

**Berry Street
View Enhancement and Vegetative Restoration
Plan**

Prepared for

Barend Van Zanten

&

**City of Olympia, WA
Community Planning and Development
Joe Roush
City Urban Forester**

Presented by

**SUF
Sound Urban Forestry
Kevin M. McFarland**

10/14/04

SUF

SOUND URBAN FORESTRY PMB 97, 1910 E. 4th Ave., Olympia, WA 98506 360.236.1028

October 14, 2004

Mr. Joe Roush
City Urban Forester
Community Planning and Development
City of Olympia
P.O. Box 1967
Olympia, WA 98507

Mr. Roush:

Barend Van Zanten and Sound Urban Forestry are submitting a recommended vegetative/site management plan for public owned property adjacent to East Bay Drive. We are requesting a review of the proposed 18 year maintenance schedule and task description for vegetation management within the adjacent publicly owned property.

Mr. Van Zanten is interested in purchasing and developing property that is located at 1919 Berry Street, Olympia, WA. The identified Parcel 49300500300. The public owned area recommended for management is located between the west side of the identified parcel and the east edge of East Bay Drive. The approximate management area involving public property is 25,000 square feet or .6 acres. Please refer to Appendix 1. Property Location Map.

This proposed maintenance plan reflects the City of Olympia's Municipal Code (OMC) 9.20, Critical Areas Ordinance and Public Tree Policy Document, OMC 16.58.060 Tree Removal, and the Vegetation Management Plan Outline intent. Mr. Van Zanten supports maintaining and enhancing the vegetative coverage within the adjacent public owned open space area. Combining appropriate pruning and site plantings Mr. Van Zanten can maintain a view corridor and participate in the stewardship of vegetation and management area.

Respectfully Submitted,

Kevin M. McFarland
Certified Arborist/Consulting Forester
SUF

VZ 002878

Berry Street View Enhancement and Vegetative Restoration Plan

Project Proposal

This management plan presents intended work for a slope restoration project on public owned property adjacent to the 1919 Berry Street parcel. The plan entails tree pruning and removal, invasive vegetation removal and establishment of vegetation within the identified public property. Implementation of the projected maintenance encompasses a 1-18 year schedule.

Due to the topography of this open space area, we are proposing an 18 year maintenance plan to lessen the impact to vegetation and site. This plan will achieve the following goals:

- Provide an appropriate maintenance schedule
- Establish native and non-invasive vegetation within the open space area
- Enhance the adjacent property owner's view shed
- Remove non-native invasive plant species
- Improve slope stability

Site and Vegetation Description

Project Area

The public owned area recommended for management is located between the west side of the identified parcel and the east edge of East Bay Drive. The approximate management area involving public property is 25,000 square feet or .6 acres. Please refer to Appendix 2. Management Sections.

The majority of the project area is considered a steep slope. I have reviewed the geotechnical report submitted by Geotechnical Testing Lab dated August 2nd, 2003. The report presents information that has contributed to the proposed management plan development and final product.

The proposed management area slope faces west and has an approximate 40% angle. The proposed management area soils comprise of:
Hoogdal silt loam, 30-50% slopes, moderately deep, moderately well drained soil is on terrace escarpments. Permeability is very slow and available water capacity is high. A perched seasonal high water table fluctuates between depths of 18 to 24 inches from December to March. Runoff is medium, and the hazard of water erosion is moderate. The parcel is predominantly Alderwood gravelly sandy loam.

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I observed no evidence of major erosion within the proposed management area. No surficial sloughing or soil movement was identified on the site. No evidence of deep-seated slope instability was observed in the site area at the time of my fieldwork. A storm water catch basin exists within the immediate public owned parcel to the west of the 1919 Berry Street parcel.

Vegetation

The dominant tree canopy consists of deciduous trees. The major tree species found within the site are Bigleaf maple *Acer macrophyllum* and Red alder *Alnus rubra*. Alder trees are the most prevalent within proposed management area. The alder trees have an average diameter (dbh) of 10 inches and a height of 50 feet. The maple trees have an average diameter (dbh) of 17 inches and a height of 60 feet. The proposed management area contains a minimal amount of understory vegetation. It appears that the dominant alder growth is even-aged. Maples are a small percentage of the overall canopy cover. The proposed management plan involves 71 trees proposed for scheduled removal within the restoration area. Please reference Appendix 2. Management Sections & Tree Location Map

Tree Inventory

Tree Species	Diameter Range	Total Numbers
Red Alder	6" – 22"	62
Bigleaf Maple	6" – 28"	9
Total		71

The understory vegetation consists of Indian-Plum, Salal, Sword and Bracken fern, English Ivy, English Laurel, Himalayan Blackberry, Scot's Broom and English Holly. There is no major tree species regenerating below the dominant tree canopy. Please refer to the tree inventory map for tree locations within the proposed management area.

Maintenance Schedule and Associated Task Description

The following maintenance schedule is presented in an 18 year plan. The public owned open space has been divided into 5 management areas. Each management area will receive specific maintenance per year as described by associated tasks. Specific tasks will duplicate for each management area after the first year of implementation.

Proposed tree removals will be associated with approved schedule and management area. Each management area and associated restoration work will be monitored annually with an evaluation submitted to the city forester.

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Management Sections

The open space area has been divided into five sections for ease of location description and the associated management tasks for each year.

You will notice that there are dashed lines originating at either the northwest or southwest corners of the Berry Street parcel. The dashed lines indicate the limits of the proposed tree removals within the sections (ABCD& E). The areas outside of the dashed lines (but still within the management sections) will receive invasive plant removal maintenance. However, trees within the unmanaged area of the sections will be evaluated and monitored to determine if there are any negative affects following proposed tree removal and plant installation within the managed areas. Edge trees may require pruning to maintain or expose a view.

Management Area 'A' is located due west of the 1919 Berry Street parcel. This area contains 5,660 square feet.

Management Area 'B' is located along the south side of 'A'. This area contains 5,000 square feet.

Management Area 'C' is located along the north side of 'A'. This area contains 5,000 square feet.

Management Area 'D' is located along the north side of 'C'. This area contains 5,000 square feet.

Management Area 'E' is located along the south side of 'B'. This area contains 5,000 square feet.

Tree Removal Schedule

As per the Public Tree Policy Document, OMC 16.58.060 Tree Removal. An applicant can remove a maximum of 6 trees per acre per year. The acceptable removals are trees in excess of 6 inches in trunk diameter taken at 4.5 feet above grade (uphill). Vegetation or trees under 6 inches in diameter are not consider 'trees' and therefore can be removed in any number considering slope stability or other environmental concerns.

Mr. Van Zanten is proposing a management area of 25,066 square feet or .6 acres. The allowable number of trees that can be removed (if approved) is 4 trees per year.

The following proposed tree removal schedule presents the associated year, number of trees, tree species and yearly schedule. Please reference Appendix 2. Management Sections and Tree Locations

Berry Street View Enhancement and Vegetative Restoration Plan

Tree Removal Schedule

Year	Tree Quantity & Species	Diameter Range (inches)	Management Section
1	4 Big Leaf maple	16-30	A
2	3 Red alder	15-25	A
	1 BLM	37	A
3	4 RA	7-12	A
4	4 RA	7-12	A
5	4 RA	7-12	A
6	2 RA	11	A-B
	2 BLM	10-18	A-B
7	4 RA	7-18	B
8	4 RA	7-10	B
9	4 RA	7-17	B
10	4 RA	6-9	B
11	2 RA	9-11	C
	2 BLM	7-39	C
12	4 RA	6-16	C
13	4 RA	8-13	C
14	4 RA	9-13	C
15	4 RA	6-10	D
16	4 RA	7-10	D
17	4 RA	6-10	D
18	3 RA	8-10	E

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Management Section Vegetation Description

Management Area A.

This area contains 22 trees that are scheduled for removal over a six-year period. Each year there will be 4 trees removed. For year six there are two trees to be removed within Management Area 'A' and the other two are located in 'B'.

Maintenance Recommendations

The re-vegetation effort will begin the first year and continue through the six. The tree removals are laid out to start at the up slope and progress down as the years' progress. Furthermore, the re-vegetation effort will follow the progression of tree removals over time down the slope. Please refer to Appendix 2. Tree Location Map for tree locations and associated removal year. The identified trees are numbered and have the associated year on the side of the tree number as well. The following information presents specific tasks that will be implemented on an annual basis such as; site monitoring, noxious non-native plant removal, replanting, stump sprout removal, watering, etc. throughout the recommended six year management period for 'A'.

Maintenance Schedule and Associated Task Description

Year 1-6. Management Area A.

Tasks:

- 1) Remove non-native plants such as Scot's broom, ivy, holly, and laurel prior to tree removals (retain desirable native plants).
- 2) Remove identified trees (4 trees will be marked with blue paint each associated year).
 - a. Wood debris will be removed and or chipped.
 - b. Extract logs from East Bay Drive (self loading log or dump truck should be considered for log extraction off of slope face).
 - c. Wood chips may be utilized to cover bare soil areas following log extraction.
- 3) Install plants following tree and wood debris removal. Planting design reflects Appendix 4. Restoration Design Plan.
- 4) Mulch around installed trees and shrubs.

Berry Street View Enhancement and Vegetative Restoration Plan

Maintenance Schedule and Associated Task Description

Year 1-6. Management Area A.

Restoration Plant List

2	Pacific Crab Apple	<i>Malus fusca</i>
3	Vine Maple	<i>Acer circinatum</i>
8	Mugo Pine	<i>Pinus mugo</i>
7	California wax-myrtle	<i>Myrica californica</i>
2	Tall Oregon-grape	<i>Mahonia aquifolium</i>
2	Purple Leaf Hazel	<i>Corylus purpurea</i>
200	Salal	<i>Gaultheria shallon</i>
50	Kinnikinnick	<i>Arctostaphylos uva-ursi</i>
2	Mock-Orange	<i>Philadelphus lewisii</i>
2	Red-Flowering Currant	<i>Ribes sanguineum</i>
3	Hooker's Willow	<i>Salix hookeriana</i> 'Clatsop'

Recommended Schedule

The **removal** of non-native noxious plants can take place throughout the year. It is recommended that **tree removal** take place in the months of June or July. **Plant installation** should take place mid to late October and early November. **Submit** annual report to City of Olympia Forester.

Berry Street View Enhancement and Vegetative Restoration Plan

Year 6-10. Management Area B.

Tasks:

- 1) Remove non-native plants such as Scot's broom, ivy, holly, and laurel prior to tree removals (retain desirable native plants).
- 2) Remove yearly trees (all trees will be marked with blue paint) within B.
 - a. Wood debris will be removed and or chipped.
 - b. Extract logs from East Bay Drive (self loading log or dump truck should be considered for log extraction off of slope face).
 - c. Wood chips may be utilized to cover bare soil areas following log extraction.
- 3) Install plants following tree and wood debris removal. Planting design reflects Appendix 4. Restoration Design Plan.
- 4) Remove stump sprouts from previous year tree removals.
- 5) Inspect new plant mortality and replace accordingly.
- 6) Remove non-native noxious plants from Management Area A.
- 7) Mulch around installed trees and shrubs.
- 8) Water plants (at least twice a week during the dry months) within Management Area A.

Maintenance Schedule and Associated Task Description

Year 6-10. Management Area B.

Restoration Plant List

3	Pacific Crab Apple <i>Malus fusca</i>
1	Vine Maple <i>Acer circinatum</i>
4	Mugo Pine <i>Pinus mugo</i>
6	California wax-myrtle <i>Myrica californica</i>
2	Tall Oregon-grape <i>Mahonia aquifolium</i>
3	Purple Leaf Hazel <i>Corylus purpurea</i>
57	Salal <i>Gaultheria shallon</i>
2	Kinnikinnick <i>Arctostaphylos uva-ursi</i>
2	Mock-Orange <i>Philadelphus lewisii</i>
6	Red-Flowering Currant <i>Ribes sanguineum</i>
2	Hooker's Willow <i>Salix hookeriana</i> 'Clatsop'

Berry Street View Enhancement and Vegetative Restoration Plan

Maintenance Schedule and Associated Task Description

Year 6-10. Management Area B.

Recommended Schedule

The **removal** of non-native noxious plants can take place throughout the year. **Pruning** of stump sprouts can take place in the spring or fall. It is recommended that **tree removal** take place in the months of June or July. **Plant installation** should take place mid to late October and early November. **Watering** should take place June thru November. **Submit** annual report to City of Olympia Forester.

Maintenance Schedule and Associated Task Description

Year 11-14. Management Area C.

Tasks:

- 1) Remove non-native plants such as Scot's broom, ivy, holly, and laurel prior to tree removals (retain desirable native plants).
- 2) Remove trees (all trees will be marked with blue paint) within C.
 - a. Wood debris will be removed and or chipped.
 - b. Extract logs from East Bay Drive (self loading log or dump truck should be considered for log extraction off of slope face).
 - c. Wood chips may be utilized to cover bare soil areas following log extraction.
- 3) Install plants following tree and wood debris removal. Planting design reflects Appendix 4. Restoration Design Plan.
- 4) Remove stump sprouts from previous year(s) tree removals.
- 5) Inspect new plant mortality and replace accordingly.
- 6) Remove non-native noxious plants from Management Area A & B.
- 7) Mulch around installed trees and shrubs (recommended for previous plantings as well).
- 8) Water plants (at least twice a week during the dry months) within Management Area A & B.

Berry Street View Enhancement and Vegetative Restoration Plan

Maintenance Schedule and Associated Task Description

Year 11-14. Management Area C.

Restoration Plant List

- | | | |
|----|-----------------------|-----------------------------------|
| 3 | Pacific Crab Apple | <i>Malus fusca</i> |
| 2 | Vine Maple | <i>Acer circinatum</i> |
| 4 | Mugo Pine | <i>Pinus mugo</i> |
| 7 | California wax-myrtle | <i>Myrica californica</i> |
| 3 | Tall Oregon-grape | <i>Mahonia aquifolium</i> |
| 3 | Purple Leaf Hazel | <i>Corylus purpurea</i> |
| 55 | Salal | <i>Gaultheria shallon</i> |
| 2 | Kinnikinnick | <i>Arctostaphylos uva-ursi</i> |
| 2 | Mock-Orange | <i>Philadelphus lewisii</i> |
| 3 | Red-Flowering Currant | <i>Ribes sanguineum</i> |
| 2 | Hooker's Willow | <i>Salix hookeriana</i> 'Clatsop' |

Recommended Schedule

The **removal** of non-native noxious plants can take place throughout the year. **Pruning** of stump sprouts can take place in the spring or fall. It is recommended that **tree removal** take place in the months of June or July. **Plant installation** should take place mid to late October and early November. **Watering** should take place June thru November. **Submit** annual report to City of Olympia Forester.

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Year 14-18. Management Areas D.

Maintenance Schedule and Associated Task Description

Tasks:

- 1) Remove non-native plants such as Scot's broom, ivy, holly, and laurel prior to tree removals (retain desirable native plants).
- 2) Remove trees (all trees will be marked with blue paint) within D.
 - a. Wood debris will be removed and or chipped.
 - b. Extract logs from East Bay Drive (self loading log or dump truck should be considered for log extraction off of slope face).
 - c. Wood chips may be utilized to cover bare soil areas following log extraction.
- 3) Install plants following tree and wood debris removal. Planting design reflects Appendix 4. Restoration Design Plan.
- 4) Remove stump sprouts from previous year(s) tree removals.
- 5) Inspect new plant mortality and replace accordingly.
- 6) Remove non-native noxious plants from Management Area A, B, & C.
- 7) Mulch around installed trees and shrubs (recommended for previous plantings as well).
- 8) Water plants (at least twice a week during the dry months) within Management Area A, B, & C.

Restoration Plant List

- | | |
|----|---|
| 2 | Pacific Crab Apple <i>Malus fusca</i> |
| 2 | Mugo Pine <i>Pinus mugo</i> |
| 1 | California wax-myrtle <i>Myrica californica</i> |
| 55 | Salal <i>Gaultheria shallon</i> |
| 3 | Red-Flowering Currant <i>Ribes sanguineum</i> |
| 1 | Hooker's Willow <i>Salix hookeriana</i> 'Clatsop' |

Recommended Schedule

The **removal** of non-native noxious plants can take place throughout the year. **Pruning** of stump sprouts can take place in the spring or fall. It is recommended that **tree removal** take place in the months of June or July. **Plant installation** should take place mid to late October and early November. **Watering** should take place June thru November. **Submit** annual report to City of Olympia Forester.

Berry Street View Enhancement and Vegetative Restoration Plan

Year 14-18. Management Areas E.

Maintenance Schedule and Associated Task Description

Tasks:

- 1) Remove non-native plants such as Scot's broom, ivy, holly, and laurel prior to tree removals (retain desirable native plants).
- 2) Remove trees (all trees will be marked with blue paint) within D.
 - a. Wood debris will be removed and or chipped.
 - b. Extract logs from East Bay Drive (self loading log or dump truck should be considered for log extraction off of slope face).
 - c. Wood chips may be utilized to cover bare soil areas following log extraction.
- 3) Install plants following tree and wood debris removal. Planting design reflects Appendix 4. Restoration Design Plan.
- 4) Remove stump sprouts from previous year(s) tree removals.
- 5) Inspect new plant mortality and replace accordingly.
- 6) Remove non-native noxious plants from Management Area A, B, C, & D.
- 7) Mulch around installed trees and shrubs (recommended for previous plantings as well).
- 8) Water plants (at least twice a week during the dry months) within Management Area A, B, C, & D.

Restoration Plant List

- | | |
|----|---|
| 1 | Pacific Crab Apple <i>Malus fusca</i> |
| 2 | Mugo Pine <i>Pinus mugo</i> |
| 1 | California wax-myrtle <i>Myrica californica</i> |
| 55 | Salal <i>Gaultheria shallon</i> |
| 2 | Red-Flowering Currant <i>Ribes sanguineum</i> |
| 1 | Hooker's Willow <i>Salix hookeriana</i> 'Clatsop' |

Recommended Schedule

The **removal** of non-native noxious plants can take place throughout the year. **Pruning** of stump sprouts can take place in the spring or fall. It is recommended that **tree removal** take place in the months of June or July. **Plant installation** should take place mid to late October and early November. **Watering** should take place June thru November. **Submit** annual report to City of Olympia Forester.

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Public Tree Loss Mitigation

If proposed management plan is approved and public tree loss mitigation is accepted it is understood that identified trees will be in Mr. Van Zanten's ownership.

A total of 71 trees are proposed for removal. Beneficial existing native understory vegetation will be maintained throughout the project schedule. The following table presents the total replacement plant species and quantities.

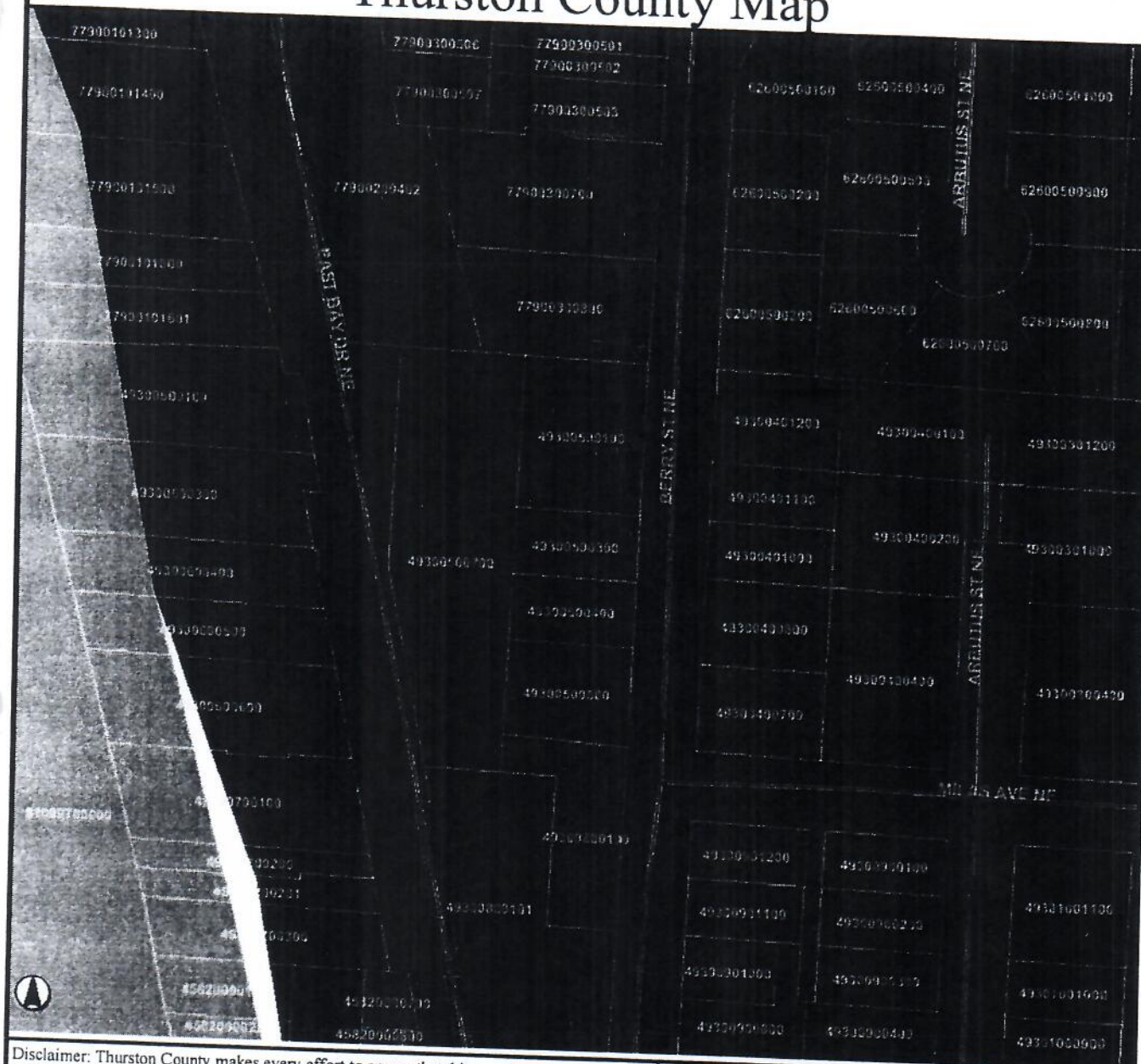
Maintenance Schedule and Associated Task Description

Replacement Plant Schedule

Quantity	Plant Type	Size
12	Pacific Crab Apple <i>Malus fusca</i>	Bareroot or 1 gal. container
6	Vine Maple <i>Acer circinatum</i>	Bareroot or 1 gal. container
20	Mugo Pine <i>Pinus mugo</i>	2-3 gal. container
22	California wax-myrtle <i>Myrica californica</i>	1-3 gal. container
7	Tall Oregon-grape <i>Mahonia aquifolium</i>	1-3 gal. container
8	Purple Leaf Hazel <i>Corylus purpurea</i>	1-3 gal. container
422	Salal <i>Gaultheria shallon</i>	Rooted plants 4" containers/flat
54	Kinnikinnick <i>Arctostaphylos uva-ursi</i>	Rooted plants 4" containers/flat
6	Mock-Orange <i>Philadelphus lewisii</i>	1-3 gal. container
25	Red-Flowering Currant <i>Ribes sanguineum</i>	1-3 gal. container
9	Hooker's Willow <i>Salix hookeriana</i> 'Clatsop'	1-3 gal. container
Total		
591		

Appendix I.

Thurston County Map



Disclaimer: Thurston County makes every effort to ensure that this map is a true and accurate representation of the work of County government. However, the County and all related personnel make no warranty, expressed or implied, regarding the accuracy, completeness or convenience of any information disclosed on this map. Nor does the County accept liability for any damage or injury caused by the use of this map. To the fullest extent permissible pursuant to applicable law, Thurston County disclaims all warranties, express or implied, including, but not limited to, implied warranties of merchantability, data fitness for a particular purpose, and non-infringements of proprietary rights. Under no circumstances, including, but not limited to, negligence, shall Thurston County be liable for any direct, indirect, incidental, special or consequential damages that result from the use of, or the inability to use, Thurston County materials.



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