

DRAFT REPORT

Tye Stormwater Facility Addendum:

- Inventory
- Restoration

to the Shoreline Master Program for the City of Monroe

Prepared for:



City of Monroe
Department of Community Development
806 West Main Street
Monroe, Washington 98272-2125

Prepared by:



750 Sixth Street South, Kirkland WA 98033



This report was funded in part through a cooperative agreement with the National Oceanic and Atmospheric Administration.

The views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its subagencies.

20 August 2007

Table of Contents

<u>Section</u>	<u>Page</u>
1. INTRODUCTION.....	1
2. SHORELINE INVENTORY	1
2.1 Introduction.....	1
2.2 Land Use	1
2.3 Transportation	4
2.4 Utilities.....	4
2.5 Vegetation and Shoreline Modifications	4
2.6 Biological Resources and Critical Areas	6
2.7 Public Access/Parks.....	7
2.8 Floodplain.....	7
2.9 Historical or Archaeological Sites.....	9
3. RESTORATION	9

Appendix A: Tye Stormwater Facility Inventory Maps

List of Figures

Figure 1.	Aerial view of developed Light Industrial-zoned area east of the Tye Stormwater Facility.....	2
Figure 2.	Aerial view of commercial development (under construction) at northeast end of the Tye Stormwater Facility, and the old concrete plant at the north end of the site.....	3
Figure 3.	Commercial development on northeast corner of Tye Stormwater Facility, facing south.....	3
Figure 4.	Overview of known utilities in the Tye Stormwater Facility shoreline jurisdiction.	5
Figure 5.	View of small sections of shoreline armoring at north end of pond.....	6
Figure 6.	Overview of public access/recreation amenities at the south end of Lake Tye Park.....	8
Figure 7.	Paved public trail along west side of Tye Stormwater Facility.....	8
Figure 8.	Public beach at south end of Tye Stormwater Facility.	9

MONROE SHORELINE MASTER PROGRAM UPDATE TYE STORMWATER FACILITY ADDENDUM

1. INTRODUCTION

The City of Monroe completed its shoreline inventory and analysis report in November 2002, nearly 18 months after project commencement. In June 2007, the Department of Ecology (Ecology) notified the City that its interpretation of the Shoreline Management Act requires regulation of the Tye Stormwater Facility, located in Lake Tye Park. Although the stormwater pond is man-made, Ecology believes that it still falls under the Shoreline Management Act's regulation of lakes larger than 20 acres. Accordingly, this brief report is an addendum to the November 2002 *Shoreline Master Program Inventory for the City of Monroe's Shorelines: Skykomish River and Woods Creek*.

2. SHORELINE INVENTORY

2.1 Introduction

The Tye Stormwater Facility (TSF) is a 37-acre stormwater pond constructed in the Fryelands area of Monroe between 1991 and 1994. Its maximum depth is approximately 30 feet. Originally, the location of the stormwater pond was used to grow winter wheat, lettuce, and a variety of other agricultural crops, and was determined by the U.S. Army Corps of Engineers to be "prior converted cropland." Prior converted croplands are "wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, to make production of an agricultural commodity possible, and that (1) do not meet specific hydrologic criteria, (2) have had an agricultural commodity planted or produced at least once prior to December 23, 1985, and (3) have not since been abandoned. Activities in prior converted cropland are not regulated under Swampbuster [provision of the Food Security Act] or [Clean Water Act] Section 404" (http://www.mvm.usace.army.mil/regulatory/regulations/clean_water.htm).

According to Brad Feilberg, the City Engineer, the pond was originally excavated to provide fill soils for the Fryelands development to elevate it above the 100-year floodplain (pers. comm., 17 August 2007). The excavated pit was subsequently modified to serve as a detention pond for stormwater runoff originating from the almost fully developed Fryelands area, which includes relatively recent residential and industrial developments. A treatment swale is present at the southeast corner of the pond between the stormwater discharge and the pond. Shoreline jurisdiction for the Tye Stormwater Facility extends 200 feet landward of the ordinary high water mark. On July 2, 2007, City staff and the consultant team toured the Tye Stormwater Facility and its associated shorelands.

2.2 Land Use

The majority of the TSF shoreline zone consists of Lake Tye Park (see Section 2.7 below), which is zoned as Public Open Space. The park completely surrounds the stormwater pond except for two parcels at the northeast corner zoned Service Commercial that partially abut the pond.

Otherwise, a Light Industrial zone is also present in TSF shoreline jurisdiction; however, all of the Light Industrial areas are separated from the pond by Fryelands Boulevard (Figure 1) or park-zoned parcels. A quantitative summary of the zones present in the TSF shoreline area is presented below. A zoning map of the Tye Stormwater Facility shoreline environment is located in Appendix A.

Land Use Zone	Shoreline Environment	
	Tye Stormwater Facility	Aquatic
Light Industrial	8.39 acres	0.0 acre
Service Commercial	3.69 acres	0.06 acre
Public Open Space	13.57 acres	37.73 acres

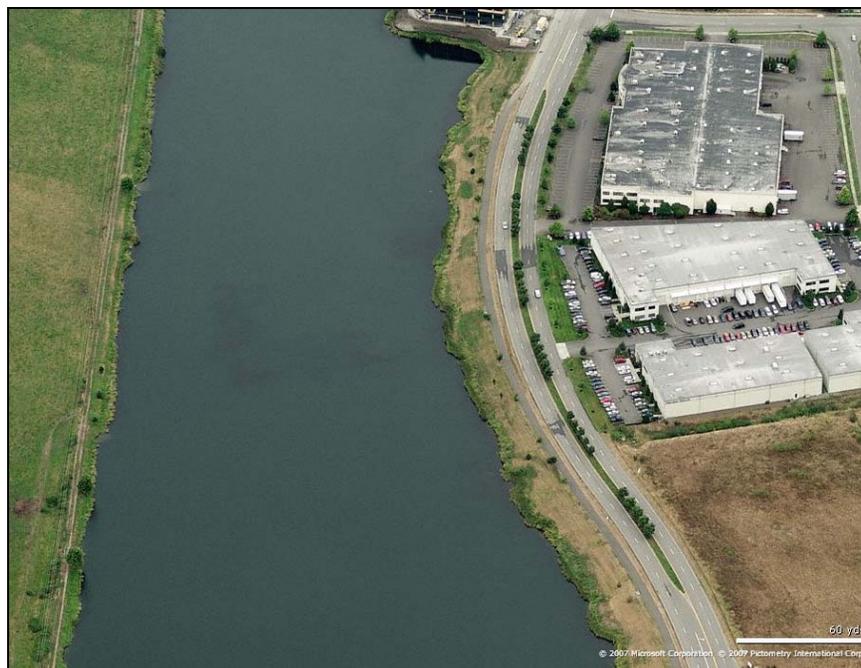


Figure 1. Aerial view of developed Light Industrial-zoned area east of the Tye Stormwater Facility.

Lake Tye Park is described below in Section 2.7. The industrial uses consist of a portion of the parcel containing a concrete plant on the north side of the pond that is currently used primarily for storage of raw materials and also for production of concrete retaining wall/landscape blocks (Figure 2). The other developed industrial parcels consist of warehousing and storage uses, and the Cascade Community Church (see Figure 1). Most of the parcel areas that are in shoreline jurisdiction contain only the parking lots and landscaping associated with the buildings, not the buildings themselves. Fryelands Boulevard comprises at least half of the Light Industrial-zoned area. A few of the parcels are undeveloped, although construction is currently underway.

Only one of the two parcels zoned Service Commercial on the west side of Fryelands Boulevard adjacent to the pond is developed (Figure 3). Construction was completed this year, and most of



Figure 2. Aerial view of commercial development (under construction) at northeast end of the Tye Stormwater Facility, and the old concrete plant at the north end of the site.



Figure 3. Commercial development on northeast corner of Tye Stormwater Facility, facing south.

the spaces have been leased. Although the public trail does not continue from the park, the building design includes a covered walkway on the waterward side of the building. In addition, the Subway restaurant on the ground floor has a wall of windows on the waterward side. The currently undeveloped parcel to the north will likely be developed in the near future using the same standards as the recently completed development. The structure setback from the ordinary high mark on the recently completed building is 25 feet. The future development would also have a 25-foot setback unless increased based on a finding of pond-fringe wetlands. If wetlands are found, the appropriate buffer as established in the SMP's critical areas regulations would apply.

2.3 Transportation

The only roadway in the TSF environment is Fryelands Boulevard, a four-lane major arterial, which parallels the pond to the east. Stormwater runoff from the road is directed to treatment swales and then into the Tye Stormwater Facility.

2.4 Utilities

The Tye Stormwater Facility is itself a utility. As previously discussed, it was originally excavated to provide a fill source to elevate the Fryelands development, but was then modified to serve as a detention pond for runoff generated by impervious surfaces in the Fryelands area. The TSF was altered to form a two-celled system, but because of water stagnation problems (and resultant occasional odor), a portion of the dam between the two cells was removed. All that remains of the original dam is a peninsula that juts into the pond from the west bank. Stormwater discharges into the pond in two locations: the northeast corner and the southeast corner. The pond's outfall is at the northwest corner of the former southern cell. Small portions of the treatment swales are also present in TSF shoreline jurisdiction.

Overhead power lines cross the stormwater pond in the location of the former dam. Finally, a natural gas main crosses TSF shoreline jurisdiction along the northeast boundary. See Figure 4 for approximate locations of known utilities.

2.5 Vegetation and Shoreline Modifications

Upland of the ordinary high mark, the stormwater pond is intermittently ringed with patches of red alder, black cottonwood, willows, Himalayan blackberry, and Scotch broom, with grasses, buttercup, thistle, reed canarygrass, and birds-foot trefoil underlying. Below the ordinary high water mark, patches of emergent vegetation are found, including cattail, yellow-flag iris, soft rush, and hardstem bulrush. In general, all vegetated areas are narrow, and adjacent to trails, roads, two developments, or other park facilities and uses. The City's Public Works and Parks & Recreation Departments share mowing of the pond's perimeter, and Parks & Recreation Services Department is also controlling invasive weeds (mechanical removal of Himalayan blackberry and thistle). Aquatic vegetation was not surveyed, but the non-native, invasive Eurasian watermilfoil was observed.

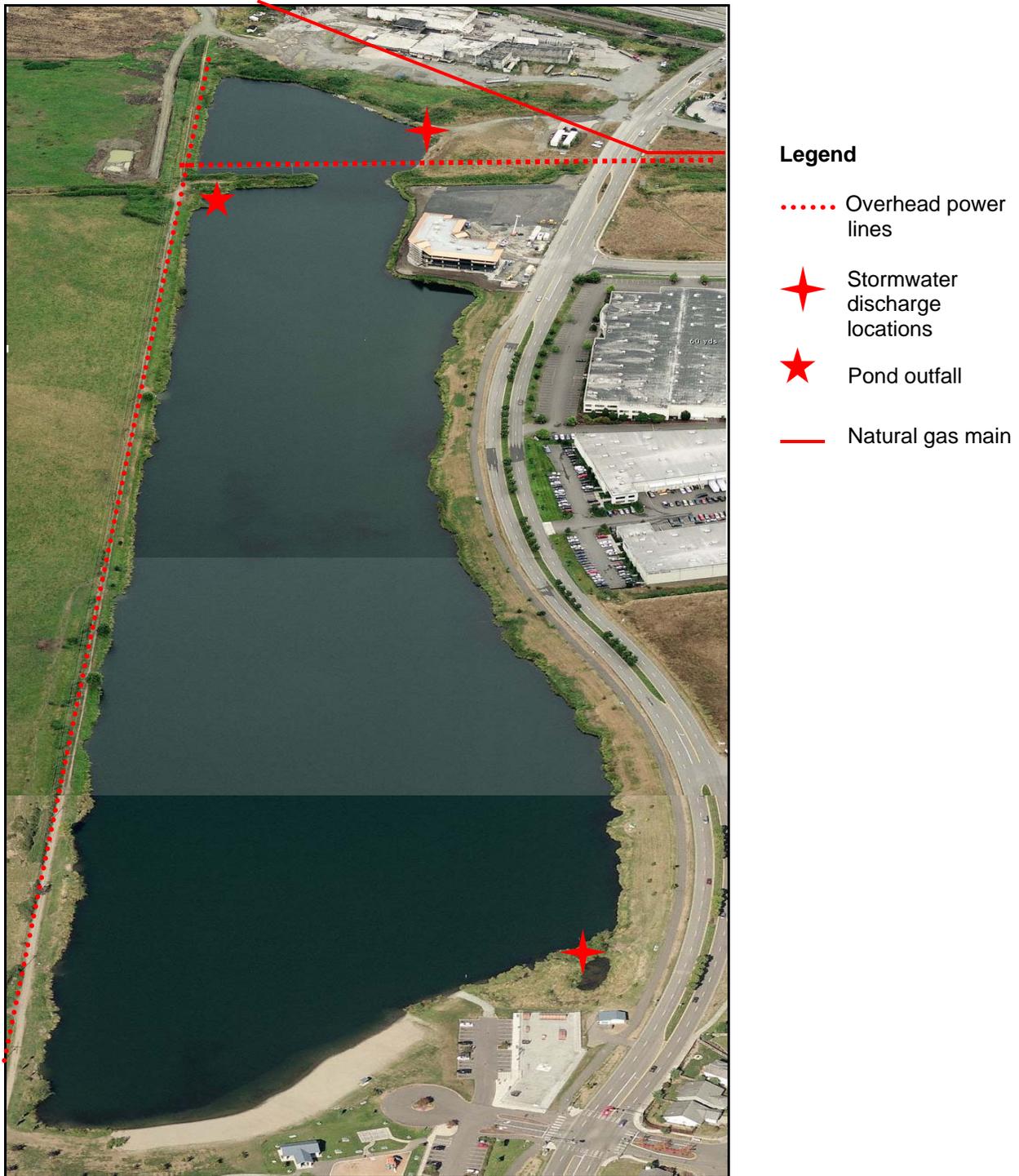


Figure 4. Overview of known utilities in the Tye Stormwater Facility shoreline jurisdiction.

The majority of the pond's banks are not armored. However, at the northeast corner, there are patches of rock on otherwise bare sections of the bank (Figure 5). These areas of rip-rap were placed and are maintained by the City to prevent bank erosion. The wind generally comes from the southwest, and the pond has a long fetch for wave development. At the south end of the pond, approximately 130 yards of shoreline is covered with sand to make a public beach. An approximately 5-foot-wide gravel path leads straight to the water's edge, east of the beach and separated from it by a patch of vegetation. This path can be used for small boat launching, and at the time of observation was a fishing spot for an angler.



Figure 5. View of small sections of shoreline armoring at north end of pond.

2.6 Biological Resources and Critical Areas

As previously mentioned, the Tye Stormwater Facility was constructed in “prior converted cropland,” which are “wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, to make production of an agricultural commodity possible, and that (1) do not meet specific hydrologic criteria, (2) have had an agricultural commodity planted or produced at least once prior to December 23, 1985, and (3) have not since been abandoned (http://www.mvm.usace.army.mil/regulatory/regulations/clean_water.htm). Ecology has a different regulatory interest in wetlands such that any wetlands that have developed around the pond's fringe are regulated by Ecology. A formal wetland delineation has not been conducted around the pond, although wetland vegetation is clearly growing below the ordinary high water mark and in some areas above the high water mark. A formal delineation would be necessary to determine the presence of wetlands upslope of the pond's ordinary high water mark, which must meet soils and hydrology criteria, in addition to vegetation criteria.

The pond currently provides habitat for fish that are stocked by the Washington Department of Fish and Wildlife. Most recently, WDFW stocked the pond with 523 sterile, triploid rainbow

trout in April 2007, and has also stocked both sterile and non-sterile rainbow trout since 2003. The pond discharges into ditch systems in adjacent agricultural fields to the west, which are a part of the French Creek system. Although fish can pass out of the pond via the V-Notch weir at the outlet, they cannot enter the pond because of the elevation drop. However, fish within the French Creek system that would like to move upstream can bypass the Tye facility via a constructed ditch system to the north and east of the pond. WDFW and the City have agreed that the constructed ditch system is not a “stream” as regulated under the Growth Management Act and the City’s critical areas ordinance.

The stormwater pond also provides habitat for amphibians (likely dominated by the non-native bull frog), waterfowl (primarily foraging, possibly some nesting), and other songbirds (foraging and some nesting). WDFW does not map the pond or nearby areas as a Priority Habitat.

2.7 Public Access/Parks

Slightly more than half of the Tye Stormwater Facility and its associated shorelands are zoned as Public Open Space. Lake Tye Park surrounds the stormwater pond, and contains a mix of active and passive recreational and public access opportunities (Figure 6). Paved and some unpaved trails, with sporadic trail-side benches, on its east, south and west sides are heavily used by cyclists, pedestrians, and joggers (Figure 7). The City’s plan is to connect these trails to other City trails, creating a City-wide network, and eventually connecting to the Centennial Trail that would link the City with Snohomish and Duvall. The most intensively used part of the park is the south end, which has a wide sand/gravel beach (Figure 8), pedestrian boat launch (no gas-powered boats, only small electric boats), ball fields, skateboard park, picnic shelter, and playground. In the future, the City plans to install a pier that would improve small boat access, including kayaks and canoes.

In addition to pond-wide fishing for the trout stocked by WDFW, the Sky Valley Chapter of Trout Unlimited annually imports 1,000 trout into a netted area at the south end of the stormwater pond. A five-hour children’s derby is then held, with each child allowed to keep as many as five fish, followed by a three-hour adult fishing derby. After the derby, the netted fish are released into the pond. (source: <http://www.monroemonitor.com/PDFS/041007pdfs/0410071.pdf>)

2.8 Floodplain

The Tye Stormwater Facility and much of its surrounding shorelands are mapped by FEMA in the 100-year floodplain of the Snohomish River (see map in Appendix A). However, the closest point of the Snohomish River to the TSF shoreline jurisdiction is approximately 3 miles away.

According to the City’s Public Works Director, Gene Brazel, the area has at least a 1 percent chance of flooding in any given year. The most recent floods were in 1990 and 1995, and had a maximum elevation of 28.5 feet. Fryelands Boulevard contained the flood so that it inundated only the west side of the road, including soccer and baseball fields on the south side of the pond. The treatment and conveyance ditches draining the Fryelands area east of the road backed up per plan, but the banks were never overtopped. Residences and businesses were not affected by the flooding (Brazel, pers. comm., 25 July 2007).

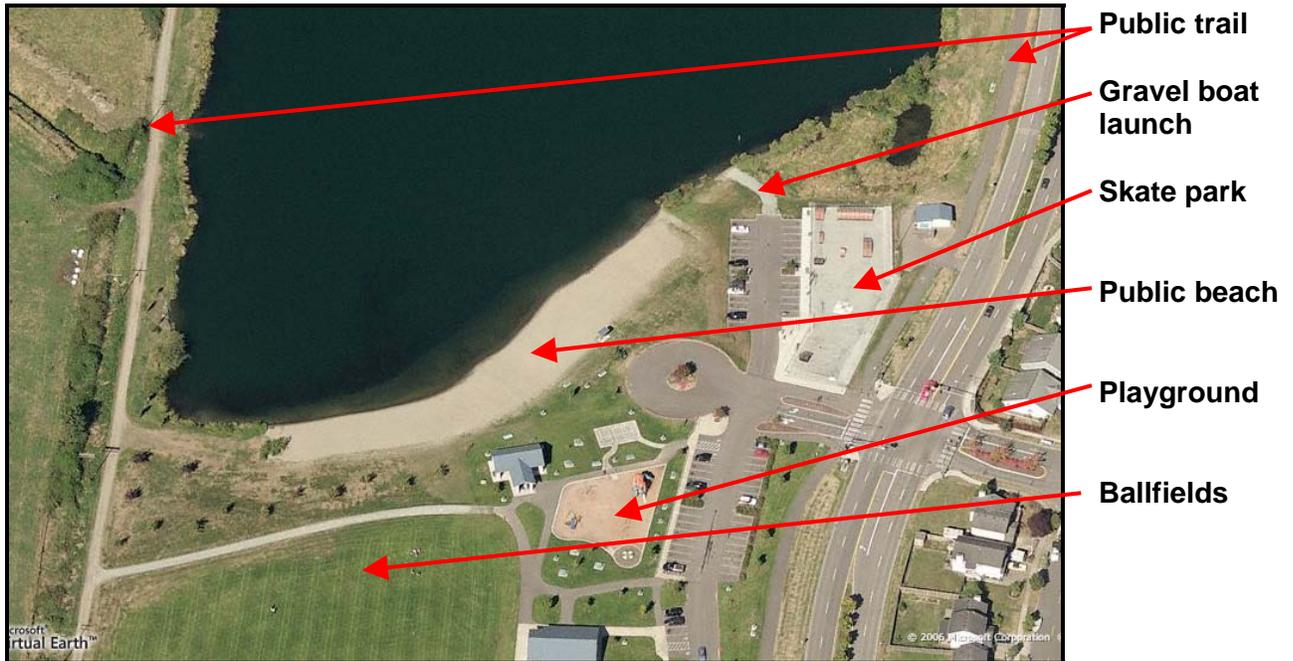


Figure 6. Overview of public access/recreation amenities at the south end of Lake Tye Park.



Figure 7. Paved public trail along west side of Tye Stormwater Facility.



Figure 8. Public beach at south end of Tye Stormwater Facility.

2.9 Historical or Archaeological Sites

No special features are documented by the Washington State Office of Archaeology and Historic Preservation (OAHP) (<http://www.oahp.wa.gov/gis/INDEX.CFM>) in the shoreline zone of the Tye Stormwater Facility.

3. RESTORATION OPPORTUNITIES

The primary need of the Tye Stormwater Facility is for improved native vegetation around its perimeter. Students at The Environmental Science School have recently begun enhancing pond-side vegetation on the north end of the Tye Stormwater Facility. In April 2007, students removed non-native plants (particularly Himalayan blackberry) and installed 110 native shrubs. The students will be maintaining and monitoring the plantings. The planting area, approximately 2,700 square feet, will be expanded in future areas. The City Parks & Recreation Department should consider collaborating with the Environmental Science School. Recommended actions related to shoreline vegetation enhancement include:

- Increased, aggressive control of Himalayan blackberry.
- Additional plantings of native trees and shrubs around the pond's perimeter.
- Reduced mowing footprints.
- Using vegetation, fencing or signage to channel pedestrians into specific shoreline access areas. Several areas along the west shore are trampled, with bare soils and eroding banks.