



## **CITY OF MEDINA**

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### **Tree Performance Standard Example 2**

Attached are worksheets and site plans showing the application of the tree performance standards using a 6-inch DBH standard as a significant tree and a 10-inch DBH standard as a significant tree. Under both examples, no supplemental trees are required.



# Tree Performance Worksheet

**6-inch DBH Standard**

**Address: 1637 77<sup>th</sup> Ave NE**

**File No.**

**Instructions:** Use this worksheet to determine compliance with the tree performance standards in MMC 20.52.130 and to calculate supplemental trees. Attach additional worksheets if necessary.

- New  
 Revision

<b>STEP 1:</b>		<b>Inventory existing tree units</b>	Conduct an inventory of all significant trees on the property and include significant trees in the adjoining city right-of-way (if applicable).			
<b>No.</b>	<b>Tree</b>	<b>DBH</b>	<b>No.</b>	<b>Tree</b>	<b>DBH</b>	
1	Cedar	18	7	Douglas fir	14	
2	Hemlock	16	8	Douglas fir	13	
3	Hemlock	18	9	Douglas fir	6	
4	Hemlock	20	10	Douglas fir	12	
5	Douglas fir	16	11	Douglas fir	28	
6	Douglas fir	13	12	Douglas fir	16	
<b>STEP 2:</b>		<b>Calculate Existing Tree Units</b>	From Table 20.52.130(C): add together the number of significant trees in each range below and multiply by the corresponding value to produce Existing Tree Units.			
A.	Total number of trees at least 6 inches, but less than 10 inches DBH	3	X 0.75 =	2.25	D. TOTAL EXISTING TREE UNITS (A + B + C)  27.25	
B.	Total number of trees 10 inches DBH and larger	25	X 1.00 =	25		
C.	Total number of conifer trees 50 inches DBH and larger	0	X 1.25 =	0		
<b>STEP 3:</b>		<b>Inventory removed trees</b>	List the significant trees that are proposed for removal. This information will be used in Step 4 and 7 (if applicable).			
<b>No.</b>	<b>Tree</b>	<b>DBH</b>	<b>No.</b>	<b>Tree</b>	<b>DBH</b>	
29	Magnolia	10				
30	Laurel	16				
<b>STEP 4:</b>		<b>Calculate Net Existing Tree Units</b>	To calculate Net Existing Tree Units, add together the number of significant trees in each range below that are proposed for removal and multiply by the corresponding value. Then follow H and I.			
E.	Total number of trees removed at least 6 inches, but less than 10 inches DBH	0	X 0.75 =	0	H. TOTAL TREE UNITS TO BE REMOVED (E + F + G)  2	
F.	Total number of trees removed 10 inches DBH and larger	2	X 1.00 =	2		
G.	Total number of conifer trees 50 inches DBH and larger	0	X 1.25 =	0	I. Net Existing Tree Units (subtract H from D)  25.25	
<b>STEP 5:</b>		<b>Calculate Required Tree Units</b>	To calculate Required Tree Units, perform the calculations in J through M.			
<b>Lot Area (sq. ft.)</b>		<b>Divide J by 1,000</b>	<b>Tree Density Ratio (check one)</b>		M. REQUIRED TREE UNITS (Multiply K x L)  (round up)  14	
J.	33,640	K.	34.6	L.		
				<input checked="" type="checkbox"/> 0.40 (residential) <input type="checkbox"/> ____ Table 20.52.130.B		
<b>STEP 6:</b>		<b>Determine if Supplemental Trees are required</b>	Subtract the Tree Units in M from the Tree Units in I. • If the difference is zero or a positive number - stop. No supplemental trees are required. • If the difference is a negative number then go to Step 7.			N.  11.25
See Page 2 for Step 7 and for additional inventory tables						

**STEP 7:** Calculate Supplemental Trees

- Each replacement of a 24-inch DBH and larger tree requires two supplemental trees with each supplemental tree having a Tree Unit value = 0.5.
- Each replacement of a less than 24-inch DBH tree & each tree that fills a gap requires one supplemental tree with each supplemental tree having a Tree Unit value = 1.0
- The total Tree Units of the supplemental trees must equal or be greater than the absolute value of N.
- Tree Units are assigned first to those supplement trees replacing removed trees and in order of largest to smallest tree.

For replacement of 24-inch DBH and larger tree					For replacement of less than 24-inch DBH/ Fill Existing Gap trees					
No.	Check if Applicable	# of Supp. Trees	Proposed # Supp. Trees	Tree Unit	No.	Check if Applicable	# of Supp. Trees	Proposed # Supp. Trees	Tree Unit	
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
O.	Total				P.	Total				
<ul style="list-style-type: none"> <li>• Q is the number of supplemental trees required to be planted.</li> <li>• The Tree Units in R must equal or be greater than the Tree Units in N.</li> </ul>								Total from O		
								Grand Totals	Q.	R.

**STEP 1: Inventory existing tree units**

No.	Tree	DBH	No.	Tree	DBH
13	Douglas fir	10	21	Pine	12
14	Douglas fir	14	22	Cedar	10
15	Douglas fir	24	23	Douglas fir	20
16	Douglas fir	26	24	Pine	18
17	Cedar	8	25	Pine	18
18	Douglas fir	16	26	Hemlock	18
19	Douglas fir	36	27	Hemlock	20
20	Douglas fir	14	28	Vine maple	8

**STEP 3: Inventory removed trees**

No.	Tree	DBH	No.	Tree	DBH

**Attach additional sheets if needed.**



Figure 1 – site plan showing trees to be removed in red and retained in green; dashed edge indicates deciduous, solid edge indicates coniferous, darker shading indicates greater than 10-inches DBH and lighter shading indicates less than 10-inches DBH.

Existing code requirements: The existing code is requiring 32.25 inches of mitigation for the removal of one 25.8” DBH cedar. This may be mitigation with approximately 11 newly planted 3-inch caliper trees.

Proposed code requirements: The removal of a 25.8” DBH cedar tree would not require any mitigation. The proposed code would allow for the additional removal of 11 trees due to the tree units on-site.



# Tree Performance Worksheet

**10-inch DBH Standard**

<b>Address: 1637 77<sup>th</sup> Ave NE</b>	<b>File No.</b>	<input checked="" type="checkbox"/> New <input type="checkbox"/> Revision
<b>Instructions:</b> Use this worksheet to determine compliance with the tree performance standards in MMC 20.52.130 and to calculate supplemental trees. Attach additional worksheets if necessary.		

**STEP 1: Inventory existing tree units** Conduct an inventory of all significant trees on the property and include significant trees in the adjoining city right-of-way (if applicable).

No.	Tree	DBH	No.	Tree	DBH
1	Cedar	18	7	Douglas fir	14
2	Hemlock	16	8	Douglas fir	13
3	Hemlock	18	9	Douglas fir	6
4	Hemlock	20	10	Douglas fir	12
5	Douglas fir	16	11	Douglas fir	28
6	Douglas fir	13	12	Douglas fir	16

**STEP 2: Calculate Existing Tree Units** From Table 20.52.130(C): add together the number of significant trees in each range below and multiply by the corresponding value to produce Existing Tree Units.

A.	Total number of trees at least 6 inches, but less than 10 inches DBH	n/a	X 0.75 =	0	<b>D. TOTAL EXISTING TREE UNITS (A + B + C)</b>  25
B.	Total number of trees 10 inches DBH and larger	25	X 1.00 =	25	
C.	Total number of conifer trees 50 inches DBH and larger	0	X 1.25 =	0	

**STEP 3: Inventory removed trees** List the significant trees that are proposed for removal. This information will be used in Step 4 and 7 (if applicable).

No.	Tree	DBH	No.	Tree	DBH
29	Magnolia	10			
30	Laurel	16			

**STEP 4: Calculate Net Existing Tree Units** To calculate Net Existing Tree Units, add together the number of significant trees in each range below that are proposed for removal and multiply by the corresponding value. Then follow H and I.

E.	Total number of trees removed at least 6 inches, but less than 10 inches DBH	0	X 0.75 =	0	<b>H. TOTAL TREE UNITS TO BE REMOVED (E + F + G)</b>  2
F.	Total number of trees removed 10 inches DBH and larger	2	X 1.00 =	2	
G.	Total number of conifer trees 50 inches DBH and larger	0	X 1.25 =	0	<b>I. Net Existing Tree Units (subtract H from D)</b>  23

**STEP 5: Calculate Required Tree Units** To calculate Required Tree Units, perform the calculations in J through M.

<b>J.</b>	Lot Area (sq. ft.)	<b>K.</b>	Divide J by 1,000	<b>L.</b>	Tree Density Ratio (check one)	<b>M. REQUIRED TREE UNITS (Multiply K x L)</b>  14 (round up)
	33,640		34.6		<input checked="" type="checkbox"/> 0.40 (residential) <input type="checkbox"/> ____ Table 20.52.130.B	

**STEP 6: Determine if Supplemental Trees are required** Subtract the Tree Units in M from the Tree Units in I.

- If the difference is zero or a positive number - stop. No supplemental trees are required.
- If the difference is a negative number then go to Step 7.

<b>N.</b>	9
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See Page 2 for Step 7 and for additional inventory tables

**STEP 7:** Calculate Supplemental Trees

- Each replacement of a 24-inch DBH and larger tree requires two supplemental trees with each supplemental tree having a Tree Unit value = 0.5.
- Each replacement of a less than 24-inch DBH tree & each tree that fills a gap requires one supplemental tree with each supplemental tree having a Tree Unit value = 1.0
- The total Tree Units of the supplemental trees must equal or be greater than the absolute value of N.
- Tree Units are assigned first to those supplement trees replacing removed trees and in order of largest to smallest tree.

For replacement of 24-inch DBH and larger tree					For replacement of less than 24-inch DBH/ Fill Existing Gap trees					
No.	Check if Applicable	# of Supp. Trees	Proposed # Supp. Trees	Tree Unit	No.	Check if Applicable	# of Supp. Trees	Proposed # Supp. Trees	Tree Unit	
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
	<input type="checkbox"/>	2				<input type="checkbox"/>	1			
O.	Total				P.	Total				
<ul style="list-style-type: none"> <li>• Q is the number of supplemental trees required to be planted.</li> <li>• The Tree Units in R must equal or be greater than the Tree Units in N.</li> </ul>								Total from O		
								Grand Totals	Q.	R.

**STEP 1: Inventory existing tree units**

No.	Tree	DBH	No.	Tree	DBH
13	Douglas fir	10	21	Pine	12
14	Douglas fir	14	22	Cedar	10
15	Douglas fir	24	23	Douglas fir	20
16	Douglas fir	26	24	Pine	18
17	Cedar	8	25	Pine	18
18	Douglas fir	16	26	Hemlock	18
19	Douglas fir	36	27	Hemlock	20
20	Douglas fir	14	28	Vine maple	8

**STEP 3: Inventory removed trees**

No.	Tree	DBH	No.	Tree	DBH

**Attach additional sheets if needed.**



Figure 1 – site plan showing trees to be removed in red and retained in green; dashed edge indicates deciduous, solid edge indicates coniferous, darker shading indicates greater than 10-inches DBH and lighter shading indicates less than 10-inches DBH.

Existing code requirements: The existing code is requiring 32.25 inches of mitigation for the removal of one 25.8” DBH cedar. This may be mitigation with approximately 11 newly planted 3-inch caliper trees.

Proposed code requirements: The removal of a 25.8” DBH cedar tree would not require any mitigation due to the retention of 23 tree units remaining on site. The proposed code would allow for the additional removal of 9 trees due to the tree units on-site.