ORDINANCE NO. 2049

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MILWAUKIE, OREGON, AMENDING THE CITY OF MILWAUKIE COMPREHENSIVE PLAN BY ADOPTING THE NORTH CLACKAMAS PARK NORTH SIDE MASTER PLAN AS AN ANCILLARY DOCUMENT (FILE #CPA-10-01).

WHEREAS, the City of Milwaukie desires to review, amend, and revise its Comprehensive Plan on a regular basis; and

WHEREAS, the City has traditionally adopted park master plans as part of the Comprehensive Plan; and

WHEREAS, the preparation of the *North Clackamas Park North Side Master Plan* included an extensive public outreach effort by the North Clackamas Parks and Recreation District; and

WHEREAS, the *North Clackamas Park North Side Master Plan* describes the community's vision for the development of North Clackamas Park; and

WHEREAS, the use and development of North Clackamas Park remain subject to the standards of the Zoning Ordinance, and are not limited by the *North Clackamas Park North Side Master Plan*; and

WHEREAS, the *North Clackamas Park North Side Master Plan* has been reviewed by the Lake Road Neighborhood District Association, Milwaukie Parks and Recreation Board, North Clackamas Parks and Recreation District, and other affected agencies; and

WHEREAS, the *North Clackamas Park North Side Master Plan* has been reviewed at duly advertised Public Hearings on July 27, 2010, and May 22, 2012, and recommended for adoption by the Planning Commission; and,

WHEREAS, the City Council held a duly advertised Public Hearing on August 7, 2012;

NOW, THEREFORE, THE CITY OF MILWAUKIE DOES ORDAIN AS FOLLOWS:

Section 1. Findings. Findings of fact in support of the proposed amendment(s) are attached as Exhibit A.

Section 2. Comprehensive Plan Amendment. The Comprehensive Plan is amended as described in Exhibit B.

Read the first time on 8/7/12, and moved to second reading by 4:0 vote of the City Council.

Read the second time and adopted by the City Council on 8/7/12

Signed by the Mayor on 8/13/12

Jeremy Ferguson, Mayor

ATTEST:

Pat DuVal

Pat DuVal, City Recorder

APPROVED AS TO FORM:
Jordan Ramis PC

City Attorney

Document1 (Last revised 2/6/2008)

FINDINGS IN SUPPORT OF APPROVAL

Sections of the Milwaukie Municipal Code that are not addressed in these findings are found to not be applicable to the proposal.

1. North Clackamas Parks and Recreation District (NCPRD) and the City of Milwaukie ("the applicants") have submitted a joint application for approval of a Comprehensive Plan amendment to adopt the North Clackamas Park North Side Master Plan ("the Plan") as an ancillary document to the Milwaukie Comprehensive Plan (MCP). The property is located at 5440 SE Kellogg Creek Dr (Map 2S2E06; TLID 100, 1000, 417, 617, and 716). The 47-acre site is currently zoned Residential zone R-10; the Comprehensive Plan designation is Public. The City is the site owner, and the park is planned and managed by NCPRD.

2. A Comprehensive Plan amendment is subject to the following provisions of the Milwaukie Municipal Code (MMC):

   A. Section 19.902 Amendments to Maps and Ordinances

   B. Subsection 19.1008 Type V Review

3. Sections of the MMC not addressed in these findings are found to be not applicable to the decision on this land use application.

4. MMC Chapter 19.1000 establishes the initiation and review requirements for land use applications. City Council finds that the requirements are met as follows.

   A. MMC Subsection 19.1001.6 requires that Type V applications be initiated by the Milwaukie City Council, Planning Commission, Planning Director, or any individual.

      The amendments are proposed by the applicants and were initiated by the Planning Commission on July 27, 2010.

   B. MMC Section 19.1008 establishes requirements for Type V review.

      i) Subsection 19.1008.3.A.1 requires opportunity for public comment.

         Opportunity for public comment and review has been provided. The Planning Commission has held two public hearings and two public worksessions about the proposed amendments. Public comments received, including any City responses, are summarized in a separate attachment.

      ii) Subsection 19.1008.3.A.2 requires notice of public hearing on a Type V Review to be posted on the City website and at City facilities that are open to the public at least 30 days prior to the hearing.

         A notice of the Planning Commission's May 22, 2012, hearing was posted as required on April 20, 2012, at City Hall, Ledding Library, the Public Safety Building, and the Johnson Creek Facility. A notice of the City Council's August 7, 2012, hearing was posted as required on July 6, 2012, in the same locations.

      iii) Subsection 19.1008.3.A.2 requires notice to property owners if, in the Planning Director's opinion, the proposed amendments involves a discrete geographic area or specific properties in the City.

         The Planning Director finds that the proposed amendments would affect a discrete geographical area. The City sent notification to property owners within 400 feet of the subject property summarizing the proposal and announcing the date of the scheduled public hearing on April 20, 2012.

iv) Subsection 19.1008.3.B and C require notice of a Type V application be sent to Metro and the Department of Land Conservation and Development (DLCD) at least 45 days prior to the first evidentiary hearing.

The first evidentiary hearing was held on July 27, 2010. Notice of the proposed amendments was sent to Metro and to DLCD on July 2, 2010.

v) Subsection 19.1008.3.D requires notice to property owners if, in the Planning Director's opinion, the proposed amendments would affect the permissible uses of *land for those property owners.*

The Planning Director finds that the proposed amendments would not affect the admissible uses of land for property owners in the City, and notice is not required.

vi) Subsection 19.1008.4 and 5 establish the review authority and process for review of a Type V application.

The Planning Commission held duly advertised public hearings on July 27, 2010, and May 22, 2012, and passed a motion recommending that the City Council approve the proposed amendments. The City Council held a duly advertised public hearing on August 7, 2012, and approved the proposed amendments.

5. MMC Chapter 19.902 establishes requirements for amendments to the text of the Milwaukie Comprehensive Plan and the Milwaukie Municipal Code. City Council finds that these requirements are met as follows.

A. MMC Subsection 19.902.3.A requires that changes to the text of the Milwaukie Comprehensive Plan shall be evaluated through a Type V review per Section 19.1008.

The Planning Commission held a public hearing on the proposed amendments on May 22, 2012. City Council held a public hearing on the proposed amendments on August 7, 2012. Public notice for both hearings was provided in accordance with MMC Subsection 19.1008.3.

B. MMC Subsection 19.902.3.B contains approval criteria for text amendments to the Milwaukie Comprehensive Plan. City Council finds that these criteria are met as follows.

i) MMC Subsection 19.902.3.B.1 requires that the proposed amendment be consistent with the goals and policies of the Comprehensive Plan, as proposed to be amended.

No amendments are proposed to the goals and policies of the Comprehensive Plan. The proposed amendments are consistent with the relevant goals and policies of the MCP, which are contained in Chapter 3 – Environmental and Natural Resources and Chapter 4 – Land Use.

a) Chapter 3 – Environmental and Natural Resources

- *Natural Hazards Element, Objective #1, Policy 4*

  The Plan addresses the natural hazards on the site, namely the flood plain.

- *Open Spaces, Scenic Areas, and Natural Resources Element, Objective #2*

  The Plan strikes a balance between public use of the north side of the park and protection of the natural resources on site.

b) Chapter 4 – Land Use

- *Recreational Needs Element, Objective #5, Policy 3*

North Clackamas Park is identified in this element as a community park, designed to serve residents within 2 miles of the park. The Plan identifies the recreational facilities that can be developed within the north side of the park in the future, and identifies those facilities that will not.

- *Recreational Needs Element, Objective #6, Policy 1*

  The development of the south side of the park has been maximized to meet the active recreational needs of the community; the north side of the park provides opportunities to maximize passive recreational opportunities with an emphasis on the protection and enhancement of natural resources.

ii) MMC Subsection 19.902.3.B.2 requires that the proposed amendment is in the public interest with regard to neighborhood or community conditions.

The proposed amendments reflect the community's desire for a formalized, shared vision to guide future development within the north side of the park.

iii) MMC Subsection 19.902.3.B.3 requires the public need be best satisfied by this particular proposed amendment.

The proposed amendments are the result of several years of public outreach and discussion. The Plan formalizes the community's vision for future development in the north side of the park. The public need is satisfied by adopting a formal vision for the park, which will provide guidance for City and NCPRD staff in the future.

iv) MMC Subsection 19.902.3.B.4 requires that the proposed amendment is consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.

The proposed amendments were sent to Metro for comment. Metro did comment on the proposed amendments..

v) MMC Subsection 19.902.3.B.5 requires that the proposed amendment be consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

The proposed amendments were sent to the Department of Land Conservation and Development (DLCD) for comment. DLCD did not comment on the proposed amendments.

6. Notice of the proposed changes was given to the following agencies and persons on July 7, 2010: City of Milwaukie Engineering; City of Milwaukie Building; Clackamas County Fire District #1; Lake Road Neighborhood District Association (NDA); Clackamas County; Metro; North Clackamas Community Planning Organization (CPO); Oak Lodge Community Council; and property owners within 400 feet of the park.

   A second notice of the proposed changes was given to the following agencies and persons on April 20, 2012: Lake Road Neighborhood District Association (NDA); North Clackamas Community Planning Organization (CPO); property owners within 400 feet of the park; and interested persons. In addition, two notice signs were posted in the park on May 8, 2012.

Exhibit B

NORTH CLACKAMAS
PARKS & RECREATION DISTRICT

North Clackamas Park

North Side Master Plan

August, 2012

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I. Introduction

North Clackamas Community Park, owned by the City of Milwaukie, is the largest community park maintained by the North Clackamas Parks and Recreation District (NCPRD). It is located at 5440 SE Kellogg Drive, in Milwaukie. Mt. Scott Creek flows west along the northern and western boundaries of the park, forming a forested edge of Oregon Ash and Oregon White Oak. The park is bordered by residential and institutional properties. The 47-acre park provides a unique recreational experience for all visitors. Camas Creek divides the park into north and south halves. The northern half of the park is home to the Milwaukie Center as well as a play structure, dog run area, picnic facilities and stands of large Oak and Ash trees. The southern half of the park includes multiple sports fields, an equestrian facility, a rose garden and parking areas. The Youth ball field improvements Land Use Application, 2005/08, CSO-05-02, TPR-05-01, WQR-05-01, and associated documents, as approved by the City of Milwaukie, acts as the Master Plan for the south side of the park. The south side of the park is complete, as shown in the North Clackamas Community Park – Conceptual Park Plan map exhibit, dated May 22, 2012 and included in this master plan.

Vision

The park north of Camas Creek is an opportunity to create a passive recreation setting with an emphasis on environmental enhancement and education to balance the intensively active recreation facility south of Camas Creek. During a seven month public input process in 2007, NCPRD built consensus among all interested parties around a common vision for the north side of the park.

The common vision articulated by the stakeholders of this plan was:

1. To provide recreational opportunities in a manner suitable for all users of the park and reduce the environmental impact of these uses.
2. To identify environmentally significant areas and develop suitable recommendations for those areas.
3. To develop a unifying design theme for new elements and interpretive signage to be added to the park.
4. Develop a cost-effective master plan for the future of the north side of the park that can be implemented through innovative design solutions, and is easily maintained by NCPRD and volunteers.

Public Involvement Process

Stakeholder groups, advisory committees, park neighbors, and park users played a major role in developing the North Side Plan for North Clackamas Park. The North Clackamas Park

Stewardship Committee served as Project Advisory Committee (PAC) and provided input during the Plan's development. PAC members included one representative each from the following groups:

- Friends of North Clackamas Park
- Milwaukie Center
- Dog Park
- Friends of Mt. Scott/Kellogg Creek
- Sports groups
- City of Milwaukie
- Institutional Neighbors
- Equestrians

The District contracted with Alta Planning + Design, Inc. (Alta) to develop the master plan for the north side. Alta staff toured the site on several occasions with stakeholders interested in sharing their knowledge of the park and expressing their desires for future park improvements. NCPRD also met with the Friends of the Milwaukie Center Community Advisory Board, Friends of the Milwaukie Center, the Milwaukie Park and Recreation Board and the NCPRD Advisory Board during the master planning process to provide project updates and solicit comments.

NCPRD organized three public meetings to obtain input and ideas for park improvements. The first meeting focused on the goals of the plan, presentation of the site analysis, and allowed the public to provide feedback to the design team. The second meeting focused on the two preliminary concepts and determined the public preference for a final design. The third meeting was a presentation of the final preferred master plan and natural resource recommendations. Following each public meeting, plans were posted to an online project Web site. NCPRD held an open house on December 20, 2007 for the community to view the final plan and draft report.

Neighbors, park users, and committee members were encouraged to voice their comments and concerns throughout the design process. In addition to public meetings, many comments were received via phone conversation, email, and surveys, and incorporated into the plan whenever possible.

II. Existing Conditions

Existing Facilities

North Clackamas Park is an established recreation facility enjoyed by citizens throughout the community year round. Existing facilities in the northern half of the park include:

- **Off-Leash Dog Area**. The 1.45 acre facility is heavily used year-round. During the public process, there was definite support for maintaining a dog run. A few park neighbors complain about noise of barking dogs and yelling owners and the District has been working with the City of Milwaukie to address these complaints. Users of the off-leash area feel the facility is in need of updates to improve safety for owners and dogs.
- **Play Area**. Play structures were added to the north side of the park several years ago to replace a swing set previously in the park. A large structure serves older children and a smaller structure serves children two and younger. The Master plan proposes that the structures remain in their current location.
- **Picnic Shelter**. A large group picnic shelter donated to the park by the local Rotary Club is located just west of the gravel parking area. The 2,400 square-foot, 200 person facility is one of the few shelters available for reservation in the Parks District and is occupied most weekends during warmer months for events. The existing foundation is cracking and other repairs are likely necessary in the near future. Smaller groups are unable to reserve only a portion of the shelter. Park users have requested additional smaller covered picnic areas with grills be added to the park to replace the large shelter.
- **Bridges**. One crossing of Mt. Scott Creek is located in the northwest corner of the park and provides access to the neighborhood north of the park. There are four existing crossings of Camas Creek. Two of the crossings are arched wooden bridges built by volunteers and were recently renovated. The western-most crossing, located at the confluence of Camas and Mt. Scott Creeks, is a crushed culvert primarily used by pedestrians and maintenance vehicles. The eastern-most crossing is used by vehicles to access an unpaved gravel parking area just east of the group picnic shelter. This culvert crossing is also crushed and in need of repair or replacement.
- **Parking**. The only parking located north of Camas Creek is an unpaved gravel lot with space for approximately 25 cars. The gravel lot extends into the buffer of Camas Creek. Additional parking is available in the adjacent Milwaukie Center paved lot and in lots shared with the Sara Hite Memorial Rose Garden and the softball fields.
- **Restrooms**. Existing restrooms are located east of the off-leash dog area and north of the group picnic pavilion. These facilities are outdated and in need of upgrades. Additional restrooms are located south of Camas Creek and are primarily used by walkers and by citizens using the ball fields. Both restrooms are open year round.
- **Caretaker.** A mobile home was recently removed from the park where a permanent caretaker lived for over twenty years. Another caretaker was living in a recreational vehicle parked on park property in place of the mobile home. The district is actively searching for a new caretaker to continue to provide a 24-hour presence in the park.
- **Maintenance/ Storage**. A storage facility, located near the existing restrooms, is shared by parks maintenance and the Milwaukie Center. Large equipment is stored in a fenced area east of the off-leash dog area. The Milwaukie Center also uses a storage container north of the Center near the community garden beds. Maintenance staff has expressed a need for an equipment wash area adjacent to the storage building.

As part of the planning process, NCPRD hired Pacific Habitat Services (PHS) to complete a natural resources review (Appendix A). This information was used in conjunction with public input to help develop the conceptual plan for the park.

The northern portion of North Clackamas Park lies on fine-grained alluvial sediments between Mt. Scott Creek and Camas Creek. Topography within the park is relatively flat. Mt. Scott Creek flows to the west along the northern border of the park. Camas Creek, a small tributary of Mt. Scott Creek, also flows westward, near the southern portion of the planning area.

Plant Communities

The northern portion of the park contains mown lawn, Oak and Ash woodland, the creeks, riparian areas and wetlands.

Mowed Lawn

The mowed lawns are vegetated with typical lawn grasses and weeds, with scattered trees in some areas. Predominant grasses in the lawns include Kentucky Bluegrass and Annual Bluegrass. A significant amount of weedy, non-native species such as White Clover, Hairy Cats Ear, English Daisy, Common Dandelion and Creeping Buttercup also occur within the lawns.

Riparian Woodland

The riparian woodland generally occurs as a narrow band of vegetation along Camas Creek and the south side of Mt. Scott Creek, with more extensive woodland communities to the north of Mt. Scott Creek. The riparian woodland adjacent to Mt. Scott Creek is the largest contiguous woodland community within the park, and in this area, the woodland contains both wetland and non-wetland riparian plant communities.

Riparian woodlands within the park provide important water quality and wildlife habitat functions. The riparian woodlands act as a buffer to the stream, filtering sediments and various pollutants from runoff before the water enters the stream. Trees and shrubs within these riparian woodlands also provide shade to the stream, and this shade aids in maintaining relatively low water temperatures. The buffer provided by the riparian plant communities along Mt. Scott Creek is generally wider on the north side of the stream than on the south side of the stream. The buffer provided by riparian plant communities along Camas Creek is generally narrow, though relatively recent plantings on the south side of Camas Creek have expanded the width of the buffer. The riparian woodlands, particularly those along Mt. Scott Creek, provide habitat for a number of wildlife species adapted to suburban woodland and edge habitats, and these woodlands are likely the most important terrestrial habitat within the park.

Narrow areas of riparian woodland occur along Mt. Scott Creek and Camas Creek. The riparian woodland along Mt. Scott Creek has canopy of mature second-growth hardwoods and conifers, including Red Alder, Big Leaf Maple, Douglas Fir, Oregon Ash, Black Cottonwood and Western red Cedar.

Oregon Ash is the dominant tree species along Camas Creek. Trees, shrubs and wood vines common in the under story of the riparian woodlands include Sitka Willow, Douglas Spiraea, Snowberry, Clustered Wild Rose, Indian Plum, Vine Maple, Red-Osier Dogwood, Beaked Hazelnut, Salmonberry, Himalayan Blackberry and English Ivy.

Restoration areas on the south bank of Mt. Scott Creek downstream from its confluence with Camas Creek and on the south side of Camas Creek, between the creek and the ball fields, have planted populations of native riparian species, including Red Alder, Western Red Cedar, Sitka Willow, Douglas Spiraea and Red-osier Dogwood.

Oak–Ash Woodland

A small wooded area dominated by mature Oregon White Oak and Oregon Ash is present in the north-central and eastern portions of the park, between Camas Creek and Mt. Scott Creek, and provides a contiguous, wooded corridor between the riparian woodlands associated with the two streams. The Oak-Ash woodland is frequently mowed to maintain an open, park-like setting for picnic facilities and recreation. Herbaceous vegetation within the Oak-Ash woodland consists almost entirely of mown grass, and this woodland generally lacks an under story of trees and shrubs, though a few scattered Common Hawthorn, Oregon Grape, and English Holly are present. The mature oaks, open forest structure and sparse under story within this community are reminiscent of oak savanna habitat, which is becoming increasingly rare in the Willamette Valley.

Invasive Species

A number of non-native invasive plant species occur throughout North Clackamas Park. These plants are especially prevalent within the riparian woodlands bordering Mt. Scott Creek. Himalayan Blackberry and large stands of English Ivy occur in the vicinity of the small pond north of Mt. Scott Creek, in the northeastern corner of the park, and along the south bank of Mt. Scott Creek near the western park boundary. Mature Common Hawthorns are scattered throughout the Oak-Ash woodland between Mt. Scott Creek and Camas Creek, and many small Common Hawthorns are present between the existing maintenance buildings and the off-leash dog area.

Although they don't currently occur as dominant species, Multiflora Rose, Japanese Knotweed, English Holly and Common Laurel Cherry also occur along Mt. Scott Creek. Canada thistle occurs in un-maintained uplands in various locations, and Reed Canarygrass is common along Camas Creek. Bittersweet Nightshade occurs as a dominant species in the forested wetlands in the northwestern portion of the park.

Table 1 - Plant Species Observed in North Clackamas Park

	Botanical Name	**Common Name**
Trees, Shrubs and Woody Vines	*Abies grandis*	Grand Fir
	Acer circinatum	Vine Maple

	Botanical Name	Common Name
	Acer macrophyllum	Bigleaf Maple
	Alnus rubra	Red Alder
	Betula papyrifera	Paper Birch
	Cornus sericea	Red-osier Dogwood
	Corylus cornuta	Beaked Hazelnut
	Crataegus monogyna	Common Hawthorn
	Fraxinus latifolia	Oregon Ash
	Hedera helix	English Ivy
	Ilex aquifolium	English Holly
	Mahonia aquifolium	Oregon Grape
	Oemleria cerasiformis	Indian Plum
	Pinus contorta	Shore Pine
	Pinus ponderosa	Ponderosa Pine
	Populus trichocarpa	Black Cottonwood
	Prunus avium	Sweet Cherry
	Prunus laurocerasus	Common Laurelcherry
	Pseudotsuga menziesii	Douglas Fir
	Quercus bicolor	Wwamp White Oak
	Quercus garryana	Oregon White Aak
	Rosa multiflora	Multiflora Rose
	Rosa pisocarpa	Clustered Rose
	Rubus discolor	Himalayan Blackberry
	Rubus spectabilis	Salmonberry
	Rubus ursinus	California Dewberry
	Salix sitchensis	Sitka Willow
	Solanum dulcamara	Climbing Nightshade
	Spiraea douglasii	Douglas Spiraea
	Symphoricarpos albus	Snowberry
	Thuja plicata	Western Red Cedar
Herbaceous Plants	*Athyrium filix-femina*	Lady Fern
	Bellis perennis	English Daisy
	Bidens frondosa	Devil's Beggarstick
	Centaurea cyanus	Garden Cornflower
	Cirsium arvense	Canada Thistle
	Dipsacus sylvestris	Teasel
	Epilobium watsonii	Watson's Willow Herb
	Equisetum telmateia	Giant Horsetail
	Hypochaeris radicata	Hairy Cats Ear
	Impatiens noli-tangere	Western Touch-me-not

	Botanical Name	Common Name
	Lapsana communis	Nipplewort
	Ludwigia palustris	Marsh Seedbox
	Lysichiton americanum	Skunk Cabbage
	Lygonum cuspidatum	Japanese Knotweed
	Polypodium glycyrrrhiza	Licorice Fern
	Polystichum munitum	Sword Fern
	Prunella vulgaris	Heal-all
	Ranunculus repens	Creeping Buttercup
	Taraxacum officinale	Common Dandelion
	Tolmiea menziesii	Piggy-back Plant
	Trifolium repens	White Clover
	Veronica americana	American Speedwell
Grasses, Sedges and Rushes	*Bromus sitchensis*	Alaska Brome
	Carex obnupta	Slough Sedge
	Dactylis glomerata	Orchard Grass
	Eleocharis acicularis	Needle Spikerush
	Eleocharis palustris	Common Spikerush
	Eleocharis ovata	Ovate Spikerush
	Festuca arundinacea	Tall Fescue
	Glyceria elata	Tall Mannagrass
	Holcus lanatus	Common Velvet Grass
	Juncus effuses	Soft Rush
	Phalaris arundinacea	Reed Canarygrass
	Poa annua	Annual Bluegrass
	Poa pratensis	Kentucky Bluegrass
	Poa trivialis	Rough Bluegrass
	Scirpus microcarpus	Small-fruited Bulrush

Wetlands and Waterways

Wetland Determination and Delineation for North Clackamas Park

PHS delineated wetlands and waterways within the southern portion of the park on June 5 and June 19, 2003, with an additional site visit on February 23, 2004 to review the jurisdictional status of wetlands and ditches on site. PHS wetland delineation results were described in a wetland delineation report dated March 10, 2004 (Appendix B). The Oregon Department of State Lands (DSL) approved the wetland delineation (DSL #2004-0153) on February 17, 2005. On October 19, 2006 PHS revisited North Clackamas Park to delineate the wetlands and waterways within the northern portion of the park. DSL approved the updated wetland delineation on April 16, 2007. Please see delineation map and concurrence letter in Appendix B.

Description of On-Site Wetlands and Waterways

Wetlands and other water resources at North Clackamas Park include Mt. Scott Creek, several palustrine forested wetlands associated with Mt. Scott Creek, Camas Creek and adjacent wetlands, and a small pond located to the north of Mt. Scott Creek.

Mt. Scott Creek and Associated Wetlands

Mt. Scott Creek, a perennial stream that flows westward along the northern boundary of North Clackamas Park, is the dominant hydrologic feature in the park. Mt. Scott Creek is 10 to 20 feet wide within the park. The stream banks are generally low and rise one to two feet above the stream bed. Small areas of erosion and undercutting are apparent on the banks, but the stream banks appear to be relatively stable. Within the park, Mt. Scott Creek has a relatively uniform gravel and cobble substrate.

PHS identified two palustrine forested wetlands associated with Mt. Scott Creek in the northwestern portion of the park. These wetlands have a forest canopy dominated by Western Red Cedar, Oregon Ash, and Red Alder with Red-Osier Dogwood, Indian Plum, Salmonberry, Clustered Wild Rose and Himalayan Blackberry occurring as dominant shrubs in the under story. Dominant herbaceous species in these wetlands include Slough Sedge, Skunk Cabbage, Reed Canarygrass, Lady Fern and Piggy-Back Plant.

Flows within Mt. Scott Creek vary seasonally, like most streams in the region, with significant groundwater inputs to base flow from the slope to the north. Large and steady fluxes of groundwater feed the wetland complex near the northwestern park boundary. Water discharged from these wetlands enters Mt. Scott Creek near the western park boundary.

Camas Creek

Camas Creek is a shallow seasonal tributary to Mt. Scott Creek that crosses the central portion of the park and flows into Mt. Scott Creek in the western portion of the park. Camas Creek originates in a palustrine emergent wetland in the northeastern portion of the park. Throughout its length, Camas Creek is a low-gradient, slow-flowing stream. The stream channel is approximately four to six feet. The stream banks are low and indistinct, and the stream channel is vegetated with Reed Canarygrass in some areas. The substrate of the Camas Creek stream channel is composed primarily of fine sediments.

A narrow wetland fringe borders the entire length of Camas Creek. The wetland has a tree canopy of Oregon Ash, and Willows, Red Alder, Red-Osier Dogwood, and Swamp White Oak. Other dominant species within the Camas Creek wetlands include Reed Canarygrass, Spike Rushes, Slough Sedge, Lady Fern and Marsh Seedbox. Groundwater inputs to Camas Creek occur throughout the stream length, but major inflows appear to be near the northeastern corner of the park and from the south in the vicinity of the upper end of the northwest-trending portion of the creek.

Pond

A small pond is present north of Mt. Scott Creek in the northeastern portion of the park. The pond was excavated and has relatively steep banks that rise approximately three feet above the surface of the water. The pond receives the majority of its water from groundwater inputs and runoff from the adjacent hillside to the north, as there is no apparent surface connection to Mt. Scott Creek.

Fish and Wildlife

With its mosaic of riparian woodlands, oak woodland, lawns, streams, and wetlands, North Clackamas Park provides habitat for a variety of wildlife species adapted to suburban landscapes. Additionally, the perennial waters of Mt. Scott Creek and the small pond in the northern portion of the site provide habitat for aquatic and semi-aquatic species, including various species of fish, amphibians and benthic macro invertebrates. Although wildlife surveys have not been conducted at North Clackamas Park specifically, PHS observed a number of wildlife species while conducting site visits at the park, and a reach of Mt. Scott Creek surveyed for fish by the Oregon Department of Fish and Wildlife (ODFW) includes the portion of Mt. Scott Creek within the park boundaries.

PHS observed 29 species of birds at North Clackamas Park during two site visits – one on the afternoon of July 13, 2007 and one on the morning of December 13, 2007. The bird species observed by PHS on each date are listed in Table 2, below.

Table 2 - Birds observed at North Clackamas Park

Common Name	Scientific Name	Date	
		7/13/07	12/13/07
American Crow	*Corvus brachyrhynchos*	X	X
American Goldfinch	*Carduelis tristis*	X	X
American Robin	*Turdus migratorius*	X	X
American Wigeon	*Anas americana*		X
Barn Swallow	*Hirunda rustica*	X	
Bewick's Wren	*Thryomanes bewickii*		X
Black-capped Chickadee	*Poecile atricapillus*	X	X
Black-headed Grosbeak	*Pheucticus melanocephalus*	X	
Bushtit	*Psaltriparus minimus*	X	X
Downy Woodpecker	*Picoides pubescens*	X	X
European Starling	*Sturnus vulgaris*	X	X
Golden-crowned Kinglet	*Regulus satrapa*		X
Green Heron	*Butorides virescens*	X	
House Finch	*Carpodacus mexicanus*	X	
House Sparrow	*Passer domesticus*	X	
Lazuli Bunting	*Passerina amoena*	X	
Lesser Goldfinch	*Carduelis psaltria*	X	
Mallard	*Anas platyrhynchos*	X	X
Northern Flicker	*Colaptes Auratus*	X	X
Pine Siskin	*Carduelis pinus*		X
Red-tailed Hawk	*Buteo jamaicensis*		X
Ruby-crowned Kinglet	*Regulus calendula*		X
Sharp-shinned Hawk	*Accipiter striatus*		X
Song Sparrow	*Melospiza melodia*	X	X
Spotted Towhee	*Pipilo maculates*	X	
Steller's Jay	*Cyanocitta stelleri*	X	X

Common Name	Scientific Name	Date	
		7/13/07	12/13/07
Townsend's Warbler	*Dendroica townsendi*		X
Western Scrub-Jay	*Aphelocoma californica*	X	X
White-breasted Nuthatch	*Sitta carolinensis*		X

Water Quality

The following observations were taken from Environmental Protection Agency database collected further upstream, but are representative of those in the park.

- Water quality is generally good (stream likely supports a population of resident cutthroat trout though water quality generally deteriorates as water moves downstream through increasingly urbanized areas).
- Water temperatures were found to follow the local climate with maximum recorded summer temperatures reaching 20°C (68°F).
- Dissolved oxygen concentrations are below state water quality standards (greater than 90-95% saturation), falling as low as 63% saturation.
- The pH of the water was within state standard and ranged from 6.8-7.4 standard units.
- The alkalinities of the stream are high enough (>20 mg/L) to adequately buffer pH fluctuations.
- The bacteria standard was exceeded, likely reflecting the urbanized nature of the watershed and the high fecal bacteria levels generally associated with storm water runoff from urban areas.
- Suspended sediment fluxes have not been measured, but the bed material at low flows through the portion of Mt. Scott Creek along the northern border of the park suggest that a considerable flux of silt is moving through the stream.
- Overall, the water quality of Mt. Scott Creek is typical of water quality in similar urbanized streams.

Desired Future Condition

The desired future condition (DFC) for North Clackamas Park is a community park that provides recreational opportunities as well as forested riparian wetland and non-wetland habitats that consist of native plant species and contain good structural diversity. Plant communities will consist of natural associations and will contain a diversity of native species. The overstory canopy will remain much as it exists in the wooded portions of the park. Non-native invasive species such as Reed Canarygrass, Himalayan Blackberry, and English Ivy will be removed, and native trees, shrubs, grasses and forbs will be planted to augment the existing riparian communities. The implementation of the NCPRD Integrated Pest Management Program will help to prevent invasive species from becoming established and out-competing the native vegetation.

The riparian buffer along Mt. Scott Creek will be expanded up to 70 feet on the south sides of the stream, and this buffer will be planted with native trees and shrubs to shade the water surface. Supplemental shrub plantings within the existing wooded area on the south side of the east-west portion of Mt. Scott Creek downstream from Camas Creek confluence will provide additional stream shading. Reduced human impact immediately adjacent to the stream will allow a denser growth of vegetation along the steam channels. The riparian buffers will be allowed to undergo natural ecological succession to develop species diversity and vegetation structure to provide shelter, food, and reproduction opportunities for native fauna. Native grasses and wildflowers in a meadow community south of Mt. Scott Creek will provide habitat for bees, butterflies, and other insects as well as birds and small mammals.

The combination of increased stream shade and stream habitat improvements will benefit salmonids and other aquatic organisms. The proposed removal of the culvert near the mouth of Camas Creek and the restoration of the stream bed and banks will improve the connectivity of habitats between Mt. Scott Creek and the lower reaches of Camas Creek. Large woody debris in Mt. Scott Creek will diversify flows, vary sediment distribution, and provide substrate diversity, which will benefit aquatic macro invertebrates as well as fish. Minor excavation of the outflow channel of the wetland in the northwestern portion of the park will improve the hydrologic connection between the wetland and Mt. Scott Creek and allow water to back up into the wetland during high flows, providing low-velocity refugia for fish during flood events.

III. Constraints and Opportunities

Site constraints and opportunities were identified through a series of meetings and site visits with NCPRD staff, City of Milwaukie staff, members of the stewardship community, and the public. A site analysis map at the end of this section illustrates these points.

Constraints

Creek and Wetland Buffers

The north side of North Clackamas Park is bound by Mt. Scott Creek to the north and west and Camas Creek to the south. City of Milwaukie water quality resources regulations requires both of these creeks to have a fifty foot (50’) buffer from the top-of-bank. No structures may be located in the buffer without approval and appropriate mitigation and plantings must be of the appropriate species and densities. Public trails and boardwalks may be allowed within the buffer limits with approval by the City of Milwaukie.

Flooding

Flooding is a concern in North Clackamas Park. Approximately 70% of the north side of North Clackamas Park is located within the 100 year floodplain. Improvements in the floodplain must meet special requirements. In addition, there are areas officially designated as out of the floodplain that are known to hold standing water during extended periods of rain. Any recommendations made for these areas will meet the requirements of the City of Milwaukie Municipal Code Chapter 18.04 – Flood Hazard Areas. Examples of some of the floodplain regulations include:

- Balanced cut and fill
- Crossing as close to perpendicular as possible
- New structures shall have the lowest floor at least one foot above base flood elevation or be flood-proofed

Existing Facilities

Many existing facilities on the north side of North Clackamas Park will remain in their current location. These include: the Milwaukie Center (including parking and all outdoor activities), the playground (including adjoining benches and sidewalks), the crossing of Mt. Scott Creek, and the two recently renovated crossings of Camas Creek.

Some existing facilities and uses will remain in the north side of North Clackamas Park, but new locations are proposed. These include: the off-leash dog area, maintenance equipment storage, caretaker housing, restrooms, parking, picnic shelters, horseshoe pits and a creek crossing near the confluence of Camas Creek and Mt. Scott Creek.

Opportunities

Property Acquisitions

North Clackamas Parks and Recreation District recently acquired two pieces of property along the northern border of North Clackamas Park.

One and a half acres were acquired south of Mt. Scott Creek between the off-leash dog area and the proposed caretaker's house. Currently, this area is used for equipment storage and a fence separates it from the rest of the park. Enhancement of this riparian area is needed to improve wildlife habitat.

An additional one and a half acres was donated to the District in 2006 north of the former caretaker's facility and north of Mt. Scott Creek. A small pond was dredged out of this area many years ago. This property is currently inaccessible from the park or the neighborhood due

to steep slopes on the north and the creek on the south. Enhancement of this riparian area is needed to improve wildlife habitat.

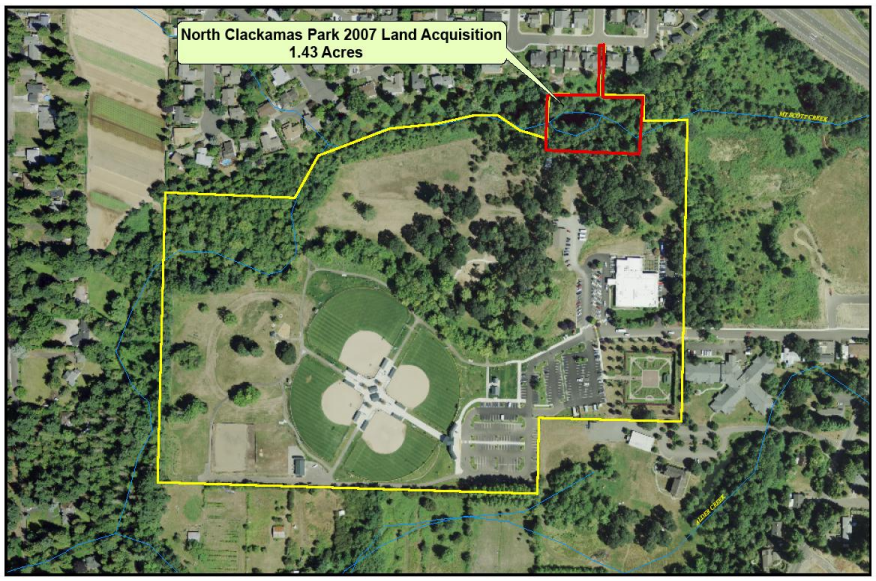


Figure 2: Map highlighting the property acquired in 2007 on the north side of the park.

Education

Few people understand the benefits watersheds and wetlands provide and fewer still understand how their actions affect sensitive wetland environments. Opportunities to educate park users about these sensitive areas exist throughout the park.

Community Partnerships

Numerous opportunities exist to bring the park community together during the process of updating facilities in North Clackamas Park. Some opportunities to consider include:

- Improvements to the off-leash dog area serve as an opportunity to welcome dog owners to the park. Dog owners provide watchful eyes during times when other users do not visit the park and their presence deters undesirable activities.
- The Milwaukie Center has many programs for senior citizens. One partnership is the pairing of a new walking trail in the park with the existing walking program at the Milwaukie Center. Further partnership opportunities should be explored.
- Community service groups have a history of organizing volunteer projects within the park and those partnerships should continue. The Boy Scouts previously repaired two of the foot bridges that cross Camas Creek. Other groups have held park trash clean up events, monitored and counted wildlife within the park and replaced invasive plants with native plants in wetland and creek buffer areas.

IV. Master Plan

Program Elements

Much of North Clackamas Park lies within the floodplain of Mt. Scott Creek. This plan recognizes that streams are dynamic geologic features that transform over time. Furthermore, it recognizes that streams' transformative processes create and sustain habitat for endangered fish and wildlife. As such, program elements will implement sustainable practices that integrate park use needs with natural stream processes. Proposed buildings shall be located outside the 100-year floodplain and meander corridor of Mt. Scott Creek. The built environment should take into account and allow for the frequent flooding. Permeable surfaces should be used whenever possible. The built environment should be flexible enough to allow for channel change or braiding of the creeks should that begin to occur. Operations and maintenance activities shall not impede channel migration processes of Mt. Scott Creek without mitigating for habitat loss and facilitating channel forming processes that create habitat within the meander corridor of Mt. Scott Creek. It is the intent of this master plan to integrate recreation and public education elements adjacent to this significant habitat resource. The location and function of the program elements will support and enhance the protection of this riparian corridor while meeting community needs for public recreation.

The master plan proposes renovating or adding a number of elements to the park, including renovation of the maintenance building, caretaker building, restrooms, fencing, parking, off-leash dog area, playground, picnic shelters, educational creek overlooks, trails, horseshoe courts, and signage. These are explained below. The proposed locations of all of the following program elements will make every effort to minimally impact oak habitat and ecosystem elements. The master plan does not propose any changes to the south side of the park, as developed pursuant to the Youth ball field improvements Land Use Application, 2005/08, CSO-05-02, TPR-05-01, WQR-05-01, as approved by the City of Milwaukie. Future maintenance and management of the following program elements will be in accordance with naturescaping practices, for example, those promoted by the Oregon Department of Fish and Wildlife.

Maintenance Building

NCPRD maintenance staff needs an area for washing and storing equipment in the park that has utility connections. The Milwaukie Center needs additional storage for Meals on Wheels equipment, special event items and other program materials. The plan shows these facilities as a combined area north of the Milwaukie Center. This location was preferred by those who participated in the public planning process and by staff from Oregon Department of Fish and Wildlife who toured the site. An access drive is provided through the new parking lot and the building is located east of the proposed off-leash dog area.

Caretaker

The plan proposes a space for park caretaker housing just east of the off-leash dog area. This location utilizes existing utility connections and positions the caretaker in a centralized location. This area will be developed the goal of reducing the overall imperviousness of the area and focus on integrating the site within the habitat area.

Restrooms

Restrooms are located just west of the new parking lot halfway between the entrance to the off-leash dog area and the playground. This facility is to replace the current out of date structure. As the restroom is designed and created, sustainable practices will be implemented which take into account risk factors associated with natural system. Materials and colors chosen will focus on blending the restroom into the surrounding natural area.

Fencing

Split rail fencing will be located south of Mt. Scott Creek near the overlooks and crossing of Camas Creek and northeast of the walking path north of the proposed maintenance facility. The creek bank in these areas is eroded and fencing will help rejuvenate native plantings, protect wildlife in these areas, and reduce erosion. The remaining buffers are densely planted and will be signed as protected areas. Additional fencing will be added to protect plantings and sensitive areas as needed.

Parking

A new vehicle parking area and passenger drop-off is located in the approximate location of the existing gravel lot. The final design of the new parking area (including the number of spaces, surfacing and storm drainage) will comply with requirements from table 19.503.9 in the City of Milwaukie Municipal Code. NCPRD will continue to evaluate parking at North Clackamas Community Park and follow the event and management guidelines as outlined in the Parking Management Plan, City of Milwaukie Planning File AP-05-02, dated February 22, 2006.

The existing crossing of Camas Creek is removed and a new bridge is provided. Proposed location of the parking lot will make every effort to minimally impact oak habitat and ecosystem elements. Future maintenance and management of the parking lot will be balanced with conservation of the natural system. NCPRD will make every effort to design the parking lot to eliminate runoff through the use of pervious pavement systems or vegetated stormwater management facilities. The parking lot will be designed to blend within the surrounding oak forest and focus on reducing the overall imperviousness of the lot. As the parking lot is designed and created, sustainable practices will be implemented which take into account risk factors associated with natural system.

Off Leash Dog Area

The proposed off-leash dog area is shifted east of its existing location and is approximately the same size as the existing facility (1.45 acres). Relocating the dog park farther from homes will alleviate some of the noise impacts on park neighbors.

A new fence will delineate the off leash area and plantings will provide a buffer between dogs and other park users. Double gates with separate points of entry and exit are recommended to improve safety, and the space is divided between large and small dogs (or aggressive and passive dogs). Entry plazas with benches, kiosks, and water and shade structures make the off-leash area more pleasant for visitors and their dogs. Perimeter plantings provide a visual separation between the off leash area and the other park activity areas. As the dog park is designed and created, sustainable practices will be implemented which take into account risk factors associated with natural systems.

Playground

The existing playground will not be changed. A new play area with climbing boulders will be added to the north west of the existing playground.

Picnic Shelters

Two group shelters are proposed to replace the existing large shelter in the park. A larger shelter is proposed to be located south of the new parking lot and is proposed to be approximately two-thirds the size of the existing shelter. A smaller shelter is proposed near the playground. The total size of covered, group picnic facilities in the park is unchanged. As the picnic shelter is designed and created, sustainable practices will be implemented which take into account risk factors associated with natural systems. Runoff from the picnic shelter roofs will be guided into small vegetated rain gardens to eliminate impact of runoff to the creek system.

Educational Creek Overlooks

Two overlooks of Mt. Scott Creek with benches and educational signage provide wildlife viewing opportunities and allow visitors to access the creek without disturbing the buffers. The design of the overlooks will look to blend them with the surrounding native riparian corridor. Long lasting materials will be considered to reduce the long-term maintenance needs.

Trails

A half-mile (1/2) loop trail follows the southern and eastern buffers of Mt. Scott Creek, the northern buffer of Camas Creek and the eastern boundary of the park. Public input indicated a majority of park users want the trail to be paved to meet the needs of all users; however, City regulations may restrict use of impermeable surfaces in this area. In addition, exercise stations geared toward a senior walking program are shown in groups of three and are evenly spaced around the trail. Placement of the trails will make every effort to minimally impact Mt Scott and

Camas Creeks riparian areas, oak habitat and ecosystem elements. As the trail is designed and created, sustainable practices will be implemented which take into account risk factors associated with natural systems. Design of the trails will consider use of pervious pavement systems (pervious asphalt, pavers, or concrete) as well as natural materials such as crushed rock. A boardwalk may be considered. Specific material selections will be based on level of use and specific location of the trails.

Horseshoes

The existing horseshoe courts are relocated north of the existing playground. The courts are oriented north-south so players are never facing the sun. A low fence is proposed around the courts if safety concerns arise.

Signage

The need for appropriate signage in the park was mentioned numerous times during the public involvement process. The Conceptual Signage Plan shows four types of signs and where they should be placed in the park. The sign types are: Educational, Informational, Health and Fitness, and Plant Identification

Educational Signs

Educational signs will be about 3 feet high with angled panels. Each of these panels will include information about topics that pertain to that area of the park. For example, the signs at the overlooks could include information and graphics about the Mt Scott Creek. History of the creek, details about the larger river system, and ways to protect the health of the creek are all topics that could be covered. Other panels in the park should include graphics and information about native wildlife, plants, and natural history of the region. In addition, there is desire to have an interpretive sign near the art piece at the entrance to the park. This sign should be similar to the rest of the educational signs in the park.

Informational Signs

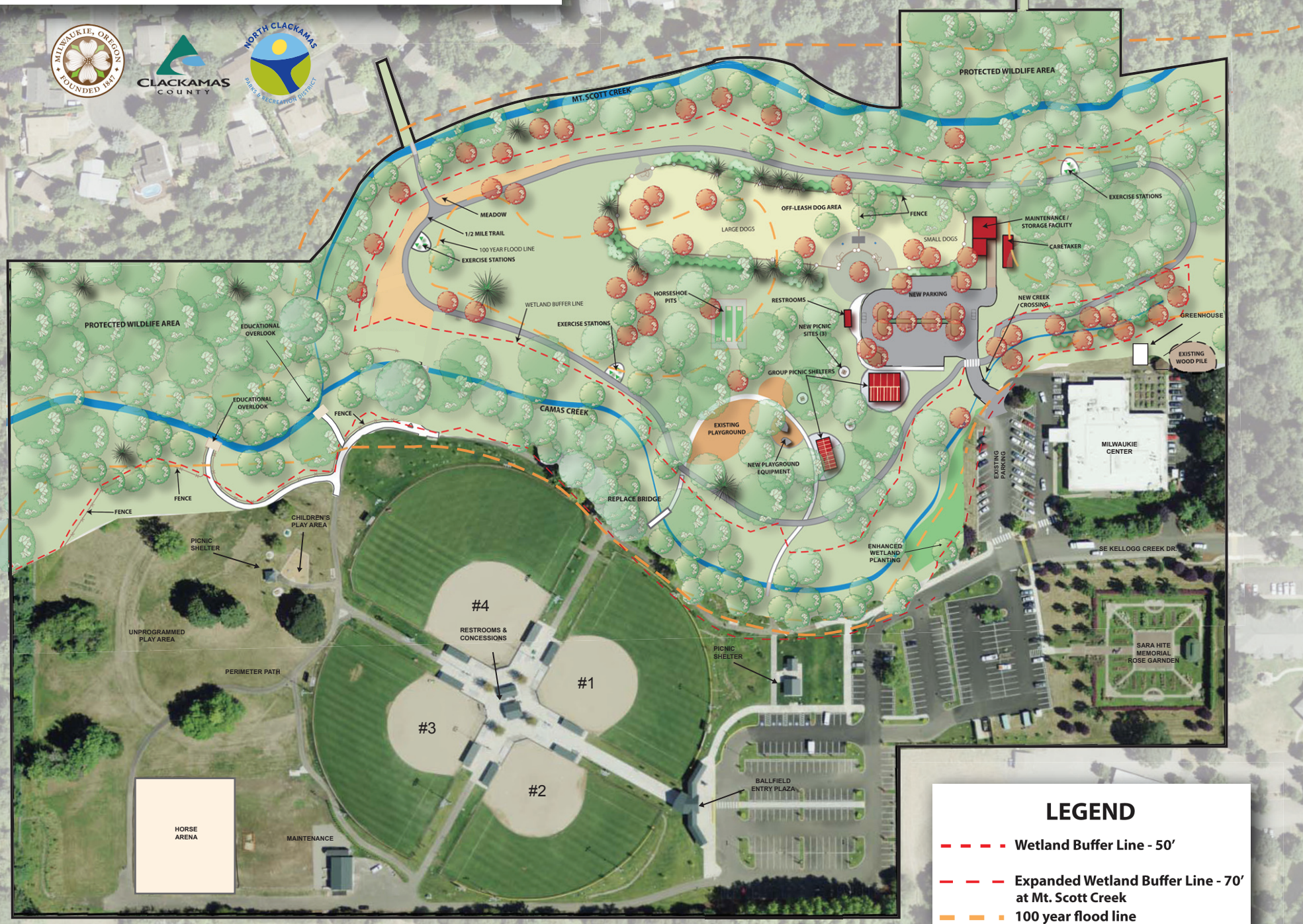
Informational signs will be placed at various locations along the trail. These signs will include basic information about the park such as hours of operation, park rules and a park map. In addition, there will be a sign at the entrance to the off- leash dog area. This sign will include rules pertaining specifically to the use of this area.

Health and Fitness signs

The proposed exercise stations are vertical with sides that display informational and educational sign panels. The manufacturer of these stations has a number of options for panels that include health and fitness information beyond just instructions for the specific exercise at that station. These include panels about preventing osteoporosis, healthy eating, and ideas for other exercise.

North Clackamas Community Park - Conceptual Park Plan

May 22, 2012



Plant Identification signs

Plant tags are an extension of the educational signs and will be no more than 1 foot high. They will be inconspicuous from a distance, but readable when a person is standing near the plant. These tags will identify key native species throughout the park and include the common plant name, the botanical name, and a short description about where the native habitat, growth habit, and any other interesting facts. Each type of plant will be identified no more than one time in the park and the tags will be located along the proposed pathway when possible. The Master Gardeners are a valuable resource and have shown interest in being responsible for the content of native plant tags.

Sign topic and content

NCPRD has been working with the Stewardship Committee to determine topics for the interpretive signs. This committee has done extensive research regarding signage options. Their recommendations are for durable signs made of metal with rounded corners. This committee also has generated lists of topics for consideration for the educational signs. These include: Watershed Map, Native Plants and Trees, Mammals (deer, squirrels, rabbits, etc.), Birds (owl, Blue Heron, hawk, etc.), Slithery creatures (snakes, snails, frogs, etc.), and Insects (crickets, ladybugs, dragonflies, etc.).

Restoration

This section includes short and long-term natural resource improvements that are recommended to be implemented by the Parks District.

Buffer Improvements

Mt. Scott Creek is not listed by DEQ as being "Water Quality Limited" for temperature. As such, it was not placed on the 303(d) list for this parameter. However, in 2006 Total Maximum Daily Loads (TMDLs) were issued by DEQ for all streams in the Willamette Sub-Basin. This means that Clackamas County needs to prepare an implementation plan describing how “system potential vegetation” (i.e. riparian vegetation that would historically have been found along the stream) will be planted along streams within their jurisdiction. DEQ has determined that planting “system potential vegetation” will adequately shade the creek and reduce water temperatures. Only a portion of riparian vegetation contributes to stream shading.

To determine the “system potential vegetation” width, Pacific Habitat Services (PHS) applied a model that it has used in other jurisdictions to Mt. Scott Creek. The reach of Mt. Scott Creek along the northern border of the park is dominated by blackberry thickets and has little tall vegetation providing shade to the stream surface. The stream surface will be shaded with a 70-foot wide riparian area along the south bank of the stream. The east-west portion of Mt. Scott Creek downstream from the Camas Creek confluence would also benefit from additional shading by planting tall shrubs beneath the existing trees along the south side of the stream.

The northeastern portion of Camas Creek is largely un-shaded and would greatly benefit from riparian vegetation along both sides of the stream, but especially along the entirely exposed south side. Planting was completed on the south side of Camas Creek when the new softball facilities were built. When these plants reach maturity Camas Creek will be further shaded. Suggested native trees and shrubs to be planted along the riparian areas of Mt. Scott Creek and Camas Creek are included in the table below.

IV-1 - Suggested Native Trees and Shrubs

Scientific Name	Common Name
Trees and Shrubs	
Acer circinatum	Vine Maple
Acer macrophyllum	Bigleaf Maple
Alnus rubra	Red Alder
Corylus cornuta	Beaked Hazelnut
Crataegus douglasii	Black Hawthorn
Fraxinus latifolia	Oregon Ash
Lonicera involucrata	Twinberry
Oemleria cerasiformis	Indian Plum
Physocarpus capitatus	Pacific Ninebark
Pseudotsuga menziesii	Douglas Fir
Quercus garryana	Oregon White Oak
Rhamnus purshiana	Cascara
Rosa nutkana	Nootka Rose
Salix lasiandra	Pacific Willow
Sambucus racemosa	Red Elderberry
Spiraea douglasii	Douglas Spiraea
Symphoricarpos albus	Snowberry
Thuja plicata	Western Red Cedar

Habitat Improvements

Culvert removal

A culvert currently exists in Camas Creek at its confluence with Mt. Scott Creek. This culvert allows maintenance vehicles and foot traffic to cross the creek. This culvert is proposed to be removed and the confluence area restored. The bed of the stream may benefit from a shallow grade control structure (e.g. check dam) to ensure the bed of Camas Creek does not down-cut and start to erode upstream. This activity will likely require local, state and federal permits. The banks should be planted with selected species from Table VI-1.

Woody Debris

The park portion of Mt Scott Creek has flow regimes that do not vary greatly with channel distance. A few large woody debris placements within the channel might locally diversify flows and vary the sediment distribution. The portion of the channel between the footbridge to Casa Del Rey Drive and the confluence with Camas Creek might be best suited to such installations.

Human Access

Removal of the trail along Mt. Scott Creek to the west of the Camas Creek and Mt. Scott Creek confluence is recommended. The banks in these areas have been eroded and compacted, reducing the cover of native vegetation. Access will be limited to discrete points to ensure that wildlife-human interaction is minimal and that damage to stream banks can be repaired. Continued access to the creek will degrade the stream health and reduce the effectiveness of other restoration work proposed in this plan. Viewing platforms at the edge of the stream will be an attractive and functional alternative to direct creek access. Educational groups will be allowed direct creek access with prior approval from NCPRD on a limited basis.

Wetland Preservation

Enhancements of the wetlands in the northwestern portion of the site will entail removal of invasive species, including Reed Canarygrass and Himalaya Blackberry and replacement with small woody shrubs such as Twinberry, Spiraea, and Red-Osier Dogwood. The discharge to Mt. Scott Creek near the west end of the park may be opened to allow high-flow refugia without fish entrapment. The present outflow from the adjacent wetlands is situated several feet above the stream thalweg and probably rarely is overtopped to allow water to flow into the adjacent wetlands. A small excavation of the present outflow channel would allow high flows of Mt. Scott Creek to enter the wetlands and provide a lower-velocity environment for fish during flood episodes. A log structure immediately downstream from the wetland orifice would locally raise water levels at the refugia entrance during large flows and increase the likelihood of water surface elevations sufficient to allow fish passage into the wetland. The width of the channel at this point would require several anchored logs to achieve significant local elevation of storm flows.

Concrete Removal

Large pieces of concrete are currently located within the stream upstream of the confluence of Camas Creek and Mt. Scott Creek. These pieces of concrete should be removed and the large piece of wood located in this area cut in half to dissuade people from crossing the creek.

Oak-Ash Woodland

Staff should alternate picnic areas use and utilize moveable picnic tables so that only one of these sites is in use at a time. This will minimize the impact to mature trees from heavy use around the base and reduce hazards to park users caused by falling branches. Only the picnic area in use should be mowed by maintenance crews. This practice will help alleviate some of the compaction caused by heavy use and maintenance under the tree canopy.

NCPRD plans to provide for succession of the Oak-Ash Woodland. New Oak and Ash will be planted to replace the trees that die so that this sensitive habitat does not disappear. New Oregon White Oak and Oregon Ash will be clustered with native under story shrubs such as

Snowberry and Oregon Grape. Plantings should be coordinated with maintenance staff and managed so that over time the need to mow under these trees is significantly reduced or eliminated.

Native Meadow

Native forbs should be planted within areas to the south of Mt. Scott Creek. The south side of the meadow should be adjacent to the path that is proposed in this area. This will ensure that park maintenance activities do not extend into the native meadow. This native meadow will likely look unkempt compared to mowed areas of the park, but will provide more diverse habitat for insects and birds.

Management

Much of North Clackamas Park lies within the floodplain of Mt. Scott Creek. This plan recognizes that streams are dynamic geologic features that transform over time. Furthermore, it recognizes streams' transformative processes create and sustain habitat for endangered salmonids. As such, program elements will embrace sustainable practices that integrate park use needs with natural stream processes. Operations and maintenance activities shall not impede channel migration processes of Mt. Scott Creek without mitigating for habitat loss and facilitating channel forming processes that create habitat within the meander corridor of Mt. Scott Creek. Naturescaping, as promoted by Oregon Department of Fish and Wildlife, is the preferred maintenance alternative within and bordering natural areas located within the park.

The use of policies and measures contained in the NCPRD Integrated Pest Management Program adapted by NCPRD is proposed to control undesirable species within the park. As defined in the Oregon Statutes (ORS 262.1), Chapter 943, "integrated pest management" is "…a coordinated decision-making and action process that uses the most appropriate pest control methods and strategies in an environmentally and economically sound manner to meet pest management objectives. The elements of integrated pest management include: (a) preventing pest problems; (b) monitoring for the presence of pests and pest damage; (c) establishing the density of pest population, which may be set at zero, that can be tolerated or corrected with a damage level sufficient to warrant treatment of the problem based on health, public safety, economic or aesthetic threshold; (d) treating pest problems to reduce population below those levels established by damage thresholds using strategies that may include biological, cultural, mechanical and pesticide control methods and that shall consider human health, ecological impact, feasibility and cost effectiveness; and (e) evaluating the effects and efficacy of pest treatments."

As prescribed in the Integrated Pest Management Methodology contained in PP&R's Integrated Pest Management Program, various integrated pest management measures are evaluated and considered together so that the best overall solutions are chosen and implemented. The prevention of pest problems through good policy and planning are assessed first. Cultural practices, avoidance measures, and physical means of managing pests are assessed next.

Finally, mechanical practices, trapping, biological controls, and the use of natural and synthetic pesticides are assessed.

Incorporation of this integrated pest management policy into the maintenance activities at North Clackamas Park is recommended to ensure the protection of Mt. Scott Creek and Camas Creek and to help restore populations of salmonids in Mt. Scott Creek.

Mowing

Other maintenance methods include limiting mowing to areas outside of the riparian zones except for need to mitigate grass fires. Mowing within the Oak-Ash Woodland will be limited. The trees in the woodland may be damaged by mowing equipment allowing bacteria, fungi, viruses and insects to damage mature, valuable trees. To ensure that the trees are protected and that habitat is improved, native shrubs, such as Snowberry and Oregon grape should be planted around the base of selected tree groups.

V. Next Steps

Plan Implementation

NCPRD will make improvements to the park as funding is available. This plan will make it possible for NCPRD to apply for grants and solicit partnerships to help complete improvements.

This plan is conceptual in nature. Final decisions regarding dimensions, materials and precise locations of improvements will be determined per all applicable regulatory requirements and as funding is available.

NCPRD will coordinate improvements with the City of Milwaukie and will follow necessary land use processes to ensure elements are consistent with all City policies and codes. NCPRD is also committed to making sure all other regulatory permits have been acquired prior to project commencement (e.g. Army Corps of Engineers, Division of State Lands, etc).

VI. Appendix A- Natural Resources Review

North Clackamas Park
North Side Planning Process

(Township 2 South, Range 2 East, Section 6, TL 100)

Prepared for
Alta Planning + Design, Inc.
Portland, Oregon

Prepared by
Pacific Habitat Services, Inc.
Wilsonville, Oregon
(503) 570-0800

December 19, 2007

1.0 INTRODUCTION

The North Clackamas Parks and Recreation District hired Alta Planning + Design, Inc. (Alta) to manage the North Side Planning Process for North Clackamas Park (Park) in Milwaukie, Oregon. The park is located on Kellogg Creek Drive (Township 2 South, Range 2 East, Section 6, Tax Lot 100; Latitude 45º 25' 33", Longitude 122º 36' 33" W). The general location of the park is illustrated on Figure 1. All figures are in Appendix A.

The goal of the planning process is to prepare a Master Plan for the northern half of the park. Planning for the southern half of the park, which is dominated by more active uses such as baseball diamonds, is essentially complete. Pacific Habitat Services, Inc. (PHS) was hired to address natural resource issues associated with the North Side Planning Process. Although the northern half of the park contains some active uses, such as play equipment, a dog park, and a picnic shelter, it is also contains Mt. Scott Creek, Camas Creek, their riparian areas and an oak/ash woodland. As such, this portion of the park lends itself to more passive, natural resource-focused uses.

As part of the planning process, several meetings were held to understand the issues that were most important to the public. One theme commonly expressed was the desire to improve the quality of habitat within the northern portion of the park. This report describes the existing conditions within the park and reviews the natural resource issues associated with the proposed improvements.

2.0 EXISTING CONDITIONS

The northern portion of North Clackamas Park lies on fine-grained alluvial sediments between Mt. Scott Creek and Camas Creek. Topography within the park is relatively flat. Mt. Scott Creek flows to the west along the northern border of the study area. Camas Creek, a small tributary of Mt. Scott Creek, also flows westward, though near the southern portion of the planning area.

The northern portion of the park contains mown lawn, oak woodland, the creeks and their riparian areas, the Milwaukie Center, a dog park, and buildings. The following sections describe natural resources (including plant communities, wetlands, waterways, and fish and wildlife resources) within the northern portion of the park.

2.1 Plant Communities

Plant communities within North Clackamas Park include riparian woodland, oak woodland, and mowed lawns. Brief descriptions of each of the park's plant communities are provided below. A discussion of the prevalence of non-native, invasive species within the park is also provided below. Table 1, at the end of this section, is a list of plant species (native and non-native) observed within the park. This list is not intended to provide a complete inventory of plant

species that occur within the park; however, it does serve to characterize the dominant species within the park's plant communities.

Mowed Lawn

Vegetation within the area north of Camas Creek consists of intensively mown lawn. The mown lawns include an off-leash dog park, picnic areas, and other areas used for general recreational activities. The lawns are vegetated with typical lawn grasses and weeds, with scattered trees in some areas. Predominant grasses in the lawns include Kentucky bluegrass (*Poa pratensis*) and annual bluegrass (*Poa annua*). Significant amount of weedy, non-native species such as white clover (*Trifolium repens*), hairy cats-ear (*Hypochaeris radicata*), English daisy (*Bellis perennis*), common dandelion (*Taraxacum officinale*), and creeping buttercup (*Ranunculus repens*) also occur within the lawns.

Riparian Woodland

Narrow areas of riparian woodland occur along Mt. Scott Creek and Camas Creek. The riparian woodland along Mt. Scott Creek has canopy of mature second-growth hardwoods and conifers, with red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii*), Oregon ash (*Fraxinus latifolia*), black cottonwood (*Populus trichocarpa*), and western red cedar (*Thuja plicata*). Oregon ash is the dominant tree species along Camas Creek. Trees, shrubs, and wood vines common in the understory of the riparian woodlands include Sitka willow (*Salix sitchensis*), Douglas spiraea (*Spiraea douglasii*), snowberry (*Symphoricarpos albus*), clustered wild rose (*Rosa pisocarpa*), Indian plum (*Oemleria cerasiformis*), vine maple (*Acer circinatum*), red-osier dogwood (*Cornus sericea*), beaked hazelnut (*Corylus cornutus*), salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus discolor*), and English ivy (*Hedera helix*). Restoration areas on the south bank of Mt. Scott Creek downstream from its confluence with Camas Creek and on the south side of Camas Creek, between the creek and the ball fields, have planted populations of native riparian species, including red alder, western red cedar, Sitka willow, Douglas spiraea, and red-osier dogwood.

The riparian woodland generally occurs as a narrow band of vegetation along Camas Creek and the south side of Mt. Scott Creek, with more extensive woodland communities to the north of Mt. Scott Creek. The riparian woodland adjacent to Mt. Scott Creek is the largest contiguous woodland community within the park, and in this area, the woodland contains both wetland and non-wetland riparian plant communities. Wetlands within North Clackamas Park are discussed further in Section 2.2 of this report.

Riparian woodlands within the park provide important water quality and wildlife habitat functions. The riparian woodlands act as a buffer to the stream, filtering sediments and various pollutants from runoff before the water enters the stream. Trees and shrubs within these riparian woodlands also provide shade to the stream, and this shade aids in maintaining

relatively low water temperatures. The buffer provided by the riparian plant communities along Mt. Scott Creek is generally wider on the north side of the stream than on the south side of the stream. The buffer provided by riparian plant communities along Camas Creek is generally very narrow, though relatively recent plantings on the south side of Camas Creek have expanded the width of the buffer. The riparian woodlands, particularly those along Mt. Scott Creek, provide habitat for a number of wildlife species adapted to suburban woodland and edge habitats, and these woodlands are likely the most important terrestrial habitat within the park. Fish and wildlife resources within the park are discussed in more detail in Section 2.3, below.

Oak – Ash Woodland

A small wooded area dominated by mature Oregon white oak (*Quercus garryana*) and Oregon ash is present in the north-central and eastern portions of the park, between Camas Creek and Mt. Scott Creek, and provides a contiguous, wooded corridor between the riparian woodlands associated with the two streams. Under existing conditions, the oak-ash woodland is frequently mowed to maintain an open, park-like setting for picnic facilities and playground equipment. Because of the frequent mowing, herbaceous vegetation within the oak-ash woodland consists almost entirely of mown grass, and this woodland generally lacks an understory of trees and shrubs, though a few scattered common hawthorn (*Crataegus monogyna*), Oregon grape (*Mahonia aquifolium*), and English holly (*Ilex aquifolium*) are present. The mature oaks, open forest structure and sparse understory within this community are reminiscent of oak savanna habitat, which is becoming increasingly rare in the Willamette Valley. Wildlife usage within this oak – ash woodland is described in Section 2.3, below.

Invasive Species

A number of non-native invasive plant species occur throughout North Clackamas Park. These plants are especially prevalent within the riparian woodlands bordering Mt. Scott Creek. Himalayan blackberry is prevalent throughout the riparian woodland bordering Mt. Scott Creek, and large stands of English ivy occur in the vicinity of the small pond north of Mt. Scott Creek, in the northeastern corner of the park, and along the south bank of Mt. Scott Creek near the western park boundary. Mature common hawthorns are scattered throughout the oak-ash woodland between Mt. Scott Creek and Camas Creek, and many small common hawthorns are present between the existing maintenance buildings and the off-leash dog area. Although they don't currently occur as dominant species, multiflora rose (*Rosa multiflora*), Japanese knotweed (*Polygonum cuspidatum*), English holly (*Ilex aquifolium*), and common laurelcherry (*Prunus laurocerasus*) also occur along Mt. Scott Creek. Canada thistle (*Cirsium arvense*) occurs in unmaintained uplands in various locations, and reed canarygrass (*Phalaris arundinacea*) is common along Camas Creek. Bittersweet nightshade (*Solanum dulcamara*), a non-native, invasive woody vine, occurs as a dominant species in the forested wetlands in the northwestern portion of the park.

Table 1 Plant Species Observed in North Clackamas Park

	BOTANICAL NAME	COMMON NAME
TREES, SHRUBS AND WOODY VINES	*Abies grandis*	grand fir
	Acer circinatum	vine maple
	Acer macrophyllum	bigleaf maple
	Alnus rubra	red alder
	Betula papyrifera	paper birch
	Cornus sericea	red-osier dogwood
	Corylus cornuta	beaked hazelnut
	Crataegus monogyna	common hawthorn
	Fraxinus latifolia	Oregon ash
	Hedera helix	English ivy
	Ilex aquifolium	English holly
	Mahonia aquifolium	Oregon grape
	Oemleria cerasiformis	Indian-plum
	Pinus contorta	shore pine
	Pinus ponderosa	ponderosa pine
	Populus trichocarpa	black cottonwood
	Prunus avium	sweet cherry
	Prunus laurocerasus	common laurelcherry
	Pseudotsuga menziesii	Douglas fir
	Quercus bicolor	swamp white oak
	Quercus garryana	Oregon white oak
	Rosa multiflora	multiflora rose
	Rosa pisocarpa	clustered rose
	Rubus discolor	Himalayan blackberry
	Rubus spectabilis	salmonberry
	Rubus ursinus	California dewberry
	Salix sitchensis	Sitka willow
	Solanum dulcamara	climbing nightshade
	Spiraea douglasii	Douglas spiraea
	Symphoricarpos albus	snowberry
	Thuja plicata	Western red cedar
FORBS	*Athyrium filix-femina*	lady fern
	Bellis perennis	English daisy
	Bidens frondosa	devil’s beggarstick
	Centaurea cyanus	garden cornflower
	Cirsium arvense	Canada thistle
	Dipsacus sylvestris	teasel

	BOTANICAL NAME	COMMON NAME
	Epilobium watsonii	Watson's willow-herb
	Equisetum telmateia	giant horsetail
	Hypochaeris radicata	hairy cats-ear
	Impatiens noli-tangere	western touch-me-not
	Lapsana communis	nipplewort
	Ludwigia palustris	marsh seedbox
	Lysichiton americanum	skunk cabbage
	Lygonum cuspidatum	Japanese knotweed
	Polypodium glycyrrrhiza	Licorice fern
	Polystichum munitum	sword fern
	Prunella vulgaris	heal-all
	Ranunculus repens	creeping buttercup
	Taraxacum officinale	common dandelion
	Tolmiea menziesii	piggy-back plant
	Trifolium repens	white clover
	Veronica americana	American speedwell
GRAMINOIDS	*Bromus sitchensis*	Alaska brome
	Carex obnupta	slough sedge
	Dactylis glomerata	orchard grass
	Eleocharis acicularis	needle spikerush
	Eleocharis palustris	common spikerush
	Eleocharis ovata	ovate spikerush
	Festuca arundinacea	tall fescue
	Glyceria elata	tall mannagrass
	Holcus lanatus	common velvet grass
	Juncus effusus	soft rush
	Phalaris arundinacea	reed canarygrass
	Poa annua	annual bluegrass
	Poa pratensis	Kentucky bluegrass
	Poa trivialis	rough bluegrass
	Scirpus microcarpus	small-fruited bulrush

2.2 Wetlands and Waterways

Regulatory Jurisdiction and Definitions

The Oregon Department of State Lands (DSL) regulates waters of the state under the Removal-Fill Law (ORS 196.800-196.990). Similarly, the US Army Corps of Engineers (COE) regulates waters of the U.S. through Section 404 of the Clean Water Act.

"Waters of the state" is defined as "natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable...". "Natural waterways" is further defined as waterways created naturally by geological and hydrological processes, waterways that would be natural but for human-caused disturbances (e.g. channelized or culverted streams, impounded waters, partially drained wetlands or ponds created in wetlands)..."(DSL, 1995). "Waters of the U.S." is defined at 33 CFR 328.3(a) to include the following:

- waters used in interstate and foreign commerce;
- tidal waters;
- all interstate waters and wetlands;
- all other waters (including intrastate lakes, rivers, streams, wetlands, natural ponds, etc.), the use, degradation or destruction of which could affect interstate or foreign commerce;
- impoundments of waters; tributaries of waters;
- the territorial seas; and
- wetlands adjacent to waters (other than waters that are themselves wetlands).

Wetlands are defined by both the Oregon Removal-Fill Law (ORS 196.800(17)) and Federal (33 CFR 328.3(b)) regulations as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions".

The primary source document for determining the jurisdictional extent of wetlands is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987), which is recognized by both the DSL and the COE. This document, also known as the "1987 Manual", defines criteria for three parameters (i.e., hydrophytic vegetation, wetland hydrology and hydric soils) that must be met for an area to be considered a wetland. The 1987 Manual also establishes procedures for evaluating indicators to determine if the wetland criteria are met.

Description of On-Site Wetlands and Waterways

PHS delineated wetlands and waterways within the southern portion of the park on June 5 and June 19, 2003, with an additional site visit on February 23, 2004 to review the jurisdictional status of wetlands and ditches on site. The results of PHS's wetland delineation were described in a wetland delineation report dated March 10, 2004. The Oregon Department of State Lands (DSL) approved the wetland delineation (DSL #2004-0153) on February 17, 2005. On October 19, 2006 PHS revisited North Clackamas Park to delineate the wetlands and waterways within the northern portion of the park. DSL approved the updated wetland delineation on April 16, 2007.

Wetlands and other water resources at North Clackamas Park include Mt. Scott Creek, several palustrine forested wetlands associated with Mt. Scott Creek, Camas Creek and adjacent wetlands, and a small pond located to the north of Mt. Scott Creek. Brief descriptions of the on-site wetlands and other waters are provided below.

Mt. Scott Creek and Associated Wetlands

Mt. Scott Creek, a perennial stream that flows generally westward along the northern boundary of North Clackamas Park, is the dominant hydrologic feature in the park. Within the park, Mt. Scott Creek is generally 10 to 20 feet wide. The stream banks are generally low and rise one to two feet above the stream bed. Small areas of erosion and undercutting are apparent on the banks, but the stream banks appear to be relatively stable. Within the vicinity of the park, Mt. Scott Creek has a relatively uniform gravel and cobble substrate.

Within the park boundaries, much of Mt. Scott Creek is bordered by non-wetland riparian woodland communities, as described above. However, PHS identified two palustrine forested wetlands associated with Mt. Scott Creek in the northwestern portion of the park. These wetlands have a forest canopy dominated by western red cedar, Oregon ash, and red alder with red-osier dogwood, Indian plum, salmonberry, clustered wild rose, and Himalayan blackberry occurring as dominant shrubs in the understory. Dominant herbaceous species in these wetlands include slough sedge (*Carex obnupta*), skunk cabbage (*Lysichiton americanum*), reed canarygrass, lady fern (*Athyrium filix-femina*), and piggy-back plant (*Tolmiea menziesii*).

Flows within Mt. Scott Creek vary seasonally, like most streams in the region, with significant groundwater inputs to base flow from the slope to the north. Apparently large and steady fluxes of groundwater feed the wetland complex near the northwestern park boundary. Water discharged from these wetlands enters Mt. Scott Creek near the western park boundary.

Camas Creek

Camas Creek is a shallow seasonal tributary to Mt. Scott Creek that crosses the central portion of the park and flows into Mt. Scott Creek in the western portion of the park. Camas Creek originates in a palustrine emergent wetland in the northeastern portion of the park. Throughout its length, Camas Creek is a low-gradient, slow-flowing stream. The stream channel is approximately four to six feet. The stream banks are generally low and indistinct, and the stream channel is vegetated with reed canarygrass in some areas. The substrate of the Camas Creek stream channel is composed primarily of fine sediments.

A narrow wetland fringe borders the entire length of Camas Creek. The wetland has a tree canopy of Oregon ash, and willows (*Salix* sp.), red alder, red-osier dogwood, and swamp white oak (*Quercus biclor*) has been recently planted within the wetland. Other dominant species within the Camas Creek wetlands include reed canarygrass, spikerushes (*Eleocharis acicularis* and *E. ovata*), slough sedge, lady fern, and marsh seedbox (*Ludwigia palustris*). Groundwater inputs to Camas Creek occur throughout the stream length, but major inflows appear to be

near the northeastern corner of the park and from the south in the vicinity of the upper end of the northwest-trending portion of the creek.

Pond

A small pond is present north of Mt. Scott Creek in the northeastern portion of the park. The pond appears to have been excavated and has relatively steep banks that rise approximately three feet above the surface of the water. The pond appears to receive the majority of its water from groundwater inputs and runoff from the adjacent hillside to the north, as there is no apparent surface connection to Mt. Scott Creek.

2.3 Fish and Wildlife

With its mosaic of riparian woodlands, oak woodland, lawns, streams, and wetlands, North Clackamas Park provides habitat for a variety of wildlife species adapted to suburban landscapes. Additionally, the perennial waters of Mt. Scott Creek and the small pond in the northern portion of the site provide habitat for aquatic and semi-aquatic species, including various species of fish, amphibians and benthic macroinvertebrates. Although wildlife surveys have not been conducted at North Clackamas Park specifically, PHS has observed a number of wildlife species while conducting site visits at the park, and a reach of Mt. Scott Creek surveyed for fish by the Oregon Department of Fish and Wildlife (ODFW) includes the portion of Mt. Scott Creek within the park boundaries. The following paragraphs describe observed and expected wildlife usage at North Clackamas Park.

PHS observed 29 species of birds at North Clackamas Park during two site visits – one on the afternoon of July 13, 2007 and one on the morning of December 13, 2007. The bird species observed by PHS on each date are listed in Table 2, below.

Table 2 - Birds observed at North Clackamas Park on July 13 and December 13, 2007

COMMON NAME	SCIENTIFIC NAME	DATE	
		7/13/07	12/13/07
American crow	*Corvus brachyrhynchos*	X	X
American goldfinch	*Carduelis tristis*	X	X
American robin	*Turdus migratorius*	X	X
American wigeon	*Anas americana*		X
Barn Swallow	*Hirunda rustica*	X	
Bewick's Wren	*Thryomanes bewickii*		X
Black-capped Chickadee	*Poecile atricapillus*	X	X
Black-headed grosbeak	*Pheucticus melanocephalus*	X	
Bushtit	*Psaltriparus minimus*	X	X

COMMON NAME	SCIENTIFIC NAME	DATE	
		7/13/07	12/13/07
Downy woodpecker	*Picoides pubescens*	X	X
European starling	*Sturnus vulgaris*	X	X
Golden-crowned kinglet	*Regulus satrapa*		X
Green heron	*Butorides virescens*	X	
House finch	*Carpodacus mexicanus*	X	
House sparrow	*Passer domesticus*	X	
Lazuli bunting	*Passerina amoena*	X	
Lesser goldfinch	*Carduelis psaltria*	X	
Mallard	*Anas platyrhynchos*	X	X
Northern flicker	*Colaptes Auratus*	X	X
Pine siskin	*Carduelis pinus*		X
Red-tailed hawk	*Buteo jamaicensis*		X
Ruby-crowned kinglet	*Regulus calendula*		X
Sharp-shinned hawk	*Accipiter striatus*		X
Song sparrow	*Melospiza melodia*	X	X
Spotted towhee	*Pipilo maculates*	X	
Steller's Jay	*Cyanocitta stelleri*	X	X
Townsend's warbler	*Dendroica townsendi*		X
Western Scrub-Jay	*Aphelocoma californica*	X	X
White-breasted nuthatch	*Sitta carolinensis*		X

The majority of birds observed by PHS were encountered in the riparian woodlands bordering Mt. Scott Creek. Green herons (*Butorides virescens*) were observed foraging in the stream and likely nest in the stream-side trees. Some species, such as back-capped chickadee (*Poecile atricapillus*), bushtiti (*Psaltriparus minimus*), downy woodpecker (*Picoides pubescens*), song sparrow (*Melospiza melodia*), spotted towhee (*Pipilo maculatus*), and Steller's jay (*Cyanocitta stelleri*), likely nest in the riparian woodlands and remain to overwinter in the park. These permanent residents are joined in winter by species such as golden-crowned kinglet (*Regulus satrapa*), ruby-crowned kinglet (*Regulus calendula*), Townsend's warbler (*Dendroica townsendi*), which travel together in small foraging flocks. Other species such as black-headed grosbeak (*Pheucticus melanocephalus*) occur in the riparian woodlands during the breeding season, but spend the winter south of Oregon.

On December 13, 2007, PHS observed a male/female pair of white-breasted nuthatches (*Sitta carolinensis*) foraging with a foraging flock of small insectivorous birds in the oak-ash woodland in the northeastern portion of the park. The subspecies of white-breasted nuthatch found west of the Cascades, *S. c. aculeata* (sometimes referred to as "slender-billed nuthatch"), is strongly associated with oak savanna habitats with widely spaced, large-diameter oaks and little

understory, a habitat mimicked by the oak-ash woodland at North Clackamas Park. Breeding Bird Survey data indicate substantial declines in white-breasted nuthatch abundance in the Willamette Valley, and these declines have been attributed to habitat loss, both through the direct cutting of mature oaks and the suppression of fires, which prevent shade-tolerant species from invading oak savannas and eliminating the open understory favored by the nuthatches. Although it is not listed as threatened or endangered at the state or federal level, the Oregon Natural Heritage Information Center considers the white-breasted nuthatch population west of the Cascades to be of conservation concern. Although PHS did not observe white-breasted nuthatches at the park during the July 13, 2007 site visit, it is likely that this species occurs at the park year-round and that the oak-ash woodlands provide nesting habitat for this declining species.

In general, the bird species observed by PHS at North Clackamas Park are species that are typical of bird species expected to occur in suburban settings in the Portland metropolitan area. Species not observed by PHS, but which may be expected to occur at the park include mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), Vaux's swift (*Chaetura vauxi*), violet-green swallow (*Tachycineta thalassina*), varied thrush (*Ixoreus naevis*), yellow-rumped warbler (*Dendroica coronata*), fox sparrow (*Passerella iliaca*), golden-crowned sparrow (*Zonotrichia atricapilla*), and dark-eyed junco (*Junco hyemalis*). Many of these species are seasonal and would be expected to occur at North Clackamas Park during certain times of the year. Additionally, numerous other species may be encountered in the park during spring and fall migration when they stop to rest and feed during their journeys between breeding and wintering areas.

Although few mammals were observed during PHS's site visits, several mammal species adapted to small woodlands and edge habitats in suburban landscapes would be expected to occur within the park. Raccoons (*Procyon lotor*) and black-tailed deer (*Odocoileus hemionus columbianus*) likely occur in the riparian woodlands. Eastern fox squirrels (*Sciurius niger*) were observed by PHS in the riparian and oak-ash woodlands. Adaptable predators, such as coyote (*Canus latrans*), may occasionally be seen hunting squirrels, deer mice (*Peromyscus maniculatus*), and other small rodents within the park. Because North Clackamas Park is a popular place for local residents to walk and exercise their dogs, most mammals are likely to occur between dusk and dawn when few people are present.

No amphibians or reptiles were observed during PHS's site visits; however, certain species are likely to occur within the park. Amphibians such as Pacific chorus frog (*Pseudacris regilla*), red-legged frog (*Rana aurora*), and roughskin newt (*Taricha grandulosa*) may occur in the riparian woodlands and breed in the small pond north in the northern portion of the park. Garter snakes (*Thamnophis* sp.), the most commonly encountered snakes in western Oregon, are likely to occur in the riparian habitats.

The Oregon Department of Fish and Wildlife conducted surveys conducted fish surveys along two reaches of Mt. Scott Creek between the summer of 1997 and the spring of 1998. The results of this survey effort are summarized in Table 3, below. One of the Mt. Scott Creek

survey reaches, "Reach 1", extended from the mouth of Mt. Scott Creek upstream to its confluence with Phillips Creek and included the portion of Mt. Scott Creek that flows through the park. The most commonly encountered fish species within Reach 1 were reticulate sculpin (*Cottus perplexus*), redside shiner (*Richardsonius balteatus*), western mosquitofish (*Gambusia affinis*), and speckled dace (*Rhinichthys osculus*). During the survey, cutthroat trout (*Oncorhynchos clarki*) were encountered in Reach 3, upstream of the park, but not within the portion of Mt. Scott Stream that flows through the park. The StreamNet database (www.streamnet.org) maps the lower portion of Mt. Scott Creek (including the portion of the stream that flows through the park) as coho salmon (*Oncorhynchos kisutch*) and steelhead (*Oncorhynchos mykiss*) spawning and rearing habitat; however, neither of these species were recorded during ODFW's 1997-1998 survey effort on Mt. Scott Creek.

Table 3 Result of Fish Surveys Conducted in Mt. Scott Creek by the Oregon Department of Fish and Wildlife, summer 1997 – spring 1998

Species		Number Observed by Survey Date and Reach[1]							
		Summer 1997		Autumn 1997		Winter 1997		Spring 1998	
Common Name	Scientific Name	Reach 1	Reach 3	Reach 1	Reach 3	Reach 1	Reach 3	Reach 1	Reach 3
Pacific lamprey	*Lampetra tridentata*	0	0	0	0	0	1	0	0
Speckled dace	*Rhinichthys osculus*	22	0	5	0	5	0	0	0
Redside shiner	*Richardsonius balteatus*	45	0	17	0	13	0	3	0
Largescale sucker	*Catostomus macrocheilus*	0	0	0	0	1	0	0	0
Cutthroat trout	*Oncorhynchos clarki*	0	6	0	0	0	1	0	0
Western mosquitofish	*Gambusia affinis*	29	0	18	0	0	0	0	0
Prickley sculpin	*Cottus asper*	1	0	1	0	0	0	0	0
Reticulate sculpin	*Cottus perplexus*	249	76	299	21	239	15	120	30

1. Reach 1 - Mouth to Phillips Creek confluence; Reach 3 - Dean Creek confluence to small tributary 200m downstream of Sunnyside Road; Reach 2 of Mt. Scott Creek was not surveyed by ODFW because of the short length (Friesen and Zimmerman 1999)

Certain freshwater invertebrates are more tolerant of or sensitive to poor water quality conditions than others; therefore, the composition and relative abundance of a stream's benthic macroinvertebrate community can be an important indicator of the stream's health. PHS is not aware of any organized benthic macroinvertebrate sampling efforts in Mt. Scott Creek in the vicinity of North Clackamas Park; however, during a July 2007 site visit, PHS environmental scientists casually searched for benthic macroinvertebrates by examining the

stream's substrate. During this casual survey effort, PHS noted the presence of many common netspinner caddisflies (Family Hydropsychidae), prong-gilled mayflies (Family Leptophlebiidae), flat-headed mayflies (Family Heptageniidae), several blackflies (Family Simuliidae) numerous aquatic snails and dragonfly and damselfly larvae.

Common netspinner caddisflies are facultative water quality indicators, being found in both good-quality and degraded streams. Benthic macroinvertebrate communities dominated by them may indicate some level of nutrient enrichment, and the large number of common netspinner caddisflies and snails (relative to the other taxa) observed by PHS suggest there may be some nutrient enrichment in Mt. Scott Creek. Most of the prong-gilled and flat-headed mayflies are somewhat sensitive species (though some are very sensitive and some facultative), and their presence in Mt. Scott Creek suggests the water quality is relatively good. However, without on-going sampling using a standardized protocol, definitive conclusions about the stream's water quality should not be drawn.

2.4 Water quality

These observations were taken from data collected further upstream, though we believe representative of those in the park.

- Water quality is generally good (stream likely supports a population of resident cutthroat trout though water quality generally deteriorates as water moves downstream through increasingly urbanized areas).
- Water temperatures were found to follow the local climate with maximum recorded summer temperatures reaching 20°C (68°F).
- Dissolved oxygen concentrations may be an issue – they did not comply with state water quality standards (greater than 90-95% saturation), falling as low as 63% saturation.
- The pH of the water was within state standard and ranged from 6.8-7.4 standard units.
- The alkalinities of the stream are high enough (>20 mg/L) to adequately buffer pH fluctuations.
- The bacteria standard was exceeded, likely reflecting the urbanized nature of the watershed and the high fecal bacteria levels generally associated with storm water runoff from urban areas.
- Suspended sediment fluxes have not been measured, but the bed material at low flows through the portion of Mt. Scott Creek along the northern border of the park suggest that a considerable flux of silt is moving through the stream.
- Overall, the water quality of Mt. Scott Creek is typical of water quality in similar urbanized streams.

2.5 Desired Future Condition

The desired future condition (DFC) for North Clackamas Park is a neighborhood park that provides recreational opportunities as well as forested riparian wetland and non-wetland habitats that consist of native plant species and contain good structural diversity. Plant communities will consist of natural associations and will contain a diversity of native species. The overstory canopy will remain much as it exists in the wooded portions of the park. Non-native invasive species such as reed canarygrass, Himalayan blackberry, and English ivy will be removed, and native trees, shrubs, grasses and forbs will be planted to augment the existing riparian communities. The implementation of an Integrated Pest Management Program will prevent invasive species from becoming established and out-competing the native vegetation.

The riparian buffers along Mt. Scott Creek will be expanded up to 70 feet on the south sides of the streams, and these buffers will be planted with native trees and shrubs to shade the water surface. Supplemental shrub plantings within the existing wooded area on south side of the east-west portion of Mt. Scott Creek downstream from Camas Creek confluence will provide additional stream shading. Reduced human impact immediately adjacent to the stream will allow a denser growth of vegetation immediately along the steam channels. The riparian buffers will be allowed to undergo natural ecological succession to develop species diversity and vegetation structure to provide shelter, food, and reproduction opportunities for native fauna. Native grasses and wildflowers in a meadow community south of Mt. Scott Creek will provide habitat for bees, butterflies, and other insects as well as birds and small mammals.

The combination of increased stream shade and stream habitat improvements will benefit salmonids and other aquatic organisms. The removal of the culvert near the mouth of Camas Creek and the restoration of the stream bed and banks will improve the connectivity of habitats between Mt. Scott Creek and the lower reaches of Camas Creek. Large woody debris in Mt. Scott Creek will diversify flows, vary sediment distribution, and provide substrate diversity, which will benefit aquatic macroinvertebrates as well as fish. Minor excavation of the outflow channel of the wetland in the northwestern portion of the park will improve the hydrologic connection between the wetland and Mt. Scott Creek and allow water to back up into the wetland during high flows, providing low-velocity refugia for fish during flood events.

3.0 KNOWN ISSUES AND PROPOSED IMPROVEMENTS

The conceptual park plan prepared by Alta includes a number of improvements that will improve natural resources within the park. This section includes the improvements that are shown on the plan, plus others that do not lend themselves to a graphic, but that will nevertheless be implemented by the Parks District in the future.

Water Temperatures and Shading: Mt. Scott Creek is not listed by DEQ as being "Water Quality Limited" for temperature. As such, it was not placed on the 303(d) list for this parameter. However, in 2006 Total Maximum Daily Loads (TMDLs) were issued by DEQ for all streams in the Willamette Sub-Basin. This means that Clackamas County needs to prepare an implementation plan describing how “system potential vegetation” (i.e. riparian vegetation that

would historically have been found along the stream) will be planted along streams within their jurisdiction. DEQ has determined that planting "system potential vegetation" will adequately shade the creek and reduce water temperatures. However, only a certain width of riparian vegetation contributes to stream shading.

To determine this functional width, PHS applied a model that it has used in other jurisdictions to Mt. Scott Creek. The reach of Mt. Scott Creek along the northern border of the park is dominated by blackberry thickets and has very little taller vegetation providing shade to the stream surface. Because the direction of the stream through this reach is approximately 77º east of north and the south bank angle is approximately 7º, the stream surface could be effectively shaded (less than 1% increase in effective shade for a 5-foot increase in riparian width) at 62% with a 70-foot wide riparian area along the south bank of the stream. The east-west portion of Mt. Scott Creek downstream from the Camas Creek confluence would also benefit from additional shading by planting tall shrubs beneath the existing trees along the south side of the stream.

The northeastern portion of Camas Creek is largely unshaded and would greatly benefit from riparian vegetation along both sides of the stream, but especially along the entirely exposed south side. Additional riparian width along the south side of Camas Creek would further shade the stream without greatly affecting land use on the north side of the stream.

Suggested native trees and shrubs to be planted along the riparian areas of Mt. Scott Creek and Camas Creek are included in the table below.

Table 4 Suggested Native Trees and Shrubs

Scientific Name	Common Name
Trees and Shrubs	
Acer circinatum	vine maple
Acer macrophyllum	big leaf maple
Alnus rubra	red alder
Corylus cornuta	Beaked hazelnut
Crataegus douglasii	**Black hawthorn**
Fraxinus latifolia	Oregon ash
Lonicera involucrata	twinberry
Oemleria cerasiformis	**Indian plum**
Physocarpus capitatus	Pacific ninebark
Pinus ponderosa	Ponderosa pine
Pseudotsuga menziesii	Douglas fir
Quercus garryana	Oregon white oak
Rhamnus purshiana	cascara

Rosa nutkana	Nootka rose
Salix lasiandra	Pacific willow
Sambucus racemosa	Red elderberry
Spiraea douglasii	Douglas spiraea
Symphoricarpos albus	snowberry
Thuja plicata	Western red cedar

Habitat and stream improvements

Culvert removal: A culvert currently exists in Camas Creek at its confluence with Mt. Scott Creek. This culvert allows maintenance vehicles and foot traffic to cross the creek. This culvert is proposed to be removed and the confluence area restored. This activity may require state and federal permits; however, as the project is beneficial this should not be a problem. The banks should be planted with selected species from Table 4.

The bed of the stream may benefit from a shallow grade control structure (e.g. check dam) to ensure the bed of Camas Creek does not down cut and start to erode upstream.

Large wood: The park portion of Mt Scott Creek has flow regimes that do not vary greatly with channel distance. A few large woody debris placements within the channel might locally diversify flows and vary the sediment distribution. The portion of the channel between the footbridge to Casa Del Rey Drive and the confluence with Camas Creek might be best suited to such installations.

Human access: Removal of the trail along creek to the west of the Camas Creek and Mt. Scott Creek confluence should occur. The banks in these areas have been eroded and compacted, reducing the cover of native vegetation. Access will be limited to discrete points to ensure that wildlife-human interaction is minimal and that damage to stream banks can be repaired. Viewing platforms at the edge of the stream will be an attractive and functional alternative to the current condition.

Off-channel habitat in northwest corner of park: Enhancements of the wetlands in the northwestern portion of the site would entail removal of invasive species: reed canarygrass (*Phalaris arundinacea*) and brambles (*Rubus discolor*) and replacement with small woody shrubs: twinberry (*Lonicera involucrata*), spiraea (Spiraea douglasii), and red-osier dogwood (Cornus sericea). The discharge to Mt. Scott Creek near the west end of the park may be opened to allow high-flow refugia without fish entrapment. The present outflow from the adjacent wetlands is situated several feet above the stream thalweg and probably rarely is overtopped to allow water to flow into the adjacent wetlands. A small excavation of the present outflow channel would allow high flows of Mt. Scott Creek to enter the wetlands and provide a lower-velocity environment for fish during flood episodes. A log structure immediately downstream from the wetland orifice would locally raise water levels at the refugia entrance during large flows and increase the likelihood of water surface elevations

sufficient to allow fish passage into the wetland. The width of the channel at this point would require several anchored logs to achieve significant local elevation of storm flows.

Removal of concrete: Large pieces of concrete are currently located within the stream upstream of the confluence of Camas Creek and Mt. Scott Creek. These pieces of concrete should be removed and the large piece of wood located in this area cut in half to dissuade people from accessing the other side of the creek.

Planting of native meadow: Native forbs should be planted within areas to the south of Mt. Scott Creek. The south side of the meadow should be adjacent to the path that is proposed in this area. This will ensure that park maintenance activities do not extend into the native meadow. This native meadow will likely look unkempt compared to mowed areas of the park, but will provide more diverse habitat for insects and birds.

Control of Invasive Species through Integrated Pest Management: The use of policies and measures contained in the Integrated Pest Management Program developed by Portland Parks and Recreation (PP&R) is recommended to control invasive species within the park. As defined in the Oregon Statutes (ORS 262.1), Chapter 943, "integrated pest management" is "…a coordinated decision-making and action process that uses the most appropriate pest control methods and strategies in an environmentally and economically sound manner to meet pest management objectives. The elements of integrated pest management include: (a) preventing pest problems; (b) monitoring for the presence of pests and pest damage; (c) establishing the density of pest population, which may be set at zero, that can be tolerated or corrected with a damage level sufficient to warrant treatment of the problem based on health, public safety, economic or aesthetic threshold; (d) treating pest problems to reduce population below those levels established by damage thresholds using strategies that may include biological, cultural, mechanical and pesticidal control methods and that shall consider human health, ecological impact, feasibility and cost effectiveness; and (e) evaluating the effects and efficacy of pest treatments."

As prescribed in the Integrated Pest Management Methodology contained in PP&R's Integrated Pest Management Program, various integrated pest management measures are evaluated and considered together so that the best overall solutions are chosen and implemented. The prevention of pest problems through good policy and planning are assessed first. Cultural practices, avoidance measures, and physical means of managing pests are assessed next. Finally, mechanical practices, trapping, biological controls, and the use of natural and synthetic pesticides are assessed.

Incorporation of this integrated pest management policy into the maintenance activities at North Clackamas Park is recommended to ensure the protection of Mt. Scott Creek and Camas Creek and to help restore populations of salmonids in Mt. Scott Creek.

Other maintenance considerations include limiting mowing to areas outside of the riparian zones and within the oak woodland to the north of Camas Creek. The trees in the woodland

may be damaged by mowing equipment. To ensure that the bases of the trees are protected and that habitat is improved, shrubs, such as snowberry and Oregon grape (*Mahonia nervosa*) should be planted around the base of each tree.

5.0 CONCLUSION

North Clackamas Park is a valuable community resource and serves many functions. The south side of the park is dominated by more active uses. The north side of the park, with the presence of the two creeks and the woodland, lends itself to more passive uses. As such, improving wildlife habitat and increasing the diversity of native vegetation has been a priority for many of the citizens who have voiced their concerns over the future of the park. The measures briefly described above will ensure that the north side of North Clackamas Park will be focused on improving the natural environment. As funding becomes available, each of the proposals will have more detail. However, many are lower cost solutions and it is hoped that improvements to the habitat within the park can be achieved relatively quickly.

VII. Appendix B - Wetland Delineation Documents

Oregon
Theodore R. Kulongoski, Governor

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February 17, 2005

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

Michelle Healy
North Clackamas Parks and Recreation District
11022 SE 37th St.
Milwaukie, OR 97222

RE: Wetland Delineation Report for North Clackamas Park Master Plan In Milwaukie, Clackamas County; T2S R2E Sec. 6AC Tax lot 100; WD #04-0153

Dear Ms. Healy:

I have reviewed the wetland delineation report prepared by Pacific Habitat Services for the above referenced site. Based on the information presented in the report and additional information, I concur with the wetland and waterway boundaries as mapped in the revised Figure 5 of the report. The study area covers part of the parcel, and within this area Mt. Scott Creek and four wetland units (identified as Wetlands 1, 2, 3, and 5 that total 1.57 acres) were identified. The wetlands and waterways are subject to the permit requirements of the state Removal-Fill Law.

Mt. Scott Creek is an essential salmonid stream; therefore, any amount of fill or removal within the OHWL requires a state permit. In addition, Wetland 2 is adjacent and connected to the creek and thus has the same requirements. Wetlands 1, 3, and 5 would require a state permit for fill or excavation of 50 cubic yards or more in the wetland areas.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process. The permit coordinator for this site is Steve Morrow at extension 297.