TO: Mayor and City Council  
FROM: Oregon Trail Post Incident Fire Committee  
DATE: March 30, 2010  

SUBJECT: WUI Map and Development Code

RECOMMENDATION
The Oregon Trail Post Incident Fire Committee recommends that the City Council adopt the attached Wildland-Urban Interface (WUI) Map and Development Standards as new Chapter 69 in the Fire Prevention Code.

Background
As a result of the Oregon Trail Heights fire in the late summer of 2008, the City Council directed that a staff team explore a range of responses including new code standards for construction, fuels mitigation and education in Wildland-Urban Interface (WUI) areas. For the past year and half, a team composed of Fire, Planning, Building and Parks staff has pursued this range of issues. We have reported periodically to Council on progress regarding WUI mapping, draft ordinance preparation, fire hazard surveys, fuels mitigation grant applications, public education outreach and fire response planning. The purpose of this memo is to describe the final draft WUI Mapping and Development Fire Code and schedule a public hearing process for its adoption.

WUI Mapping
The staff team has prepared a WUI Map that defines two areas of the city that are subject to wildfire hazards; the Foothills (Area A) and the Valley/Desert (Area B). We had also initially mapped what are called “Occluded” hazard areas as well, meaning smaller vacant parcels throughout the city from which wildfire hazards may originate and threaten adjacent structures. After conducting a field assessment of those areas, however, we have determined that for the most part they are not significant hazards and should not be included on the WUI Map, other than those that already lie within the broadly mapped foothills and desert hazard areas.

Draft WUI Fire Code Standards
We drew upon the 2009 version of the International Wildland-Urban Interface Code for the fire resistant building code standards that we have included in our final draft WUI Fire Code for Boise. The standards build upon the City’s current code requirement for non-combustible roofs in the foothills by requiring non-combustible roofs in the desert areas as well and by requiring that additional elements of new construction and major remodels include fire resistant materials and designs in both areas. The proposed WUI Fire Code also includes a requirement for defensible space around new development in both Areas A and B. To some extent the new standards are more stringent in the foothills area than in the desert area, because the risk of wildfire and the difficulty of fighting wildfire is greater in the foothills than in the desert.
The following is a summary of the proposed WUI Fire Code standards:

1. The WUI Fire Code will be enacted as Chapter 7 in the Fire Prevention Code.

2. Wildland-Urban Interface Areas are mapped and defined as the areas where the new WUI Fire Code standards are to be applied and enforced.

3. The Fire Chief or his designee is the Code Official who will administer the code, though conditions of approval, site plan review and building plan check review may also occur cooperatively with the PDS department.

4. Violations of the code may result in both criminal and civil penalties.

5. Appeals go first to the Fire Code Board of Appeals and then to the City Council if necessary.

6. Exceptions to the code requirements are granted to detached accessory structures less than 200 square feet in size and (except for the roofing provisions) to all structures in Area B (valley/desert) that do not lie on the outer perimeter of development.

8. All roofs in both Areas A and B must be Class A non-combustible and be firestopped at the end eaves.

9. Existing roofs must be replaced to meet class A standards when 50% or more is to be repaired. This is the same as the current fire prevention code which was put into place after the Foothills Fire in the 1990’s.

10. Siding materials must have ignition-resistant construction and the 50% replacement rule is in effect.

11. Eaves, soffits and facias must be protected on the exposed sides with 1-hour construction.

12. Exterior walls must meet one of several options for fire resistant construction.

13. Unenclosed underfloors and the underside of decks and projections must be 1-hour construction.

14. Exterior doors and windows must meet fire resistant standards.

15. Vents must be screened and/or located to exclude embers.

16. Emergency or secondary access must be provided if the development location does not meet adopted fire response standards.

17. Fire sprinklers are required for all buildings over 5,000 square feet in size in Area A. (foothills).

18. Defensible space with a minimum dimension of 30-feet is required around any structure that abuts undeveloped land. The first preference for meeting this requirement is that the defensible space be in a common lot or roadway around the affected perimeter of the development. If that is not practical, then the defensible space may be provided within a private yard area. This code section requires a landscape plan
and describes the type of landscaping that must be provided within a defensible space area and requires that maintenance responsibilities for the area be assigned within the CC&Rs for the development. Plant materials lists are further available as handouts to developers.

19. In Area B (valley/desert) if a development is to be phased and it is clear that the current outer edge will eventually become an internal part of the larger project, provision is made to allow an alternative 100-foot defensible space area to substitute for the non-roofing related building construction standards of this code.

20. A Fire Safety Plan for all developments of five units or more in Area A and all perimeter developments of five units or more in Area B must be prepared and submitted prior to preliminary plat approval. The Code Official must approve and retain this plan.

**Stakeholder Review Process**

This code has been reviewed at various stages with stakeholders, primarily builders. We first discussed an early draft with the PDS Ordinance Review Committee which we augmented specifically for that meeting with members from the Building Contractors Association (BCA). In response to their comments and concerns, considerable changes were made to the next draft version of the code.

Once we had a complete and modified draft, we scheduled a meeting with the Building Contractors Association to review it in more detail. A number of comments were received, such as asking for flexibility on defensible space location and allowances for perimeter units to not meet the new fire standards if there will be later phases that would cause those units to become interior to the development. As noted above, we did modify the code standards to accommodate those concerns.

Staff reviewed the draft one last time with the BCA on March 9th, 2010. The BCA did not express concern with the code amendment. One member who has a project that will be affected by the ordinance also stated that he had evaluated his project in terms of the standards and felt that it would still work.

**Anticipated Issues of Concern**

We believe this code is now ready for public hearing and adoption. While BCA has not protested the code so far, it is still possible that they will raise issues about the increased cost of construction that these standards will entail. They may also oppose the fire sprinkler requirement for structures over 5,000 square feet in the foothills, although this requirement has been in effect as a policy for a number of years. The staff team stands behind the proposed WUI standards as appropriate for the fire risk that development in WUI Areas A and B involves. We also feel that we used proper discretion and judgment in selecting among the various standards in the International Code with an emphasis on avoiding the most rigorous standards that are more appropriate in densely vegetated forest or chaparral settings and emphasizing the moderate standards appropriate to the Boise high-desert WUI setting.

Some major landowners in the desert or foothills areas may also ask that the City allow them to prepare their own WUI Plan as part of their master entitlement planning, similar to what Ada County has allowed for Avimor and other planned communities. We would strongly advise against allowing this kind of flexibility unless it was to augment the base City standards.
On the other side of the issue, we can anticipate that others may express concern that these standards do not force existing homeowners in the WUI areas to proactively modify their existing landscaping to meet the new defensible space standards. We do not believe it would be acceptable or effective to force homeowners to remove and re-landscape their yards by ordinance and would certainly be an ongoing enforcement problem. This is an issue that is more appropriately addressed through public education and incentives.

At the present time, BLM is working with a Central Foothills neighborhood on a grant application to reconstruct some existing private yard landscaping into fire-wise landscaping. This will be a valuable demonstration project that the City in partnership with BLM can use to educate homeowners across the WUI areas about the techniques, cost and aesthetics of smart landscaping standards.

The City may also be able to contract for additional work next year or beyond from the company (F.I.R.E.-Up) that did the “Redzone” fire hazard surveys in the foothills and occluded spaces last year. BLM remains a financial partner with F.I.R.E.-Up and could again pool resources with Boise for relatively inexpensive property surveys that will provide valuable data while also increasing public awareness of wildfire hazards.

**Scheduling**
We think it is important to have this code in place for the beginning of the summer construction season, even though new development this summer will probably be minimal. Since this is an ordinance it will require three readings and publication before going into effect. We have recommended that similar to a zoning code amendment, the public hearing should be held at the beginning of the readings so that any changes resulting from the hearing may be incorporated without re-conducting the entire reading process. This ordinance can be in effect by the end of May at the latest.

**Attachments:**

1. WUI Map
2. WUI Development Code Standards
ORDINANCE NO. _____________

BY THE COUNCIL: BISTERFELDT, CLEGG, EBERLE, JORDAN, SHEALY & THOMSON.

AN ORDINANCE APPROVING AND ADOPTING A NEW TITLE 7, CHAPTER 1, SECTION 69, BOISE CITY CODE TO ADOPT THE WILDLAND URBAN INTERFACE FIRE CODE; APPROVING A SUMMARY OF THE ORDINANCE; AND PROVIDING AN EFFECTIVE DATE.

NOW THEREFORE, BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF BOISE CITY, IDAHO:

Section 1. That Title 7, Chapter 1, Section 69, Boise City Code, be approved and adopted as follows

Section 7-01-69 AMENDMENT ADDING CHAPTER 49, WILDLAND URBAN INTERFACE CODE

4901 Scope

Upon the effective date of this ordinance, the requirements contained herein shall be applicable to all new structures and additions constructed within the Boise City Wildland-Urban Interface (WUI) Zones as illustrated by attachment 69-A. Design and construction of new structures within the WUI Zones shall comply with all the provisions of this chapter along with the current provisions contained within the International Fire Code, International Building Code and Boise City Zoning Code as adopted and periodically amended or updated. Should any provision within this chapter conflict with any other provision of Boise City Code, then this chapter shall control.

4902 Wildland-Urban Interface Zone Designations

The Wildland-Urban Interface Zones shall be depicted on maps available for inspection by the public. Zone “A” shall depict foothills fire hazard areas. Zone “B” shall depict valley, desert and other occluded fire hazard areas. These maps are generalized depictions of the WUI Zone boundaries. The Code Official shall have final authority in determining which lots shall be included within each zone. The reevaluation and review of the WUI Zones shall be conducted every three-years or more frequently as deemed appropriate by the Boise City Council.

4903 Authority of Code Official

The Chief of the Boise Fire Department or his/her designee (hereinafter “code official”) is hereby authorized to enforce the provisions of this code. The code official is

O-7-2010
empowered to render interpretations of this code and to adopt policies and procedures in order to effectuate the implementation and enforcement of the code provisions contained herein. Such interpretations, policies and procedures shall be in accordance with the intent and purpose of this chapter.

4904 Violation and Penalty

A. Criminal Penalties Any person, firm or corporation found guilty of violating any provision of this chapter shall be guilty of a misdemeanor, and upon conviction may be punished by a fine of not more than one thousand dollars ($1,000.00), by imprisonment for not more than one hundred eighty (180) days or by both. Each day, or any portion thereof, a violation of this chapter occurs or continues shall constitute a separate offense, and upon conviction thereof may be punished as provided above.

B. Civil Penalties Any person, firm or corporation violating any provision of this chapter may be assessed civil penalties in an amount of not more than two hundred dollars ($200.00) for a first offense and not more than one thousand dollars ($1000.00) for each subsequent offense. Each day, or any portion thereof, a violation of this chapter occurs or continues shall constitute a separate violation and a civil penalty may be assessed as provided above. The notice of violation shall state what violation(s) has occurred and state when and to whom the civil penalty must be paid. Failure to pay the assessed civil penalty may result in legal or other action by the City of Boise and the violator may incur reasonable collection costs.

4905 Appeal

Any person, firm or corporation aggrieved by any action or decision of the code official arising out of the enforcement of this chapter may appeal first to the Fire Code Board of Appeals, and then to the Boise City Council. Such appeal shall be made in writing and must be filed with the City Clerk within ten (10) calendar days after the action or decision which is the subject of the appeal. This appeal provision does not apply to criminal enforcement actions arising from the provisions of this code.

4906 Special Building Construction Regulations

Buildings and structures in WUI Zones “A” and “B” shall be constructed in accordance with the International Fire Code, International Building Code, Boise City Code and this chapter.

Exceptions:

1. Detached accessory structures not exceeding 200 square feet in floor area.
2. In WUI Zone “B” this chapter, with exception of roof coverings and repair of roof coverings, is only applicable to outer perimeter structures abutting undeveloped property.
4907 General

Buildings and structures hereafter constructed, modified or relocated into or within the WUI Zones shall meet the construction requirements in accordance with this chapter. Fire-resistant construction shall be in accordance with Sections 4908 through 4918.

4908 Roof covering

Roofs shall have a Class A roof covering or a Class A roof assembly. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers, or have one layer of 72-pound mineral-surfaced, non-perforated cap sheathing complying with ASTM D 3909 installed over the combustible decking.

4909 Replacement or repair of roof coverings

Roof coverings on buildings or structures in existence prior to the adoption of this code that are replaced or have 50 percent or more replaced in a 12-month period shall be replaced with a roof covering as required for new construction based on the type of ignition-resistant construction specified in accordance with Section 4908.

4910 Replacement or repair of siding

Siding coverings on buildings or structures in existence prior to the adoption of this code that are replaced or have 50 percent or more replaced in a 12-month period shall be replaced with a siding material as required for new construction based on the type of ignition-resistant construction specified in accordance with Section 4912.

4911 Protection of eaves

Eaves and soffits shall be protected on the exposed underside by materials approved for a minimum of 1-hour fire-resistance-rated construction, 1-inch (25.4 mm) nominal fire-retardant-treated lumber or ¾-inch (19 mm) nominal fire-retardant-treated plywood, identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code. Fascias are required and shall be protected on the backside by materials approved for a minimum of 1-hour fire-resistance-rated construction or 2-inch (51 mm) nominal dimension lumber.

4912 Exterior walls

Exterior walls of buildings or structures shall be constructed with one of the following methods:

1. Materials approved for a minimum of 1-hour fire-resistance-rated construction on the exterior side.
2. Approved non-combustible materials.
3. Heavy timber or log wall construction.
4. Fire-retardant-treated wood on the exterior side. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code. Such material shall extend from the top of the foundation to the underside of the roof sheathing.

4913 Unenclosed underfloor protection

Buildings or structures shall have all underfloor areas enclosed to the ground with exterior walls in accordance with Section 4912.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

4914 Appendages and projections

Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be a minimum of 1-hour fire-resistance-rated construction, heavy timber construction or constructed of approved noncombustible materials or fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 4912.

4915 Exterior glazing

Exterior windows, window walls, glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.

4916 Exterior doors

Exterior doors shall be approved noncombustible construction, solid core wood not less than 1¼ inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 4915.
Exception: Vehicle access doors.

**4917 Vents**

Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m²) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed ¼ inch (6.4 mm), or shall be designed and approved to prevent flame or ember penetration into the structure.

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

**4918 Detached accessory structures**

Detached accessory structures greater than 200 square feet in floor area located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for a minimum of 1-hour fire resistance rated construction, heavy timber, log wall construction or constructed with approved noncombustible materials on the exterior side.

When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 4912 or underfloor protection in accordance with Section 4913.

Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction. See Section 4908 for roof requirements.

**4919 Emergency Vehicle Access and Fire Sprinkler System Requirements**

Emergency vehicle access shall be provided in all designated WUI Zones in accordance with the provisions of the International Fire Code, Boise City Code and this chapter.

Any development located within WUI Zone “A” shall require approved fire sprinkler systems in dwelling structures if:

(a) the development is located more than one and one half (1.5) miles from any fire station, or
(b) the development is located in an area where the response time from the nearest fire station is greater than four minutes.

Fire sprinkler systems shall be required in WUI Zone “A” for all new residential buildings with a floor area in excess of 5,000 gross square feet.

4920 Defensible Space

Definition – Defensible Space. 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.

All newly constructed structures in Zones “A” and “B” shall be protected by a thirty (30) foot defensible space from undeveloped land. Defensible space may consist of the following, in order of preferred priority: a) a modified fire-resistive perimeter area within a common lot or roadway outside of individual lots lines; and/or b) a fire-resistive landscaped yard area within individual lot lines in accordance with National Fire Protection Association (NFPA) Standard 1144, “Standard for Reducing Structure Ignition Hazards from Wildland Fire”. The maximum building envelope for development sites must be identified on each parcel to provide adequate access around the structure for fire protection, and to provide a fire break.

The defensible space shall include a landscape plan and a description of maintenance responsibilities for the property providing the defensible space. Those responsibilities shall be included in the CC&R’s for the property.

Landscaping within defensible space shall have the characteristics of fire-resistive vegetation described as follows:

1. Growth with little or no accumulation of dead vegetation (either on the ground or standing upright).
2. Non-resinous plants (willow, poplar or tulip trees).
3. Low volume of total vegetation (for example, a grass area as opposed to a forest or shrub-covered land).
4. Plants with high live fuel moisture (plants that contain a large amount of water in comparison to their dry weight).
5. Drought tolerant plants (deeply rooted plants with thick, heavy leaves).
6. Stands without ladder fuels (plants without small, fine branches and limbs between the ground and the canopy of overtopping shrubs and trees).
7. Plants requiring little maintenance (slow-growing plants that, when maintained, require little care).

8. Plants with woody stems and branches that require prolonged heating to ignite.

In Zone “B,” when there is an approved phasing plan for expansion of the project beyond the perimeter currently being constructed, the temporary creation of 100-feet of defensible space may be substituted for the non-roofing related standards of this code, subject to approval of the fire official.

4921 Fire Safety Plan

Prior to preliminary plat approval, a fire safety plan shall be filed with any subdivision or Planned Unit Development within Zone “A” or with any perimeter subdivision or Planned Unit Development in Zone “B” that requires compliance with this code. The plan shall be based on a site-specific wildfire risk assessment that includes considerations of project size, location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistive factors, fire protection systems and equipment, defensible space and vegetation management. Developments with less than five (5) dwellings are not required to file a fire safety plan.

The fire safety plan shall be retained by the code official.

Section 2. That this Ordinance shall be in full force and effect from and after its passage, approval and publication.

Section 3. That the summary of this Ordinance, attached hereto as Exhibit A, is approved as to both form and content.

PASSED by the Council of the City of Boise, Idaho, this ____ day of ________________, 2010.

APPROVED by the Mayor of the City of Boise, Idaho, this ____ day of ________________, 2010.

APPROVED: ATTEST:

_____________________________   ______________________________
David H. Bieter               City Clerk
Mayor
EXHIBIT “A”

STATEMENT OF BOISE CITY ATTORNEY
AS TO ADEQUACY OF SUMMARY
OF ORDINANCE NO. _____________

The undersigned, Robert C. Lockward, in his capacity as Assistant City Attorney of the City of Boise City, Idaho, hereby certifies that he is a legal advisor of the City and has reviewed a copy of the attached Summary of Ordinance No. _____________ of the City of Boise City, Idaho, and has found the same to be true and complete and provides adequate notice to the public pursuant to Idaho Code § 50-901A(3).

DATED this _____ day of March, 2010.

_____________________________
Robert C. Lockward
Assistant Boise City Attorney

SUMMARY OF ORDINANCE NO. _____________
OF THE CITY OF BOISE CITY, IDAHO

PUBLIC NOTICE IS HEREBY GIVEN that the City of Boise City, Idaho, adopted at its regular meeting of _____________, March, 2010, that Ordinance No. _____________ entitled: Wildland Urban Interface Code.

This ordinance updates the Boise City Fire Code creating two wildland urban interface areas with heightened fire safety requirements for new development. The standards build upon the City’s current code requirement for non-combustible roofs in the foothills by requiring non-combustible roofs in the desert areas as well and by requiring that additional elements of new construction and major remodels include fire resistant materials and designs in both areas. The proposed amendment also includes a requirement for defensible space around new development in both areas.

The effective date of the Ordinance is the date of its passage, approval and publication.
A copy of the full text of the Ordinance is available at the Office of the City Clerk, 150 North Capitol Boulevard, in Boise, Idaho 83701. Examination may be requested in writing or in person during regular business hours of the Office of the City Clerk, from 8:00 a.m. until 5:00 p.m. pursuant to Section 50-901A(4), Idaho Code.

DATED this ______ day of March, 2010.

City of Boise City, Idaho

ATTEST:

____________________________________  ______________________________________
MAYOR                                   CITY CLERK