



Date: April 15, 2011

To: Thomas J. Bonfield, City Manager

Through: Theodore L. Voorhees, Deputy City Manager

From: Bruce T. Pagan, Jr., Fire Chief

Subject: An Ordinance Regulating Mulch Near Buildings

Executive Summary

The use of pine straw as a decorative landscaping material around buildings has been determined to be the cause of several large fires in the Triangle area resulting in significant fire loss from property damage. Several local municipalities have adopted ordinances prohibiting the use of pine straw as mulch within ten feet of buildings, apartments and townhomes with common attics.

Recommendation

Staff recommends that the City Council adopt an ordinance regulating the use of pine straw and other similarly flammable mulch near buildings, thereby amending the Durham City Code by adding a new section to the Fire Prevention Code (Article III, Division 2, Chapter 46) entitled "*Use of Pine Straw Mulch.*"

Background

Pine straw is widely used decorative mulch that stimulates plant growth, while prohibiting the growth of weeds and repelling termites. It is versatile and affordable, but ignites very easily due to the dry composition of the pine needles. Pine straw has been determined to be the cause of several large fires in the Triangle resulting in the destruction of townhomes and apartments. The following municipalities have prohibited the use of pine straw within ten feet of any combustible structure such as a townhouse or apartment building: the Town of Apex, the Town of Cary, the Town of Chapel Hill, the Town of Morrisville and the City of Raleigh. The North Carolina Fire Code exempts one and two family dwellings and townhouses (as defined in the North Carolina Residential Building Code) from the requirements of the North Carolina Fire Code. Like the North Carolina Fire Code, the attached ordinance exempts one and two family dwellings from coverage. However, the proposed ordinance covers townhomes which are more similar to multi-family buildings. The attached ordinance provides that the City Manager or designee shall adopt a policy to implement this section. Such policy shall among other things define what is meant by "combustible exterior construction." Violation of the attached ordinance may result in the violator being charged with a misdemeanor, fine or other sanctions set forth in Article III, Division 2, Chapter 46 of Durham City Code.

Issues/Analysis

From testing data documented in a joint effort by the National Institute of Standards and Technology (NIST), the Building and Fire Research Laboratory (BFRL), the University of Florida, and the United States Forest Service Research Station, the flammability characteristics of pine straw have been tested and documented to show that pine straw has inherent properties that yield high ignitability, flame spread and heat release rate. Its low surface area to mass ratio makes it easy to ignite and

quick to be consumed. Its resin content produces high heat release rates when compared to other landscape mulches such as large pine bark, small pine bark and cypress. Testing has shown that after pine straw is ignited the rate of spread is 90 inches per minute, the temperature will reach 706 degrees, the flame height will extend vertically 21.9 inches and the burn depth is 4.4 inches. This easily surpasses the results found for other decorative landscaping materials such as: large pine bark, small pine bark and cypress.

Alternatives

The alternative to adopting the proposed city code amendment would be to continue to allow pine straw to be utilized as a decorative landscaping material around combustible structures such as townhouse units with common walls and attics and all multi-family dwellings. The second alternative would be to seek an amendment to the N.C. State Building Code (Fire Prevention Code) and this would take much longer to accomplish.

Financial Impact

There will be no financial impact to the City.

SDBE Requirements

SDBE requirements are not applicable.