



Poulsbo's Fish Park Master Plan



Prepared for City of Poulsbo

Prepared by:

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BACKGROUND

Site History/Background

The site of Poulsbo's Fish Park has played an important part in local history. Long before European settlers first arrived, the Suquamish people harvested Liberty Bay's rich bounty of seafood. Later, American settlers harvested the stands of timber in the hills and slid the logs down to the Slough. After the logs were gone, Weyerhaeuser transferred property title to Quadrant Homes, a development division of Weyerhaeuser.

The 1994 Poulsbo Parks Comprehensive Plan noted the need for additional open space in the West Poulsbo area, and the City's 1994 Capital Improvement Program (CIP) included the site's acquisition. In addition, the 1996 Viking Avenue Corridor Plan recommended the site's acquisition and the replacement of the culvert under Lindvig Way with a bridge. Early thoughts about the project included an RV park and/or golf course; but as environmental concerns and restrictions became more and more relevant, it was obvious that this site would be best suited for a passive, natural park emphasizing ecological restoration and nature study.



Figure 1. The replacement of this culvert under Lindvig Way was a critical step in restoring Dogfish Creek Estuary and Liberty Bay as a whole.



Figure 2. Committee members celebrate completion of the pedestrian bridge.

The City acquired the 13-acre site in July 2002 from NWI Trust, which had a site plan to turn it into a retail/business park complex. The City received three grants to purchase the property: National Fish and Wildlife Foundation (\$150,000); DNR Aquatic Lands Enhancement Account (ALEA) (\$488,125); and the Salmon Recovery Enhancement Fund (SRFB) (\$450,000). The total cost of acquisition was \$979,000, so the remainder of the money is to be used towards planning and restoration of the site. This is the money that we are now using to do the master plan and start some projects.

The Suquamish Tribe has worked with the City and non profit organizations over the years to enhance Dogfish Creek's shoreline environment and fish runs. Some of this work has included projects further upstream, beyond city limits.



Project Purpose

In 2003, an interested citizen, Tom Nordlie, met with Parks and Recreation Director Mary McClusky and the Mayor to explore means to initiate a project. This led to the formation of the Fish Park Steering Committee in the fall of 2003. The Committee meets monthly and, because of the variety of people and groups represented, has given the project a strong community emphasis. The intention is that the Committee's hands-on volunteerism and consistent advocacy will lead to an ongoing "adopt-a-park" approach to park management and inclusive civic activism. Groups represented on the Committee include (but are not limited to) the Kitsap Audubon Society, Poulsbo Rotary Club, Poulsbo Lions Club, the Suquamish Tribe, WSU Horticulture, Poulsbo Tree Board, and the Marine Science Society.



Figure 3. Volunteers planting native trees.

Mission Statement: *Poulsbo's Fish Park provides community-wide environmental education opportunities, mobilizes support and focuses actions to preserve and protect this passive, natural recreational area.*

This master plan is intended to assist the City and the Committee in achieving their vision of providing a reflective place to provide quiet public enjoyment of the rich native plant and animal habitat as a reminder of our natural heritage.

In this regard, the master plan outlines goals and objectives, a site planning concept, and more detailed recommendations for the ecological restoration, trails, site furnishings and future Education Center facilities.

An important part of the planning concept is the park's relationship to other city parks and activities. Fish Park is seen as an important element in the city's system of parks, shoreline access, and trails. Fish Park will complement Nelson Park to the south, add impetus to extending the shoreline trail northward from downtown, and add an important educational component to the Marine Science Center's activities.

Of special note is the master plan's implementation proposal, which calls for a combination of phased, funded projects and ongoing volunteer efforts. While the master plan looks to the long-term future with some ambitious projects, it also includes immediate actions to pursue, and a large part of the work has included assisting the City with a current ALEA grant application.

Project Process

The master planning effort began in earnest with Committee meetings in the fall and winter of 2003/2004. After organizing itself, considering the project mission, and visiting relevant facilities, the Committee sketched a very general site concept. In March 2004, the Committee contracted with a team of MAKERS architecture and urban design, J.A. Brennan and Associates, and The Watershed Company to assist them in preparing this master plan. Throughout the spring, Committee and design team met monthly to detail goals and objectives and generate and evaluate different park layouts. (See “Goals & Objectives” on page 6.) On April 26, 2004, the Committee and the consultant team conducted an open house for the public to review planning alternatives and express their ideas and preferences. Based on that input, the Committee sketched a preferred concept and directed the consultant team to refine the plan and refine these pieces into a master plan.

While the plan was being developed, the Department of Parks and Recreation prepared an Aquatic Lands Enhancement (ALEA) grant for Phase 1 improvements that will accomplish the first set of restoration and access elements.

At the July 26, 2004 Poulsbo Park Board meeting, the team held a second workshop to present the major elements of this plan, answer questions, and take comments. Participants registered their priorities on comment sheets. The presentation was well received, with generally favorable comments and no vocal opposition to any of the proposals.



Figure 4. Open House Participants evaluate master plan alternatives.



Site Description

Poulsbo's Fish Park lies at the bend of Liberty Bay, approximately one-third mile from downtown Poulsbo. Bordered by Lindvig Way on the south, the estuary on the east, and commercial properties on the north and west, the park site includes a variety of streams, ponds, wetlands, and topographic features. Despite its in-town location and Lindvig Way

exposure, the site possesses a remarkable sense of seclusion due primarily to its topography and dense perimeter vegetation. Ecologically speaking, the uplands have been severely degraded, but there is an opportunity to restore the aquatic features and vegetation to provide a wide variety of habitats.

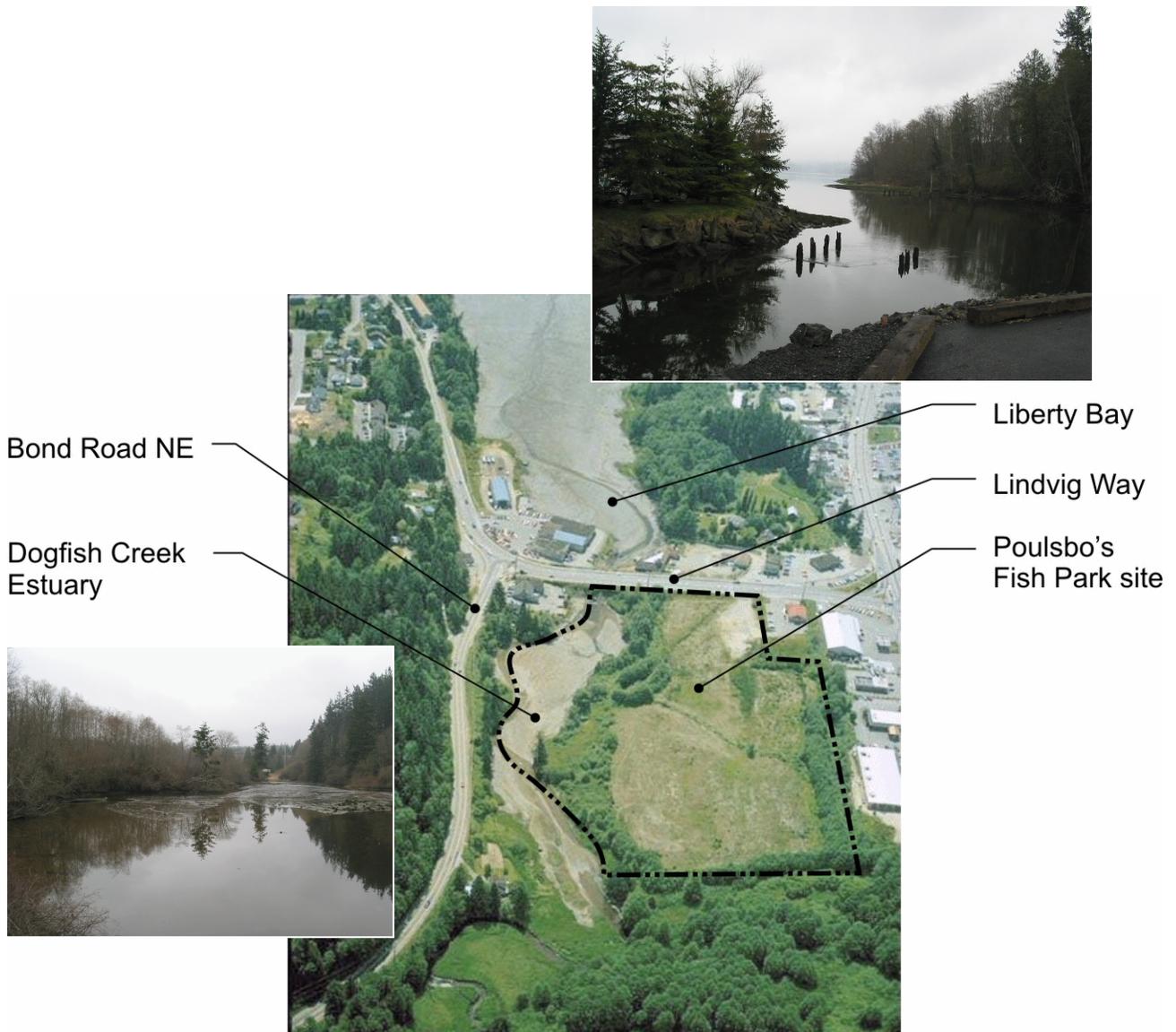


Figure 5. An aerial view of the existing site, looking south to Liberty bay on the top and north to Dogfish Creek Estuary

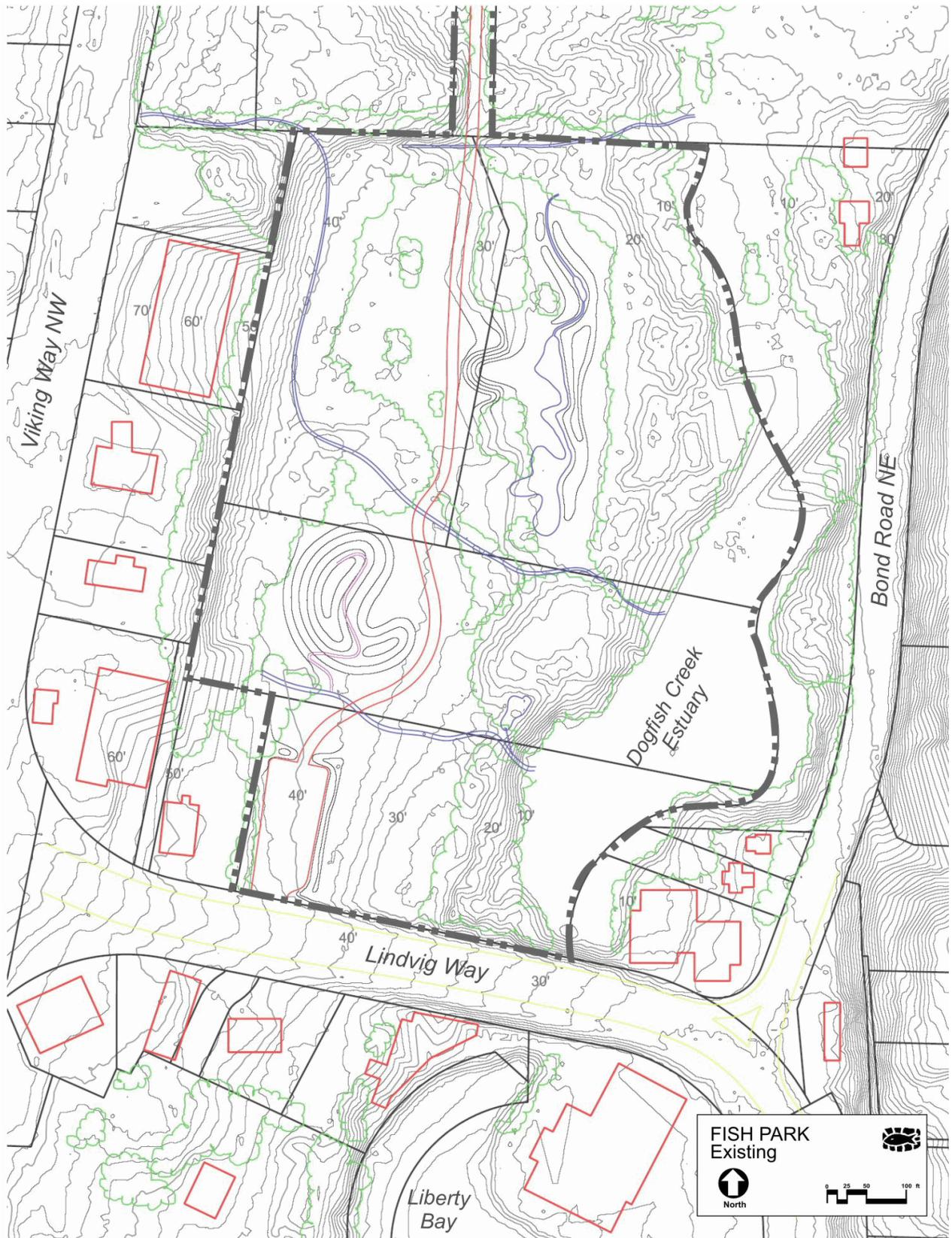
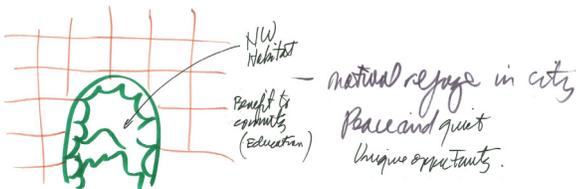
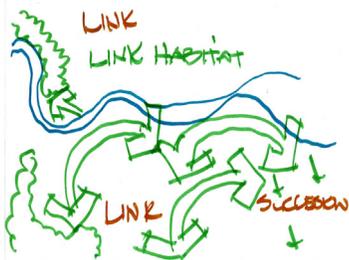


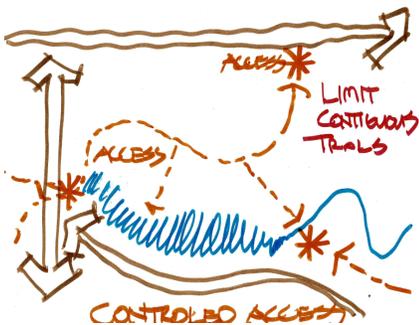
Figure 6. Existing Fish Park topography.



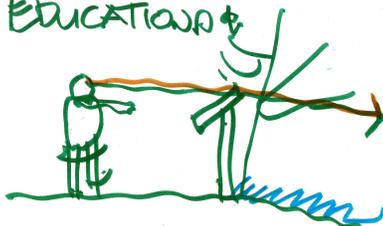
GOALS & OBJECTIVES



**A TRUE NATURE
IN THE CITY**



**NATURAL ENVIRONMENT
EDUCATION &**



Goal 1: Preserved and restored natural environment

Use Fish Park as a signature project exemplifying the City's goals to enhance the natural environment.

- Restore the estuaries to fulfill their role in the watershed ecology and landscape setting.
- Daylight creeks on the site.
- Minimize any man-made structures on the site to respect natural habitats.

Goal 2: Natural refuge in the city

Provide sanctuary for wildlife, including birds, fish, and beavers.

- Provide places where fish can migrate upstream.
- Provide better habitat linkages for wildlife to move naturally along the corridor.
- Incorporate a beaver pond into the site.
- Consider using conifers as a noise buffer from the street to keep natural habitats peaceful and quiet.
- Limit continuous trails through the site.
- Consider controlled access to the site to minimize human impacts on wildlife.

Goal 3: Education Center and recreational site for locals and visitors

Use Fish Park as a place where people can learn about nature and which they can use for daily physical enjoyment.

- Provide indoor and outdoor classrooms and space for exhibits as part of environmentally educational activities.
- Provide trails, including boardwalks, throughout the site and as links to Nelson Park.

- Provide interpretive signs throughout the site to educate people about the ecosystem and to give them a chance to experience how wildlife habitats work.
- Consider an on-site day camp for kids.
- Consider an underwater fish viewing station.
- Provide easy access to the park.
- Consider shared parking with Nelson Park using a connecting pedestrian path.

Goal 4: Showcase for sustainability

Demonstrate new techniques for sustainability practices.

- Use Fish Park as a demonstration site to promote sustainability concepts in different scales, from site planning to detailed design.
- Use environmentally friendly materials where applicable.
- Use native plants where possible, with designated areas for non-natives.
- Use on-site wetlands to purify the water from the street.

Goal 5: Integration of local history and cultures into architectural and landscape designs

Acknowledge and enhance local history and culture.

- Integrate Norwegian and Native American styles with architecture and landscape design on the site.
- Provide displayed art and visually pleasing outdoor interpretive signs.
- Consider a long house-style building on the site to acknowledge local history.



YOUNG PEOPLE CAN LEARN ABOUT THE NATURE



MASTER PLAN CONCEPT

Fish Park's Master Plan is based on goals and objectives set by the Committee in the spring of 2004. Both Master Plan and design elements are discussed in greater detail in the next chapter.

With the unique landscape setting and watershed ecology of Dogfish Creek Estuary, Poulsbo's Fish Park is a wonderful opportunity to create a natural refuge in the city. The completed park will include a diverse system of ponds, streams, and various types of wetlands, providing sanctuary and habitat linkages for the area's birds, fish, and, perhaps, beavers. To support this objective, the features and activities outlined in the Master Plan are designed to encourage environmental restoration and education efforts.

The circulation system is designed to limit vehicular intrusion into the park while providing access and parking at both the north and south. A pedestrian spine linking trails and park facilities will run between the two access points and allow access for emergency vehicles. While much of the park will be inaccessible to protect wildlife, a network of crushed gravel loop trails and boardwalks will lead visitors to the park's natural areas and viewpoints and link Fish Park to Nelson Park to the south.

Besides creating a broad spectrum of plant and wildlife habitats, Poulsbo's Fish Park will offer

visitors a wide variety of visual experiences. In addition to the sequence of views from the sinuous pedestrian spine, the park will provide panoramic vistas from the hill and intimate, close-in wildlife viewing from the trails and decks.

Fish Park's Education Center complex provides indoor and outdoor classrooms, restrooms, and space for exhibits and other environmentally educational activities. The complex is located near the north parking lot to maintain the natural and quiet feeling of the south pedestrian entrance.

Liberty Bay has long been an important resource for the Suquamish people and was also a crossroads for early Scandinavian settlers. Therefore, local history and the Suquamish and Scandinavian cultures are integrated into architectural elements throughout the park. The Education Center complex consists of gabled buildings (commonly used by both cultures) tied together with an open colonnade and trellis evocative of the native Indians' potlatch setting. This flexible configuration will accommodate both large and small buildings, which can be built over time or all at once. Building materials will be environmentally friendly and possibly include a "green" roof on the open-air shelter and restroom. Native plants will be used where possible, especially on the Viewpoint Mound, for soil stabilization and drought resistance.

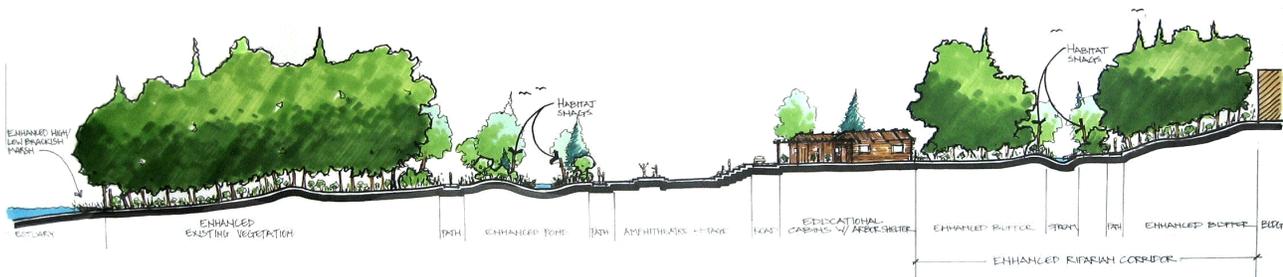


Figure 7. Cross-section showing the relation of the Education Center to other features.

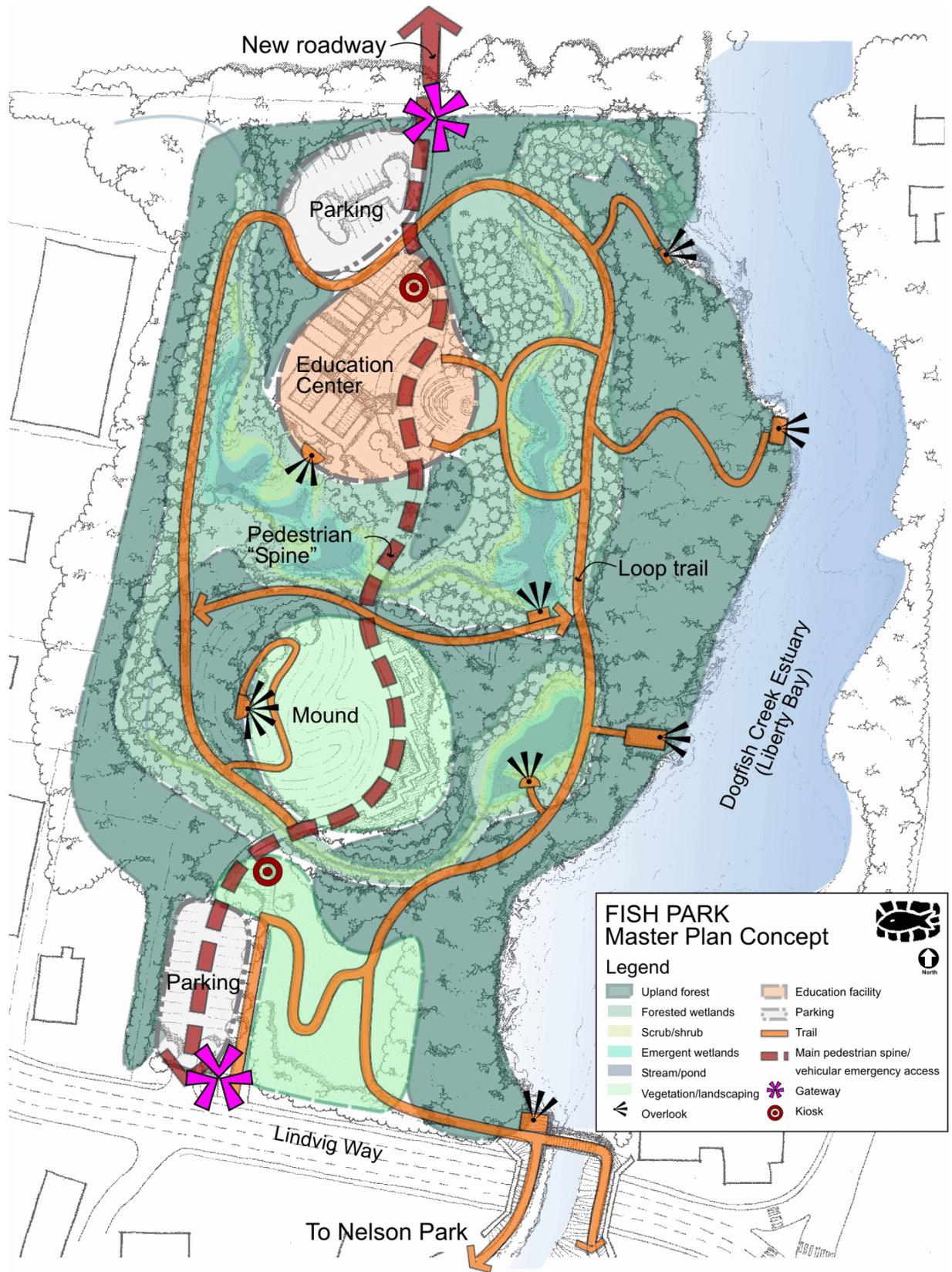


Figure 8. Master plan concept.

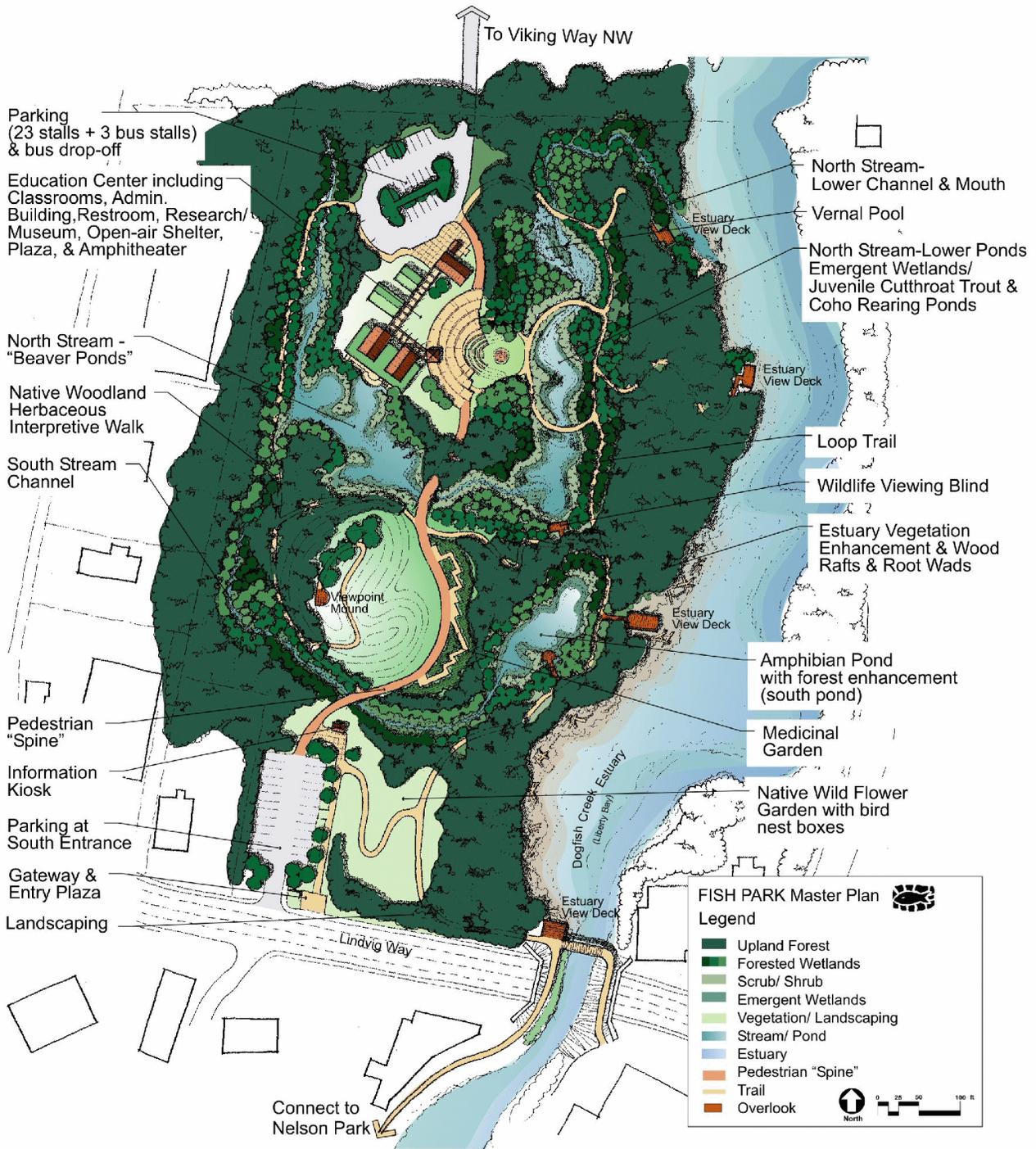


Figure 9. Fish Park site plan.

MASTER PLAN & DESIGN ELEMENTS

Below are described the plan's elements in greater detail.

Environmental Restoration

As noted earlier, ecological protection and restoration are the foundation on which Fish Park's Master Plan is based. Therefore, a description of specific actions should begin the long-term program to upgrade the park's natural processes and wildlife habitat.

Although the site appears to many of us to retain its natural qualities, in fact the site has been radically altered by logging and regrading activities. The blackberry thickets, alder stands, channelized streams, and flattened areas do not constitute a healthy ecosystem. In a more natural state, the site would feature a diverse system of ponds, streams, and wetlands cleaning and regulating water into the estuary and providing a variety of aquatic habitats. Vegetation, too, would be more diverse and include stands of mixed coniferous and deciduous trees and forest, scrub-shrub, and emergent wetland plant communities.

The goal of this plan is to help the natural ecological processes gradually recreate this condition. This requires enhancing the estuary shoreline, reconnecting and enhancing stream corridors, adding greater shoreline complexity to the aquatic system by creating a series of ponds and wetlands, and replanting native vegetation. Recommended actions to accomplish this goal are described in Figure 9 on page 10 and include the following:

1. North Stream - Lower Channel and Mouth

A new, fish-passable stream channel will be sculpted through an area of existing shrubs and deciduous forest to connect the outlet of the lower ponds to the Dogfish Creek Estuary. The channel will likely support sea-run cutthroat trout spawning, and juvenile coho salmon will also be able to ascend from the estuary to take advantage of available rearing habitat. The culvert will be removed and a new channel formed to resemble a natural stream segment, with a clean gravel bed, pools, and downed trees to provide protective cover for fish in the stream and to maintain pools. The stream bank areas will be replanted with native tree, shrub, and groundcover vegetation.



Figure 10. Type of vegetation recommended around ponds.

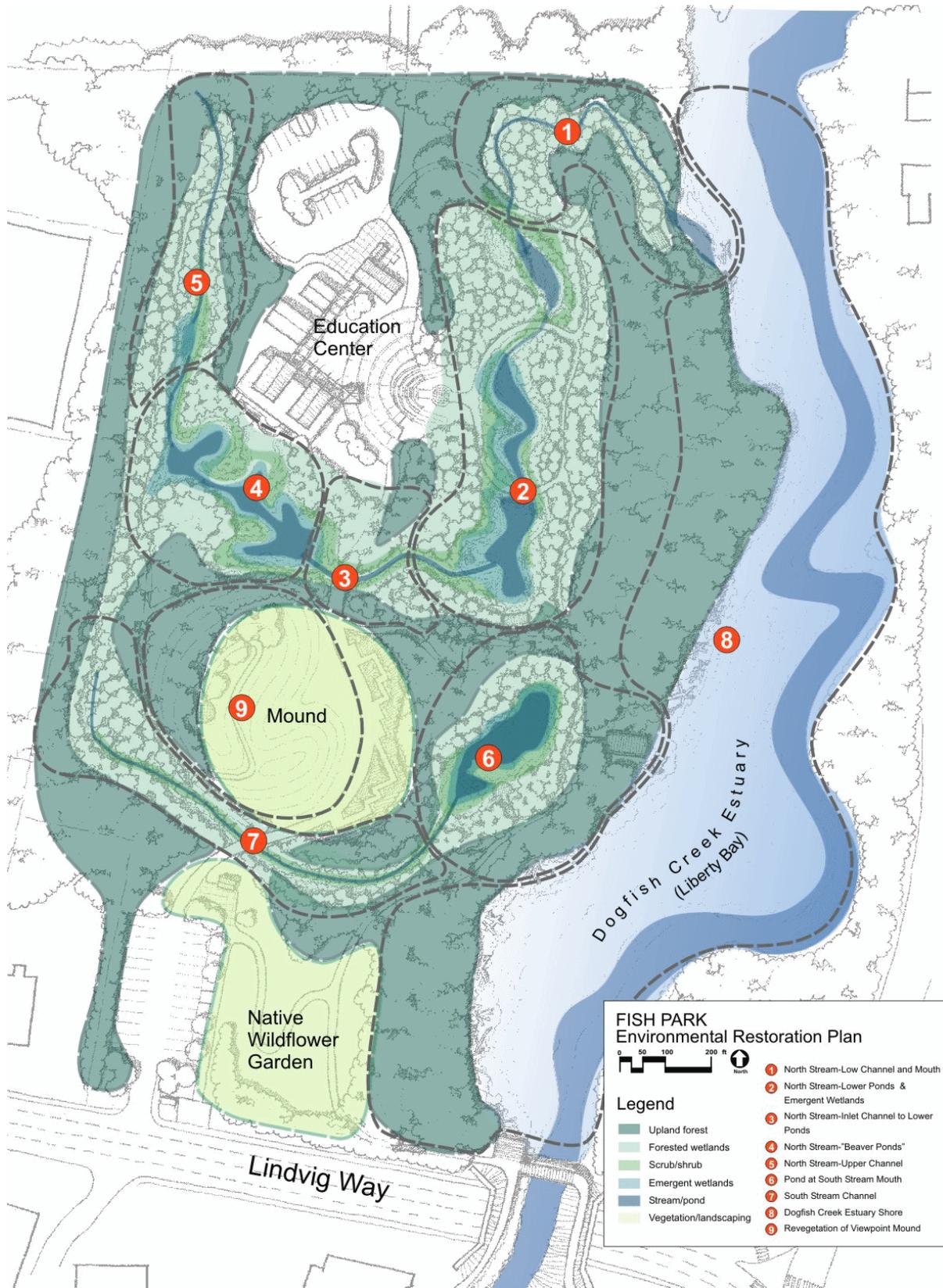


Figure 11. Restoration plan.

2. North Stream - Lower Ponds and Emergent Wetlands

The roughly-sculpted “necklace” of shallow ponds can be considered a “diamond in the rough” with respect to fish and wildlife habitat and wetland function. The water and rough form are there, but the ponds will need additional grading and supplementation to fulfill their potential as productive habitat. Toward that end, a variety of roots, logs, and limbs will be distributed throughout the ponds and along their shores, some largely submerged and some well up the shore. Those in the water will provide cover for fish; those up the shore will harbor salamanders, frogs, voles, insects, and other animals.

The shallowly submerged pond fringes will be planted with emergent wetland vegetation, transitioning to riparian, and then fully upland native vegetation extending outward and upward from the water’s edge. These ponds will also provide over-wintering rearing habitat for juvenile cutthroat trout and coho salmon.



Figure 12. Emergent and scrub-shrub wetland plant communities.

3. North Stream - Inlet Channel to Lower Ponds

A new channel section will be formed to carry North Stream flow into the lower ponds and their new outlet channel. Like the outlet channel, this pond inlet channel will also be constructed with a gravel bottom, incorporated woody materials, and banks revegetated with native plant species. The inlet channel may be slightly steeper than the outlet channel but should still be able to provide fish passage to the “beaver ponds” farther upstream.

4. North Stream - “Beaver Ponds”

Flatter areas along the North Stream will be shaped to form wide, shallow ponds to mimic beaver pond habitat. Beavers might even colonize this area to make them actual, in-fact beaver ponds. Existing sapling alders growing in the area would provide beavers with a readily available source of food as well as dam-building materials. Juvenile coho salmon and cutthroat trout readily make use of headwater, ponded, beaver-dam-like areas for rearing, particularly in winter when cooler temperatures slow their metabolism and make lower-velocity areas more attractive. Pond fringes will be planted to function as emergent wetlands transitioning into riparian buffer areas.

5. North Stream - Upper Channel

The “beaver pond” inlet stream section presently flows in a ditch lined with alder saplings. The channel will be widened and “un-straightened” along this section (made to meander). The resulting disturbance will be used as an opportunity to diversify the vegetative community by planting a wide variety of native plant species to supplement the existing young alders.



6. Pond at South Stream Mouth

Blackberries and other non-native vegetation will be removed from around the pond, after which native shrub, groundcover, and emergent wetland vegetation will be replanted. Thinning the existing alders and willows will allow more sunlight to reach the understory and pond surface to allow more kinds of plants to grow. It will also warm the water to enhance breeding and rearing habitat for frogs and salamanders.



Figure 13. Current conditions of South Stream Pond.

Conifer trees such as western red cedar will be planted amongst the remaining young alders to provide diversity and a year-around green (evergreen) backdrop, and downed trees will be placed in and around the pond to provide habitat cover. The present outlet culvert will be removed and replaced with a swale. Passing trails will allow views of the pond and provide interpretive signage that explains habitat function.



Figure 14. Current conditions on South Creek.

7. South Stream Channel

Like the pond inlet channel of the North Stream, this channel will also be constructed with a gravel bottom, incorporated woody materials, and banks revegetated with a variety of native plant species. Due to the small size of this stream and its inaccessibility from the estuary, however, it is not expected to be used by fish.

8. Dogfish Creek Estuary Shore

Various groupings of logs and brushy materials will be placed and secured along the estuarine shoreline to provide small fish a place to hide from predators, particularly waterfowl. Brushy materials will be placed along the shore to supplement existing overhanging vegetation, and whole trees, including limbs and root wads, will similarly be placed to simulate trees falling into the estuary due to wind or undercutting erosion. Floating rafts of wood will be placed just offshore to provide cover for fish on a tidal basis and simulate driftwood that would accumulate naturally.



Figure 15. Fallen trees, like this one—called “large woody debris”—provide important habitat for young salmon and other aquatic species.

Himalayan blackberries and other non-native vegetation will be removed from along the estuarine shoreline, and the reclaimed space will be planted with native plant species. Such supplemental native vegetation will provide shade, leaf litter, terrestrial insect food supply, overhanging vegetation cover, recruitment of small-to-large woody debris, wildlife food, and overall habitat. Spurs off of the main trail network will provide visual overviews and locations for interpretive signs.

9. Revegetation of Viewpoint Mound

Soil stability is the primary concern on the barren Viewpoint Mound. Because it is such a prominent feature on the site, it needs to be revegetated with native species that both are attractive and have root systems that bind soils.



Figure 16. Replacing existing blackberry thickets with native vegetation is a big job, suitable for volunteer efforts.

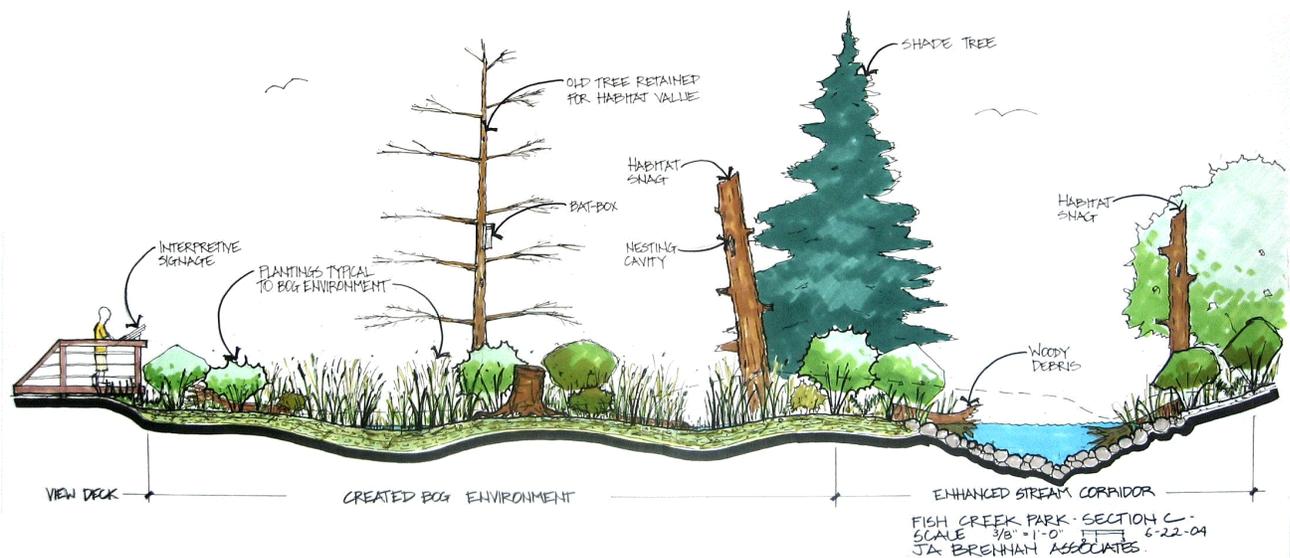


Figure 17. Some features of habitat restoration.



Additional Landscaping

In addition to the natural areas described above, the parking areas and the roadway edge along Lindvig should be landscaped to partially screen the site from the parking lot and roadway and to provide an attractive entry. A mixture of coniferous and deciduous trees is recommended to buffer traffic noise and visual impacts.

However, some visibility from the road and lots is necessary for security, so trees should be selected that allow pruning of lower branches.

The flat areas south and east of the hill provide the opportunity for an interpretive garden that could display, for example, native plants used by the Suquamish, wildflowers suitable for residential gardens, sustainable gardening techniques, or other topic of interest.

Plan Irrigation and Maintenance

New plantings, even native plants, require watering the first two years after installation. Depending on funds, this may be a task that volunteers can perform, although the responsibility for this task should be taken seriously. At a minimum, hose bibs should be provided that can easily reach all new plantings. Until the native conifers and wetland plants are fully established, they will also require protection from animals and invasive weed removal.

Trails and Access

Because of the future park's extensive aquatic habitats and vegetated areas, much of the park will be inaccessible to visitors—and humans will definitely be visitors, welcome only if they respect the needs of the native plants and animals. However, the Master Plan includes a one-mile trail system allowing access to the most interesting park features.

A general principle of the trail network's design is that the trails be as non-intrusive and as "soft" as possible while accomplishing their intended

purpose. That is, the trails should be located to minimize ecological and visual impacts and paved with "softer" materials—such as gravel rather than solid pavement—if the "soft" materials can fulfill their function. All trails must meet Americans with Disabilities Act access requirements unless precluded by insurmountable physical conditions.

The network consists of the following types of trails:

- 1. A 12-foot wide pedestrian spine from the south parking lot to the north parking lot.** This spine will be the most heavily traveled route, allowing visitors to access the Education Center, hill trail, and other loop trails. The 12-foot width is recommended so two couples can easily pass one another and because the spine will also be used for service and emergency vehicles. Either asphalt or permeable concrete is the recommended paving surface because the spine must provide all-weather service, vehicle access, and easy wheelchair accessibility. The pedestrian spine also provides the central route for utilities.
- 2. Pedestrian trails 6 to 8 feet wide, generally forming loops off the spine.** These trails provide access to the park's more natural areas and viewpoints. The crushed gravel surface must be graded and compacted for wheelchair access. The trails that form loops should be 8 feet wide, while the spur trails to viewpoints may be 6 feet wide.



Figure 18. A well-constructed gravel trail can provide an appropriate walking surface.

- 3. Boardwalks in sensitive areas or as connections to viewpoints.** Where necessary to bridge streams or wetlands, 6-foot to 8-foot wide boardwalks with rails are recommended. Boardwalks also help keep visitors on the trail and out of sensitive vegetation and habitats.



Figure 19. Boardwalk.

- 4. Small platforms at viewpoints.** Modest viewpoint decks, about 12 feet by 12 feet, will provide views of the estuary, key wetlands, and ponds. The decks can provide space for a bench and interpretive panels as well. These features will be particularly useful for bird and wildlife viewing. A small gravel pad with benches is also recommended at the top of the hill.



Figure 20. Viewpoint platform.

- 5. Plazas and walking surface near the Education Center.** Because of heavier use, it may be appropriate to consider concrete or unit paving for pathways and plazas around the Education Center. Permeable concrete may be a preferred option if unit paving proves too expensive.
- 6. North access road.** As the park becomes more popular and new features are added, a north access road should be constructed from Viking Way. The City currently owns sufficient right-of-way to construct the road, and the soil conditions and topography do not present significant hurdles. At a minimum, the road section should include two 12-foot lanes, a 10-foot multipurpose trail, and bioswales for water treatment. Asphalt is the recommended pavement.
- 7. Parking areas.** Gravel parking areas are generally recommended, provided the traffic does not rut the surface to the point where drainage is a problem. The north parking lot should provide sufficient turning radii and parking spaces for buses. The configuration should allow for expansion if the need arises.



Site Furnishings

Although most of the site furnishings, such as lights, benches, fences, and information kiosks, will be selected or developed during the design phase of the project, this Master Plan does include some recommendations for specific elements.

In general, site furnishings at Fish Park should emphasize durability and a simple, informal character rather than a refined urban style more suitable for the city. Except for the entry kiosks, the site furnishings should visually recede into the background. Natural wood, masonry, or metal finished with a low-luster, dark color coating is preferred.

Following are recommendations for specific elements:

Lighting

The amount and type of lighting will depend largely on the evening use of the facility. At this point it appears most likely that the park will be closed after dark, so only security lighting of the parking areas is recommended. If, in the future, the Education Center will be used in the evenings, it may be appropriate to light those areas as well. In any case, the type of fixture should be easy to repair and replace, so a type of light commonly used by the Park Department should be considered first.

Fencing

As park usage grows and management operations evolve, security fencing may become necessary. While chain-link fencing will likely be the least expensive option, it should be located to minimize its visual impact. Landscaping near the fence and a black or dark green vinyl coating will also improve a fence's appearance.

Gates and fencing around entry points should be more refined than a simple chain-link security gate system. Gates with rails or grid patterns will present a more welcoming character.

Benches and Tables

Durable wood or synthetic materials (other than plastic) are recommended, with a natural finish.



Figure 21. Simple, durable site furniture is recommended.

Interpretive Signs

Porcelain enamel interpretive panels are the most durable and have the highest resolution and best color range. However, as few manufacturers still make porcelain enamel signs, they are being replaced by polymer surfaces and computerized printing systems.



Figure 22. Example of an interpretive sign.

Light letters on dark backgrounds are easier to read in bright sunlight, and orienting the sign at an angle, below eye level, makes them more comfortable to use than vertical signs.

Entry Kiosk

Until the park's second phase is constructed, visitors will enter from the south, and there will be no Education Center. Therefore, an entry kiosk near the south parking lot is needed to orient visitors. This kiosk should be visually prominent and present such information as a map, hours of operation, and park history.

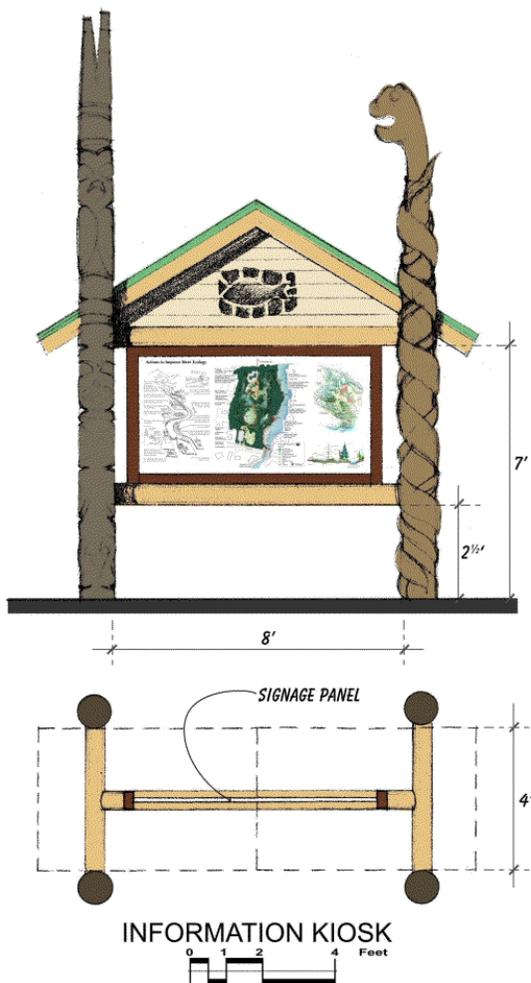


Figure 23. Kiosk design

Artwork

While the natural environment will be the main attraction to Poulsbo's Fish Park, artwork might appropriately enhance high-traffic areas near the south entry, along the pedestrian spine, or around the Education Center.

Artwork with themes or materials reflecting the natural environment, sustainable living, or local history would be the most appropriate.



Artwork can be used in different site elements, such as plaza paving, architectural details, or, as in this example, a gateway.

Underwater Viewing Station

Participants in the planning process expressed strong interest in constructing an underwater viewing area where visitors can look through a glass window to see aquatic life. The proposed "beaver pond" near the proposed Education Center would be a logical place for such a feature. An underwater viewing area would require a concrete ramp and walls to allow visitors to walk below the water level, but such facilities have proven popular in other part of the country.



Figure 24. Example of an underwater viewing station.



Figure 25. Education Center.

Education Center

Although it is not included in the early phases of Fish Park's development, the Education Center will play a critical role in fulfilling the park's mission because it will serve at least five purposes:

- **House educational programs.** These programs may cover a broad spectrum of activities, including: nature day camps, tribal functions, school outings, and locally or privately sponsored classes.
- **Accommodate research programs.** Laboratory facilities may be included that facilitate scientific study of estuary ecology or the effectiveness of specific restoration measures.
- **Provide a base for adopt-a-park volunteers and special groups.** Park restoration and management will require an extensive volunteer program, and one of the structures could serve as a home base and tool shed for the volunteers. In addition, other affiliated groups, such as the Audubon Society chapter or Suquamish Tribe, may find the center a valuable facility.
- **Provide park restrooms and space for maintenance equipment storage, administration, visitor orientation, and other services.** These facilities may be among the earliest constructed as they will be needed for general park support.
- **Attract visitors from the region.** The vision for the center includes an interpretive center or museum that will complement the Marine Science Center and add to Poulsbo's attractions.

The size and extent of the facilities to house the above functions are not certain at this time. However, the Master Plan includes a conceptual program in order to explore ideas and project land allocations that will accommodate a typical facility.

Figure 25 illustrates how the educational center could fit into the park. As envisioned here, the center is comprised of a series of smaller structures linked with an arcade. Developing the center as a complex of smaller structures has several advantages. First the buildings can be added over time, with the size and configuration growing to fit emerging needs. Second, the smaller scale of the buildings will fit well within the landscape and achieve the informal character desired by the community. (See the section on architectural concept). Third, the buildings can be added to fit individual needs, such as classes, research, and outdoor activities.

As Figure 25 illustrates, the complex of structures is located conveniently near the bus drop-off, amphitheater, beaver pond, and the center of the interpretive trails. Direct proximity to the pedestrian spine to the south and the parking area to the north will allow for the natural surveillance preferred by the Police Department. A closer look at the building complex shown in Figure 26 shows how the uses might be arrayed in the complex. This arrangement is based on the building program studies summarized in Figure 27. The building sizes are based on other similar facilities elsewhere in the region. One option that may prove most appropriate when the buildings are developed is the construction of an interpretive center/museum that is larger than the small one shown in Figure 27. Figure 26 illustrates such a structure that incorporates two smaller spaces but includes a larger gallery for displays. This interpretive center could be located to overlook the beaver ponds and include an "underwater" viewing platform for viewing underwater wildlife activity.

Architectural Character

Even at this early stage, the Committee and design team felt it important to explore the

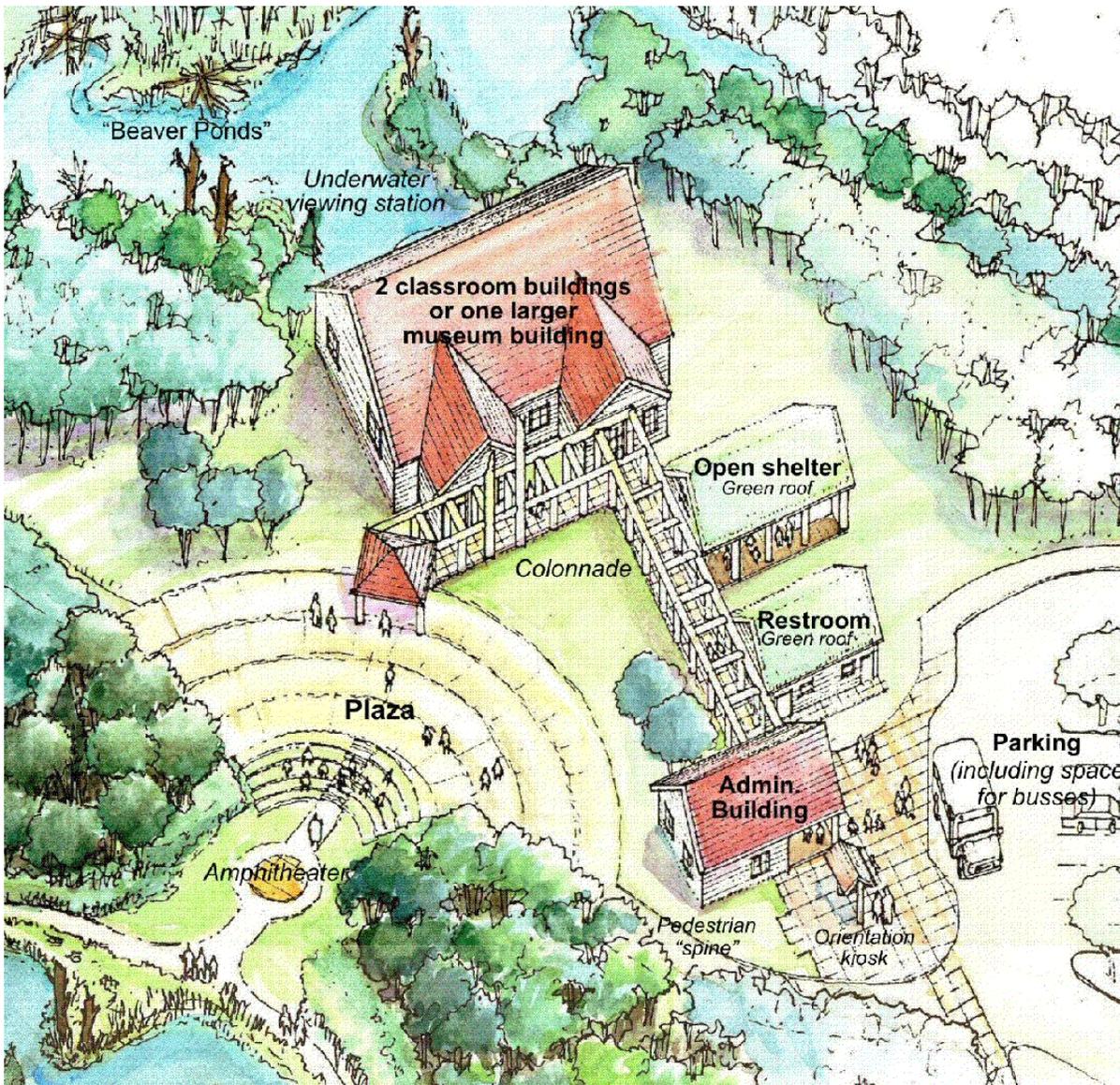
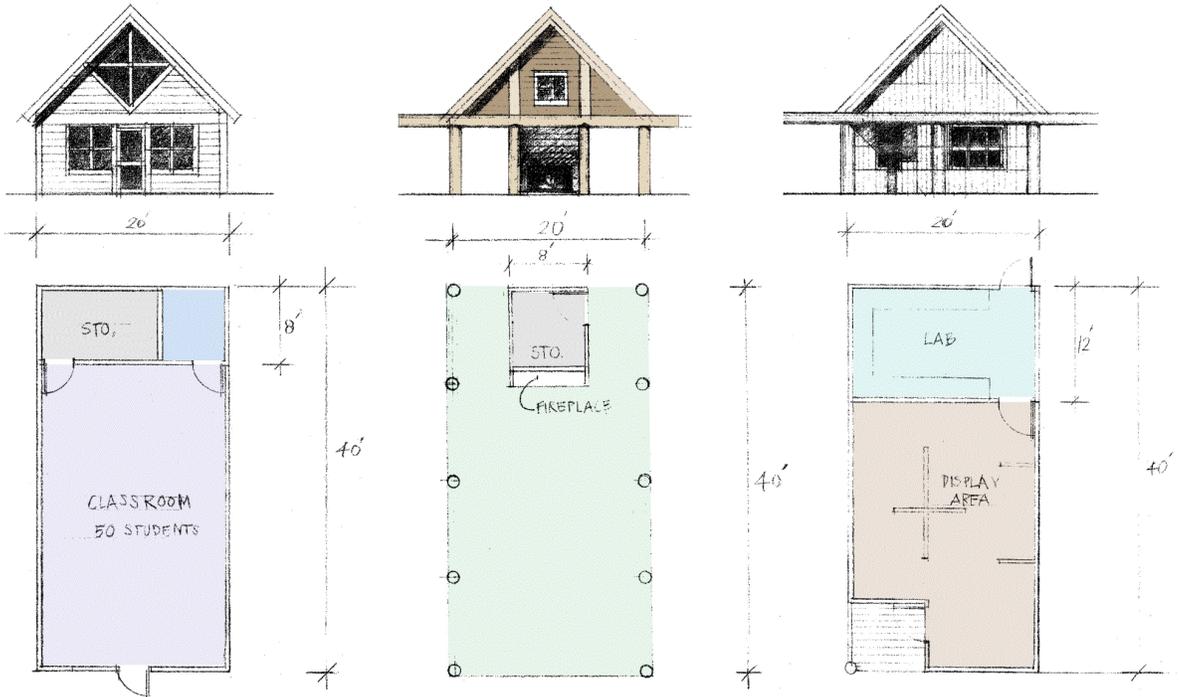


Figure 26. Education Center Details

design character of the built structures because these structures will ultimately be a highly visible and central part of the park. To get an initial sense of community opinion, participants at the first open house were asked to evaluate pictures of similar facilities with respect to their appropriateness for Fish Park. The pictures illustrated a variety of different architectural styles and approaches ranging from traditional Nordic and Northwest Coast Indian to contemporary. The consensus was that the

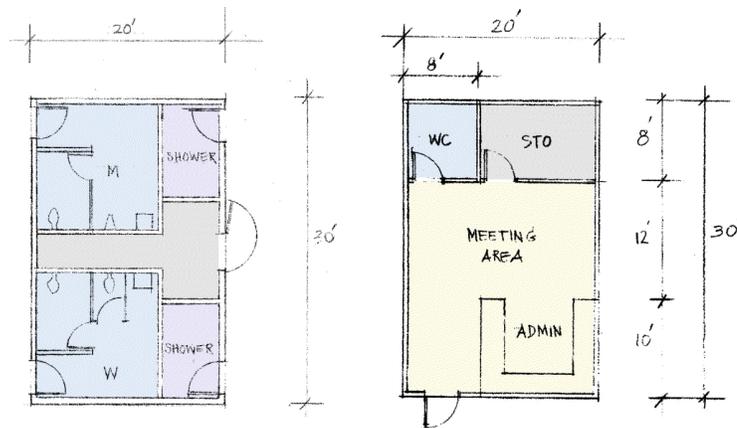
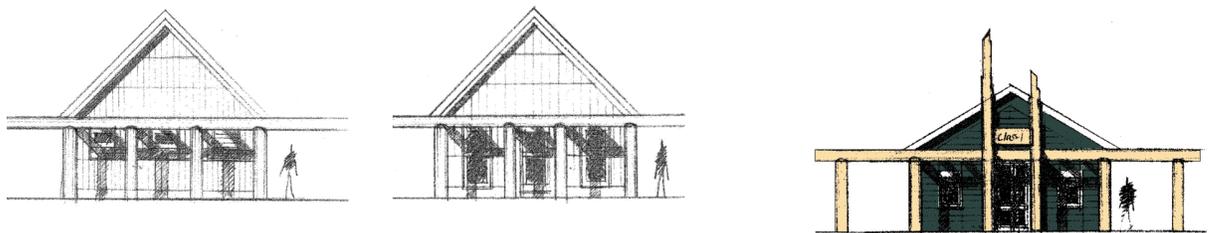
structures should be clearly contemporary structures but that some might incorporate the aspects, elements, or details derived from traditional architecture. Based on this input, the team prepared conceptual sketch plans and elevations for small buildings that incorporate simple gable-roofed forms and could accommodate a variety of detailing and materials ranging from log supports, arcades, and entry poles to traditional windows and siding or roll-up garage doors.



Classroom Building

Open-air Shelter

Research/ Interpretive Center



Restroom

Admin. Building



Elevation Study

Figure 27. Architectural study



CONTRIBUTION TO THE COMMUNITY

Multifaceted City Role

While Poulsbo's Fish Park is a multifaceted resource in its own right, the park takes on additional importance when considered as part of the City's larger park, recreation, and trail system. Poulsbo already boasts an integrated set of parks and open spaces ranging from passive open spaces with rural and natural characters to downtown plazas, active playgrounds, and sports fields. The City is also aggressively adding to a shoreline trail that is planned to connect Nelson Park at the head of Liberty Bay to downtown and the southern city limits. Within this spectrum, Poulsbo's Fish Park will add a natural shoreline setting that is also actively being restored; a characteristic that will complement existing park assets.

Together with Nelson Park, located just across Lindvig Way, Poulsbo's Fish Park will provide an important destination for city residents and regional visitors. Both parks are also connected to Kitsap Peninsula's regional Greenway trail system. While there is currently a dedicated sidewalk connecting the park to the downtown, extending the shoreline trail from American Legion Park northward to Nelson and Fish Parks would greatly enhance the accessibility and visibility of both.

When thinking about Poulsbo as a regional visitors' destination, it is important to consider that most visitors will want to enjoy its attractions for at least four times as long as it takes to get there. Thus, to increase a community's attractiveness as a destination, it is always important to provide as many diverse activities as functionally possible. Poulsbo's Fish Park has the opportunity to significantly increase the number of attractions in Poulsbo,

especially for those looking for passive recreation and/or nature study. This fact makes a direct shoreline trail between the downtown and the park an even more desirable project.

Programmatic connections between the city's attractions and organizations are equally important. The Committee should continue to build relationships with other organizations, such as the Suquamish Tribe, the Marine Science Center, the Master Gardeners, and the Audubon Society, so that the park's use and constituency are increased. Ideally, Poulsbo's Fish Park will serve as both crucible and catalyst for greater cooperative efforts in the areas of environmental restoration, education, sustainability, and economic development.

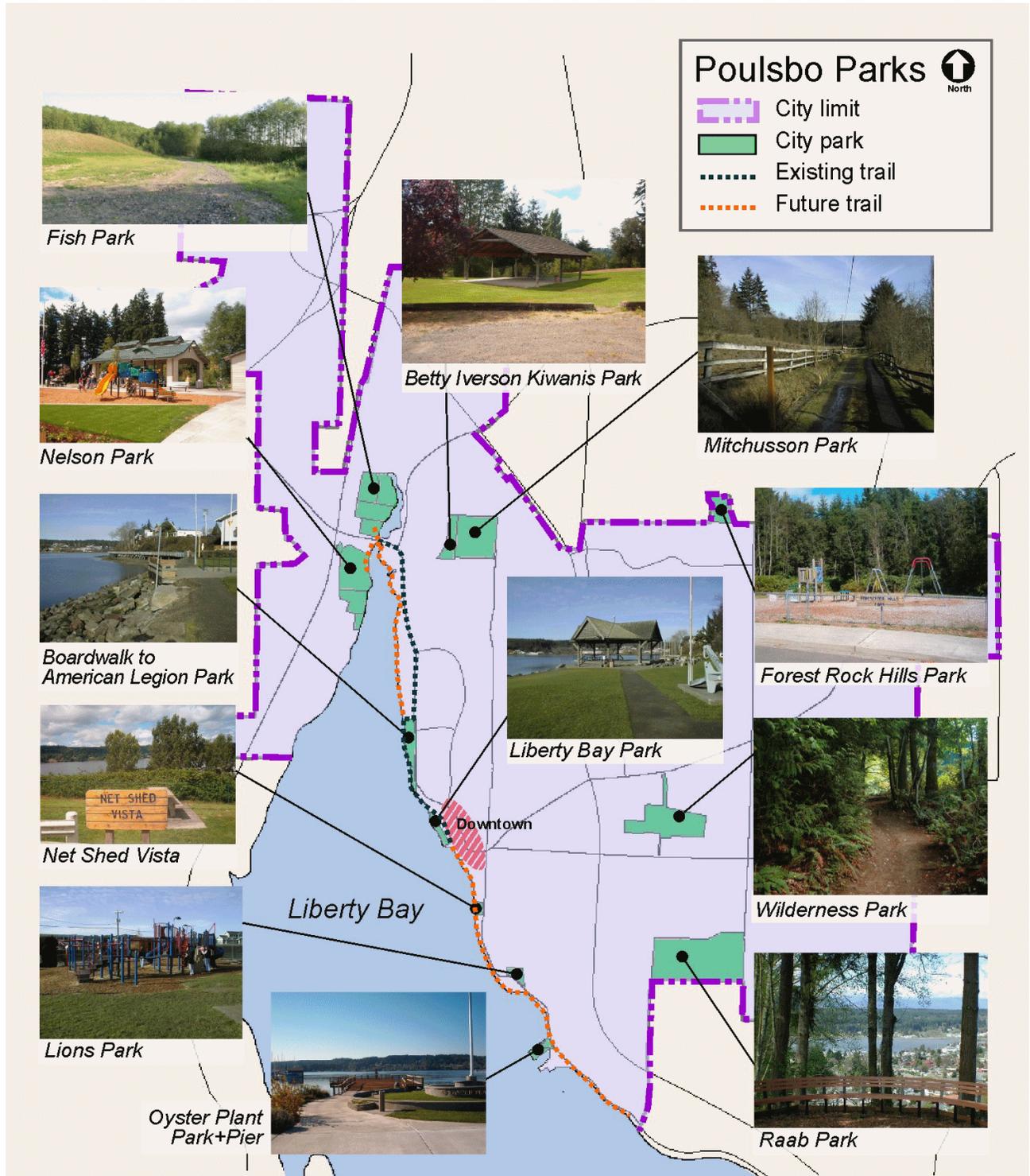
Environmental Role

Poulsbo's Fish Park is only a part of the Dogfish Creek estuary system, which consists of not only the tidewaters, but also the associated streams and wetlands. Such estuary systems are particularly valuable. According to the Department of Ecology, Puget Sound has lost more than 70 percent of its tidal wetlands, particularly in heavily urbanized areas. The interactions between fresh water and salt water create a complex, diverse, and highly productive ecosystem. These estuarine habitats are critically important, not only to listed salmonids and forage fish, but to a huge variety of wildlife as well.

Most of the land along the estuary is owned either privately or by the Washington Department of Transportation. Although much of the land is encumbered by wetlands or other unbuildable conditions, some of the area will undoubtedly be developed. As development applications are processed, the City should take

extra care to ensure that ecological resources are protected and explore options to acquire undevelopable land. This effort would be

greatly facilitated by a plan that identifies key resources, development potential, and environmental restoration opportunities.



Poulsbo's System of Parks and Civic Attractions

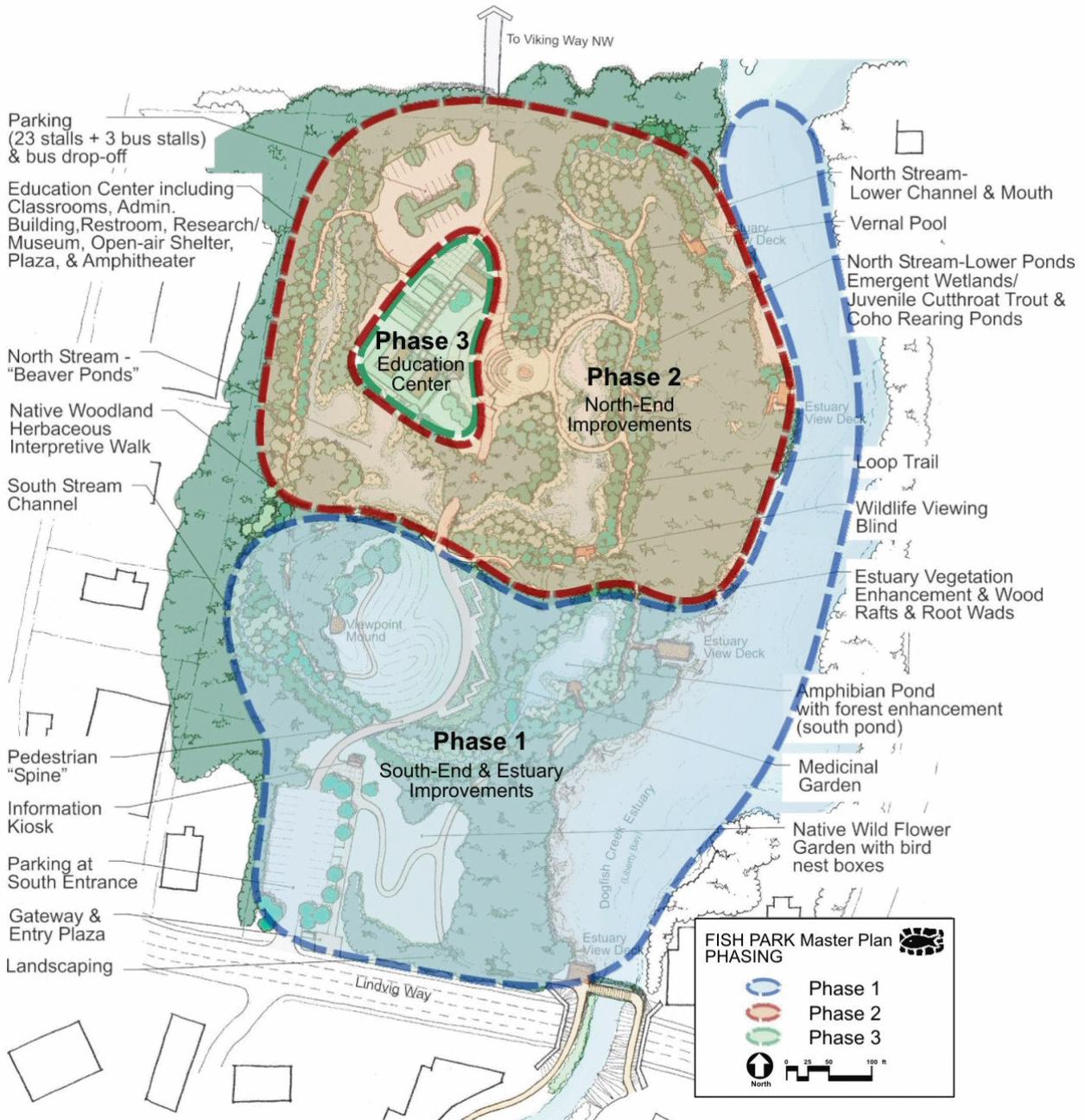


Figure 28. Implementation.

IMPLEMENTATION

The community's vision for Fish Park is ambitious, and achieving it will likely require a number of funded projects and volunteer efforts over several years. A key consideration driving this plan is the need for phased construction and ongoing volunteer work. While the amount of work to be done may seem daunting, park supporters can take heart in the amount already accomplished; namely, acquisition of the site, replacement of the culvert with the bridge, pedestrian crossings, hill construction, daylighting of creeks, pond grading, and revegetation. So there is a lot to build on, and the City has applied for an Aquatic Lands Enhancement Account grant for an initial phase of work. The proposed phasing below describes some logical next steps for the community to pursue in reaching its goals. The Master Plan will allow a number of phasing options, depending on when resources become available. However, in most basic terms, a three-phased strategy is envisioned in which the park is a usable and attractive facility at the end of each phase.

Current Conditions

With the culvert replacement and pedestrian bridge construction, the park now has much improved access from the downtown. The gravel parking lot enhances auto access, although making left turns into or out of the park is difficult. The recently formed hill has been seeded and provides views of Liberty Bay, but the trails are still rudimentary and overgrowth of blackberries and alders prevents access to the slough except at the bridge. There is no informational signage.

Phase 1

The first set of improvements constitutes a "critical mass of attractions" that will establish the park's identity and create an attractive resource for those wanting a quiet get-away for relaxation or nature study. Envisioned features include habitat restoration and revegetation and a trail system over the south end of the site, viewpoints overlooking the slough, enhanced south entry, some site utilities, a gateway kiosk, and interpretive panels. The cost of this work is approximately \$500,000, and the City has applied for an Aquatic Lands Enhancement Account (ALEA) grant to fund half of it. If the grant is successful, construction may begin in 2005 and be completed in 2006. Volunteer efforts can be used throughout this phase to revegetate disturbed areas, cut brush, and improve trails.

Phase 2

The second major step in the park's evolution will be to provide access to the north end via Viking Way and to develop the north end trail system and environmental restoration. This will make the whole park accessible and allow for the outdoor educational activities and subsequent development of the Education Center. In a sense, this phase completes the basic circulation infrastructure and natural systems design that will allow use of the whole park. Improvements will include construction of the roadway and north parking lot, completion of the north-south pedestrian spine, rerouting of the north stream through the pond complex to allow fish passage and a wider range of habitats, additional vegetation restoration,



grading and other land form improvements, and construction of the amphitheater, restroom, and an orientation center. As in Phase 1, there will be plenty of opportunities for volunteers to revegetate natural areas and also to assist in establishing the educational program. Planning-level cost estimates for this phase are approximately \$850,000. Because of this phase's emphasis on circulation, natural systems enhancements, and site infrastructure, programs such as ALEA, Centennial Clean Water Fund, and urban forestry grants may be the most likely outside funding sources, complemented by significant local monies.

Because this phase will take some substantial fundraising, a five to seven year target for completion (2009-2011) seems reasonable. This time frame would also be a good period in which to accomplish the pathway improvements to Fish Park from the downtown and Nelson Park. Improved pedestrian connections will enhance the use of both parks and increase their benefits to local residents, visitors, and downtown businesses. Increasing Fish Park's role in the constellation of civic attractions and amenities, as well as linking it to the Marine Science Center, will strengthen the case for investing local and regional funds.

Phase 3

The final step projected by this plan is the completion of the Education Center to promote educational and small-scale cultural programs. The costs for the center will vary, depending on the program and size of facility, but the costs for the design envisioned in this plan—excluding the restrooms, which are included in Phase 2—range between \$750,000 (for the small, single-room museum space) and \$900,000 (for the larger museum with the underwater viewing area).

Since the architectural concept of the center emphasizes a series of small buildings, the center may be constructed incrementally as the programs evolve and funds emerge. On the other hand, the City may elect to mount a single capital funding campaign and build the center at one time. Because the Education Center will be a highly visible community and regional resource, attracting private funds may prove easier than for other, less visible improvements.

The time frame for Education Center development depends on the completion of the Phase 2 access and utilities. However, fundraising can begin as soon as there is a compelling need demonstrated to support educational programs, and it may be that portions or all of the Education Center are constructed concurrently with Phase 2.

Funding Sources

Park development typically requires piecing together grants and funds from a variety of sources, and Fish Park will be no exception. As noted above, this plan envisions integrating local funds with regional/state public grants and private donations. The following is a list of some public funding sources that should be considered:

1. Washington Wildlife and Recreation Program

A special fund created by a coalition of recreation and wildlife groups with the intent of preserving wildlife habitats and open space and developing recreation areas. Grants may be for up to \$500,000 for acquisition, \$300,000 for development, or \$500,000 for a combination of the two, providing no more than \$300,000 is for development. A 50 percent match is required.

2. Real Estate Excise Tax

A tax assessed on the sale of property and administered by local counties and cities. When this program is adopted, specific types of projects must be listed.

3. City General Fund

Money from the City's General Fund allocated to the Park and Recreation Budget.

4. Capital Improvement Program

Money allocated from the City's General Fund to finance major capital projects.

5. Park Impact Fees

Development fees imposed by the City for park land acquisition and development.

6. Short-Term Special Levy

A property tax for construction and/or operation levied for a set number of years.

7. General Obligation Bond

A property tax for the sale of construction bonds. The tax assessment can be levied up to 30 years. Requires a 60 percent majority approval of 40 percent of the voters who voted at the last election.

8. Revenue Bonds

Similar to a general obligation bond except revenue from the operation of the facility is used to pay the capital cost and debt service. Does not require a vote of the people unless required by local ordinance.

9. Councilmanic Bonds

Bonds that can be issued by the City Council. Does not require a vote of the people but must be paid out of the City's annual operating budget.

10. LWCF

Grants distributed from the Federal Land and Water Conservation Fund. Grants pay 50 percent of the cost of acquisition and development. At one time, this was a major funding program for recreation programs. Under the last three administrations, the program has been cut severely. The program is administered locally by the Washington State IAC.

11. Park Revenue

Revenue from park operations can be used to pay for capital improvements.

12. Department of Ecology

Grants from the Coastal Zone Management Account. Grants pay 50 percent and are primarily used for shoreline acquisition and public access.

13. Aquatic Land Enhancement Fund (ALEA)

This program, funded by the State Department of Natural Resources, will finance up to \$500,000 for acquisition and development of waterfront parks, public access sites, and environmental protection. A new program has been added to the Aquatic Land Enhancement Fund called "Wetland Stewardship Grant Program." This program will fund up to \$200,000 for the acquisition of locally significant wetlands.

14. Initiative 215 Boating Funds

Funds received from boating gas taxes are allocated to marine-related projects. Up to \$150,000 per project is available, but a 50 percent match is required.



15. State Bicycle Funds

Money from a portion of state gas taxes is distributed to each city for bicycle trail development. The amount is usually small and often used to help finance trails along existing streets.

16. Volunteer Efforts and Donations

Volunteers can be quite effective in terms of contributing cash, materials, or labor. Playgrounds and picnic shelters are often developed in this manner.

17. Transfer of Development Rights

A process wherein the development rights of a specific parcel of desired open space land is transferred to a second parcel of land more suitable for development. The second parcel is then permitted a higher level of development. If the two parcels are owned by two different land owners, the increased value of the second parcel is given to the owner of the first parcel. This mechanism may be useful in acquiring open space to the north of the park.

18. Conservation Futures Levy

Counties can levy up to \$.065 per \$1,000 assessed valuation for the acquisition of shoreline and open space areas. The money cannot be used for development or maintenance.

19. UPARR Program

A federal grant funded through the Urban Park and Recreation Recovery Program. Application is directly to the National Park Service, and a specific plan is required to be in place. A 25 percent match is required.

20. Centennial Clean Water Program

This is a state program administered by the Department of Ecology and financed by a tax on cigarettes. The program is designed

to provide grants and loans on projects that will enhance water quality. Typical projects related to parks and open space include lake restoration, storm water retention, wetland enhancement, and other water quality mitigation measures. Grants are available for planning, design, and construction up to 70 percent of the total project cost.

21. Urban Forestry Grants

The Washington State Department of Natural Resources (DNR) administers two funding grant programs in the area of urban forestry. The first is funded by the U.S. Small Business Administration and provides grants to purchase and plant trees. Urban street tree planting programs are sometimes funded by this method. Last year, DNR received \$285,000 to distribute. A 25 percent match is required. This may be useful in acquiring trees to plant.

22. Capital Maintenance Fund

A special fund maintained by the City for funding larger capital maintenance projects.

23. Mitigation Banking Fund

This is a special opportunity that takes advantage of the park's restoration actions. Local ordinances and state and federal laws require that adverse impacts to natural systems such as wetlands be avoided or, if that is not possible, minimized and mitigated. As a first priority, damage to wetlands and other critical areas should be accomplished on the same site. ("Critical areas" is the term used for areas with special environmental resources or limitations, such as wetlands, geologically hazardous areas, and wildlife conservation areas.) However, sometimes, such as in the case of highway construction, this is not possible, so the ecological resources that are lost must be replaced elsewhere. In this case, the party impacting the critical area would restore a

comparable area to perform the ecological functions that were lost.

Because of its diversity of habitat types and environmental restoration mission, Poulsbo's Fish Park is well suited to serve as an ecological setting for off-site environmental (restoration) mitigation. For example, if a widening of SR 305 impacted a wetland, the easiest and most effective way to mitigate that impact would be for the Washington Department of Transportation to restore a portion of the park or contribute funds for that purpose.

The off-site compensatory mitigation approach described above is tricky because it is not always possible to recreate wetlands or habitats that actually replace the ecological functions of the original resource. The conditions of the created wetland must be carefully monitored to ensure that the new critical area is viable. In another approach to the challenge of environmental mitigation, called "mitigation banking," the restoration is accomplished and monitored *prior* to impacting the original critical area or habitat. Under this system, a parcel of land is environmentally restored and a "mitigation bank" is established. Parties needing to mitigate their impacts then pay for the cost of the earlier restoration of the bank site. The money paid can then be used to restore additional areas.

Mitigation banking (and environmental restoration in general) is significantly more effective when it is directed by comprehensive environmental restoration planning that identifies the limiting factors, ecological objectives, and potential restoration activities for an ecosystem such as the Liberty Ban/Dogfish Creek estuary. Such a restoration plan would be especially valuable if it considered the key parts of the estuary's watershed to the north. This possibility is certainly worth considering if

the City pursues restoration and development of properties north toward SR 305.

In summary, there are a number of mitigation/restoration strategies available, from parcel-by-parcel off-site mitigation or an informal mitigation bank to a more structured mitigation banking program coordinated through a restoration plan.

Security

Personal safety and security are important considerations in any park master plan and are a special concern at Fish Park because of its relatively isolated location and wooded character. It is, therefore, critical that park designers work closely with the City of Poulsbo Police Department to make sure that the park is safe for visitors and that vandalism is minimized.

As Chief of Police Jeffrey Doran has noted, the most proven method to increase security in public spaces is the concept called Crime Prevention through Environmental Design (CPTED). The CPTED program has been developed as a nationwide effort to increase public safety and security and includes general design principles and specific measures that designers can use to avoid creating unsafe conditions.

The CPTED principles most applicable to Fish Park are access control, natural surveillance, and target hardening.

- **Access control** means restricting access points to the park and indicates to offenders that there is a high risk in selecting the park for a crime target because of the limited means of escape. Vehicle access to the park will be limited in the short term to the south parking lot at Lindvig Way. In the longer term, when the north access is opened, it may make sense to lock the access road off of Viking Way when the park is closed. In any event, there will be no vehicle access through the park except for police, emergency, and service vehicles.



Pedestrian access is currently through both the south parking lot and via the pedestrian bridge under the Lindvig Bridge. The disadvantage of this is that it provides an escape route for an offender, but, on the positive side, it provides two routes of escape for a person perceiving a safety threat. A video camera with recorder at all park entry points may be a feature to consider in the future.

- **Natural surveillance** is the ability of an officer driving by or through the park to see the facilities that might be targeted by offenders. The screening and vegetation around the parking lots should be trimmed to allow visibility of the ground plane. The Master Plan orients restrooms, shelters, and other structures so that they are easily visible from the roadways and parking areas. The central spine will allow police vehicles to travel through the central part of the park and view the structures. In addition, the park layout tries to minimize trails where a pedestrian might be trapped by a potential offender by, in most cases, configuring the trails in double ended loops and avoiding long dead-ends except at visible view points.

- **Target hardening**, as the name suggests, is constructing the facility so that it is a difficult crime target and deals more with the design of the individual site feature than the park's layout. Target hardening includes methods such as effective security lighting, strong locking systems, durable, vandal-resistant materials, and methods to cover doors and windows when the building is not in use. The architectural concepts included in this plan incorporate the potential for these types of measures, which should be pursued in the design stage. For example, if a shelter is constructed for the Education Center, garage door enclosures allowing the shelter to be shut up during periods of disuse might be incorporated.

While CPTED principles will certainly help to minimize risk, personal safety and park security should also be considerations in the park's management. In addition to the design measures, careful consideration of the park's hours of operation, police surveillance operations, control of vandalism, and increasing a sense of ownership on the part of all citizens will help to increase honest people's sense of wellbeing in the park.