

**Frink Park Site 3, The Meadow Site
Landscape Renovation Proposal
Fall 2001**



Prepared by:
Tammy Stout, Matthew Ramsay, Daniel Lorensen, Scott Olmsted, Shikyung Park,
Stacey Harris, and Anya LevySmith

University of Washington: EHUF 480
Selection and Management of Landscape Plants
Center for Urban Horticulture
Dr. Linda Chalker-Scott

Introduction

A group of students from the Selection and Management of Landscape Plants class (EHUF 480) of Fall Quarter, 2001, at the University of Washington-Seattle, led by Dr. Linda Chalker-Scott, have developed a landscape renovation proposal for Frink Park Site 3, The Meadow Site. This site is bordered by 31st Avenue on the west side and King Street on the south side. It includes the area just north of the trail that begins at the entrance to the park at 31st Avenue and Jackson Street and is bounded on the east edge by the remains of an old tennis court that is now covered with turf. This proposal contains recommendations for the design, installation, and maintenance of a landscape in Frink Park that will be implemented collaboratively between the Seattle Parks Department, the surrounding neighborhood, and Friends of Frink Park.

This landscape management proposal has several goals. Most importantly, we wish to provide a framework for the installation and maintenance of a healthy sustainable landscape that combines the naturalistic character of the park with the desire for access and usage by members of the community.

This group of students from EHUF 480 investigated various aspects of the site as they affect landscape conditions. We took into account physical, biological, regulatory, and cost considerations in creating this proposal.

Site History and Usage

Native peoples historically used Frink Park, an area in southeast Seattle, for camping and fishing. Later, a coal transport route ran through the area. Eventually, a warehouse and ferry were operated in the area near Lake Washington. Frink Park was probably logged or “high-graded” in the late 1800s or early 1900s. In the 1890s there were several landslides in the area and subsequent erosion near the creek. A cable car trestle was constructed in the 1880s but was removed in 1900. In the early 1900s, the Olmsted brothers were hired to design a plan for the Frink Park area. They envisioned the park as a place of natural beauty that the public would enjoy. The waterfall, bridge and numerous trails were constructed during this time. A clay tennis court was added in 1911 and abandoned in 1956. There is no evidence of a planting plan for the park, which corresponds with the Olmsted plan to leave the area largely unchanged. However, there are some indications that the invasive species now present there were intentionally planted. Currently the meadow area is used mostly for dog play. Trail use is sporadic, with heaviest traffic on weekday evenings and weekend mornings.

Existing Plant Material

The existing vegetation at the Meadow Site is a mixture of juvenile to mature ornamental and native species with a predominantly deciduous canopy and extensive swaths of invasive species in the understory. Native herbaceous species are almost entirely absent from this site. As relatively shorter-lived deciduous trees have reached maturity and begun to decline, they have

created a closed, shaded, canopy, under which their own seedlings do not tend to establish. The general lack of conifers as a seed source also means conifer regeneration is not replacing the canopy as it should in natural succession. The low seasonal light availability caused by the mostly deciduous canopy has also contributed to the proliferation of invasive species in the understory. Lastly, this site is influenced by “edge effects” which pose a particular set of stresses and influences.

City Ordinances And Seattle Parks Department Requirements

The Frink Park area is governed by the City of Seattle and Seattle Parks Department regulations. City ordinances regulate planting near sidewalks and curbs Seattle municipal code requires that public views of significant natural and man-made features be protected. All work in the park set forth in this plan with fall under the category of park maintenance.

Hydrology Report

Hydrological test were performed onsite to determine water movement on and through the soil as well as its availability to the plants. After visual inspection of potential test sites, holes were dug and filled with 300ml of water for percolation tests. Most of the areas on our site had good drainage with the exception of those at the base or toe of the slope coming off of 31st Avenue. This slow percolation is probably the result of clay soil leftover from when the tennis court, and could lead to soil saturation and standing water. These soil conditions should be addressed either by soil remediation or by the selection of plants to be installed here.

Soil Analysis

Project Area 3 was divided into 5 soil areas for analytical purposes. Three to five samples were taken in each area excluding soil area 5, which is the clay tennis court area and will not be planted but left intact as turf. This turf area is extremely compact and could use aeration. In soil areas 1-4 a soil pit/profile was dug to approximately 15” in order to investigate the different horizons and soil textures. Most of the soil in the area is sandy-loam or sandy-clay loam with little organic matter accumulation. Generally, this area is a secondary forest with some clay areas due to the construction of the tennis court in the early 1900’s and is not representative of typical urban soils (as demonstrated by the gradual transition zones and by the historical section in the Frink Park Concept plan). The following tables show laboratory results for nutrient analysis.

Sample ID	Total carbon %	Total Organic Matter %*
Soil Area 1	.913	1.602
Soil Area 2	1.572	2.758
Soil Area 3	2.863	5.024
Soil Area 4	2.577	4.522

- This is based on the assumption that soil organic matter = organic carbon * 1.755 (Rosewell & Edwards 1988).

sample ID	C	N	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
	%	%	Ca	Fe	K	Mg	Na	P	Pb	S	Se	Zn
Soil area 1	0.913	0.087	4543	26491	1425	7177	169	582	74	202	664	220
Soil area 2	1.572	0.113	3947	22247	1557	5864	122	502	64.7	239	547	76.5
Soil area 3	2.863	0.1168	4965	16940	2925	5345	134	861	60.3	268	424	169
Soil area 4	2.577	0.17	4543	18807	956	4772	163	750	79.5	276	471	89.2

Design

This design proposal takes into account many factors affecting the site and its neighborhood, including the site’s ecological value, the feasibility of the landscape renovation, existing soil and light conditions, public needs and comments, and current use patterns. The goal of this design is to make the meadow and surrounding hillside area more inviting to people while enhancing the ecological health and integrity of the urban forest there. This goal will be accomplished by integrating the original Olmsted vision with the current use and site conditions in order to balance the dynamic characteristics of an ecological landscape with the value of a cultural one. To increase park enjoyment by neighbors, it is essential to enhance the park’s identity through coherent design elements. This design attempts to strengthen the connection between nature and people through improved planting design, signage and trail construction.

The design proposal consists of five elements:

- Define vegetated park edge and boundary along 31st Avenue by using appropriate vegetation and signage.
- Create a better connection between the neighborhood and the park through increased visibility and more convenient access.
- Improve the pedestrian trail access entrance south of 31st Avenue and Jackson Street and create a new trail on the edge of 31st Avenue and King Street that connects to the meadow area.
- Decrease invasive plant species while increasing native plant species diversity.
- Stabilize slopes by reducing erosion and increasing root mass.

Site Preparation

In order to prepare this site for successful plant installation and landscape renovation, invasive species will need to be controlled and the steep slope will need to be stabilized. Non-native and select native trees should be removed in order to increase levels of available light and soil nutrients for the more desirable new plantings. When removing invasive species, it is imperative to protect desired species from damage. Species-specific methods of invasive species control and detailed recommendations for non-invasive species removal are presented in the full report. A Licensed Pesticide Applicator, possibly from Seattle Parks Department, will be required to apply any recommended herbicides. Once invasive species are cleared, the soil on the slope will

be more vulnerable to surface erosion and compaction. Slope stabilizing measures should be implemented as soon as soil is cleared of vegetative cover and immediately followed with a mulch layer in order to protect soil from erosion and compaction as further work progresses. To stabilize the slope, wood that was cut during tree and shrub removal should be retained to be placed perpendicular to the fall line of the slope, on top of coir cloth matting, anchored with stakes, and covered with mulch. This site preparation work should be implemented during the driest season of the year. Once the site is cleared, stabilized and mulched, planting can follow, as soon as ideal environmental conditions permit and plants are available. Therefore, careful timing and planning are necessary to anticipate material and labor needs for each phase of the site preparation and subsequent installation process. A sample workplan table is provided in Appendix C to assist with this planning process. Additional steps should be added to the overall process as the Friends of Frink Park and Seattle Parks Department see fit.

Plant Selection

The Frink Park Concept Plan specifically recommends that the design of the park impart a “feeling of ungrooved natural space whilst finding a balance between neighborhood concerns and park visibility, access, and usage”. There is also a desire to better maintain and define vegetated park edges and boundaries along public corridors.

The plant selection process at Frink Park was influenced by five factors:

- The Frink Park Concept Plan and community input
- Specific ecological needs of the separate areas of the site
- A desire to restore native character to the land
- A need for the inhibition of invasive recolonization while increasing native plant diversity
- The goal of increasing overall visual appeal to the site while decreasing the underused, uncared feel of the space so that the community is encourage to utilize the park.

Plant Installation

Installation of the plants should follow invasive species removal, slope stabilization, and trail installation to prevent trampling damage to the plants. Frink Park Site 3 contains five general planting areas: **1)** the sidewalk area; directly east and next to the sidewalk on 31st Avenue, **2)** the shrub interface next to the sidewalk planting that provides a visual and physical interface between the sidewalk area and steep hillside, **3)** the steep hill planting, **4)** the wet clayey soil in the gully and at the base of the hill on the meadow, and **5)** both sides of the existing trail that connects 31st Avenue and the meadow. Each of these areas contains site-specific species and is discussed separately in the full report. Refer to Appendix A: Frink Park Design Proposal for the planting plan; Appendix C: Site Preparation, Installation, and Aftercare Schedule for appropriate planting times; and Appendix B: Plant Selection Chart for spacing recommendations.

Trail Installation

The trail from the new entry point at 31st Avenue and Jackson Street should be installed according to the specifications in the Frink Park Concept Plan. It will be 36” wide in compliance with other Frink Park trails and covered in crushed rock. Space should be cleared on the side of the trail for safety. Checksteps should be installed whenever the ground slopes more than 20 degrees. We estimate that 15 checksteps will be necessary.

Signage

To make the site more inviting to the public, it is essential to enhance the entrances with visual cues that differentiate park property from private land. Signage should be installed at the original entrance between 31st Avenue and Jackson Street and the new entrance at 31st Avenue and King Street. These signs will be simple low-key markers in compliance with the Frink Park Concept Plan for minor entrances. We suggest a simple marker (approx. 24”-30” tall) on a painted aluminum frame with a plexiglass window that displays the park name and site ecology information to adequately identify a pedestrian entrance without creating visual clutter.

Aftercare And Maintenance

Aftercare and maintenance for this site can be broken into two areas: the meadow area composed of turf and the rest of the site comprised of existing vegetation and new plantings. We consider these areas separately as their aftercare and maintenance needs are different. The new plantings should be watered at least once a week in the summer months while not allowing them to completely dry out in the spring, fall and winter. Mulch should be applied once a year to maintain a depth of 3-6 inches throughout the site. Stakes should only be applied if necessary and should be kept loose and removed after one year. Pruning should only be necessary to remove dead or damaged plant material. Weeding should take place at least four times a year, at least twice during the growing season. Weeding should be concentrated around the new plantings and existing vegetation first. The lawn should be mowed as necessary to keep the grass height at about 2 inches. It should be watered about 1 inch per week in the summer. In the spring the lawn should be evaluated for possible dethatching and aeration.

References

Harper, Karen and Fischer, Marcia (Sheldon & Associates, Inc.), and Mark Mead (Seattle Parks Department). 2000. Frink Park and Upper Leschi Park Concept Plan.

Harris, Richard Wilson, James R. Clark, and Nelda P. Matheny. 1999. Arboriculture: Integrated management of landscape trees, shrubs, and vines. Prentice Hall, Inc, Upper Saddle River, New Jersey. 687 pages.

Ivy Removal Project. Removal Methods. Retrieved November 30, 2001 from the world wide web:
http://www.noivyleague.com/Pages/control_methods.html.

Pojar, Jim and Andrew MacKinnon. 1994. Plants of Coastal British Columbia. Ministry of Forests and Lone Pine Publishing, Vancouver, British Columbia. 528 pages.

Potash, Laura and Carol Aubry 1997. Mt. Baker-Snoqualmie National Forest Native Plant Notebook Mt. Baker-Snoqualmie National Forest and North Cascades Institute Sedro-Woolley, WA. 413 pages.

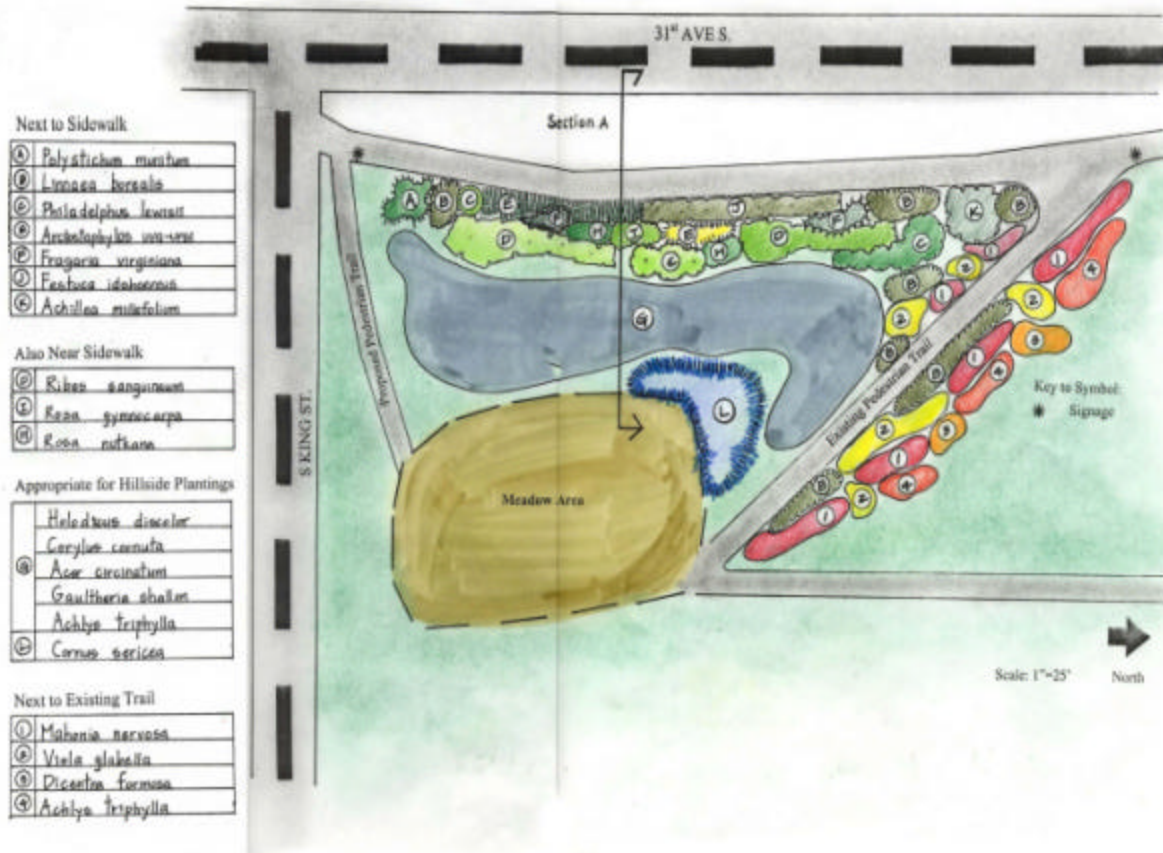
Rosewell, C.J. & Edwards, K. 1988, *SOILOSS - A Program to Assist in the Selection of Management Practices to Reduce Erosion*, Soil Conservation Service of NSW, Sydney.

Stahnke, Gwen. Lawn Care Now For A Dry Summer Ahead. April, 2001. Washington State University Cooperative Extension. Retrieved November 30, 2001 from the world wide web:
<http://gardening.wsu.edu/column/04-15-01.htm>.

Sunset Western Garden Book Seventh Edition (2001). Brenzel, K.N. (Ed.) Sunset Publishing Corporation. Menlo Park, California. 768 pages.

Appendix A Frink Park Design Proposal

FRINK PARK DESIGN PROPOSAL



Appendix B: Plant Selection Chart

<u>Plant species</u>	<u>Appropriate Planting Area</u>	<u>Preferred Environmental Conditions</u>	<u>Spacing</u> See appendix D in the Frink Concept plan.	<u>Benefits</u>	<u>Wholesale price*</u>	<u>Notes</u>	<u>Total Needed</u>
<i>Festuca idahoensis</i> Idaho Fescue	Next to the sidewalk, exposed sunny area	Full sun, can withstand droughty conditions	1'	Nice groundcover, blue foliage—will improve edge appearance; can withstand sun and drought.	1.00		25
<i>Fragaria virginiana</i> wild strawberry	Next to the sidewalk, exposed sunny area	Prefers some shade—tolerant of full sun, droughty conditions	1'	Nice groundcover, can withstand sun; will improve edge appearance.	1.50/4"		25
<i>Arctostaphylos uva-ursi ssp.uva-ursi</i> kinnikinnick	Next to the sidewalk, exposed sunny area	Full sun, can withstand droughty conditions	1.5'	Nice groundcover; will improve edge appearance.	1.25/4"		25
<i>Achillea millefolium</i> yarrow	Next to the sidewalk, exposed sunny area	Full sun, can withstand droughty conditions	1'	Nice groundcover, drought tolerant; will improve edge appearance; white flowers and pretty foliage	1.25/4"		15
<i>Ribes sanguineum</i> flowering red current	Next to the groundcovers, between the sidewalk and crest of the hill; somewhat exposed	Can withstand dry soil; grows in sun or shade	5'	Red spring flowering shrub, can help deter traffic from the sidewalk down the slope.	3.25/1 gallon		18
<i>Rosa nutkana</i> Nootka Rose	Next to the groundcovers, between the sidewalk and crest of the hill; somewhat exposed	Can withstand dry soil; grows in sun or shade	5'	Pink spring flowering shrub, can help deter traffic from the sidewalk down the slope (thorny)	3.00/1 gallon		5
<i>Rosa gymnocarpa</i> Bald hip rose	Next to the groundcovers, between the sidewalk and crest of the hill; somewhat exposed	Can withstand dry soil; grows in sun or shade	5'	Pink spring flowering shrub, can help deter traffic from the sidewalk down the slope (thorny).	3.25/1 gallon	Could probably use a few more if necessary.	5
<i>Philadelphus lewisii</i> var. <i>gordonianus</i> Mock orange	Next to the groundcovers, between the sidewalk and crest of the hill; somewhat exposed	Can withstand dry soil; grows in sun or shade	5'	White summer flowering shrub (fragrant), can help deter traffic from the sidewalk down the slope.	3.00/1 gallon		16

<u>Plant species</u>	<u>Appropriate Planting Area</u>	<u>Light/Water Requirements</u>	<u>Spacing</u> See appendix D in the Frink Concept plan.	<u>Benefits</u>	<u>Wholesale price*</u>	<u>Notes</u>	<u>Total Needed</u>
<i>Holodiscus discolor</i> Oceanspray	Next to the sidewalk planting, between the sidewalk and crest of the hill; somewhat exposed	Dry, or damp sun to partial sun	5'	Spring/summer flowering shrub, can help deter traffic from the sidewalk down the slope.	3.00/1 gallon		5
<i>Corlys cornuda</i> Beaked hazelnut	Next to the groundcovers, between the sidewalk and crest of the hill; somewhat exposed	Dry, or damp sun to partial sun	2'	Can help deter traffic from the sidewalk down the slope.	3.25/1 gallon		7
<i>Acer circinatum</i> Vine maple	On the hillside, steep slope areas	Dry, or damp sun to partial sun	12'	Slope stabilizer! Nice form and red fall foliage	3.00/1 gallon 6.00/2 gallon		10
<i>Polystichum munitum</i> Sword fern	On the hillside, steep slope areas—and next to the sidewalk planting	Shaded, dry coniferous areas	5'	Nice foliage...slope stabilizer!	3.00/1 gallon	deer fern would look nice and do great in the same areas, it is smaller with less soil holding properties.	21
<i>Gaultheria shallon</i> Salal	On the hillside, steep slope areas	Shaded, dry coniferous areas	2'	Nice foliage...slope stabilizer!	1.75/4" 3.50/1 gallon		15
<i>Achlys triphylla</i> <i>spp. triphylla</i> Deerfoot Vanilla leaf	On the hillside, steep slope areas—also on both side of the trail from 31 st Ave.	Shaded, dry coniferous areas	1.5'	Nice foliage...slope stabilizer!	1.50/4"		25
<i>Mahonia nervosa</i> Oregon grape	Next to the trail on either side	Shaded, dry coniferous areas	2'	Deters traffic from wandering off the path; bright yellow spring flowers; nice foliage	1.75/4" 4.00/1 gallon		10
<i>Linnaea borealis</i> twinflower	Next to the trail on either side—also next to the sidewalk area.	Shaded, dry coniferous areas	1.5'	Small white flower; shiny foliage	1.50/4"		42
<i>Viola glabella</i> yellow wood violet	Next to the trail on either side	Shaded, dry coniferous areas	1'	Pretty foliage and yellow spring flowers	1.50/4"		15
<i>Dicentra Formosa</i> bleeding heart	Next to the trail on either side	Shaded, dry coniferous areas	2'	Pretty foliage and pink spring flowers—spreads.	1.25/4"		10
<i>Rubus ursinus</i> trailing blackberry	Next to the trail on either side		2'	Deters traffic; pretty blue foliage.		Keep in the shadier areas— could spread —	0- thus far

<u>Plant species</u>	<u>Appropriate Planting Area</u>	<u>Light/Water Requirements</u>	<u>Spacing</u> See appendix D in the Frink Concept plan.	<u>Benefits</u>	<u>Wholesale price*</u>	<u>Notes</u>	<u>Total Needed</u>
<i>Cornus sericea</i> also called <i>Cornus stolonifera</i> ed osier dogwood	Wet areas at the base of the hill and in the gully area	Wet shady areas	3'	Likes wet soil; very pretty red foliage and stems; will form bushes and compete with invasives.	2.75/1 gallon 6.00/ 2 gallon		10
Conifers: Douglas fir (<i>Pseudotsuga menziesii</i>), Sitka spruce (<i>Picea sitchensis</i>), or Western red cedar (<i>Tsuga heterophylla</i>)	On the large steep slope, to the east of 31 st Avenue, in the gap areas.		12'	Assists with the succession of the forest and conifer recruitment. Promotes native character and habitat.	6.00/2 gallon	This site may not be conducive to planting more than one or two conifers. Two grand firs have been planted fairly recently in this site.	1 or 2

* Wholesale prices obtained from Sound Native Plants, Olympia, WA.

Activity	Year 1										Year 2											
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Invasive, non-native species removal	█	█	█	█	█								█	█	█							
Selective non-native or native tree removal			█	█	█																	
Erosion control and Slope stabilization measures				█	█	█																
Trail Construction			█	█	█	█																
Canopy inspection and pruning									█	█	█											
Plant installation- Bare root									█	█	█											
Plant installation- Containers							█	█	█	█	█											
Apply or refresh mulch				█	█	█	█	█	█				█	█	█	█						
Irrigation															█	█	█	█				
Weeding													█	█	█	█	█	█				

Appendix C: Site Preparation, Installation, and Aftercare Schedule

Guidelines for considering best seasons for activities and sequencing of activities relative to each other.



The UW students who wrote this report