



Source: Parks and Recreation *AK*

Agenda Item No: REP 149-12

To: City Council
From: City Manager and Staff *MM*

Council Meeting Date: September 17th, 2012

Re: Hazardous Tree Removal Report: Lions-Stephens Park

EXECUTIVE SUMMARY:

The Columbia Parks & Recreation Department is reporting the removal of a Swamp White Oak on August 29th, 2012 at Lions-Stephens Park located along N. Williams Street on the west side of the park due to an identified immediate threat to the safety of the public. The Swamp White Oak tree with a 54-inch diameter at breast height (DBH) had experienced several major failures of its crown and scaffolding branches. An unknown number of years ago, the main trunk of the tree failed at a point about 25 feet off the ground and the tree lost two more major scaffolding limbs (18+ inches in diameter) in the past year. An inspection of the tree revealed that the top 1/3 remaining portion of the trunk was hollow with rot of the trunk below that point causing the tree to become very unstable. One of the large scaffolding limbs fell directly onto the walking trail within the park which led to the decision to remove the tree based on the current condition of the tree and safety of the park users. Copies of the Tree Hazard Evaluation Forms and photos are attached. The Parks and Recreation Forestry Staff planted 4 trees within the general vicinity of the location of the Swamp White Oak approximately 3 years ago to prepare for the possible failure of the tree.

DISCUSSION:

In February of 2009, the Columbia Parks & Recreation Department was asked by the City Council to develop a report relating to the removal of larger trees within the park system which may be perceived as significant to the public and/or the use of the park. The report recommended a policy which outlined the procedures to be followed whenever large trees were to be removed due to either being a public safety hazard or due to park development. In summary, the P&R tree removal procedure for hazardous trees now includes the following key elements:

1. Tree Hazard Evaluation Forms will be completed by the Department's certified International Society of Arboriculture Forester.
2. Trees larger than 20-inch Diameter at Breast Height (DBH) but smaller than 30-inch DBH must have the approval of the Park Development Superintendent and the Park Services Manager to be removed.
3. Trees larger than 30-inch DBH must have the approval of the P&R Director who will notify Council that the tree or trees will be removed.
4. Any size tree that presents an immediate danger to the public shall be removed immediately.

The Parks and Recreation forestry staff removed a mature Swamp White Oak with a 54" DBH on the west side of Lions-Stephens Park on August 29th, 2012 due to the loss of two large scaffolding branches and the overall health of the tree. During an inspection of the tree this summer, Park Forestry staff discovered that a large portion of the tree was rotting which could ultimately cause the complete failure of the tree. An unknown number of years ago, the tree lost a large portion of the main trunk and the top 1/3 of the tree was completely hollow. The remaining portion of the trunk showed visible signs of rotting and decay. The two main scaffolding branches remaining on the tree were located within the hollow portion of the tree resulting in a high potential of future failure of those branches. One of the branches extended directly over the main sidewalk access to the park shelter and playground. That branch showed visible signs of a rotting cavity with stress fractures around the site of the wound. The tree had a large portion of living canopy, but the visual signs of decay and hollow trunk presented a clear danger to park users due to the failure of the scaffolding branches and potentially the entire tree.

The Swamp White Oak had reached a mature growing age. The majority of the decay within the body of the tree was due to reaching such a mature growing age in conjunction with two straight summers with excessive heat and drought conditions. Recognizing that some of the existing trees within the park would eventually be

lost to age, storms, disease, or other acts of nature, the park forestry staff took a proactive approach towards this tree approximately three years ago by planting four replacement trees in the area to prepare for the eventual failure of the tree. The area now contains 3 White Oak trees and 1 Red Oak tree that will eventually fill in the space that was occupied by the mature Swamp White Oak.

Unfortunately, Forestry staff is concerned that due to the recent drought, several trees in the park system, especially those most recently planted and those that are 30+ year old have received damage to the point of being susceptible to damage from high winds.

FISCAL IMPACT:

There is no fiscal impact to this report.

VISION IMPACT:

<http://www.gocolumbiamo.com/Council/Meetings/visionimpact.php>

There is no vision impact to this report.

SUGGESTED COUNCIL ACTIONS:

Report provided for Council Information.

FISCAL and VISION NOTES:					
City Fiscal Impact Enter all that apply		Program Impact		Mandates	
City's current net FY cost	\$0.00	New Program/ Agency?	No	Federal or State mandated?	No
Amount of funds already appropriated	\$0.00	Duplicates/Expands an existing program?	No	Vision Implementation impact	
Amount of budget amendment needed	\$0.00	Fiscal Impact on any local political subdivision?	No	Enter all that apply: Refer to Web site	
Estimated 2 year net costs:		Resources Required		Vision Impact?	No
One Time	\$0.00	Requires add'l FTE Personnel?	No	Primary Vision, Strategy and/or Goal Item #	
Operating/ Ongoing	\$0.00	Requires add'l facilities?	No	Secondary Vision, Strategy and/or Goal Item #	
		Requires add'l capital equipment?	No	Fiscal year implementation Task #	

**Parks Services Natural Resources
Tree Hazard Evaluation Form**

Site/Address: Lion Stephens Park

Map/Location: West side of park, along N. William St.

Owner: public private unknown other

Date: 7/12/12 Inspector: David Dittmer, Eric Schmittel, Brett Obrien

Date of last inspection: unrecorded: c2002

HAZARD RATING:						
3	+	3	+	3	=	9
Failure Potential of part		Size Rating		Target Rating		Hazard Rating
<input checked="" type="checkbox"/> Immediate action needed <input type="checkbox"/> Needs further inspection <input type="checkbox"/> Dead tree						

TREE CHARACTERISTICS

Tree#: _____ Species: Swamp White Oak

DBH: 54" # of trunks: 1 Height: 40 Spread: 120

Form: generally symmetric minor asymmetry major asymmetry stump sprout stag-headed

Crown class: dominant co-dominant intermediate suppressed

Live crown ratio: 95 % Age class: young mature over-mature

Pruning history: crown cleaned excessively thinned topped crown raised pollarded crown reduced none

Special Value: specimen heritage/historic wildlife unusual street tree screen shade indigenous other

TREE HEALTH

Foliage color: normal chlorotic necrotic Epicormics? Y N

Foliage density: normal sparse Leaf Size: normal small

Annual shoot growth: excellent average poor Twig dieback? Y N

Callus development: excellent average poor none

Major pests/diseases: _____

SITE CONDITIONS

Site character: residence commercial industrial park open space natural

Landscape type: parkway raised bed container open

Irrigation: none adequate inadequate excessive trunk wetted

% dripline paved: 0% 10-25% 25-50% 75-100% Lifted? Y N

% dripline w/fill soil: 0% 10-25% 25-50% 75-100%

% dripline grade lowered: 0% 10-25% 25-50% 75-100%

Soil problems: drainage shallow compacted droughty saline alkaline acidic small volume disease center history of fail

Obstructions: lights signage line-of-site view overhead lines underground utilities traffic adjacent veg. _____

Wind (tree position) single tree below canopy above canopy recently exposed windward, canopy edge area prone to windthrow

TARGET

Use under tree: building parking traffic pedestrian recreation landscape hardscape small features

Can target be moved? Y N

Occupancy: occasional use medium, intermittent use frequent use

TREE DEFECTS: _____

Rate defect severity: S severe defect, high potential for failure
 M defect of moderate severity
 L defect of low severity

LEAN: _____ deg. From vertical natural unnatural Soil heaving: Y N
 Decay in plane of lean: Y N Roots exposed: Y N Soil cracking: Y N
 Compounding factors: _____ Lean severity: S M L

ROOT DEFECTS:

Suspect root rot: Y N Mushroom/conk present: Y N ID: _____
 Exposed roots: S M L Undetermined: S M L
 Root pruned: _____ ft from trunk Root area affected: _____ % Buttress wounded: Y N When: _____
 Restricted root area: S M L Potential for root failure: S M L

CROWN DEFECTS:

DEFECT	ROOT CROWN	TRUNK	BRANCHES	MAP
Poor taper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Codominants/forks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Multiple attachments	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Included bark	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cracks/Splits	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Girdling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wounds	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Decay	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Cavity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Conks/Mushrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bleeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Deadwood/stubs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Borers/termites/ants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cankers/galls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Previous failure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

HAZARD RATING _____

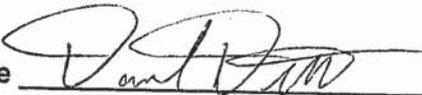
Part most likely to fail: Two remaining scaffolding branches
 Failure Potential: 1 2 3 Size of Part: 1 2 3 Target: 1 2 3
 Hazard Rating: 1 2 3 4 5 6 7 8 9

HAZARD ABATEMENT _____

Prune: remove defective part reduce end weight crown clean thin raise canopy crown reduce restructure shape
 Cable/Brace: _____ Inspect further: root crown decay aerial monitor
 Remove tree: Y N Replace? Y N Move target: Y N
 Other: _____
 Effect on adjacent trees: none evaluate

COMMENTS

This tree has experience several major failures of its crown and scaffolding branch structure. An unknown number of years ago, the main trunk of the tree failed at a point about 25ft. off off the ground. Since that time, two more major scaffolding limbs (18+ inches in diameter) have broken out from the stem. The most recent failure occurring on July 12, in calm weather conditions. An aerial inspection of the tree revealed that the top 1/3 of the remaining stem in completely hollow, and there is evidence of rot below that. It should be noted that the two remaining branches (22+ inches in diameter) of the tree are connected to the portion of the trunk which is hollow. One of these branches is so rotten at its point of connection to the main stem that there is a small mulberry tree growing from the cavity. The other branch extends over the main sidewalk access which leads to the park shelter and playground. At a point almost directly above the sidewalk, this branch contains a rotting cavity with stress fractures emanating from it. Given its past history of failure, extensive rot, and location within the landscape of the park, it is my opinion that this tree should be removed.

Signature  ISA# MW4935A Date 7/13/12

Lions-Stephens Park
Swamp White Oak

