. Defensible Space	
Meet requirements of Table 603.2 and EIZ (603.2.1)	1__
Do not meet requirements of Table 603.2 but meets 603.2.1	10__
Does not meet requirements of Table 603.2 or EIZ 603.2.1	20__
E. Topography	
8% or less	1__
More than 8%, but less than 20%	4__
20% or more, but less than 30%	7__
30% or more	10__
F. Roofing Material	
Class A Fire Rated	1__
Class B Fire Rated	5__
Class C Fire Rated	10__
Nonrated	20__
F. Existing Building Construction Materials	
Noncombustible siding/appendages	1__
Noncombustible siding/combustible appendages	5__
Combustible siding and appendages	10__
G. Utilities (gas and/or electric)	
All underground utilities	1__
One underground, one above ground	3__
All above ground	5__
Part 2 Total	
Total for Subdivision	
Moderate Hazard 20–39	
Extreme Hazard 40+	