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# CITY OF KELOWNA

## MEMORANDUM

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**Date:** January 19, 2005  
**File No.:** 6300-09  
**To:** City Manager  
**From:** Parks Manager  
**Subject:** Fuel Management Plan for City Properties  
Prepared by: Ian Wilson, Urban Forestry Supervisor

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### **RECOMMENDATION**

THAT Council receive for information the January 19, 2005 report on a Fuel Management Plan for City owned properties.

AND THAT staff proceed with a pilot wood waste disposal project, as detailed in this report, with staff to report back on the results.

### **BACKGROUND**

The Parks Division has been performing fuel modification treatments in city parks since 1998, but has received many more requests for these treatments since the Okanagan Mountain Park Fire. As well, Parks was asked in 2004 to begin assessing and performing fuel modification treatments on additional city-owned properties that were not parks. An inventory of these properties in early 2004 indicated a total of more than 165 forested city owned properties and right-of-ways, encompassing about 850 hectares.

In order to develop a comprehensive plan for dealing with these areas, a Fuel Management Strategy was recently completed for the City's Parks Division by a team of consultants, led by Diamondhead Consulting Ltd. and Timberline Forest Inventory Consultants of Vancouver, B.C. This project was part of a larger request for proposal issued by the Parks Division, the City's Planning and Corporate Services Department and Regional District Parks. A portion of the funding (\$15,000) for the City project was received through a successful grant application to the Union of B.C. Municipalities.

Now that the project has been completed, the City and RDCO have some very powerful and detailed analyses of fire hazard across the city as well as some excellent management tools for prioritizing fuel modification treatments. Kelowna is at the forefront of B.C. municipalities in terms of the ability to manage fire hazard and fuels.

### **OVERVIEW OF THE FUEL MANAGEMENT STRATEGY**

Through the use of the city's aerial photos, mapping tools, and ground checks, all of the city owned properties were classified according to wildfire hazard (based upon factors such as values at risk, fuel types, terrain, suppression constraints etc.) and prioritized for fuel

modification treatments. General prescriptions were developed as well as approximate costs of treatment:

<b>Priority</b>	<b>Estimated Cost</b>
Very High	\$38,883
High	\$65,183
Moderate	\$358,289
Low	\$211,267
<b>TOTAL</b>	<b>\$673,622</b>

Note that these estimated costs by the consultant are thought to be very conservative as they are based upon average costs per hectare which will vary according to the situation and the terrain. Fuel modification treatments over the last few years have significantly reduced the areas in the “Very High” or “High” categories but a few more of these areas remain to be addressed. In general, the consultant felt that existing fuel modification treatments were very good but recommended that these treatments be expanded in some areas.

Due to in-growth of treated areas, the consultant also recommended that areas be re-assessed every 5-6 years and re-treated every 7-10 years as required.

In addition to prioritizing treatment areas and developing general treatment prescriptions, the consulting team also developed fuel treatment guidelines for parks that are acquired in the future, existing city owned right of ways, and a standard fuel hazard assessment form to be used by staff when assessing risk in response to public concerns.

## **CHALLENGES AHEAD**

The Parks Division intends to continue with the fuel modification program by addressing areas in order of priority. Funding received from a partnership with Human Resources Development Canada has been critical to the success of this program and it is hoped that it will continue in 2005.

While the consultant has developed general prescriptions for areas to be treated, more detailed site prescriptions and documentation will still be required at each site. As well, the consultant recommends that sensitive ecosystems be assessed in areas where there may be important riparian or wildlife habitat.

A key challenge will be that some of the remaining areas identified for fuel modification in the plan are inaccessible or very steep. Fuel modification in these areas will likely be very difficult or unsafe for workers to haul fuels out by hand. There are approximately 6.4 ha of “Very High” and 2.9 ha within the “High” category with very difficult access. Within the “Moderate” category there is a much larger area.

Two main options exist in inaccessible areas:

- Thinning and removal of fuels using a helicopter; or
- Piling and burning of fuels in clearings on the forest floor.

While a helicopter operation would be relatively quick, it would also be very expensive, noisy and potentially disruptive to neighbours. Procedures must also be put in place to ensure public and worker safety. Helicopter logging of the Crawford Canyon (approximately 9 hectares) after the Okanagan Mountain Park Fire cost \$87,000. While the current fuel modification budget for

2005 is set at \$130,000, any spending on helicopter costs etc. will reduce the total area that may be treated in 2005, therefore additional funding at final budget may be required if the City intends on eliminating in 2005 those areas currently identified as high or very high priority areas. Therefore, it will take longer to address some areas, particularly those in the "Moderate" category if we choose more expensive fuel modification measures without additional funding

Piling and burning is inexpensive by comparison but may result in concerns with regard to air quality, and must be done when the weather is conducive to open burning without the risk of an escape. Also, burning works best and results in less smoke when piles of dead material are allowed to dry out, but leaving piles of debris on the forest floor for any length of time is not desirable.

Another recommendation from the consultant is that the City should consider prescribed burning in selected areas, as a method of managing fuels. Prescribed burns can be very effective but would require extensive planning and preparation to ensure that the fire does not escape and to manage smoke. At this time Parks is not planning to conduct any prescribed burns.

We propose to conduct a small pilot project, with one area to be treated by helicopter logging and the second area through piling and burning. The areas will be chosen in conjunction with the Kelowna Fire Department, who will be monitoring the burning operation to ensure that smoke is minimized.

This will help determine the best option for dealing with remaining areas, and will also assist the Planning and Corporate Services and Fire Department in advising private landowners who are looking for possible treatment options on their own properties.

In advance of any activities, neighbours will be notified through the media and letters dropped off at houses that are immediately adjacent to the treated areas.

Staff will monitor this exercise and report back to Council as to:

- Actual costs per hectare;
- The amount of time required to complete the project;
- Departmental concerns or issues;
- Complaints or comments received from the public or other Departments; and
- Recommendations as to which option (or combination of options) should be followed in the future.

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Joe Creron, Parks Manager

c.c.     Director of Parks and Leisure Services  
           Urban Forestry Supervisor  
           Environment Manager  
           Fire Chief  
           Director of Planning and Corporate Services