



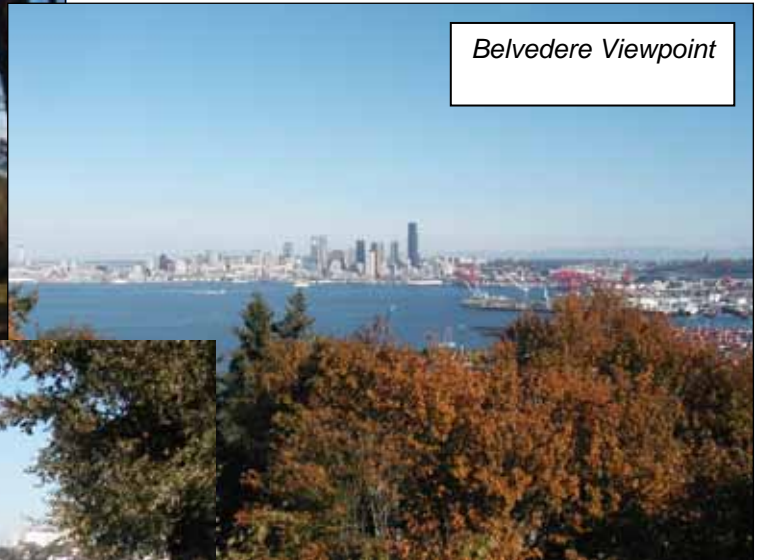
Vegetation Management For Seattle Parks Viewpoints

Revised DRAFT
April, 2005

Louisa Boren Viewpoint



Belvedere Viewpoint



Dr. Jose Rizal Viewpoint



Original Draft by:

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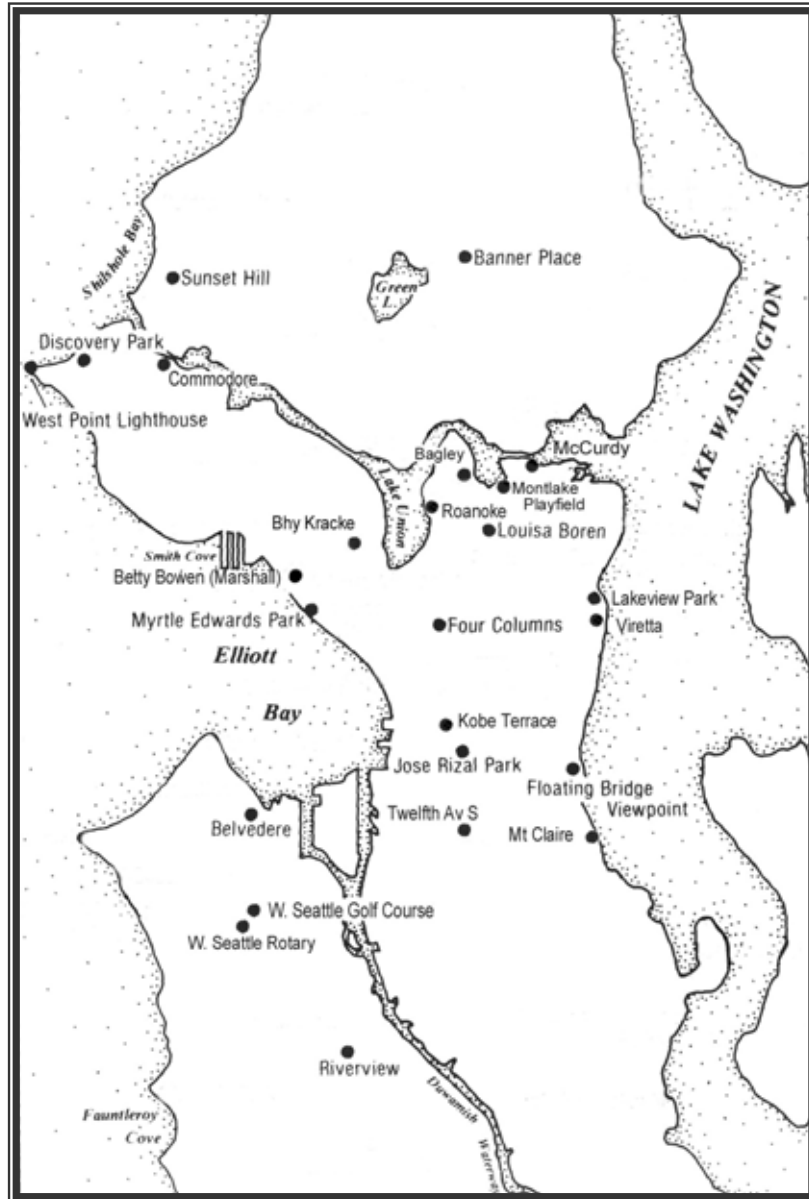
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Seattle Parks Viewpoint Vegetation Management Plan Study Sites

Composite Map



Map from *Enjoying Seattle Parks*
by Brandt Morgan

Project Summary

Vegetation Management for Seattle Park Viewpoints

The City of Seattle Parks and Recreation (SPR) has recognized the value of the regions natural and built resources by acquiring view properties of the Olympic and Cascade mountain ranges, Puget Sound, local lakes, and the downtown skyline. The extent of intended views varies with each site and are determined and protected by visual guidelines set by the State Environmental Protection Agency (SEPA) in the document, *Seattle Views*, 2002. Many of the city's viewpoints have become threatened due to visual obstruction from native trees and invasive vegetation that inhabit the sites. The Urban Forestry staff of SPR directed this study in an effort to develop a strategy for addressing the restoration and long-term maintenance of these parks.

Evaluations of more than 35 sites were performed to provide vegetation and site analysis that could be used to develop restoration projects. These projects were organized into three Maintenance Categories:

- 1) Canopy Conversion** –Site renovation through tree pruning and removal, control of invasive weeds and restoration planting
- 2) Pruning and Invasive Weed Removal** –View restoration by tree pruning and weed removal
- 3) Slope Stability and Erosion Control** –Site restoration includes erosion control and/or slope stability concerns

Based on need, twenty-four park sites were selected from those evaluated for the development of Vegetation Management Plans (VMP) and were assigned one of the three Maintenance Categories for site renovation. In addition to maintenance prescriptions, Landscape Management Zones were defined to indicate areas requiring restoration:

- Zone 1 – Developed Park Landscape** areas
- Zone 2 – Transition** areas at the top of slopes
- Zone 3 – Hillside** or shoreline locations

Each park has been mapped locating the relevant management zones. Parks selected for VMP's will provide prototypes for developing future vegetation management templates for other viewpoint parks as the needs arise.

The narrative section of this report describes the approach and criteria used in determining the scope of work and tasks needed to both 1) restore views and 2) provide long-term care to manage park land and maintain views. The following issues were considered to assign project priority and phasing: availability of financial resources, visual and physical needs, park use and

concurrent landscape projects. Final project priority will be determined through the collaborative efforts of the Urban Forestry and Park Maintenance staff. The individual Viewpoint projects will follow all applicable Park and City policies and procedures including internal review by Landscape and Engineering professionals, all appropriate levels of public involvement, and reviews of applicability of SEPA procedures.

VIEWPOINT MANAGEMENT AND MAINTENANCE REQUIREMENTS

Viewpoint Park	% intended view (2004 status)	Maintenance Priority	Critical Area / Steep Slope	WORK REQUIRED						MANAGEMENT ZONES			MAINTENANCE FREQUENCY		
				Tree Pruning	Tree Removal	Slope and Erosion Control	Invasive Weed Removal	Replanting	Canopy Conversion	ZONE 1 Landscape	ZONE 2 Transition	ZONE 3 Hillside	5 - yr cycle	3 -yr cycle	Annual
1. Canopy Conversion															
Betty Bowen (Marshall)	40	Highest	Yes	X	X		X		X		X	X			X
Lakeview Park	75	Highest	Yes	X	X	X	X		X			X		X	
Louisa Boren Viewpoint	65	Second	Yes	X	X	X	X		X		X	X		X	
Riverview Playfield Park	30	Highest	Yes	X	X		X		X		X	X			X
Dr. Jose Rizal Park	90	Highest	Yes	X		X			X		X	X		X	
2. Tree Pruning and/or Invasive Removal															
Boren-Pike-Pine (4-Columns)	80	Second		X			X	X		X	X	X	X		
Discovery Park/Daybrk Star	75	Third	Yes	X			X	X			X	X		X	
East Portal - I-90 Overlook	95	Third	Yes	X				X					X		
McCurdy Park	10	Highest	Yes	X			X					X	X		
Montlake Playfield Park	10	Highest		X	X		X		X			X		X	
Myrtle Edwards Park	95	Third	Yes	X			X	X		X			X		
Rainbow Point (Banner Place)	80	Third		X								X	X		
Roanoke Street Mini-Park	50	Second		X		X	X	X		X		X	X		
Sunset Hill Park	90	Second	Yes	X			X				X	X		X	
Twelfth Avenue South Park	85	Third	Yes	X		X	X				X	X	X		
Viretta Park	50	Second	Yes	X			X			X		X	X		
West Seattle Golf Course	75	Third		X						X		X	X		
West Seattle Rotary Park	50	Highest			X	X	X				X	X		X	
3. Slope Stability and Erosion Control															
Bagley Park Viewpoint	50	Second	Yes	X	X	X	X	X			X	X		X	
Bhy Kracke Park	25	Highest	Yes	X	X	X	X	X		X		X		X	
Commodore Park	50	Second	Yes	X	X	X	X	X			X	X		X	
Kobe Terrace Park	90	Third	Yes	X		X		X		X			X		X
Mt Claire Viewpoint - Mt. Baker	85	Third	Yes		X	X	X	X			X	X	X		
Belvedere VP (Admiral)	90	Second	Yes	X			X				X	X		X	

I Introduction

Seattle is uniquely situated among the ridges and valleys of the Puget Sound lowlands allowing for spectacular views from the natural geographic features of the Olympic and Cascade Mountain ranges, and the waterways of Puget Sound, Lake Washington and Lake Union. In addition to its natural features, Seattle's urban setting provides spectacular viewsheds of the downtown skyline, historic landmarks, neighborhood architecture and built structures such as the Space Needle and the Lake Washington Ship Canal.

The Seattle Department of Parks and Recreation (SPR) has acquired a wide range of parkland offering public view. The view from these sites is protected under the Master Use permit and the State Environmental Protection Act (SEPA). Some of these public viewpoints are have been threatened by development activity. Recent studies have been conducted to inventory park sites, document SEPA designated views, and determine the impacts of development on viewpoints. In addition to the threat of development, there is also a threat of view obstruction by vegetation. Reductions in maintenance funds allowed trees and vegetation to block many of the designated public viewpoints. SPR has begun the process of evaluating landscape maintenance and management issues to optimize designated views. The intent is to develop a Vegetation Management Plan that provides public view access to the region's natural and built features through the creation of sustainable vegetative communities. The City of Seattle is committed to conservation, and is dedicated to providing a legacy for future generations of residents and visitors by preserving the views and vistas that naturally highlight the unique topography of Seattle.

The intent of this document is to provide a set of guidelines that will integrate current practices, future vegetative needs and the management objectives of the site. All site specific work will be done in accordance with current SPR practices and procedures, and with the involvement of the surrounding community.

Goals and Objectives

In finding a balance between natural resource conservation and view preservation, the SPR's primary goals for developing a Vegetation Management Plan for viewpoints are:

- to protect designated public views
- to protect steep slopes from erosion and surface water run-off
- to provide maximum native habitat value for wildlife
- to minimize hazard potential and optimize public safety

- to provide consistent, pragmatic management direction to establish and maintain sustainable vegetation for all viewpoints
- to derive the initial project needs for each viewpoint
- to provide a baseline for the development of specific plans that address both neighborhood and citywide needs and concerns.

As part of the development of the Viewpoints Vegetation Management Plan an extensive review was completed of previous studies and documents. Consistent with preceding and on-going work by the SPR, this plan incorporates practices set forth by Seattle Parks Best Management Practices, adopted Vegetation Management Plans for specific parks with viewpoints, polices and procedures related to SPR Public Involvement Process (PIP) and recommendations from maintenance and professional staff.

The Vegetation Management Plan for Viewpoints addresses the following objectives:

- 1) evaluates pre-determined viewpoints to assess current maintenance and management needs;
- 2) categorizes viewpoints based on shared site conditions and maintenance requirements to optimize intended viewsheds;
- 3) develops maintenance prescriptions that can be applied to all sites having similar conditions with consideration given to sustainable management practices;
- 4) defines maintenance practices and the appropriate labor force for each viewpoint.

Viewpoint Site Selection Criteria

Park sites included in this study provide the basis for developing viewpoint maintenance criteria. Site conditions range from steep hillsides, to shoreline habitats, and to 'pocket' parks adjacent right-of-ways. View-types also vary from panoramic vistas to framed and secondary views.

A landscape management framework has been established from the evaluation of these diverse sites and conditions. The Vegetation Management Plan will provide the maintenance templates needed to continue viewpoint management over time for all existing viewpoint parks as well as new sites as they are acquired. The 24 parks addressed in this report meet one or more of the following criteria as determined by the Urban Forestry Division:

- SEPA view designation with a significant vegetation component affecting current views
- No current landscape maintenance or management plan

- Highly valued property proposed for viewpoint status but not currently designated

II View Management Landscape Zones

The management of each viewpoint is subdivided into three management zones. Management zones are primarily defined by the location along the slope of the site and the potential impact of vegetation within the zone on the view. Work prescriptions are designed to address maintenance issues within each zone based upon the needs of the site. The three zones are described as follows:

Zone 1 – Developed park landscape

This area has the most level grades and is located at the top of a slope. Zone 1 is usually the most accessible portion of the site and the most actively used for park functions. Zone 1 is generally the viewing area of the viewpoint. Maintenance demands are often the greatest in this developed portion of the park. The vegetation in Zone 1 often includes turf and ornamental plants requiring regular pruning and more attention than the naturalized areas.

For most viewpoint parks, the SPR provides site furnishings in Zone 1 to support and encourage the use of the park. Benches, trash receptacles and often defined viewing locations have been marked to enhance and enrich the viewing experience.

Currently, the maintenance in Zone 1 for most viewpoint sites is managed by the local Park District maintenance staff.

Zone 2 – Transition area at crest of slope

This zone is located at and immediately below the slope. Depending upon the site, grades in the transition zone can range from a ridge to a gentle slope, or a bluff condition where erosion issues are of paramount concern. Since erosion potential is highest at the crest of all slopes, vegetative cover is critical in minimizing surface soil attrition and preventing the loss of land from surface erosion. Management of Zone 2 will be given highest priority in protecting the developed portions of the park from eroding.

The transition zone also separates Zone 1, the developed park landscape with the highest maintenance requirements from the more naturalized hillsides with fewer and less frequent maintenance demands.

Many established SPR viewpoints have successfully defined the transition zone with a single or double row of shrubs creating a hedge effect.

Because of the success of these established locations, it is recommended that a similar treatment be implemented for all SPR viewpoint sites. This management prescription functions to:

- visually define the edge of the slope
- create a natural barrier for public safety
- protect the top of slope from both surface and sheet erosion
- provide a physical definition for scope of maintenance work between the developed park and the naturalized urban forest
- presents an aesthetic appeal, reinforcing the value as a public amenity

Plant selection

Since maximizing views is of greatest importance in managing these parks, plants historically located in the transition zone required routine pruning to maintain viewsheds. Typically, plants used as hedges in the transition zone have been labor intensive requiring frequent ‘topping’ or hedging to maintain height and size .i.e. English holly, English laurel.

Since the intent of viewpoint vegetation management prescriptions is to reduce labor costs and maintenance demands, plant selection proposed for the Zone 2 –Transition Zone will be plant species that do not require routine pruning to optimize views. Plant selection will be based on the following criteria:

- genetically predetermined not to exceed a general height of 3-4 feet
- growth habit provides a physical barrier with appropriate spacing
- cultural requirements reflect the winter wet and dry summer cycle
- available within the local nursery industry.
- meet Crime Prevention Through Environmental Design (CPTED) guidelines (enclosed in appendices)
- input from the community.

Zone 3 – Hillside

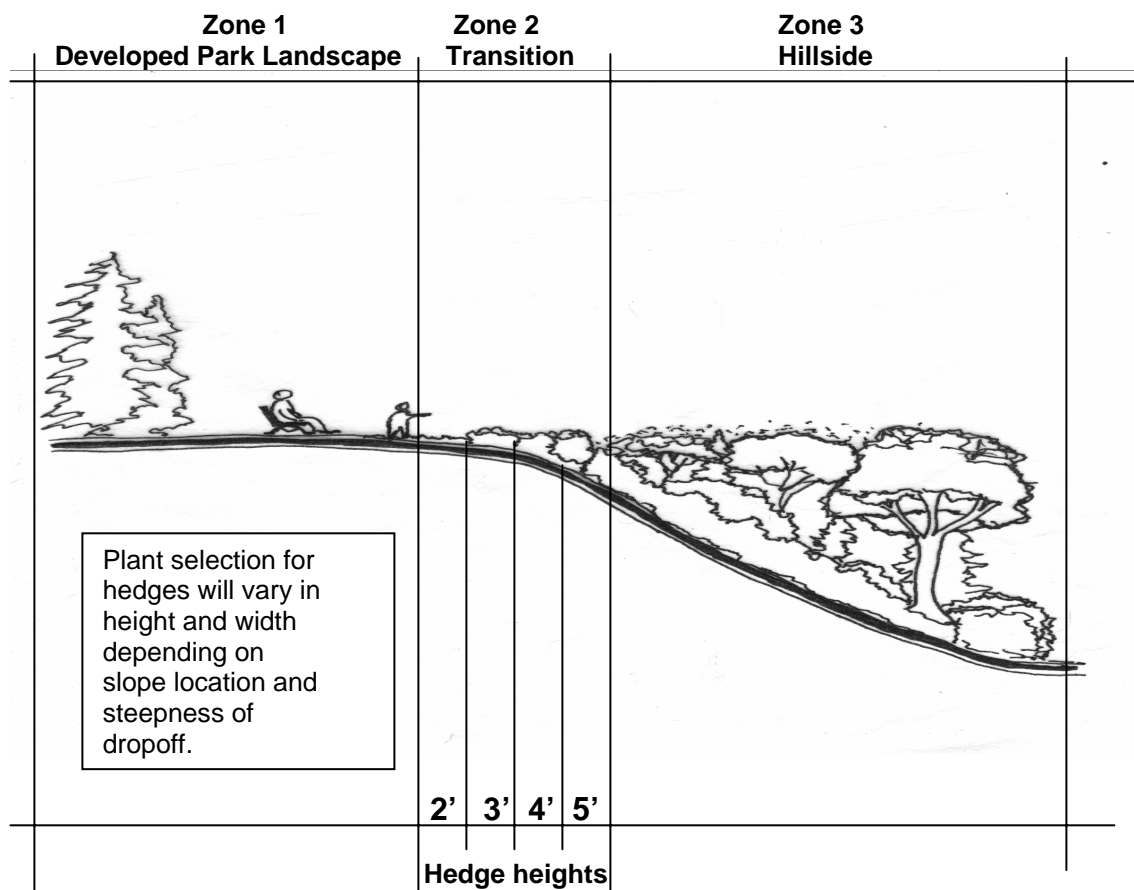
The hillside zone shall be managed toward natural conditions, requiring the least intensive maintenance. Plantings and management in this zone will encourage vegetative cover with plants that characteristically:

- vary in root development; offering a range in depth and density for soil stability
- provide habitat for wildlife
- adapt to minimal maintenance
- are adapted to the typical wet and dry cycles of the region
- provide screening for adjacent/downhill property owners.

Native plants are well suited to this zone and many native species already exist in some sites. These can be augmented with additional natives after tree management and invasive weed removal occurs. Specific management prescriptions for each hillside condition are noted in the Site Evaluation and Management Recommendation section of the plan.

The figure below graphically represents a typical section of the Landscape Management Zones.

Figure II - 1



III. Management Prescriptions

Seattle's viewpoint parks are located in a variety of physical settings, ranging from developed shoreline locations to more naturalized sites perched at the top of slopes or along hillsides. The twenty four sites evaluated for the Vegetation Management Plan are representative of the range of conditions and maintenance issues at viewpoint parks.

Any site that has gone through restoration will require annual maintenance to prevent weed invasion and plant loss. The established urban forest of many sites can be managed on a 3-5 year cycle with only occasional attention to view pruning and tree removal. To address both immediate maintenance issues, as well as long-term care, Vegetation Management prescriptions address both:

- 1) initial maintenance strategies to restore views, or renovate unused and/or disturbed sites
- 2) post restoration and/or general maintenance schedules for long-term care

Maintenance Strategies for Existing Conditions

The initial analyses of each site determined the range of management tasks needed to address current conditions and restore sites to their intended view and use. Though not all sites will require each task, the following list of horticultural practices identifies key maintenance components:

- tree removal
- tree pruning
- invasive weed removal
- erosion control
- planting
- mulching
- irrigation

To determine the extent of work and organize a course of action, view sites are categorized and grouped according to the horticultural practices and the scope of work required for restoration. If initial restoration efforts are significant in scope, these activities may be phased over three to five years. The following three maintenance categories are used to classify sites according to the initial management approach selected for the site, and are described below:

- 1) Canopy conversion, replacing and restoring vegetation
- 2) Tree pruning and weed removal,
- 3) Slope stability and erosion control.

:

1) Canopy Conversion

Sites identified for canopy conversion meet one or more of the following criteria:

- major tree removal due to previous 'topping' practices, poor health and condition
- understory vegetation is dominated by invasive weed species
- viewshed is obstructed with inappropriate species of tall trees

The canopy conversion category is reserved for sites where more than 70% of the intended SEPA view is obstructed by the adjacent urban forested condition. This management strategy infers a renovation of the site followed by restoration to convert the dense canopy impediment to a more genetically preferred planting of tree, shrubs and groundcovers that will not block views over time. The maintenance tasks for canopy conversion sites generally include tree pruning, tree removal, invasive weed elimination, erosion control (where necessary), planting and mulching.

2) Pruning Required and/or Invasive Weed Removal

Viewpoints listed for pruning and weed elimination generally have 80% or greater of the SEPA intended view in tact. Pruning standards will be primarily limited crown thinning. However, where specific tree canopies cause major impacts to the view corridor, crown reduction may occur.

Frequently, sites listed for pruning and weed removal have major sections of hillsides invaded with opportunistic weeds. On sites where invasives are well established, more preferred species are unable to compete. In most cases, weed eradication will need to occur in several phases of both physical and chemical removal. Replanting may need to be considered where weed invasion was severe and exposed soil results from their eradication.

3) Slope Stability and Erosion Control

The management of viewpoint parks is dedicated to protecting and preserving natural resources while enhancing views. Preserving soil and slopes for long term stability is an integral part of all slope restoration work. Sites identified for slope stability and erosion control vary from locations with a minor amount of exposed soil to steep sites with signs of previous mass failures.

There are important distinctions between erosion and slope failure. Both slope stability and erosion control are accelerated by the introduction of more water to a site. Erosion, the surface movement of

soil caused by moving water, is independent from slope failure, which is a function of the geological structure beneath the surface. Erosion is also increased by the removal of vegetation; generally slope failure is not impacted by vegetation removal. This program will directly address changes to surface vegetation which may have a direct impact on erosion potential. Impacts to slope stability will be evaluated by geotechnical professionals on a site by site basis.

Many of the park sites designated for erosion control prescriptions also require tree pruning, tree removal, invasive weed removal and restorative planting depending on existing conditions. Erosion control measures are an important part in mitigating erosion potential increased by these activities. Planting is critical for all exposed soil locations to prevent surface erosion from occurring. Research has shown that vegetation is critical in protecting slopes from surface soil erosion. In addition, planting with a layered canopy of vegetation provides the root structure variety and depth to help stabilize greater depths of soil.

Plants can not prevent an unstable slope from failure. Sites where mass failures have occurred or where seeps are present require a geotechnical/hydrology specialist to evaluate and determine the appropriate approach in stabilizing the slope. All sites within Sensitive Slopes or Environmentally Critical Zones as identified by DPD Critical Areas Ordinance will be evaluated by geotechnical professionals to ascertain the level of slope protection required and/or suitability of the work proposed. As no grading or fill is proposed by this program, potential impacts to slope stability are most likely to occur in regards to changes in the amount of water on site. Careful consideration must be made regarding irrigation of installed plants.

The following sites are adjacent to Critical Areas by Designated by Ordinance as Steep Slopes (greater than 40%).

- Bagley Park Viewpoint
- Belvedere (Admiral) Park
- Betty Bowen (Marshall) Park
- Bhy Kracke Park
- Commodore Park
- Discovery Park / Daybreak Star
- East Portal - I-90 Overlook
- Jose Rizal Park
- Kobe Terrace Park
- Lakeview Park
- Louisa Boren Park
- McCurdy Park

Mt. Claire-Mt. Baker
 Myrtle Edwards Park
 Rainbow Point (Banner Place)
 Sunset Hill Park
 Twelfth Avenue South Park
 Viretta Park

Maintenance Categories for Existing Conditions

The following is a summary of general tasks assigned to each category of maintenance work to be accomplished through this program.

<u>CATEGORY</u>	<u>PRIMARY MAINTENANCE TASKS</u>
1 - Canopy Conversion	1. Tree removal 2. Invasive weed removal 3. Erosion control 4. Layered vegetation planting 5. Mulching
2 - Pruning and/or Invasive Weed Removal	1. Tree pruning 2. Invasive weed removal 3. Planting - Zone 2 Transition hedges and groundcovers 4. Mulching
3 - Slope Stability and Erosion Control	1. Tree removal and pruning 2. Invasive weed removal 3. Erosion control 4. Planting – Zone 2 Transition hedges and groundcovers 5. Mulching

The following table assigns maintenance categories to each of the 24 sites:

VIEWPOINT MANAGEMENT AND MAINTENANCE REQUIREMENTS

Viewpoint Park	% intended view (2004 status)	Maintenance Priority	Critical Area / Steep Slope	WORK REQUIRED						MANAGEMENT ZONES			MAINTENANCE FREQUENCY		
				Tree Pruning	Tree Removal	Slope and Erosion Control	Invasive Weed Removal	Replanting	Canopy Conversion	ZONE 1 Landscape	ZONE 2 Transition	ZONE 3 Hillside	5 -yr cycle	3 -yr cycle	Annual

1. Canopy Conversion

Betty Bowen (Marshall)	40	Highest	Yes	X	X		X		X		X	X			X
Lakeview Park	75	Highest	Yes	X	X	X	X		X			X		X	
Louisa Boren Viewpoint	65	Second	Yes	X	X	X	X		X		X	X		X	
Riverview Playfield Park	30	Highest	Yes	X	X		X		X		X	X			X
Dr. Jose Rizal Park	90	Highest	Yes	X		X			X		X	X		X	

2. Tree Pruning and/or Invasive Removal

Boren-Pike-Pine (4-Columns)	80	Second		X			X	X		X	X	X	X		
Discovery Park/Daybrk Star	75	Third	Yes	X			X	X			X	X		X	
East Portal - I-90 Overlook	95	Third	Yes	X				X					X		
McCurdy Park	10	Highest	Yes	X			X					X	X		
Montlake Playfield Park	10	Highest		X	X		X		X			X		X	
Myrtle Edwards Park	95	Third	Yes	X			X	X		X			X		
Rainbow Point (Banner Place)	80	Third		X								X	X		
Roanoke Street Mini-Park	50	Second		X		X	X	X		X		X	X		
Sunset Hill Park	90	Second	Yes	X			X				X	X		X	
Twelfth Avenue South Park	85	Third	Yes	X		X	X				X	X	X		
Viretta Park	50	Second	Yes	X			X			X		X	X		
West Seattle Golf Course	75	Third		X						X		X	X		
West Seattle Rotary Park	50	Highest			X	X	X				X	X		X	

3. Slope Stability and Erosion Control

Bagley Park Viewpoint	50	Second	Yes	X	X	X	X	X			X	X		X	
Bhy Kracke Park	25	Highest	Yes	X	X	X	X	X		X		X		X	
Commodore Park	50	Second	Yes	X	X	X	X	X			X	X		X	
Kobe Terrace Park	90	Third	Yes	X		X		X		X			X		X
Mt Claire Viewpoint - Mt. Baker	85	Third	Yes		X	X	X	X			X	X	X		
Belvedere VP (Admiral)	90	Second	Yes	X			X				X	X		X	

General Maintenance Practices for Long-term Care

The variation in site conditions and management requirements for SPR viewpoints prohibits the development of a 'general rule' for the fundamentals of long-term landscape maintenance: watering, pruning and weed control. However, regular monitoring will determine if routine (monthly), frequent (quarterly) or sporadic (annually) maintenance is adequate for the site. Since regular maintenance occurs in the developed parts of the park, the staff familiar with the site could integrate the monitoring of viewpoint vegetation into the maintenance schedule. Recognizing the gardener's scope of maintenance work does not include the native growth areas, their regular presence provides an opportune time to review conditions and alert supervisors to maintenance issues before they are out-of-control. Routine site observation and follow-up protocol will avert the need to periodically renovate and restore large areas at considerable cost.

Monitoring after Restoration

After a site has been renovated, a quarterly Field Evaluation Checklist form (Appendix 1.) should be completed to identify impending maintenance needs:

- tree removal
- tree pruning
- invasive weed removal
- erosion control
- planting
- mulching
- irrigation

Managing the Urban Forest

Since major portions of most viewpoint parks are natural areas, management is adapted to a more cyclical approach for maintenance. To maintain views once they are restored, management of the urban forest can occur within a 1, 3 or 5 year cycle depends upon its location, tree species obstructing views, level of visibility and frequency of use. Restoration planting of trees and shrubs must meet the Performance Standards for survival outlined in this plan (located in section IV. Maintenance and Management Procedures/monitoring.) However, all parks should be reviewed bi-annually for any hazard potential or public concern that might arise. One or more of the following criteria determined a park's designation for general maintenance frequency:

5-year maintenance cycle

- Requiring only routine view pruning, crown thinning or crown reduction
- Dominance of conifer species
- Requiring occasional tree removals

3-year maintenance cycle

- Requiring sapling removal i.e. Alders and Big Leaf Maple
- Moderate potential for view obstruction

1-year maintenance cycle

- Sucker regrowth from re-sprouting stumps
- High potential for view obstruction
- Intensive park use and high visibility

Vegetation Management Prescriptions for Viewpoint Study Sites

Individual management prescriptions for each park are found in the final section of this report, VI Site Evaluations and Management Recommendations. Projects at each park will be instituted as separate projects, with appropriate review by internal staff and levels of public involvement. Individual projects will follow established Parks policies to include the Public Involvement Process (PIP, See Appendix 2). Phasing necessary to accommodate budget, scope or planning issues will be developed during this stage of the project. Each document is intended for preliminary field use in the scoping of work necessary at each park and provides the following information:

- Location map and description
- Viewpoint Category
- Summary of Existing Conditions
- Management Prescriptions
- Maintenance of Existing Conditions
- General Maintenance Practices
- Implementation Plan

The scope of work on a site determines the level of planning and public involvement Parks will engage in. The following selected criteria are most applicable to viewpoints to establish the level of Public Involvement required for each site:

Designation as Critical Area

Designations as an Olmsted park

Proposals impact on the sites appearance

Proposals impact on or increase in the use of the site

Neighborhood interest
Proposals impact on surrounding neighbors
Proposals affect on persons with disability or other special populations
Proposals "unintended consequences"
Proposals impact on a documented need:
 Specifically at viewpoints, the loss of recreational opportunity
 Routine maintenance/repair based on a condition assessment

At a minimum one public meeting will be held to discuss projects that meet one or more of the criteria listed above. All projects will post signs notifying neighbors of impending work.

IV. Maintenance and Management Procedures

Slope Stability and Erosion Control

Some of the viewpoint park sites are located on steep slopes potentially subject to instability, surface erosion and land mass movement. Vegetation management prescriptions for each site are outlined which manage existing vegetation and proposes replanting vegetation that supports soil strength and maintain slope stability.

In areas of steep slope, slopes greater than 40%, any activities that may impact geological conditions must be managed by a geotechnical specialist. Subsurface geological stability cannot be achieved through vegetation management. Before projects are implemented, a geotechnical review will be performed by professional engineering staff or contractors. Emphasis will be placed on slopes that meet the ECA Critical Areas Designation. Direct impacts to slope stability are potentially highest from the installation, maintenance and operation of irrigation. All irrigation on slopes will be evaluated and approved by geotechnical staff.

As no excavation or grading is proposed for in this Plan, erosion potential will be limited to those areas cleared of vegetation. Covering exposed soils and preventing surface erosion is the first step in protecting the stability of slopes. Erosion control is the most important reason for planting and maintaining a vegetative cover on slopes.

Mitigation for past practices which lowered soil organic matter levels, cause poor soil structure, and compaction will include the introduction of additional organic matter. The lower nutrient levels often associated with subsoils contributes to lower vegetative cover, which in turn provides less vegetative protection for the soil.

General soil types were identified in each location based upon current information provided from Seattle Public Utilities. Soils type can contribute to

the amount of erosion on a site. The following soil types were found in each location, sites with a “High” Erosion Potential will be evaluated by a geotechnical professional prior to commencement of any work:

Soil Type	Erosion Potential	Found in Park
m (silt/sand/debris/slag)	High	Kobe Terrace Park Myrtle Edwards Park
Qal (silt/sand/gravel)	High	McCurdy Park Montlake Playfield
Qva (sand/silt) (Esperance Sand)	High	Belvedere Park Betty Bowen (Marshall) Bhy Kracke Park Jose Rizal Park Sunset Hill Park
Qvlc (silt/clay) (Lawton Clay)	Moderate	Commodore Park East Portal - I-90 Overlook Lakeview Park Twelfth Avenue South Viretta Park
Qvt (till/hardpan)	Moderate	Bagley Park Viewpoint Boren-Pike-Pine Discovery Park Louisa Boren Park Mt. Claire-Mt. Baker Rainbow Point Riverview Playfield Park Roanoke Street

Planting Layered Vegetation to Increase Soil Stability

Current studies indicate the importance of approaching vegetation management on slopes within natural, open space lands from a long-term and holistic perspective. Surface slope stability studies recommend the value of maintaining multi-layered vegetation for the greatest success in stabilizing slopes. Tree roots help to stabilize soil while pumping excess water from saturated soil in wet conditions. Mid-story shrub layers and ground covers produce fibrous root mats that help to keep topsoil on the slope while also helping to break the impact from rain, minimizing raindrop erosion on exposed soils.

Erosion Blankets

To retain soil on slopes 30% or greater, or areas identified by professional engineers, an erosion control mat is to be applied prior to planting. Erosion control mats are manufactured for a range of conditions and purposes. Typically, mats adhere to the soil with 20" 'hairpin' staples, spaced 20-25 feet apart in a grid pattern depending on the steepness of the slope. Product selection is based on need and product longevity. Shorter-term needs for moderate slopes with low water flow require difference products than steeper sites with high water movement. Conditions will be evaluated for each site to determine the appropriate type of erosion blanket for the condition. The extent and type of erosion control mat will be reviewed or recommended by professional engineering staff or consultants. Some commonly used examples in order of use:

- jute blankets
- straw mats enclosed in polypropylene netting
- coconut blankets enclosed polypropylene netting
- straw/coconut layered blankets
- uv resistant polypropylene fiber netting

A product information resource for types of erosion control blankets is North American Green Inc.:

www.nagreen.com/product

Pruning and Removal Standards

Pruning Specifications

Pruning the viewpoint park site is the preferred maintenance technique when meeting one or more of the following objectives;

- remove the density of the crowns to optimize views and improve tree structure
- reduce wind resistance
- increase the health and condition of the trees
- provide 'view corridors' and 'windowing' to improve views

- lifting lower limbs to optimize views
- reduce hazard potential

Pruning will meet ANSI 300 standards. These standards meet the values and principles of the National Arbor Association (NAA) and the International Society of Arboriculture (ISA). Copies of the standards are found in the Appendix. Pruning will be limited to the removal of: dead, diseased, or dying limbs, co-dominant leaders causing inherent structural problems, crown thinning. Crown reduction (pollarding) techniques may be practiced if determined necessary by a SPR Urban Forester. As specified in the standards under Pruning Practices, section 5.6.2.2, no more than 25% of the crown can be removed within an annual growing season for any of the trees identified on the tree pruning plan. If a greater percentage of canopy removal is preferred, removal and replacement should be considered.

Removal Specifications

Tree removal is the preferred maintenance technique when meeting one or more of the following objectives:

- potentially hazardous trees that cannot be abated by pruning
- dead, decayed or diseased trees
- trees in poor health, condition and structure due to previous ‘topping’ practices
- optimize view sheds and replace trees with more appropriate species
- increase light to the forest floor for the establishment of more preferred trees and shrubs.

Final determination for any tree removal will be determined by a SPR Urban Forester in accordance with the departments, *Tree Management, Maintenance, Pruning and/or Removal Policy and Procedures*, adopted June 1, 2001. If trees of significant size or number are to be removed from a Viewpoint, an appropriate level of public involvement process will be instituted. As erosion potential increases with stump removal and grinding, no stumps will be removed on slopes. All trees to be removed will be cut as close to the ground as is practical.

Hazardous Trees

For a tree to be considered hazardous there must be a target and a potential for failure. Targets can range from neighboring trees in wooded areas with no public access (low hazard), to houses, buildings or public use areas (high hazard potential). In addition, there needs to be one or more reasons to believe the tree could fail based on its health, condition, and structural integrity. Potentially hazardous trees are to be evaluated by a skilled arborist to determine the appropriate action in abating the

situation. Prior public notification for hazard tree removal may be limited by the nature of the hazard. If possible, signage is placed a minimum of two weeks prior to removal.

Woody debris from Pruning and Removal Work

All woody debris 8 inches or less in diameter should be managed by one of the following practices:

1) where site restoration requires a 'Spyder' excavator or mulching machine to dispose of invasive understory growth, a 'dice and scatter' technique can be used to disperse the mulch. A maximum 3 inch layer of diced brush can be spread throughout the site. Excess of this amount should be removed and stored for later use. If restoration planting is planned, it will occur within pockets of the brush mulch. (Spyder excavation can be contracted with KempWest Inc. 425-334-8253 in Everett, Washington)

2) where a predominance of tree pruning and removal occurs on a site, woody debris and brush should be hauled and chipped for reuse. Wood chips will be stored at designated locations for mulch reapplication if restoration planting is planned.

NOTE: To prevent a public nuisance and fire fuel from accumulating, dried brush piles of leaves, downed limbs and branch debris should be addressed immediately following pruning and removal work.

Ecosystem Restoration

The following procedures should be utilized where possible to enhance ecosystem restoration and wildlife habitat:

- wood greater than 8 inches in diameter can be cut in lengths no greater than 20 feet and left in contact with the soil for degradation, forest restoration and ecosystem management value. Leave large branches and trunks running parallel with the slope except in steep slope areas. Number 3 rebar should be available for staking logs to in position and to prevent downward movement where needed.
- remove specified trees to snag height (20-30 feet) to increase wildlife habitat (identification and quantity will be determined by the projects' urban forester)
- retain stumps resulting from removals to add natural compost and to maintain slope stability until new vegetation is established

In the event the amount of woody debris exceeds the threshold for reuse (as determined by the projects' Urban Forester), wood will be cut 18 inch lengths and left on site for firewood under the direction of a SPR Urban Forester.

Soil Compaction

To minimize soil compaction on viewpoint sites, care should be given during pruning, removal and clearing activities to prevent an imbalance of drainage, surface run-off and over saturated soil conditions. The following guidelines will help to prevent compaction and protect slopes during restoration work:

- identify locations for ingress and egress for rehabilitation activities
- limit heavy equipment use to designated areas
- prohibit site work during wet conditions when soils are near saturation
- locate and indicate in the field 'haul and drag' routes for removing downed debris

Invasive Weed Removal

Control methods for exotic weed species shall emphasize the least toxic approaches available, emphasizing hand-pulling, mowing, girdling and grinding (Spyder machinery). Use of chemical controls will be limited and subject to approval by SPR staff. Herbicides shall be applied by a licensed pesticide applicator only, according to label instructions. Final recommendations for weed removal and control will be determined by the SPR Senior Gardener and Urban Forestry staff. The following list identifies weeds most frequently found within the viewpoint parks. Those indicated with a * will require the greatest amount of labor and cost to control because of their extensive invasion.

Targeted exotic weeds

* <i>Rubus discolor</i>	Himalayan blackberry
* <i>Hedera helix</i>	English Ivy
<i>Ilex aquifolium</i>	English holly
<i>Prunus laurocerasus</i>	English laurel
* <i>Clematis vitalba</i>	Wild clematis
<i>Cytisus scoparius</i>	Scotch broom
<i>Equisetum hyemale</i>	Horsetail

Eradication of Himalayan Blackberry

Current research indicates the best method of eradicating Himalayan blackberries requires an integrated management approach combining both physical removal of the plant along with foliar application of the systemic herbicide Roundup for regrowth.

Roundup is a systemic herbicide and an EPA confirmed product, for a safe, but aggressive approach to eradicating invasive blackberries in upland areas. Procedures for eradication of invasive Blackberry in upland areas:

- 1) An early spring cutting of plants to the ground and direct application of Roundup on the cut stump.
- 2) A follow up foliar application mid-summer on re-sprouting leaves from cut stumps within 1 month of initial cutting.
- 3) A follow-up application in late summer or fall will increase the systemic value in the roots to minimize new growth the following year.

These procedures may require two seasons before eradication is complete. Planting could occur after the first year's application with regular spot treatments in resurgence areas for the subsequent year.

Other invasive species are more easily controlled by physical removal. Many species listed above are frequently 'bird planted' and generate readily from seeds. It is recommended to remove these species as they will compete for light and water with new plantings. Lastly, English Ivy should be eliminated from the base of all trees. Research data indicates that ivy left growing on trees will become woody and girdle the tree restricting the translocation of water and nutrients. Removing English Holly, English Laurel and English Ivy should occur annually and be a part of on-going maintenance practices.

Restoration Planting

Site Preparation

In preparing the site for planting, the following procedures are to be completed:

- 1) all tree pruning and removal work will have been completed
- 2) all woody debris has been removed from the site
- 2) invasive weed species have been eliminated
- 3) mulch is available for application after planting
- 4) planting soil is free of ground brush or wood chips at the root level
(woody mulch mixed with soil will prohibit nitrogen availability to plants)
- 5) water or irrigation is available for plant establishment following planting

Tree Replacement Requirements

Tree replacement will meet the criteria stated in the SPR's *Tree Management, Maintenance, Pruning and/or Removal* policy adopted in June, 2001:

Section 6.5.2 Performance Criteria: Replacement of Trees

At minimum, each tree that is removed will be replaced by planting another tree close to the original location. Tree species selection and numbers will be required to meet or exceed the loss of mature canopy proposed by the project.

The species of replacement trees may vary from the species removed if they can meet the following replacement criteria:

- provide equal or greater canopy coverage
- are genetically appropriate for height in prohibiting obstruction of views
- require little or no maintenance, and are adapted to winter/wet and summer/dry climate
- provide enough light to prohibit excessive shading of understory plants

Shrub and Groundcover Replacement Requirements

The following formula is recommended by King County Department of Development and Environmental Services (DDES), specified in the *Restoration and Enhancement Guidelines* publication. The formulas have been field tested and provide the necessary understory cover to meet performance standards and compete with the invasive weed re-establishment.

Total SF of Area X 0.028 per square foot for shrubs = # of shrubs planted 6' on center.

Total SF X 0.063 per square foot for groundcovers = # groundcovers planted 4' on center.

All plants must meet the American Standard for Nursery Stock as outlined in ANSI Z60.1-1996.

Plant Selection

A primary factor in selecting plant species was to choose trees and shrubs whose genetically mature height minimizes the need for pruning or topping to retain viewsheds.

Plant selection considers predominately native plants or other species that will naturalize and adapt to the site's light, soil and water conditions.

Other criteria considered in selecting plants:

- genetically appropriate for viewpoint restoration
- readily available in the nursery trade
- reduced maintenance demands
- assist in maintaining slope stability
- attract wildlife and support their habitat needs
- provide species diversity to re-establish a healthy, native ecosystem
- meet public safety criteria of CPTED (Crime Prevention through Environmental Design)
- low implementation costs
- considers input from citizens

Plant Recommendations

Zone 1 – Developed park landscape

Replanting in this zone should be done under the direction of the specific park's senior staff and gardeners. Plant recommendations and management practices should integrate with the maintenance of the existing vegetation. Plant selections will be included in discussions with the public as part of the PIP.

Zone 2 – Transition area at crest of slope

Selected plants provide a hedge-effect when planted in close proximity. Species have been chosen for height, spread and density to create a barrier between Zone 1 and Zone 3. Where appropriate several layers of shrub may be needed to protect the crest of the slope from eroding. Plants listed vary in height and are selected for appropriate placement on the slope to optimize views. Plants at the top of slope should not exceed 3' in height. Taller plants can be used to stabilize conditions where the grades decline. Specific plant selection and location will be included in discussions with the public as part of the PIP.

Species can be intermixed for seasonal interest and aesthetics.

SHRUBS 2-3' IN HEIGHT
Abelia grandiflora 'Edward Goucher' - Abelia
Berberis thunbergii "Crimson Pygmy. – Dwf. Barberry
Berberis verruculosa – Warty Barberry
Ilex cornuta 'Dwf Burford' – Dwf Japanese Holly
Ilex crenata 'Helleri' - Japanese Holly
Mahonia repens - Creeping Oregon Grape
Symphoricarpos 'Hancock' – Hancock Coralberry
SHRUBS 5-6' IN HEIGHT
Arbutus unedo 'Compactus' – Dwf StrawberryTree
Berberis darwinii - Barberry
Cornus stolonifera – Red-twig Dogwood
Mahonia aquifolium – Oregon Grape
Myrica californica – California Myrtle
Pinus mugo mugo – Compact Mugho Pine
Rosa rugosa – Rambling Rose
Symphoricarpos albus - Snowberry
Vaccinium ovatum - Evergreen Huckleberry

Zone 3 – Hillside

Selected plants for Zone 3 provide multi-layered vegetation for the greatest success in stabilizing slopes and creating a more natural environment. Plantings are to be intermixed with using both evergreen and deciduous trees, tall shrubs, small shrubs and groundcovers. Specific plant selection and location will be included in discussions with the public as part of the PIP.

TREES
Acer circinatum-Vine Maple/multi-leader
Amelanchier alnifolia - Serviceberry
Rhamnus purshiana - Cascara
Corylus cornuta - Hazelnut
Oemleria cerasiformis – Indian Plum
Pinus contorta - Shore Pine
Thuja plicata 'Excelsior' - Western Red Cedar '
SHRUBS
Holodiscus discolor - Oceanspray
Mahonia aquifolium – Oregon Grape
Myrica californica – Calif. Myrtle
Physocarpus capitatus – Pacific Ninebark
Rosa rugosa – Rambling Rose
Rubus spectabilis – Salmonberry
Sambucus racemosa - Red Elderberry
Stranvaesia davidiana 'Undulata'
Symphoricarpos albus - Snowberry
Vaccinium ovatum - Evergreen Huckleberry
Vaccinium parvifolium -Dec. Huckleberry
Polypodium scolieri - Licorice Fern
Polystichum munitum - Sword Fern
Vancouveria hexandra - Vancouveria
GROUNDCOVERS
Arctostaphylos uva-ursi - Kinnikinnick
Cornus sericea 'Kelsey' – Kelsey Dogwood
Fragaria chiloensis – Coastal Strawberry
Mahonia repens – Creeping Mahonia
Parthenocissus tricuspidata 'Veitchii'
Rosa wichuriana – Memorial Rose
Symphoricarpos mollis - Creeping Snowberry

Fertilizer and Mycorrhizal Applications

Both mycorrhizal fungi and fertilizer can be applied at time of planting. The mycorrhizal fungus form symbiotic relationships with the plant roots increasing their ability to take in nutrients and water from the soil and the plants provide food for the fungus.

Planting fertilizer can be applied in a compressed tablet form such as 20-10-10 (20% nitrogen, 10% phosphorus, 10% potassium) such as Agriform with micro-nutrients added, or an approved equal. Application rates should comply with the manufacturer's recommendations.

Mulching

All restoration areas are to be mulched with 3 to 6 inches of wood chips, stockpiled from tree removal and pruning operations. Prevent any direct contact of mulch with the trunks or stems of plants. Wood chips will suppress weeds, aid soil composition and water retention

Irrigation

Temporary irrigation will be imperative to maximize survivability of restoration plantings and to encourage new growth competitive with weed resurgence. Irrigation installation, maintenance and design will be evaluated and approved by geotechnical staff on slopes which exceed 40%. Physical disconnection of the irrigation system from supply lines will occur during the winter and if possible during non operational periods. All irrigation systems will be evaluated annually for leaks and complete operation. Recommended rates for a three year plant establishment period are:

- Apply one inch of water per week from June-October unless adequate rainfall occurs

Performance Standards

Monitor and suppress the invasion of weeds throughout the site. If herbicides are used for weed control, conservative treatment methods should be used i.e. wiper application for stump treatment of sucker regrowth, selective hand-spraying for spot treatments. All effort will be made to reduce the amount of chemical utilized on viewpoint sites.

The following performance standards are recommended:

- 1) Vegetation will have 80% survival after 3 years
- 2) Tree and shrub cover will be greater than 10% after one year, greater than 30% after two years and greater than 50% after three years.
- 3) Non-native invasive plants will not make up more than 10% of cover in any growing season.
- 4) Replace dead plants up to and including the third year after planting.

V. Implementation

Priority Actions

Viewpoint park sites are rated on a scale (Highest, Second, Third) to determine the urgency and sequence in which site issues and conditions would be addressed by the Urban Forestry Staff. (See Viewpoint Maintenance and Management Matrix, Page 11) The Highest Priority sites will be address first. The following factors influence the priority designation:

- amount of intended view obstructed by vegetation
- location and amount of park use
- imminent issues that need to be addressed i.e. erosion, accessibility
- concurrent with other park improvements
- degree of work required for restoration
- level of community support and input

By these criteria the Highest Priority sites are:

Betty Bowen (Marshall)
Lakeview Park
Riverview Playfield Park
Dr. Jose Rizal Park
McCurdy Park
Montlake Playfield Park
West Seattle Rotary Park
Bhy Kracke Park

Phasing

Viewpoint maintenance prescriptions for site restoration typically include one or more of the following phases:

- Phase 1 - Scoping/project planning, geotechnical review (as necessary), public involvement (as Described in Public Involvement Policy, Appendix)
- Phase 2 - Tree removal and pruning
- Phase 3 - Eradicate invasive weeds
Cover slopes with erosion control mat (as needed)
Plant layered vegetation
Mulch eroded slopes and new plantings
Provide temporary irrigation
- Phase 4 - Plant Zone 2 transition hedges at crest of slope for slope stability and for definition and visual appeal

Phasing is an important measure to reducing immediate negative impacts to a site. Activities within any one of the Phases listed above may occur in sub phases, depending upon the site and scope of work. Initial scoping and public involvement may dictate additional phases as well.

Labor Sources

Labor Sources include the following paid and unpaid support:

A. Urban Forestry Staff is responsible for:

1. All arborist work or directing of contracted tree work
2. Invasive removal, erosion control, planting, mulching in a forested or woodland situation (NOT developed landscape sites)
3. Reforestation programs
4. Capital project-related labor or contracts related to establishing care and ongoing maintenance for trees

B. District Park Maintenance Staff is responsible for:

1. Maintenance of developed areas of parks once Viewpoints restoration is completed
2. Limited implementation work depending on current workloads, skill and interest such as:
 - controlling adjacent vegetation
 - pruning shrubs and small trees for view (groundwork and/or low ladder work)
 - planting (specifically transition hedges and in developed areas)

C. Contracted/internal specialists for one or more of the following tasks:

- geotechnical review
- invasive weed control
- tree pruning and removal
- environmental impact review
- application of erosion control blankets
- restoration planting
- mulching
- temporary water applications

D. Parks Urban Forestry Program relies heavily upon volunteer efforts and alternative funding. Depending on the site conditions and available resources, **community volunteers** may be involved in one or more of the following tasks as determined by the project's urban forester or crew chief:

- weeding
- planting
- mulching
- watering
- grant writing
- community outreach

- monitoring

A safety plan must be submitted and approved for all projects using volunteer labor.

Cost Estimates

Clearing Costs for Canopy Conversion

The Seattle Parks and Recreation (SPR) estimated that under current conditions, labor for one view clearing project of typical size costs approximately \$20,000 as noted in the Magnolia Vegetation Management Plan, adopted in 1998.

- small-med shrub clearing is approximately \$0.10/SF
- large shrub-small tree clearing is approximately \$ 0.15/SF

Planting Costs

To estimate planting costs use the following standards:

\$3.00 – 3.50/ SF for planting layered vegetation at approximately 5' on center:

- 1 gallon groundcovers and small shrubs,
- 2 gallon larger shrubs
- 5 gallon trees (approx. 1 inch caliper)

Erosion Control

Costs for erosion control blankets are approximately:

\$0.50/SF for jute material

VI. Site Evaluations and Management Recommendations

This section includes Vegetation Management Plans (VMP) for the twenty-four viewpoint sites evaluated in the study. Though each VMP can be used independently in the field, to understand the approach and details determining the management criteria for each location, reference should be made to the text document (Sections I-IV) included in this report. Of particular practical importance to implementation is Section IV. Maintenance and Management Procedures, which details how to accomplish specific tasks recommended.

The following information is included in each Vegetation Management Plan:

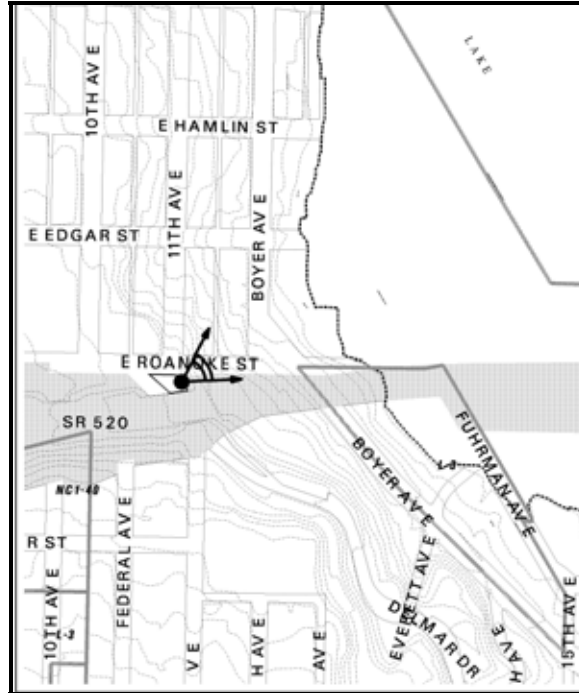
- **Location Map and Description, Viewpoint Category**
- **Summary of Existing Conditions**
- **Maintenance Prescriptions**
 - A. Maintenance for Existing Conditions
 - B. General Long-term Maintenance Practices
- **View Management Locations**
- **Implementation Plan**
 - Project Priority
 - Phasing
 - Labor Sources

The individual VMP's provide direction and guidance but final decisions for managing each location is to be a collaborative effort between the Urban Forestry Staff and individual Park's Maintenance Staff.

Seattle Park Viewpoints
Vegetation Management Plan Study Sites

VIEWPOINT MANAGEMENT AND MAINTENANCE REQUIREMENTS																			
SEPA Viewpoint Park	Tree Pruning Needed	Tree Removal Needed	Slope and Erosion Control Required	Invasive Weed Removal Needed	Limited Replanting	Canopy Conversion	MANAGEMENT ZONES	ZONE 1 - Developed Park Landscape	ZONE 2 - Transition at Crest of Slope	ZONE 3 - Hillside (Native Areas)	MAINTENANCE FREQUENCY	5 - year cycle	3 - year cycle	Annually	% SEPA-intended view (2004 status)	MAINTENANCE PRIORITY	1 - Highest priority	2 - Second priority	3 - Lowest Priority
Bagley Park Viewpoint	X	X	X	X	X				X	X			X		50			X	
Belvedere VP (Admiral)	X			X					X	X			X		90			X	
Betty Bowen (Marshall)	X	X		X		X			X	X				X	40		X		
Boren-Pike-Pine (4-Columns)	X			X	X			X	X	X		X			80			X	
Bhy Kracke Park	X	X	X	X	X			X		X			X		25		X		
Commodore Park	X	X	X	X	X				X	X			X		50			X	
Discovery Park/Daybrk Star	X			X	X				X	X			X		75				X
East Portal - I-90 Overlook	X				X			X				X			95				X
Kobe Terrace Park	X		X		X			X				X		X	90				X
Lakeview Park	X	X	X	X		X				X			X		75		X		
Louisa Boren Viewpoint	X	X	X	X		X			X	X			X		65			X	
McCurdy Park	X			X						X		X			10		X		
Montlake Playfield Park	X	X		X		X				X			X		10		X		
Mt Claire Viewpoint - Mt. Baker		X	X	X	X				X	X		X			85				X
Myrtle Edwards Park	X			X	X			X				X			95				X
Rainbow Point (Banner Place)	X									X		X			80				X
Riverview Playfield Park	X	X		X		X			X	X				X	30		X		
Dr. Jose Rizal Park	X		X			X			X	X			X		90		X		
Roanoke Street Mini-Park	X		X	X	X			X		X		X			50			X	
Sunset Hill Park	X			X					X	X			X		90			X	
Twelfth Avenue South Park	X		X	X					X	X		X			85				X
Viretta Park	X			X				X		X		X			50			X	
West Seattle Golf Course	X							X		X		X			75				X
West Seattle Rotary Park		X	X	X					X	X			X		50		X		

Bagley Park Viewpoint 10th E. and E. Roanoke



LOCATION AND VIEWPOINT CATEGORY

The park offers framed secondary views of Lake Washington Ship Canal (Portage Bay) and the Cascade Mountains. The viewpoint is located along an arterial on the north side of Capitol Hill in the Roanoke neighborhood, adjacent to the Highway 520 corridor. Vegetation currently obscures approximately 50% of the intended view.

SUMMARY OF EXISTING CONDITIONS

The park is sandwiched between private property and State Department of Transportation land. Trees obstructing views are located on these adjacent properties. Recent clearing of invasive weeds has occurred at the top of the slope. Portions of the slope have exposed soil conditions and need shrub or groundcover planting. Access is available from both the top of the slope and the bottom. A concrete staircase along the north side of the slope provides additional access. Slope conditions range between 30-75% incline.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope stability and erosion control

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control where needed
4. Plant layered vegetation on Hillside Zone 3
5. Plant additional low hedges along Transition Zone 2
6. Mulch exposed soil or new plantings
7. Establishment watering
- 8.

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and/or chemical removal of weeds
- Coppicing management of Big Leaf Maples and Alders
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Prune to prohibit view obstruction using ANSI 300 standards

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Restoring intended views and implementing slope stability and erosion control is rated a secondary priority.

Phasing

Phase 1 - Remove trees and prune

Phase 2 - Eradicate invasive weeds

Cover slopes with erosion control mat

Plant layered vegetation

Provide temporary irrigation

Phase 3 - Plant Zone 2 transition by extending hedges along top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

Contractor, UF, and/or volunteers: -physical removal of weeds

UF staff: -prune and remove trees

Contractor or UF staff: -apply erosion control mats,

Contractor, UF and/or volunteers: -planting and mulching

Park Maintenance staff: -prune shrubs and small trees,

control adjacent vegetation,

plant additional hedges in Zone 2

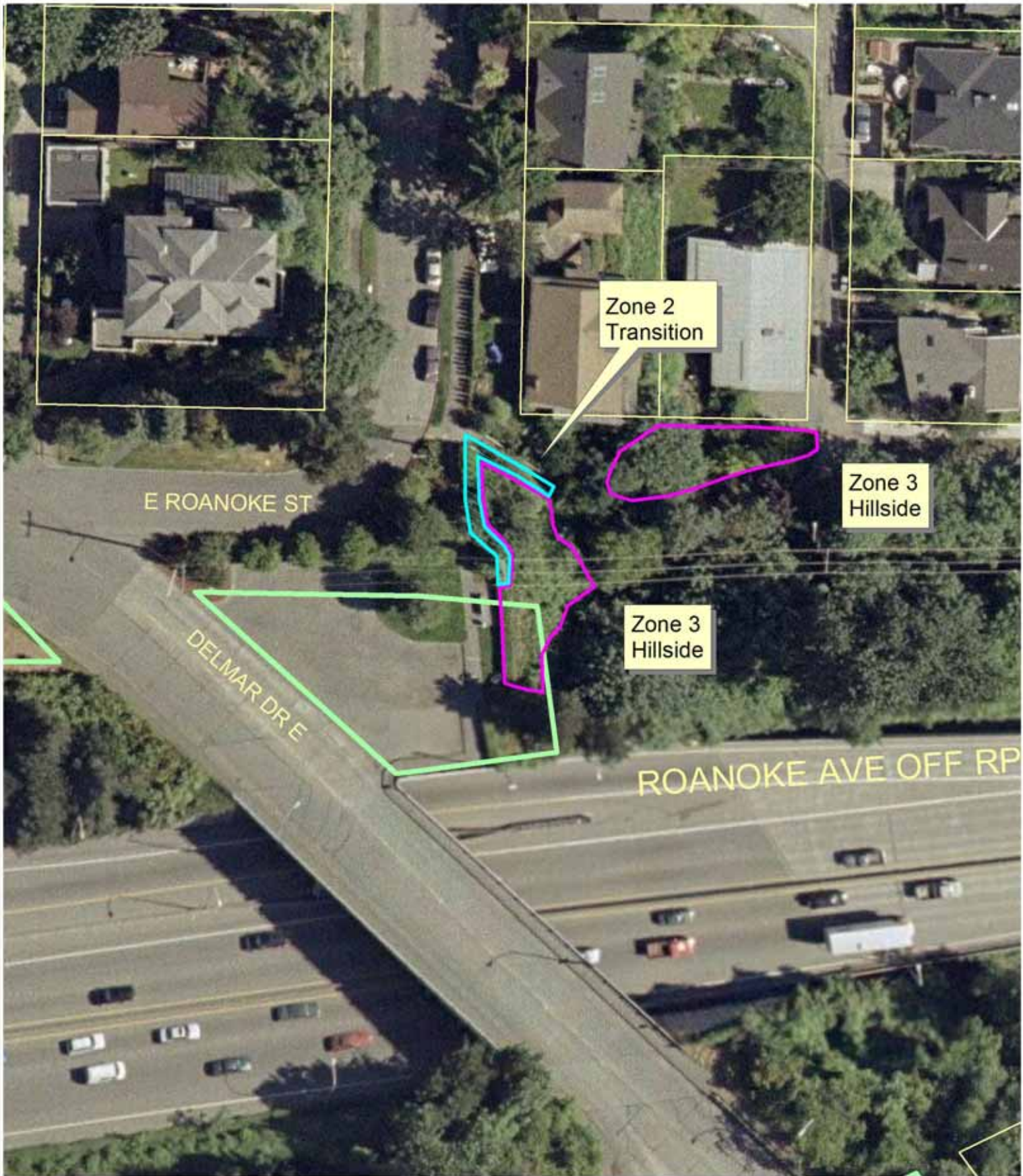
Bagley Park Viewpoint



Developed park with hedge at crest of slope



Obstructed view towards Portage Bay



Bagley Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:600

0 25 50 75 Feet



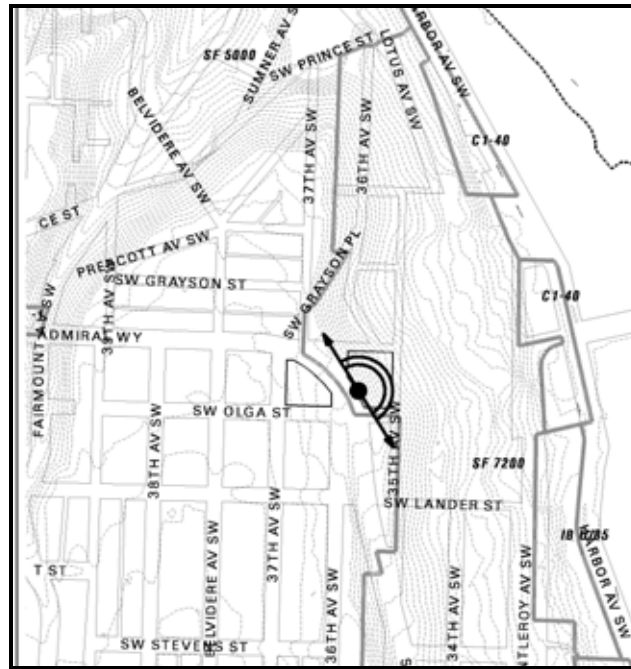
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Orthophoto source:
Triathlon, July 1999
Map date: December 17, 2003



Belvedere (Admiral) Viewpoint SW Admiral Way and SW Olga



LOCATION AND VIEWPOINT CATEGORY

The viewpoint is located on Admiral Way in the Admiral neighborhood of West Seattle. The park offers panoramic views of the downtown skyline, Puget Sound and the Cascade mountains, and currently 90% of the intended views are present. Private property is located to the north and east (toward the base of the slope)

SUMMARY OF EXISTING CONDITIONS

Himalayan Blackberry dominates the hillside with Clematis rambling over the brambles. Big Leaf Maples, Douglas Firs and Red alders are growing in the lower portions of the site. There are signs of previous slope failure at the top of the slope along the viewpoint railing. The hillside slope is 50% or greater in most locations. Access is limited.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Pruning and Invasive Weed Removal

Procedures:

1. Thin tree stands and prune dense crowns using ANSI 300 standards
2. Remove invasive weeds at the top of the slope
3. Erosion control mats may be necessary
4. Plant 2-3 rows of low hedges along Transition Zone 2
5. Mulch eroded areas and new plantings
6. Establishment watering

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and chemical removal of weeds in Zone 2
- Crown management of Big Leaf Maples

- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning to prohibit view obstruction using ANSI 300 standards

View management locations: Zone 2 - Transition area at the crest of the slope Zone 3 – Hillside (limited access)
--

IMPLEMENTATION PLAN

Priority 2

Implementing a tree pruning and weed removal prescription on the hillside is rated a secondary priority since 90% of the intended views currently exist.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedges at top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|---|
| Contractor, UF, and/or volunteers: | -physical/chemical removal of weeds at top of slope in preparation for planting |
| UF staff: | -prune and remove trees |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF staff: | -planting hedges and mulching |
| Park Maintenance staff: | -prune shrubs and small trees, control adjacent vegetation |

Belvedere (Admiral) Viewpoint

Panoramic view of downtown Seattle



Hillside vegetation obscuring view of Harbor Island

Transition planting needed at crest of slope



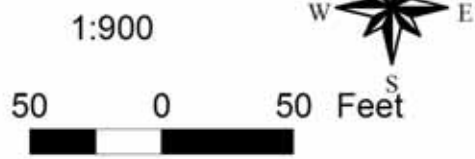


Belvedere Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

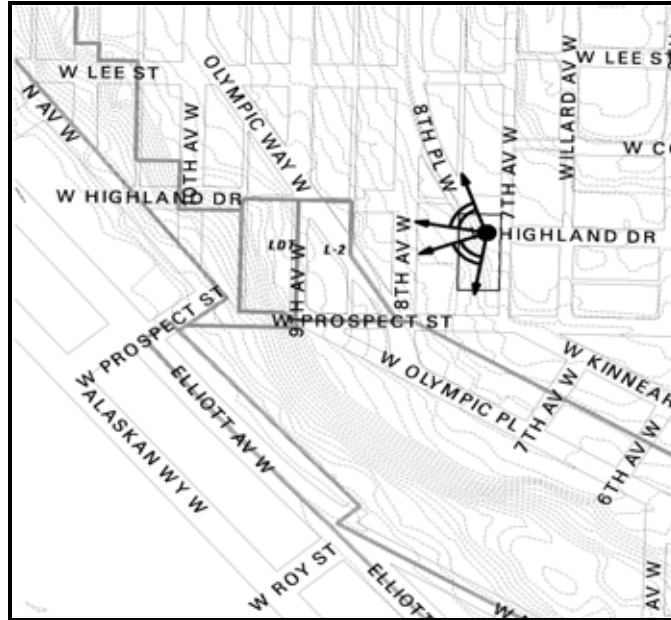
- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary



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Betty Bowen Viewpoint (Marshall Park)

Seventh Ave. W. and W. Highland Drive



LOCATION AND VIEWPOINT CATEGORY

The park is located in a residential area on the northwest side of the Queen Anne neighborhood. Framed views are of the Olympic Mountains and Puget Sound. Vegetation currently obscures about 40% of the intended view. Private property is located at the toe of the slope.

SUMMARY OF EXISTING CONDITIONS

The majority of the site is steep with slopes between 50-75%. There are no signs of exposed soil or evidence of surface erosion. The dense forest and understory vegetation blocks any obvious indication of soil movement, exposed roots or any previous slide activity.

The tree canopy is dominated by the native Big Leaf Maples, Douglas Firs and Bitter Cherry. The understory is a mix of native and invasive species. The native shrubs are mahonia and sword ferns. Invasive and opportunistic species dominate the ground cover with Himalayan Blackberry, English Laurel, Big Leaf Maple saplings and *Clematis columbiana*.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 1 – Canopy Conversion on Hillside

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control blankets applied before planting
4. Plant layered vegetation on Hillside Zone 3
5. Install temporary fence at top of slope
6. Plant a double row of low hedge along Transition Zone 2

7. Mulch
8. Establishment watering

B. GENERAL MAINTENANCE PRACTICES

Annual maintenance will require:

- physical and/or chemical removal of weeds
- Coppicing management of Big Leaf Maples
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction

View management locations:

Zone 2 – Transition area at the crest of the slope

Zone 3 – Hillside (Steep slope may cause access issues)

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing a canopy conversion for the hillside is rated 'high priority' due to location, amount of park use, and degree of obstructed views.

Phasing

- Phase 1 - Tree removal and pruning
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedge at crest of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune and remove trees |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Betty Bowen Viewpoint (Marshall Park)

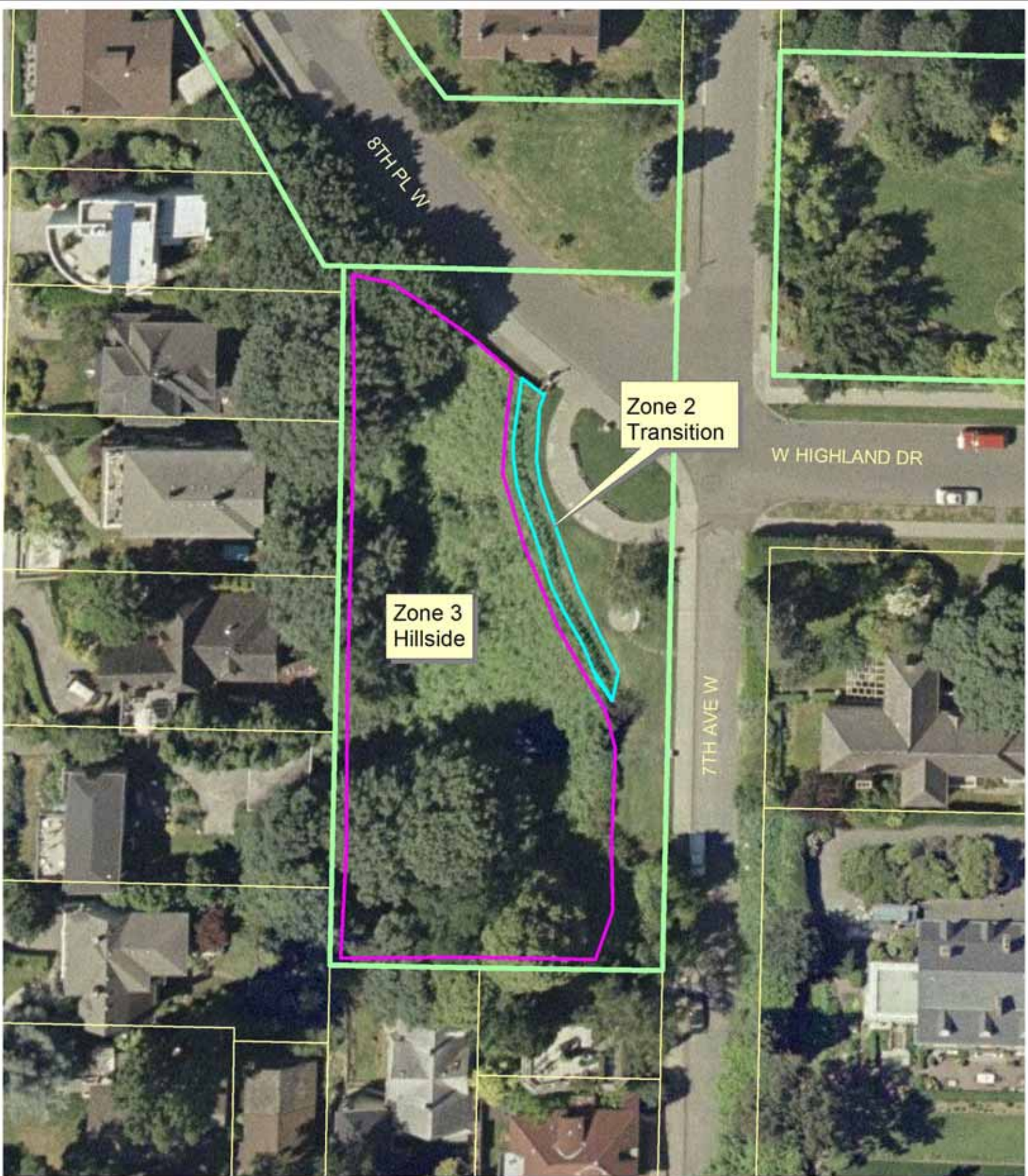
View southwest to Elliot Bay and Puget Sound



Seating in developed park area

Overgrown invasive vegetation obscuring views





Betty Bowen (Marshall) Viewpoint

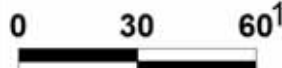
LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary



Scale 1:600



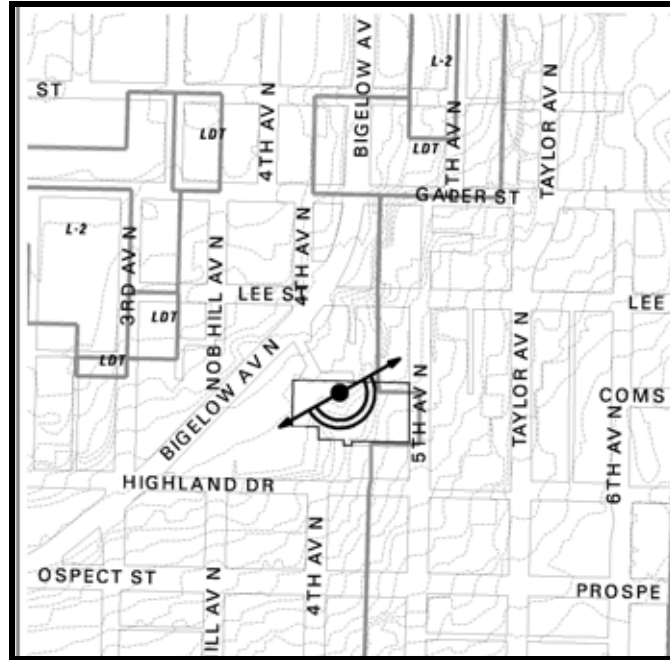
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Bhy Kracke Park Viewpoint

Bigelow N. and Comstock Place



LOCATION AND VIEWPOINT CATEGORY

The park is located on the south side of the Queen Anne neighborhood. The viewpoint features panoramic views of the downtown Seattle skyline, and secondary views of Lake Union, Puget Sound and the Cascade mountains. Only 25% of the intended view currently exists. Private property exists to the east and west of the park.

SUMMARY OF EXISTING CONDITIONS

Views are obstructed by vegetation in two primary location 1) ornamental vegetation in the upper portion of the developed park and 2) naturalized vegetation on the hillside. Rhododendron and Mahonia hedges along the top of the slope need renewal pruning to reduce height and restore intended views. The hillside vegetation has been invaded with native trees and weeds i.e. Bitter Cherries, Alders, English Laurel, English Holly, Cotoneaster, English Ivy, Bindweed and Clematis. The steepness of the hillside is generally 50% or less. Exposed soil conditions exist on 15% of the slope, while an additional 10% indicates surface erosion.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control Issues

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Physical and/or chemical invasive weed removal
3. Erosion control and application of erosion blankets
4. Plant layered vegetation on Hillside Zone 3
5. Prune hedges at top of slope in the Developed Park Landscape Zone 1

Weeding and pruning the developed areas of the park need to be included in routine park maintenance

6. Mulch planted areas
7. Irrigation needed to establish planting

B. GENERAL MAINTENANCE PRACTICES

Three year maintenance frequency will require:

- Physical and/or chemical removal of weeds
- Remove tree saplings
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning park shrubs to maintain intended views

View management locations:

Zone 1 - Developed park landscape

Zone 3 – Hillside (easy access from both top and base of slope)

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and improving the maintenance of the park plantings is rated 'high priority' due to level of neglect, and degree of view obstruction.

Phasing

Phase 1 - Remove and prune trees obstructing views
Prune shrubs in park at crest of slope to provide low hedge effect

Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mats
Plant layered vegetation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

Contractor, UF, and/or volunteers:	-physical removal of weeds
UF staff:	-prune and remove trees
Contractor or UF staff:	-apply erosion control mats,
Contractor, UF and/or volunteers:	-planting and mulching
Park Maintenance staff:	-prune shrubs and small trees, control invasive weeds and adjacent vegetation

Bhy Kracke Park Viewpoint

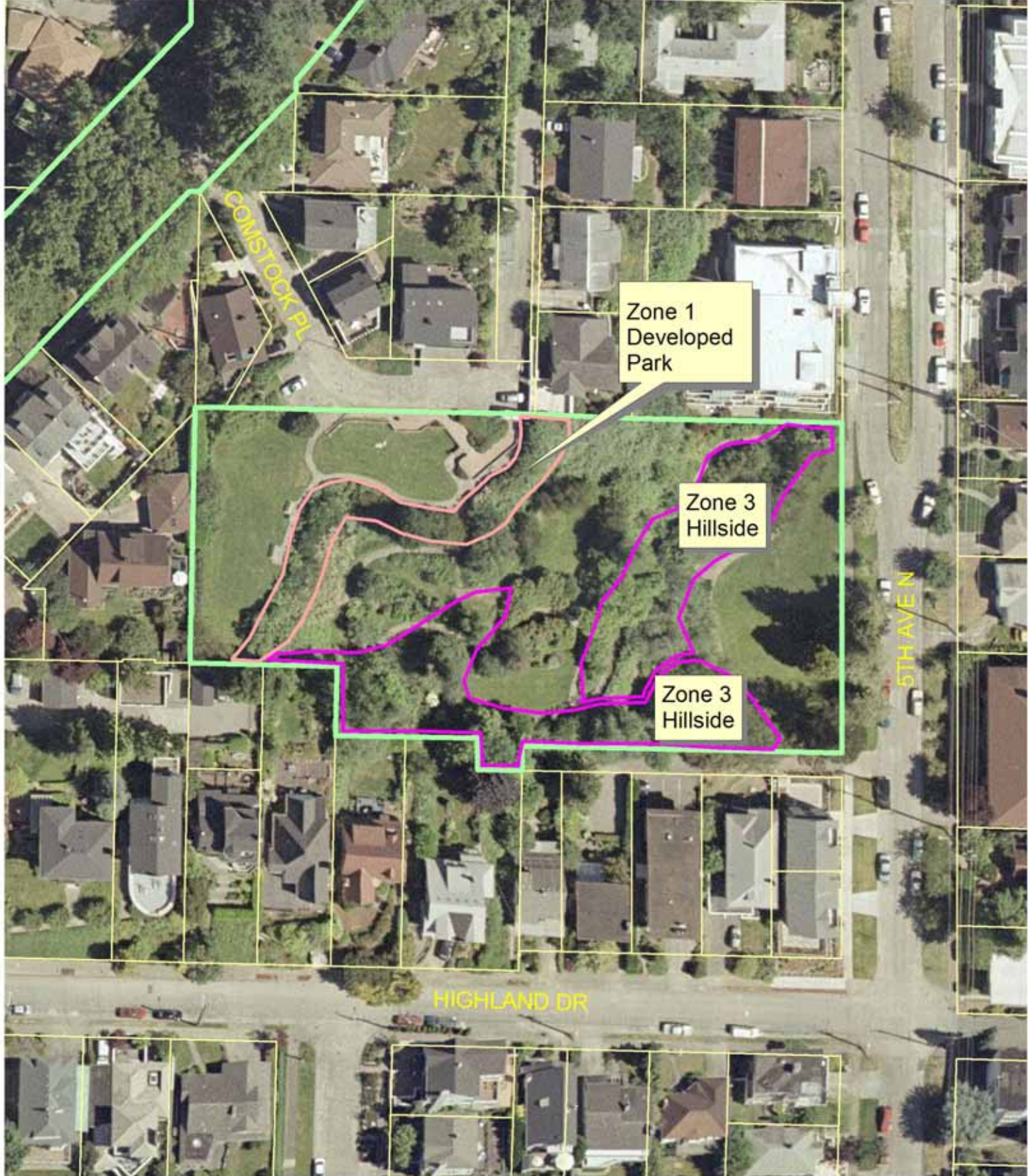


View facing east across
Lake Union

View southeast toward
downtown Seattle



Overgrown hillside
vegetation

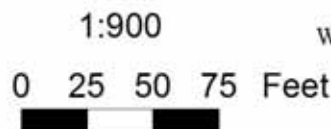


Bhy Kracke Park and Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary



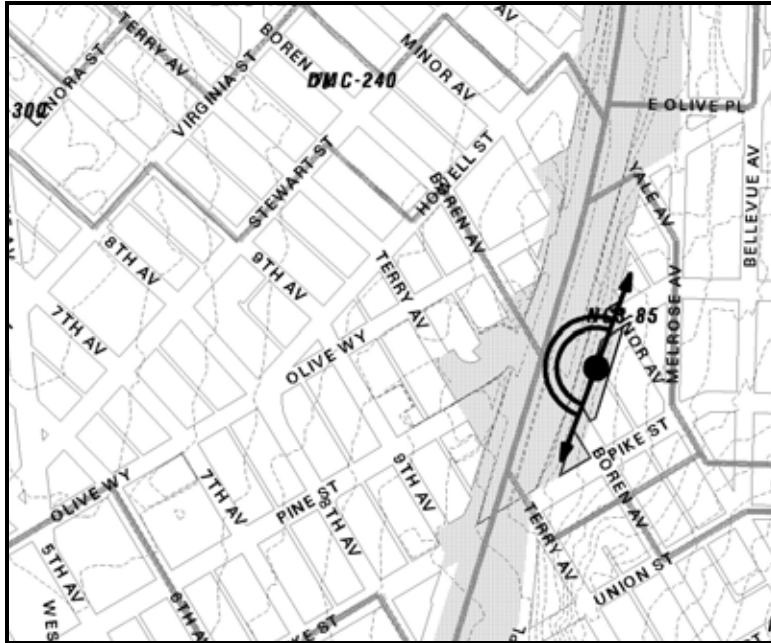
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Boren-Pike-Pine Park (Four Columns)

Boren Avenue between Pike and Pine Streets



LOCATION AND VIEWPOINT CATEGORY

This downtown urban park also serves as a neighborhood park for the Pike-Pine neighborhood. There is a panoramic view of the downtown skyline and framed views of the space needle and secondary views of the Olympic mountains. Vegetation currently obscures approximately 20% of the intended view.

SUMMARY OF EXISTING CONDITIONS

The Washington State Department of Transportation maintains some of the trees growing along the I-5 corridor. Though there are some deciduous seedlings from the native species, Big Leaf Maple, the majority of trees obscuring views are Black Pines growing on DOT land. Easy access to the hillside from the park.

Heavy park use and a declining landscape have left about 30-40% of the soil exposed, especially along the crest of the slope in Zone 2. Plans are underway to renovate the plantings within Zone 1, the developed park landscape within the next year. Care should be given to include groundcovers and erosion control fabric on slopes greater than 30%.

Invasive weeds have inhabited the understory with Himalayan Blackberry, English Ivy and Big Leaf maple saplings.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Prune trees using ANSI 300 standards
2. Remove invasive weeds
3. Erosion control

4. Plant Zone 2 - transition hedges and groundcovers
5. Mulch eroded areas and new plantings
6. Water to establish new plantings

B. GENERAL MAINTENANCE PRACTICES

Maintain landscape within viewshed on a 5-year cycle:

- Physical and chemical removal of weeds
- Removal of Big Leaf Maple saplings
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation i.e. ivy from DOT
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:

- Zone 1 - Developed park landscape
- Zone 2 - Transition area at the crest of the slope
- Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Improving views by pruning is a 'secondary priority' because of the amount of viewshed currently present on the site.

Phasing

- Phase 1 - Restore Zone 1 – Develop Park Landscape using CPTED guidelines
- Phase 2 - Prune pines
Eradicate invasive weeds and saplings
Plant eroded areas with groundcover and plant Zone 2 transition hedge between fence and top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- Contractor, UF, and/or volunteers: -physical removal of weeds
- UF staff: -prune and remove trees
- Contractor or UF staff: -apply erosion control mats,
- Contractor, UF and/or volunteers: -planting and mulching
- Park Maintenance staff: -prune shrubs and small trees,
control adjacent vegetation

Boren-Pike-Pine Viewpoint (Four Columns Park)

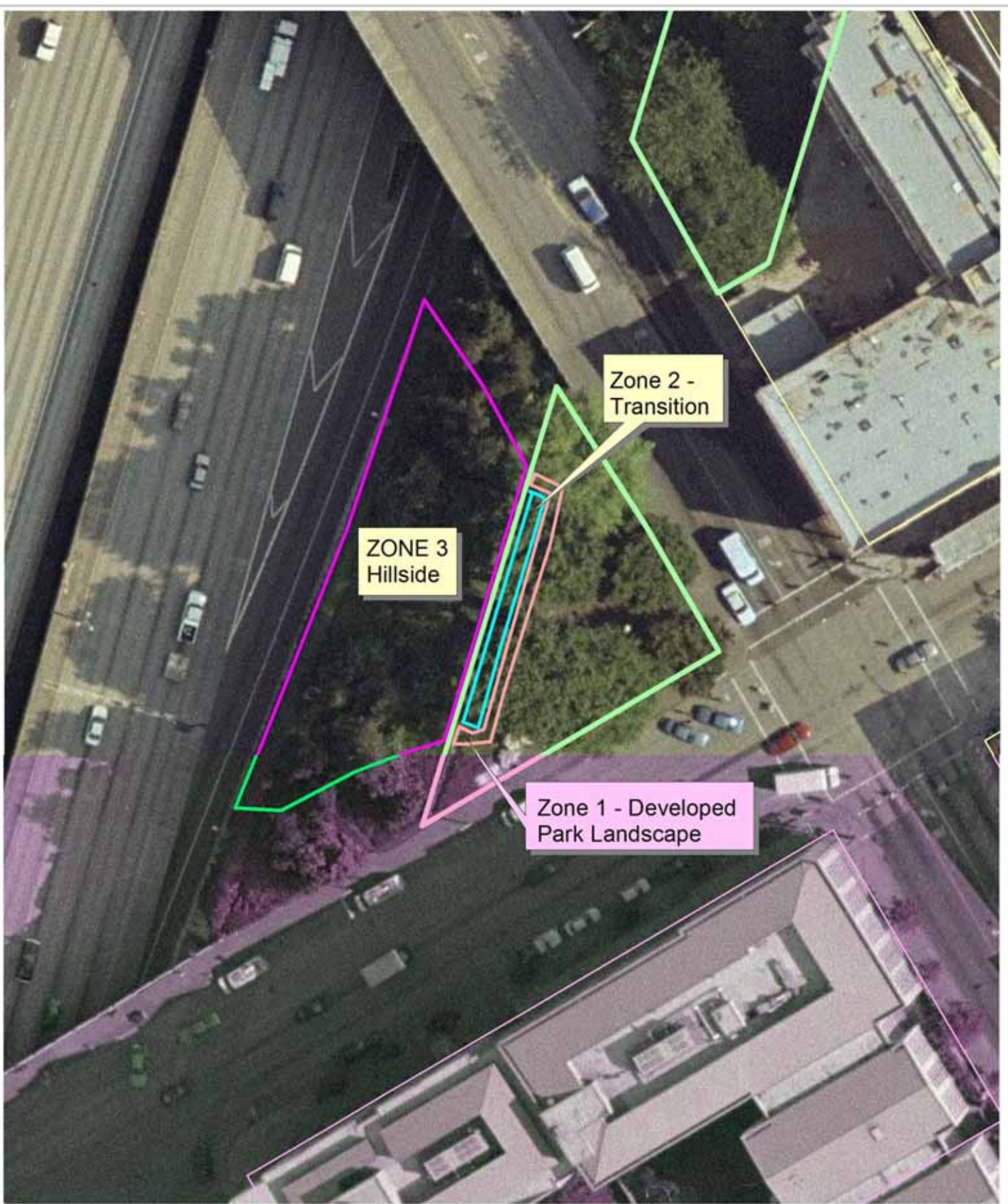
Transition planting needed at top of slope



View of Space Needle

Obstructed view of Downtown Seattle from the park





Boren-Pike-Pine Viewpoint (Four Columns Park)

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 Developed Park Landscape
- Zone - 2 Transition
- Zone 3 - Hillside
- Parks bnd
- Parcel.shp



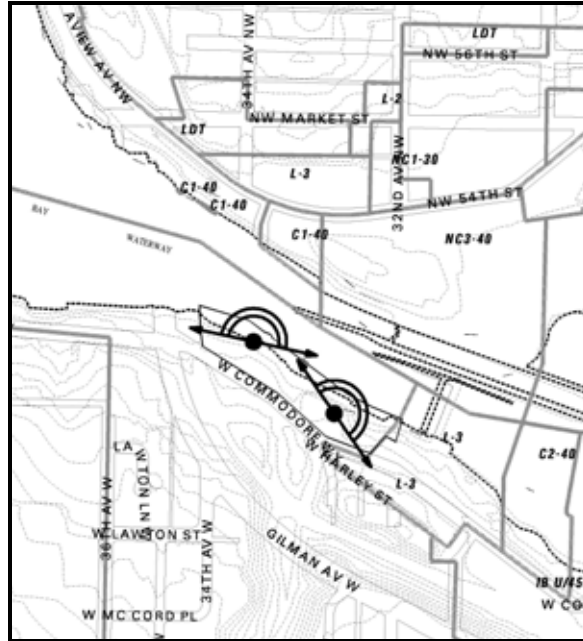
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Commodore Park

W. Commodore Way and Gilman Way



LOCATION AND VIEWPOINT CATEGORY

The park is located on the northeast side of the Magnolia neighborhood overlooking the Hiram Chittenden Locks. The viewpoints provide panoramic views of the Lake Washington Ship Canal and secondary views of Puget Sound. Trees obstruct nearly 50% of the intended views.

SUMMARY OF EXISTING CONDITIONS

Hillside slopes range between 30-75%, depending on location within the park. Approximately 50 of the hillsides have either exposed soil and/or surface erosion. Invasive weeds dominating the site are English ivy growing on the trunks of the trees, with Alder saplings and Scotch Broom filling in understory growth.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control, apply erosion control mats
4. Plant layered vegetation on Hillside Zone 3
5. Install temporary fence at top of slope
6. Plant a double row of low hedges along Transition Zone 2
7. Mulch eroded areas and new plantings
8. Provide irrigation to establish plants

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and chemical removal of weeds

- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Prune trees to prohibit view obstruction using ANSI 300 standards

View management locations:
Zone 2 - Transition area at the crest of the slope
Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Restoring intended views and addressing slope stability and erosion control issues for the hillside is rated a secondary priority.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedges at top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- Contractor, UF, and/or volunteers: -physical removal of weeds
- UF staff: -prune and remove trees
- Contractor or UF staff: -apply erosion control mats,
- Contractor, UF and/or volunteers: -planting and mulching
- Park Maintenance staff: -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2

Commodore Park Viewpoint

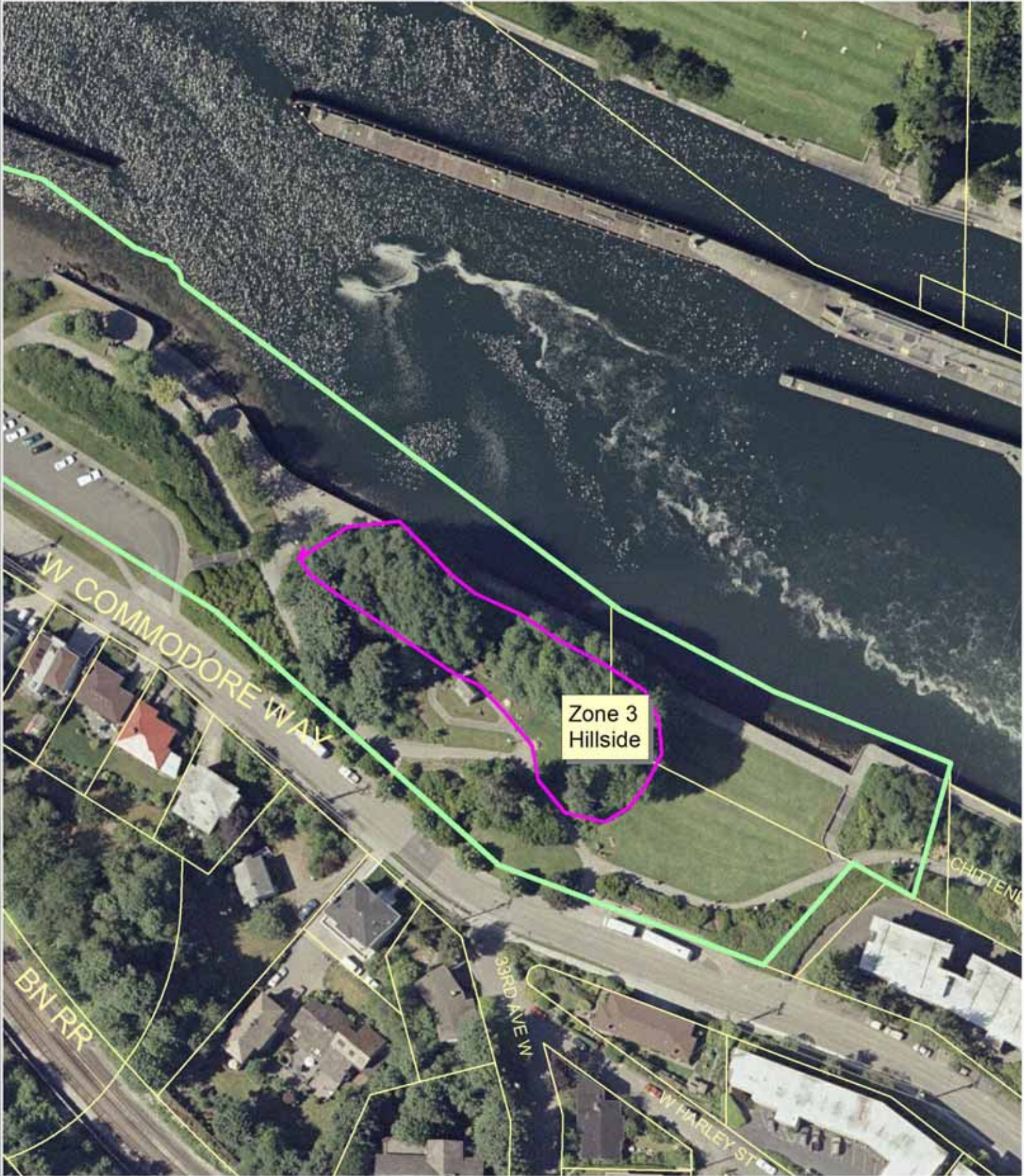


Invasive vegetation blocking views of Hiram Chittenden Locks across ship canal

Eroded slope



Hillside vegetation obstructing views



Commodore Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:1200

0 50 100 Feet



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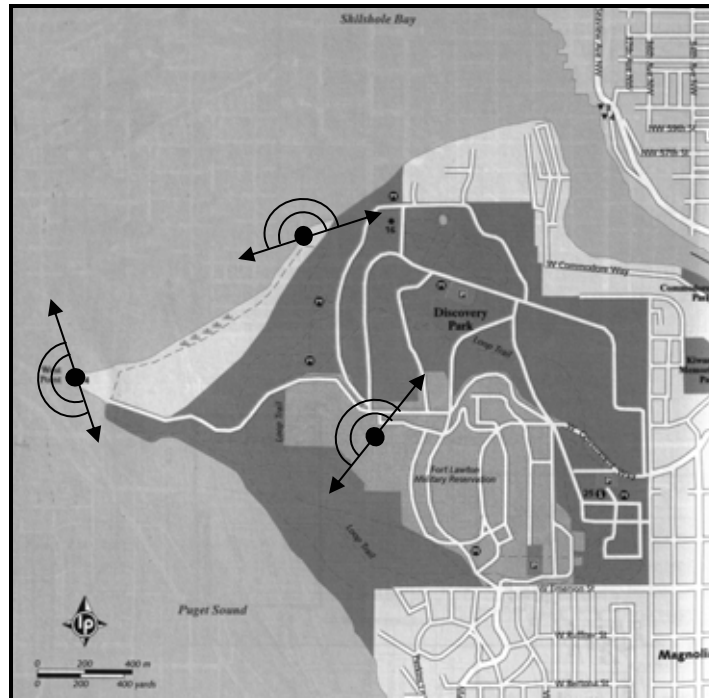
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Map date: February 5, 2004



Discovery Park - Daybreak Star Viewpoint

36th Ave W. and W. Government Way



LOCATION AND VIEWPOINT CATEGORY

The park is located on the north side of the Magnolia neighborhood. The park offers three viewpoints with panoramic views of Puget Sound, the Olympic, Cascade mountains and Mt. Rainier. View obstruction from vegetation is currently limited to the Daybreak Star Cultural Center viewpoint. Currently, 75% of the intended view at this location exists.

SUMMARY OF EXISTING CONDITIONS

Hillside slopes above the water have a 50-75% pitch. The majority of view obstruction is from Red Alders that naturally inhabit such sites. Scotch broom and some Himalayan Blackberry also exist. Access on the site is difficult.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Prune and remove by brown thinning and tree stand thinning using ANSI 300 standards
2. Removal invasive weeds
3. Control potential erosion at top of slopes using erosion mats
4. Plant layered vegetation on Hillside Zone 3
5. Plant several rows of low hedges along Transition Zone 2
6. Mulch transition zone and new plantings
7. Irrigate to establish new plants

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and chemical removal of weeds
- tree crown management of Alders
- managing exposed soil with additional planting, erosion control matting and mulching
- control of adjacent vegetation
- removal of dead, declining and diseased trees
- pruning to prohibit view obstruction using ANSI 300 standards

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Restoring views by pruning and removing invasive weeds on the hillside is rated a secondary priority because of the location, amount of use and current availability of extended views.

Phasing

- Phase 1 - Remove trees and prune
Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
Phase 3 - Plant Zone 2 transition hedges at top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune and remove trees |
| Contractor or UF staff: | -apply erosion control mats |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Discovery Park (Daybreak Star Viewpoint)

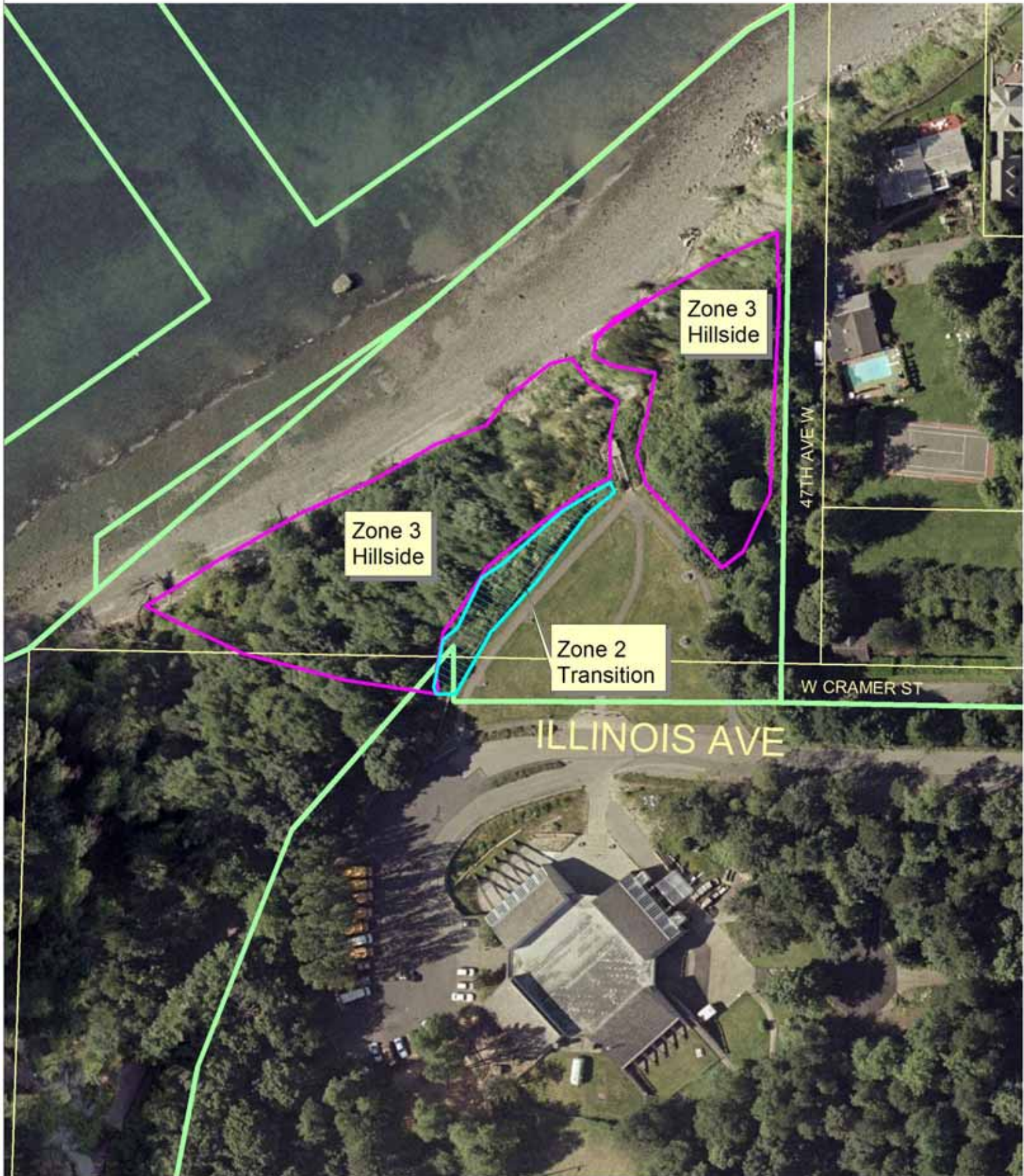


Trees blocking views of Olympic Mountains

Invasive weeds dominate crest of slope



View facing north from the Daybreak Star Center



Discovery Park Viewpoint - Daybreak Star

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:1200

0 50 100 Feet



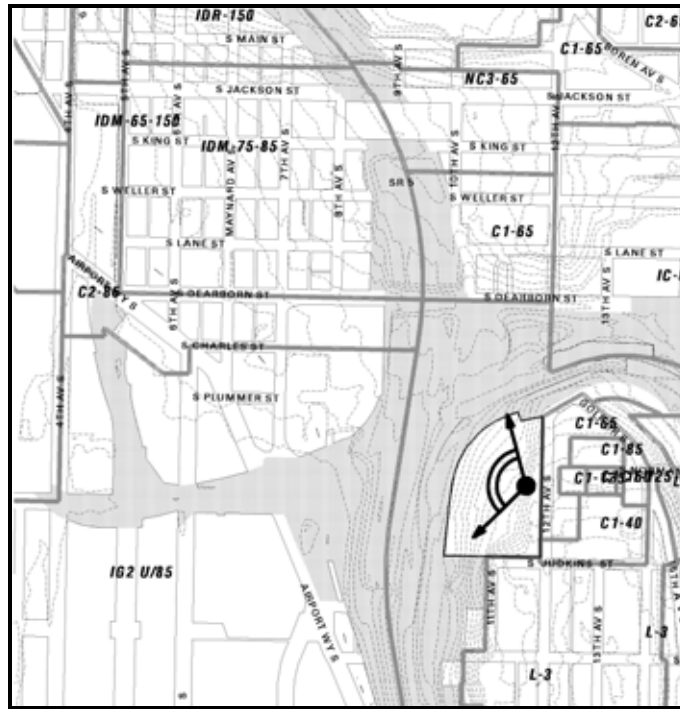
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Jose Rizal Park S. Judkins Street and 12th Ave S.



LOCATION AND VIEWPOINT CATEGORY

The park's viewpoint offers wide-angle views of the Olympic Mountains, Puget Sound and the Downtown skylines. The park is located on the west side of the Beacon Hill neighborhood. Park property surrounds the viewpoint.

SUMMARY OF EXISTING CONDITIONS

A major portion of the slope at the viewpoint has recently been cleared and mulched with brush. Replanting is needed to complete the restoration of the site. Portions of the site have been previously used for camping and gathering. For security and safety reasons, concepts defined in Crime Prevention through Environmental Design (CPTED) guidelines should be considered in plant selection and to maintain visibility of the site. (CPTED guidelines are included in the appendices of Viewpoints VMP) The majority of the site has a slope of 50-75%. Views remain obstructed from dense woodlands of Red Alder and Himalayan Blackberry at the Dr. Jose Rizal sculpture and picnic area.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 1 – Canopy Conversion on Hillside

Procedures:

1. Remove regrowth of blackberries
2. Cover any exposed soil with mulch
3. Plant layered vegetation on Hillside Zone 3. Care should be taken not to mix woodchip brush with soil during planting.
4. Plant low hedge along Transition Zone 2
5. Mulch all new plantings where needed
6. Provide temporary irrigation

B. GENERAL MAINTENANCE PRACTICES

Three year maintenance frequency will require:

- physical and/or chemical removal of weeds
- removal of Alder and Big Leaf Maple seedlings
- managing exposed soil with additional planting, erosion control matting and mulching
- control of adjacent vegetation from encroaching on viewshed
- removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing a canopy conversion for the hillside is rated 'high priority' as a result of the recent clearing and need for site restoration.

Phasing

- Phase 1 - Eliminate regrowth of invasive weeds
 Cover slopes with erosion control mat where needed
 Plant layered vegetation using CPTED guidelines
 Provide temporary irrigation
- Phase 3 - Plant a double row of low hedges in Zone 2 transition area at the top
 of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| Contractor, UF, and/or volunteers: | -physical removal of weed regrowth |
| UF staff: | -remove tree saplings |
| Contractor or UF staff: | -apply erosion control mats if needed |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Dr. Jose Rizal Park

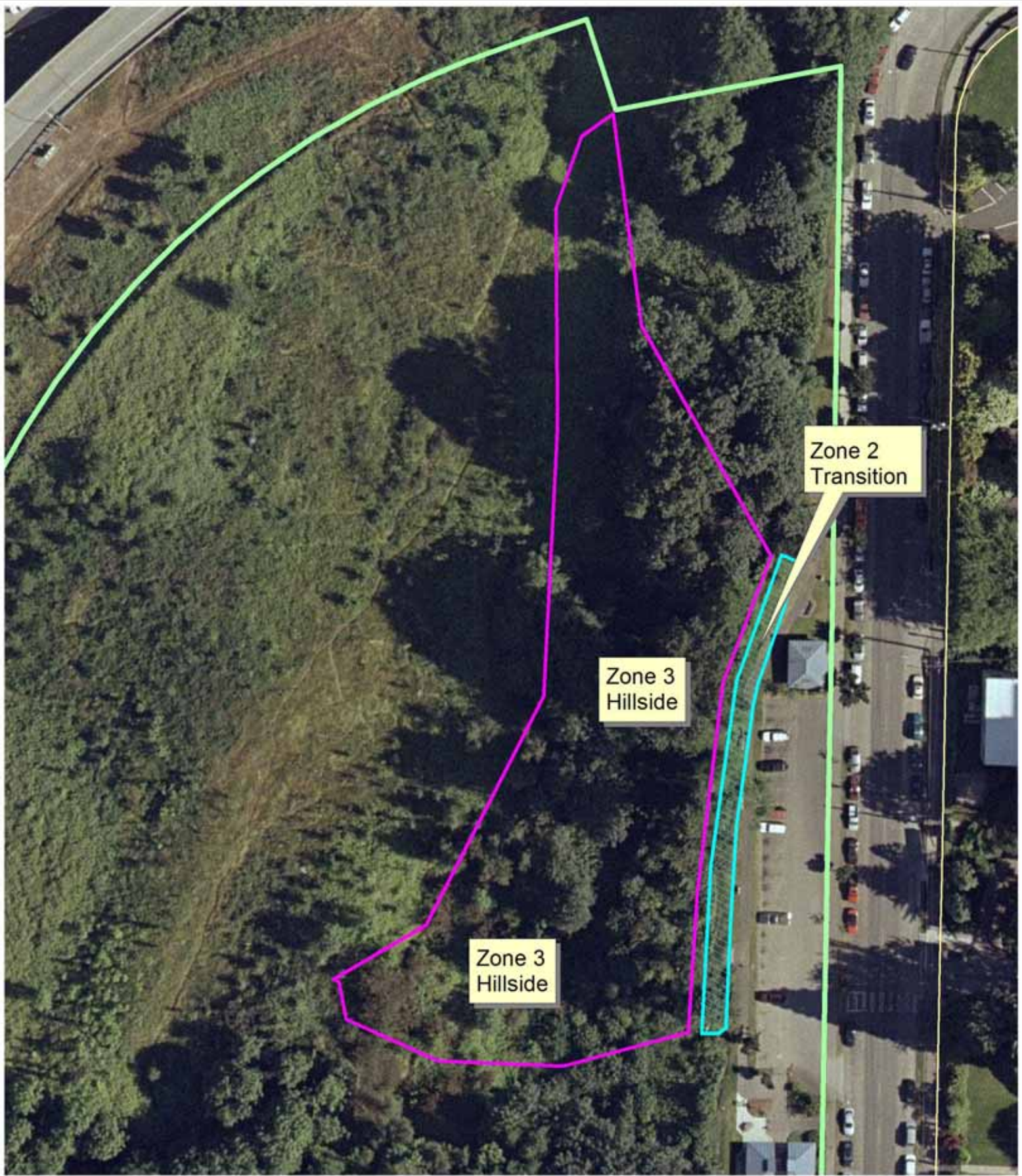


Obstructed views from the Jose Rizal sculpture and playground

Exposed unvegetated slope, facing south to adjacent trees



Cleared slope prepared for restoration planting



Rizal Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary

1:900

0 25 50 75 Feet



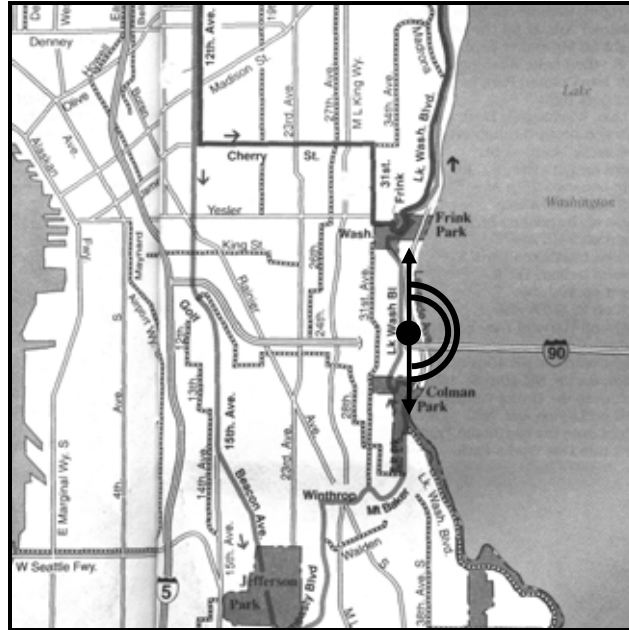
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I – 90 Bridge Overlook (Floating Bridge Viewpoint) Lake Washington Boulevard S. and S. Day



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Leschi neighborhood above the I-90 bridge. The viewpoint provides wide-angle views of Lake Washington and the Cascade Mountains. Park property borders all sides of the viewpoint. 90% of the intended viewshed is present.

SUMMARY OF EXISTING CONDITIONS

The park is situated at the top of a steeply terraced slope of ornamental shrubs. Views to the south and north are obstructed from the bench by the shrub *Euonymus alatus*, Burning Bush. Though shrubs have been hedged to assist in maximizing views, the genetic propensity of height and shrub growth prohibits how much can be pruned. In addition, a Portuguese Laurel growing on a lower terrace needs to be pruned to limit view obstruction to the north.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Pruning

Procedures:

1. Shrub pruning using ANSI 300 standards
2. Remove e *Euonymus* on both sides of viewpoint and replace with dwarf variety of shrub to maintain aesthetics and continuity.
3. Mulch new plantings
4. Provide irrigation to new plants

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- Control height of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:
Zone 1 - Developed park landscape

IMPLEMENTATION PLAN

Priority 3

Tall shrubs blocking views north and south from the viewing bench should be removed and replanted with the same species (*Euonymus alatus*) using a dwarf variety to maximize intended views.

Phasing

- Phase 1 - Remove shrubs; prune height on Portuguese Laurel
- Phase 2 - Plant small replacement dwarf variety hedges in planters
Mulch new plantings
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- UF staff: -prune and remove
- shrubsContractor, UF staff and/or volunteers: -plant hedges and mulching
- Park Maintenance staff: -control adjacent vegetation

I-90 Bridge Overlook - East Portal Park



Height of vegetation blocks views to the northeast

Height of vegetation obstructs views from bench to south



Ornamental vegetation in front of wall

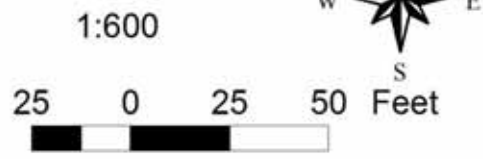


East Portal Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary



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Kobe Terrace Park Viewpoints

7th S. between S. Main and S. Washington



LOCATION AND VIEWPOINT CATEGORY

The park is located in the International District neighborhood with panoramic views to the southern Downtown skyline i.e. stadiums, International District, and Pioneer Square, and framed views of Puget Sound. 90% of the intended views are unobstructed. The park is adjacent to a p-patch garden site.

SUMMARY OF EXISTING CONDITIONS

The majority of the site has a 30-50% slope. Ornamental trees are planted throughout the hillside. Approximately 15% of the upper portions of the site have exposed soil conditions because of a lack of light from the dense tree canopies. Tree species dominating the site are Japanese Black Pine, Deodar Cedars and Flowering Cherries. The understory is dominated by English Ivy.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Prune trees using ANSI 300 standards
2. Control potential erosion by planting groundcovers
3. Mulch newly planted areas
4. Provide irrigation to new plantings

B. GENERAL MAINTENANCE PRACTICES

Five year cycle maintenance frequency will require:

- physical removal of weeds
- Managing exposed soil with additional planting, erosion control matting if needed and mulching
- Remove and replace dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations: Zone 1 - Developed park landscape

IMPLEMENTATION PLAN

Priority 3

The majority of intended views exist. However, Cherry trees, Japanese Black pines and Deodar cedars need to be pruned. The density of tree canopies keep understory from getting established. Exposed soil is eroded and needs to be planted and protected.

Phasing

- Phase 1 - Prune trees
- Phase 2 - Plant groundcovers
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- UF staff: -prune trees
- Contractor, UF and/or volunteers: -planting and mulching
- Park Maintenance staff: -prune shrubs and small trees,
control adjacent vegetation

Kobe Terrace Park Viewpoints

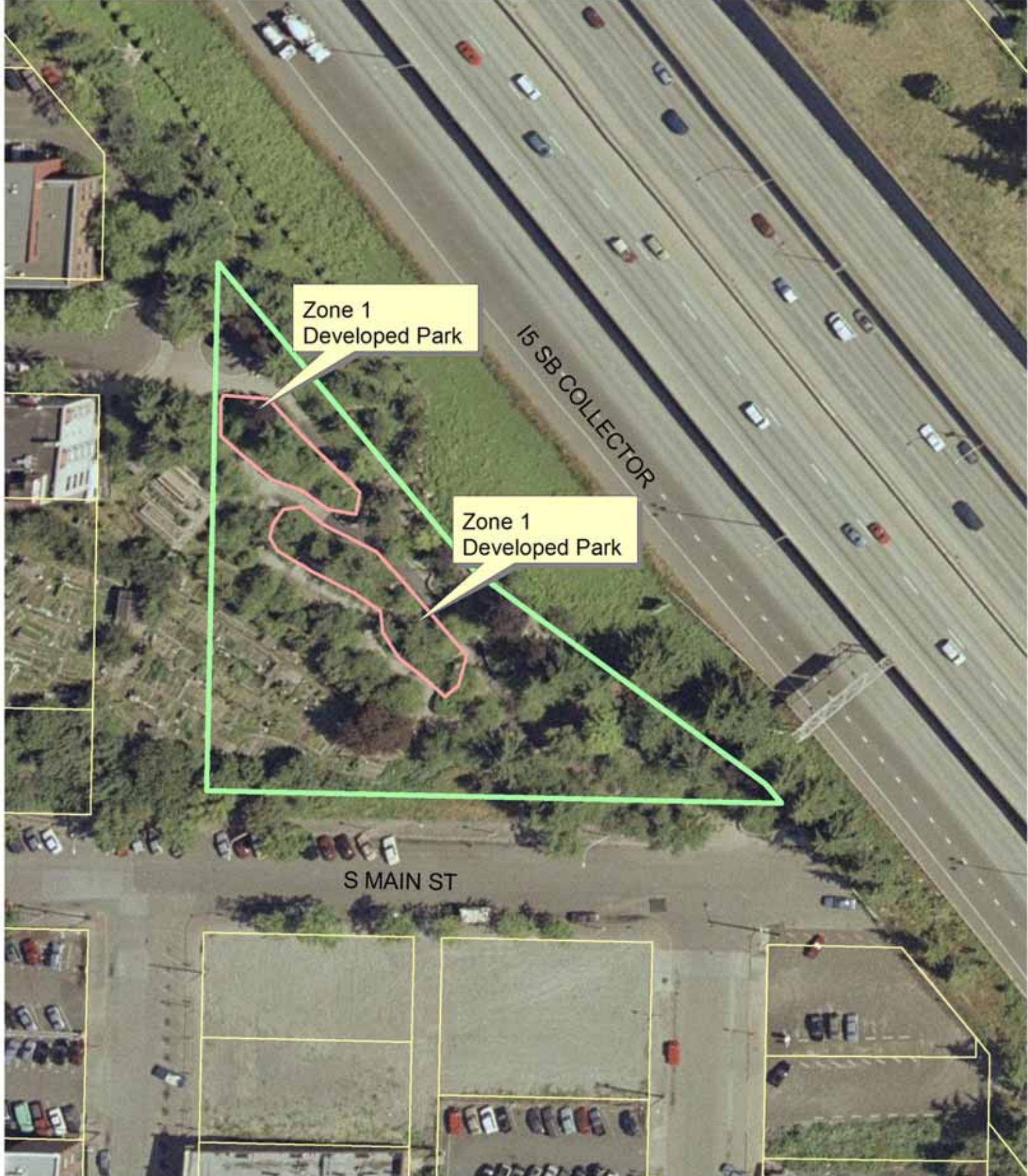


Tree canopies blocking views to south

Trees obstructing views from benches



Dense tree canopy prevents groundcovers from growing, prevent erosion of exposed soil



Kobe Terrace Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary



1:900

0 25 50 75 Feet



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Lakeview Park

Lake Washington Blvd and McGilvra Blvd E.



LOCATION AND VIEWPOINT CATEGORY

This park is located in the Denny-Blaine neighborhood overlooking Lake Washington. The viewpoint provides a wide-angle observation of the lake and the Cascade Mountains. Currently, approximately 75% of the view is unobstructed. Private property borders the site to the north. Park property extends to the south.

SUMMARY OF EXISTING CONDITIONS

The northern portions of the slope have been recently cleared and low understory growth has established itself on the steep slope. The south side of the slope has stands of native trees requiring pruning and removal to restore views. The understory has been invaded with invasive weeds. Portions of the slope have exposed soil. Easy access exists from both the top of the slope along Hillside Drive and from the bottom of the slope along McGilvra Ave. E. Replanting should follow tree pruning and removal and the control of invasive weeds. The steepness of the slope ranges from 30-50%

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 1 – Canopy Conversion on Hillside

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control where needed and on slope areas greater than 30%
4. Plant layered vegetation on Hillside Zone 3
5. Install temporary fence at top of slope
6. Mulch
7. Establishment watering

B. GENERAL MAINTENANCE PRACTICES

Three-year cycle maintenance frequency will require:

- physical and/or chemical removal of weeds
- Coppicing management of Big Leaf Maples
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction

View management locations: Zone 3 – Hillside (Easy access with multiple locations)

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing a canopy conversion for the hillside is rated 'high priority' due to location and existing conditions of recently cleared slopes.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat where needed
Plant layered vegetation
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|---|
| UF staff: | -prune and remove trees |
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation |

Lakeview Park

Cleared slope and adjacent hillside vegetation



Hillside vegetation from McGilvra Blvd. East at base of slope

Transition zone hedge and recently cleared slope





Lakeview Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside.shp
- Park Boundary
- Parcel Boundary

1:600

0 50 Feet



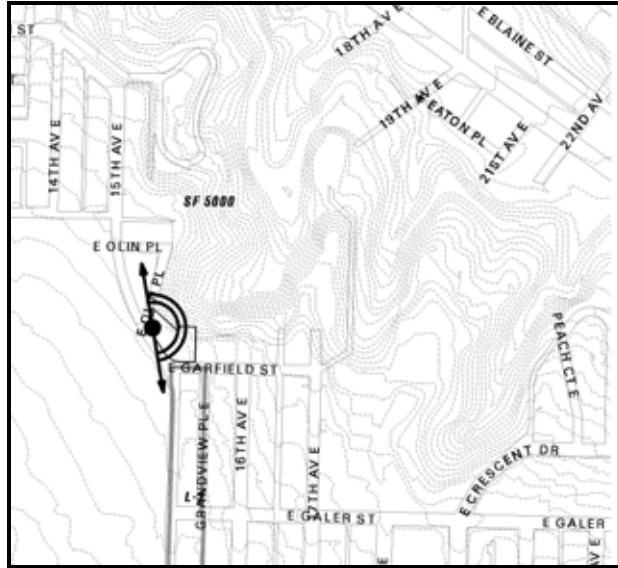
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Louisa Boren Viewpoint in Boren Park 15th Ave E. and E. Garfield at Olin Place



LOCATION AND VIEWPOINT CATEGORY

Located in the North Capitol Hill neighborhood, the viewpoint is situated along the high ridge area in Boren Park with panoramic views of Lake Washington (Union Bay) and the Cascade Mountains. Approximately 65% of the intended view currently exists.

SUMMARY OF EXISTING CONDITIONS

Nearly 25% of the slope has either exposed soil areas and surface erosion, especially along the crest of the slope where soil loss has occurred. The 30-50% slopes are terraced and dominated by native Big Leaf Maples and Bitter Cherries. The understory vegetation is composed of English ivy, Himalayan Blackberry, English Laurel and *Clematis columbiana*. Recent cutting of blackberries has occurred at the crest of the slope along Olin Place.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 1 – Canopy Conversion on Hillside

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Chemical and/or physical invasive weed removal
3. Erosion control with bank stabilization and matting
4. Plant layered vegetation on Hillside Zone 3
5. Install temporary fence at top of slope
6. Plant a minimum of 2 rows of low hedges along Transition Zone 2
7. Mulch with wood chips
8. Establishment watering

B. GENERAL MAINTENANCE PRACTICES

A three year maintenance will require:

- physical and chemical removal of weeds
- crown management of Big Leaf Maples
- managing exposed soil with additional planting, erosion control matting and mulching
- control adjacent vegetation
- removal of dead, declining and diseased trees
- pruning for form, shape and to prohibit view obstruction

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 – Hillside (terraced slope provides hauling access on steep slopes)

IMPLEMENTATION PLAN

Priority 2

Restoring intended views and implementing a canopy conversion for the hillside is rated 'secondary priority' due to current viewshed visibility, use, extent of work, and erosion concerns.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedge at top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| UF staff: | -prune and remove trees |
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Louisa Boren Viewpoint

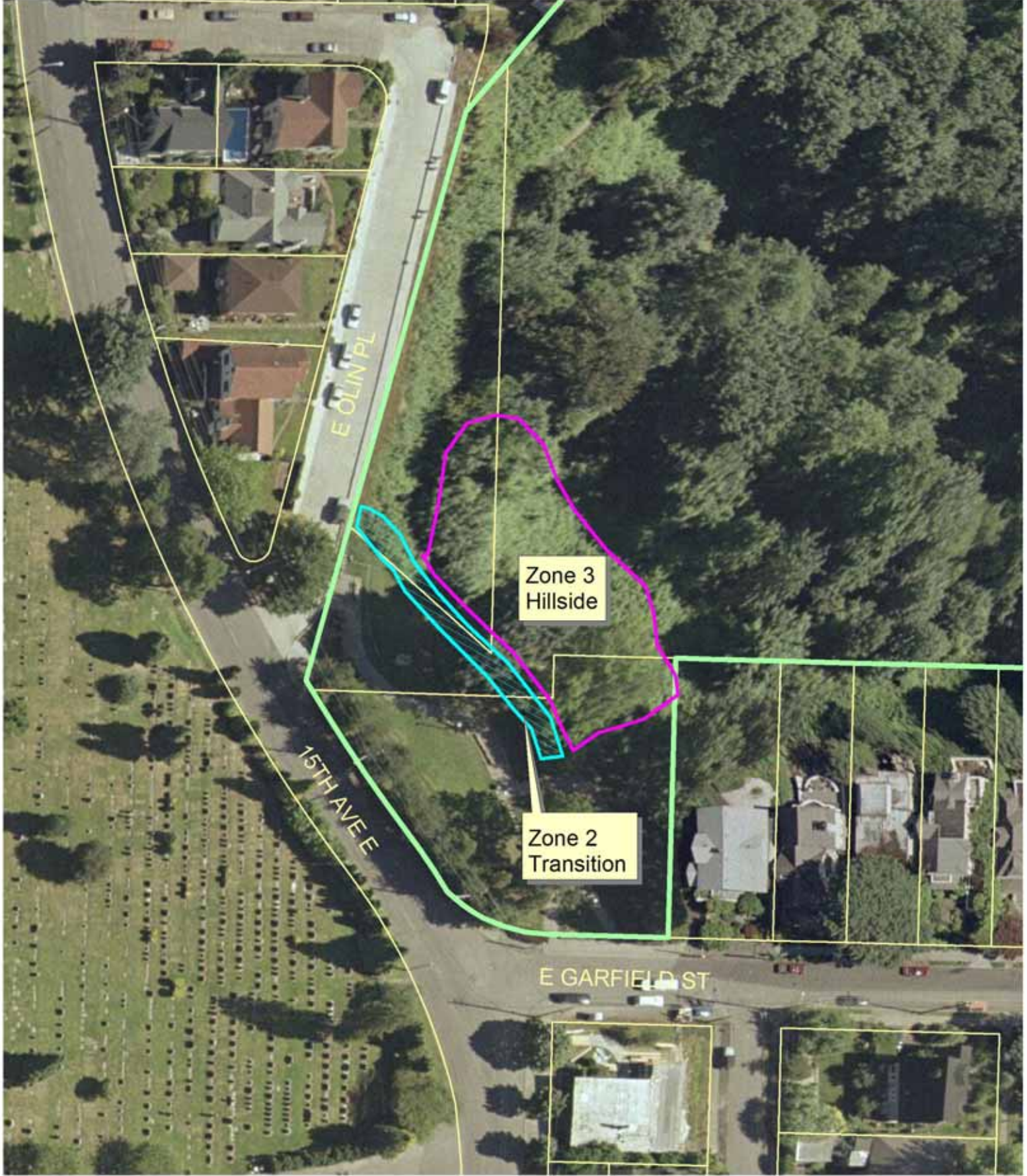
Trees obscuring views



Obstructed view north east
from bench viewpoint

Invasive vegetation
dominates crest of slope





Louisa Boren Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary

1:900



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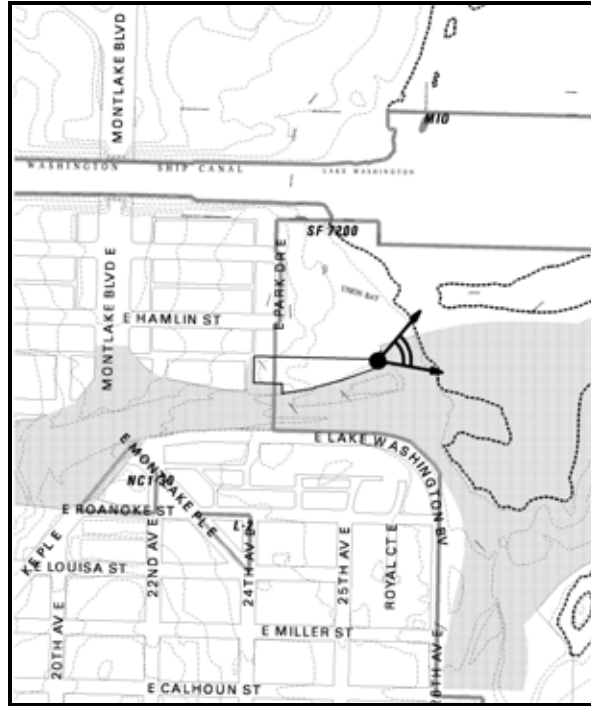
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McCurdy Park Viewpoint

E. Hamlin and E. Park Drive E.



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Montlake neighborhood next to the E. Montlake Park and the current home of the Museum of History and Industry. The viewpoints provide secondary and framed views of Lake Washington and Foster Island. Only 10% of intended views exist. Park property is adjacent to the north and Department of Transportation property is to the south.

SUMMARY OF EXISTING CONDITIONS

The shoreline of the park is dominated by native Red Alders obscuring views to the water. Some invasive weeds have also established between tree clusters.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control along shoreline where needed
4. Mulch shoreline viewpoints

B. GENERAL MAINTENANCE PRACTICES

Five year cycle maintenance frequency will require:

- physical removal of weeds
- remove alder saplings at viewpoints

- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation with pruning and tree thinning
- Removal of dead, declining and diseased trees
-

View management locations:
Zone 3 – Shoreline maintenance (easy access)

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing tree management along the shoreline is rated 'high priority' due to the degree of obstructed views and ease of restoration.

Phasing

Phase 1 - Remove trees and prune by thinning tree groves

Phase 2 - Eradicate invasive weeds
Cover slopes with woodchip mulch

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

Contractor, UF, and/or volunteers:	-physical removal of weeds
UF staff:	-prune and remove trees,
Contractor, UF and/or volunteers:	-planting and mulching
Park Maintenance staff:	-prune small trees, control adjacent vegetation

McCurdy Viewpoint



Tall trees need thinning

Dense understory vegetation obscures water view



Bridge and walkway to Foster's Island



McCurdy Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:900



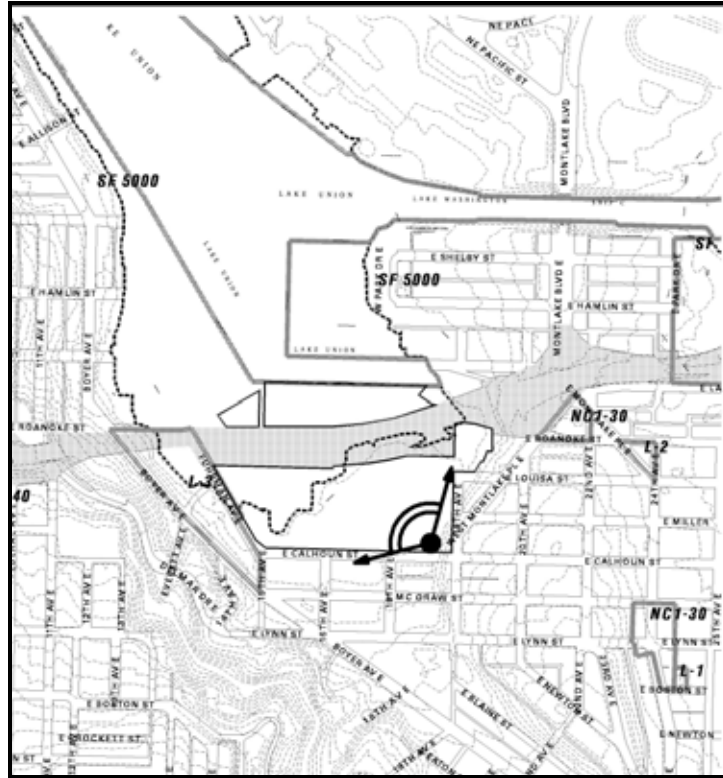
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Montlake Playfield Viewpoints 16th E. and E. Calhoun



LOCATION AND VIEWPOINT CATEGORY

The viewpoint is adjacent to the playfield and offers framed views of the Lake Washington Ship Canal and Portage Bay at the water's edge. Currently, only 10% of the intended views are visible due to the dense growth of native trees along the shoreline. Park land borders the viewpoint in all directions.

SUMMARY OF EXISTING CONDITIONS

Clusters of native trees, Big Leaf Maples, Alders, Willows and Poplars crowd the shoreline. Ivy and Himalayan Blackberry dominate the understory. The flat site allows for easy access and staging areas for tree removal.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Thin dense stands of trees to allow multiple viewpoint locations using ANSI 300 standards. Remove dead, diseased and dying trees and those with poor structural form.
2. Mechanically and/or chemically remove invasive weeds
3. Mulch shoreline areas where trees and invasive weeds have been removed to protect shore edge.

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and chemical removal of weeds
- removal of native tree saplings along shoreline
- Protect shorelines viewpoints with mulch
- Prune adjacent vegetation to prohibit view obstruction
- Removal of dead, declining and diseased trees

View management locations:

Zone 3 – Shoreline clearance of invasive trees and weeds – easy access

IMPLEMENTATION PLAN

Priority 1

Restoring intended views is rated 'high priority' due to the degree of obstruction. The extent of park use and the importance of the community center to the region has also been considered.

Phasing

Phase 1 - Remove trees and prune

Phase 2 - Eradicate invasive weeds

Cover shoreline slopes with woodchip mulch

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

UF staff:

-prune and remove trees

Contractor, UF, and/or volunteers:

-physical removal of weeds

Contractor, UF and/or volunteers:

-apply woodchip mulch

Park Maintenance staff:

-remove small trees,
control adjacent vegetation

Montlake Playfield Viewpoints

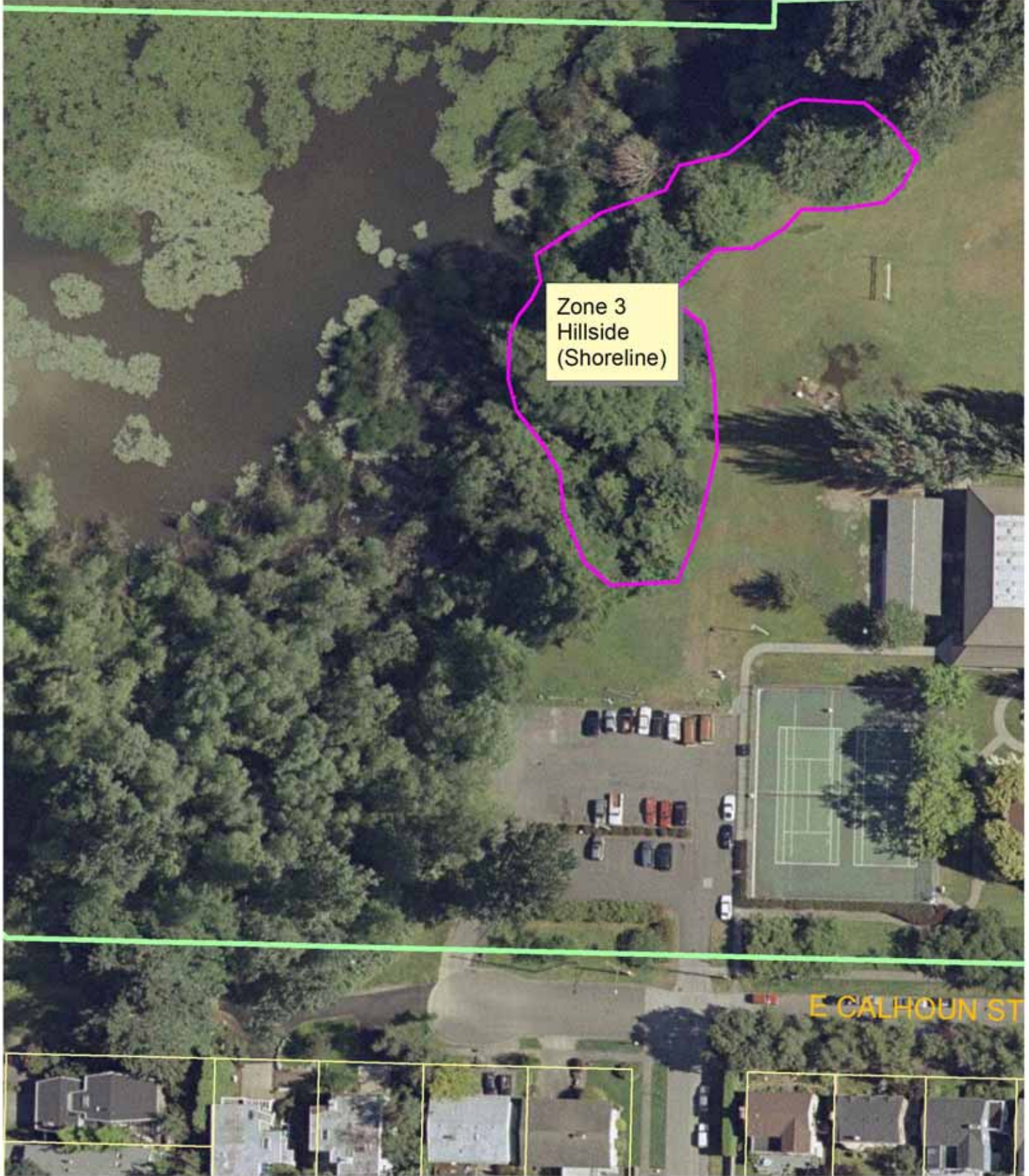


Dense tree canopy and
invasive understory
vegetation

Shoreline views west to
Portage Bay and Hwy 520
bridge



Native shoreline trees
covered with ivy



Montlake Playfield Viewpoints

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:900

0 25 50 75 Feet



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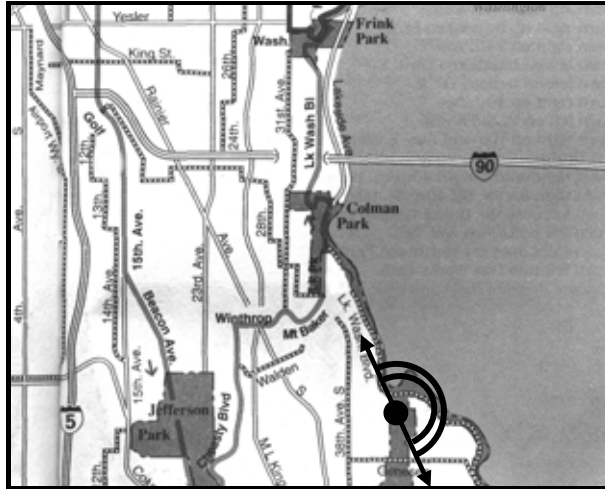
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Triathlon, July 1999
Map date: February 5, 2004



Mt Claire Park (in Mt Baker)

Mt Claire Ave and Park Drive



LOCATION AND VIEWPOINT CATEGORY

The park is located on a residential street in the Mt. Baker neighborhood and has panoramic views of Lake Washington and the Cascade mountains. Use of the park is limited, and 85% of intended views are unobstructed. Private property is adjacent to the north and south of the viewpoint site.

SUMMARY OF EXISTING CONDITIONS

The hillside has recently been cleared. Himalayan blackberries inhabit the steep 75% slope. The crest shows signs of erosion and instability. Maintenance access exists both above and below the slope.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Invasive weed removal at the crest of the slope
2. Erosion control matting may be necessary
3. Plant low hedges along Transition Zone 2
4. Mulch at crest of slope and new plantings
5. Irrigate to establish new plants

B. GENERAL MAINTENANCE PRACTICES

Five year maintenance cycle will require:

- physical and/or chemical removal of weeds
- Coppicing management of Big Leaf Maples
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:
Zone 2 - Transition area at the crest of the slope
Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 3

The majority of intended views exist. Since the park has low use, emphasis will be on defining the transition edge with shrubs and maintaining the step hillside vegetation.

Phasing

- Phase 1 - Remove invasives at top of slope
- Phase 2 - Cover slopes with erosion control mat where needed
Plant Zone 2 transition hedge at top of slope
Irrigate new plantings

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- Contractor, UF, and/or volunteers: -physical removal of weeds
- UF staff: -remove shrubs
- Contractor or UF staff: -apply erosion control mats,
- Contractor, UF and/or volunteers: -planting and mulching
- Park Maintenance staff: -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2

Mt Claire Park



North to I90 floating bridge and Mt Baker

Crest of slope, transition zone



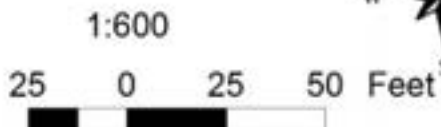
Overgrown vegetation from toe of slope



LEGEND Mount Claire Viewpoint (at Mt. Baker)

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary



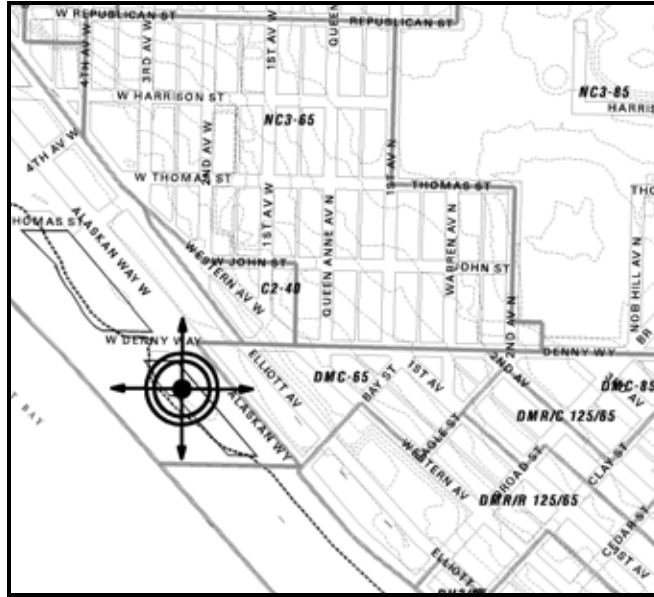
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Myrtle Edwards Park

Alaskan Way between W. Bay and W. Thomas



LOCATION AND VIEWPOINT CATEGORY

The park is located along the shores of Elliot Bay in the Belltown neighborhood. The viewpoints offer panoramic views of Puget Sound, Olympic Mountains, Downtown skyline and Mt. Rainier. Framed views of the Space Needle also exist. 95% of the views are currently unobstructed.

SUMMARY OF EXISTING CONDITIONS

Recent landscape restoration efforts have occurred within the park, addressing circulation, drainage and planting needs. A grove of Poplars growing on a mound at the south end of the park block views of the Downtown skyline from most viewpoint locations. In addition, Himalayan blackberry is beginning to establish colonies at the shoreline.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Tree removal and/or pruning using ANSI 300 standards
2. Invasive weed removal along shoreline
3. Erosion control with new plantings
4. Irrigate new plants

B. GENERAL MAINTENANCE PRACTICES

Five year maintenance cycle frequency will require:

- physical removal of weeds along shoreline
- Removing tree saplings

- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Prune trees for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:
Zone 1 - Developed park landscape

IMPLEMENTATION PLAN

Priority 3

The majority of intended views exist with the exception of pruning a stand of Poplars that obstruct views of the downtown skyline from much of the site.

Phasing

- Phase 1 - Prune trees
Phase 2 - Eradicate invasive weeds along shoreline
Plant to prevent erosion where necessary
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|---|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune trees |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation |

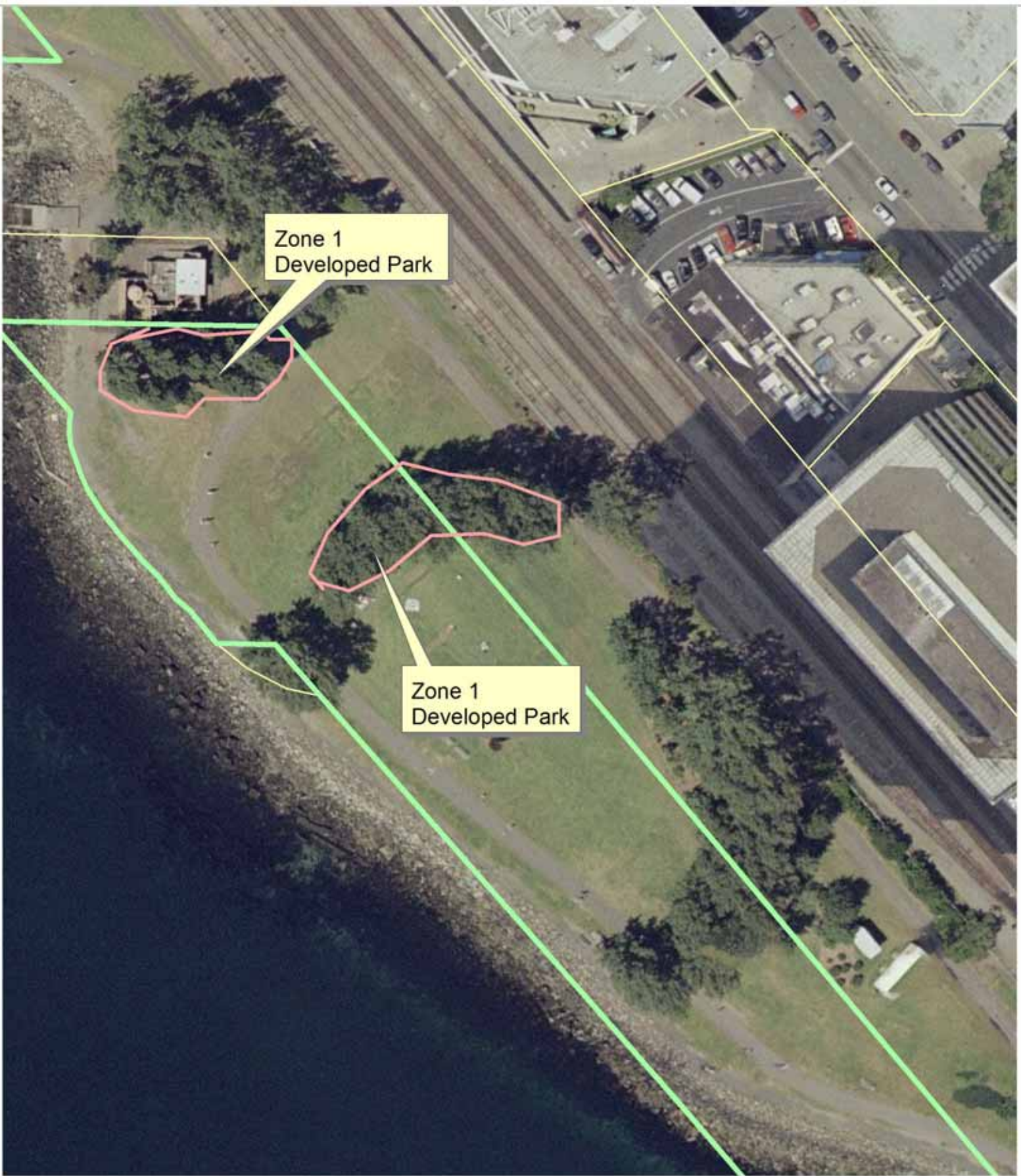
Myrtle Edwards Park



Obstructed views south toward downtown Seattle



Invasive weeds growing along crest of slope at shoreline



Myrtle Edwards Park Viewpoints

LEGEND

LANDSCAPE MANAGEMENT ZONES

- █ Zone 1 - Developed Park Landscape
- █ Zone 2 - Transition
- █ Zone 3 - Hillside
- █ Park Boundary
- █ Parcel Boundary

1:900

0 75 Feet



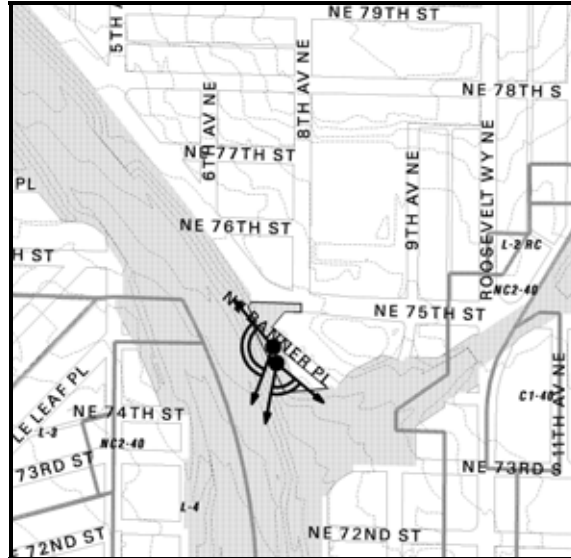
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Rainbow Point (Banner Place) NE Banner Place



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Roosevelt neighborhood and offers wide-angle views of the Olympic mountains and secondary framed views of the downtown skyline. Currently 80% of the views are unobscured. The Department of Transportation owns the property on the hillside to the west of the park where existing trees are growing.

SUMMARY OF EXISTING CONDITIONS

A recent fire on the hillside has eliminated the understory brush and some of the trees previously growing there. Little understory exists as a result of the fire. Several Douglas Firs and Bitter Cherries obstruct views to the north and south.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Weed Removal

Procedures:

1. Prune trees using ANSI 300 standards

B. GENERAL MAINTENANCE PRACTICES

Five year maintenance cycles will require:

- Physical and/or chemical removal of weeds
- Removal and crown management of tree saplings
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction

View management locations: Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 3

A recent hillside fire in the area has eliminated much of the brush and small trees. The majority of intended views are intact. Pruning canopies of trees on DOT land will help to improve views.

Phasing

Phase 1 - Prune trees

Phase 2 - Plant additional trees and understory if erosion issues become a concern

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

UF staff:

-prune and remove trees

Contractor, UF and/or volunteers:

-planting and mulching

Park Maintenance staff:

-prune shrubs and small trees,
control adjacent vegetation

Rainbow Point Viewpoint (Banner Place)

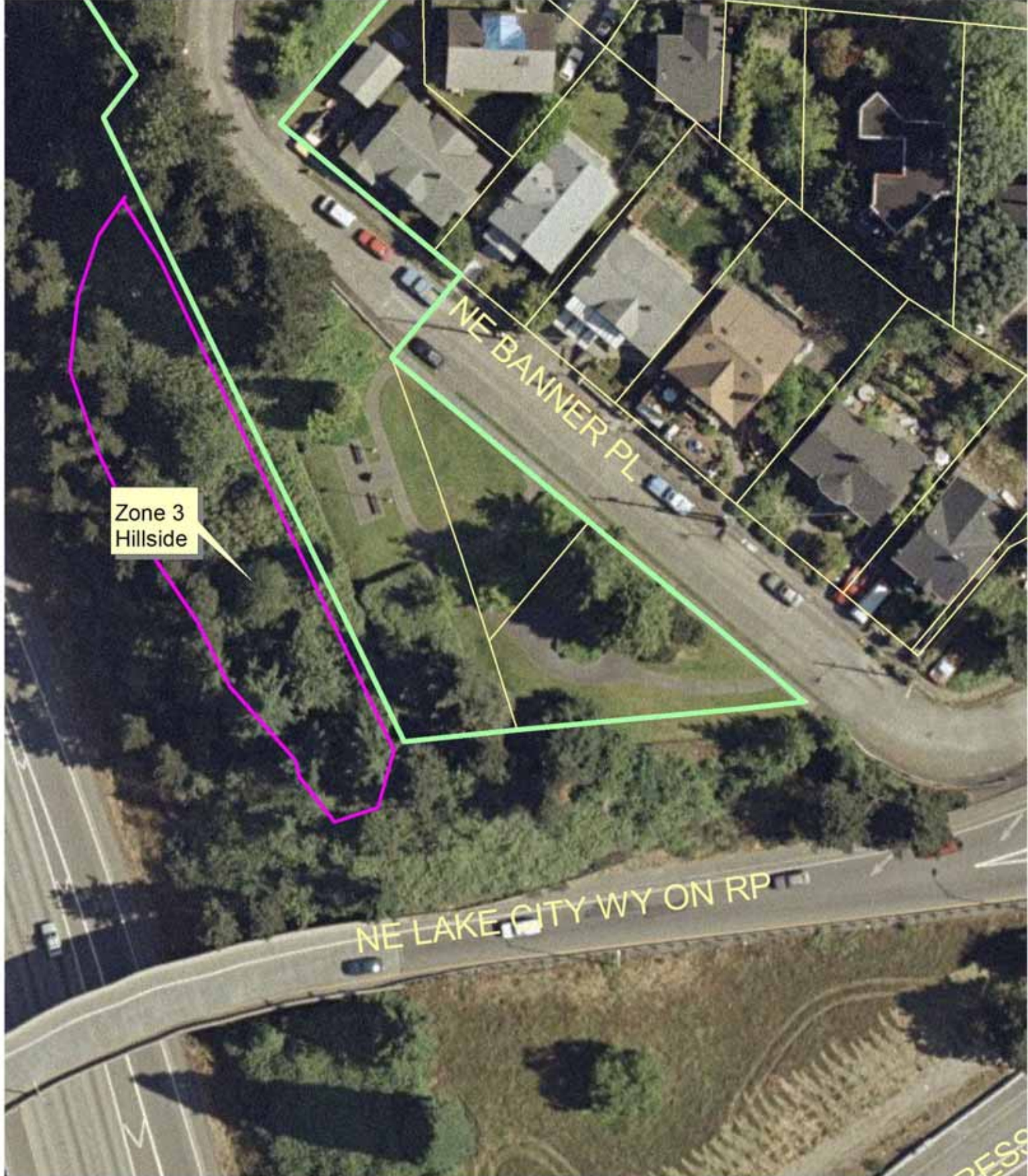
Facing south
toward I5 and
Downtown Seattle



Hillside vegetation
interferes with views
from bench

Conifer trees obscure
views to west





Zone 3
Hillside

Rainbow Point (Banner Place) Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES	
	Zone 1 - Developed Park Landscape
	Zone 2 - Transition
	Zone 3 - Hillside
	Park Boundary
	Parcel Boundary



1:900

10 0 10203040 Feet



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Riverview Playfield 12th SW and SW Othello



LOCATION AND VIEWPOINT CATEGORY

The viewpoints are located on 12th Ave. South in the Delridge neighborhood of West Seattle. The viewpoints are intended to provide wide-angle views of the Cascade Mountains. Currently, only 30% of the views are unobstructed by vegetation. Designated viewpoint locations are surrounded by park and the West Duwamish Greenbelt.

SUMMARY OF EXISTING CONDITIONS

Many park improvements and amenities have recently occurred in the park. Asphalt paths have been installed to viewpoint locations, along with the enhancement of the parks' landscape. However, dense stands of native trees, Alders and Bitter Cherry, growing on the upper slopes restrict views. Understory vegetation is dominated by invasive weeds, Himalayan Blackberry and Scotch Broom. Slopes range from steep areas of 30-50% with shallow slopes adjacent to flatter bench lands.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 1 – Canopy Conversion on Hillside

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Mechanical and/or chemical removal of invasive weeds
3. Erosion control where needed with matting
4. Plant layered vegetation on Hillside Zone 3
5. Plant a double row of low hedge along Transition Zone 2
6. Mulch with woodchips
7. Provide irrigation to establish plants

B. GENERAL MAINTENANCE PRACTICES

Annual maintenance will require:

- physical and/or chemical removal of weeds
- Removal of tree saplings
- Managing exposed soil with additional planting, erosion control matting and mulching
- Removal of dead, declining and diseased trees
- Pruning to control competition and reduce tree crown heights using ANSI 300 standards
- Control of adjacent vegetation

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 – Hillside (access varies depending on slope location)

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing a canopy conversion for the hillside is rated 'high priority' in concurrence with recent park improvements, high park use and level of view obstruction.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedge at top of slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune and remove trees |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Riverview Playfield Viewpoints

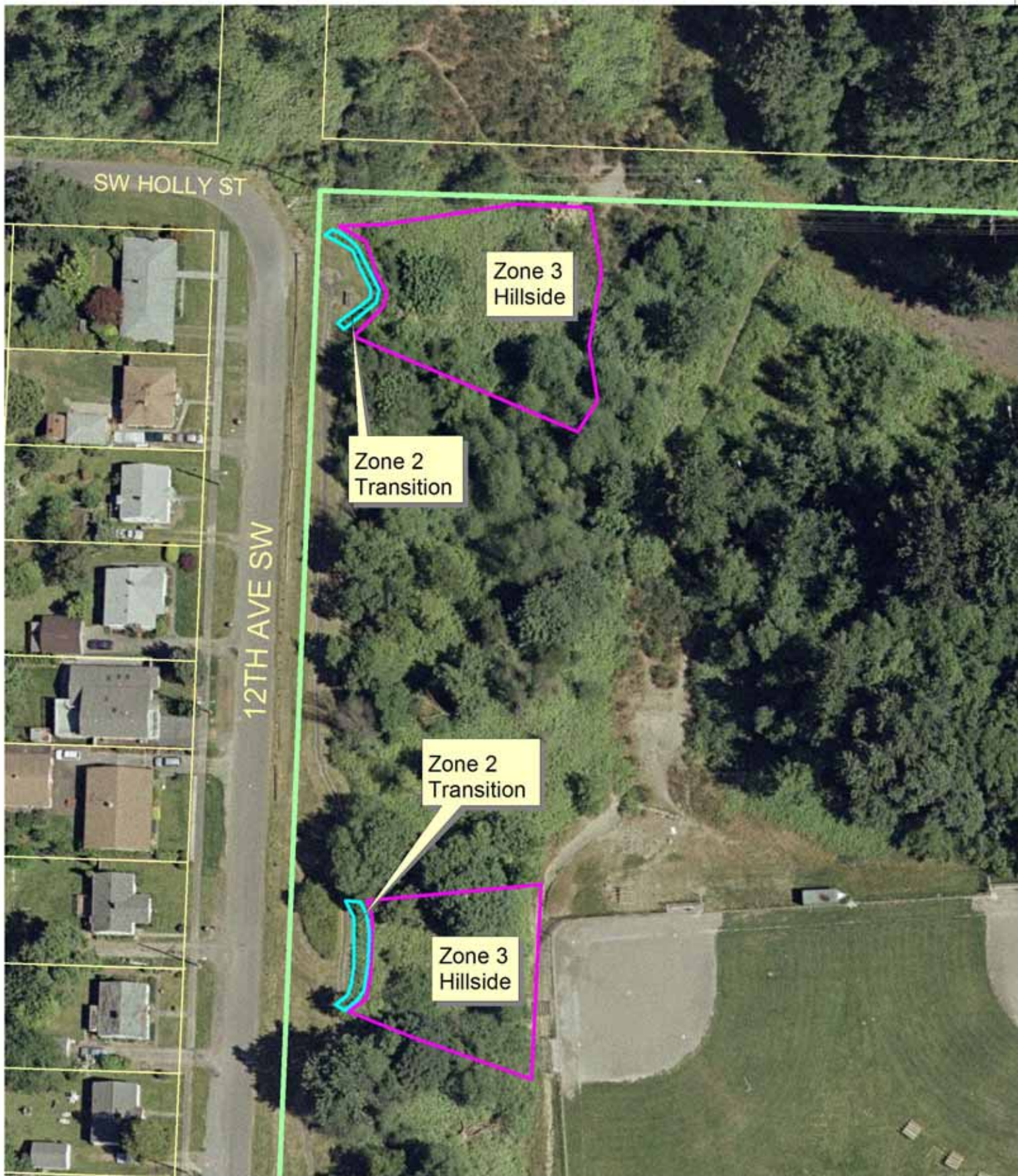
Trees and invasive weeds obstructing views to east



View facing east toward Cascades

Dense vegetation barrier from bench at viewpoint





SW HOLLY ST

12TH AVE SW

Zone 3 Hillside

Zone 2 Transition

Zone 2 Transition

Zone 3 Hillside

Riverview Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- █ Zone 1 - Developed Park Landscape
- █ Zone 2 - Transition
- █ Zone 3 - Hillside
- █ Park Boundary
- █ Parcel Boundary

1:900

0 75 Feet



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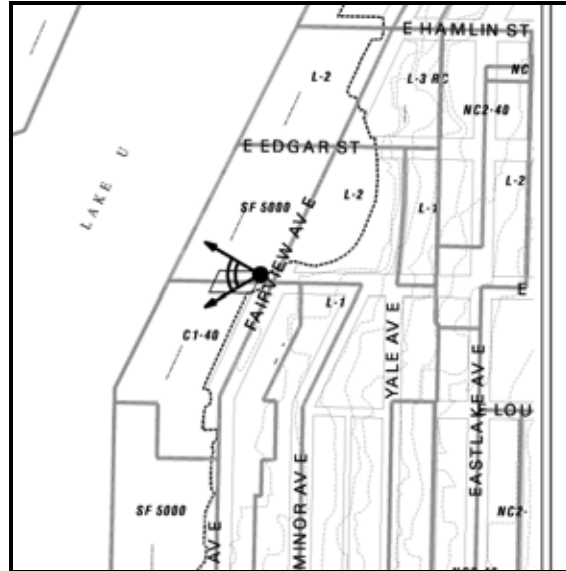
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Roanoke Street Mini-Park Viewpoint

Fairview Ave E. and E. Roanoke



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Eastlake neighborhood. viewpoints provide a limited, framed view of Lake Union. 50% of intended views are currently available. Private property exists to the north and south of the site.

SUMMARY OF EXISTING CONDITIONS

Views of Lake Union are obstructed by the crown of a Willow growing on the shoreline. Exposed soil and eroded slopes threatened the stability of the lake edge. Access to this level site is easy along Fairview Avenue North.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Tree pruning using ANSI 300 standards
2. Invasive weed removal
3. Erosion control using erosion mats where needed
4. Plant groundcovers along shoreline
5. Mulch
6. Provide irrigation to new plants

B. GENERAL MAINTENANCE PRACTICES

Five year cycle maintenance frequency will require:

- physical removal of weeds
- Tree pruning to provide enough light for groundcover growth
- Managing exposed soil with additional planting, erosion control matting and mulching
- Removal of dead, declining and diseased trees
- Pruning to prohibit view obstruction using ANSI 300 standards

View management locations: Zone 1 - Developed park landscape Zone 3 - Hillside
--

IMPLEMENTATION PLAN

Priority 2

Restoring views by pruning and protecting eroded slopes is rated a secondary priority due to level of use, visibility and maintenance required to accommodate intended views.

Phasing

- Phase 1 - Prune trees for view and to maximize light
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant groundcover
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|---|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune trees |
| Contractor or UF staff: | -apply erosion control mats, |
| Contractor, UF and/or volunteers: | -planting and mulching |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation |

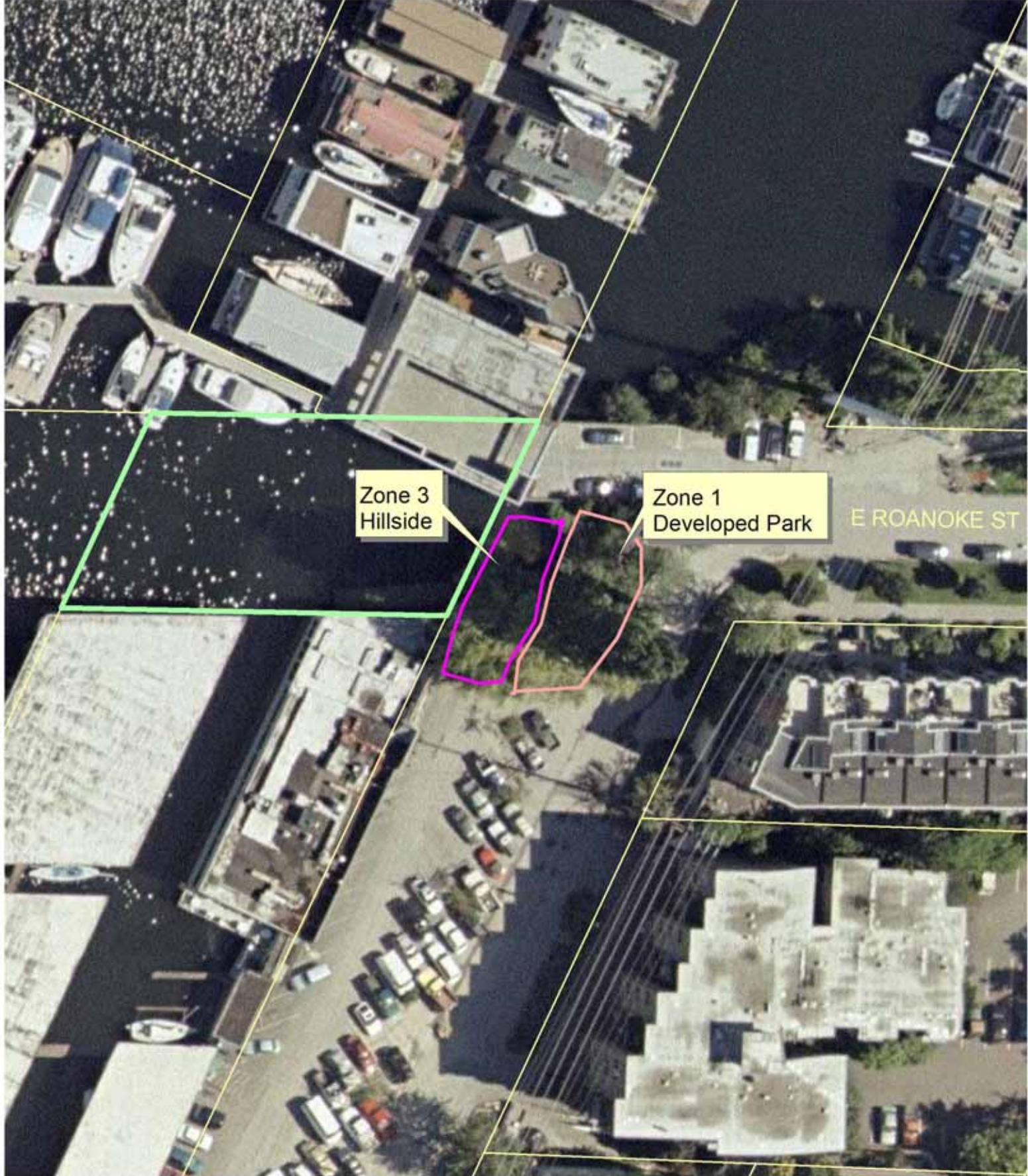
Roanoke Mini-park Viewpoint



Shade from adjacent trees prevents light to groundcover, resulting in exposed soil on shoreline slopes



Willow canopy blocking views west of Lake Union



Roanoke Street Mini-Park Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary

1:600

10 0 10 20 30 40 Feet



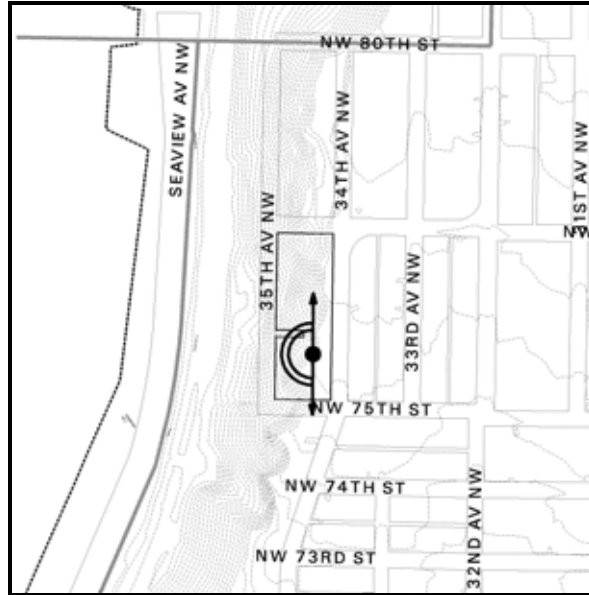
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Sunset Hill Viewpoint NW 77th and 34th NW



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Sunset Hill neighborhood and offers panoramic views of the Olympic Mountains and Puget Sound. Currently, 90% of the intended views exist. Park property and Burlington Northern property extends to the west. Private property borders the north and south sides of the park.

SUMMARY OF EXISTING CONDITIONS

Steep slopes of 50% and greater dominate this site. Escarpments along 10-15% of the crest of the slope indicate previous slide activity. The slope is dominated by Alders, Big Leaf Maple and Douglas Fir with the presence of Himalayan blackberry, Scotch Broom, and Holodiscus and tree saplings inhabit the understory.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Tree removal and pruning using ANSI 300 standards
2. Invasive weed removal along top of slope
3. Erosion control mats at top of slope
4. Plant low hedges along Transition Zone 2
5. Mulch eroded slopes and new plantings
6. Provide irrigation

B. GENERAL MAINTENANCE PRACTICES

Three-year cycle maintenance frequency will require:

- physical and/or chemical removal of weeds
- Crown management of Big Leaf Maples and Alders
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation

- Removal of dead, declining and diseased trees
- Pruning to prohibit view obstruction using ANSI 300 standards

View management locations:

Zone 2 - Transition area at the crest of the slope

Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Restoring intended views and implementing tree pruning and weed removal is a secondary priority due the degree of intended view currently existing. Erosion of the crest of the slope justifies the restoration of Zone 2 and the planting of protective hedges.

Phasing

- Phase 1 - Remove trees and prune
- Phase 2 - Eradicate invasive weeds
Cover slopes with erosion control mat
Plant layered vegetation
Provide temporary irrigation
- Phase 3 - Plant Zone 2 transition hedge at top of slope

Sunset Hill Viewpoint

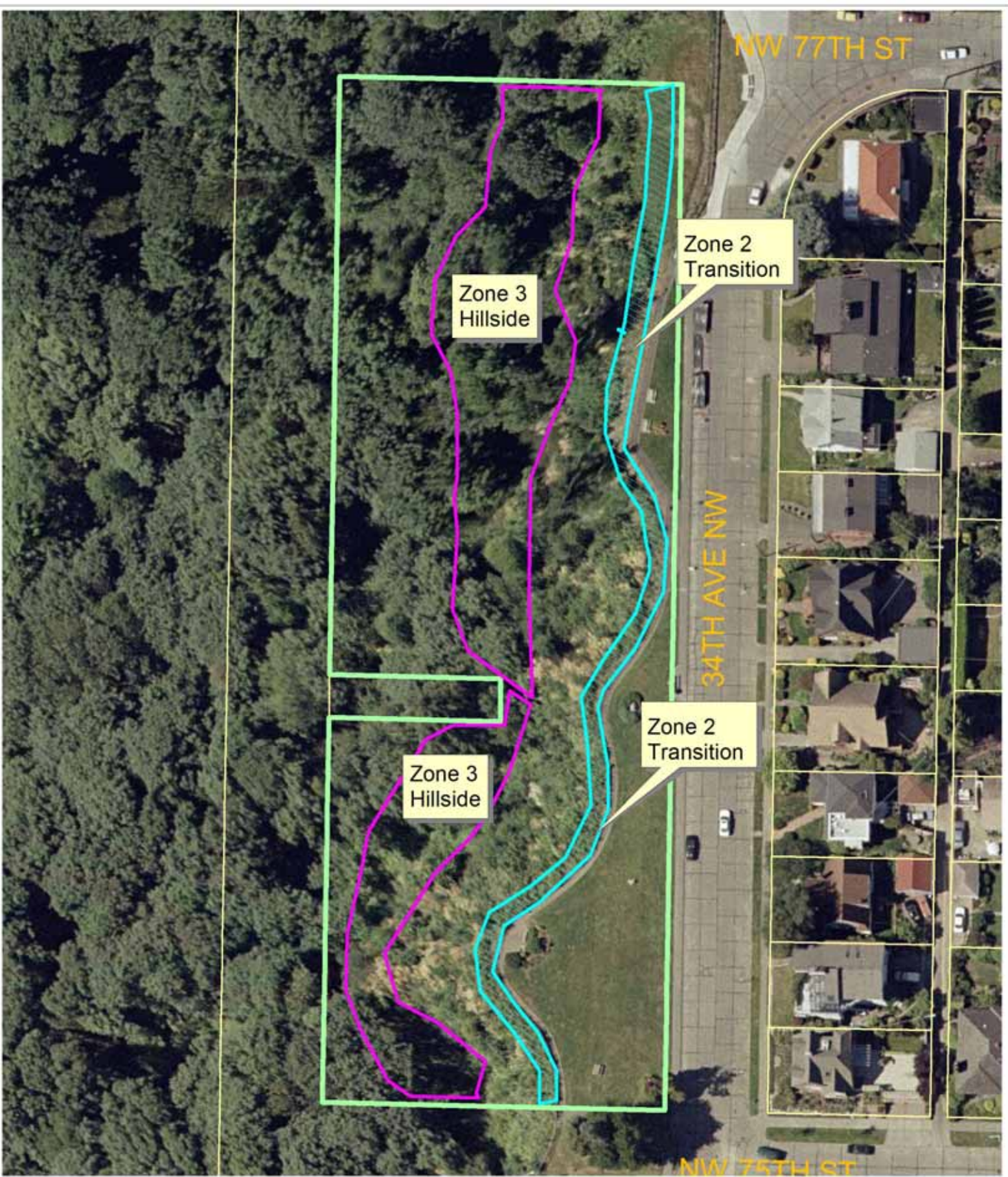


View southwest across Puget Sound to Olympics and Shilshole Marina

Transition planting needed at crest of slope



View north across Puget Sound to Olympics.



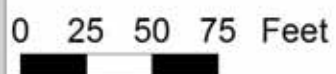
Sunset Hill Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary

1:900



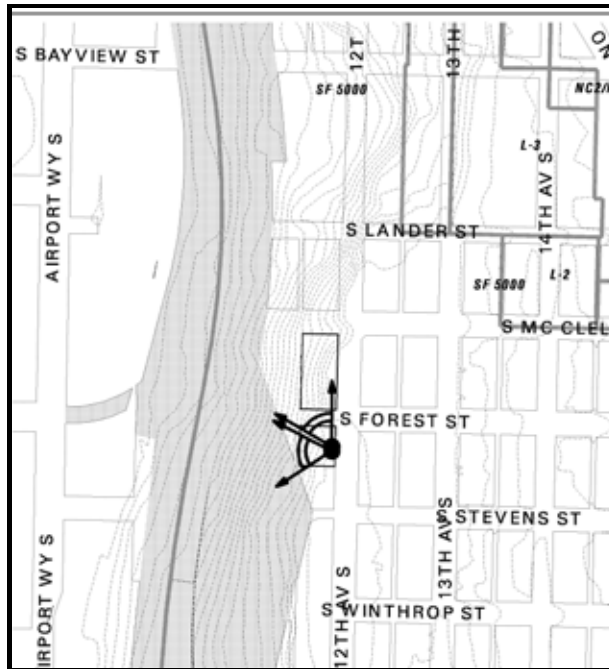
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Twelfth Avenue South Viewpoint 12th Avenue S. at Forest Street



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Beacon Hill neighborhood with panoramic views of the Olympic mountains, Puget Sound and the Downtown skyline. Approximately 10% of the intended view is obscured by vegetation.

SUMMARY OF EXISTING CONDITIONS

The majority of the site is a steep hillside with slopes 50% and greater. There are signs of previous mass slides and 15-20% of the slope is exposed with no vegetative cover.

Native trees have inhabited the hillside – alders, Big Leaf maples, and Bitter cherry. The understory vegetation is primarily invasive weed species – Himalayan Blackberry, Scotch Broom and tree saplings.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Consult with a hydrologist and geologist for recommendations on stabilizing slope
2. Thin clusters of dense trees by removing small saplings or dead, diseased or dying trees
3. Prune trees using ANSI 300 standards to thin canopies
4. Invasive weed removal
5. Apply erosion control mat and stake in place

6. Plant Zone 2 - transition hedge on inside of fence to protect slope and provide groundcovers on all exposed soil surfaces
7. Mulch where possible

B. GENERAL MAINTENANCE PRACTICES

Maintain landscape within view shed on a 5-year cycle:

- physical and chemical removal of weeds
- Remove Big Leaf Maple saplings
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control of adjacent vegetation i.e. ivy from DOT
- Removal of dead, declining and diseased trees
- Pruning for form, shape and to prohibit view obstruction using ANSI 300 standards

View management locations:
Zone 2 – Transition area at the crest of the slope
Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 3

The majority of intended views exist. Hydrology and geologic studies need to be conducted to determine the stability of the slope prior to work being implemented.

Phasing

- Phase 1 - Consult with a hydrologist and geologist to determine plan of action for slope stabilization
- Phase 2 - Remove and prune trees
- Phase 3 - Eradicate invasive weeds and saplings
Plant eroded areas with groundcover
- Phase 4 - Plant Zone 2 transition hedge in front of fence to protect slope

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|---|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune and remove trees |
| Contractor or UF staff: | -apply erosion control mats,
-manage exposed slopes with additional planting and mulch |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |

Twelfth Avenue South Viewpoint - Photos

Transition area at crest of slope, looking North.



Hillside vegetation, looking North

View from bench, looking West



Twelfth Avenue South Viewpoint

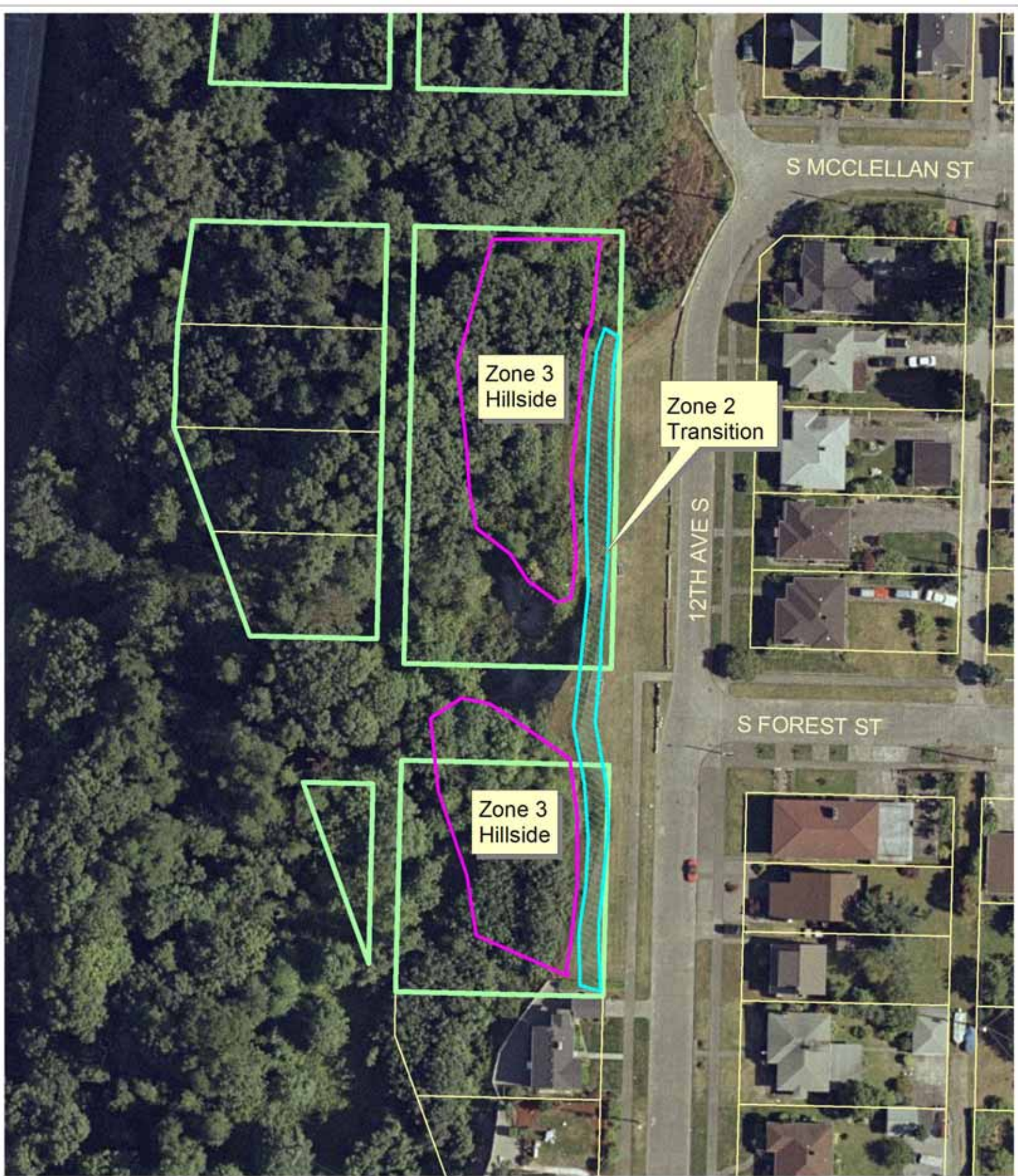
Transition area at crest
of slope, facing north.



Eroded slope and hillside
vegetation, facing north

View from bench, facing
west



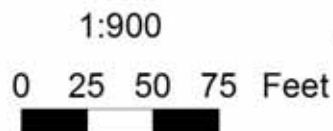


Twelfth Avenue South Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary



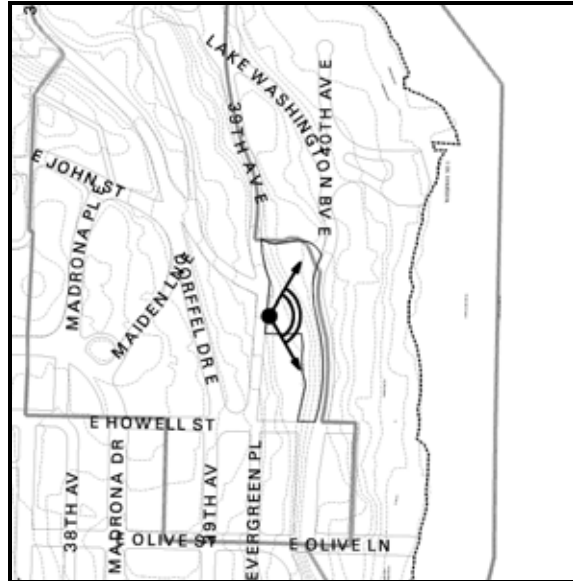
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Viretta Park Viewpoint

39th and E. John and Evergreen Place



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Denny-Blaine neighborhood and provides only limited views of Lake Washington. Private property exists to the north and south of the site. The majority of view obstruction is from trees on private property to the east across Lake Washington Blvd.

SUMMARY OF EXISTING CONDITIONS

Slope conditions range from 10-50%. The developed portion of the park is dark from dense tree canopies. The naturalized hillside is composed of Douglas Firs, Big Leaf Maples and Red Alders. Ivy covers the hillside, along with invasive *Clematis Columbiana*.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning and Invasive Weed Removal

Procedures:

1. Tree removal of saplings, and pruning to reduce crown density and to lift lower limbs using ANSI 300 standards
2. Invasive weed removal

B. GENERAL MAINTENANCE PRACTICES

Five year cycle maintenance frequency will require:

- physical removal of weeds
- tree removal and thinning of native stands
- removal of dead, declining and diseased trees
- pruning to optimize light and water views using ANSI 300 standards

View management locations:
Zone 1 - Developed park landscape
Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 2

Restoring intended views by pruning and hillside maintenance is rated secondary priority due to majority of the view obstruction being on private property. Park use and visibility warrants tree pruning, increased light and hillside maintenance.

Phasing

- Phase 1 - Remove and prune trees for more light
- Phase 2 - Eradicate invasive weeds

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- Contractor, UF, and/or volunteers: -physical removal of weeds
- UF staff: -prune and remove trees
- Park Maintenance staff: -prune shrubs and small trees,
control adjacent vegetation,

Viretta Park Viewpoint

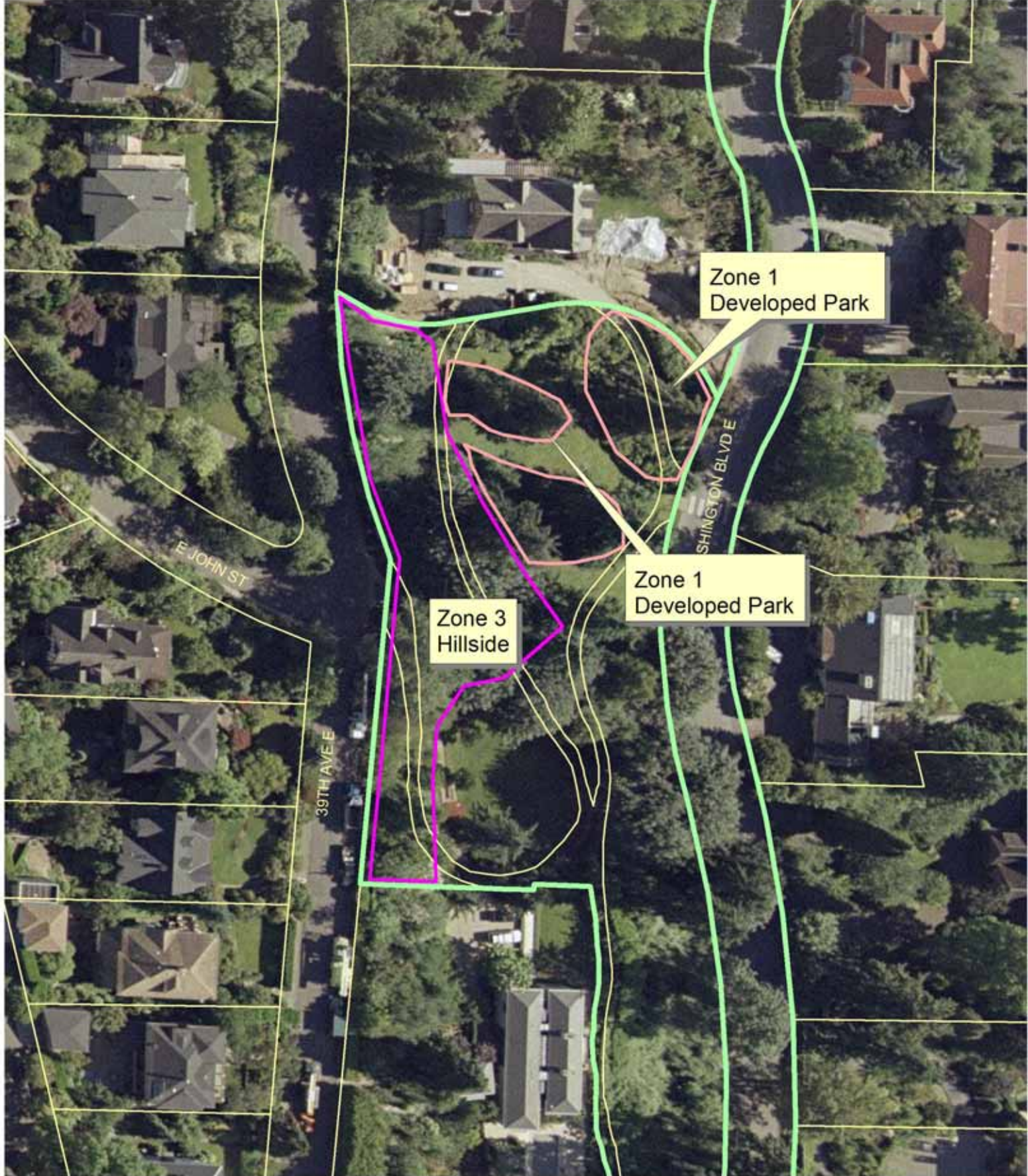


Obstructed views east into park and across Lake Washington

Obstructed views from bench



Dense tree canopy and ivy laden understory



Viretta Park Viewpoint

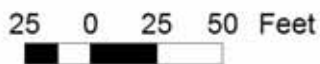
LEGEND

LANDSCAPE MANAGEMENT ZONES

- ▭ Zone 1 - Developed Park Landscape
- ▭ Zone 2 - Transition
- ▭ Zone 3 - Hillside
- ▭ Park Boundary
- ▭ Parcel Boundary



1:900

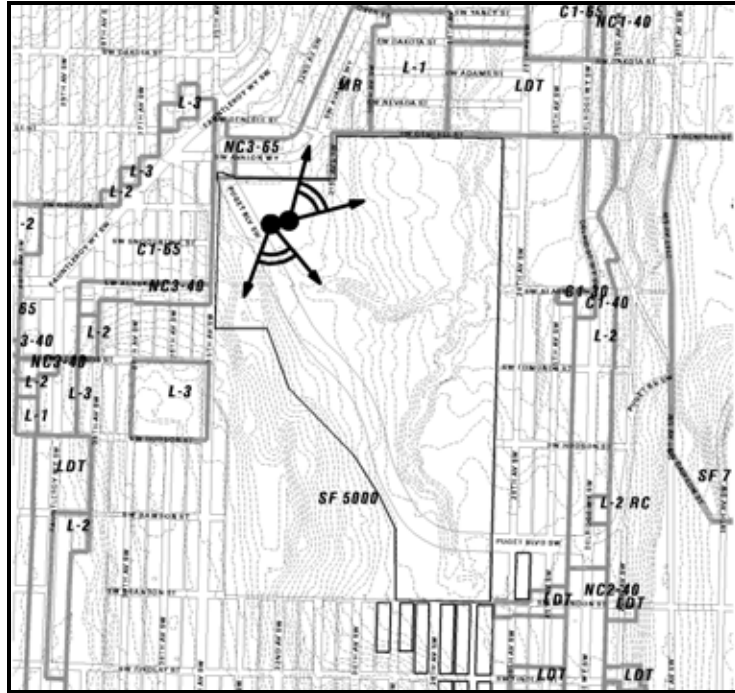


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West Seattle Golf Course 35th SW and SW Snoqualmie



LOCATION AND VIEWPOINT CATEGORY

The Golf course is located in the Delridge neighborhood of West Seattle. Viewpoints located near the golf clubhouse provide wide-angled views of the downtown skyline and Mt. Rainier. 75% of the intended views are unobstructed.

SUMMARY OF EXISTING CONDITIONS

Poplars in the distant view should be evaluated for health, condition and location to see if they can be thinned or removed, improving views to the downtown. Large groupings of conifers obstruct views both south and north.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 2 – Tree Pruning

Procedures:

1. Prune using ANSI 300 standards to reduce density

B. GENERAL MAINTENANCE PRACTICES

Five-year maintenance cycle frequency will require:

- Pruning for form, shape and to prohibit view obstruction

View management locations:
Zone 1 - Developed park landscape

IMPLEMENTATION PLAN

Priority 3

The majority of intended views exist with the exception of a row of poplar trees on the edge of the park, and several large conifers obstructing view of the downtown skyline and Mt. Rainier.

Phasing

Phase 1 - Prune trees

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

UF staff:

-prune and remove trees

Park Maintenance staff:

-prune shrubs and small trees,
control adjacent vegetation

West Seattle Golf Course



Downtown Seattle
across golf course and
Elliot Bay

Blocked views from dense
tree
canopies



Views south to Mount
Rainier blocked by
dense clusters of
trees



Zone 1
Developed Park

Zone 1
Developed Park

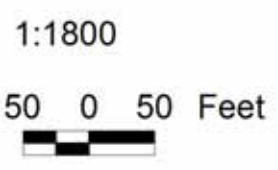


LEGEND

LANDSCAPE MANAGEMENT ZONES

	Zone 1 - Developed Park Landscape
	Zone 2 - Transition
	Zone 3 - Hillside
	Park Boundary
	Parcel Boundary

West Seattle Golf Course

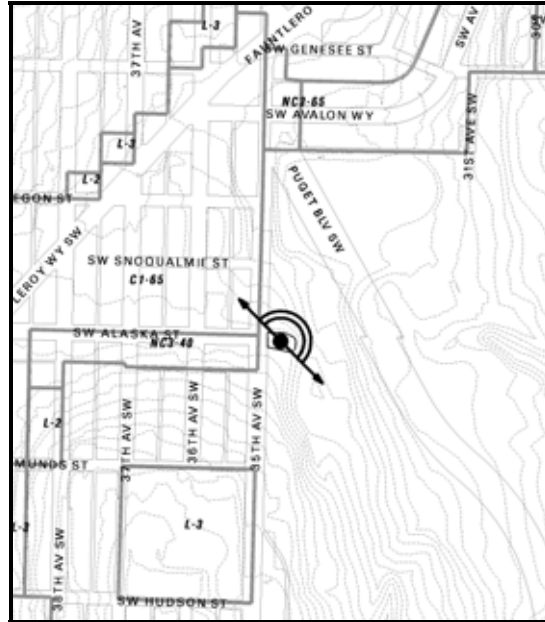


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West Seattle Rotary Viewpoint 35th SW and SW Alaska



LOCATION AND VIEWPOINT CATEGORY

The park is located in the Delridge neighborhood in West Seattle. The viewpoint provides panoramic views of the Cascade Mountains and wide-angle views of the downtown skyline. The viewpoint is located within the West Seattle Recreation Areas, the site is managed by DPR and overlooks the West Seattle Golf Course. Approximately 50% of the intended view is unobstructed.

SUMMARY OF EXISTING CONDITIONS

Himalayan Blackberries dominate the hillside. They have recently been cut back exposing an eroded slope along the top of the hillside. Extended views are obstructed by a row of Poplars growing along the edge of the Golf Course parking lot.

MANAGEMENT PRESCRIPTIONS

A. MAINTENANCE FOR EXISTING CONDITIONS

Category 3 – Slope Stability and Erosion Control

Procedures:

1. Tree removal and/or pruning using ANSI 300 standards of poplars
2. Remove invasive weeds at the crest of the slope
3. Protect slope with erosion control matting
4. Plant a double row of low hedges along Transition Zone 2
5. Mulch eroded areas
6. Establishment watering

B. GENERAL MAINTENANCE PRACTICES

Three year cycle maintenance frequency will require:

- physical and/or chemical removal of weeds
- Managing exposed soil with additional planting, erosion control matting and mulching
- Control height of adjacent vegetation

- Removal of dead, declining and diseased trees
- Pruning to prohibit view obstruction using ANSI 300 standards

View management locations: Zone 2 - Transition area at the crest of the slope Zone 3 - Hillside

IMPLEMENTATION PLAN

Priority 1

Restoring intended views and implementing erosion control for the top of the hillside is rated 'high priority'.

Phasing

- Phase 1 - Prune and/or remove poplars
- Phase 2 - Eradicate invasive weeds at top of slope
Cover slopes with erosion control mat
- Phase 3 - Plant Zone 2 transition hedge at top of slope
Provide temporary irrigation

Labor Sources (UF- Urban Forestry Staff, PM – Park Maintenance Staff)

- | | |
|------------------------------------|--|
| Contractor, UF, and/or volunteers: | -physical removal of weeds |
| UF staff: | -prune and/or remove trees |
| Contractor or UF staff: | -apply erosion control mats, |
| Park Maintenance staff: | -prune shrubs and small trees,
control adjacent vegetation,
plant hedges in Zone 2 |
| Contractor, UF and/or volunteers: | -mulching |

West Seattle Rotary Viewpoint

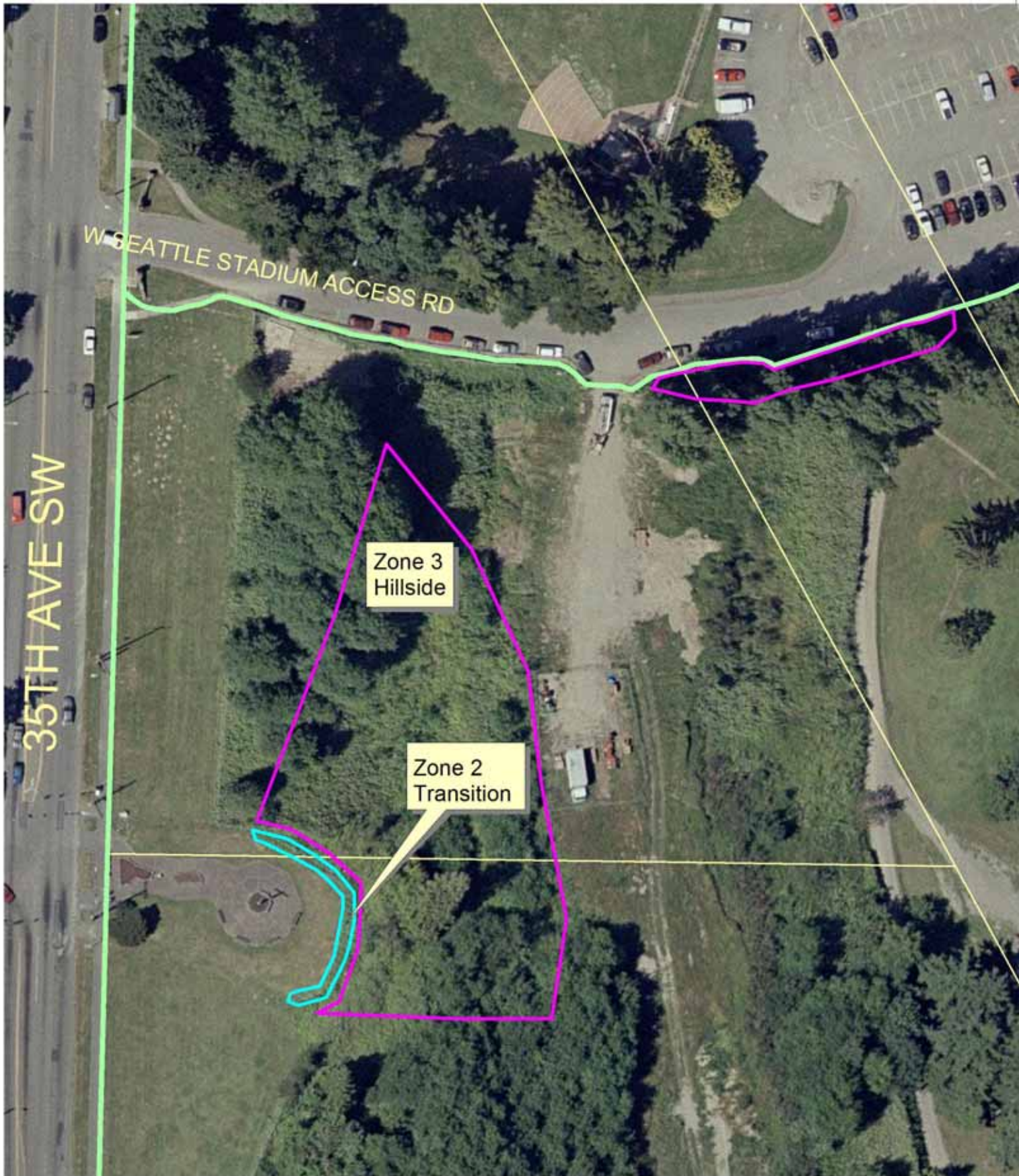
Poplar trees
obstructing views of
downtown Seattle



View to east,
transition
planting
needed at
crest of slope

Park hillside below
viewpoint



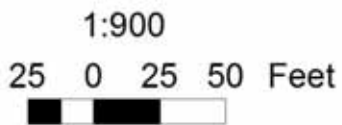


West Seattle Rotary Viewpoint

LEGEND

LANDSCAPE MANAGEMENT ZONES

- Zone 1 - Developed Park Landscape
- Zone 2 - Transition
- Zone 3 - Hillside
- Park Boundary
- Parcel Boundary



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Appendix

Viewpoint Site Inventory and Evaluation Form

ANSI 300 Standards for Tree Care Operations

Part 1 Pruning

Part 2 Fertilization

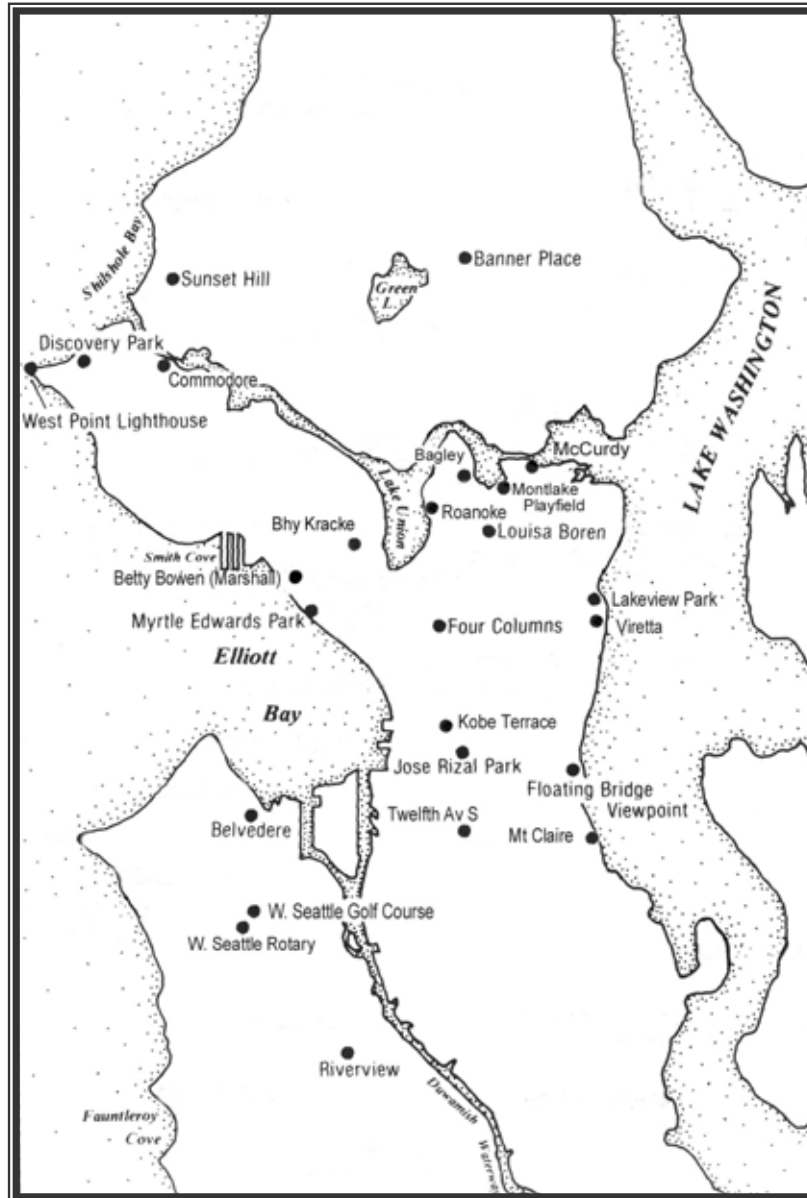
Crime Prevention through Environmental Design (CPTED)

Composite Map:

Seattle Parks Viewpoint Vegetation Management Plan Study Sites

Seattle Parks Viewpoint Vegetation Management Plan Study Sites

Composite Map



Map from *Enjoying Seattle Parks*
by Brandt Morgan