

# FIRE PROTECTION WITHIN DESIGNATED URBAN WILDLAND

(condensed)

4-5-1: ADOPTION OF MINIMUM STANDARDS:

4-5-2: AREAS DESIGNATED:

4-5-3: ADMINISTRATION AND ENFORCEMENT:

4-5-1: ADOPTION OF MINIMUM STANDARDS:

The county hereby adopts the ~~international urban wildland interface code~~ 2006 Utah Wildland-Urban Interface Code, published by the International Code Council, with the following amendments: ~~identified in R652-122 of the Utah administrative code, as currently set forth or as amended in the future by the division of forestry, fire and state lands, unless specifically excepted by amendment to this section. (Ord. 06-246, 8-28-2006)~~

## Chapter 1

### Section 101.1 Scope

#### Exceptions:

1. A structure that is no more than 1,000 square feet, with the required defensible space and without reasonable access to a municipal, or similar, water system.
2. A structure that originally did not exceed 1,000 Square feet, when adding an addition of 25% or less to the total square footage.

## Chapter 2 Definitions

**Approved.** Acceptable to the building official, fire official, or authority having jurisdiction.

~~Approval by the code official as the result of review, investigation or tests conducted by the code official or by reason of accepted principles or tests by national authorities, or technical or scientific organizations.~~

## Chapter 4

### Section 402.2 Individual structures

**402.2.1 Access.** Individual structures hereafter constructed or relocated into or with-in the wildland urban interface areas shall be provided with approved fire apparatus access roads in accordance with the International Fire Code and driveways in accordance with section 403.2. ...

#### **402.2.2 Water Supply**

Exception:

2. ~~Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of no more than 600 square feet.~~ A structure that is no more than 1,000 square feet, with the required defensible space and without reasonable access to a municipal, or similar, water system.
3. A structure that originally did not exceed 1,000 Square feet, when adding an addition of 25% or less to the total square footage.

#### **Section 403.2 Driveways**

Exceptions:

1. New structures and additions to existing structures on existing approved driveways.
2. Approved driveways through easements less than the required driveway width.

**Section 403.3 Fire apparatus access roads.** When required, fire apparatus access roads shall be all-weather approved roads with...

Exceptions:

1. Fire apparatus access roads on federal and state land.
2. Fire apparatus access roads through easements less than the required road width
3. Existing fire apparatus access roads.

# FIRE PROTECTION WITHIN DESIGNATED URBAN WILDLAND

(expanded)

This ordinance can be made by the county without any action from the state. These changes have been approved by the State Forester. Counties have the authority to adopt all of these changes, some of them or none of them. It is our recommendation to adopt this as written.

4-5-1: ADOPTION OF MINIMUM STANDARDS:

4-5-2: AREAS DESIGNATED:

4-5-3: ADMINISTRATION AND ENFORCEMENT:

The 4-5- numbering for this ordinance is common in at least some of our counties. Each county will need to check their ordinance for correct numbering.

4-5-1: ADOPTION OF MINIMUM STANDARDS:

The county hereby adopts the ~~international urban wildland interface code~~ 2006 Utah Wildland-Urban Interface Code, published by the International Code Council, with the following amendments: ~~identified in R652-122 of the Utah administrative code, as currently set forth or as amended in the future by the division of forestry, fire and state lands, unless specifically excepted by amendment to this section. (Ord. 06-246, 8-28-2006)~~

4-5-1 is not a change, it is a clarification. Rather than referencing the State Rule we are referencing the actual document that an owner or developer may obtain to direct them in the construction of structures in the wildland-urban interface.

## Chapter 1

### Section 101.1 Scope

#### Exceptions:

1. A structure that is no more than 1,000 square feet, with the required defensible space and without reasonable access to a municipal, or similar, water system.

One of the issues that have been specifically noted as a problem with the WUI code is that it is overly restrictive to the construction of small structures like a line shack a rancher may use during the lambing or calving seasons. This language was taken from the legislation that passed concerning exempting small fruit stands from all of the code requirements. If municipal services like are available this exception would not apply. It should also be noted that if this exception is granted, a defensible space around the structure is still required.

2. A structure that originally did not exceed 1,000 Square feet, when adding an addition of 25% or less to the total square footage.

This exception is written to allow someone adding a small addition to a cabin, a bedroom and a bath, to make that addition and not be required to meet all of the requirements of the WUI code.

## Chapter 2 Definitions

**Approved.** Acceptable to the building official, fire official, or authority having jurisdiction.

Approval by the code official as the result of review, investigation or tests conducted by the code official or by reason of accepted principles or tests by national authorities, or technical or scientific organizations.

This definition is easier to understand and more closely matches the same definition in the Building and Fire code. Approved means: acceptable to the local jurisdiction, the county.

## Chapter 4

### Section 402.2 Individual structures

**402.2.1 Access.** Individual structures hereafter constructed or relocated into or with-in the wildland urban interface areas shall be provided with approved fire apparatus access roads ~~in accordance with the International Fire Code~~ and driveways in accordance with section 403.2. ...

Access has been one of the key issues with the WUI code. In the WUI, IBC and IFC access road are required to be constructed with an "all-weather surface". As much of the wildland-urban interface is under snow for much of the year this requirement does not always make sense. Roads that have existed for years and have functioned as access roads for many fires can be approved by the county as approved fire apparatus access roads. The idea that every road needs to be paved and constructed to accommodate structural firefighting apparatus is not the intent of the WUI code. Roads should be constructed to accommodate the equipment that you would expect to respond to a fire in that area. If a responding agency would only be expected to respond with wildland equipment then the road should only be constructed to accommodate wildland equipment. Many of our existing dirt roads should be considered approved roads.

### 402.2.2 Water Supply

Exception:

2. ~~Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of no more than 600 square feet.~~ A structure that is no more than 1,000 square feet, with the required defensible space and without reasonable access to a municipal, or similar, water system.

3. A structure that originally did not exceed 1,000 Square feet, when adding an addition of 25% or less to the total square footage.

These are the same exceptions already addressed in section 101.1

## Section 403.2 Driveways

### Exceptions:

1. New structures and additions to existing structures on existing approved driveways.
2. Approved driveways through easements less than the required driveway width.

This is similar to the access road issue. Driveways generally serve up to 5 structures. So if someone is building a cabin on a driveway that already serves four cabins they would not be subject to the access requirements of the WUI code. Also some easements are not wide enough to accommodate the requirements of the WUI code. In these instances the driveway would be constructed as wide as is reasonable through the existing easement.

**Section 403.3 Fire apparatus access roads.** When required, fire apparatus access roads shall be all-weather approved roads with...

### Exceptions:

1. Fire apparatus access roads on federal and state land.
2. Fire apparatus access roads through easements less than the required road width
3. Existing fire apparatus access roads.

Again we are deleting the term "all-weather surface" and replacing it with the term "approved". It is the local jurisdiction; in this case the county that determines what is an approved road for the area being considered. The three exceptions are either areas where someone building a cabin does not have the authority to alter the road or where the county has already determined that the existing road is acceptable.



## Frequently asked questions from the Wildland Urban Interface Code

**Question:** Are structures less than 1000 square feet located in the wildland-urban interface exempt from permits and other codes.

**Answer:** No; if a structure would normally require a permit it would still require a permit. The exception given from the requirements of the wildland-urban interface code is only applicable to the wildland-urban interface code. All other applicable codes standards and ordinances still apply.

**Question:** What should we designate as the Wildland-Urban Interface?

**Answer:** The following definitions are found in the Utah Administrative Code and NWCG.

R652-122-200(2) Minimum Standards for Wildland Fire Ordinance.

(p) ...Wildland Urban Interface ... definition "The line, area or zone where structures or other human development (including critical infrastructure that if destroyed would result in hardship to communities) meet or intermingle with undeveloped wildland or vegetative fuel."

(r) ..."The legislative body shall declare the urban-wildland interface areas within the jurisdiction. The urban-wildland interface areas shall be based on the maps created through Section 302."

\*Note: Wildland-urban interface and urban-wildland interface are used interchangeably in the state rule.

National Wildfire Coordinating Group (NWCG), Glossary of Wildland Fire Terminology

Wildland Urban Interface (WUI)

The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Describes an area within or adjacent to private and public property where mitigation actions can prevent damage or loss from wildfire.

It is clear by these definitions that each individual jurisdiction has the authority to determine what constitutes wildland-urban interface in their jurisdiction. It is not the intent of this code to designate the entire unincorporated county, or other jurisdiction, as wildland-urban interface. Jurisdictions should designate areas as wildland-urban interface where a wild fire would significantly impact: water shed; the economy of the jurisdiction; and where the natural beauty of the area would be severely impacted or destroyed by a wild fire. Areas in close proximity to National or State Forest, or other forested areas may also be considered as part of the wildland-urban interface. Areas where fire is a regular part of the eco system, (areas that burn almost annually) and areas where a fire would have little impact on the community, and would not impact the economy or water shed should not be considered part of the wildland-urban interface.



Subdivisions developed adjacent to wildland, with access to a municipal type water supply and where paved roads would normally be required, should be built following the jurisdictions development code, complying with common requirements for fire flow and fire apparatus access, and adding the requirements for defensible space.

**Question:** What is the definition of, and who has the authority to define, what is an all-weather surface for a road? (Section 403.3)

**Answer:** Section 104.1 of the International Fire Code, 2012 edition, states that: the fire code official...shall have the authority to render interpretation of the code. Section 102.1 of the Utah Wildland-Urban Interface Code states: The code official shall have the power to render interpretations of this code... This being said, it is up to the individual jurisdiction to decide what constitutes an all-weather surface. For example; what constitutes an all-weather surface in Salt Lake City and what constitutes an all-weather surface in Duck Creek may be very different things.

One of the changes being recommended to the Wildland-Urban Interface code is to remove the term "all weather" and replace it with "approved ". Many of the roads in the wildland areas are not intended to be open for much of the year. Constructing these roads to be plowed when it is never the intention to plow them is an unnecessary expense and serves no purpose. Furthermore, many cabins are built in areas where we would never take a structural firefighting apparatus that can be easily accessed by wildland firefighting apparatus. It is the intent to have roads designed and built to accommodate the apparatus that will be responding to fight the fire. Approved means: acceptable to the authority having jurisdiction.

Section 103.2 of the Utah Wildland-Urban Interface code is a tool that the authority having jurisdiction may use to determine if a road is acceptable or not, and should not be used in all cases. For instance: A road that is used regularly to access wildland areas, has areas for vehicles to pass and has a solid surface would not require engineering. Another example is a road that has been used many times as a fire apparatus access road and has been proven to be adequate, would not require engineering.

**Question:** What is the water supply requirement for structures in the wildland-urban interface?

**Answer:** Section 402.2.2 of the Utah Wildland-Urban Interface Code requires a conforming water supply to be provided for new structures constructed or moved into the wildland-Urban interface. Section 404.1 specifies that an approved water source shall have an adequate water supply for the use of the fire protection service...

Section 404.5 Adequate water supply. Adequate water supply shall be determined for purposes of initial attack and flame front control by the local Jurisdiction. NFPA 1142 may be used as a reference.



The statement in section 404.5 “shall be determined...by the local jurisdiction” gives each jurisdiction the ability to set water supply requirements based on their individual needs. The Utah Wildland-Urban Interface code does not set any water supply, or fire flow, requirements. Some jurisdictions may require full fire flow based on appendix B of the International Fire Code, other jurisdictions may not have any requirements for onsite water supply in the more remote areas of the county and rely solely on the water carried to the fire scene by the fire department. This is left to the sole discretion of the local jurisdiction.

The statement in section 404.5 “NFPA 1142 may be used as a reference”. NFPA 1142 is not adopted as part of this code and should not be enforced by the local jurisdiction unless it has been specifically adopted by the jurisdiction as part of their wildland-urban interface code. As written, NFPA 1142 may be used by a developer/owner as a guide to assist them in meeting the intent of the Utah Wildland-Urban Interface Code.

**Question:** If a jurisdiction allows the use of NFPA 1142, what is the difference between water supply for structures without exposure hazards and structures with exposure hazards?

**Answer:**

First, NFPA 1142 defines Exposure hazards as: A structure within 50 ft. of another building and 100 square feet or larger in area.

**Examples:**

The minimum water supply requirement for structures **without** exposure hazards shall not be less than 2000 gallons, remember this is a minimum (Section 4.2.2). A 2500 square foot, single family dwelling with 8 foot ceilings would require 2857 gallons of water supply using the formula shown in NFPA 1142 section 4.2.1.

The minimum water supply requirement for structures **with** exposure hazards shall not be less than 3000 gallons, remember this also is a minimum (Section 4.3.2). A 2500 square foot, single family dwelling with 8 foot ceilings would require  $1.5 \times 2857$  gallons= 4286 gallons of water supply using the formula shown in NFPA 1142 section 4.3.1.

As you can see it is difficult to set one water supply requirement, using NFPA 1142, for the entire wildland-urban interface in your jurisdiction. You can also see that increased square footage and ceiling height will increase the required water supply. One way to approach this is to calculate the maximum size structure that could be built, based on the maximum amount of water your fire department can provide at the scene. Once this is established you can set that size structure as the maximum that can be built in the wildland-urban interface with a conforming water supply. The owner/developer would still have the options of providing some other water supply, or build the structure as a nonconforming structure.

\*Note: On site reservoirs and cisterns have not proven effective in Utah. As a general rule our crews are not trained on them and don't look for them on scene. It has also proven difficult to ensure the maintenance of the water level and FDC. A jurisdiction should give serious consideration before allowing these as an acceptable water supply.

**Question:** What is meant by "Defensible Space"?

**Answer:** Both the 2006 Utah Wildland-Urban Interface Code and the 2015 International Wildland-Urban Interface Code define Defensible Space as: "An area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur."

Defensible space is not:

1. A clear cut around your structure
2. A fire break around a structure
3. The devastation of the forest
4. The removal of all vegetation

**The Department of Natural Resources has assigned a Fire Warden to each county as a resource in wild fire related issues. These fire wardens can assist the counties with any wild fire question.**