

May 14, 2003

Hon. Frederick P. Horn
Presiding Judge, Orange Superior Court
700 Civic Drive West
Santa Ana, CA 92701

Subject: Orange County Grand Jury Report, *Wood Roofs are Dangerous*

Dear Judge Horn:

We have received and reviewed the Orange County Grand Jury report *Wood Roofs are Dangerous*. The findings and recommendations of the report have been carefully considered and we are providing the following response to those findings and an explanation of the City's actions regarding community fire safety issues related to wood roofs.

For many years the City of Irvine has recognized the combustibility of wood roofs and our local environmental conditions that include Santa Ana winds and urban wildland interface areas. In 1982 the City amended its Building Code based on these local conditions to require wood shakes and shingles to be pressure treated and approved for fire retardant use. The State Building Code did not recognize an equivalent standard until the mid-1990's.

In 1993, the Laguna Beach fire threatened homes in our community and caused the evacuation of neighborhoods in the Turtle Rock area of the City. Fortunately, no lives or homes were lost in Irvine due to that fire. Subsequently, the City adopted an ordinance establishing Very High Fire Severity Zones for urban wildland interface areas in 1995 that has been codified into our Building and Fire Codes. Included in these City codes is a requirement for all roofs for both new construction and re-roofing applications in Very High Fire Severity Zones to have a Class A rating. The Class A fire retardant rating is the most fire resistive rating of the Class A, B, and C ratings established by the Uniform Building Code adopted by the California Building Code Standards.

City Code requirements to address community fire safety in Very High Fire Severity Zones go substantially beyond just Class A roofing requirements. City Building and Fire Codes require fuel modification areas that restrict plant types used for landscaping, building construction requirements which include fire sprinklers for structures in Very High Fire Severity Zones, and street width requirements to provide for fire fighting apparatus access and resident evacuation.

The citizens of Irvine have had the foresight to preserve much of this open space in its wild state, and the City has adopted special requirements to provide for community fire safety – both now and in the future – for homes and businesses adjacent to our open spaces.

To further improve community fire safety and to recognize improved fire ratings available for wood shingles and shakes, the City amended its Building Code in 1999 to require a Class A fire retardant rating for wood roofing materials used for new construction, and to require a Class B rating for wood roofing materials used for re-roofing applications outside of Very High Fire Severity Zones. While a lower Class B rating is permitted for re-roofing applications, it is important to note that both Class A and Class B rated fire retardant wood roofs use exactly the same wood shakes and shingles for the exterior roof covering. Only the underlayment material under the roof covering differs – not the wood shakes or shingles that have the potential exposure to flying burning brands and embers. This is also true for composition shingle roofs. Allowing a Class B rating for re-roofing applications obtains the same roof covering for these roofs while reducing the expense of re-roofing to Irvine residents.

Wood as a construction material, including wood roofing materials, is an important part of the architectural theme and heritage of some of our communities in Irvine, such as Woodbridge in the central part of the City. We believe that the City's approach to fire retardant wood roofs provides for both a high level of community fire safety and recognizes the importance of wood materials to the architectural aesthetics of our community.

None of the ten thousand new residential dwelling units constructed in Irvine over the past three years have been constructed with wood roofs. Their use is also becoming less common for re-roofing applications with more homeowner and homeowner association acceptance of the many different types of roofing products now available on the market.

In addition to the above information, the following is the City's response to Findings 1 through 4 and Recommendations 1 and 2 as required by Penal Code Section 933 and 933.05:

Findings:

- 1. There is a lack of uniformity in local building codes involving roofs for identical environmental conditions within Orange County.*

The City acknowledges that there are differences between cities' Building Code requirements for the fire retardancy of roofing materials. This is because most Orange County cities have recognized that their own climatic and urban-wildland interface conditions require a level of fire safety in roof construction that exceed the requirements of the California Building Code Standards. Cities have adopted local Building Code amendments to address the specific hazards within their communities and to protect their communities in a manner they believe is appropriate.

2. *The testing and qualification standards of wood shakes and shingles are below the environmental conditions of Orange County.*

The City relies on building code standards for the fire retardancy of roofing materials contained in the California Building Code Standards adopted by the State Building Standards Commission and the International Code Council (ICC) that are based on Underwriters Laboratories, Inc. specifications. The State Fire Marshal's Office has also reviewed testing of fire retardant-treated wood shakes and shingles and requires that they comply with ICC Evaluation Service Acceptance Criteria AC107 and the weathering requirements contained in State Health and Safety Code Section 13132.7 (j).

Concerns regarding these standards should be addressed to the above agencies for response.

3. *The cities' and county's roofing codes do not adequately take into account the climate, particularly the Santa Ana winds, and topographical conditions unique to Orange County.*

The City believes that it has adequately and responsibly addressed the local climatic and topographic conditions related to the fire safety issues related to wood roofs. The City recognizes that Santa Ana winds create the potential for conflagrations and that urban-wildland interface areas need special fire safety mitigation. For all new construction, the City requires a Class A rating for wood shake and shingle roofs in all areas of the City. For re-roofing applications, the City requires a Class A rating for wood shake and shingle roofs in Very High Fire Severity Areas and a Class B rating in other parts of the City. However, it should be noted that the same fire retardant treated shake or shingle is used as the roof covering in both the Class A and Class B roofing application. The City requires a minimum of a Class B fire rating for other roofing materials for all types of occupancies, which meets and in most cases exceeds the requirements of the State Building Standards Code.

4. *Fire conflagrations stress finite fire fighting resources especially during the period of Santa Ana winds.*

The City agrees with this finding. The Laguna Beach fire in 1993 threatened portions of our community and required mutual aid response from the State and federal level. Due to local Santa Ana wind conditions and urban-wildland interface areas in the City, the City has adopted codes and development standards to address these local fire safety concerns for not only wood roofs, but also for other elements of building construction. For example, the City's Building Code requires all buildings larger than 6,000 square feet, and all multifamily dwellings with 3 or more units, have an automatic fire sprinkler system – an important early fire suppression element that reduces the potential for multi-structure conflagrations. The City recognizes that these measures reduce – but do not entirely eliminate the potential for loss of life or property due to fire and therefore

actively participates in multi-agency emergency management planning. The Orange County Fire Authority provides fire department services for the City and should be contacted directly regarding specific information regarding fire fighting resources and planning for fire conflagration scenarios.

Recommendations:

1. *Each responding jurisdictional agency should consider amending the building code to require the most fire retardant class of roof covering (Class A) for new construction of all residential structures (Group R) in all fire zones. (Findings 1 through 4)*

The City's Building Code is consistent with this recommendation as it relates to wood roofs. The City's Building Code already requires a Class A rating for wood shake and shingle roof coverings for all new structures. A minimum Class B rating or higher is required for other roofing materials for all new structures except in Very High Fire Severity Zones, where a Class A rating is required for all roofs.

2. *Each responding jurisdictional agency should consider amending the building code to require the most fire retardant class of roof covering (Class A) for re-roofing of all residential structures (Group R) in all fire zones, when more than 50 percent of the roof is replaced within one year. (Findings 1 through 4).*

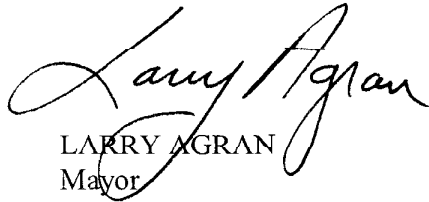
The City's Building Code requires residential re-roofing applications to have a Class A rating in Very High Fire Severity Zones and a Class B rating in other areas of the City. As stated earlier, for wood roofs as well as composition shingle roofs, the shakes and shingles used for a Class B rated application use exactly the same shakes and shingles that are used for a Class A rated application. The only difference is the underlayment that is under the shakes or shingles and is not exposed to the exterior. This underlayment is an additional cost and weight item in re-roofing applications. The City is not aware of, and the Grand Jury report did not indicate that there are fire safety issues with non-wood roofing materials that warrant requiring all re-roof applications outside of Very Fire Hazard Severity Zones to have a Class A rating.

The City of Irvine appreciates the Grand Jury's investigation of this important community safety issue. As our response indicates, the City has also considered this issue for many years and has adopted codes to address the fire safety hazards our community faces from Santa Ana wind conditions and development at the urban-wildland interface. The City believes its Building Code requirements for roofing fire retardancy ratings very rationally address both the fire safety issues as well as recognize community architectural aesthetic values and heritage regarding the use of wood materials. The City believes having a Class B requirement for re-roofing applications outside of Very High Fire Severity Zones is a more economical alternative for residents that results in the use of roof covering materials for wood or composition roofs that are identical to the Class A rated application.

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Please contact Eric Tolles, our Chief Building Official, at (949) 724-6453 if you have questions regarding the City's response or would like additional information about the City of Irvine's code requirements for fire safety in building construction.

Sincerely,



LARRY AGRAN
Mayor

cc: City Council
City Manager
Assistant City Manager
Director of Community Development
Chief Building Official
Hugh Wood, OCFA Fire Marshal
Orange County Grand Jury