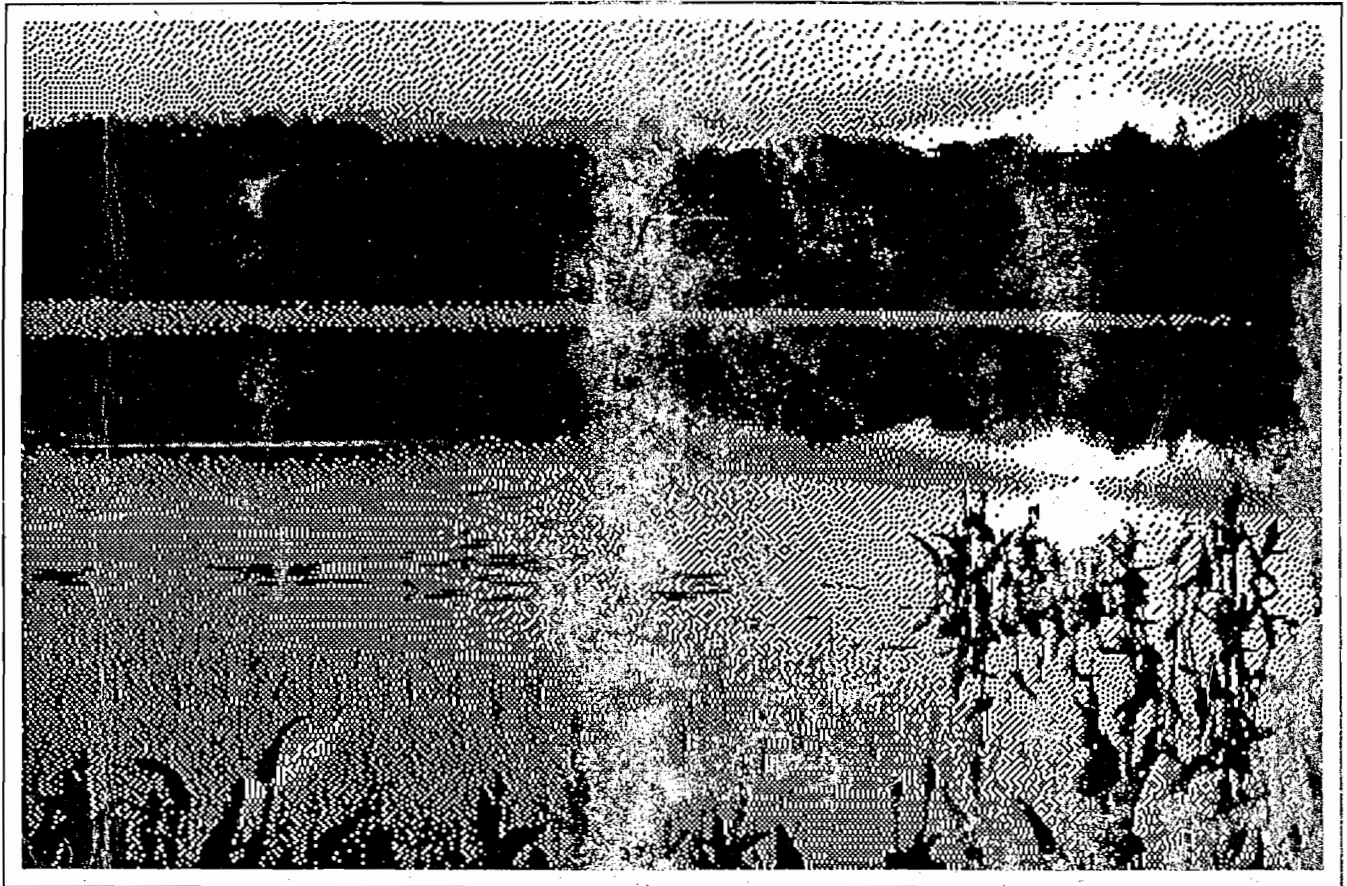


COLUMBIA SOUTH SHORE SLOUGH TRAIL MASTER PLAN



STAFF RECOMMENDATIONS TO CITY COUNCIL

PORTLAND PARKS AND RECREATION
BUREAU OF PLANNING
PORTLAND DEVELOPMENT COMMISSION

CITY OF PORTLAND

JULY 2, 1993



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**COLUMBIA SOUTH SHORE
TRAIL MASTER PLAN**

Staff Recommendation
to the City Council

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Slough Trail Master Plan**

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-
- *"When we walk, we naturally go to the fields and woods: what would become of us, if we walked only in a garden or a mall?"*

Henry David Thoreau

- *"A connected system of parks and parkways is manifestly far more complete and useful than a series of isolated parks."*

The Olmsted Brothers

Report to the Portland Park Board, 1903

- *"We value the beauty and accessibility of our natural surroundings. We embrace a commitment to preserve and enhance the quality of life of our air, water, land, open space, wildlife, and wildlife habitat. We value an urban environment enhanced by parks, natural areas, and recreational opportunities that are accessible to all citizens."*

Source: Statement of Community Values,
Portland Future Focus Strategic Plan, August 1991.

- *"Create a regional system of linked natural areas, open space, trails, and greenways integrated with landscape features, natural areas, wildlife refuges, rivers, streams and crop lands."*

Source: Managing Growth Action Plan (Program 1.2),
Portland Future Focus Strategic Plan, August 1991.



CHAPTER ONE: PROJECT BACKGROUND

- Introduction
- Study Area & Physical Setting
- 40 Mile Loop Trail System
- Trail Construction Requirement
- Related Planning Activities
- Public Review Process

COLUMBIA SOUTH SHORE SLOUGH TRAIL MASTER PLAN

CHAPTER ONE: PROJECT BACKGROUND

Introduction

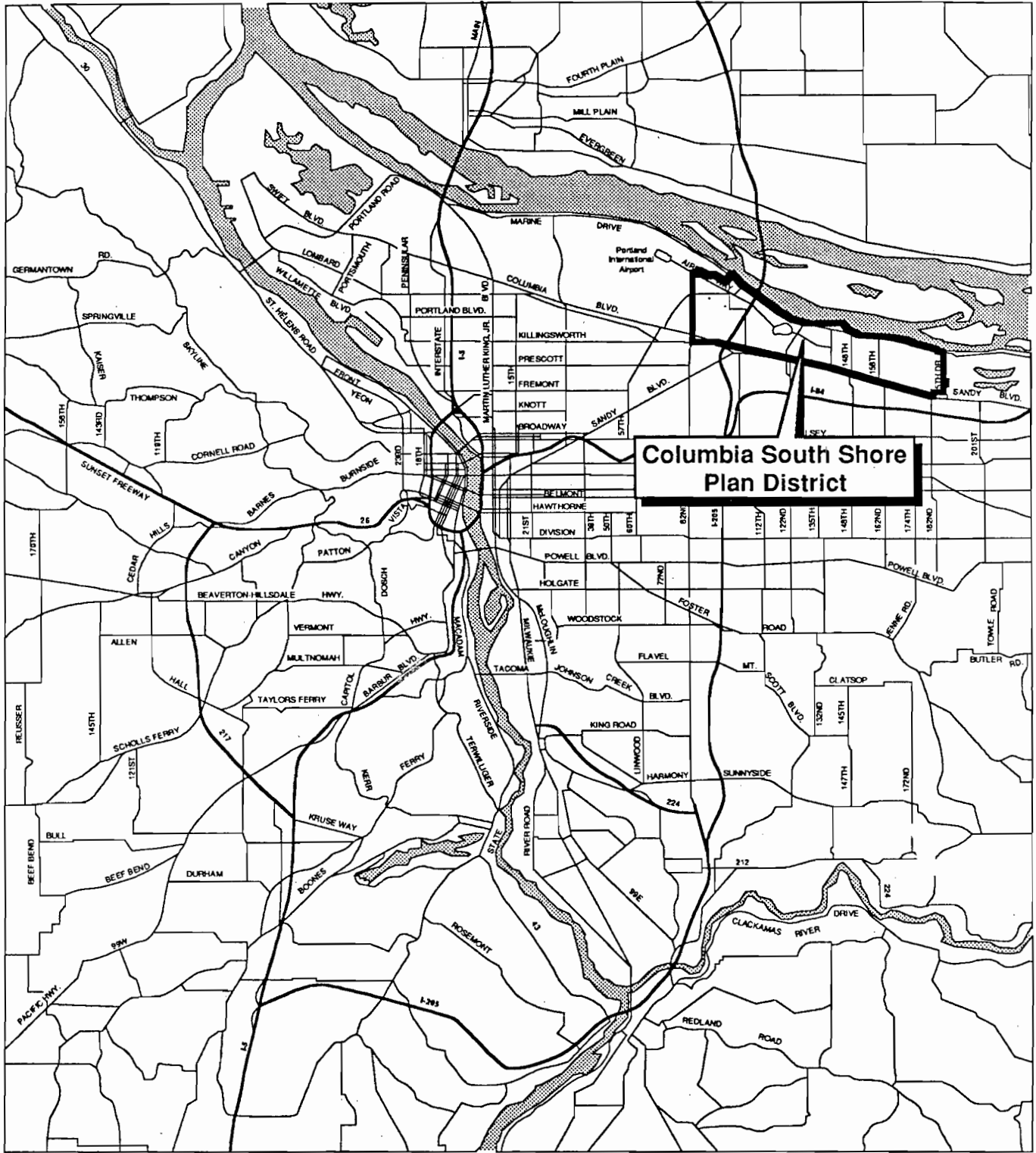
The Columbia South Shore Slough Trail Master Plan is a comprehensive plan for that part of Columbia Slough trail section that lies in the Columbia South Shore Plan District. The slough trail is part of the larger 40 Mile Loop Trail system that encircles the city. The Columbia South Shore Slough trail is approximately 6.7 miles long and provides a link in the Columbia Slough trail section that will eventually connect Kelley Point Park with the Sandy River.

This plan provides the framework for a public/private partnership to build a functional trail system that balances the issues of private property and public access, wildlife protection and passive recreation. This plan:

1. Presents policies to guide decisions about trail siting, usage and implementation;
2. Describes criteria considered in siting the trail, including resource protection, access, and maintenance;
3. Recommends the trail alignment and location of support facilities (footbridges, trailheads, pedestrian crossings, signage, restrooms, canoe launch facilities, parking, interpretive facilities, etc.);
4. Describes trail design and construction standards (width, materials, accessibility, clearance, grades);
5. Recommends an implementation plan for the trail and support facilities that identifies responsible agencies, possible funding sources, phasing, timing and cost estimates;
6. Discusses trail management and maintenance responsibilities;
7. Describes the trail construction permitting process; and
8. Recommends changes to existing City regulations that will support development of the trail.

The master plan represents a joint effort by the Portland Development Commission, the Bureau of Parks and Recreation and the Bureau of Planning. The intended audience is diverse: property owners/developers, public agencies, trail advocates and trail users. Owners, developers and City bureaus can find what trail improvements are required in conjunction with development permits and land use reviews. Trail advocates can find community projects to assist in constructing, maintaining and enhancing the trail. Trail users will find planned support facilities (e.g., canoe launch facilities, viewing platforms) and rules of conduct (no bicycles and horses, or domestic animals).

This master plan will foster and encourage timely completion of the Columbia South Shore Slough Trail, helping the City achieve its stated goal to construct the 40 Mile Loop by 1995.



**Columbia South Shore
Plan District**



Columbia South Shore
Slough Trail Master Plan
VICINITY MAP

Study Area and Physical Setting

This master plan addresses approximately 6.7 linear miles of the Columbia Slough from NE 82nd to NE 185th Avenue, between NE Marine Drive and NE Sandy Boulevard. (See Vicinity Map). The area is in the process of changing from primarily an agricultural use to an industrial/commercial employment center and encompasses the largest inventory of undeveloped industrial land in the Portland metropolitan area. To date, approximately one-half of the approximately 2,800 acres are developed. When the area is fully developed, the constructed trail will provide recreation opportunities for the Portland metro-area and for more than 20,000¹ local employees.

The Columbia Slough is a significant natural resource. The Columbia Slough and associated wetlands provide flood control, sediment trapping, nutrient retention and removal, habitat for fish and wildlife, recreational and educational opportunities, and visual and scenic amenities. The slough is one of the remains of a vast system of lakes, marshes, and channels that once covered the floodplain of the Columbia River between the mouths of the Willamette and Sandy Rivers.

The Columbia Slough and its banks are part of a protected environmental area that form a wildlife corridor, an integral part of a large drainage system and the "back yard" for an increasing number of office and industrial developments. The trail, located along the banks of the Columbia Slough, will provide opportunities for wildlife viewing and recreational walking, and will form an integral part of the area's pedestrian network.

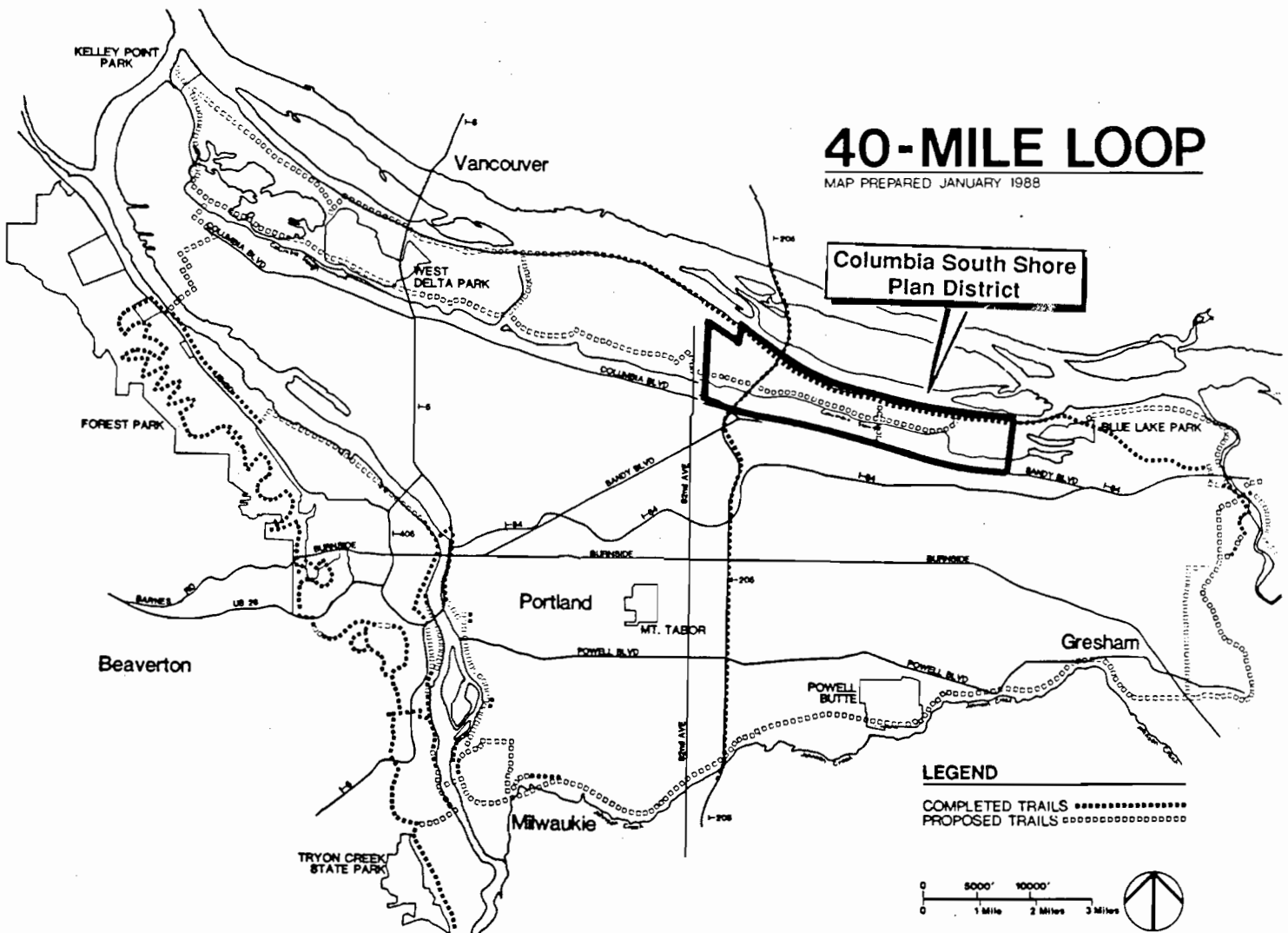
Major natural resources along the trail route include Johnson Lake, the Columbia Slough channel and its vegetated banks, Prison Pond (Whitaker Pond), and two remaining cottonwood-ash forests located in the east end of the plan district (the Four Corners Area). The channel varies in width from about 40 feet to 150 feet (measured from the top of the bank).

¹ Airport Way Development Plan, Portland Development Commission.

40 Mile Loop Trail System

The Columbia Slough Trail is part of the 40 Mile Loop Trail system that links major rivers and natural features around the City. The 40 Mile Loop Trail system includes hiking and bicycle trails. The trail system provides recreational opportunities within the City; increases public access along the City's major waterways; provides connections to other transportation systems; and contributes to a more livable urban environment.

The concept for the 40 Mile Loop Trail has been in place since 1903. The original plan was prepared by the Olmsted Brothers, a renowned landscape architectural firm. As the City expanded, the trail became 140 miles long. The City gave official recognition to the 40



Mile Loop Trail system with the adoption of the Comprehensive Plan in 1980. Trail construction is implemented through the recreational trail designation on the zoning maps. The 40 Mile Loop Land Trust, a nonprofit organization dedicated to implementing the trail system, is involved in planning and promoting completion of the 40 Mile Loop. The 40 Mile Loop Trail encircles and traverses the City and includes the Willamette River Greenway Trail, Forest Park, SW Terwilliger Boulevard and Marquam Nature Trail. The Springwater Corridor Trail links inner southeast Portland with Gresham and Boring along an abandoned rail corridor.

In the Columbia South Shore area, the 40 Mile Loop system includes bicycle-pedestrian paths along NE Marine Drive and Interstate 205. Work is underway to complete additional segments at Smith and Bybee Lakes to the west and at Blue Lake to the east. Eventually there will be a continuous trail along the slough from Kelley Point at the confluence of the Willamette and Columbia Rivers to the Sandy River at the entrance to the Columbia Gorge.

Because of the established need to protect the slough's natural resources, the portion of the 40 Mile Loop Trail discussed in this plan will be limited to pedestrians.

Trail Construction Requirement

If a property has recreational trail designation on it according to the City of Portland zoning maps, the property owner/developer is responsible for dedicating a public recreation easement and constructing the trail or contributing funds for trail construction. This requirement is triggered when development permits are applied for in accordance with the City Zoning Code. The requirement is set forth in the City Comprehensive Plan and has been in effect since 1987. For sites located along a cross-street, the developer must also install removable bollards to prevent unauthorized vehicle access. The trail design standards are in Chapter Three and the trail construction requirements are in Chapter Four.

The City of Portland zoning maps show the general locations of the trail with a star pattern. Generally, the trail follows the north side of the slough. The master plan *Trail Alignment* maps pages 24 through 27 show the proposed trail route. As segments of the trail are constructed, the City will look for opportunities to construct the support facilities such as trailheads and signing that make the trail experience more pleasant and educational. The support facilities are discussed in detail in Chapter Five.

Related Planning Activities

Since 1986, the City of Portland has initiated a number of planning activities affecting trail development and the Columbia Slough within the Columbia South Shore Plan District. The activities have been considered in preparing this master plan. Those activities, grouped by topic, follow:

Economic Development

In May 1986, City Council adopted the Columbia South Shore Urban Renewal Plan. This plan is administered by the Portland Development Commission (PDC) to promote

development of an industrial/commercial employment center.

In 1989, the Portland City Council and Portland Development Commission adopted the Airport Way Development Plan. The development plan recognizes recreational trail development as an amenity for local businesses as well as a recreational facility offering access to the Columbia Slough and other protected areas.

Land Use / Zoning

In April 1987, City Council adopted new zoning and Comprehensive Plan designations in the Columbia South Shore. A new Columbia South Shore Plan District was created to provide area-specific standards. This rezoning project applied interim environmental protection measures and industrial base zones, as well as allowing further flexibility for industrial lands along Airport Way in the form of a subdistrict.

In 1989, the City Council applied two new environmental zones to Columbia South Shore. The Environmental Protection (p) and Environmental Conservation (c) zones exist along the Columbia Slough and throughout the area.

In 1989, a Natural Resource Management Plan (NRMP) and now called a Natural Resources Protection Plan (NRPP) was prepared for the Columbia South Shore area to balance the environmental and economic development objectives of the area. Though the NRPP is not presently in effect, this trail master plan reflects the NRPP goal of siting the trail "with primary consideration to the preservation of an adequate wildlife corridor." The Zoning Code will contain the applicable trail requirements and procedures. See the City Zoning Code for the current trail requirements.

In May 1991, City Council adopted the Scenic Resources Protection Plan. That plan took two steps. First, it designated the Columbia Slough (NE 185th to the Willamette River) as a scenic corridor (SD 11-02). Environmental reviews of sites that abut the Columbia Slough will address preservation of the slough's scenic qualities. Second, as a leadership element, the Bureau of Planning will work with the Bureau of Environmental Services and the Portland Development Commission to coordinate planning and implementation of their management plans as they affect the slough.

Transportation

In April 1991, the Oregon State Department of Land Conservation Development Commission (LCD) adopted the Transportation Planning Rule. The transportation rule implements State Land Use Goal 12, and requires local governments to plan for reduced reliance on the automobile. All communities must do more planning for pedestrian and bicycle travel. Over the next five years, local governments in the Portland metro area must amend their Comprehensive Plans and zoning and subdivision ordinances to carry out most of the rule's requirements.

By May 1995, a transportation system plan must be adopted, including a bicycle-pedestrian plan. The bicycle-pedestrian plan will show a network of routes and identify bicycle and

pedestrian connections to facilitate bike and pedestrian trips in developed areas. This master plan is supportive of the Transportation Rule in providing an east-west pedestrian link in the Columbia Corridor area. The trail easement provides public access along the slough and retains the option for alternative methods of transportation within the easement area. It may be appropriate to upgrade or to construct an additional trail for bicyclists in the future.

Stormwater Management and Water Quality

In 1988, the Columbia South Shore Secondary Drainageway Plan was prepared for the Portland Development Commission. City Council has not acted on the drainageway plan. However, the water quality facilities identified in this plan are being built, which affects the appearance of the Columbia Slough trail. These water quality facilities are designed to receive runoff from area streets. There may be opportunities to integrate interpretive signage about the slough's water quality with the trail.

The Portland Bureau of Environmental Services is conducting a water quality study of the Columbia Slough. As of this writing, it is unclear what changes this study will recommend affecting the Columbia Slough trail.

Multnomah County Drainage District #1

The Multnomah County Drainage District #1 (MCDD) plays a critical role in protecting the Columbia South Shore from flooding, allowing development to continue in the floodplain area. MCDD's activities in the area present both opportunities and potential conflicts with the trail system.

The slough channels are crucial for providing storage of stormwater runoff. MCDD primarily controls flooding by pumping excess water from the slough into the Columbia River. Another important part of MCDD's efforts is to maintain the slough channels so they remain open and free-flowing, not clogged with silt and vegetation. An easement at the top of the slough banks allows MCDD access to the slough for maintenance (dredging of the slough and vegetation removal along the banks). This easement may encroach on or overlap with the easement in which the trail runs, but conflicts between maintenance activities and trail use are not expected.

At this time, it is expected that a new method of slough maintenance ("water based") will eliminate the need for MCDD's access easement. However, easement rights will be maintained by MCDD in the event "top of bank" maintenance must continue.

An opportunity for trail users exists when MCDD switches to the water-based maintenance method for shared use of MCDD's barge loading areas ("off-load sites") by the public for recreation. Since these sites will be used infrequently by MCDD, they could provide parking for two or three cars and access to the water for canoeists and hikers. (There is more discussion under Canoe *Launch Areas* page 51).

Natural Resource Protection Plan (NRPP)

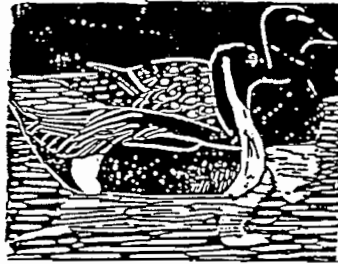
At this time, trail construction is regulated by "Environmental zone" requirements. In the fall of 1993, it is expected that the *Natural Resource Protection Plan (NRPP)* will be adopted to supersede the "Environmental zone" requirements. The NRPP was used as a background document in the development of this plan and both the NRPP and trail master plan have consistent recommendations.

Public Review Process

This plan has been prepared in consultation with City resource agency staff, property owners, neighborhood organizations, and interested environmental groups. A technical advisory committee was formed to advise project staff on issues relating to wildlife habitat, stormwater drainage, parks, security and the 40 Mile Loop system.

Project staff from the Portland Development Commission, the Bureau of Parks and Recreation, and the Bureau of Planning sponsored public meetings on March 5th, March 18th, and May 20th, 1992 and attended other meetings to discuss this plan. The Planning Commission heard public testimony on August 25th on November 10, 1992. The City Council is scheduled to take public testimony on the trail plan in the form of a public hearing on July 14, 1993 .

Comments on this plan, report and recommendations can be sent to the City of Portland City Council in care of Gail Curtis, (823-7700), Bureau of Planning: 1120 SW Fifth Avenue, Portland, OR 97204-1966.



CHAPTER TWO: TRAIL POLICIES

- Relevant Comprehensive Plan Policies
- Trail Master Plan Policies and Actions

TRAIL POLICIES

This chapter lists the City's Comprehensive Plan Goals and Policies that relate to the Slough Trail, followed by recommended Master Plan policies and implementing actions. Both existing City policies and the recommended Master Plan policies provide guiding principles for the recommendations in this plan.

Comprehensive Plan Goals and Policies

Policy 5.20 Columbia South Shore

Encourage the development of the Columbia South Shore as an industrial employment center which attracts a diversity of employment opportunities while protecting significant environmental resources and maintaining the capacity of the area infrastructure to accommodate future development.

This Master Plan supports the stated policy. The trail will help attract certain businesses to the area and not detract from the creation of diverse employment opportunities or the area infrastructure capacity to accommodate future development.

Objective C. *Protect and enhance the scenic and environmental qualities of Marine Drive, the area's sloughs, areas providing significant wildlife habitat, and archaeological resources.*

This policy is supported by Master Plan Policy 1 which states that the plan should give primary consideration to habitat protection and preserving an adequate wildlife corridor in designing and locating the trail and its support facilities. It is also supported by providing a relatively narrow trail adequate for pedestrian use only and the code provision for the trail to be located in the outer 25 feet of the environmental zone when it does not need to connect to an existing trail.

Objective E. *Enhance the Columbia South Shore's recreational potential through designation and development of recreational trails for walkers, hikers, runners, bicyclists and canoeists.*

The Master Plan helps implement this policy objective by outlining the procedures and methods for developing the trail and support facilities. While the slough trail will not serve bicyclists there are extensive bicycle trails along Marine Drive, Airport Way, and I-205 within the Columbia South Shore that provide a comprehensive bicycle circulation system. Upgrading the trail to include a bike path may be appropriate in the future.

Trail Master Plan Policies

The following policies and actions provide the framework for the Master Plan. The policies result in recommended changes to the zoning code and a few changes to the zoning maps (shown on the *Trail Alignment Maps*).

Policy 1: Acknowledge the Columbia South Shore Plan District area Goal 5 findings and implementation by designing and locating the trail and its support facilities with primary consideration for habitat protection and the preservation of an adequate wildlife corridor.

facilities with primary consideration for habitat protection and the preservation of an adequate wildlife corridor.

- Actions:**
- Limit use of trail to pedestrians only. Recommend update of City transportation plans and Bureau of Parks and Recreation 40 Mile Loop Maps to reflect this.
 - Sign trail to direct cyclists to appropriate facilities on Airport Way, Marine Drive and I-205. *Bureau of Parks and Recreation responsibility per Responsible Agency Matrix, page 56.*
 - Recommend that trail be located in outer 25 feet (closest to development) of the environmental zone except for where the trail needs to connect to an existing trail, occasional overlooks, and access to slough. *See Conservation Easement Plan and Section on pages 30 and 31.*
 - Limit trail to one side of slough for habitat protection. Remove trail designations from Comprehensive Plan to reflect trail location as shown on maps in the Columbia South Shore Slough Trail Master Plan, especially in the vicinity of "Prison Pond" and the "Four Corners" area to increase habitat protection. See Trail Alignment Maps, pages 24-27.
 - Maintain Deering Drive and adjacent Columbia Slough as "public right-of-way" for potential future public access and wildlife protection. The City Office of Transportation should deny requests to vacate this right-of-way.
 - Apply a Bureau of Parks and Recreation trail design standard that specifies a 6-foot wide, soft surface trail. *See Trail Cross Section, page 19.*
 - Prohibit domestic animals by updating Title 20 regulations and post appropriate signage.
 - Control the number and placement of access points to Slough Trail to protect the area wildlife habitat and trail character. *See Trail Alignment Maps and discussion on page 20.*

Policy 2: Provide for safety and comfort of trail users.

- Actions:**
- Formulate and adopt regulations to protect the trail users from conflicts by limiting trail use to pedestrians only and prohibiting domestic animals.
 - Provide facilities and signing for handicapped trail users. *Related information pages 17 and 49.*
 - Provide for convenient and logical access to trail from businesses and adjacent residential areas. *See Trail Alignment Maps and discussion on page 20.*

when making public improvements in the Plan Area including street improvements, culvert replacements, MCDD off-load sites, and similar improvements. *Related information under description of Parks and Recreation's Role, page 53.*

Policy 3: Provide for complete trail segments and support facilities as development occurs in a given area.

- Actions:**
- Recommend the Bureau of Parks and Recreation Bureau be the lead agency responsible for the trail master plan and implementation in order to insure that related trail projects are coordinated that support facilities are installed. *See Responsible Agency Matrix, page 54.*
 - Encourage public agencies, community groups, and others to construct support facilities as early as practical and in accordance with the Support Facility Phasing Plan. *See Community Service Projects, Chapter 6.*
 - Encourage trail construction, in advance of development if necessary, to help create usable, connected segments. Explore incentives to property owners for early trail construction. *See page 38, Subsection 33.515.260.B(2)(a)(3).*
 - Recommend public access for community works projects (revegetation, trail construction, and blackberry removal) along the slough.

Policy 4: Recommend that the Cross-Levee Trail extend to Marine Drive once a safe crossing can be provided across Airport Way.

- Actions:** Install gates if necessary to discourage pedestrian crossings at Airport Way until a method for safe crossing can be provided.

Policy 5: Recommend that the Cross-Levee Trail be built as a single public or community project.

- Actions:**
- Amend the *Columbia South Shore Plan District* to require that property owners grant trail easements for the Cross-Levee Trail to the City, deleting the trail construction requirement. *See Trail Development Regulations, page 39, item C.*

Policy 6: Encourage coordination with other interpretive and recreational projects in the general area (Smith and Bybee Lakes management; West Delta Park development, Blue Lake development).

- Actions:**
- Work with the Multnomah County and Portland Bureaus of Parks and Recreation to integrate interpretive facilities, trail connections and signage to provide connecting regional facilities from Kelley Point to Blue Lake.
 - Support the completion of Multnomah County's Blue Lake interpretive center and the facilities at Smith and Bybee Lakes which will serve as a staging area for the trail system.

Policy 7: Promote security of adjacent properties and trail users.

- Actions:**
- Encourage coordination between property owners and City of Portland neighborhood crime prevention specialists to address security concerns.
 - Recommend that public access not be permitted in the natural areas outside of the trail easement except during authorized community works projects and where a connection is required to an existing trail section.
 - Require bollards at entrances to trail from adjacent roads to eliminate access by unauthorized motor vehicles.
 - Encourage construction of trails to connect segments, eliminate dead-ends, and to promote increased recreational usage.

Policy 8: Encourage site design that considers the experience derived from the trail use and promotes an aesthetic trail system.

- Action:**
- Enhance trail design through the planting plan and trail layout. Design considerations should include framing views, creating shade on portions of the trail, integrating the adjacent property plantings to soften the property boundaries, and meandering the trail. Provide views of the water when possible as long as habitat can still be provided.



CHAPTER THREE: TRAIL SYSTEM

- Trail Users
- Trail Construction Standards
- Selected Trail Alignment
- Sequence of Trail Improvements

TRAIL SYSTEM

This section describes the use of the Columbia South Shore Slough Trail, the trail standards, the selected trail alignment, and the sequence in which trail segments are expected to be completed. It provides a context for the private and public trail improvements identified in Chapters Four and Five of this Master Plan.

Trail Users

The Columbia South Shore Slough Trail segment of the 40 Mile Loop Trail is intended to provide and encourage recreation use of the slough by employees of the Columbia South Shore Plan District, local area residents and the general public while maintaining habitat and wildlife protection. It is assumed that most of the users will walk, jog and/or watch nature.

The trail is designed for pedestrian only use for several reasons. The soft-surfaced pedestrian standard has a low environmental impact on the slough. A six-foot wide bark-chip trail is visually more compatible with the slough than an eight to twelve foot wide hard surfaced trail. The soft surface is permeable and allows storm water recharge into the subsurface soil. A pedestrian only system eliminates potential conflicts with other uses such as bicycling. A soft surface trail is less costly to construct and was recommended by the 40 Mile Loop Land Trust when it was initially established in 1987. A multi-modal trail may be appropriate in the future but is not needed or compatible with the other objectives of this plan at this time.

The area is currently well served by bicycle facilities. Bike lanes and/or paths exist on I-205, NE Marine Drive, and NE Airport Way to serve cyclists and provide alternative transportation (refer to *Area Traffic Designations* chart, page 22).

The Parks Futures Plan, prepared by the Portland Bureau of Parks and Recreation, identifies the Cully-Parkrose neighborhood as one of the three most critical park-deficient areas of the City. Part of the Cully-Parkrose neighborhood is located directly south of Columbia South Shore. While the trail will not provide the needed park land it will provide a place where residents can walk for leisure and exercise.

The trail will provide a place for people to walk for pleasure. The Park Futures Plan projects that walking and recreational bicycling will increase in popularity, especially with the addition of trail facilities. Based on a telephone survey conducted for the Park Futures Plan, 88% of City residents currently participate in walking for pleasure. No other recreational activity received as high a participation rate. The telephone survey also found that the nature experience is one of four main reasons people visit City parks. Many of the City's most valuable natural areas are located along or in proximity to the 40 Mile Loop or associated trails.

The Columbia Slough trail is expected to generate a steady number of users. During the day on weekdays, most users will likely come from the businesses in the area. On weekends and early evenings on weekdays most users will come from the surrounding residential areas and the public at large. Based on studies for similar trails in Portland, it is estimated there will be a peak daily use of 1,000 to 1,200 people, when the trail is complete and the area is fully developed.

Trail Construction Standards

The following section provides design standards for materials and construction techniques to build the trail. There are three different trail standards that apply to different parts of the slough trail system. The types of trails are listed and described below. Each trail alignment map, located at the end of this chapter, indicate which trail standard applies.

Types of Trails

- Bark-chip trail;
- Handicapped Accessible (fiber trail)
- Paved trail.

The most current trail specifications can be obtained from the Bureau of Planning at the Permit Center. The trail specifications have been developed by and are updated from time to time by the Bureau of Parks and Recreation. Questions on the design standards should be directed to the Bureau of Parks and Recreation, Design and Construction Unit. For the code related trail specifications see the City of Portland Zoning Code, Section 33.515.260.

- Bark-chip trail specification. A soft surface pedestrian trail standard, 6-foot wide, 4-inch thick bark chip surface on an 8-foot wide, 4-inch thick drain rock base with two layers of engineering fabric - one between the chips and the rock and one below the rock on a compacted subgrade. See *Typical Trail Cross Section*, page 19. The trail is to be built to allow the free movement of surface water.
- Handicapped accessible trail segments. From I-205 to 122nd Avenue shall be a wheelchair accessible trail segment (see *Trail Alignment Map 2*, page 25). This segment will have a soft surface except that instead of a bark chip surface it will have a wood fiber surface which allows wheelchairs users to more easily use the trail. The wood fiber surface material is ten times longer than it is wide allowing wheelchairs to easily roll across it. Since the trail section is adjacent to the Port of Portland's paved section, it will form a 2.3 mile accessible trail segment. See *Typical Trail Cross Section*, page 19. The fiber specification for the handicapped accessible trail section is available from the Bureau of Parks and Recreation.
- Paved sections. There are two paved bicycle trail portions: 1) The Port of Portland property from the cul-de-sac at Alderwood south and east to I-205. This section will be an 8-foot wide asphalt path, approximately 1.2 miles long. It will be handicapped accessible. 2) The trail section from Marine Drive at the Pump Station #4 access road east to 185th is to be a separated, 12-foot wide pedestrian-bicycle path.

Specification for All Trail Segments

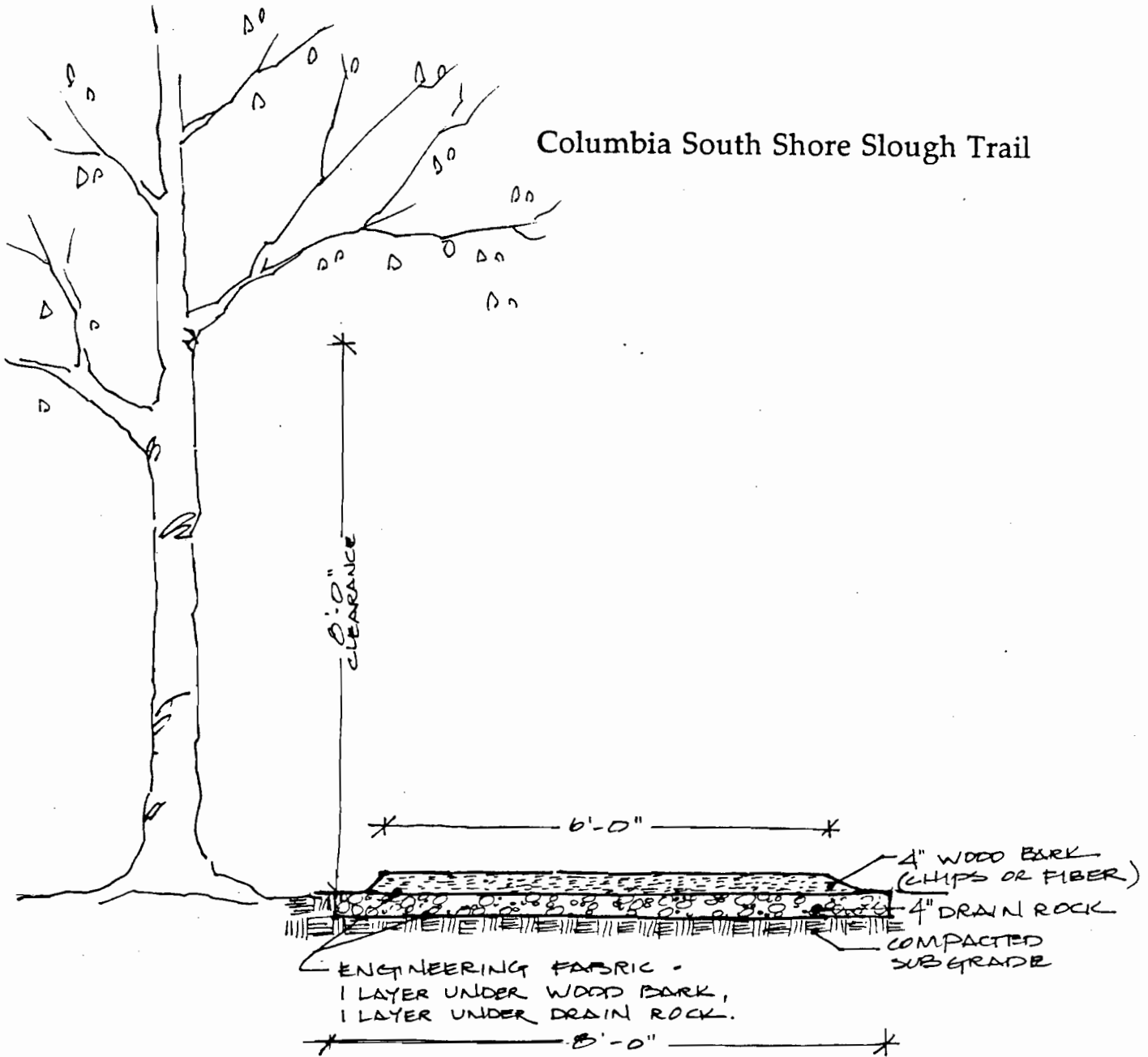
- a. Clearance. All sections of the trail will have 8-feet of clearance above the trail surface.
- b. Maximum Slope. The maximum slope for the trail is 8%; except that 15% is allowed on sections that are less than 500 feet long with approval, but not in the area designated as handicapped accessible.

c. Bollards. As a requirement of development, property owners will install bollards at all street crossings to prevent unauthorized vehicle access to the trail. These bollards will be lockable and removable to allow access by authorized personnel while still allowing pedestrian access by the general public and property owners. The middle bollard will be a breakaway bollard to allow emergency access. Bollards will meet Portland Parks and Recreation standards.

d. Fencing Standards. Fencing is allowed on the easement line to provide security and privacy for the property owner. No fencing is allowed within the easement.

e. Lighting. There will be no lighting installed on the trail or in the easement area and adjacent businesses are not to shine lights onto the trail and/or natural resource areas.

Columbia South Shore Slough Trail



NOTES:

1. Site conditions may necessitate modifications of standards. Any modifications must be approved by the Bureau of Parks and Recreation.
2. Maximum grade is 8% (15% on segments less than 500' in length with approval).
3. Fiber specification for the handicapped accessible trail segments can be obtained from the City of Portland, Bureau of Parks and Recreation.

TYPICAL BARK-CHIP OR FIBER RECREATION TRAIL CROSS-SECTION

Selected Trail Alignment

This section describes the general alignment of the Columbia South Shore Slough Trail. The *Existing Trail Map* is shown on page 23 and the *Trail Alignment Maps* follow. Information on the support facilities (trailheads, viewpoints, footbridges) are found in Chapter Five.

The Columbia South Shore Slough Trail alignment follows the main channel of the Columbia Slough and is continuous from NE 82nd Avenue to NE 185th Avenue. The trail alignment connects at both ends with existing or future segments of the 40 Mile Loop Trail which will extend from Kelley Point Park to Blue Lake.

The trail will be built within a 25 foot recreation trail easement typically located on the north side of the Columbia Slough. There is a loop at NE 82nd which follows the south side of Johnson Lake and rejoins the main trail at I-205. At NE 92nd a portion of the trail follows north through Port of Portland property to the cul-de-sac at Alderwood Drive, as well as continuing to NE 82nd.

At the east end of the Plan District, the trail splits. One leg travels through the Four Corners Area and then north to meet Marine Drive. At Marine Drive the trail becomes a paved bicycle/pedestrian path that runs along the foot of the south side of the dike (Marine Drive) to NE 185th Avenue. The other leg travels southeast along the walk on Airport Way to Bridge B where it then turns south and follows the slough through a resource area to NE 185th Avenue near Sandy Boulevard.

Provisions for access to the trail have been made. There are three north/south designated trails to connect the Airport Way sidewalk with the Slough Trail. The trail connections are in areas that currently have poor public access to the trail. To the extent possible, trail connections have been made on publicly owned parcels. A need remains for a connection north of the "Four Corners" area, west of the north/south trail extending from Marine Drive. This area is currently undeveloped; however, a trail segment to the "Four Corners" area is recommended when this area develops.

The predominant vegetation along the slough is cottonwoods and blackberries. The slough banks vary from steep to gradual.

Special features include the Prison Pond, the Cross-dike viewpoint, Four Corners area, and mature cottonwood strip located near NE 122nd Avenue. Underground springs feed into the Prison Pond, increasing the clarity of water and attracting numerous waterfowl.

The trail's relationship to the slough will vary throughout the trail system. In order to protect the slough habitat the majority of the trail will be located in the outer 25 feet on the environmental zone. In some areas viewing the slough may be obscured by vegetation or too far away to see. Approximately one-mile of the trail will be adjacent to the slough with easy viewing and one-mile will be well away from the slough where viewing the slough will not occur. The remainder of the trail system is mixed with some views of the slough.

The trail and its facilities are located to be compatible with existing and future development. The trail has been aligned to avoid existing buildings, fences or other improvements. In

some cases where conflicts with existing development cannot be avoided, trail construction may be delayed until the site is redeveloped as required by the zoning code.

The trail has been sited to connect to the existing system of bike routes, and to incorporate existing trail segments. Road crossings have been identified and the trail aligned to provide safe pedestrian crossings. Access for the general public to reach the trail from major streets has been incorporated into the plan.

The trail has been sited to take advantage of existing view corridors by locating view points within the view corridors, identified in the Comprehensive Plan and on zoning maps.

The Cross-Levee Trail Recreation Trail located between NE 138th and NE 148th has been considered in this plan. The Cross-Levee is recommended to be built to the City's 12-foot wide bicycle route standard as a publicly sponsored project. Trail improvements are not required by property owners adjacent the Cross-Levee because the trail is physically separated from adjacent properties limiting the benefits to those properties. The dike currently has a durable gravel cover. Trail easements and area access provisions to the trail are needed and required under the zoning code requirements and as stated in Chapter 4 under subsection 33.515.260.C on page 39.

Existing Street Conditions

There are numerous major and minor streets and transit facilities and a variety of bicycle and pedestrian facilities in the area. These are summarized in the chart on the next page. These existing and proposed facilities will provide vehicular, bicycle and pedestrian routes to the trail system.

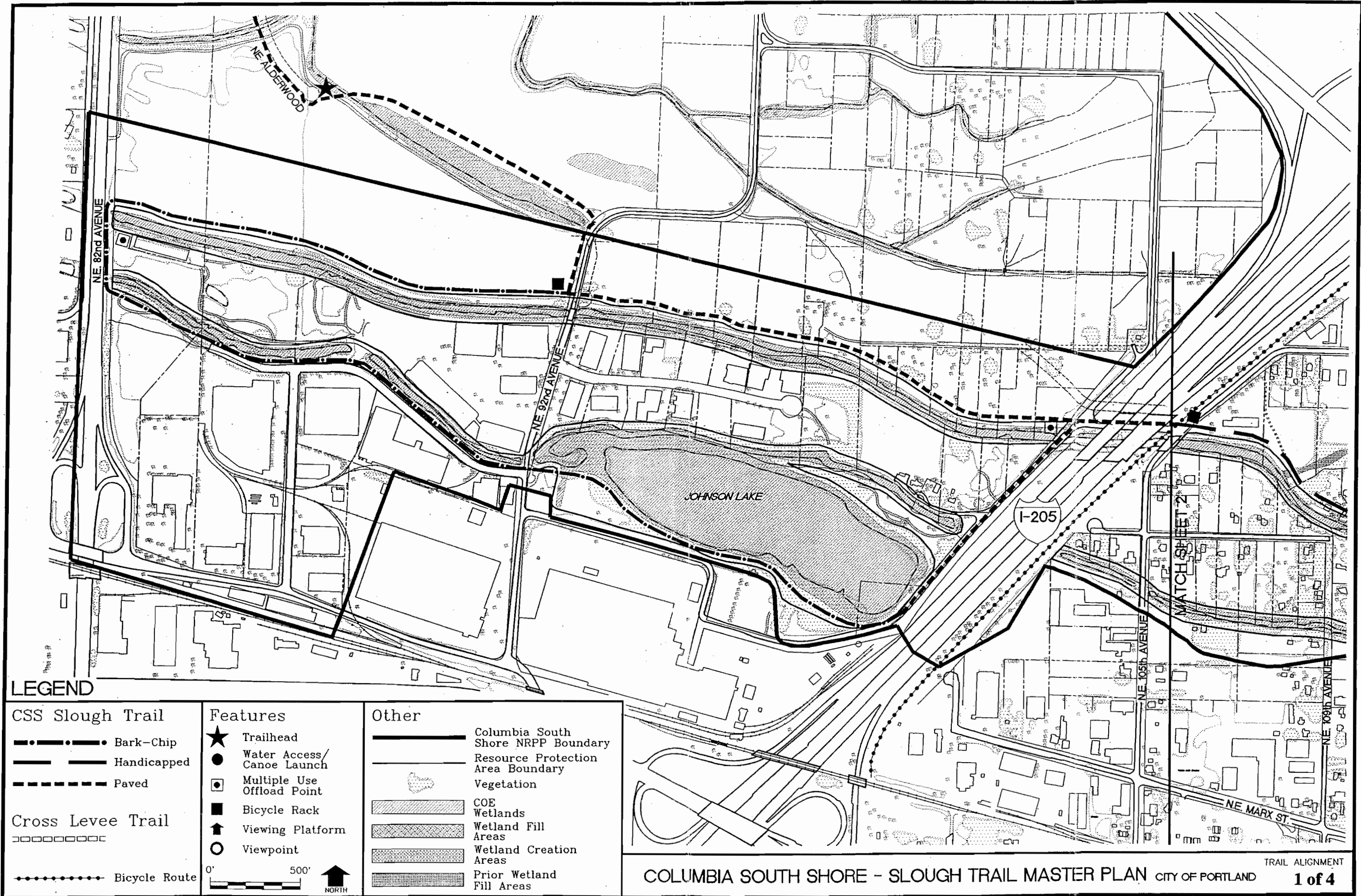
As improvements are made to these streets, the needs of pedestrians on the trail and canoeists on the slough should be considered. Culvert replacement at NE 122nd, NE 148th and NE 158th should allow as much room as possible for canoeists to maneuver through the culverts. While it is possible to get through the culverts that exist now, the space in them is very narrow, dark and unappealing. Sight distances, traffic speed and traffic volume need to be considered where the foot-trail crosses these major streets.

Traffic is particularly heavy on NE 122nd Avenue. According to the City of Portland traffic managers, it is necessary to direct the trail users to the intersection at NE 122nd and Airport Way to cross the street. Pedestrian crossing on 122nd can occur at Whitaker if and when a traffic light is installed. The trail can cross NE 148th and NE 158th at the mid-block points as long as there is adequate sight distance.

Table 1: STREET CLASSIFICATIONS IN COLUMBIA SOUTH SHORE

This table shows the City street designations and pedestrian and bicycle routes. These designations were used to determine if the transportation system would provide adequate pedestrian, bicycle, and vehicular access to the slough trail. The existing bicycle facilities are shown on the *Existing Trail Maps* on the next page. Proposed and existing pedestrian and bicycle facilities appear adequate to provide safe, direct access to the trail. As street improvements are made in the area, design consideration and connections to the trail system will be considered.

Street	AREA TRAFFIC DESIGNATIONS			
	Vehicular Traffic	Transit	Bike	Ped
NE 82nd	Major Trafficway	Major Transitway	—	—
I-205	Regional Trafficway	Major Transitway	Path	Path
NE 105th	—	—	—	Path
NE 122nd	District Collector	Transitway	Route	Path w/ crosswalk
NE 138th	Neighborhood	—	—	—
NE 148th	District Collector	Transitway	Route	Path
NE 158th	Neighborhood	—	—	—
Interlachen (name may change)	Neighborhood	—	—	—
NE 185th	Neighborhood	—	—	—
Marine Dr	Neighborhood	—	Path	Path
Airport Way	Major Trafficway (west of I-205), District Collector (I-205 to 185th)	Regional Transitway (west of I-205), Major Transitway (I-205 to 185th)	Route	Path
Sandy Blvd	Major Trafficway	Major Transitway	Route	Path w/ crosswalk



LEGEND

CSS Slough Trail

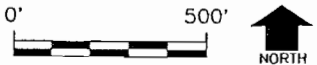
- Bark-Chip
- Handicapped
- Paved

Cross Levee Trail

- Bicycle Route

Features

- Trailhead
- Water Access/Canoe Launch
- Multiple Use Offload Point
- Bicycle Rack
- Viewing Platform
- Viewpoint

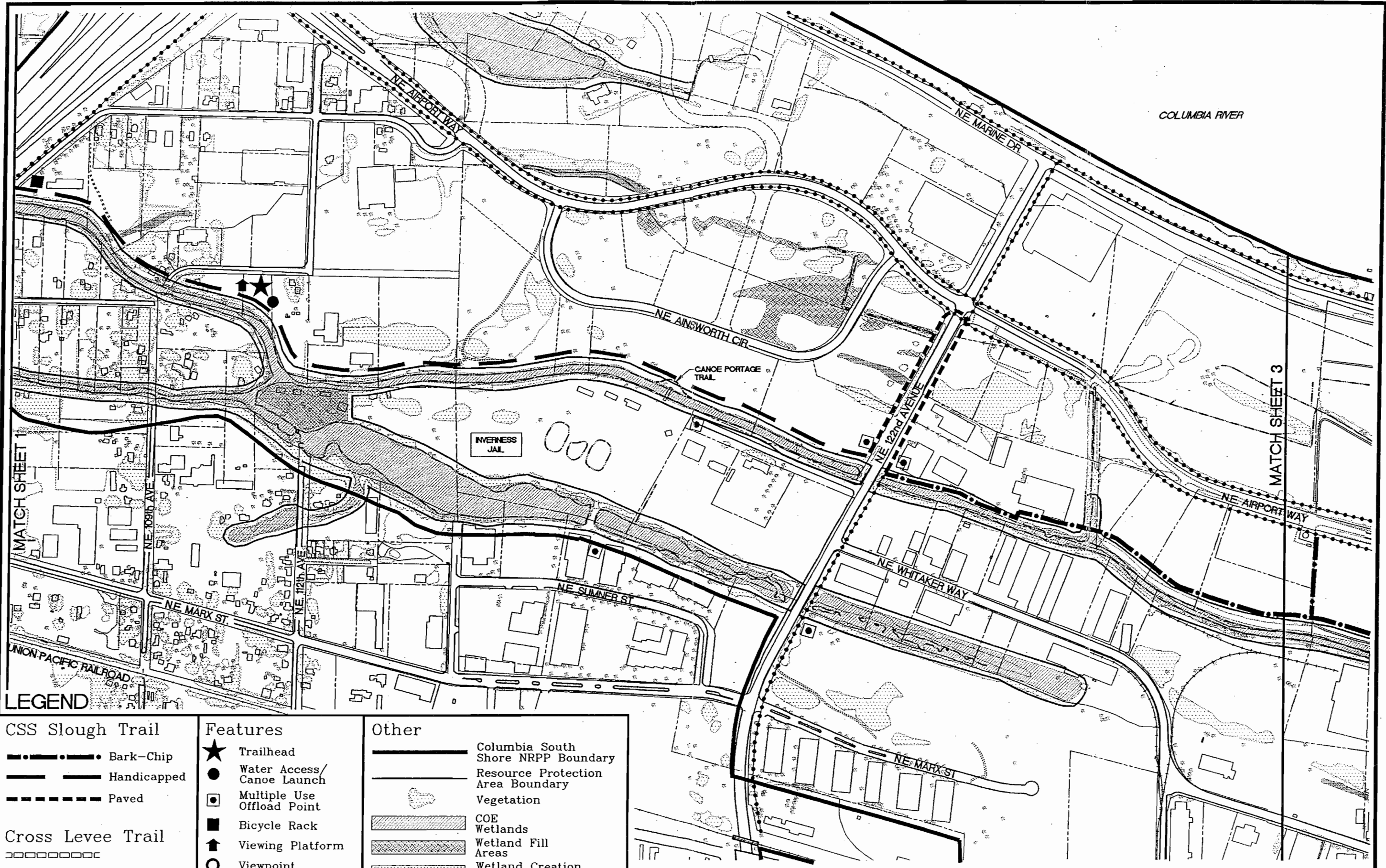


Other

- Columbia South Shore NRPP Boundary
- Resource Protection Area Boundary
- Vegetation
- COE Wetlands
- Wetland Fill Areas
- Wetland Creation Areas
- Prior Wetland Fill Areas

COLUMBIA SOUTH SHORE - SLOUGH TRAIL MASTER PLAN CITY OF PORTLAND

TRAIL ALIGNMENT
1 of 4



LEGEND

CSS Slough Trail

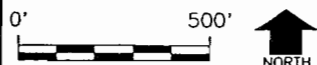
- Bark-Chip
- — — — — Handicapped
- - - - - Paved

Cross Levee Trail

-
- Bicycle Route

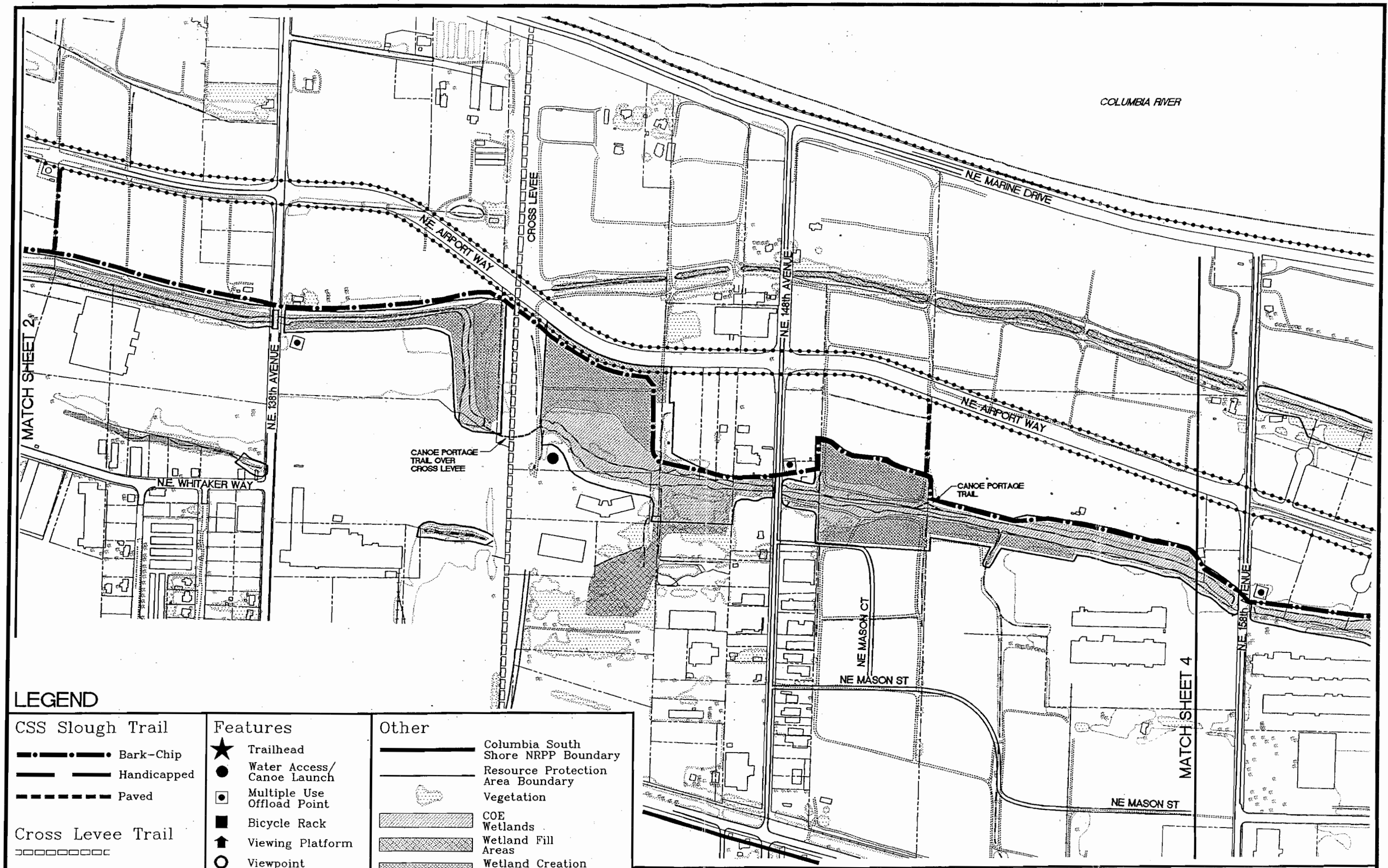
Features

- ★ Trailhead
- Water Access/Canoe Launch
- Multiple Use Offload Point
- Bicycle Rack
- ↑ Viewing Platform
- Viewpoint



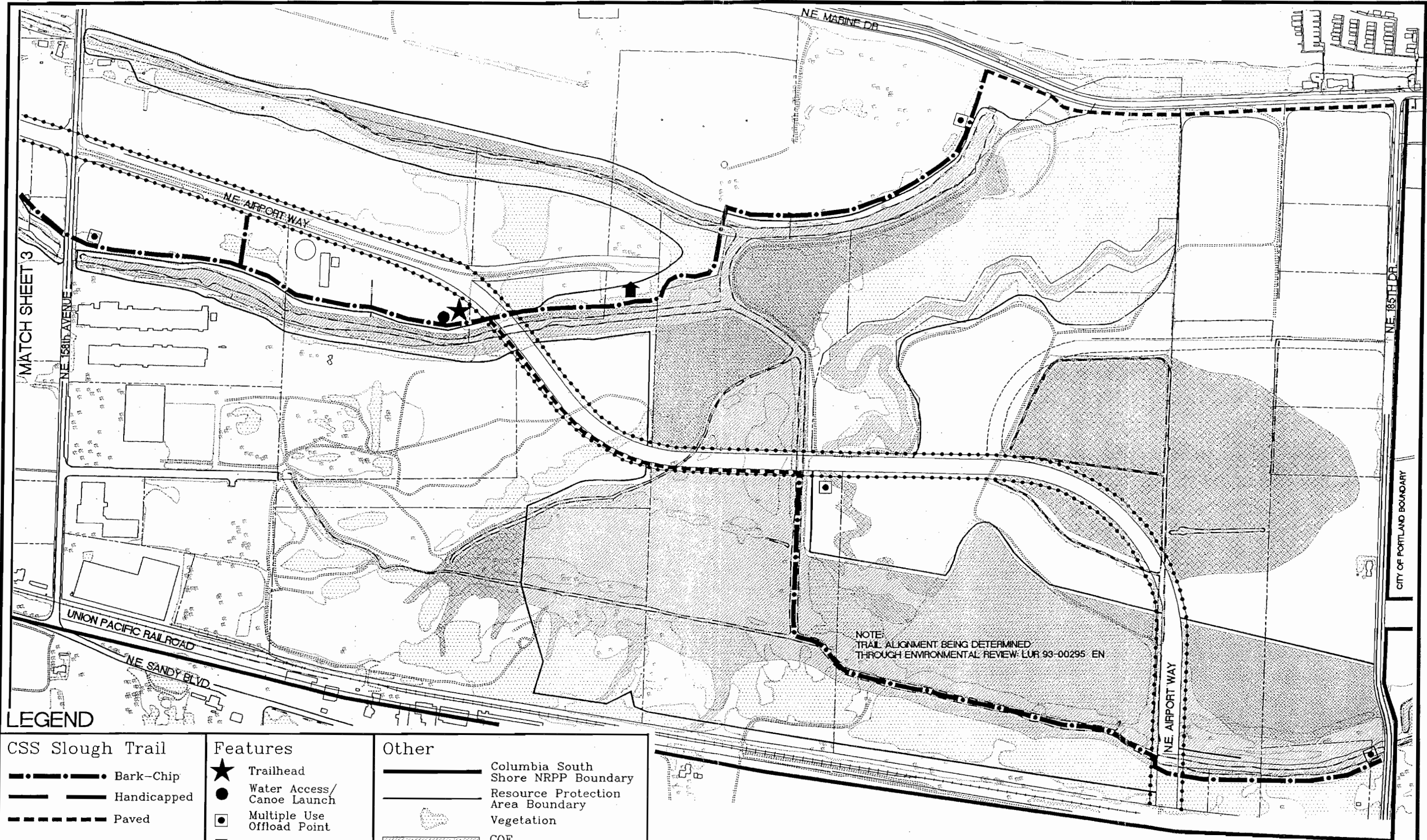
Other

- Columbia South Shore NRPP Boundary
- Resource Protection Area Boundary
- Vegetation
- COE Wetlands
- Wetland Fill Areas
- Wetland Creation Areas
- Prior Wetland Fill Areas



LEGEND

CSS Slough Trail Bark-Chip Handicapped Paved Cross Levee Trail 		Features Trailhead Water Access/Canoe Launch Multiple Use Offload Point Bicycle Rack Viewing Platform Viewpoint		Other Columbia South Shore NRPP Boundary Resource Protection Area Boundary Vegetation COE Wetlands Wetland Fill Areas Wetland Creation Areas Prior Wetland Fill Areas	
Bicycle Route		0' 500' NORTH			



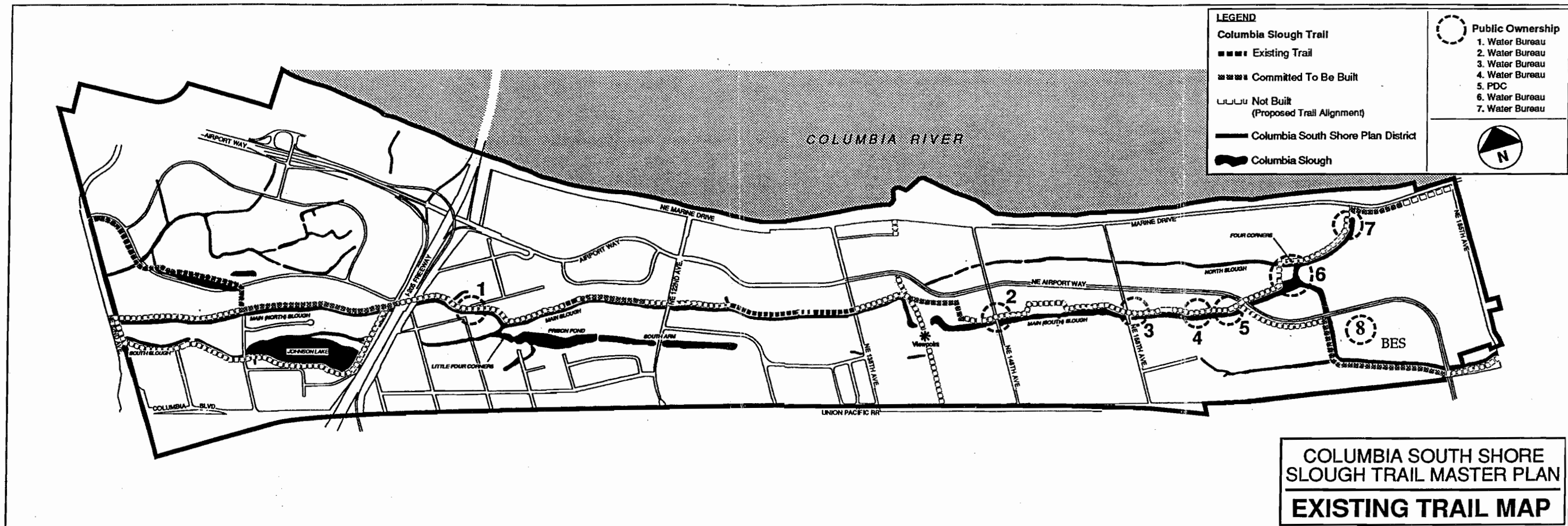
NOTE:
TRAIL ALIGNMENT BEING DETERMINED
THROUGH ENVIRONMENTAL REVIEW: LUR 93-00295 EN

LEGEND

- CSS Slough Trail**
- Bark-Chip
 - Handicapped
 - Paved
- Cross Levee Trail**
- Bicycle Route

- Features**
- ★ Trailhead
 - Water Access/ Canoe Launch
 - Multiple Use Offload Point
 - Bicycle Rack
 - ↑ Viewing Platform
 - Viewpoint
- 0' 500' NORTH

- Other**
- Columbia South Shore NRPP Boundary
 - Resource Protection Area Boundary
 - Vegetation
 - COE Wetlands
 - Wetland Fill Areas
 - Wetland Creation Areas
 - Prior Wetland Fill Areas



Factors in Selecting Trail Alignment

Since 1987, the Columbia Slough Trail alignment has been included on the zoning maps. The trail designation has typically been shown in the center of the slough. As development proposals are submitted, the Bureau of Parks and Recreation has determined whether the trail should go on the north or south bank of the slough. This Master Plan recommends a specific alignment based on the following factors which were considered in siting the trail and its support facilities. These factors include resource protection, resource interpretation, handicapped accessibility, existing and future connections with the area transportation system and 40 Mile Loop Trail, and the need for safe pedestrian street crossings.

The major factor in siting the trail was the need to protect the natural resources in the area. It was also the main reason for determining that the trail should be limited to pedestrians. Paving the path and introducing cyclists to the area would encourage use which could be detrimental to the wildlife of the area and create safety conflicts between cyclists and pedestrians. Furthermore, the 6-foot trail width had been previously decided in 1987. A 12-foot wide path is the commonly used City standard for bicyclists and pedestrians. A wider trail would increase the construction costs and decrease habitat area.

While the trail is intended to expose people to the natural environment and provide views of the slough, its habitats and wildlife, it generally avoids sensitive resource areas by routing pedestrians away from those areas. Viewpoints and overlooks are proposed in four locations to provide views into the slough habitat areas. The trail was also sited to accommodate the requirements of the Americans with Disabilities Act (ADA). The ADA recommendations presently being developed by the Department of the Interior suggest that approximately one-third of all trails be accessible to wheelchair users. This can be accomplished on this project by incorporating a paved bike trail portion and modifying a section of soft surface trail by constructing it to slightly different standards. Most of the trail is flat enough to allow wheelchair use on any portion of it that users desire.

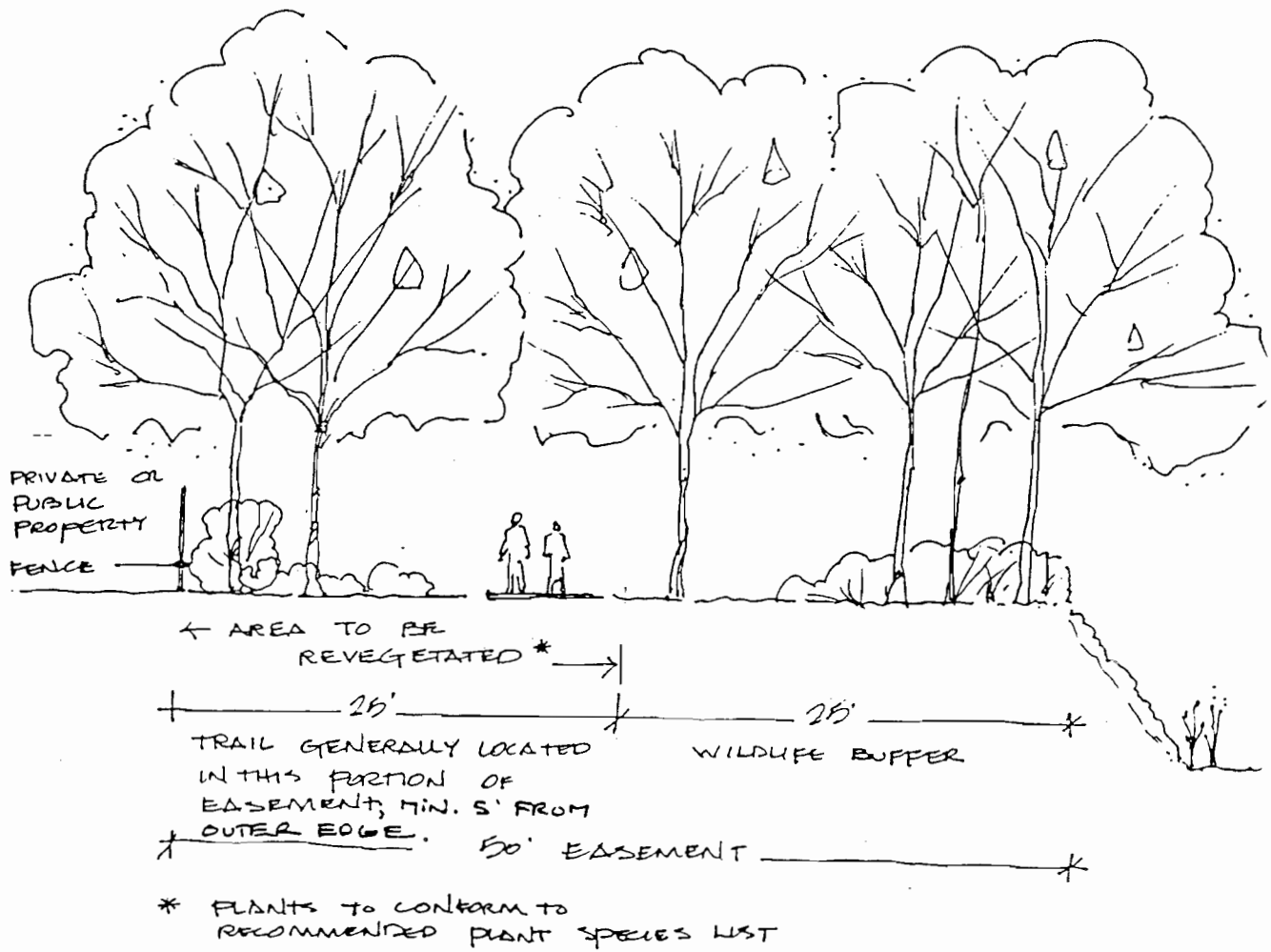
Because of the need to protect the slough and related resources, documented through the City's Goal 5, environmental inventory and analysis of the Columbia South Shore area, the Slough Trail is to be located in the outer 25 feet of the environmental zone. It may be necessary for it to go closer to the slough from time to time to connect to existing trails. Trailheads are located specifically and schematic plans have been prepared (See Chapter Five). However, it is recognized that the locations of the trailheads may change from those shown on the Trail Alignment Maps to incorporate the trailheads into the off-load facility sites. Such a joint use of a public facilities would lower construction and maintenance costs. There may be opportunities for other joint uses of facilities as the area develops.

The 25-foot section closest to the Columbia Slough will remain undisturbed except for habitat improvements and locations where the trail needs to connect to existing trail segments in the conservation zone. The trail will be located within the 25-feet closest to the development except, as stated above, when the trail needs to connect to an existing trail or to access overlooks and water access points, which will provide additional areas of interest. Within that portion of the easement, the trail will be sited to meander through the area, with the stipulation that it be a minimum of 5 feet from the outer edge of the easement. Straight lines should be avoided and the trail should wind through the trees, offering occasional views of the slough and its associated habitat.

In order to more fully protect habitat areas, this Master Plan makes three specific changes to the trail designation. The three changes delete sections of the trail at Prison Pond and Four Corners. Other map changes are intended to locate the trail more precisely.

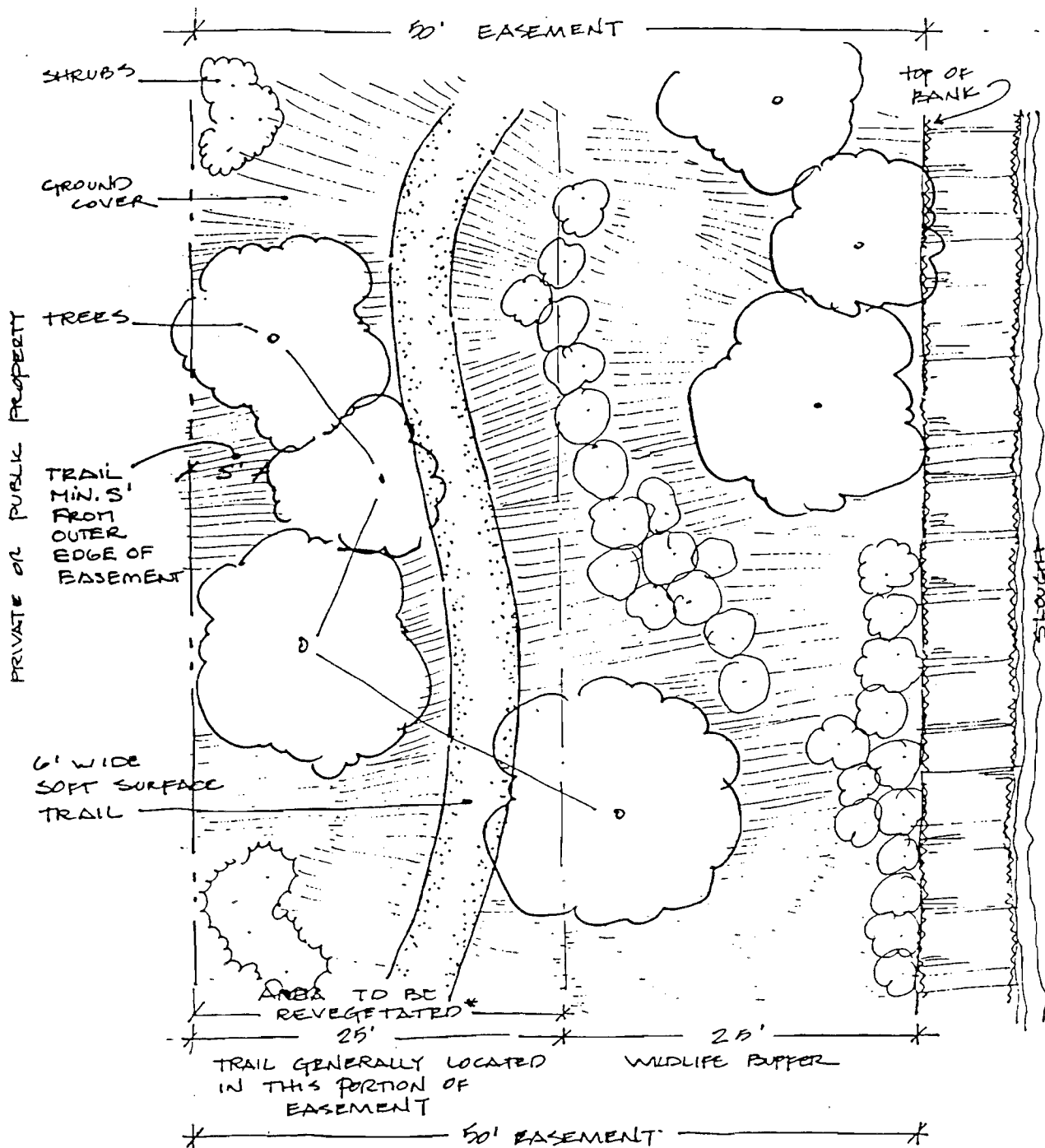
Sequence of Trail Improvements

The *Estimated Trail Completion Map*, page 32 shows the estimated completion dates of various trail segments. This map was prepared to help determine when support facilities would be needed and which properties represent potential “gaps” in the trail system. It is based on known preliminary development plans and assumptions about when various properties will develop.



CONSERVATION EASEMENT - Section

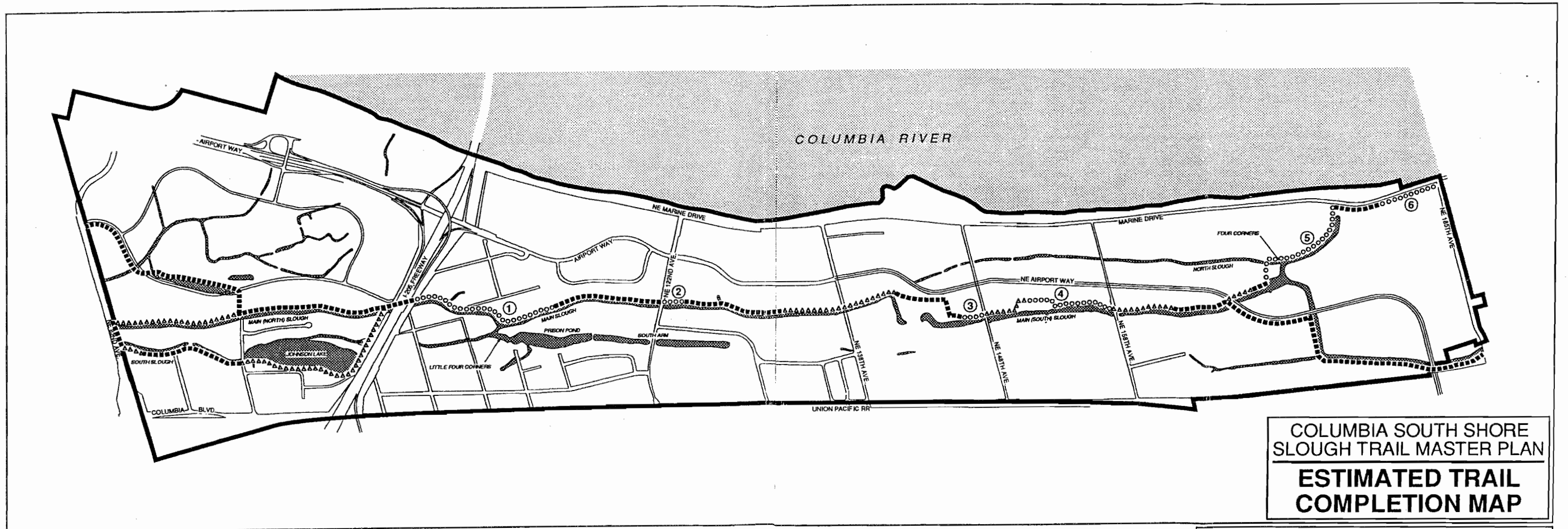
EXAMPLE OF RELATIONSHIP BETWEEN HABITAT CONSERVATION AREA & TRAIL EASEMENT.



* PLANTS TO CONFORM TO RECOMMENDED PLANT SPECIES LIST

CONSERVATION EASEMENT - Plan

EXAMPLE OF RELATIONSHIP BETWEEN HABITAT CONSERVATION AREA & TRAIL EASEMENT.




**COLUMBIA SOUTH SHORE
SLOUGH TRAIL MASTER PLAN**

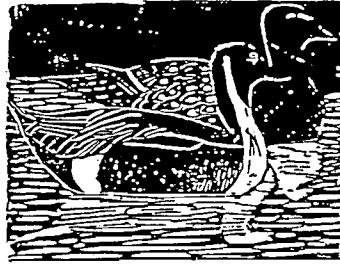
**ESTIMATED TRAIL
COMPLETION MAP**

LEGEND

Trail Phasing Plan (Estimated Completion Dates)

- Trail Built or Expected to be Built by 1995
- ▲▲▲▲ Trail Completed by 2000
- Trail Completed by 2005 (1. 2800 ft., 2. 700 ft., 3. 250 ft., 4. 1800 ft., 5. 2625 ft., 6. 1125 ft.)
- Columbia South Shore Plan District
- ▨ Columbia Slough





**CHAPTER FOUR: PROPERTY OWNER
/ DEVELOPER
TRAIL REQUIREMENTS**

- Legal Basis for Trail Requirement
- Bureau of Planning's Role
- Summary of Trail Development Process
- Trail Development Regulations
- Security
- Liability

TRAIL REQUIREMENTS FOR PROPERTY OWNERS / DEVELOPERS

Throughout the City, when a property includes a “recreational trail” zoning designation, the owner/developer is required to dedicate a recreation trail easement and build a trail to City standards as the property is developed. This chapter describes the legal policy basis for these requirements and summarizes the trail requirements.

Legal Basis for Trail Requirement

The recreation trail designation was adopted as a part of the City’s Comprehensive Plan in 1980. The recreation trails serve multiple purposes which are listed below and excerpted from Section 33.272.010 of the zoning code.

- Increase recreational opportunities within the City of Portland and connect these recreational opportunities with a regional recreational trail system;
- Increase public access along the Willamette River and to other significant natural resource areas;
- Provide emergency vehicle access;
- Provide access to increase public safety;
- Assist in flood protection and control;
- Assist in shoreline anchoring;
- Supports alternative modes of transportation;
- Provide connections to other transportation systems;
- Implement the City's Comprehensive Plan policies regarding public recreational trails;
- Help create a pleasant, aesthetically pleasing urban environment; and
- Provide consistent standards for trail development.

In the Columbia South Shore the requirement for trail construction went into effect in 1987 following annexation of the area and adoption of the Columbia South Shore Plan District, City Zoning Code Chapter 33.515. This Master Plan makes no changes to the basic requirement for the trail adopted in 1987. It does refine the trail location, construction standards, and procedures. The proposed code changes are shown as Exhibit A in the accompanying report from the Planning Commission to the City Council. The adopted code language in the zoning code under Chapters 33.515, Columbia South Shore Plan District and Chapter 33.272, Public Recreational Trails and included in the master plan (see pages 37-41). The zoning code should be referred to for the most up to date requirements trail requirements.

Bureau of Planning’s Role

The Bureau of Planning is responsible for implementing the City’s zoning code. The code requires that trail segments be constructed or a contribution to the trust fund be made as a condition of a development, as part of a land use or building permit approval. The trail requirements are set forth by the Columbia South Shore Plan District regulations.

Portland Parks and Recreation's Role

Portland Parks and Recreation has assisted in developing this plan and will be the primary agency responsible for the public improvements and support facilities needed for the trail. Portland Parks and Recreation, Design and Construction Unit has developed the trail standards and are available to discuss questions about the trail standards and or plan. The Columbia South Shore Recreational Trail Trust Fund provides a method for accepting and dedicating funds for the Slough Trail construction in the Columbia South Shore Plan District and an alternative to constructing the on-site trail segment. The trust fund is administered by the Portland Parks and Recreation. Funds and easements are submitted to the Portland Parks and Recreation. As sufficient funds and easements accrue in the trust fund, the Parks Bureau will use the funds to build segments of the trail system. Portland Parks and Recreation will review trail plans when they are reviewed through a Type II or III quasi-judicial review process. Portland Parks and Recreation has the responsibility for providing the majority of the support facilities plus future maintenance of the trail and support facilities. These responsibilities are elaborated in Chapter Five.

Summary of Trail Requirements

The next section summarizes the trail requirements and the City's review and permitting process. It is followed by the regulations that will guide the trail's use, construction, and maintenance.

TRAIL REQUIREMENTS SUMMARY

Code sections referenced are on the following pages.

<i>Trail Requirement</i>	All sites with a public recreational trail symbol shown on the Official Zoning Maps must construct the trail or contribute to the trust fund as a condition of any building permit or land use review. (Reference 33.515.260, <i>Public Recreation Trails</i>).
<i>Trail Easement</i>	As a condition of any building permit or land use review a 25-foot wide trail easement is to be given to the City to allow public access.
<i>Trail Standards</i>	There are 3 different trail standards. The Trail Alignment Maps (pages 27-30) indicate the applicable standard. The majority of the Slough Trail system will be a 6- foot wide bark chip covered trail (see page 19 for construction standard detail). Designated handicapped accessible segment from I-205 to NE 122nd requires a special wood fiber surface (construction standard available from the Bureau of Parks and Recreation).
<i>Trail Location</i>	The trail is to be built within the outer 25 feet of the environmental zone closest to development unless it needs to connect to an existing trail or as it is shown on the zoning map if it is out of an environmental zone.
<i>Project Review</i>	Trail plans are reviewed as building plans and submitted at the Permit Center. Environmental review may apply; see Chapter 33.430.

Other Considerations

<i>Trust Fund or Deeded Land</i>	Owners may opt to contribute to the <u>Columbia South Shore Recreational Trust Fund</u> (Reference 33.515.260.B(2)(a)) or to deed the land (Reference 33.272.080).
<i>Trail Maintenance</i>	Trail maintenance is the property owner's responsibility unless responsibility is accepted by the City. (Reference 33.272.070).
<i>Cross-Levee</i>	Cross-Levee trail improvements are <i>not</i> required of the adjacent property owners. Only a trail easement and provisions for access to the trail are required. (Reference 33.515.260.C).
<i>Adjustments</i>	Owners may request that the trail be located out of the 25 foot outer easement area with an adjustment review. (Reference Chapter 33.805).
<i>Questions</i>	Permit Center, Bureau of Planning telephone: 823-PLAN

TRAIL DEVELOPMENT REGULATIONS

This section contains the development regulations for the trail portion to be built by private development. The trail development regulations for the Columbia South Shore Slough Trail and the Cross-Levee Trail Recreation Trail are based on two chapters of the City of Portland Zoning Code; the Columbia South Shore Plan District, Section 33.515.260 and the Public Recreational Trails, Chapter 33.272. The regulations describe when and how the trail is to be used, built, maintained, and the trail construction options that exist. The trail standards and permit process will help to achieve a trail system that will allow employees of the area and residents of Portland an area-wide pedestrian circulation system and access to the Columbia Slough.

I. Columbia South Shore Plan District, Public Recreational Trails (Section 33.515.260)

A. Public recreational trail requirements. All sites with a public recreational trail symbol shown on the Official Zoning Maps must comply with the requirements of Chapter 33.272, Public Recreational Trails except those in the Columbia South Shore Slough Trail area or Cross-Levee Trail area. Sites in these areas, shown on Map 515-2, must also comply with the regulations of this section. If the trail is located within the Environmental zones, the trail must also comply with those requirements.

B. Columbia South Shore Slough Trail.

1. Columbia South Shore Slough Trail area. The recreation trail designations that apply to the Columbia South Shore Slough Trail are shown on Map 515-2 at the end of this chapter.
2. Columbia South Shore Slough Trail requirement. Prior to occupancy of any new or remodeled structure on a site containing a trail designation, the owner must either make the full trail improvement or pay into the Columbia South Shore Recreational Trail Trust Fund with one exception: a property owner must build the trail at the time of development if both ends of their trail segment connect with another built trail or public right of way. The chosen option must be indicated on the building permit. If the trail improvement option is chosen, the trail location and construction specifications must be shown on the site plans.
 - a. Trust fund option. The Columbia South Shore Recreational Trail Trust Fund provides a method for accepting and dedicating funds for the Slough Trail construction in the Columbia South Shore Plan District and an alternative to constructing the on-site trail segment.
 - (1) Trust fund administration and contribution. The trust fund is administered by Portland Parks and Recreation. As sufficient funds accrue in the trust fund, the Parks Bureau will use the funds to build segments of the trail system. The trust fund contribution is based on the trail development costs formula determined by the Parks Bureau.

- (2) Cap on trust fund contributions. If the trail costs more than one percent (1%) of an improvement project planned for the site, the trust fund contribution is based on one percent of the project cost. Trust fund contributions and total project costs are each cumulative from April 7, 1987. "Cumulative" means that all trust fund contributions from that date and all project costs from that date are included in the calculation. If the total trust fund contribution for a site reaches the amount of the trail construction costs, then no further trust fund contributions are required.
 - (3) Timing of contributions. Contributions to the trust fund can be made either at the time of development or in advance of development. A property owner must show that the trust fund contribution and easement have been given to the City before a building permit will be issued.
- b. Developed sites without the trail. The Bureau of Parks and Recreation will construct the trail on sites previously developed without the trail when the following conditions are met:
- (1) The property owner has granted a trail easement to the City, and either (2) or (3) below are met.
 - (2) The trail development costs have been paid into the trust fund at the time of the easement dedication; or
 - (3) The property owner has agreed to repay the trust fund for the trail development costs when the property redevelops. A property owner must accept a lien on the property to secure repayment costs. Repayment is required before any building permit requiring the trail is issued. The repayment is based on the trail development costs formula determined by the Bureau of Parks and Recreation.
- c. Trail and easement location.
- (1) In environmental zones:
 - The location of the trail or easement is subject to environmental review;
 - If a trail or easement exist on an adjacent site, the trail and easement must connect to them;
 - If there is not an easement or trail on an adjacent site, the easement must be located in the outer 25 feet of the environmental zone. The trail improvement must be at least 5 feet from the outer edge of the environmental zone. See Figure 515-1.
 - (2) In all other zones: The trail route must be as shown on the Official Zoning Maps.

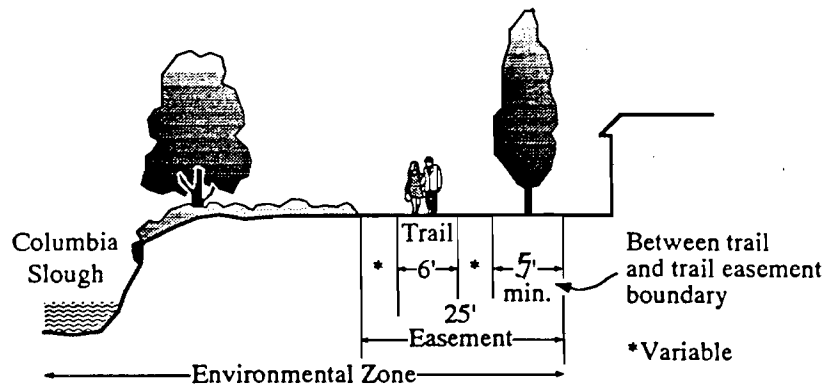


Figure 515-1.
Columbia South Shore Slough Trail and Easement Location

C. Cross-Levee Recreation Trail easement. The Cross-Levee public recreation trail is shown on the Official Zoning Maps and on Map 515-2 at the end of this chapter. The requirement for a trail does not apply to the Cross-Levee Recreation Trail but the requirement for an easement does apply. (See Section 33.272.020).

D. Other recreation trails. Other recreation trails are regulated by Chapter 33.272.

II. Public Recreational Trails, Chapter 33.272

Purpose, Section 33.272.010 (Refer to Purposes listed under *Legal Basis for Trail Requirement*, page 34).

The public recreational trail requirements are intended to:

- Increase recreational opportunities within the City of Portland and connect these recreational opportunities with a regional recreational trail system;
 - Increase public access along the Willamette River and to other significant natural resource areas;
 - Provide emergency vehicle access;
 - Provide access to increase public safety;
 - Assist in flood protection and control;
 - Assist in shoreline anchoring;
 - Support alternative modes of transportation;
 - Provide connections to other transportation systems;
 - Implement the City's Comprehensive Plan policies regarding public recreational trails;
 - Help create a pleasant, aesthetically pleasing urban environment; and
 - Provide consistent standards for trail development.
- **Dedication of a Public Right-Of-Way or Easement (33.272.020)**
 All applicants for a land use review or for building permits on lands designated with a recreational trail symbol on the zoning map are required to grant an easement for the recreational trail. The easement must be done as part of recording a land use review and finalized prior to obtaining a final certificate of occupancy. The land may be donated to the City instead of granting an easement when the standards of Section 33.272.080 are met. Trails shown adjacent to public rights-of-way may be constructed in the public

- **Construction of Trail, Trail standards. (33.272.030(G))**
A public recreational trail must comply with City construction standards for recreational trails. (*Note: See Chapter 3 for construction standards*).
- **Use of Trail (33.272.040)**
Public use and conduct on the recreational trail are subject to the regulations in Chapter 12, Prohibited Conduct, of Title 20, Parks and Recreation; and Chapter 50, Columbia South Shore Slough Trail of Title 20 except as otherwise limited by the terms of an easement between the applicant and the City.
- **Hours of Use (33.272.050)**
The recreational trail and access paths must be open to the public between the hours of 5 a.m. and 10 p.m., except as otherwise limited by the terms of an easement between the applicant and the City.
- **Trespass (33.272.060)**
Nothing in this chapter is intended to authorize public use of private property. Public use of private property is a trespass unless appropriate easements and access have been acquired.
- **Trail Maintenance and Liability (33.272.070)**
 - A. **City maintenance.** The City will accept maintenance and liability, similar to its responsibilities for City-owned park property, for a recreational trail segment if the City Engineer or Director Portland Parks and Recreation finds all of the following:
 1. The applicant requests that the City assume the responsibilities;
 2. The trail lies within an easement or right-of-way granted to the City for trail purposes;
 3. The trail has been constructed to City standards;
 4. The trail is physically continuous for at least 1/4-mile along the designated route. This requirement will be waived if the trail has not been made part of a physically continuous segment of at least 1/4-mile within 2 years after completion of the segment under consideration; and
 5. If the applicant desires to use a private security force to patrol the trail area, the owner has signed an agreement holding the City harmless from all claims, suits, or actions of any nature, caused or arising out of the actions of the private security force, its subcontractors, agents, or employees.
 - B. **Applicant maintenance.** The applicant retains maintenance and liability responsibilities unless these responsibilities are accepted by the City. Where the applicant retains maintenance and liability responsibilities, the trail segment must be maintained at a level at least equal to those segments maintained by the City.

- **Standards for City Acceptance of Deeded Land (33.272.080)** The land may be donated to the City instead of granting an easement if the following standards are met:
 - A. The trail is constructed and meets the City's trail construction standards or the trust fund option described under Subsection 33.515.260.B. has been applied.
 - B. The property owner meets the hazardous substances standards in the City's standard trail easement agreement.

Security

Security issues such as emergency access to the trail and security of adjacent properties have been considered. The Police Bureau has reviewed the conceptual trail plan and feels there are enough places to access the trail for emergencies without special provisions.

Concern about possible security problems such as vandalism and break-ins that may occur to businesses along the trail have been considered. The main concern of property owners is that criminals will use the trail as a convenient way to get to and from an area. The Portland Police Bureau conducted an informal survey of the Columbia South Shore businesses *with constructed trail sections*. It showed that those businesses have had no problems and do not expect any problems when the trail system is expanded.

The City of Seattle conducted a detailed analysis on the effect of the 12-mile Burke-Gilman Trail on property values; and crime in the residential neighborhoods it serves. The study found that property values increased and there were fewer than two crime-related incidents during any given year over the eight-year history of the trail.² Just 1.3 percent of the residents adjacent the trail experience crime related incidents in an average year. A project similar to the Slough Trail is being built in an industrial area of Seattle because of the positive results and popularity of the Burke-Gilman Trail.

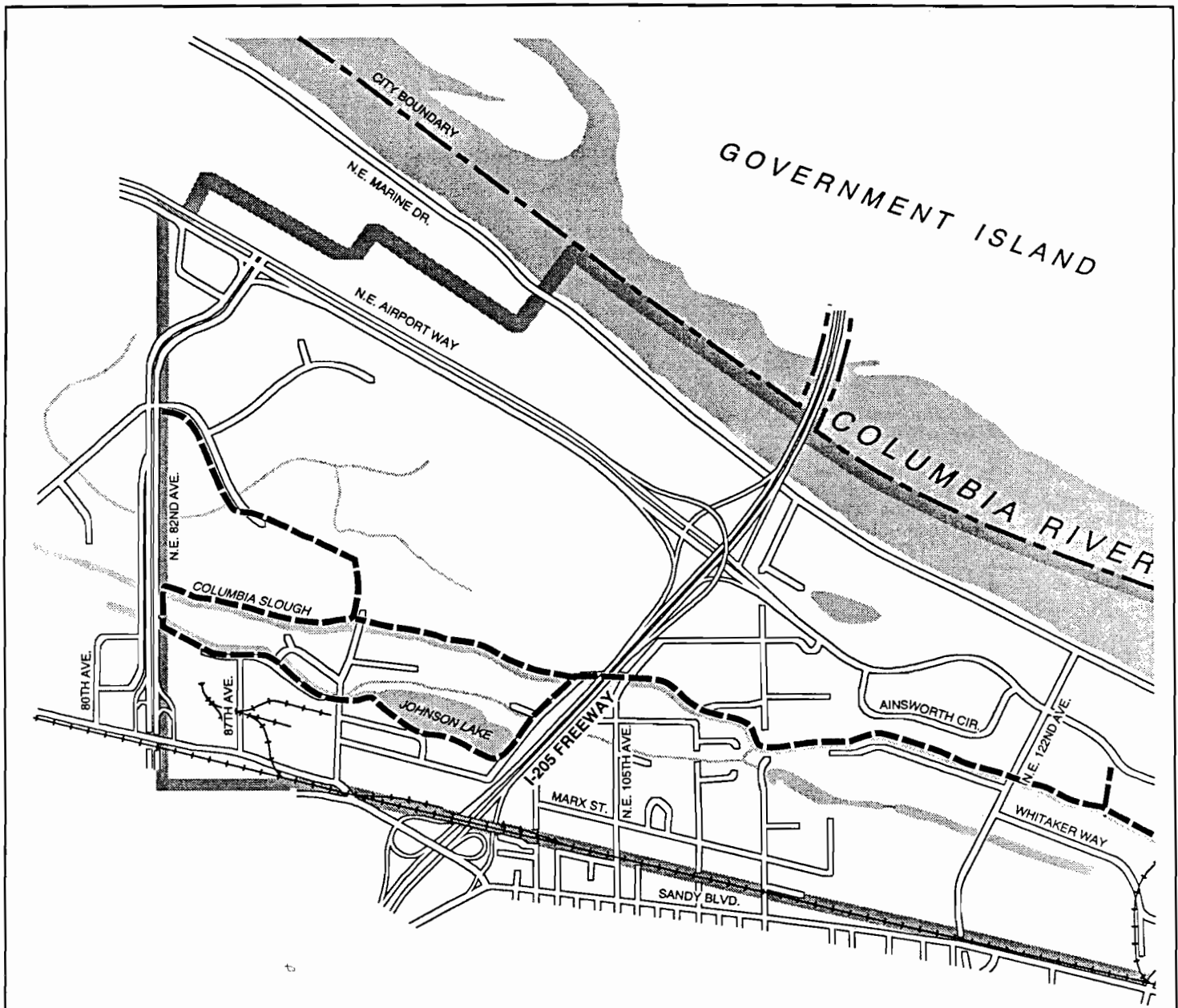
Recommendations on Security Concerns

Area businesses are encouraged to contact the crime prevention specialist at the East Portland District Coalition office (256-0014) to solve specific security problems. A number of security methods may be employed, depending on the scope of the problems. Current information on fencing, gate systems, locking devices, and lighting can be provided to interested businesses. Businesses may also wish to organize with area business associations to address common problems.




Liability

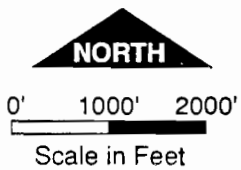
The City will assume liability if the conditions of Section 33.272.070 above are met.

2. Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime. Seattle Engineering Department, Office of Planning, May, 1987.



LEGEND

-  Columbia South Shore Slough Trail
-  Cross-Levee Recreation Trail
-  Columbia South Shore Plan District






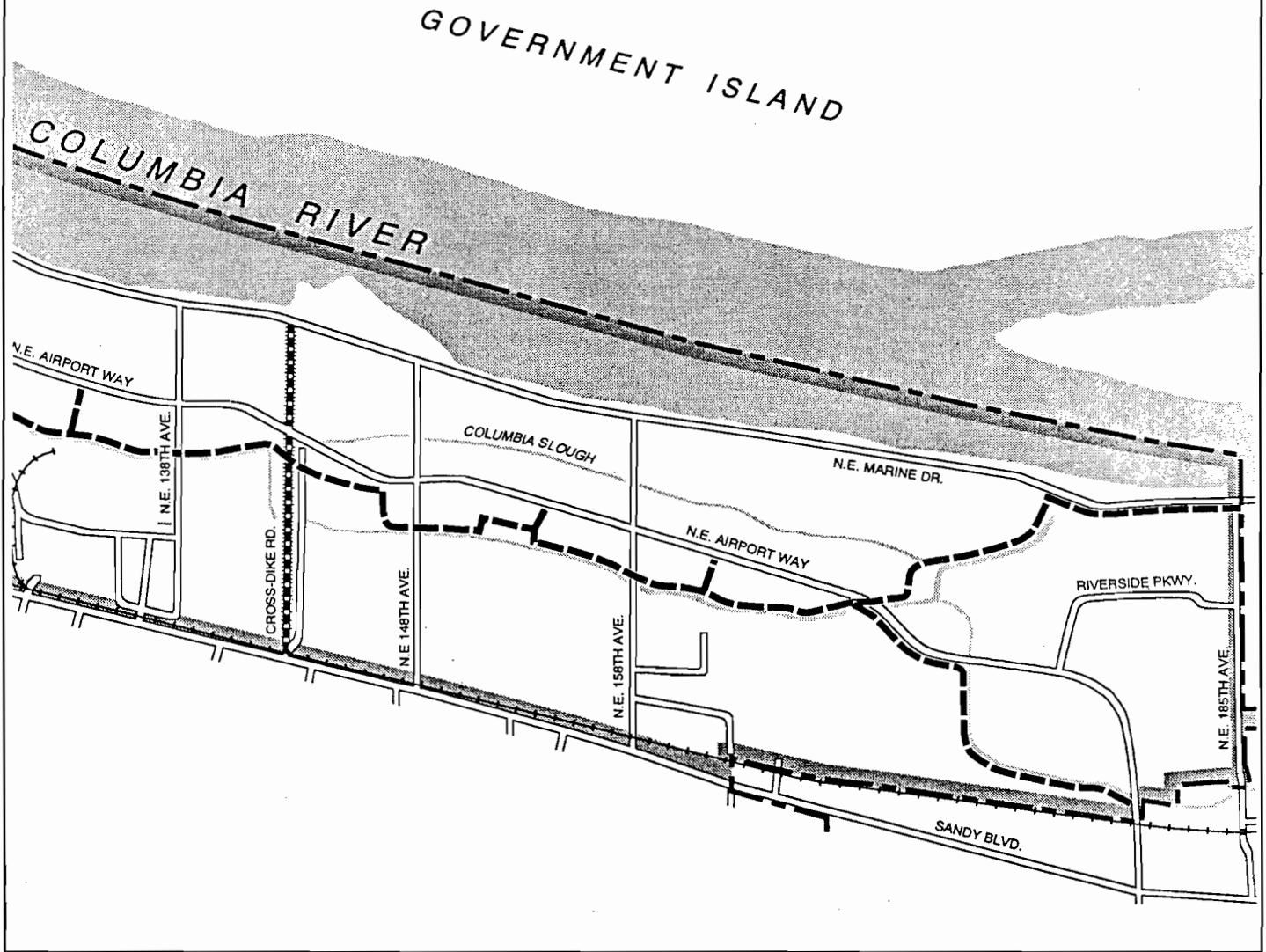
Map 515-2

Columbia South Shore Slough Trail

Map 1 of 2

LEGEND

-  Columbia South Shore Slough Trail
-  Cross-Levee Recreation Trail
-  Columbia South Shore Plan District



0' 1000' 2000'
Scale in Feet

Map 515-2
**Columbia South Shore
Slough Trail**

Map 2 of 2



**CHAPTER FIVE: TRAIL SUPPORT FACILITIES -
BY PUBLIC / COMMUNITY**

- Trail Facilities
- Portland Parks and Recreation's Role
- Responsible Agency Matrix

TRAIL SUPPORT FACILITIES - BY PUBLIC / COMMUNITY

This chapter describes those trail improvements that are not required of private property owners. The City zoning code requires construction of the trail itself as a condition of private development. However, the “support” facilities are more appropriately funded and built by public agencies and/or community groups. They include trailheads and viewpoints, canoe launch areas, interpretive facilities, signing, footbridges, culverts, and connecting trail segments.

The task of managing and coordinating trail development is assigned to the Bureau of Parks and Recreation. A matrix of responsibilities and estimated completion dates is provided for support facilities and connecting trail segments.

Trail Facilities

To make the recreation experience pleasant, enjoyable and meaningful instead of just acceptable the 40 Mile Loop Trail includes support facilities, including trailheads, interpretive signage, and canoe access points. These amenities are described below.

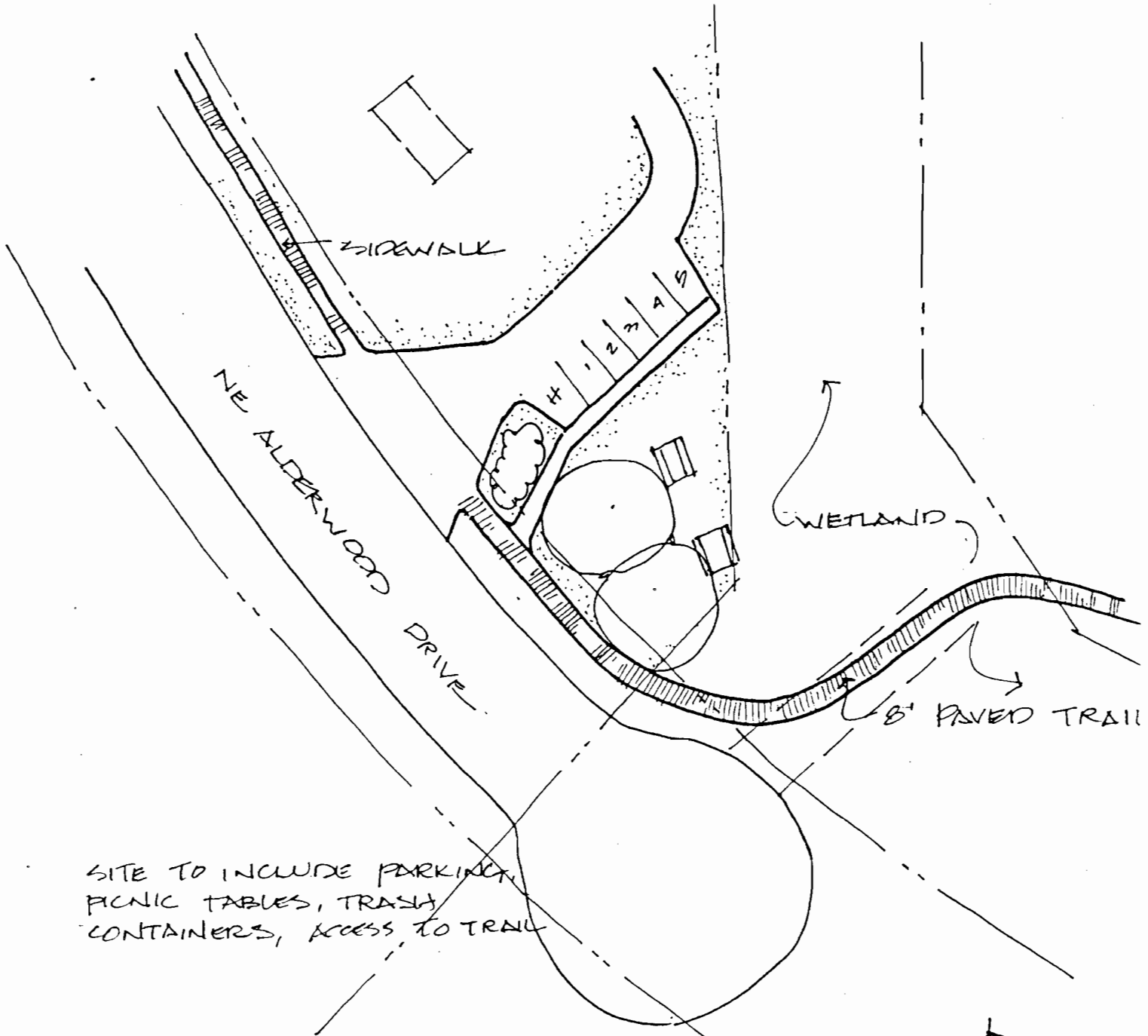
Siting of Trail Facilities

In general, support facilities including such items as trailheads, canoe access points, view points and parking, will be located on public property or with public facilities, to take advantage of existing access to the slough. There are many existing easements and properties owned by agencies such as the Multnomah County Drainage District, the Portland Development Commission, the Port of Portland, the Water Bureau, and the Bureau of Environmental Services. Many of these sites are appropriate for trailheads, canoe access points, and pedestrian access. (See accompanying maps).

Trailheads

Within the 6.7-mile segment of the 40 Mile Loop Trail covered by the Master Plan, there should be at least three trailheads and numerous other access points for pedestrians. This section identifies potential trailhead locations and identifies trailhead design elements. The location of trailheads will depend, in part, on the location of off-load facilities used the Multnomah County drainage District (MCDD). There is an existing trailhead at the Alderwood cul-de-sac east of 82nd Avenue. Other potential trailhead locations are shown on the Trail Alignment Maps and described on page 53. The trailhead and viewpoint locations are described below and shown on the *Trail Alignment & Support Facility Map* at the end of this chapter. In addition, an undeveloped viewpoint exists at the Cross-Levee looking to the east. It is indicated on City zoning maps and a second viewpoint is proposed from I-205 looking east.

- Trailhead 1 is located on Port of Portland property at the end of the cul-de-sac on Alderwood Street, off of NE 82nd, north of the slough. This site will have parking



SITE TO INCLUDE PARKING, PICNIC TABLES, TRASH CONTAINERS, ACCESS TO TRAIL

SCHEMATIC
Not to be used for construction.

N
 1" = 50'
 (DESIGNED BY DAVID EVANS & ASSC)

TRAIL HEAD # 1
 ALDERWOOD WLD. DE SAC, PART OF PORTLAND

**COLUMBIA SOUTH SHORE
 SLOUGH TRAIL MASTER PLAN**

for 6 cars, picnic tables and landscaping. It will have access to the paved portion of the trail which connects to the I-205 bike trail as well as to the east end of the trail at NE 82nd and the Johnson Lake Loop. This trailhead will provide access for handicapped persons.

- Trailhead 2 is on Water Bureau property located on the north side of the slough southwest of the NE 112th and Simpson Street intersection (shown as tax lot 3 of Lot 5, Block 107, Parkrose Addition). This property provides parking for six cars, picnic tables, landscaping, canoe access, viewpoint to the slough and trail access. This section of the trail is not paved but is wheelchair accessible.
- Trailhead 3 is on Portland Development Commission property between Bridge 'A' and Water Bureau property. Because of limited sight distance at the bridge, it will be necessary to cross Water Bureau property to get to the trailhead. The cost of the access road will be included in the trailhead development. Because of the industrial nature of the adjacent Water Bureau facilities, this site will be screened with heavy plantings to block the views west. It will have the same facilities as Trailhead 2 and will provide access to the Four Corners area.
- Cross-Levee Viewpoint is on top of the Cross-Levee within the designated view corridor, on the south side of the slough, with an excellent view of Mt. Hood, the slough and the surrounding area.
- Four Corners Viewpoint is on Water Bureau property just west of the Four Corners area, known for its wildlife and habitat.

Each trailhead will have a specific design for that site, but in general they will all have the following elements in common:

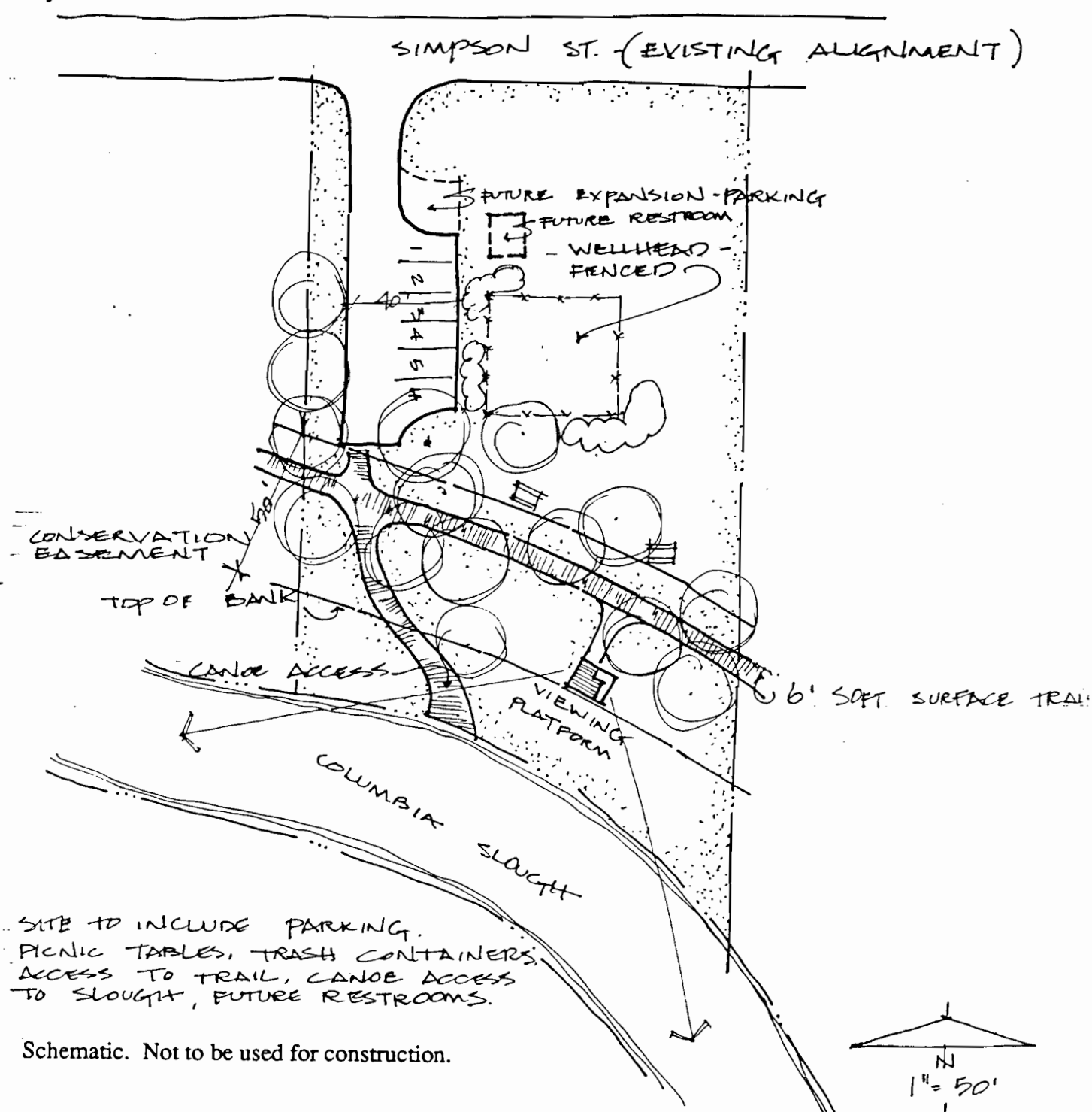
- secure bicycle parking
- parking for five to six cars (one handicapped-accessible)
- picnic tables and trash containers (at least one handicapped-accessible picnic table)
- access to the trail
- informational signing

The trailheads west and east of I-205 and at Bridge 'A' have the potential for canoe access to be provided. As trail use increases and if funding becomes available, restrooms and drinking fountains may be installed at the trailheads.

Parking at the trailheads will be built to City standards and as special conditions require. One parking space will be striped and signed for handicapped-accessibility.

Where desirable and feasible, there will be an overlook at the trailhead providing a view of Columbia Slough and access to the water.

During the public review process of this master plan environmental educators with the Parkrose School District expressed interest in being involved in the site specific trailhead design. It was also suggested that the Audubon Society be contacted for their input.



SITE TO INCLUDE PARKING.
 PICNIC TABLES, TRASH CONTAINERS,
 ACCESS TO TRAIL, CANOE ACCESS
 TO SLOUGH, FUTURE RESTROOMS.

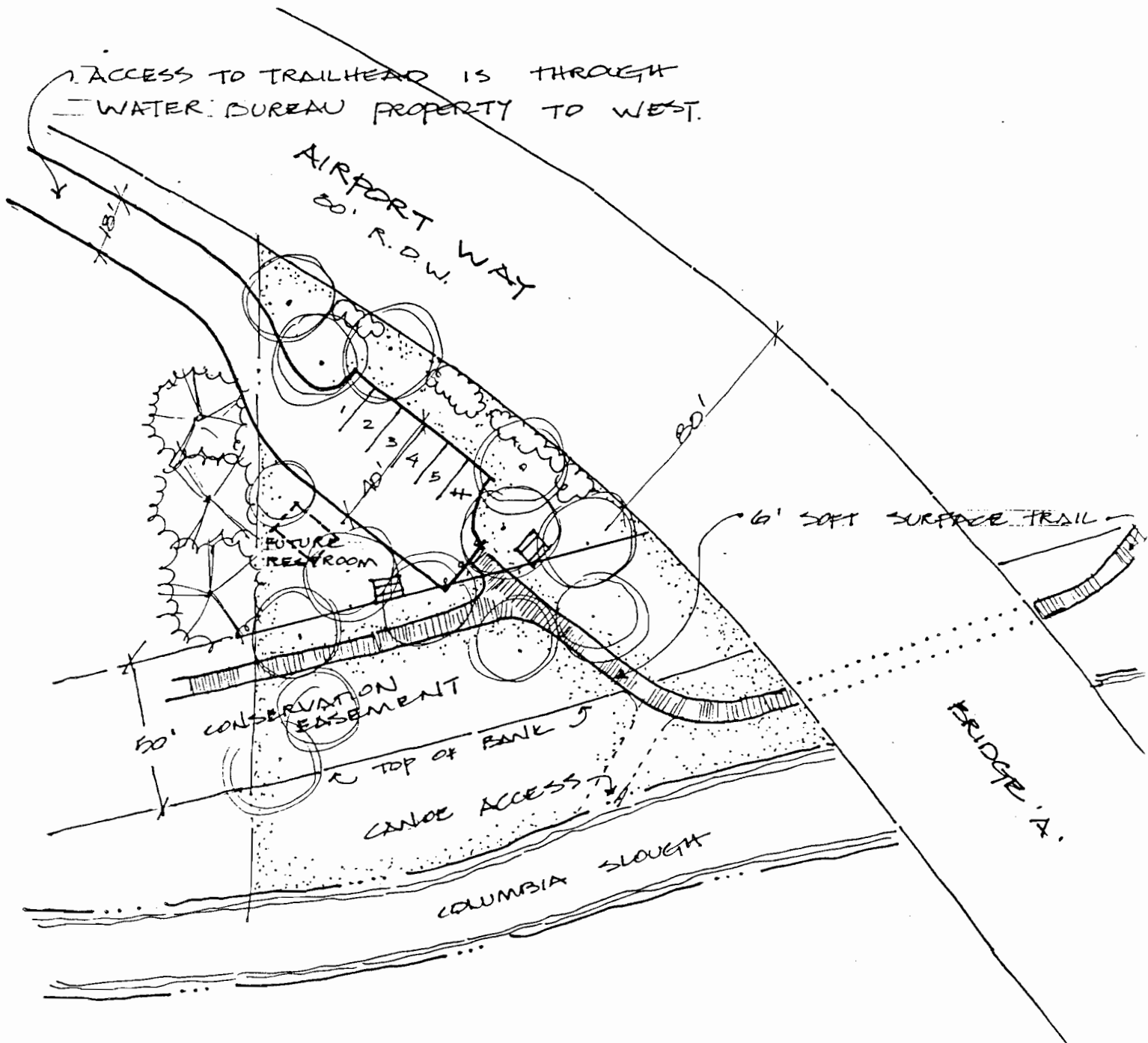
Schematic. Not to be used for construction.

N
 1" = 50'
 DESIGNED BY BUREAU
 OF PARKS & RECREATION

TRAILHEAD # 2

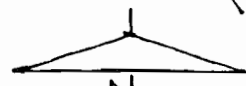
WATER BUREAU SITE IN URBAN REDEVELOPMENT AREA

COLUMBIA SOUTH SHORE SLOUGH TRAIL MASTER PLAN



SITE TO INCLUDE PARKING, PICNIC TABLES, TRASH CONTAINERS, ACCESS TO TRAIL, CANOE ACCESS TO SLOUGH, FUTURE RESTROOMS.

Schematic. Not to be used for construction.



N
1" = 50'

DESIGNED BY BUREAU OF PARKS + RECREATION

TRAILHEAD #13

PORTLAND DEVELOPMENT COMMISSION SITE AT BRIDGE A

COLUMBIA SOUTH SHORE SLOUGH TRAIL MASTER PLAN

Canoe Launch Areas

Areas of the Columbia Slough most feasible and desirable for canoeing have been identified and proposed canoe launch areas have been selected. These are noted on the trail location maps.

Two canoe launch areas are proposed to be at Multnomah County Drainage District (MCDD) off-load sites. These are the staging areas where MCDD will load and unload equipment for their water-based maintenance activities. The sites will not have the developed facilities found at the trailheads, but they could provide two or three parking spaces and access to the water. These areas can also be used by other trail users for access to the water.

Canoe Portage Trail

There are two points along the slough where it is necessary to portage a canoe. One location is over the Cross-Levee (located east of NE 138th) and the other location is between NE 148th and NE 158th where there is a pipe.

Interpretive Facilities

The natural areas and created wetlands surrounding the Slough Trail provide an abundance of subjects for interpretation. This section of the Columbia Slough has many unique qualities including a forested wetland at the Four Corners area, a high diversity of bird species at Prison Pond, Great Blue Heron feeding areas, and exposed portions of the underlying geology known as the Troutdale Formation. Explanation of the natural surroundings will increase the quality of the trail experience and heighten the trail user's awareness of the area environment. The primary interpretive emphasis will be on the wildlife and habitats of the area. Other valuable interpretive information would include the geology, cultural heritage, and urbanization of this portion of the Columbia River.

Ideas of what an "interpretive facility" might include have ranged from a building with community meeting space staffed with a naturalist to educational sign displays at trailheads. Signage with no building will be most appropriate for this area. A building would be expensive and duplicate the planned interpretive center at Smith and Bybee Lakes to the west and the existing facilities at Blue Lake Park to the east. Both of those facilities will be able to accommodate large groups and may be staffed in the future. It is possible that educational programming for the Slough Trail could occur through the future Smith and Bybee Lakes facility.

This segment of the trail is not designed to accommodate large groups but will have interpretive signing and facilities for small groups of trail users. Interpretive facilities for this segment will complement but not duplicate the information presented at Smith and Bybee and at Blue Lake.

It is recommended that interpretive facilities for this section of the 40 Mile Loop Trail consist of interpretive signing at each trailhead, viewing platforms/overlooks on the trail

and adjacent to various habitats, and additional information at appropriate places along the trail.

All interpretive signing will be compatible with the 40 Mile Loop Signing Guidelines developed in 1991.

Construction of interpretive facilities will be coordinated through the Portland Parks and Recreation. For the approximate dates these facilities will be constructed see the *Responsible Agency Matrix*, page 61.

Signing - All Facilities

All signing will conform to the colors, materials, types, sizes and layouts described in the 40 Mile Loop Signing Guidelines document developed by the 40 Mile Loop Land Trust in 1991. The sign locations shown in that plan will be followed and additional signs will be installed as shown on the accompanying maps and drawings in this document.

The signs will provide information about trail regulations, distances and conditions, provide place names, direct trail users to other resources, educate the public about the 40 Mile Loop system and provide information on the natural and cultural resources of the area.

Signs will be grouped together and placed where they will be visible. Signs will not interfere with views or safe sight distances.

Signs will be consistent and uniform to the degree possible, although some regulatory signs may need to conform to other City requirements.

Sign Type A - Informational sign at trailheads, wood structure with information on whole trail system and this section in particular - place names, mileage, trail surface condition, natural resource information.

Sign Type B - Bike trail signs at intersections of bike facilities - routing cyclists to appropriate bikeways at Airport Way and Marine Drive.

Sign Type E - Trail identification signs at street crossings.

Pedestrian Safe Crossing Signs - at intersections with heavy vehicular traffic. Will need to meet Traffic Management criteria. The intersection at NE 122nd will be signed for the trail users to cross at the signal at Airport Way. Caution signs will be installed at the street crossings at NE 148th and 158th since those are mid-block crossings.

Mile Markers - small signs along side of trail at each mile starting at west end.

For more details, see Signing Guidelines in the Appendix E.

Footbridges

All footbridges will be designed to accommodate light duty vehicles, with an inside width of 8 feet and providing enough clearance at each end of the bridge for the vehicles to gain access to the bridge. The bridges will have wood decking, wood or metal rails and safety rails. All exposed metal surfaces will be painted dark brown.

Culverts

Some areas of the trail will require culverts to allow the flow of water to the Columbia Slough. The size and kind of culvert and the installation methods will be determined for each site by Portland Parks and Recreation and the Bureau of Environmental Services and Multnomah County Drainage District.

Connecting Trail Segments

There are a number of trail segments that are not likely to be built with the next ten years. These properties sometimes referred to as “grandfathered” or nonconforming, have either already developed or are not likely to develop soon. They are necessary to provide a continuous connected trail system.

The trail segments are numbered on the *Estimated Trail Completion Map*, page 35 as *Trail Completed by 2000 or 2005* and listed below. These segments are possible community or public agency sponsored projects if there is property owner support. To proceed it would be necessary for property owners to support the trail project and to agree to grant a trail easement to the City. In return a community group overseen by Portland Parks and Recreation, would construct the trail on behalf of the owner. The City would assume maintenance and liability responsibility consistent with the *Trail Maintenance and Liability* terms under section 33.272.070 of the Zoning Code and shown on page 40.

The property owner remains responsible for reimbursing the Columbia South Shore Recreational Trail Trust Fund at the time of development. The reimbursement is for the direct costs of the trail construction documented by the Parks Bureau. The direct costs are for paid labor and materials only, not for volunteer efforts, or indirect bureau expenses. The reimbursement is to be paid back before or at the time the trail construction would otherwise be required by the Columbia South Shore Plan District regulations.

Following is a prioritized list of the segments that are not likely to be built in the next ten years without some public or community support. The priority is based on building the trail west to east. The projects total 9,300 lineal feet. Depending on community interest and available funding, it is hoped these segments can be built in the next three to five years.

Prioritized Trail Links

1. East of I-205 (if in a future urban renewal district) - 2800 lineal feet of wood fiber trail, handicapped-accessible.

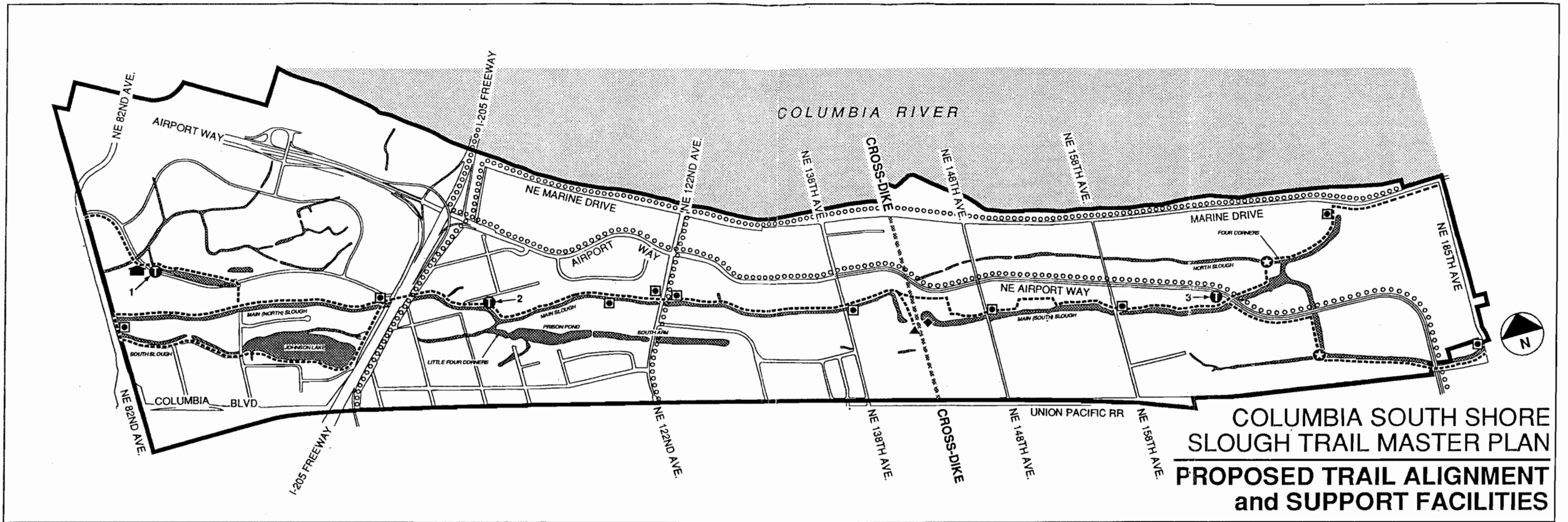
2. Area east of 122nd (at TTA property) - 700 lineal feet of benched trail.
3. Area west of 148th (at Henkels/McCoy) - 250 lineal feet of trail.
4. Area west of 158th (Burden/KKSN site) - 1800 lineal feet of trail.
5. Area along northern slough leg (from well site to KWJJ towers to MCDD pump station) - 2625 lineal feet of trail.
6. Area along toe of Marine Drive (from Winmar's east property line to 185th) - 1125 lineal feet of trail.

Support Facility Phasing and Construction

While the trail itself will be built under the development process, there is no established method for constructing the support facilities at this time. This master plan establishes the following construction of support facilities:

- Trailheads should be built when 85% to 90% of the trail is constructed in the area around them.
- Restrooms should be added to the trailheads when funds are available and when trail use is heavy enough to warrant it. Portable sanitary facilities may be used on a seasonal basis until permanent facilities can be built.
- Canoe access areas should be built as the appropriate sites are developed by MCDD.
- Curb cuts will be required at certain intersections to allow vehicular access for maintenance activities both for Parks and for MCDD.
- Pedestrian safety items such as traffic signing and striping should be installed as needed.
- Signing should be installed as major sections of the trail are completed.

The above section identifies what and where trail support facilities are to be provided for this segment of the 40 Mile Loop Trail. The next section discusses who will implement these public improvements and Appendix B contains the estimated costs for the support facilities.



LEGEND

----- Slough Trail	🏠 Trail Shelter/Viewing Platform
① Trailhead	▲ Viewpoint
★ Pedestrian Bridge	○○○○ Bicycle Facilities
◆ Water Access/Canoe Launch	▬ Columbia South Shore Plan District
📦 Multiple Use Offload Point	🌊 Columbia Slough

Portland Parks and Recreation's Role

While most segments of the trail will be built as development occurs, it will take central management. Having one agency responsible for seeing that trail sections connect, that critical facilities like footbridges and safe pedestrian crossings are built when needed, and that trail amenities such as educational displays and signage are installed will make the recreation experience safe, enjoyable and meaningful. Long-term maintenance of the 40 Mile Loop Trail within the Plan District is another responsibility assigned to the Portland Parks and Recreation based on existing zoning code provisions.

The City of Portland Parks and Recreation is entrusted by the public to protect and enhance the City's highly prized parks system. It is a system of over 9,500 acres of parks, open space, gardens, natural areas and recreational sites. It is responsible for providing an array of recreational and leisure opportunities and for preserving vistas, trails and open spaces.

It is recommended that Portland Parks and Recreation provide overall management and coordination of the Columbia South Shore Slough Trail. This role will ensure that the trail develops in a manner consistent with this plan. The trail will be a part of the City park system.

At a minimum, the Portland Parks and Recreation will do the following:

1. Review trail plans when subject to Environmental Review.
2. Provide design services for support facilities along trail (trailheads, canoe launch sites, picnic areas, signage, etc.);
3. Coordinate design and construction of trail segments to be built with Columbia South Shore 40-Mile Loop Trust Funds and/or other public/private funds;
4. Identify, negotiate and secure appropriate trail easements as development occurs;
5. Coordinate with City and regional agencies to ensure trail connections between jurisdictions are consistent with the master plan and the region's recreation goals;
and
6. Ensure the trail system is maintained according to City standards.

The following additional Portland Parks and Recreation activities are necessary to develop a fully-functioning trail system in a timely manner:

7. Coordinate volunteer activities to build or maintain portions of the trail system; including revegetation;
8. Identify opportunities to obtain funding for acquisition or capital improvements to complete parts of the system;
9. Identify, negotiate and secure trail easements in advance of land use requirements as opportunities exist;
10. Coordinate with public and private non-profit agencies to identify opportunities for public/private partnerships that will support the trail system (40 Mile Loop Land

Trust for fund raising, land banking, trail expertise, Riverkeeper Program for maintenance and security, Metro Greenspaces Program for acquisition of key sites, etc.).

11. Promote trail use when usable segments are in place.
12. Program and manage the trail by monitoring use and working with organized groups.

In an effort to complete the Columbia Slough Trail system in a timely and coordinated manner, it is recommended that Portland Parks and Recreation provide staffing to support the above activities.

Maintenance Program

In the future, Portland Parks and Recreation will assume the maintenance of this section of the 40 Mile Loop Trail. Parks responsibilities will include maintaining the trail in good condition by adding bark chips or fiber, maintaining culverts, footbridges and signs, eradicating the blackberries and establishing native vegetation. Parks will also maintain the trailheads and other support facilities associated with the trail. This will include regular patrolling of the trail and trash removal. Parks will accept maintenance of the trail when the requirements of 33.272.070 shown on page 46 are met.

Responsible Agency Matrix

The following matrix shows the appropriate lead agency or group to construct support facilities for the trail. Responsible parties include three City bureaus (Parks, Portland Development Commission and Traffic Management), the Port of Portland and property owners/developers. Lead agencies may look to community groups to assist with funding, construction, and maintenance of trail facilities.

SUPPORT FACILITY general description	RESPONSIBLE LEAD AGENCY/ORGANIZATION	TIME FRAME
Trailheads		
(To include parking for 5 - 6 cars, picnic tables, signing, overlook, access roads &/or canoe access if appropriate)	Parks to provide design services	As funds are available for construction
#1 - Alderwood @ cul-de-sac	Port of Portland	1992
#2 - Holman Redevelopment	PDC (as part of Holman infrastructure) or Parks, on Water Bureau site (or other, if better site available)	1995 (?)
#3 - Bridge A	PDC	When trail is 85 - 90% complete in area
Canoe Access		
At appropriate trailheads and at selected MCDD off-load sites	PDC to assist MCDD in canoe access development; Parks to assist with design	As MCDD sites are developed
Canoe Portage Trails		
Narrow trails to allow canoeists easy portages around pipes that cross at water level and to get over Cross-Dike.	Parks	As trail is developed in those areas
Signing		
40 Mile Loop Trail signs at major entry points as identified in <u>40 Mile Loop Signing Guidelines</u> , Sept. 1991, 40 Mile Loop Land Trust.	Parks/40 Mile Loop Land Trust	As development occurs
Pedestrian Street Crossing signs, and signals, if needed.	Parks, in cooperation with Traffic Management	As funds are available
Other signing to be done as one package, including regulatory and interpretive signs, mile markers.	Parks - as separate budget item	As funds are available
Foot Bridges		
Project FB #1, south of Bridge B	Property Owner	Expected in 1993
Other foot bridges as needed	Property Owner	As funds are available

Pedestrian Safety Items		
Bollards,	Property owner/developer	As development occurs
Barricades, striping, signing	Traffic Management or Parks budget item, as appropriate	As funds are available
Restrooms /Drinking Fountains		
Portable facilities to be used on a seasonal basis if needed. Permanent facilities to be built later.	Parks	As funds are available
Viewpoints		
Cross-Dike Viewpoint	Parks	To be built when Cross Dike trail is improved.
4 Corners Viewpoint	Parks	As funds are available
Viewpoints at Trailheads #2 and #3	PDC	As trailheads are developed
Trail Construction		
Soft surface trail as specified	Property owner/developer	As development occurs
Connecting Trail Segments		
Areas unlikely to be developed within the next 10 years under usual development process.	PDC/Parks/Community Groups	As funds are available
Trail at I-205/Frontage Road		
Future improvements in this area need to incorporate CSS trail from Glass Plant Road to Clark St.	PDOT	As roads are improved
Cross Dike Trail		
To be improved to bike trail standards, ramp structure will be needed to cross Airport Way.	Parks	As funds are available



**CHAPTER SIX: COMMUNITY SERVICE
TRAIL PROJECTS**

- Community Service Projects
- The 40 Mile Loop Land Trust
- Grants
- Incentives

COMMUNITY SERVICE TRAIL PROJECTS

Community service projects and grants will play an important role in connecting trail segments and adding support facilities. Given Measure 5 realities, very few public funds will be available for this trail. It is unlikely the trail system will be built without additional support from the community or through grants. This chapter describes some of the ways the community can become involved to help make the Columbia South Shore Slough Trail become a reality.

Community Service Projects

Community groups and interested citizens are encouraged to work with the Portland Parks and Recreation to organize trail work projects. Likely trail segments needing community involvement are shown on the *Estimated Trail Completion Map* on page 32 and also listed on page 51 under *Prioritized Trail Links*.

Possible community service projects include:

- Planting native trees and shrubs along the trail and Slough
- Removing non-native plants (e.g. the extensive blackberries)
- Trail maintenance
- Trail and slough clean-up
- Installing nesting boxes and platforms for birds
- Constructing trail segments
- Constructing trail support facilities
- Raising funds for the above.

Initiating a Community Project

1. Contact the Portland Parks and Recreation staff for ideas on possible community projects or propose a project, followed by a letter outlining the project proposal.
2. Work with the Parks staff in the Environmental Review and Pre-Application Conference, if required. Environmental Review is required for most activities along the Slough but not required for removing blackberries.

Fee Waivers

Trail construction projects require an environmental land use review through the Bureau of Planning. Opportunities for waivers of the land use application fee exist for community service projects that will connect trail segments and where the Portland Parks and Recreation is co-applicant.

Community Service Organizations

The following non-profit groups consist of volunteers and supporters that are interested in the environmental protection of the Slough and completing the trail.

- *Friends of Wetlands (FOWL)* Message Phone : #256-0014 (in care of the East Portland District Coalition neighborhood association office).
- *Wetlands Conservancy:* Contact Anthony Laska, Executive Director, #691-1394.
- *FAUNA, Friends and Advocates of Urban Natural Areas:* Contact Linda Robinson, Director, #725-5181.
- *40 Mile Loop Land Trust* (see description of organization below).

Other Organizations that have an interest in community service projects:

- Eagle Scouts
- High School volunteer organizations
- Area business volunteer groups
- Inverness Jail Inmates: The Inverness Jail inmates do over 60,000 hours of community work annually, including trail construction and maintenance. A one-month lead time is generally adequate to organize the jail inmate's work service. Coordination through the Portland Parks and Recreation will be necessary.

The 40 Mile Loop Land Trust

The 40 Mile Loop Land Trust is a private non-profit group committed to implementing the regional trail system. The Trust is available to work with or direct individuals or groups who are interested in donating money or land, negotiating easements or property sales for the trail, or land banking properties. The City of Portland Portland Parks and Recreation, Parks Planning staff can help interested persons contact the Land Trust.

Grants

Parks Bureau staff will apply for public grants as they become available. However, grant sources are limited and competition for grant money is considerable. .

Community groups are encouraged to seek grant funds that may be available to private, non-profit groups for land acquisition or capital improvements.

Incentives

Property owners have expressed an interest in pursuing tax incentives for building the public recreation trail and for granting conservation and recreation easements to the City. Incentives might include income tax credits or deductions, or property tax deferrals.

The Oregon Revised Statutes provides for property tax deferrals on properties in an open space or conservation use. See ORS 308.740-.790, Open Space Lands. Portland Development Commission, the Bureau of Planning, and Columbia Corridor Association will work with the

Multnomah County Department of Assessment and Taxation to seek property tax deferrals for qualifying properties in the Columbia South Shore Area.

APPENDIX A

Appendix A

COLUMBIA SOUTH SHORE SLOUGH TRAIL EASEMENT

"Grantor" is the owner in fee simple of the real property described in the attached Exhibit A ("Property") in the City of Portland, Multnomah County, Oregon.

THE CITY OF PORTLAND ("City") is a municipal corporation.

1. Easement. The Grantor hereby grants to the City for the benefit of the public a perpetual, nonexclusive, affirmative easement to use a strip of land 25' wide across the Property for a Slough Trail ("Easement Area"). The location of the Easement Area is described in the attached Exhibit B.
2. Purpose. The purpose of this easement is provide public access to and along the Columbia South Shore Slough by creating a public path over and across the Property.
3. Scope of Public Use. The public shall have the right to use the Easement Area for public access to the Columbia South Shore Slough and related natural resources. To this end, the public shall have the right to use the Easement Area in the same manner as a public park.
 - 3.1 The public's right of use as set forth above, including the types and hours of use described therein, constitute the minimum rights granted to the public under this agreement. The City, at its option, may expand these rights, provided that the City shall bear the increased costs for policing the area and for noise, trash, and people control resulting from such expanded uses, and provided further that such expanded uses do not unreasonably interfere with the Grantor's use and enjoyment of the remainder of the Property. Nothing herein, however, authorizes the City to expand the Easement Area.
 - 3.2 In accordance with Section 33.630.300-320 of the City Code of Portland, the Easement Area will be open to the public for park use as provided in Chapter 20.12 of the City of Portland Code, except that public use and access shall be limited to the daylight hours.
 - 3.3 Daylight hours shall be 5 a.m. to 10 p.m. during the period May through October, and 6 a.m. to 7 p.m. for the months of November through April.
 - 3.4 Grantor shall have the right to restrict access to the Easement Area during hours when the public does not have rights of use.
4. Scope of Grantor's Use. The Grantor shall have the right to use the Easement Area for all purposes consistent with the exercise by the public of the rights granted herein. No commercial activities shall be conducted in the Easement Area by any party.

5. Maintenance and Repair.

5.1 The Grantor, its successors and assigns, shall be responsible for maintenance and repair of the Easement Area except as provided for in Section _____ of the City Code. The Grantor shall maintain the Easement Area at a level equal to the Slough Trail segments maintained by the City.

5.2 The Grantor, its successors or assignees, shall be responsible for patrolling the Easement Area to ensure ongoing maintenance unless the City has agreed to assume responsibility for maintenance as provided for in Section _____ of the City Code. In connection with such patrolling action, the Grantor agrees to hold the City, and its officers, agents, and employees harmless from all claims, suits or actions of whatsoever nature, caused by or arising out of the acts or omissions of the Grantor's subcontractors, agents, or employees who patrol the Easement Area.

6. Alterations and Enhancements.

6.1 The Grantor or the City shall be permitted to construct any minor structure intended for public use and enhancement of the Slough Trail, such as shelters, benches, water fountains, and Slough Trail signage, which is coordinated with the landscaping and approved by the City's Bureau of Parks and Recreation and Bureau of Planning through the environmental review process.

6.2 Except as permitted by Section 6.1, Grantor shall not construct any improvement in the Easement Area without first obtaining the approval of the Bureau of Parks and Recreation and the Bureau of Buildings.

7. Hazardous Substances.

7.1 Grantor represents that to the best of its knowledge the subject property is in compliance with all local, State and Federal environmental laws and regulations.

7.2 Grantor represents that it has disclosed all results of any report, investigations, survey, or environmental assessment regarding the subject property. The City makes no representations or warranties concerning such reports, investigations or assessments, or any information contained therein.

7.3 Grantor warrants that there are no underground storage tanks, as defined at ORS 466.705 (19), presently on or under the subject property.

7.4 It is understood and agreed that the Grantor, its successors, and assigns, retains financial responsibility for complying with existing and future regulatory actions concerning environmental conditions of the subject property, including Oregon Department of Environmental Quality and United States Environmental Protection Agency orders and consent agreements. This provision shall not apply to a release of hazardous substances onto or from the property caused by the officers, agents or employees of the City.

- 7.5 It is understood and agreed that the City, by accepting this dedication, is not accepting any liability for any release of hazardous substances onto or from the subject property, and that the Grantor is not attempting to convey any such liability.
- 7.6 The Grantor agrees to defend, indemnify and hold harmless the City, its officers, agents, and employees against all liabilities, damages, losses, claims, demands, actions, and suits (including attorney fees and costs) resulting from the presence of, or suspected presence of, hazardous substances in containers or in the soil, groundwater, or soil vapor or any other medium, on or from the property. This provision shall not apply to a release of hazardous substances onto or from the property caused by the officers, agents or employees of the City.
- 8. Effective Date. The rights of the public under this agreement shall become effective on the date hereof.
- 9. Successor Interests. This easement is appurtenant to the Property. However, in the event of any partition, subdivision or sale of any portion of the Property, this easement shall remain appurtenant to the parcel(s) across which the easement lies. Owners of the other parcels into which the Property may be divided shall have no right to use the Easement Area beyond their rights as members of the general public or as may be negotiated with the City for landscaping and utility services.
- 10. Duration. This easement shall remain in effect perpetually. However, it shall terminate automatically in the event that the City Council by ordinance declares that the easement no longer is needed for public use or access to the Columbia South Shore Slough, in which case the City shall execute a recordable document evidencing such termination.
- 11. Encumbrances. This easement is granted subject to all prior easements or encumbrances of record.
- 12. Consideration. The consideration for this agreement shall consist of the mutual covenants and agreements of the parties contained herein, and the execution of this agreement as a condition of the City's approval of the Grantor's development of the Property.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed the day and year first written above.

By: _____

By: _____

THE CITY OF PORTLAND

By: _____
Commissioner of Public Affairs

By: _____
Auditor

APPROVED AS TO LEGAL SUFFICIENCY

By: _____
City Attorney

STATE OF OREGON)
)
County of _____)

The foregoing instrument is acknowledged before me this _____ day of _____,
1992, by _____ of _____

Notary Public for Oregon
My Commission Expires:

STATE OF OREGON)
)
County of _____)

The foregoing instrument is acknowledged before me this _____ day of _____,
1992, by _____, Commissioner of Public Affairs, and
_____, Auditor for the City of Portland, on its
behalf.

Notary Public for Oregon
My Commission Expires:

APPENDIX B

Appendix B

Cost Estimates Item*	Quan & Unit Cost	Total
Trailhead Development - including parking for 6 cars, barricades, bike racks, drinking water, access to water for canoeists, interpretive signing	3 @ \$40,000	\$120,000
Restrooms - at trailheads	3 @ \$110,000	330,000
Viewing Areas/Overlooks	3 @ \$8,000	24,000
Intersection Crossings		
Bollards	80 @ \$225 each	18,000
Curb Cuts for trail maintenance		
Signage	Lump Sum	10,000
Fencing	20,000 lf @ \$15/lf	300,000
Blackberry Eradication - 6.7 Miles @ 25' wide	Lump Sum	10,000
Revegetation with Native Plants - 6.7 Miles @ 25' wide	Lump Sum	60,000
Trail construction - 6' wide, soft surface trail on 8' gravel base (assume 5 miles remain to be built)	\$1.50/sq. ft.	316,800

* See maps 1 through 4 for the locations of these items.

Source: Bureau of Parks and Recreation, 1992 costs

APPENDIX C

COLUMBIA SOUTH SHORE TRUST FUND

Appendix

ORDINANCE NO. 159566

An Ordinance authorizing the establishment of a Columbia South Shore Recreational Trail Trust Fund, describing the provisions of its collection and disbursement, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. That the City of Portland Comprehensive Plan outlines a system of recreational trails that follow the Columbia Slough.
2. That Comprehensive Plan Policy 2.6 directs, "establish a loop trail that encircles the city, (the Forty Mile Loop), and promote the recreational use of the city's rivers, creeks, lakes and sloughs."
3. That the Forty Mile Loop is being considered for State Trail Designation, and may be so designated after a hearing scheduled for April 8, 1987.
4. That Resolution 33937 directs the City to "implement the 40-Mile Loop Master Plan by 1995."
5. That the Planning Commission has recommended adoption of the Industrial Zoning Code Improvement Project, which includes a section 33.704.050, Recreational Trails. In addition to providing an easement, it provides for trail improvements at the owner's expense. As an option, the owner can build the on-site trail segment or pay one percent of their total project costs into a trust fund.
6. That the establishment of a Columbia South Shore Recreational Trail Trust fund should now be authorized by the City.

NOW, THEREFORE, the Council directs:

- a. The Columbia South Shore Recreational Trail Trust Fund is hereby established, which will collect one percent of total project costs from property owners along the Columbia Slough in the Plan District, subject to the following conditions:
 - (1) The fund will be managed and administered by the Portland Park Bureau.
 - (2) The fund will be spent only on construction-related items for the Columbia South Shore recreation trail. These items can include trail construction, signage, trail head acquisition and development, and landscaping.

ORDINANCE No.

Section 2. The Council declares that an emergency exists because a delay in establishment of the Columbia South Shore Recreational Trust Fund may result in acquired funds being unassigned; therefore this Ordinance shall be in force and effect from and after its passage by the Council.

Passed by the Council, **APR 8 1987**
Commissioner Mike Lindberg
Mary Anne Cassin
March 16, 1987

BARBARA CLARK
Auditor of the City of Portland
By

Page 2 of 2

Edna Cervera Deputy

C-2

APPENDIX D

Appendix D

ORDINANCE No.

D R A F T

*An Ordinance adopting changes in the amount of fee to be collected for contributions to the Columbia South Shore Recreational Trail Trust Fund.

The City of Portland ordains:

Section 1. The Council finds:

1. The Council adopted Ordinance number 159566 on April 8, 1987 authorizing the establishment of a Columbia South Shore Recreational Trail Trust Fund. The fund provides a method for accepting and dedicating funds for the Slough Trail construction in the Columbia South Shore Plan District and an alternative to constructing the on-site trail segment.
2. The Trust Fund currently allows collection of one percent of total development project costs from property owners along the Columbia Slough in the Plan District.
3. Defining the trust fund contribution based on a true cost method rather than collecting one percent of a total development is more specific to the trail development funding needs. The true cost formula coupled with the increased opportunities to contribute to the fund will help expedite development by eliminating the environmental review by the developer/owner.
4. The Planning Commission recommends City Council adopt amendments to the Columbia South Shore Plan District, Chapter 33.515.260, Public Recreational Trails, to increase opportunities for contributions to the trust fund in lieu of trail construction.
5. The Planning Commission endorses City Council adoption of the Columbia South Shore Slough Trail Master Plan which includes provisions for broadening the use of the trust fund and includes reference to the trail development costs formula.

NOW, THEREFORE, the Council directs:

- a. The Columbia South Shore Recreational Trail Trust Fund is hereby modified to provide that the trust fund contributions at a minimum be based on a trail development costs formula determined by Portland Parks and Recreation, Design and Construction Unit and as shown on Exhibit A.

- b. The trust fund contribution be based on a cost per lineal foot. The current \$16.00 per lineal foot for the bark-chip trail and \$21.73 per lineal foot for the handicapped trail portion will be adjusted by the Bureau of Parks and Recreation as permitting and construction costs change.
- c. Trust fund contributions be consistent with the City of Portland Zoning Code, Title 33.515.260, Public Recreational Trails.
- d. The fund will be spent on work necessary to construct the trail including design, permitting and coordination, and physical trail construction. Use of funds also include signage, trail head acquisition and development, and landscaping.

Passed by the Council,

Commissioner Charles Hales
Gail Curtis
(Date)

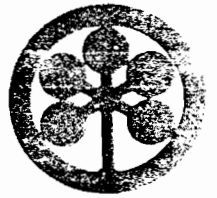
BARBARA CLARK
Auditor of the City of Portland
By

Deputy



CITY OF PORTLAND
BUREAU OF PARKS AND RECREATION

1120 S.W. 5TH, ROOM 1302
PORTLAND, OREGON 97204-1933
(503) 796-5193



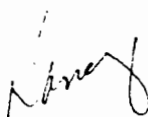
MIKE LINDBERG, Commissioner

CHARLES JORDAN, Director

November 10, 1992

MEMORANDUM

To: The Files

From: Nancy Gronowski 

Subject: **TRAIL DEVELOPMENT COST FORMULA
COLUMBIA SOUTH SHORE SLOUGH TRAIL**

Trail construction costs are for soft surface trail construction only, no amenities or extras; and are for the number of lineal feet of designated recreation trail as shown on the City's official zoning maps.

Design Work

Trail design work by landscape architecture firm to include:

Field work, mapping existing trail locations, preparing location drawings suitable for submission for Environmental review as well as for construction, field staking, and specification preparation.

Two contracts at \$15,000 each, or \$30,000 total \div 26400 ln ft = \$1.15/ln ft

Permitting and Coordination

This work would include:

E - Zone Review, either a 0 Type over counter review or a Type II Administrative Review.
Parks would package trail segments together to reduce staff time and costs. \$1/ln ft

Parks staff time for contract administration and construction supervision. \$0.60/ln ft

Additional fees and expenses

Archaeologist consultant fees at approximately \$20,000 \$0.80/ln ft

Survey costs to describe and record easement donations \$3/ln ft

EXHIBIT A

Physical Trail Construction

This work would include:

Brush removal, clearing, grubbing, grading - 10' wide; Material disposal; Filter fabric - 2 layers, 8' and 6'; Gravel base - 4" of 3/4" minus, 8' wide; Bark chips @ 4", 6' wide; Backfill at edges of trail with original material; Mitigation - vegetation replacement in trail area only. (Assume that developer will revegetate easement area per NRMP requirements at time of development.)

Recent costs for trail work in the Portland area average $\$1/\text{sq ft}$; trail will be cleared and constructed on 8' base for cost of $\$8/\text{ln ft}$ *

Total per ln ft $\$14.55$

* FIBER TRAIL = $1.65/\text{sq. ft.}$ Contingency - 10% $\$1.45$

Grand total per ln ft $\$16.00$

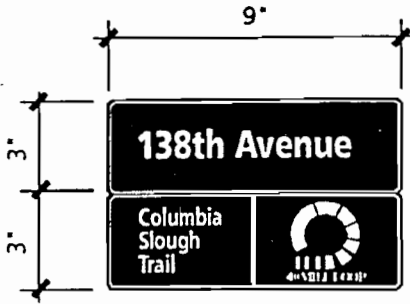
Fees to be adjusted as permitting and construction costs change.

cc: Gail Curtis
Connie Lively
John Sewell

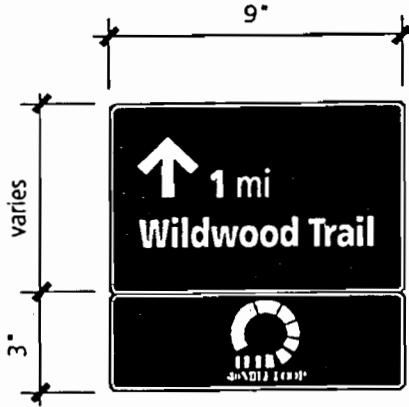
APPENDIX E

SIGNING GUIDELINES

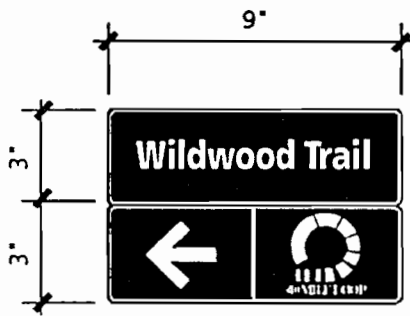
**(Adapted from 40 Mile Loop Signing Guidelines)
September 1991**



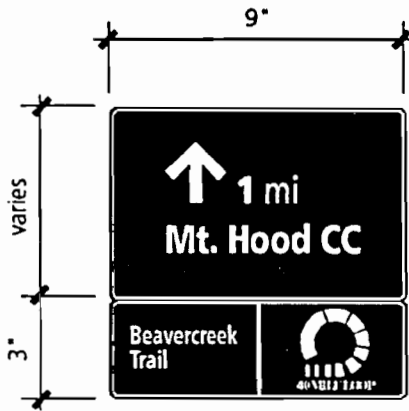
10 Sign Layout - Trail I.D. at Crossings



11 Sign Layout - Trail I.D. Panel



12 Sign Layout -Trail I.D. Panel



13 Sign Layout - Informational Panel

Sign Type E SIGN LAYOUTS

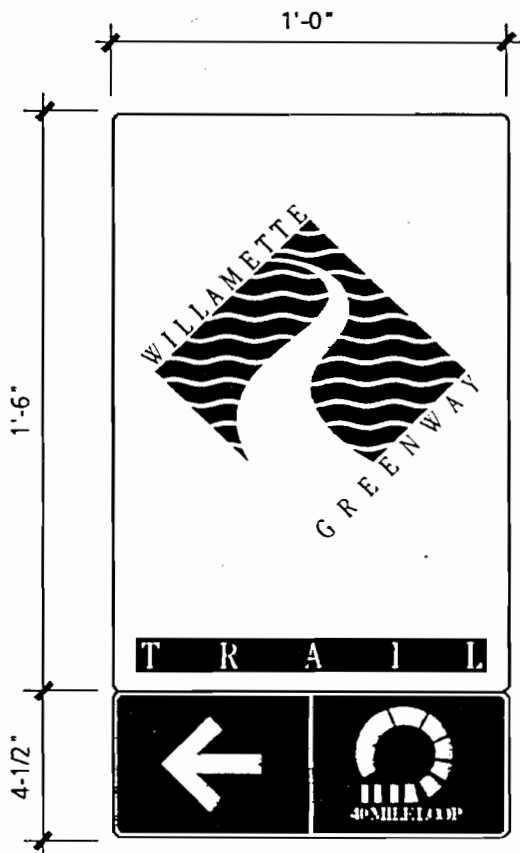
Scale: 2"=1'-0"

Materials: Painted or screenprinted aluminum, .080 thickness or HDO (plywood). Logos and arrows to be screenprinted.

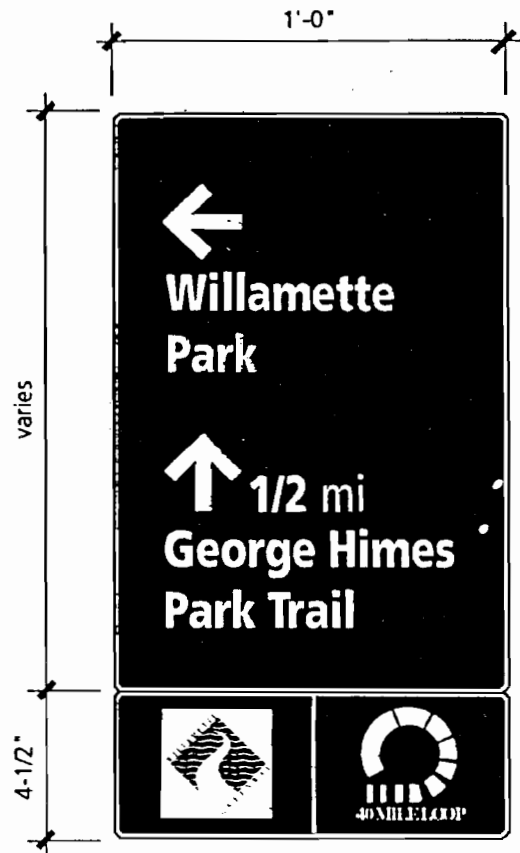
Installation: Mount to new or existing post.

Size: As shown, top panel height can vary to accommodate text.

Color: White text and graphics on standard highway green background.



4 Sign Layout - Trail I.D. Panel



5 Sign Layout - Informational Panel

Sign Type C SIGN LAYOUTS

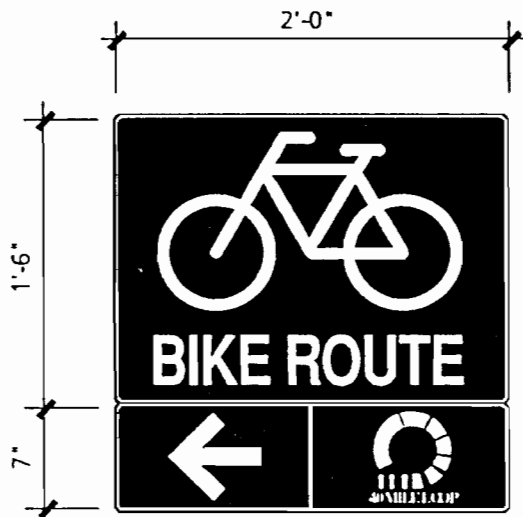
Scale: 2"=1'-0"

Materials: Painted or screenprinted aluminum, .080 thickness or HDQ (plywood). Logos and arrows to be screenprinted.

Installation: Mount to new or existing post. When Willamette Greenway Trail sign is existing, remove directional arrow and replace with FML directional arrow panel. Butt sign panels and align vertically.

Size: Match Willamette Greenway Trail signs with bottom panel as shown.

Color: White text and graphics on standard highway green background.



2 Sign Layout - Trail I.D. Panel



3 Sign Layout - Informational Panel

Sign Type B SIGN LAYOUTS

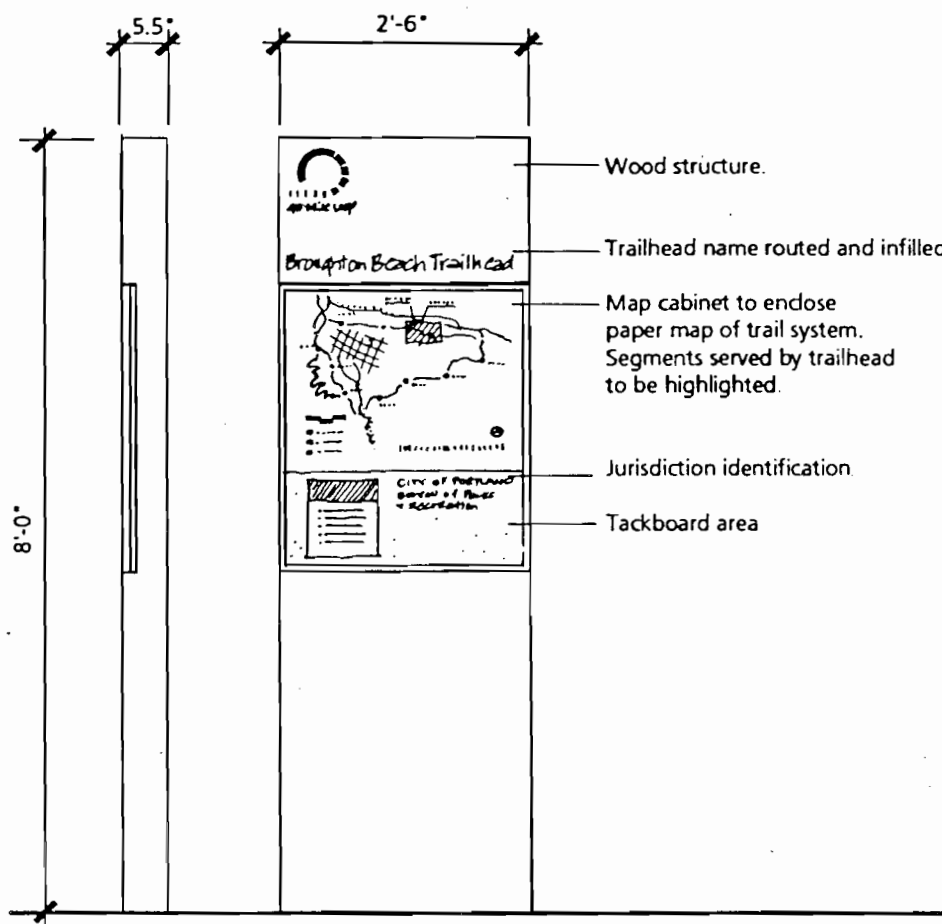
Scale: 1"=1'-0"

Materials: Painted or screenprinted aluminum, .080 thickness or HDO (plywood). Logos and arrows to be screenprinted.

Installation: Mount to new or existing post. If bike route sign is existing, butt sign panels and align vertically.

Size: Sign panels to be 24" wide.

Color: White text and graphics on standard highway green background.



1 Information Kiosk Elevations

Sign Type A SIGN LAYOUT

Scale: 1/2" = 1'-0"

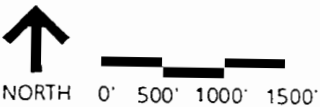
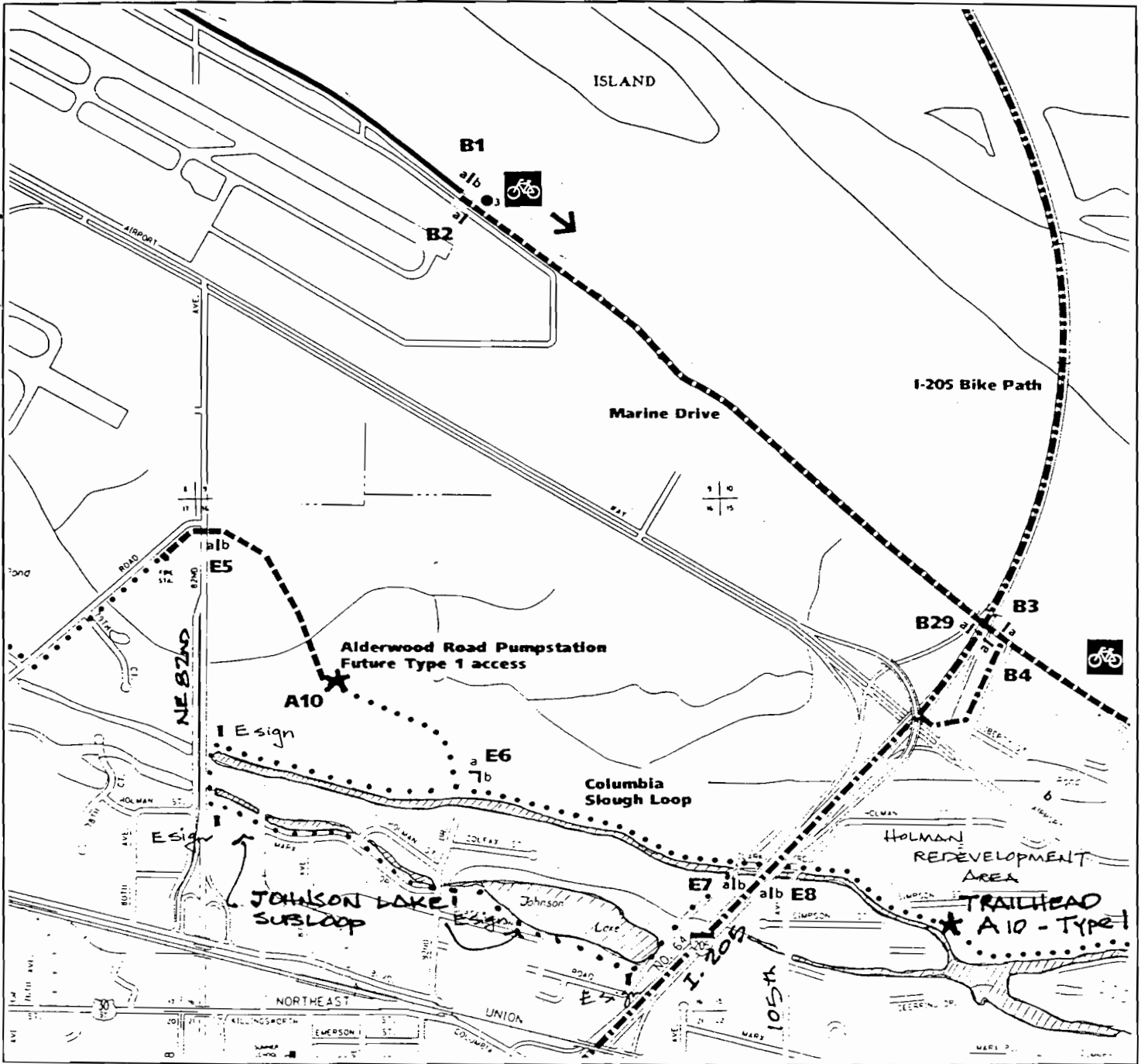
Materials: Pressure-treated wood sign structure with standard enclosed map cabinet to protect paper map. Design and details of structure can vary. Graphic elements should remain consistent throughout segments of trail.

Installation: Freestanding with concrete footing.

Size: Recommended as shown but size can vary depending on exact dimensions of map cabinet.

Color: Wood Structure to be stained or painted to coordinate with FML sign system. Text and logos to be routed and infilled with paint.

Map 3



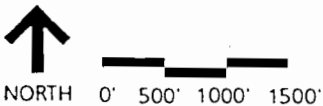
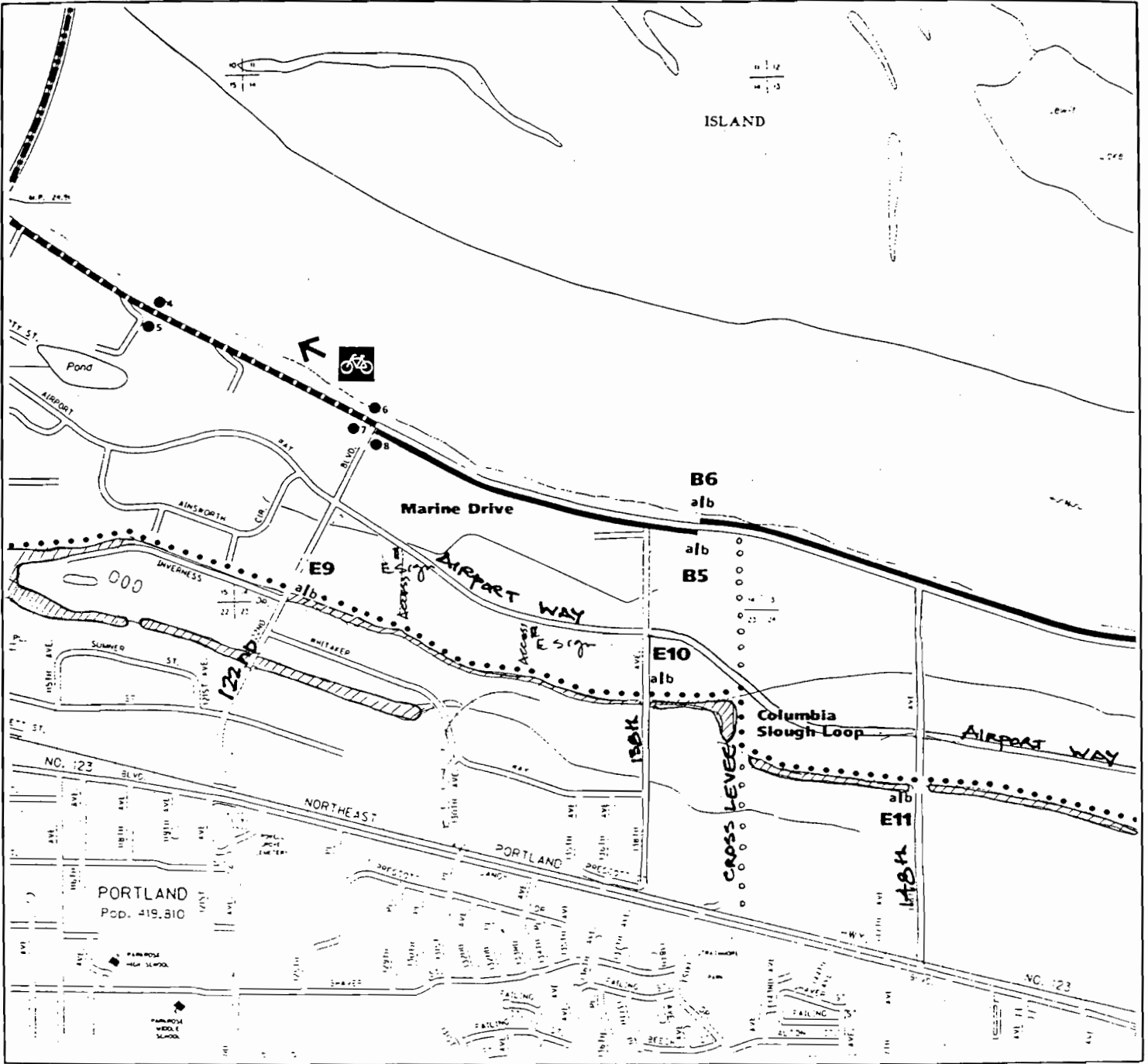
LEGEND

- Forty Mile Loop**
Completed trail
- Connector Route**
Roadway connection between Completed trail segments
- Other Trails**
- Future Forty Mile Loop**
Proposed or future trail alignment
- Hiking Trail Only**
- FML Bike Route**
Roadway with bike lane
- Type 1 Trailhead**
Off street parking access
- Type 2 Trailhead**
On street parking access
- Type 3 Trailhead**
Neighborhood access
- Existing FML Signage**
- A1 Typical Sign Location**
See separate inventory schedule

E - 5

Segment 1

Map 4



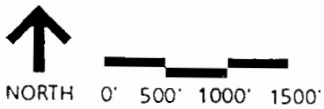
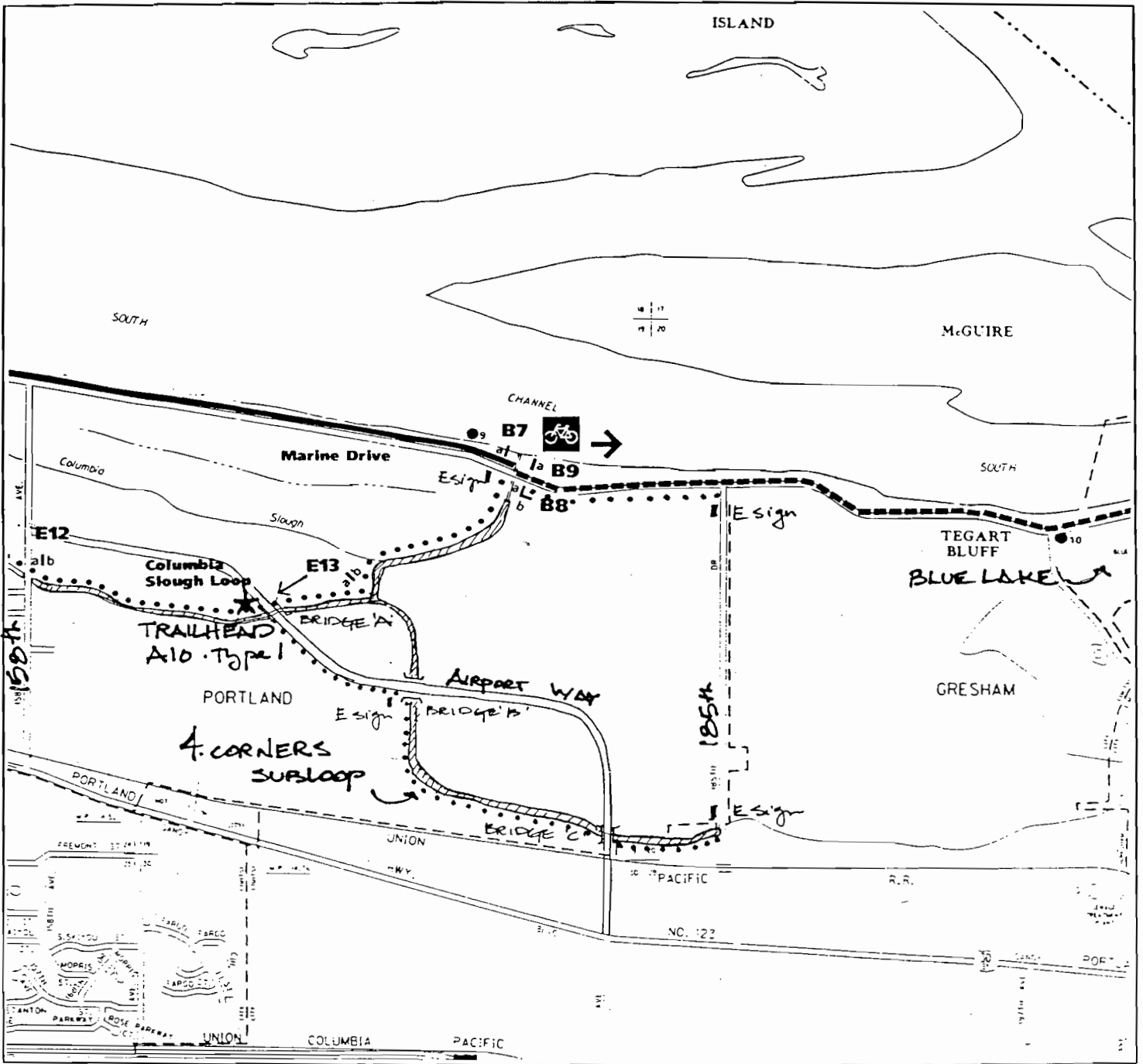
LEGEND

- Forty Mile Loop**
Completed trail
- Connector Route**
Roadway connection between Completed trail segments
- Other Trails**
- Future Forty Mile Loop**
Proposed or future trail alignment
- Hiking Trail Only**
- FML Bike Route**
Roadway with bike lane












- Type 1 Trailhead**
Off street parking access
 - Type 2 Trailhead**
On street parking access
 - Type 3 Trailhead**
Neighborhood access
 - Existing FML Signing**
 - A1 Typical Sign Location**
See separate inventory schedule
- Segment 1

E - 6

Map 5



LEGEND

-  **Forty Mile Loop**
Completed trail
-  **Connector Route**
Roadway connection between
Completed trail segments
-  **Other Trails**
-  **Future Forty Mile Loop**
Proposed or future trail alignment
-  **Hiking Trail Only**
-  **FML Bike Route**
Roadway with bike lane
-  **T1** **Type 1 Trailhead**
Off street parking access
-  **T2** **Type 2 Trailhead**
On street parking access
-  **T3** **Type 3 Trailhead**
Neighborhood access
-  **B1** **Existing FML Signage**
-  **A1** **Typical Sign Location**
See separate inventory schedule

Segment 1

Segment 1

SIGN SCHEDULE - Broughton Beach to Blue Lake Park

Sign	Message	Sign Layout	Map #	Comments
A1	(information kiosk)	1	1	
A10	(information kiosk)	1	3	Future
	@ 3 LOCATIONS (TYPE 1 TRAILHEADS) ALDERWOOD HOLMAN REDEVELOPMENT AREA BRIDGE 'A' (PDC SITE)			
B1a	(bike route sign)	2	3	
	→ (FML logo)			
b	↑ mi Broughton Beach (bike route symbol, FML logo)	3	3	
B2a	↑ mi Blue Lake Park (bike route symbol, FML logo)	3	3	
B29a	↑ mi Blue Lake Park			
	→ I-205 Bike Route (bike route symbol, FML logo)	3	3	
B3a	↑ mi Broughton Beach Park			
	← I-205 Bike Route (bike route symbol, FML logo)	3	3	
B4a	← mi Broughton Beach Park			
	→ mi Blue Lake Park (bike route symbol, FML logo)	3	3	
B5a	(bike route sign)	2	4	
	← (FML logo)			
b	(bike route sign)	e-8 2	4	
	↑			

Dr. P. Le. Jr.

Segment 1**SIGN SCHEDULE - Broughton Beach to Blue Lake Park**

Sign	Message	Sign Layout	Map #	Comments
B6a	(bike route sign) ↑ (FML logo)	2	4	
B7a	(bike route sign) → (FML logo)	2	5	
B8a	↑ mi Blue Lake Park → Columbia Slough Trail (bike route symbol, FML logo)	3	5	Future
b	← mi Broughton Beach Park → mi Blue Lake Park Columbia Slough Loop (FML logo)	3	5	Future
B9a	↑ mi Broughton Beach Park ← Columbia Slough Trail (bike route symbol, FML logo)	3	5	Future
B10a	↑ mi Broughton Beach Park (bike route symbol, FML logo)	3	6	
B11a	↑ mi Troutdale Park → Blue Lake Park (bike route symbol, FML logo)	3	6	
B11b	(bike route sign) → (FML logo)	2	6	

NOTE - ADDITIONAL BIKE TRAIL SIGNAGE NEEDED AT 105th, 122nd, 138th, 148th, 158th TO DIRECT CYCLISTS TO BIKE PATHS ON AIRPORT WAY & MARINE DRIVE.

E-9

Segment 1

SIGN SCHEDULE - Broughton Beach to Blue Lake Park

Sign	Message	Sign Layout	Map #	Comments
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NOTE: ADDITIONAL 'E' SIGNS NEEDED AT NE 82nd, 92nd, GLASS PLANT ROAD, AT PUBLIC ACCESS POINTS ON AIRPORT WAY, AT BRIDGE 'A' & BRIDGE 'B' & AT 185th. (SOUTH END, NEAR R.R. TRACKS).

E5a	82nd Avenue Columbia Slough Trail (FML logo)	10	3	Future
b	82nd Avenue Columbia Slough Trail (FML logo)	10	3	Future
E6a	Columbia Slough Trail ← (FML logo)	12	3	Future
b	Columbia Slough Trail → (FML logo)	12	3	Future
E7a	I-205 Bike Route Columbia Slough Trail (FML logo)	10	3	Future
b	Columbia Slough Trail ↑ (FML logo)	12	3	Future
E8a	Columbia Slough Trail ↑ (FML logo)	12	3	Future
b	I-205 Bike Route Columbia Slough Trail (FML logo)	10	3	Future
E9a	122nd Blvd Columbia Slough Trail (FML logo)	10	4	Future

Segment 1**SIGN SCHEDULE - Broughton Beach to Blue Lake Park**

Sign	Message	Sign Layout	Map #	Comments
b	122nd Blvd Columbia Slough Trail (FML logo)	10	4	Future
E10a	138th Avenue Columbia Slough Trail (FML logo)	10	4	Future
b	138th Avenue Columbia Slough Trail (FML logo)	10	4	Future
E11a	148th Avenue Columbia Slough Trail (FML logo)	10	4	Future
b	148th Avenue Columbia Slough Trail (FML logo)	10	4	Future
E12a	158th Avenue Columbia Slough Trail (FML logo)	10	5	Future
b	158th Avenue Columbia Slough Trail (FML logo)	10	5	Future
E13a	Columbia Slough Trail ← (FML logo)	12	5	Future
b	Columbia Slough Trail → (FML logo)	12	5	Future

