



King County

**Capital Planning and Development Section
Parks CIP Unit**

Facilities Management Division, DES
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August 4, 2011

Phil Segami
Assistant Local Programs Engineer
Highways and Local Programs Division
WSDOT, Northwest Region
Post Office Box 330310
Seattle, WA 98133

Re: Federal Aid Project Number CM-2017(110)
Lake to Sound Trail Segment B (King County CIP R43043)
Section 4(f) Department of Transportation Act of 1966

Dear Mr. Segami:

King County in partnership with the cities of SeaTac and Burien is currently designing a segment of the Lake to Sound Trail that will run along Des Moines Memorial Drive (DMMD). This segment, known as Segment B, extends along DMMD southwards 1.5 miles from the intersection of South 156th Street in SeaTac to South Normandy Road in Burien. The purpose of this letter is to provide background information about the Elm trees that grow along DMMD and the design considerations associated with the development of Segment B of the Trail.

Section 4(f) Eligibility: At the meeting with you and other WSDOT staff on April 13, 2011, Trent deBoer, WSDOT Archaeologist, explained that the subject Elm trees are not eligible for listing on the National Register of Historic Places. For that reason, they are not considered as a historic resource under Section 106 of the National Historic Preservation Act and therefore they are also not considered a resource under Section 4(f) of the National Transportation Act of 1966.

The protected resource categories under Section 4(f) include publicly-owned parks, recreation areas, or wildlife and waterfowl refuges or land of a historic site of national, state or local significance. The trees are not within a park, recreation area or refuge and because they are not eligible under Section 106 as a historic resource, they are not considered a Section 4(f) resource.

Design Considerations: This particular route was selected in an effort to balance several objectives. First, the trail location seeks to avoid and minimize impacts to the existing area. During the planning of this segment several route options were weighed. DMMD was selected due to some distinct advantages including available space within the existing road right-of-way and the logical connection to two other regional trails. This segment requires no acquisition or

condemnation of property along its entire length and connects to the SeaTac's West Side Trail and also to the Port of Seattle's trail facility along South 156th Way.

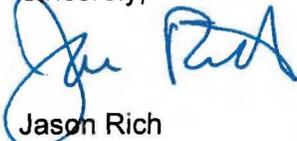
Secondly, safety is of the utmost consideration for a multi-use trail. For this reason, the east side of DMMD was selected over the west side. The adjacent Port property has limited access and this means that there will be relatively few driveway crossings along the trail as opposed to the conditions on the opposite side of the street. This reduces the potential for conflicts between trail users and vehicles. The selection of this alignment is in accordance with the WSDOT Design Manual, where in Section 1515.02, "shared use paths" are directed to have minimal cross flow by motor vehicles.

A final and overarching consideration for the selection of this route was the opportunity to enmesh the trail design with the corridor plan for DMMD. The proposed trail will necessitate the removal of nine damaged and/or diseased American Elm Trees. However, the project team has directly coordinated its efforts with the Des Moines Memorial Drive Advisory Committee, a group created to restore the memorial aspects of the historic memorial drive. The coordination efforts have focused on the creation of a design that both honors and renews the memories of the fallen WWI veterans and is in accordance with the *Des Moines Memorial Drive, Volume 1: Corridor Management Plan*, which calls for the planting of replacement trees.

In place of the nine trees that are removed, the project will plant a minimum of 16 (and up to 22) new disease-resistant Elms along the trail, in addition to incorporating memorial markers (designed by the Advisory Committee) into the new trail design. I have attached an arborist report that assesses the condition of the existing trees along the proposed alignment with recommendations for future planting as well as a map showing the locations of the trees.

Please let me know if you have questions or need additional information.

Sincerely,



Jason Rich
Project Manager
King County Parks-CIP

Enclosures (2): Arborist Report, Vicinity Map

cc: Susan Oxholm, Grant Administrator, Road Services Division, KC DOT (w/ enclosures)
Ruth Harvey, Program Manager, Road Services Division, KC DOT (w/ enclosures)
Tina Morehead, Senior Engineer, Road Services Division, KC DOT (w/ enclosures)
Monica Leers, Manager, Parks and Recreation Division, KC DNRP
Glenn Evans, Manager, Facilities Management Division, KC DES
Robert Foxworthy, Regional Trails Coordinator, Parks and Recreation Division, KC DNRP
Troy Lester, Parks Specialist, Parks and Recreation Division, KC DNRP



King County

Parks and Recreation Division

Property Management

King Street Center Building

KSC-NR-0700

201 South Jackson Street, Suite 700

Seattle, WA 98104-3856

206-263-6216

July 18, 2011

To whom it may concern:

I was asked to assess the health of Elm Trees (American Elm, *Ulmus Americana*) on the east side of Des Moines Memorial Drive, from South 156th St. in SeaTac to South 171st St. in Burien. I assessed these trees on June 27, 2011. The nine trees in question are part of the historical drive and are American Elms (*Ulmus Americana*). American Elms make wonderful streets trees that do well in the urban environment, provide stately specimens, less invasive roots and take well to injury.

All nine elms are located under electrical lines and have been pruned over the years to accommodate the services. The trees range from 18 – 30" in diameter and have 20' foot trunks before epicormic branches start into the power lines. The topped large limbs and trunks present with significant wounds, decay, weak branch attachments and poor tree architecture consistent with severe top pruning.

On my initial walk through June 7th 2011, eight of nine trees had leafed out well. On my return the week of June 27, 2011; six of nine trees showed signs of possible Dutch Elm Disease, with leaf loss, browning and limb loss.

Attached are the rating parameters used to assess and evaluate the trees. The trees are numbered from North to South, from South 156th Street to South 171st Street, one through nine. Six of the trees have identity metal tags and are noted on the evaluation form.

Conclusions:

The topping to accommodate the power services over the years has diminished the trees architecture and resulted in poor branch attachment. Decay due to topping and possible Dutch Elm Disease has advanced. Though epicormic or poorly attached branches appear to be pruned on a rotating cycle, the long term health of the trees has diminished. The higher risk evaluation is due to the weak branch union and decay at the attachments. Replacing the trees in a favorable location away from utilities and using Dutch Elm Disease (DED) resistant or tolerant cultivars is recommended.

Respectfully submitted,

Troy R. Lester, ISA Certified Arborist #WE-8485A
King County Parks Division

USDA COMMUNITY TREE RISK EVALUATION FORM

DES MOINES MEMORIAL DRIVE

Location: BURLEN, WA

Date: 6-27-2011

Inspector(s): Troy R Lester

Tree #	Species	DBH	Location (Street Address)	Defect Code(s)	1	2	3	4	Description of Other Risk Factors	Risk Rating (Sum of Columns 1-4)	Corrective Action Code(s)	Action Completed	
					Probability of Failure 1-4 pts	Size of Defective Part(s) 1-3 pts	Probability of Target 1-3 pts	Other Risk Factors (Optional) 0-2 pts				3-12 pts	Date
1	Am. ELM	22	ACROSS FROM ESINE 16235 DES MOINES MEMORIAL DR, 98148	D, CR WBU PTA:TT	3	3	2	2	DEAD DUTCH ELM. SZ LEAF CONSISTENT WITH DEAD.	10		6/27/11	TM
2	Am. ELM	30	ACROSS FROM, EAST SIDE 16235 DES MOINES MEMORIAL DR, 98148	D, CR WBU PTA:TT	3	3	2	2		10			TM
3 (*343)	Am. ELM	18	ACROSS FROM, EAST SIDE 16419 DES MOINES MEMORIAL DR, 98148	D, CR WBU PTA:TT	3	3	2	2		10			TM
4 (*342)	Am. ELM	30	ACROSS FROM - EAST SIDE 16419 DES MOINES MEMORIAL DR, 98148	D, CR WBU PTA:TT	3	3	2	1		9			TM
5 (*339)	Am. ELM	24	ACROSS FROM 16421 DES MOINES MEMORIAL DR, 98148	D, WBU PTA:TT	3	3	2	2	SIGNIFICANT LEAF DAMAGE	10			TM
6	Am. ELM	32	ACROSS FROM 16646 DES MOINES MEMORIAL DR, 98148	D, WBU PTA:TT	3	2	2	1		8			TM
7 (*333)	Am. ELM	18	ACROSS FROM 16860 DES MOINES MEMORIAL DR, 98148	D, WBU PTA	3	2	2	1		8			TM
8 (*330)	Am. ELM	20	ACROSS FROM 17060 DES MOINES MEMORIAL DR, 98148	D, CR WBU PTA:TT	3	3	2	2		10			TM
9 (*329)	Am. ELM	18	ACROSS FROM 17100 DES MOINES MEMORIAL DR, 98148	D, WBU PTA:TT	3	2	2	2		9		6/27/11	TM

* This is an example form adapted from various sources by the US Forest Service, Northeastern Area Hazard Tree Training Team. The US Forest Service assumes no responsibility for conclusions derived from the use of this form. Managers should construct their own forms, based on need and experience.

Guide to Risk Rating Codes

(companion guide to the Community Tree Risk Evaluation Form)

PROBABILITY OF FAILURE: 1-4 points

1. **Low:** some minor defects present:
 - minor branch/ crown dieback
 - minor defects or wounds
2. **Moderate:** several moderate defects present
 - stem decay or cavity within safe shell limits: shell thickness > 1 inch of sound wood for each 6 inches of stem diameter
 - crack(s) without extensive decay
 - defect(s) affecting 30-40% of the tree's circumference
 - crown damage/breakage: hardwoods up to 50%; pines up to 30%
 - weak branch union: major branch or codominant stem has included bark
 - stem girdling roots: <40% tree's circumference with compressed wood
 - root damage: < 40% of roots damaged within the CRR
3. **High:** multiple or significant defects present:
 - stem decay or cavity at or exceeding shell safety limits: shell thickness < 1 inch of sound wood for each 6 inches of stem diameter
 - cracks, particularly those in contact with the soil or associated with other defects
 - defect(s) affecting > 40% of the tree's circumference
 - crown damage/breakage: hardwoods >50%; pines >30%
 - weak branch union with crack or decay .
 - girdling roots with > 40% of tree's circumference with compressed wood
 - root damage: > 40% of roots damaged within the CRR.
 - leaning tree with recent root breakage or soil mounding, crack or extensive decay
 - dead tree: standing dead **without** other significant defects
4. **Extremely High:** multiple **and** significant defects present; visual obstruction of traffic signs/lights or intersections:
 - stem decay or cavity exceeding shell safety limits **and** severe crack
 - cracks: when a stem or branch is split in half
 - defect(s) affecting > 40% of the tree's circumference or CRR **and** extensive decay or crack(s)
 - weak branch union with crack **and** decay
 - leaning tree with recent root breakage or soil mounding **and** a crack or extensive decay
 - dead branches: broken (hangers) or with a crack
 - dead trees: standing dead **with** other defects such as cracks, hangers, extensive decay, or major root damage
 - visual obstruction of traffic signs/lights or intersections
 - physical obstruction of pedestrian or vehicular traffic

SIZE OF DEFECTIVE PART(S): 1-3 points

1. Parts less than 4 inches in diameter
2. Parts from 4 to 20 inches in diameter
3. Parts **greater than 20** inches in diameter

PROBABILITY OF TARGET IMPACT: 1-3 points

1. **Occasional Use:**
 - low use roads and park trails; parking lots adjacent to low use areas; natural areas such as woods or riparian zones; transition areas with limited public use; industrial areas.
2. **Intermediate Use:**
 - moderate to low use school playgrounds, parks, and picnic areas; parking lots adjacent to moderate use areas; secondary roads (neighborhoods) and park trails within moderate to high use areas; and dispersed campgrounds.
3. **Frequent Use:**
 - emergency access routes, medical and emergency facilities and shelters, and handicap access areas; high use school playgrounds, parks, and picnic areas; bus stops; visitor centers, shelters, and park administrative buildings and residences; main thoroughfares and congested intersections in high use areas; parking lots adjacent to high use areas; interpretive signs, kiosks; scenic vistas; and campsites (particularly drive-in).

OTHER RISK FACTORS: 0-2 points

- This category can be used if professional judgment suggests the need to increase the risk rating.
- It is especially helpful to use when tree species growth characteristics become a factor in risk rating. For example, some tree species have growth patterns that make them more vulnerable to certain defects such as weak branch unions (silver maple) and branching shedding (beech).
- It can also be used if the tree is likely to fail before the next scheduled risk inspection.

<u>Code</u>	<u>Defect</u>
D	Decay
CR	CRack
Root	Root Problems
RSG	Stem Girdling
RS	Severed
RPD	Planting Depth (too deep)
RGC	Grade Change
RSB	Sidewalk Buckling
WBU	Weak Branch Union
CA	CAnker
PTA	Poor Tree Architecture
PTA:LT	Leaning Tree
PFA:TT	Topped Tree
EE	Excessive Epicormics
DEAD	DEAD tree, tops or branches
VO	Visible Obstruction
PO	Physical Obstruction

Prune	
PD	Deadwood
PW	Weakwood (defective part(s))
PC	for Clearance
PT	to Thin crown or reduce crown weight
PR	to Reduce crown height
Target	
TM	Move
TEV	Exclude Visitors from Target Area
CB	Cable/Bracing
CWT	Convert to Wildlife Tree
RT	Remove Tree
Monitor	Monitor regularly
NA	No Action Required



Vicinity Map

American Elms to be removed along Des Moines Memorial Drive



King County
 Department of
 Natural Resources and Parks
 Parks and Recreation Division

8/3/11

The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. This document is not intended for use as a survey product. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.