



REPORT TO COUNCIL City of Sacramento

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Staff Report
March 28, 2006

Honorable Mayor and
Members of the City Council

Subject: Urban Forest Enhancement Program Implementation – English Elm
Preservation Project Update

Location/Council District: Citywide, All Council Districts

Recommendation: For information only

Contact: Joe Benassini, Urban Forest Services Manager, 808-6258

Presenter: Joe Benassini, Urban Forest Services Manager

Department: Parks and Recreation

Division: Urban Forest

Organization No: 4713

Summary:

This report is an informational update on the status of the Urban Forest Enhancement Program. The last update was provided to the City Council on August 30, 2005.

Committee/Commission Action:

The Parks and Recreation Commission heard an informational update on the Urban Forest Enhancement Program on March 2, 2006.

Background Information:

In 2004, the City hired an industry expert to provide a Best Management Practices Study and Report for Urban Forest Services. The results of that study and report, along with community input from an ad hoc committee, resulted in the Best Management

Practices Implementation Plan and the Urban Forest Enhancement Program (Attachment A). The City Council approved the Urban Forest Services Best Management Practices Implementation Plan and the Urban Forest Enhancement Program in March of 2005.

The Urban Forest Enhancement Program includes ten phases and is composed of the English Elm Preservation Project, a City-wide inventory of all public trees, systematic proactive tree care operations, and an urban reforestation effort. The English Elms are among the oldest and most historic trees in Sacramento, some dating as far back as the 1870's. They are the dominant tree in Sacramento's skyline, especially in the central city and midtown areas. The purpose of the English Elm Preservation Project is to identify and remove structurally unsound trees resulting from past mismanagement during the mid 1900s and to provide remedial care to those trees identified as candidates for preservation.

In March 2005, City Council approved the Best Management Practices Implementation Plan and the Urban Forest Enhancement Program comprising of 10 phases. The City Council at that time appropriated \$600,000 to implement Phase 1 of the Urban Forest Enhancement Program. Phase 2, currently unfunded, is directed at the citywide tree inventory (Attachment A). The remaining phases address the balance of the English Elms.

In August 2004, the Sacramento Tree Foundation conducted an English Elm population survey and estimated that approximately 1,700 mature English Elms existed within public rights of way and City parks. Urban Forest Services staff re-evaluated the Sacramento Tree Foundation's English Elm survey in August 2005 and reduced the original estimate to approximately 1,400 trees to compensate for trees removed in the interim as a result of Dutch Elm Disease and other failures and due to errors in identification of other Elm species, primarily within William Land Park.

In July 2005 the Urban Forest Services Division contracted Britton Tree Services to provide aerial inspections and findings regarding approximately 20% of the English Elm population within the City. Ultimately, 236 trees were assessed representing approximately 17% of the estimated English Elm population. The City Council approved a contract with West Coast Arborists in November 2005 to perform the remedial work.

The Britton report recommended that 67 (28%) of the inspected trees be removed. In addition to the trees recommended for removal, 88 trees were candidates for heavy pruning to reduce crown size, and 81 trees were recommended for general pruning to thin and to improve overall structure. Approximately 25% of the trees had moderate to significant decay associated with old topping cuts. The decay is typically manifested as heart rot within the center of the trunk. If severe enough, removal of the tree was warranted to protect public safety. Importantly, the number of trees recommended for

removal was well below the amount anticipated by staff, which had estimated as many as 50% of the total trees inspected would need to be removed.

Beyond the analysis of decay from old topping practices, 104 of the trees (44%) inspected by Britton had visible cracks in scaffold branches. The substantial presence of cracks in major limbs was perhaps the most significant finding of the study, corresponding to the fact that the Urban Forest Services field staff responds to an inordinate number of service calls throughout the growing season related to Elm branch failures. Presently, these responses require the attention of at least one full-time crew. These cracks are generally observed to be along the length of the branches following the grain of the wood, and are the result of excessive end weight. The cracks are a common condition where new branches are forced from near the topping wounds.

The Britton report recommends that remedial care be focused on removal of decayed trees, removal of cracked limbs, and pruning to reduce and/or thin the outer portions of the tree canopies. Where pruning would remove more than 40% of the canopy, removal is recommended due to potential impacts to tree health and the likelihood of further decay. Trees that require severe pruning in an effort towards temporary preservation should be removed during the next maintenance cycle or as soon as new trees are established. Where this is not feasible, the trees should be placed on a maximum three to five year maintenance cycle.

Implementation of the criteria provided by the Britton report recommendations, coupled with a completed inventory and implementation of a comprehensive work management system (included in Phase 2 of the Urban Forest Enhancement Program but unfunded), will significantly reduce the City's exposure to risk and substantially improve the condition of the City's large canopy trees.

In an effort to offset the impact of removal of the English Elms, and separate from reforestation in the Urban Forest Enhancement Program, 2,400 replacement trees are being planted during the 2005-06 planting season, distributed equally throughout all City Council Districts. This reforestation effort is the result of a partnership between Urban Forest Services, the Sacramento Tree Foundation, and the Sacramento Municipal Utility District. Urban reforestation is projected to continue during each remaining phase of the Urban Forest Enhancement Plan and includes the installation of 1,000 additional trees per phase.

Given the substantial presence of cracks in branches, staff is considering options to accelerate the English Elm Preservation Project to incorporate a minimum of 20% per phase rather than the current 10%, thereby reducing by half the time to completion. Urban Forest Services is in the process of identifying viable options for project acceleration. Staff will return to the City Council in the near future to present English Elm Preservation Project acceleration options.

Financial Considerations:

Of the \$600,000 authorized by the City Council, \$95,000 was allocated to the consultant's aerial inspections and report, and a total of 236 trees were inspected. The remaining \$500,000 was allocated to tree removals and remedial care under a contract with West Coast Arborists and is currently being executed. Under that contract and within the scope of the report, 67 trees will be removed, and 169 trees will be pruned.

Urban Forest Services staff is currently implementing recommendations as provided for in the Britton report. As previously noted, the number of removals recommended is considerably lower than staff had estimated, resulting in lower than expected costs. Therefore, an additional 52 English Elm trees outside the scope of the Britton report and judged to be in critical need of attention due to risk were added to the West Coast Arborist contract. Of this number, 10 trees were completely removed, and 42 trees were pruned to reduce risk.

Environmental Considerations:

Under the California Environmental Quality Act (CEQA), the environmental impact is considered insignificant during the English Elm Remediation process. The loss of canopy cover will be offset by the reforestation program with appropriate species and additional planting throughout the City to ensure a healthy and growing urban forest for generations to come.

Policy Considerations:

The City is a signatory in the Tree Foundation's Greenprint Initiative, a regional urban forestry framework encompassing a six county area surrounding Sacramento. The initiative seeks to maximize the benefits of our City trees by increasing canopy coverage and by emphasizing proper care, education, policy and public involvement. Air quality, water quality, and energy savings all benefit from trees.

Implementation of the Urban Forest Best Management Practices and improvements for Urban Forest Services will insure the longevity of existing trees and includes a proactive planting program to increase the number of trees to a recommended canopy standard.

This report is consistent with the City's strategic plan to achieve sustainability and livability and to expand economic development throughout the City. It is also consistent with the City Council adopted 2004-2010 Parks and Recreation Master Plan policy statements to recognize the City's Urban Forest as a unique attraction for economic development and investment (Policy Section 7.0, Policy 4.4) and enhance, restore and protect existing natural resources (Policy Section 7.0, Policy 10.1).

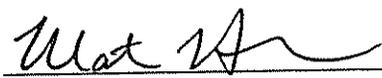
Emerging Small Business Development (ESBD):

No goods or services are being procured with this report.

Respectfully Submitted by: 

ROBERT G. OVERSTREET II
Director of Parks and Recreation

Recommendation Approved:



RAY KERRIDGE
City Manager

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ATTACHMENT A

**City of Sacramento
 Urban Forest Enhancement Program**

Introduction

Sacramento has a long and proud history as the “City of Trees”. The urban forest within the City of Sacramento is estimated to include about one million trees. Of this amount, approximately 120,000 are City owned trees located along streets, in parks, and in other public places. It is well known that a healthy and well-managed urban forest provides many benefits such as improved property values, energy conservation, cleaner air, and community pride.

City staff has developed a proposed phased program to address the current needs of Sacramento’s urban forest.

The objectives of the program outlined below include the following:

- Address the aging English Elms within the City (approx. 1,700 trees).
- Complete a citywide Tree Inventory.
- Eliminate the backlog in tree maintenance and establish proactive pruning cycles.
- Accomplish citywide preservation and reforestation goals.

Phase 1 - (Request pending for \$600,000 FY04-05 midyear budget augmentation)

English Elm Preservation Project (Assess and take action on 20% of English Elm trees, plus start-up costs for program, such as equipment, etc.)	\$600,000
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	Total
	\$600,000

Phase 2

Complete citywide tree inventory	\$600,000
Reforestation Planting (approx. 1,000 trees)	\$100,000

	Total
	\$700,000

Phase 3

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Begin proactive pruning	\$340,000
Reforestation Planting (approx. 1,000 trees)	\$100,000

	Total
	\$690,000

Phase 4

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$340,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$690,000</u>

Phase 5

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$340,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$690,000</u>

Phase 6

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$340,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$690,000</u>

Phase 7

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$140,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$490,000</u>

Phase 8

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$140,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$490,000</u>

Phase 9

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$130,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$480,000</u>

Phase 10

English Elm Preservation Project (Assess and take action on 10% of English Elm trees)	\$250,000
Continue proactive pruning	\$130,000
Reforestation Planting (approx. 1,000 trees)	\$100,000
Total	<u>\$480,000</u>

Ten-phase Total = \$6,000,000

City of Sacramento

Department of Parks and
Recreation
Urban Forest Services Division

Urban Forest Enhancement Program

- 10 phase program
- Implements many of the BMP report action items
- Includes
 - **English Elm Preservation Program**
 - Urban reforestation
 - Comprehensive inventory of public trees
 - Regular proactive block pruning

Urban Forest Enhancement Program Phases 1-5

1. Evaluate and treat 20% of elms
2. **Compose tree inventory, reforestation (1000 trees)**
3. Evaluate and treat 10% of elms, reforestation (1000 trees), begin systematic proactive pruning
4. Evaluate and treat 10 % of elms, reforestation (1000 trees), continue proactive pruning
5. Evaluate and treat 10% of elms, reforestation (1000 trees), continue proactive pruning

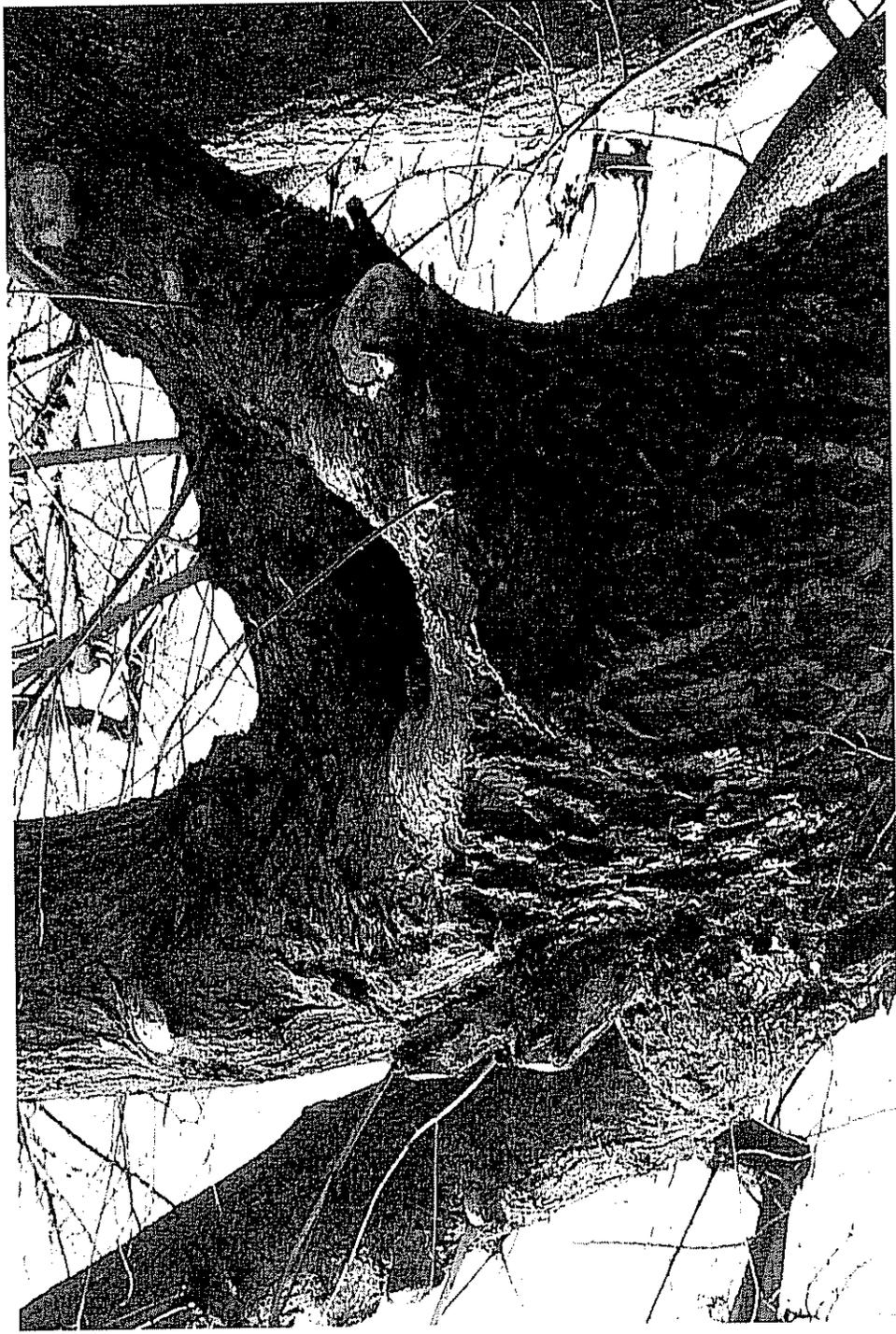
English Elm Inspection Results

- 236 trees inspected
- 67 trees to be removed
- 169 trees to be pruned
- Decay from topping progressing, but less advanced than originally thought
- De-lamination (cracks) of branches presents additional concern

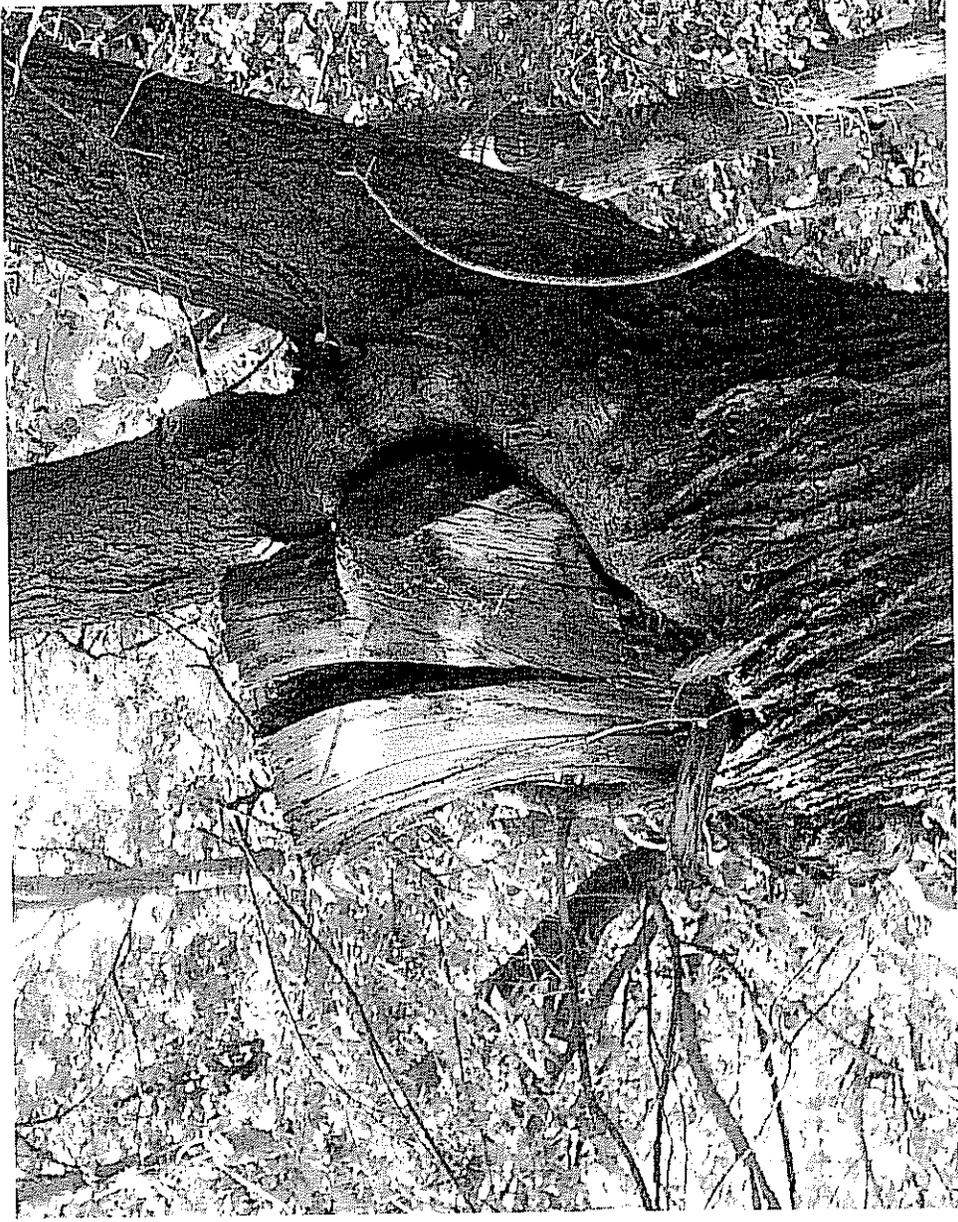
Topped English Elm



Cavity due to topping injury



Result of old topping treatment



Topped area - new epicormic growth has
grown over cavity from decay, exposed
only after branch failed



Re-growth of epicormic sprouts



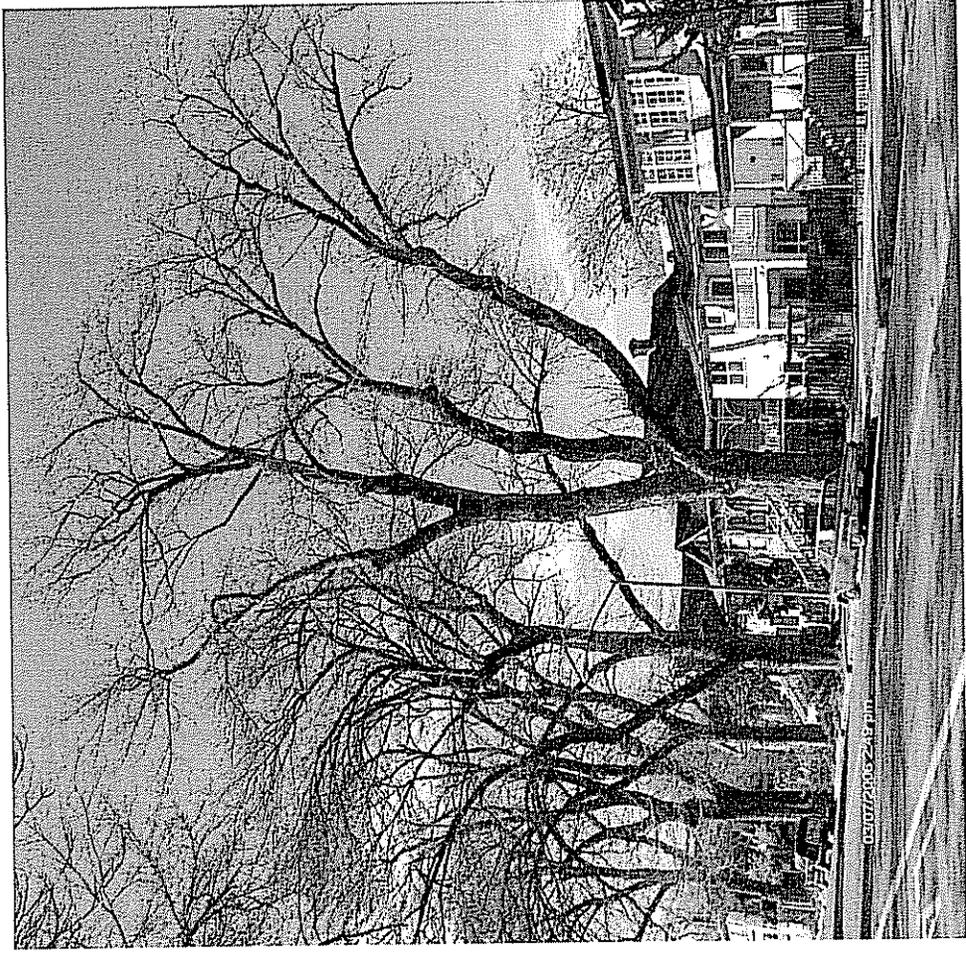
De-lamination due to poor branch
taper and end weight



De-lamination and cavity with a visitor



English Elm remedial pruning



2400 new trees –
building canopy cover
one tree at a time

