COST/BENEFIT WORKSHEET

Complete this worksheet to determine the value and the annual benefit cost of trees at a home or community property.

Address of home or property: _____

_____

Appraised value of property: _____

_____

Potential contribution of trees to property value (multiply appraised value by 5% to 20%)

$_____ to _____

ANNUAL COST/BENEFIT ANALYSIS

Use the following table to calculate urban tree values. Columns D, E and F are mathematical operations to simplify calculations and are based on the formulas listed in the "Notes" section following the worksheet.

These equations are based on studies but may not be applicable to a particular community or household. They are meant for demonstration purposes and more detailed models should be used for better value estimates. The U.S. Forest Service uses the "UFORE" model and American Forests uses City Green® software to calculate tree values.

Runoff Pollution Carbon Savings

A	B	C	D	E	F	G	H	I
Tree Number	DBH[1]	DBH2	Column B*-.247	Column C*.2173	Column D + E	Energy Savings-from Table	Maintenance Costs	Tree Value-Column F+G+H
					TOTAL COST BENEFIT			

»Annual maintenance costs are: $100 for small trees, $84 for medium trees and $93 for large trees. The values are based on estimated costs divided by the number of years between maintenance activities. Costs will change, sometimes significantly depending on a particular situation, so these values should not be used except for demonstration purposes of this exercise.
[1]DBH is the Diameter of the tree at Breast Height.

Energy Savings	Small (≤8dbh) tree ≤20 from building	Medium (9-20dbh) tree ≤25 from building	Large (≥21dbh) tree ≤45 from building
East Side	$0.00	$3.00	$11.00
West Side	$6.50	$16.00	$42.00
South Side	$-4.00	$-7.50	$-8.50
North Side	$0.00	$0.00	$0.00

NOTES: The Cost/Benefit Analysis worksheet is based on the following equations:
1. Runoff Reduction: $value = 0.0303*(DBH)2 + 0.182*(DBH) + 2.29$
2. Pollution Reduction: $value = 0.16*(DBH)2 – 0.334*(DBH) + 2.57$
3. Carbon Sequestration: $value = 0.027*(DBH)2 – 0.095*(DBH) + 6.85$