



Land Use Department – Staff Memo

TO: Board of County Commissioners
FROM: Mark Castrodale
DATE: October 23, 2019
SUBJ: Wildfire Mitigation / Drafts
CC: County Administrator

Attached are all documents related to the Planning Commission's 2.5 year project to review and develop proposed updates to the County's Wildfire Mitigation Regulations. A great deal of input and assistance during the project was provided by representatives from West Region Wildfire Council. The proposed regulations reflect a sound foundation of applying current wildfire science to the goal of reducing overall vulnerability to new structures, existing structures, as well as future Planned Unit Developments (ie. *subdivisions*)

There is also a strong element of education incorporated into the regulations to assist Ouray County citizens, property owners, and homeowners understand practical and low-cost steps to reduce the wildfire vulnerability of structures as well as surrounding property. It is also important to note that there was public participation throughout the entire project and much of what has been developed reflects their comments and suggestions.

Included in your packets for review in public hearing are the following materials:

- Minutes from the Planning Commission public hearing on this matter, held October 22nd.
- List of 'Resource Citations'. This is a list of technical documents and articles that provided a basis for developing the requirements detailed in the 'Worksheet'.
- Draft of proposed changes to the Land Use Code, Section 2 – Definitions (*these definitions are related to the wildfire mitigation regulations*)
- Draft of proposed changes to the Land Use Code, Section 16 – Wildfire Mitigation Regulations.
- Draft of the *Wildfire Vulnerability Rating System Worksheet* or 'Worksheet'. This document IS part of the regulation and should be adopted as 'Exhibit A to Section 16'.

If you have any questions regarding this proposal or the packet materials, please do not hesitate to contact me directly.

Thank you.

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MINUTES
OURAY COUNTY PLANNING COMMISSION
PUBLIC HEARINGS

October 22, 2019 5:00 – 7:00 pm

Meeting held at the
Land Use/Road & Bridge Offices, Conference Room
111 Mall Road Ridgway, Colorado

Attending

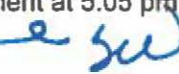
Commissioners: Miller, Parker, Snowbarger, Wilson, Williams

PC Absent: Boehnke, Iuppenlatz

Staff: Castrodale, Henderson, Viner

Guests: Parker, Brown, Beckhardt, Gomez, McCaffery

A. Public Hearing #1 to review the current draft of Section 2 – Definitions of the Land Use Code

1. Call to Order at 5:00 pm
2. Introduction by Castrodale who went through a Powerpoint presentation, explaining the various aspects and provisions in the proposed regulations. *(The presentation was giving at this point of the hearing as the proposed revisions to Section 2 and the proposed changes to the Wildfire Mitigation Regulations are related.)*
3. Williams opened the hearing for public comment at 5:05 pm
 - a. ~~Parker mentioned this timely project.~~ 
 - b. Beckhardt suggested adding two new definitions including High Wildfire Risk Topography Features (HWRTF) and High Wildfire Risk Topography (HWRT).
4. Williams closed the public comment portion of the hearing at 5:08 pm
5. The Planning Commission discussed the recommendations from the public.
6. Motion by Parker to include the six (6) definitions in Section 2 as proposed and forward them on to BOCC with a recommendation to approve
7. Seconded by Wilson
8. Vote: 5-0
9. Adjourned Public Hearing #1 at 5:20 pm

B. Public Hearing #2 to review the current draft of Section 16 - Wildfire Mitigation and the Wildfire Vulnerability Rating System Worksheet. (ie. Worksheet)

1. Call to Order at 5:21 pm

2. Introduction by Williams and thanked Beckhardt for his assistance during this effort and attention to detail
3. Williams opened the public comment portion of the hearing at 5:25 pm
 - a. Beckhardt said the final version of the Wildfire Regulations is excellent, it is based on science, applauded staff and volunteers, and explained the background to the comment he made pertaining to the Worksheet A3.0 Vents.
 - b. Jamie Gomez introduced Maggie McCaffery who is the new Assistant Director at West Region Wildfire Council (WRWC) in Montrose. Gomez echoed Williams comments as well as comments made by Beckhardt. Gomez supports this plan especially since it is science based. Gomez commended the Planning Commission, Land Use Staff, and volunteers for their efforts
4. Williams closed the public comment portion of the hearing at 5:35 pm
5. Planning Commission entered deliberation.
 - a. At this time the Planning Commission went through a section by section review of the Section 16 draft and the Wildfire Vulnerability Rating System Worksheet (ie. 'Worksheet') draft, making mostly minor spelling and wordsmithing corrections.
 - b. Wilson departed the Public Hearing at 6:08 pm
6. Motion by Parker to forward the revised drafts of Section 16 - Wildfire Mitigation Regulations along with the Worksheet to the BOCC with a recommendation to approve and adopt.
7. Seconded by Miller
8. Vote: 4-0 (Wilson departed before the vote)
9. Adjourned Public Hearing #2 at 6:25 pm

Submitted By:



Staff Member

Approved By:



PC Chair or Alternate

Resource Citations related to proposed revisions to the current “Fire Rating System for New Construction”.
(This document is meant for reference purposes only and is not intended to be part of the code.)

| Name (ID) | Document Title / Resource Description | Link |
|--|--|---|
| Roofing (A1.0) | FEMA Homebuilder’s Guide To Construction in Wildfire Zones – Roofs | https://www.fema.gov/media-library-data/20130726-1651-20490-4552/fema_p_737_fs_5.pdf |
| Roofing (A1.0) | ASTM E108 Youtube Video – Published by Palmex Thatch | https://www.youtube.com/watch?v=Lgzo6icnX5s |
| Roofing (A1.0) | IBHS/NFPA Wildfire Research Fact Sheet – Roofing Materials | https://www.nfpa.org/-/media/Files/Firewise/Fact-sheets/FirewiseFactSheetsRoofingMaterials.ashx?la=en&hash=4203AC72952C6295E302A6571981D9F1286E2793 |
| Exterior Cladding & Siding (A2.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Exterior Walls | https://www.fema.gov/media-library-data/20130726-1652-20490-4620/fema_p_737_fs_7.pdf |
| Exterior Cladding & Siding (A2.0) | IBHS Wildfire Demonstration (see the “Exposure to Radiant Heat” section) | https://disastersafety.org/ibhs/research-center-demo-wildfire-2011/ |
| Vents (A3.0) | IBHS Vulnerability of Vents to Windblown Embers | http://disastersafety.org/wp-content/uploads/2017/08/Vulnerability-of-Vents-to-Wind-Blown-Embers_Executive-Summary.pdf |
| Spark Arrestors (A4.0) | 2012 International Residential Code – Chapter 10 Chimneys and Fireplaces | https://codes.iccsafe.org/public/document/code/362/6125042 |
| Hardened Zone (A5.0) | IBHS- Defensible Space Zones | https://disastersafety.org/wildfire/defensible-space/ |
| Hardened Zone (A5.0) | NFPA- Prepare your home for wildfires | https://www.nfpa.org/Public-Education/By-topic/Wildfire/Preparing-homes-for-wildfire |
| Exterior Doors (A6.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Exterior Doors | https://www.fema.gov/media-library-data/20130726-1652-20490-8249/fema_p_737_fs_11.pdf |
| Private Roads & Driveways (A7.0) | Please see pertinent Ouray County code | |
| Addressing (A8.0) | Please see pertinent Ouray County code | |

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|---|---|---|
| Defensible Space (B1.0) | Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management | https://www.fs.fed.us/rm/pubs_other/rmrs_1998_cohen_j001.pdf |
| Defensible Space (B1.0) | Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management | https://www.fs.fed.us/rmrs/science-spotlights/protecting-your-home-wildland-fire |
| Defensible Space (B1.0) | IBHS- Defensible Space Zones | https://disastersafety.org/wildfire/defensible-space/ |
| Defensible Space (B1.0) | IBHS – Reduce Your Wildfire Risk: Create Defensible Space Zones | https://static.nationwide.com/static/IBHS-Wildfire-Defensible-Space-Infographic-Update.pdf?r=50 |
| Slope (B2.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Selecting the Construction Site | https://www.fema.gov/media-library-data/20130726-1651-20490-7160/fema_p_737_fs_3.pdf |
| Proximity to High Wildfire Risk Topographic Feature (B3.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Selecting the Construction Site | https://www.fema.gov/media-library-data/20130726-1651-20490-7160/fema_p_737_fs_3.pdf |
| Background Fuels (B4.0) | NWCG - Surface Fuel Model Descriptions | https://www.nwcg.gov/publications/pms437/fuels/surface-fuel-model-descriptions |
| Background Fuels (B4.0) | Fire Behavior Fuel Model Descriptions (Anderson, 1982) | https://gacc.nifc.gov/rmcc/predictive/Fire%20Behavior%20Fuel%20Model%20Descriptions.pdf |
| Background Fuels (B4.0) | Fire Behavior Field Reference Guide 2014 | https://gacc.nifc.gov/oncc/docs/FBFRG_2014.pdf |
| Decks and Fencing (B5.0) | IBHS – Wildfire Research Ignition Potential of Decks Subjected to an Ember Exposure | http://disastersafety.org/wp-content/uploads/2017/10/Deck-Ember-Testing-Report-2017_IBHS.pdf |
| Decks and Fencing (B5.0) | IBHS Wildfire Research Fact Sheet - Decks | https://www.nfpa.org/-/media/Files/Firewise/Fact-sheets/FirewiseFactSheetsDecks.ashx?la=en&hash=8E124A21ACABDAEF66377242D783611D4D9AD7A5 |
| Decks and Fencing (B5.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Landscape Fences and Walls | https://www.fema.gov/media-library-data/20130726-1652-20490-2634/fema_p_737_fs_14.pdf |
| Decks and Fencing (B5.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Decks and Other Attached Structures | https://www.fema.gov/media-library-data/20130726-1652-20490-4409/fema_p_737_fs_13.pdf |
| Eaves, | IBHS Wildfire Research Fact Sheet – Under-Eave | https://www.nfpa.org/-/media/Files/Firewise/Fact- |

| | | |
|---|--|---|
| Overhangs and Structural Projections (B6.0) | Construction | sheets/FirewiseFactSheetsUnderEaves.pdf |
| Eaves, Overhangs and Structural Projections (B6.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Eaves, Overhangs and Soffits | https://www.fema.gov/media-library-data/20130726-1652-20490-2869/fema_p_737_fs_6.pdf |
| Windows (B7.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Windows and Skylights | https://www.fema.gov/media-library-data/20130726-1652-20490-8008/fema_p_737_fs_10.pdf |
| Gutters (B8.0) | Colorado Springs Wildfire Mitigation Design Manual | https://coloradosprings.gov/sites/default/files/final_hillside_wildfire_mitigation_design_manual_final_document_third_printing.pdf |
| Gutters (B8.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Gutters and Downspouts | https://www.fema.gov/media-library-data/20130726-1652-20490-7674/fema_p_737_fs_9.pdf |
| Driveway Clearances (B9.0) | Boulder County - Driveway Access for Emergency Vehicles | https://assets.bouldercounty.org/wp-content/uploads/2017/03/w04-emergency-vehicles-access.pdf |
| Driveway Clearances (B9.0) | FEMA Homebuilders Guide to Construction in Wildfire Zones – Community Infrastructure | https://www.fema.gov/media-library-data/20130726-1652-20490-9581/fema_p_737_fs_17.pdf |
| Driveway Clearances (B9.0) | Standards for fire department vehicle access – California Fire Code | http://www.unidocs.org/fire/un-096.pdf |

Section 2

Definitions

(The following terms/definitions to be added to Section 2.)

Wildfire Vulnerability Rating System Worksheet (*Worksheet*). The Worksheet attached and included as part of the Wildfire Mitigation Regulations, establishes the criteria for ‘Required Elements’ and ‘Scored Elements’ which must be satisfied per the specific criteria found in the regulation and the Worksheet.

Wildland Urban Interface (*WUI*). Areas where homes are built near or among lands prone to wildland fires.

Defensible Space. In the context of fire control, a natural and/or landscaped area around a structure that has been designed and/or maintained to reduce wildfire danger.

Ignition Resistant [materials]. Those products that meet or exceed the standard for being non-combustible, fire-retardant, or fire-resistant. The rating assessor will determine, using his/her best professional judgment, the degree to which a proposed material and/or proposed assembly shall be justifiably considered “ignition resistant”.

Rating Assessor. County employee or designated professional trained by an entity such as Western Region Wildfire Council or the Colorado State Forest Service to complete wildfire-related reviews and assessments as per the requirements and provisions found in the Ouray County Wildfire Mitigation Regulations.

High Wildfire Risk Topographic Features (*HWRTF*). HWRTF contribute to increased wildfire behavior severity. Examples of HWRTF include: gullies, canyons, ravines, and ridge tops.

SECTION 16

WILDFIRE MITIGATION REGULATIONS

16.1 PURPOSE AND LEGISLATIVE INTENT:

The purpose of this Section is to strengthen Ouray County’s wildfire resiliency by increasing the likelihood of citizens, first responders, and structures surviving a wildfire. Additionally, these regulations:

- Are based on current science regarding effective wildfire mitigation; and
- Implement one regulation for the entire County, rather than multiple ‘risk’ zones; and
- Recognize that embers or burning material (firebrands) may travel as far as 13 miles; and
- Attempt to balance protection of life and property with individual property rights; and
- Recognize cost factors regarding required constructions methods and elements; and
- Focus not just on the importance of proper construction but also on education.

16.2 APPLICABILITY:

A. These Regulations Apply To:

- (1) All new Dwelling Unit construction requiring a building permit; and
- (2) All additions and exterior remodels to existing Dwelling Units requiring a building permit; and
- (3) All new Accessory Dwelling Units and accessory structures requiring a building permit; and
- (4) All restoration or replacement of existing Dwelling Units, Accessory Dwelling Units, or accessory structures; and
- (5) New Limited, Regular, Resort/Conference Center, and Vested Property Rights County-Approved Subdivisions/Planned Unit Developments (PUD’s) initiated after the date these regulations are adopted.

B. These Regulations Do Not Apply To:

- (1) Vacant land or
- (2) Commercial structures.

C. Non-Conforming Structures

This Section upon adoption shall not make any existing structures non-conforming as set forth in the Non-Conforming Uses, Structures, and Parcels’ section of this Code.

16.3 REGULATIONS AND REQUIREMENTS:

- A. All building permit applications for new dwelling unit construction shall include a completed and staff-approved Worksheet and a detailed site plan including the location of all existing or proposed structures as well as all significant vegetation. The submittal of aerial photographs are *strongly encouraged*.
- B. All new dwelling unit construction, including accessory dwelling units must comply with all provisions found in the Required Elements and Scored Elements of the Worksheet.
- C. All new additions of 500 square feet more in size, must meet the Required Elements in the Worksheet with the exception of all of Sections A6 and A7.
- D. Any proposed addition to a dwelling unit, equal to or greater than 50% in size of the existing structure, and at least 1,000 square feet, shall require the entire existing structure to comply with all Mandatory Elements in the Worksheet with the exception all of Sections A6 and A7.
- E. All new attached decks must comply with Section B5.1 of the Worksheet.
- F. All new attached garages must comply with the Required Elements of the Worksheet with the exception of all of Section A7.
- G. Any building permit application for an addition to an existing dwelling unit shall trigger the requirement for a site visit/evaluation of the entire structure and surrounding land area by the Colorado State Forest Service (CSFS), West Region Wildfire Council (WRWC), or other qualified agency or professional. The purpose of the site visit/evaluation is to identify areas of concern and possible opportunities to implement changes or upgrades to reduce the structures ignition vulnerability due to wildfire. Site visit/evaluations conducted by a qualified/accepted agency shall be good for a period of 5-years.
- H. The replacement of existing roofing materials shall require an approved building permit as well as the following: all newly installed roofing material must be ‘Class-A’ fire resistant, all vent screens must be 1/8” screening or screening otherwise specifically designed to prevent the intrusion of fire embers, approved spark-arrestors must be installed, if a gutter system is to be installed then it must be constructed of ignition-resistant materials.
- I. The installation of a new or replacement wood or pellet burning stove (new or existing construction) shall require the installation of an approved spark-arrestor.
- J. Building permit applications for new detached accessory structures (garage, barn, shed, shop, etc.) must comply with the Required Elements in the worksheet with the exception of all of Section A7.

16.4 PLANNED UNIT DEVELOPMENTS

- A. Prior to submittal of a Sketch Plan, the application for a PUD shall be referred to the CSFS or WRWC, and the local fire department or fire district for review and

recommendations regarding vegetation management outside of the building envelope areas.

All new PUD applications including Limited, Regular, Resort/Conference Center, and Vested Property Rights Subdivisions shall include the following elements regarding wildfire mitigation:

- (1) A secondary egress method (if feasible) including road width and adjacent cleared areas, or an internal access road built to accommodate access for emergency response vehicles, including both horizontal and vertical clearance. (i.e. road width and adjacent clearing allows adequate clearance for 2 typical size emergency vehicles to pass)
- (2) PUD applications must include recommendations from the CSFS and/or the WRWC as identified by Staff.
- (3) The Board of County Commissioners may require some or all recommendations from CSFS and WRWC.
- (4) The PUD design shall include open space or non-building area arranged to allow for implementation of a fuel break as described in the 2013 National Fire Protection Association guidelines (fuel breaks typically 30-50 feet wide and located on the perimeter of the PUD).
- (5) Covenants submitted by Applicant or Developer shall include a provision requiring on-going maintenance of the area of the development identified as a fuel break.
- (6) PUD design shall be done in a manner where no houses may be constructed with less than a thirty (30) feet of separation, all building envelopes allow for a minimum of one-hundred (100) feet of defensible space around all dwelling units, and all building envelopes shall avoid High Wildfire Risk Topographic Features.

16.5 PROCEDURES

- A. All building permit applications shall be submitted to the County Land Use Department.
- B. Building permit applications and related reviews regarding wildfire mitigation will be conducted by the County Land Use Department.
- C. Applications requiring assistance by the WRWC, CSFS, should be copied to those agencies as early on in the process as possible to avoid any potential delays.

16.6 EXCEPTIONS/VARIANCES/APPEALS

Any request for an exception, variance, or appeal related to the provisions of this Code Section shall be addressed as provided for in the Exceptions, Special Exceptions, Exemptions, and Variances section of this Code.

16.7 ADMINISTRATION/ENFORCEMENT/FEES

This Section will be administered by the Land Use Department and the costs of implementation will be recovered through fees established by the Board of County Commissioners as a part of PUD and building permit fees. Enforcement of these regulations shall be as provided for in the Administration and Enforcement section of this Code.

16.8 DUTIES/POWERS OF THE RATING ASSESSOR

The Rating Assessor is authorized to enforce the regulations found in this Section. The Rating Assessor shall have the authority to render interpretations and to adopt policies and procedures in order to clarify the application of these regulations. Such interpretations shall be in conformance with the overall intent and purpose of this Section. The Rating Assessor will determine, using his/her best professional judgment, the degree to which a proposed material and/or proposed assembly shall be justifiably considered Ignition Resistant. In cases of restoration or replacement where a property owner may not be able to meet some requirements of the Scored Elements due to conditions beyond their control, the Rating Assessor shall have discretion with respect to compliance with the maximum points allowed.

16.9 WILDFIRE VULNERABILITY RATING SYSTEM WORKSHEET

The regulations in this Section work conjointly with the Worksheet that is attached to this Section as 'Exhibit A' and shall be considered to be part of the regulation in its entirety. The Worksheet may not be amended except through formal approval by the County Planning Commission and the Board of County Commissioners.

Note: *This regulation references the 'Wildfire Vulnerability Rating System Worksheet' or 'Worksheet' which is attached to this Section as 'Exhibit A to Section 16, Wildfire Mitigation Regulations'. This Section and the Worksheet work together to establish the regulations relating to wildfire mitigation in Ouray County.*

Ouray County Wildfire Vulnerability Rating System Worksheet



Site Address: _____

Parcel Number: _____ Owner Name: _____

Initial Assessment Date: _____ Initial Assessment Completed by: _____

Final Assessment Date: _____ Final Assessment Completed by: _____

This Worksheet has two category sections: **(A) REQUIRED ELEMENTS** and **(B) SCORED ELEMENTS**. Within (A) REQUIRED ELEMENTS, all elements must be marked as "Pass" in order to receive a building permit or certificate of occupancy. Additionally, within (B) SCORED ELEMENTS, a maximum number of **589** will be allowed for construction of a dwelling unit, an accessory dwelling unit, or an accessory structure at the time of the issuance of a Building Permit as well as at the time of the issuance of a Certificate of Occupancy. This rating sheet provides categories with which to calculate the point rating specific to your structure and land. The Rating Assessor will determine, using his/her best professional judgement, the degree to which a proposed material and/or proposed assembly is legitimately considered Ignition Resistant in order to meet the individual required elements as well as the scored elements. The Rating Assessor shall be designated by the County Planning Director.

This Worksheet is part of the Wildfire Mitigation section of the Ouray County Land Use Code. Please refer to this Section of the Code for additional information about the entire wildfire mitigation regulations. This Worksheet is intended to encourage ignition resistant design, construction and landscaping practices in the County. This Wildfire Vulnerability Rating System does not supercede but works in concert with Ouray County's enforcement of the currently adopted building, mechanical, and/or energy codes.

| ID | Name | Required | At Building Permit | Prior to C.O.O. |
|----|------|----------|--------------------|-----------------|
|----|------|----------|--------------------|-----------------|

CATEGORY A: REQUIRED ELEMENTS

| | | | | |
|-------------|--|---------------------------------|------|------|
| A1.0 | Roofing - A description of the roof covering and construction assembly of the roof. Roofing has been shown to have the single most significant impact on the survivability of home during a wildfire. | | | |
| A1.1 | Class A Roof Covering: The construction of the roof utilizes a roof covering material that has been tested to be a Class A material in accordance with UL 790 (ASTM E108). Some materials may rely on additional underlying materials to improve their fire ratings. Both "by assembly" and "stand-alone" materials are considered acceptable so long as the material has been installed in accordance with their listing and the manufacturers' installation instructions and that the full assembly has been constructed to ensure the Class A rating status has been achieved. | Must Meet Standard A1.1 to Pass | PASS | PASS |
| A1.2 | Class B, C or Unrated Roof Covering: Any roof covering that does not meet the Class A roof covering standards in accordance with UL 790 (ASTM E108). | | FAIL | FAIL |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

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|-------------|--|---|------|------|
| A2.0 | Exterior Cladding & Siding: A description of the materials and construction assembly of the exterior cladding and siding of the building and its resistance to ignition from embers, as well as radiant and convective heat. | | | |
| A2.1 | Ignition Resistant Siding: The building will feature exterior cladding and siding that are constructed of Ignition Resistant materials. Ignition Resistant materials include, but are not limited to: heavy timber log construction that is 6" in diameter or greater; fiber-cement board, 3 stage stucco, masonry, brick, manufactured stone, etc. The Rating Assessor will determine, using best professional judgement, degree to which a proposed material and proposed assembly is justifiably considered "ignition resistant" to meet this standard. | Must meet Standard A2.1 OR A2.2 to Pass | PASS | PASS |
| A2.2 | Combustible Siding WITH Ember Mitigation AND Defensible Space: The building will feature combustible (non-ignition resistant) exterior cladding and siding; however, measures have been taken to ensure that the base of exterior walls, (where the walls meet the ground, decks or any other horizontal surfaces), as well as junctures between exterior walls and rooflines (e.g. dormers, complex roof features, etc.) and other structural projections, etc. have no less than 6 inches of a non-combustible material (e.g. metal flashing, skirting, concrete foundation, etc.) to reduce the likelihood of ignition from embers AND the property meets the standard for B1.1 (no less than 100') for defensible space to mitigate the risk of ignition from radiant and convective heat sources. If the property owner cannot meet the 100 feet of defensible space criteria they may elect to utilize "Ignition Resistant Siding" (A2.1). | | PASS | PASS |
| A2.3 | Combustible (Non-Ignition Resistant) Siding: The building has exterior siding or cladding that does not meet standard A2.1 or does not otherwise meet standard A2.2. | | FAIL | FAIL |
| A3.0 | Vents: A description of all vents, including but not limited to attic, soffit, and gable vents. Any vent that connects the outside of the structure with the inside of the structure is covered under this element unless the vent emanates from a combustion chamber or an ignition-resistant chamber. | | | |
| A3.1 | Ember Resistant Screening: Vents are screened with 1/8" screening, an acceptable louvered venting system (as is common for dryer vents) and/or a similar screening system that has been specifically designed to prevent the intrusion of embers. | Must meet Standard A3.1 to Pass | PASS | PASS |
| A3.2 | Non-Ember Resistant Screening / No Screening: One or more location(s) on the building that connects the outside of the building with the inside of the building either (a) does have any screening or (b) insufficient screening such that it does not meet Standard A3.1. | | FAIL | FAIL |
| A4.0 | Chimneys and Other Heating Appliances: Approved spark arresters installed on all wood burning appliances. | | | |
| A4.1 | Approved Spark Arrester Installed: Approved spark arrester or cap is properly installed on the chimney. | Must meet Standard A4.1 to Pass | PASS | PASS |
| A4.2 | Lack of Approved Spark Arrester: Missing, not properly installed or not meeting Standard A4.1 | | FAIL | FAIL |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

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|-------------|--|-------------------------------------|-------------|-------------|
| A5.0 | Building Perimeter Hardened Zone: This standard is applicable to the ground level area directly adjacent the building perimeter extending out to 5 feet. The building perimeter includes any attachments, such as combustible decks, combustible fences, attached outbuildings, etc. | | | |
| A5.1 | 5 Foot Hardened Zone: Hardened zone extends out 5 feet from the building perimeter. A hardened zone is void of all combustible fuels including grasses, vegetation, landscape mulch, combustible building materials, etc. The hardened zone must be covered so as to prevent eventual growth of grasses/weeds. A weed barrier fabric and rock/gravel are recommended. | Must have 5'+ hardened zone to pass | PASS | PASS |
| A5.2 | Lack of 5 Foot Hardened Zone: Area within 5 feet of the building perimeter (including attachments) does not meet the standard as defined in A5.1 | | FAIL | FAIL |
| A6.0 | Exterior Doors: A description of all exterior doors. Doors represent a vulnerable point for fire intrusion. | | | |
| A6.1 | Ignition Resistant Doors: Exterior doors are ignition resistant or solid core not less than 1 3/4-inches thick, or constructed with aluminum or fiberglass cladding. Windows within doors, and glazed doors, are tempered safety glass or multi-layered glazed panels. Rating Assessor will determine, using best professional judgement, degree to which a proposed material and proposed assembly is justifiably considered "ignition resistant" to meet this standard. | Yes or No | PASS | PASS |
| A6.2 | Non-Ignition Resistant Doors: One or more exterior doors do not meet Standard A6.1. | | FAIL | FAIL |
| A7.0 | Private Road & Driveway Emergency Vehicle Access: Private roads and driveways should conform to Ouray County Road Standards as set forth in this Code. <u>EXCEPTION: Homes, driveways, or portions of driveways, located on mining claims above 9480-feet in elevation may be exempt from the "Driveways" standards. Please refer to the High Alpine Development Regulations for more information and applicability.</u> | | | |
| A7.1 | Driving surface at least twelve feet (12') wide. | Must meet all standards to pass | PASS / FAIL | PASS / FAIL |
| | Interior radii shall be at least thirty-two feet (32') | | PASS / FAIL | PASS / FAIL |
| | Driveway Opening at least sixteen feet (16') wide | | PASS / FAIL | PASS / FAIL |
| | Grades do not exceed twelve percent (12%) | | PASS / FAIL | PASS / FAIL |
| | Adequate sight distance, angle of approach, crowing/cross sloping, adequate drainage meet County standards. | | PASS / FAIL | PASS / FAIL |
| A8.0 | Addressing: The address sign shall adhere to Ouray County Land Use Code and Resolution No. 2017-048 which sets the new standard for address signs in the County. | | | |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

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|-------------|---|--|-------------|-------------|
| A8.1 | Address Sign Visible & Meets Standard: All new address signs installed in the unincorporated portions of Ouray County shall conform to the current standard for address signs as set forth by the Board of County Commissioners. | Must meet Ouray County Address Sign Standard to Pass | PASS / FAIL | PASS / FAIL |
| A8.2 | Address Sign Not Visible OR Does Not Meet Standard: The address sign does not meet the standard for address signs as set forth by the Board of County Commissioners. | | FAIL | FAIL |
| A9.0 | Gutter System: A description of the gutter system, including gutters, downspouts and gutter caps, including their materials and construction assembly. Regardless of the installed gutter system, regular maintenance of gutters, to clear them of any accumulated combustible materials, is highly recommended. To reduce maintenance, installation of a non-combustible gutter cap is recommended. | | | |
| A9.1 | Ignition-Resistent Gutter System: Gutters are made out of ignition-resistant material AND gutters are installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. The drip edge extends in to the gutter. If no gutter system is installed, then PASS. | Meets standards | PASS | PASS |
| A9.2 | Wildfire Vulnerable Gutter System: Gutters do not meet the standard as described in A9.1. | Does not meet standards | FAIL | FAIL |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

| CATEGORY B: SCORED ELEMENTS | | | | |
|----------------------------------|---|--------|-----------------|-----------------------------|
| ID | Name | Points | Building Permit | Prior to Cert. of Occupancy |
| DEFENSIBLE SPACE ELEMENTS | | | | |
| B1.0 | Defensible Space: A description of the current and/or planned extent and quality of defensible space around the proposed building AND emergency access roads/driveways on the property. Please refer to "Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones" (CSFS 2012-1) - OR current and relevant replacement of this document - for additional information and standards related to the creation of Defensible Space. Apply same score if current conditions do not exist but a detailed Wildfire Mitigation Defensible Plan has been submitted and demonstrates intention to develop defensible space to these standards. <u>Note that "defensible space" does not mean clearcutting or complete removal of vegetation.</u> | | | |
| B1.1 | Full Zone 1 (0-30 ft) and Full Zone 2 (30-100 ft): No less than 100 feet of adequate D-Space in all directions around the building. | 0 | | |
| B1.2 | Full Zone 1 (0-30 ft) But Not Full Zone 2 (30-100 ft): No less than 30 feet of adequate D-Space in all directions around the building. | 100 | | |
| B1.3 | Not Full Zone 1 (0-30 ft): Less than 30 feet of adequate D-Space in all directions around the building. | 300 | | |
| BUILDING SITE ELEMENTS | | | | |
| B2.0 | Slope (Percent/Degrees): A measurement of the slope of the property as it relates to the location of the building. The slope measurement is taken by creating a 300 foot straight-line transect with the center of the building in the middle of the transect and the two ends of the transect are at the highest and lowest elevations possible. | | | |
| B2.1 | <20% / <11.31°: Measured slope is less than 20% | 0 | | |
| B2.2 | 20-45% / 11.31°-24.23°: Measured slope is between 20.0 and 45% | 60 | | |
| B2.3 | >45% / >24.33°: Measured slope is greater than 45% | 120 | | |
| B3.0 | Proximity to High Wildfire Risk Topographic Feature : A measurement of the distance of the edge of the building (including attached decks) to the start of a topographic feature, designated as a High Wildfire Risk Topographic Feature (HWRTF). The Rating Assessor will utilize existing data and best professional judgement to determine existence and proximal location of HWRTF. | | | |
| B3.1 | > 150' away: Building footprint greater than 150 feet from HWRTF | 0 | | |
| B3.2 | 50 - 150' away: Building footprint is between 50 feet and 150 feet from HWRTF. | 70 | | |
| B3.3 | <50' away: Building footprint is less than 150' feet from HWRTF. | 140 | | |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

| | |
|-------------|--|
| B4.0 | Forest & Fuel Density (aka "Background Fuels"): An estimate measurement of the approximate fuel density (only species that contribute as wildfire fuel) within/beyond Zone 3 (regardless of property boundary). For this purpose, Zone 3 is defined as starting 100 feet away from the building and ending at 350 away from the building in all directions. Emphasis and weight should be placed on forest and fuel locations most likely to impact fire behavior approaching the building. |
| B4.1 | Light: Predominately grasses and herbaceous plants. Woody fuels, if existing, are sparse and highly isolated |
| B4.2 | Moderate: Well spaced and isolated trees and shrubs mixed with grasses and herbaceous plants. Isolated is defined as a greater than 10 foot (>10') average spacing between edges of crowns (outer most branches of a tree/shrub). |
| B4.3 | Heavy: Trees and shrubs are the predominant cover type and are dense in nature. Dense is defined as less than 10 foot (<10') average spacing between edges of crowns (outer most branches of tree/shrub). |

| ARCHITECTURAL DESIGN & CONSTRUCTION ELEMENTS | | | | |
|--|--|-----|--|--|
| B5.0 | Decks and Fencing: A description of the construction materials, design and assembly of the fencing and decks that are attached to the building. | | | |
| B5.1 | <p>Hardened Decking & Fencing Design/Construction:</p> <p>a) decking composed of composite material; and b) Wood joists are covered with a metal cap or similar covering (foil-faced tape bitumin is also recommended) to reduce ember ignitions on exposed joists between deck boards; and c) gaps between decking boards are 1/4" or more (narrower gaps have been shown to increase fire spread); and d) the decking is not elevated above ground level or, if elevated less than 30-inches from the underside of the framing to ground level, it is completely enclosed such that neither convective nor radiant heat can penetrate the deck from the bottom up OR if full enclosure is not feasible the property meets the requirements of 100 feet of defensible space as defined in B1.1; and e) bottom of deck enclosure (if applicable), where it meets grade, meets ignition resistant standards as described in A2.1; and f) entire area under deck must be covered with a weed barrier and covered with an ignition-resistant material such as crushed rock or gravel; and g) fences, (if present, attached to home are composed of an ignition-resistant material), will feature at least 5 feet of non-combustible fencing where the fence attaches to the structure to reduce the likelihood of the fence carrying fire to structure. h) hardened zone extends out 5 feet from the deck perimeter, void of all combustible fuels including grasses, vegetation, landscape mulch, combustible building materials, etc. Hardened zone must be covered so as to prevent eventual growth of grasses/weeds. A weed barrier fabric and rock/gravel are recommended.</p> | 0 | | |
| B5.2 | Deck Constructed without Composite Decking: The proposed or built deck conforms with B5.1 in every way (subsections a-h) <u>except</u> subsection (a) related to the requirement for composite materials in deck construction. | 90 | | |
| B5.3 | Non-Ignition Resistant Decking & Fencing: Any attached deck or attached fencing does not completely and entirely conform with B5.1 or 5.2. | 180 | | |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

| | | | | |
|-------------|--|----|--|--|
| B6.0 | Eaves, Overhangs and Structural Projections: A description of any portion of the attached building where projections or overhangs are part of the design element. These areas are vulnerable to heat and ember collection. | | | |
| B6.1 | Ignition Resistant Projections: All eaves are soffitted and all eaves, overhangs and structural projections are composed of or enclosed by ignition resistant materials (as described in "Exterior Cladding and Siding" - Section A.2). | 0 | | |
| B6.2 | Non-Ignition Resistant Projections: One or more eaves has an open-eave construction design or one or more eaves, overhangs or structural projections does not otherwise conform with B6.1. | 80 | | |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

| | | | | |
|-------------|--|-----|--|--|
| B7.0 | Windows: A description of all exterior windows. Windows are vulnerable to fire intrusion through window frame failure (primarily due to heat exposure) and glazing (glass surface) failure. | | | |
| B7.1 | Preferred Exterior Windows: (a) all exterior windows have an 'Insulated Glazing Unit' (IGU) consisting of 2 or 3 panes, and; (b) tempered or laminated glass for one or all panes, and; (c) low-e coating on the inner surface of the exterior pane; and (d) all exterior window frames are composed of Ignition Resistant materials. (Note: If Defensible Space is 30-feet or greater then requirements 'c and d' above are eliminated.) | 0 | | |
| B7.2 | Less Preferred Exterior Windows: (a) All exterior windows have an 'Insulated Glazing Unit' (IGU) consisting of 2 or 3 panes; and (b) all exterior window frames are composed of Ignition Resistant materials. (Note: If Defensible Space is 30-feet or greater then requirement 'b' above is eliminated.) | 70 | | |
| B7.3 | Fire Vulnerable Exterior Windows: Windows do not conform with B7.1 or B7.2 | 140 | | |

'Exhibit A' to Section 16, Wildfire Mitigation Regulations (v. 10/22/19)

| EMERGENCY ACCESS ELEMENTS | | | | |
|--|--|----------------------|------------------------|------------------------------------|
| B8.0 | Driveway Clearances: In addition to Required Element A7.0 "Driveways", this is a description of the driveway's horizontal and vertical clearances which allow for unimpeded emergency response vehicular access. Typical impediments to safe horizontal and vertical access include trees, branches, shrubs, gateways, archways, etc. The horizontal clearance does not require that additional road base material be laid down, instead this is solely looking at the ability for emergency vehicles to access the site. | | | |
| Horizontal Clearance | Greater than 24 feet of horizontal clearance has been achieved. | 0 | | |
| | Less than 24 feet of horizontal clearance has been achieved however an area along the driveway provides a "pullout" for emergency vehicles. The "pullout" provides at least 24 feet of horizontal clearance (as measured with the driveway and the pullout combined) and is at least 35 feet in length so that two emergency vehicles can pass one another along the driveway. | 0 | | |
| | Less than 24 feet but greater than 20 feet of horizontal clearance | 40 | | |
| | Less than 20 feet of horizontal clearance | 80 | | |
| Vertical Clearance | Greater than 13.5 feet of vertical clearance | 0 | | |
| | Less than 13.5 feet of vertical clearance | 30 | | |
| OTHER CONSIDERATIONS - NO SCORE - EDUCATIONAL PURPOSES ONLY | | | | |
| B9.0 | Near Building Combustibles: A description of other combustible materials, vulnerable to ignition, near the building. The emphasis for combustibles is within Zone 1, or zero to thirty feet from the building ANY material that is combustible should be considered. Common combustible materials include (but are not limited to): propane tanks, firewood, woody debris (dead and down sticks, branches, etc.), pine/fir needles, leaves, patio furniture, ornamental wreaths, decorative displays, etc. | | | |
| B9.1 | Combustible materials are not within 30 feet of any buildings | No applicable score. | | |
| B9.2 | Combustible material are within 10-30 feet of the building. | | | |
| B9.3 | Combustible material within 10 feet of the building. | | | |
| | | Max Points | Site Inspection | Prior to Cert. of Occupancy |
| Totals | | 589 | 0 | 0 |
| | | 589 or below | Passing Score | |
| | | 590 or Above | Failing Score | |

PUBLIC COMMENT

Ouray County Board of County Commissioners

Re: Land Use Code Section 16 Fire Mitigation Regulations / November 5, 2019 Public Hearing

Dear Commissioners,

Thank you for the opportunity to provide these comments on the Planning Commission's draft revisions to the County's Fire Mitigation Regulations. Please make these comments part of the record.

These comments are submitted on behalf of the Ridgway-Ouray Community Council (ROCC). ROCC is a grassroots community organization of nearly 230 Ouray County residents, property owners and taxpayers. ROCC's primary mission is to maintain and improve the quality of life in Ouray County through the creation of a healthy, sustainable and well-planned community and the restoration and protection of its natural environment, taking into consideration the needs, interests, and concerns of the community at large.

ROCC enthusiastically supports the proposed Section 16 Fire Mitigation Regulations. As the recent Cow Creek Fire so clearly demonstrated, wildland fires can and do occur in our County. Fortunately, the Cow Creek Fire was in a location that did not threaten homes. ROCC supports the Planning Commission's proposed regulations that would substantially improve the likelihood that new homes would survive if threatened by fire elsewhere in the County.

ROCC is particularly impressed by the science-based approach and balanced approach achieved by the Planning Commission. Working with the West Region Wildfire Council, the Planning Commission has developed a two tier approach with mandatory elements and scored elements. The former focuses on hardening structures so that they are more likely to survive. The latter provides flexibility to the property owner in determining how to further improve survivability.

ROCC agrees with the Planning Commission's balanced approach on remodels, additions and reconstruction. It would be extremely onerous to require the entirety of an existing building to come into conformance with the new standard for very small projects. For example, ROCC agrees with the exclusion of the new driveway standard for a small addition.

The safety of emergency staff, including firefighters and EMS, is critical. The proposed regulations will improve safety. In particular, the new requirement that PUDs have two exit roads, if feasible, is important. Many residents in Paradise, California, died when stuck on a single exit road which was overcrowded and eventually overrun by the wildland fire.

ROCC urges the BOCC to adopt the proposed Section 16 Fire Mitigation Regulations without delay. As County assessments of wildland fire vulnerability have documented, most of Ouray County is at high risk. These regulations will, over time, increase the survivability of our homes, our neighborhoods and our emergency personnel.

Sincerely,

Don Swartz
Co-President
Ridgway-Ouray Community Council

Kate Kellogg
Co-President

From: Alan Staehle [mailto:alanouray@gmail.com]
Sent: Monday, November 04, 2019 9:50 PM
To: Hannah Hollenbeck
Cc: Mark Castrodale
Subject: Input on Wildfire Mitigation for Nov. 5th public hearing

Just a week ago I drove thru still smoldering guardrail stumps and limp steel along side the road on my way to the Central Coast of California and marveled at my timing since later fires would have blocked other routes. This made me glad I had finally contracted for and completed our State approved mitigation work as Ouray heads into another possible drought cycle. Our part of Colorado and the West Region Wildfire Council are clearly ahead of California in the up front battle to control loss of life and property in high fire hazard Wildland Urban Interface. California has almost perfected response to wildfire but they are shockingly behind in trying to get ahead of it. Ouray County should be proud of your leadership participation in this field and the new Section 16 of the land use code is a major improvement. Not only will it mean that new development and construction adjust for this very real danger, but it provides guidance for people who might want to consider improving the situation on their existing situation. I hope the Board will adopt this update pretty much as it is. Experience will provide information that could lead to appropriate modifications.

Alan Staehle
County Road 14A
Ouray County, Colorado
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