

Bloedel Donovan Park Master Plan Amendment

Process and Summary

July 2, 2012

Prepared By:
CITY OF BELLINGHAM
PARKS AND RECREATION DEPARTMENT

FINAL

Acknowledgements

This master plan amendment was the result of a collaborative process. The following individuals participated in this effort:

Bellingham City Staff

James King, Park Director
Leslie Bryson, Park Design and Development Manager
Marvin Harris, Park Operations Manager
Richard Henrie, Park Recreation Manager
Gina Gobo Austin, Park Project Engineer
Jonathan Schilk, Park Landscape Architect
Tim Wahl, Park Greenways Program Coordinator
Steve Nordeen, Park Operations Supervisor
Tom Slack, Park Operations Supervisor
James Luce, Park Arborist
Clare Fogelsong, Public Works Environmental Resource Manager
Eli Mackiewicz, Public Works Storm & Surface Water Utility Assistant
William Reilly, Public Works Storm & Surface Water Utility Manager
Freeman Anthony, Public Works Project Engineer
Steve Sundin, Planning & Community Development Planner II

Bellingham Parks and Recreation Advisory Board

Adrienne Lederer
Diane Blake
Dominique Zervas
Geoffrey Middaugh, Chair
Julianna Guy
Mike Anderson
Pam Holladay
Rosalie Warden Nast
William Hadley

Bellingham City Council

Cathy Lehman
Gene Knutson
Jack Weiss
Michael Lillquist
Seth Fleetwood
Stan Snapp
Terry Bornemann

Consultants

None

Executive Summary

The 2012 Bloedel Master Plan Amendment has been developed as an update to the Park Renovation Plan that was prepared circa 1980. The 2012 amended master plan will provide a framework for immediate and long-range facility and site improvements.

Protection of the Lake Whatcom reservoir and water quality is a priority of the City of Bellingham government and its citizens. The first item included in the City Council adopted "Legacies and Strategic Commitments" is to provide clean, safe drinking water and limit development in the Lake Whatcom watershed. The City Council legacies and strategic commitments policy statements include long term goals for the city with a focus on environment, sustainability, safety and other goals that will benefit future generations. All development in the watershed, including any improvements developed as a result of this master plan amendment, shall comply with all regulations and result in no degradation to water quality.

The final recommended master plan amendment drawing is included in Appendix 'D' of this report. Implementation of any of the proposed facilities is contingent on funding, environmental review, and permit approvals.

The intent of a typical master plan is to function as a general guide for appropriate park uses and their approximate location within a site. Per City Policy, park master plans are submitted to City Council for adoption and serve as the guide for development of a park, unless and until it is formally changed. Major park changes are adopted using the same procedure for approval of initial master plans.

This written summary is intended to accompany the 2012 master plan amendment drawing. Both will be used as a general guide for future development at Bloedel Donovan Park. This report includes a summary of the process, reference material, and actions taken to arrive at the final master plan amendment.

Coordination and planning of future improvements at Bloedel Donovan Park has been ongoing for several years. The official master plan amendment process began in March of 2012 and concluded in July of 2012 with the final adoption of the plan by the Bellingham City Council.

The master plan amendment effort was initiated by the City of Bellingham in response to requests by the City Council to improve the site with lake-friendly design elements and improve water quality at the Park. Additionally, a request to expand recreational uses at the site with a non-motorized boating facility has been incorporated into this update.

Draft master plan concepts were developed and circulated to city staff for review and comment. A draft master plan amendment was then developed and presented to the public for review and comment.

For the most part, the existing site will remain in its current configuration. New elements of the master plan amendment include the following:

- non-motorized boathouse
- stormwater infiltration improvements
- enhanced planting
- beach enhancement
- native planting mitigation
- loop trail (from 1980 plan)

In addition, it was determined that the steam engine located in the playfields is in poor condition and should be removed from the site. Historic railroad organizations have expressed interest in renovating and relocating the engine to an appropriate site.

Park staff conducted informal consultations with various permitting agencies to determine the feasibility of implementing new project elements proposed as part of this plan. Park staff also coordinated with city staff from other departments.

Public participation included a public meeting, public presentations to the Bellingham City Council, Lake Whatcom Watershed Advisory Board, the Parks and Recreation Advisory Board, and outreach to other stakeholder groups. Public feedback was also collected and published on the city's website.

The Park is operated under the existing policies of the City of Bellingham, which may be modified from time to time. Bellingham Municipal Code, policies, other codes and laws are not typically included in any master plan document, including this one.

Table of Contents

Acknowledgements.....	2
Executive Summary.....	3
Introduction	6
Bloedel/Donovan Park Renovation Plan.....	7
Existing Conditions.....	8
Department/Agency Coordination	9
Public Input	10
Master Plan Concepts	10
Schedule.....	16
Conclusion.....	17

Appendices

- A. Ayers Professional Group. Bloedel Donovan Park Topographic Survey. November 19, 1998.
- B. City of Bellingham Parks. Bloedel Donovan Park Maintenance and Management Plan. March 2012.
- C. City of Bellingham Parks. Draft Master Plan. March 13, 2012.
- D. City of Bellingham Parks. Final Master Plan. June 25, 2012.
- E. City of Bellingham Parks. Public Process Summary. June 25, 2012.
- F. City of Bellingham Parks. Public Comment Tracker. July 2, 2012.
- G. GeoEngineers. Lake Whatcom Watershed Infiltration Study. May 13, 2010.
- H. Jongejan Gerrard Associates, Inc. Bloedel/Donovan Park Renovation Plan. circa 1980.
- I. Larry Steele & Associates. Record of Survey. November 18, 2008.
- J. Northwest Ecological Services. Bloedel Donovan Wetland Determination. March 22, 2011.
- K. Washington State University. Turf Letter. March 22, 2012.

Introduction

The 2012 Bloedel Master Plan Amendment has been developed as an update to the original *Bloedel/Donovan Park Renovation Plan* that was prepared circa 1980. The amended plan provides a framework for immediate and long-range facility and site improvements.

The master plan amendment takes into consideration that the land was originally deeded to the City of Bellingham by Mr. Julius Bloedel with the restriction that it shall "...be developed and used solely for Public Park purposes and shall be devoted to no other use in whole or in part."

The master plan amendment effort was initiated by the City of Bellingham Parks Department in response to requests by the City Council to improve the site with lake-friendly design elements and improve water quality at the Park. Additionally, a request to expand recreational uses at the site with a non-motorized boating facility has been incorporated into this update.

Lake-friendly design elements include enhancement of native plantings and removal of shoreline structures. Stormwater infiltration facilities may include construction of underground infiltration improvements in the open lawn and beach areas, and enhancement of planting areas. Future recreational uses include an expanded non-motorized boating facility, new hand-launch boat dock, and new loop trail. All improvements proposed at the Park should incorporate elements that promote care and protection of Lake Whatcom water quality.

The intent of any typical master plan is to function as a general guide for appropriate park uses and their approximate location within a site. This master plan amendment serves as an overall development concept and guide for future development at Bloedel Donovan Park.

Implementation of any of the proposed facilities is contingent on funding, environmental review, and permit approvals.

This master plan update followed the guidelines included in City policy PAR 04.00.01. The procedure for master plan approvals or amendments included in the policy is as follows:

1. The views of citizens, civic and service clubs, governmental agencies and other groups, organizations and community interests shall be solicited prior to the preparation of the plan.
2. The master plan for each park, upon completion, shall be presented to the Park and Recreation Advisory Board, which shall set a time and place for a public hearing or neighborhood meeting on said plan.
3. The members of the Board shall within thirty (30) days after said meeting date approve or disapprove said plan as is or with modifications.
4. The master plan will be submitted to City Council for adoption and shall be the guide for development of the park, unless and until it is formally changed.
5. Major park changes will be adopted using the same procedure for approval of initial master plan.

The Park is operated under the existing policies of the City of Bellingham, which may be modified from time to time. Bellingham Municipal Code, policies, other codes and laws are not typically included in any master plan document, including this one.

Policies governing motorized boat use, off-leash dogs, park maintenance activities, etc. are not included in this master plan amendment. Updates to policies, codes and laws may occur and typically do not require an amendment to park master plans unless a new use is proposed that significantly changes the site topography, buildings, or infrastructure.

Bloedel/Donovan Park Renovation Plan

The original Park renovation plan was developed in the 1980's (reference Appendix 'H'). Most elements of the plan were already developed at the time the renovation plan was accepted by the city. Other areas of the site were improved in the years following. As of year 2012, items shown on the 1980 renovation plan that were not developed include the following:

- boat launch access road
- north playground
- south picnic shelter
- south loop trail

The 1980's Park renovation plan did not include design details for all proposed improvements. Features included in the renovation plan are only shown conceptually.

Existing Conditions

Bloedel Donovan is currently an actively used developed park. The Park is a popular recreation destination for city and county residents and visitors, providing boating and fishing access, off-leash dog areas, and community event facilities. The Park is also the eastern terminus and trailhead of the Whatcom Creek Trail.

Existing site features include:

- sand volleyball court
- community rental building/gym
- park building (former caretaker house)
- pavilion rental building
- open lawn
- public restrooms
- pathways
- parking
- boat launch and docks
- picnic tables
- barbeques
- concrete bulkhead
- concrete beach stairs
- stormwater facilities
- wetlands
- in-water wood piling
- outdoor basketball court
- gravel trails
- planter beds
- playground
- steam engine
- stormwater rain gardens

Existing site features are noted on the final master plan amendment (reference Appendix 'D'). The last survey of the Park was completed in 1998. At the time this report was prepared, there was no funding available for an updated site survey of all existing site features.

The existing uses at areas where new improvements are proposed are as follows:

New Master Plan Amendment Item:	Existing Use:
non-motorized boathouse	paved asphalt , park maintenance access
stormwater infiltration improvements	lawn and/or beach overlying non-native fill
enhanced planting	existing planting, lawn
beach enhancement	concrete bulkhead wall, concrete stairs
native planting mitigation	undeveloped uplands, undocumented wetlands, invasive plant species
loop trail (from 1980's plan)	playfield, lawn

The condition of existing facilities varies. It was determined that the steam engine located in the playfields is in poor condition and should be removed from the site. Historic railroad organizations have expressed interest in renovating and relocating the engine to an appropriate site.

The evaluation of the condition of existing buildings and other structures is not included in this summary and is beyond the scope of this report.

The condition of the existing grounds varies as well. A condition analysis and documentation of all site uses is not included in this summary and is beyond the scope of this report. In general, the open lawn areas on the north side of the Park along the beach tend to get the highest use. During the winter and spring seasons, the lawn areas can become degraded. Another noteworthy existing site characteristic is that soils on-site have been found to be high in phosphorous content (reference Appendix 'K'). Other information, including site use and turf condition, can be found in Appendix 'B', *Bloedel Donovan Park Maintenance and Management Plan*.

There are two existing rain gardens on site. The condition and function of the existing rain gardens should be analyzed and monitored. If needed, improvements should be implemented to ensure that the rain gardens are functioning to adequately capture and treat stormwater runoff to meet current stormwater regulation requirements.

Lake Whatcom is under the jurisdiction of the Shoreline Master Program. The Park site is within the Lake Whatcom Watershed and associated restrictions and codes apply to all development proposals. Critical areas are also located at the Park site. A complete delineation of all critical areas and their functions was not funded at the time this report was prepared.

The Lake Whatcom reservoir is the primary source of drinking water for the City of Bellingham and adjacent portions of Whatcom County, supplying potable water to upwards of 95,000 residents. Existing water quality conditions of the lake and adjoining creek are of great concern. Due to low dissolved oxygen and high fecal coliform bacteria levels, both Lake Whatcom and Whatcom Creek are listed as impaired water bodies, under provision 303(d) of the Clean Water Act. Provision 303(d) of the Clean Water Act, under the jurisdiction of the US Environmental Protection Agency, requires cities and counties to maintain lists of impaired water bodies. The law requires the City to rank all impaired water bodies under its jurisdiction and develop total maximum daily loads (TMDLs) of pollutants that must be under control to ensure the water bodies meet minimum water quality standards.

Department/Agency Coordination

Coordination with city departments, state agencies, and others has been ongoing. Beginning in February of 2012, over the course of several months, representatives from Bellingham Parks held meetings with staff from the City of Bellingham Planning and Public Works departments. Additional meetings were held within the Parks and Recreation Department and include participation from supervisors and managers from the Operations, Development, and Recreation Divisions.

Park staff also conducted informal consultations with the various permitting agencies, including the Washington Department of Fish and Wildlife, United States Army Corps of Engineers, and City of Bellingham Planning Department.

Public Input

Public participation included a public meeting, public presentations to the Bellingham City Council, Parks and Recreation Advisory Board, and Lake Whatcom Watershed Advisory Board. Public input also included outreach to other stakeholder groups. Public feedback was also collected and published on the city's website.

Public participation also included a tour of the site with members of the Bellingham City Council and a special work session with the Parks and Recreation Committee of the City Council.

A summary of public outreach activities is included in Appendix 'E' of this report.

Public comments received during this process are included in Appendix 'F' of this report.

Some of the input received is related to issues that are beyond the scope of the master planning process. Nonetheless, this input is valuable and may be utilized for other future actions at the site.

Master Plan Concepts

An initial draft master plan amendment was developed for public input. See Appendix 'C'. The plan was published on the city's website and was also presented at a public meeting on March 29, 2012.

The draft master plan and further amendments were later revised based on input from staff, the public, and City Council. The final master plan amendment that is recommended for approval is included in Appendix 'D'.

Draft Master Plan Elements

The purpose of including the draft master plan in this report is to demonstrate the evolution of the plan from the original concept presented at the first public meeting (see Appendix 'C') to the final version recommended for approval (see Appendix 'D'). The revised final version incorporates comments and revisions from City Council, staff, and the public. Changes that were made during this process are summarized in the paragraphs that follow.

Three elements of the draft plan that were modified in the final plan include: 1) enhanced & expanded planting area near the boat launch; 2) boat launch access road; and 3) Non-motorized boathouse alternate location. Descriptions of each are included in the following section of this report.

Enhanced & Expanded Planting

The draft master plan amendment included a proposal for an enlargement of the existing planting area concentrated on the northeast side of the Park, which included removal of a significant portion of the existing lawn and picnic area near the boat launch. The idea for the enlarged planting area stemmed from informal input received by Bellingham City Council members and the public to increase the forested condition at the Park. The intent of increasing the native planting area was to reduce lawn, reduce the presence of Canada geese (*Branta canadensis*) and coot (*Fulica americana*), and to increase infiltration capacity of on-site soils. The enlarged planting area could also be used to demonstrate lake-friendly landscapes to other property owners in the watershed.

Based on subsequent public and staff input regarding the potential impacts to existing active public use and picnic areas, the proposed expanded planting area near the boat launch has been scaled back. The existing plantings in this area would instead be improved by adding native plants that are better suited for the watershed. Non-native plants would be removed when new conifers and other lake-friendly native plants are mature enough to replace the function of the non-natives. This selective removal would occur over a multi-year time span. Other areas of the Park would be enhanced in a similar manner with an overall goal of achieving a 30% Native Vegetation Protection Area at the Park as specified in the Lake Whatcom Reservoir Regulatory Chapter of the Bellingham Municipal Code (Silver Beach Ordinance).

Boat Launch Access Road

The draft master plan amendment also included a future boat launch access road located on the south side of the Park playfields. This feature has been eliminated from the final plan.

The road was originally shown conceptually on the plan and was included in the 1980's *Bloedel/Donovan Park Renovation Plan* (reference Appendix 'H'). The exact materials and dimensions were not shown on the plan and would need to be designed at a later time if accepted into the final master plan.

At the time the 2012 master plan amendment was proposed, the City of Bellingham Public Works Department had begun planning for an invasive species boat inspection program at Lake Whatcom. The boat launch access road was originally included in the 1980's *Bloedel/Donovan Park Renovation Plan* (reference Appendix 'H') and was carried forward onto the 2012 draft master plan amendment because it was thought it might be utilized as an access and queuing area for vehicles with trailered boats if an on-site boat inspection program were implemented at the Park. The boat launch access road would serve to alleviate traffic congestion on Electric Avenue and other nearby roads.

Based on subsequent input from the public and discussions with staff regarding the creation of a new pollution generating impervious surface in the watershed, the boat launch access road has been eliminated from the final plan.

Non-motorized Boathouse Alternate

An alternate location for the proposed boathouse facility was included in the draft master plan amendment to provide flexibility for the project without having to undergo another time intensive master plan amendment. For additional background information regarding the purpose and need for the non-motorized boathouse, please refer to the Final Master Plan section of this report.

The alternate location was chosen because it is in close proximity to the temporary storage area currently utilized by the Whatcom Rowing Association. The location is shown as approximate. The exact footprint of the facility is not shown, but would be similar in overall size to the location near Electric Avenue.

In response to public and City Council Committee comments, the non-motorized boathouse alternate location has been removed from the plan. If the preferred non-motorized boathouse location (described in the Final Master Plan section of this report) is not approved during the permit review stage, an alternate location may be reviewed and approved by the Bellingham City Council.

Other Draft Master Plan Elements

Elements of the draft master plan that have been carried forward into the final plan are discussed in detail in the Final Master Plan section of this report.

Final Master Plan

Most of the items proposed in the draft master plan have been carried over into the final master plan amendment. The final master plan amendment was developed based on public and staff input. The overall goal of the final master plan is to create a balance between active and passive uses at the site, while minimizing negative impacts to water quality in the Lake Whatcom watershed.

Descriptions of each element of the plan are summarized in this section of the report. An engineering and environmental analysis of each element of the master plan is not included in this report. Any future project development at Bloedel Donovan Park will require a separate process for design, engineering and permit approvals.

Non-motorized Boathouse

Several years prior to 2012, the Whatcom Rowing Association (WRA) approached the city with a proposal to construct a non-motorized boathouse facility at Bloedel Donovan Park. The WRA is a non-profit organization that provides recreational programs to the general public.

The non-motorized boathouse was first included in the City's *Park, Recreation and Open Space Plan* in 2002. This project is a donation to the City of Bellingham for use by the public for non-motorized recreational boating programs. The boathouse proposal includes construction of a single-story building, fence, and associated facilities for the storage of non-motorized boats. Also included as part of this project is a new boat dock and ramp for non-motorized boat use.

The size and materials used for the boathouse structure and associated facilities will be consistent with park standards and management practices. Construction and operation of the boathouse and associated facilities would be required to meet all city codes and park standards including invasive species control. The boathouse would become the property of the City of Bellingham. If mitigation is required as a result of the boat house, the costs for such mitigation would be funded by the Whatcom Rowing Association.

The preferred location of the new boathouse facility is near Electric Avenue. This location was chosen because of its proximity to the lake and because any new impervious structures would be located directly over existing impervious asphalt pavement. This results in less disturbance at the site and it reduces the need to create additional stormwater facilities on park property.

Typically, the WRA boats stored at Bloedel Donovan Park would stay on site and would not travel to other facilities or water bodies. The WRA facility may be regularly inspected and serve as a model for best practices to minimize the spread of invasive aquatic plants and animal species.

In response to public comments, the facility will be designed to avoid conflicts with existing pedestrian access and public use around the Park site. In addition, development of the boathouse shall meet or exceed all Lake Whatcom watershed regulations.

Stormwater Infiltration Improvements

One of the primary goals for stormwater improvements at the Park is to treat and infiltrate all stormwater runoff at the site so that no untreated runoff enters Lake Whatcom. Re-use of stormwater on site may also be explored as an option.

The master plan amendment includes several locations for future stormwater infiltration improvements. The size and location of infiltration facilities will be determined with an engineering design. These areas include improvements below ground and should not result in any noticeable change to the existing landscape or topography.

The purpose of the stormwater infiltration improvements is to mitigate any stormwater run-off from the open lawn area while maintaining visual and physical public access to the shoreline. Infiltration improvements will result in a decrease of standing water on site, improvement to the existing turf grass condition, and will increase the infiltration capacity in order to capture additional stormwater infiltration from existing unmitigated impervious surfaces such as the existing community building, walkways, and other unmitigated impervious surfaces at the Park site.

Below ground improvements may include removal of fill material and placement of sand and/or gravel with sufficient voids to store, treat, and slowly infiltrate stormwater. The surface of the improvements would be flush with the adjoining topography.

Phosphorous loading from lawn clippings as well as fecal matter from waterfowl and pets may be contributing factors to water quality issues at the lake. Any improvements will be designed to allow for maximum possible infiltration, which is identified as the primary strategy for phosphorus removal. Removal of fecal bacteria through sand is also a well-documented treatment strategy as approved by the Washington State Department of Health. Other options to deter waterfowl will be explored and may also be implemented at the site.

Various locations for proposed improvements are shown on the plan. The siting of all stormwater improvements is contingent on results from a future geotechnical investigation. Also shown on the plan is a linear footprint for a possible stormwater infiltration facility located along the shoreline, beginning at Electric Avenue and continuing along the entire shoreline to an area near the existing boat launch. The shoreline is generally the lowest gradient point at the site. Therefore, placing an infiltration facility near the shoreline may be beneficial in catching any stormwater runoff from the upland lawn areas.

Other stormwater improvements may include a series of other engineered techniques to mitigate phosphorus run-off into Lake Whatcom.

Installation of any stormwater improvements should be sited so as to minimize disturbance to existing mature trees. A separate public process should be conducted for any mature trees that are identified for removal.

Existing rain gardens may also require improvements. Future plans at the Park should include analyzing and monitoring existing rain gardens to ensure they are properly functioning.

Enhanced Planting

Existing landscape areas on site could be improved with selective thinning and the addition of native trees and shrubs.

Some of the existing plants on site are non-native. Enhancing the existing planting areas with native trees and shrubs that are appropriate for the Lake Whatcom watershed may increase onsite infiltration.

Selective thinning may occur only when more favorable native plantings are mature enough to sufficiently replace the function of the non-native plants. Over a multi-year, long term time frame, new native evergreen trees and shrubs will be encouraged over non-native ornamental plants.

A 10 year goal for the site is to increase the native forested condition at the Park to at least thirty-percent coverage of the total Park land. This enhancement, in combination with engineered stormwater facility improvements, will result in an optimum condition for minimizing stormwater runoff and preventing phosphorus from leaving the site. The increased native forested areas may include enhancing existing planter beds and expanding/creating planted areas in various locations throughout the site. A landscape plan will be developed that

is compatible with existing and proposed uses at the Park. In response to public comment, the additional trees and shrubs should be located so as not to significantly interfere with existing public uses. Implementation is dependent on having available funding.

Beach Enhancement

Enhancements to the beach area along the shoreline includes a partial removal of existing concrete bulkheads, walls and stairs, and replacing with a natural sand and gravel beach. The proposed sand and gravel beach will be designed to sustain natural shoreline processes and will result in better public access and less maintenance. Removal of the bulkhead and installation of the beach will necessitate removal of some existing lawn.

The existing concrete bulkhead along the east shoreline is failing. Soil is eroding from behind and below the wall into the lake. This results in safety concerns where the soil behind the wall is settling. This also results in water quality issues as topsoil is deposited into the lake.

Along the northwest shoreline, the existing concrete wall and stairs may be removed and the shoreline could be restored to a natural condition. Portions of the existing concrete stairs and walls that are in good condition may be retained if it is determined that their removal would result in a detrimental loss of existing mature trees or public use areas. Concrete shoreline structures may also remain if it is determined that their removal would result in no net gain of ecological function.

Existing, mature trees should remain to the greatest extent possible. Rock retaining walls may be installed to retain the critical root zones of existing trees. If any mature trees are designated for removal, an analysis should be performed to demonstrate that the benefits of the new shoreline outweigh the benefits of retaining the tree.

Native Planting Mitigation

There is an opportunity to enhance the planting area between the southern fence line and the existing southern property line of the Park. This area of the Park is currently undeveloped. A thorough wetland delineation of this area has not been completed. However, judging from a preliminary review, this area appears potentially suitable for enhanced native planting. This area may be used as mitigation for other project proposals at the Park site or may be enhanced as a result of other project proposals in the watershed.

Loop Trail

The original *Bloedel/Donovan Park Renovation Plan* (see Appendix 'H') included a loop trail along the southern boundary of the site.

Loop trails on park sites promote exercise and provide a designated public access route. Providing this site feature may also reduce damage to existing lawn areas.

As demand of the existing playfield area increases, a loop trail around the site could be a benefit to park users as well as help protect the turf. Therefore, this element of the former plan has been carried over and incorporated into the 2012 final master plan amendment.

In response to public comment, the trail width and surfacing will be designed consistent with Lake Whatcom Watershed regulations and park standards. Design of the pathway should incorporate low impact development techniques. Pervious concrete may be explored as one option for infiltrating stormwater.

Other Improvements

Other improvements, including those that do not significantly alter the existing use or topography of the site, may be implemented even though not specifically shown in the 2012 master plan amendment. Such improvements may include fences, signs, and construction of other small structures. Renovations and upgrades to existing facilities may also be implemented at the site as needed.

Other improvements to the Park, especially those that highlight stewardship of the watershed, should include the installation of interpretive and educational signage whenever possible.

Schedule

Coordination and planning of future improvements at Bloedel Donovan Park has been ongoing for several years. The official master plan amendment process began in March of 2012 and concluded in July of 2012 with the final adoption of the plan by the Bellingham City Council.

A summary of action items leading to the approval of the 2012 master plan amendment is as follows:

Date:	Description:	Action:
March 14, 2012	Presentation to the Parks and Recreation Advisory Board	set public meeting date
March 26, 2012	Presentation to the Bellingham City Council	information only
March 29, 2012	Public Meeting	information only
April 19, 2012	Presentation to the Lake Whatcom Watershed Advisory Board	information only
May 9, 2012	Presentation to the Parks and Recreation Advisory Board	recommend approval of plan
June 4, 2012	Presentation to the Bellingham City Council	set time and date for council work session/site tour
June 11, 2012	Bellingham City Council Committee work session/site tour	information only
June 21, 2012	Bellingham City Council Committee work session	information Only
July 2, 2012	Presentation to the Bellingham City Council	adopt plan

Conclusion

In general, the proposed master plan amendments will not significantly change public use at the site. With the exception of the proposed boathouse, all other improvements will not result in a major change to the topography of the site. In addition, some of the projects, such as the removal of the existing failing concrete bulkhead north of the boat launch, are required regardless of the master plan process.

Implementation of any of the proposed facilities included in the master plan amendment is contingent on funding and permit approvals. Development of any element shown in the master plan amendment will require separate public processes and approvals including, but not limited to, engineering design, environmental permit approvals, mitigation sequencing, and other approvals.

Updates to policies, codes and laws may occur and typically do not require an amendment to park master plans unless a new use is proposed that significantly changes the site topography, buildings, or infrastructure.

This plan amendment is intended to have reasonable flexibility. Design and implementation of improvements will include balancing public park uses while demonstrating best practices of care in the watershed. A committee of city staff and citizens may be used to oversee design and implementation of improvements included in this master plan amendment. Final improvements will be monitored over time to ensure their effectiveness and may be modified or adapted as needed.

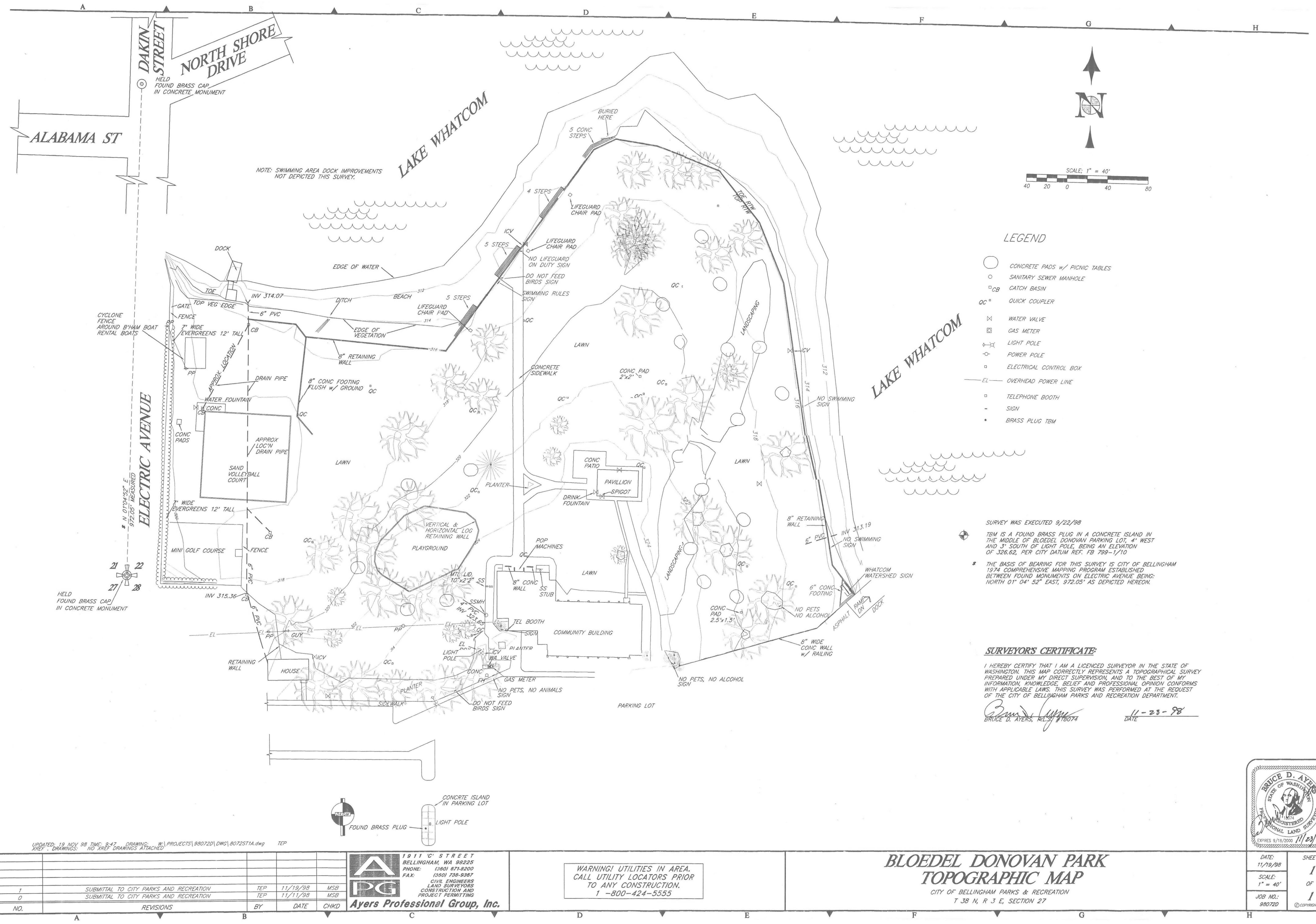
Protecting our natural resources while allowing the public to enjoy our public green spaces are two fundamental goals of any planning process. With this Park master plan, the city is committed to meeting or exceeding expectations for protecting Lake Whatcom and Whatcom Creek.

This page intentionally left blank

Appendix

A

This page intentionally left blank



This page intentionally left blank

Appendix

B

This page intentionally left blank



BLOEDEL DONOVAN PARK MAINTENANCE AND MANAGEMENT
City of Bellingham
Parks and Recreation Department

March 2012

BLOEDEL DONOVAN PARK MAINTENANCE AND MANAGEMENT

City of Bellingham Parks & Recreation Department

HISTORY

In September 1946, Julius H. and Mina Bloedel donated a 12.5 acre tract on Lake Whatcom that was once part of the old Larson Lumber Mill for use as a park and bathing beach, along with \$150,000 for its development. The original deed stated that the lands be developed and used solely for public park purposes and devoted to no other use in whole or in part. "Said lands shall constitute a public park separate and distinct from any other park and, together with any adjoining lands hereafter acquired by the said City of Bellingham or any of its Departments, Divisions or Agencies by gift or otherwise, for Park purposes shall forever be known and designated "Bloedel Donovan Park" and none of such shall be known or designated by any other appellation."

J. H. Bloedel stated that he would like to have the Bloedel Donovan Park completed on August 11, 1948, which would be the 50th anniversary of the incorporation of Lake Whatcom Logging Company. The dedication occurred as planned.

In March 1960, the Parks Board accepted \$26,443 from the Bloedel Foundation, Inc. which was used to enlarge the park and improve the swimming area. In January 1962, the Parks Department received an additional \$5,201 from the Bloedel Foundation, Inc. used for the construction of a permanent float and diving board. Other Bloedel Foundation, Inc. funds were used to construct the parking lot and public boat launch ramp. The boat launch was subsequently reconstructed in 1983 with Washington State Recreation Program grant funds. The community building was renovated and the caretaker's residence remodeled into a preschool building in 1980. The park also contains *Old Number 7*, a 1918 steam switcher engine donated to the park in June 1960 by the Permanente Cement Company.

EXISTING PARK FACILITIES

18.8 acres

Beach area

Boat launch

Playground

2 sand volleyball courts

Picnic tables with park grills

1 full size outdoor basketball court

1 grass 60'x200' softball field

1 grass 150'x300' soccer field

Parking area for 150 cars and 20 vehicles with boat trailers

4,368 square foot Multipurpose Room with kitchen - capacity 200

270 square foot Cedar Room

308 square foot Fir Room

Additional recreation equipment storage area

Four restrooms

700 square foot Beach Pavilion with kitchen and restroom seats 50

Preschool facility

Historic steam locomotive

Non-motorized boat storage

Open turf areas



Old Number 7, 1918 steam switcher engine

RECENT CHANGES

- | | |
|-----------|---|
| 1996 | Sand Volleyball courts constructed |
| 1996 | Two outdoor half-court basketball courts were replaced with one full size court |
| 2000/2001 | Miniature golf and boat rental (privately operated) removed from the Park |
| 2000 | Playground equipment replaced |
| 2003 | Boat launch fees were discontinued |
| 2003 | Manual irrigation system on beach side of Park replaced with automated system |
| 2003 | "H" dock removed from swimming area |
| 2004 | Public Works Department completed improvements to collect and treat storm water runoff from the parking lot |
| 2005 | Lifeguards removed from beaches at Bloedel Donovan and Lake Padden Parks |
| 2006 | Centennial Clean Water Grant for demonstrating Watershed Friendly Gardening |
| 2008 | Parking lot resurfaced |
| 2011 | Whatcom Rowing Association Facility Use Agreement |

HISTORICAL MAINTENANCE PROBLEMS /SOLUTIONS

Migratory waterfowl: Migratory waterfowl, primarily Coots and Canadian Geese, have been a maintenance challenge at the park for years. Photos from the 1980's reveal turf damage directly attributed to a variety of migratory waterfowl. In addition to the turf damage, waterfowl excrement resulted in a less than satisfactory recreation experience for swimmers and other park users. In 1999 the beach was designated as an off-leash dog area in an effort to haze the waterfowl. Currently, off-leash dogs are allowed in the park during daylight hours from October 1 to April 30, as well as from 6 a.m. to 10 a.m. from May 1 - September 30. In recent years, use has been restricted based on monitoring of turf damage.



Turf damage due to migratory waterfowl

Off Leash Dogs: As mentioned, the practice of allowing off-leash dogs along the beach has proven to be an effective measure in hazing migratory waterfowl from the park. This opportunity has been very popular for dog owners. Unfortunately, during the winter months, the increased number of dogs is taking a toll on the turf and soil sediments are draining into the Lake. The Public Works Storm Water Division and the Department of Ecology, identified sediment drainage into the lake in winter 2010 and the Parks & Recreation Department immediately erected temporary fencing to close part of the area protecting the turf from dog damage and the resultant sedimentation. In the past two years, the area north of the parking lot has been temporarily closed to off leash dog use during winter months prevent bare soil areas and resulting sedimentation migrating into the lake.



Dogs off leash at Bloedel Donovan Park



Off leash dogs allowed controlling migratory waterfowl



Turf damage due to off leash dogs – winter 2010



Protective fencing – erected winter 2010

Swimming beach: The Park has historically been used as a swimming beach. During the summers of 2002 and 2003, the beach was closed periodically as water samples showed high levels of E. coli, a bacterium found in the intestines of warm blooded animals. Some of the samples indicated a direct link to migratory waterfowl but the remaining DNA samples could not be conclusively matched to a specific animal or to humans. The beach continues to be tested for water quality.

In 2004, plans were made to minimize E. coli along the beach by dredging the sand from the near shoreline. It was speculative if this project would be a long term solution to the E. coli situation, but dredging of the beach had been completed in previous years. Obtaining permits for this project became problematic and scheduling the work in conjunction with the Silver Beach Ordinance warranted the project inadvisable.

In response to budget reductions and a deteriorating condition of the beaches, the practice of providing lifeguards at both Bloedel Donovan and Lake Padden Parks was discontinued in 2005. The beaches are no longer designated as improved swimming areas but remain popular during warm weather.



Beach at Bloedel Donovan Park



Swimming crowd at Bloedel Donovan Park

Boat launch: Boat launch fees were initiated in 1977 per Council Resolution No. 59-1976. This practice was discontinued in 2003 because charging a user fee negates Washington State's statute limiting the City's recreation liability.

One of the primary challenges to the boat launch is the immense popularity of the launch a few weekends per year. Boat trailer parking is limited and vehicles with trailers park on the turf south of the parking lot during busy boating weekends.

ROUTINE MAINTENANCE PRACTICES

Grounds Maintenance - The Parks and Recreation Department works hard to reduce pollutants and runoff into the lake. Considerable research and planning has led to changes in maintenance practices while finding a balance between the demands for use and protection of the lake water quality.

The Parks & Recreation Department implements Best Management Practices (BMPs) for the use of herbicides and pesticides in the watershed. BMPs include a variety of turf management practices such as:

- Soil testing: Soil tests are taken to analyze the growing media conditions. Information from these tests assists staff in developing and providing the best balance of nutrients for maintaining a healthy park turf. Soil testing reduces the possibility of over fertilization.
- Timing and placement of fertilizer: Lake Friendly Fertilizer (21-0-8 + Fe) is applied twice a year, in the late spring and early fall. Fertilization is timed for maximum plant use and minimum leaching or movement by surface run-off. The slow release, non-phosphorous fertilizer is used in minimum rates to replace the essential nutrients loss from absorption into the plants during the growing season.

- Irrigation water management: The rate and timing of irrigation water applications are monitored to conserve water, reduce soil erosion, run-off and fertilizer movement. The irrigation system is designed to have an average application rate less than the infiltration capacity of the soil so that surface pooling is eliminated and maximum efficiency of percolation will occur.



Irrigation Water Management Training

- Application of pesticides: The Parks and Recreation Department does not broadcast spray broadleaf herbicides in any parks within the City Park system. In parks with urban landscapes such as Bloedel Donovan, Boulevard and Civic Field, pesticides (Roundup) are utilized in some specific areas to eliminate weeds on hard surfaces and tree circles. In addition, there are periodic herbicide injection treatments to eliminate Japanese Knot Weed (a very invasive plant) and to treat stumps from tree removal. In 2010, 6 oz. of Roundup in 3 gallons of water was applied to cracks in the sidewalks and 1.69 oz. of Aquamaster was injected into Japanese Knot Weed at Bloedel Donovan Park. In 2011, 5.88 oz. of Aquamaster was injected into Japanese Knot Weed at Bloedel Donovan Park. No Roundup was used in 2011 at Bloedel Donovan Park. Pesticide applications are done in accordance with Washington State Pesticide Application Requirements to prevent wind drift and storm event run-off. All equipment is properly calibrated prior to use. Most importantly, the staff is highly trained and State Certified on the application of all herbicides and pesticides.
- Planting areas: Appropriate pruning, fertilization, mulching and mechanical cultivation are performed as necessary and in compliance with the Lake Whatcom Regulations (BMC 16.80).
- Trees: The Parks & Recreation Department implements all International Society of Arboriculture (ISA) industry practices for pruning, removal and planting. Work is performed by certified ISA Arborists.
- Moss: Moss grows in the southwest corner of Bloedel Donovan Park where there is little or no active use, the soils are more compacted and the adjacent tree cover provides shade. Moss does not grow in other areas of the park where there is more active use on the grass, the soils are less compacted and there is less shade. No moss killer is used in Bloedel Donovan Park.

The Parks and Recreation Department does not apply any other products to the grass areas in Bloedel Donovan Park other than the fertilizer and limited pesticides previously described.

Facility Management

The role of facility management is to coordinate and oversee the safe, secure and environmentally sound operation and maintenance of parks assets in a cost effective manner. Efforts are aimed at long-term preservation of the asset value, as well as janitorial duties, such as ensuring the environment is properly cleaned and sanitized for its users. In 2009, there were 637 facility bookings at Bloedel Donovan Park facilities.

Building Cleanliness and Waste Removal: Routine cleaning of all building spaces for casual or reservation use. Maintenance also includes trash pickup and removal, sweeping and cleaning of areas around buildings as needed.

Structural Maintenance and Repair: Industry recognized and code required repairs and maintenance of water (potable, storm and sanitary), mechanical and electrical systems as required to ensure safe and serviceable facilities.

Building Systems: Maintenance and inventory of security and locks.

Fire/Safety Systems: Maintenance of smoke/fire detectors, fire extinguishers, signage, and evacuation plans.

Recreational Amenities: Routine maintenance of basketball court, boat launch, parking lot, preschool, and playground (inspections carried out through certified National Playground Safety Institute on-staff inspectors).

RECOMMENDATIONS

- 1. Replace breakwater system:** During the summer of 2010, wood pilings and log booms installed in 1983 to help protect the east shore of the park and the boat launch area were removed and replaced. Less than half of the original wood pilings remained above the waterline and the original three log boom system (three logs bundled together) were reduced to single logs with buoyed lines. With the loss of the booms, the erosion along the easterly side of the park has increased and the existing bulkhead is failing. In addition, it has become increasingly difficult to launch and retrieve boats in the launch facility.

The wood pilings and booms have been removed and steel pilings have been installed. The log booms are being replaced with plastic cylinder wave attenuators approved by the Army Corps of Engineers.



Breakwater Replacement Location



Failing bulkhead at Bloedel Donovan Park

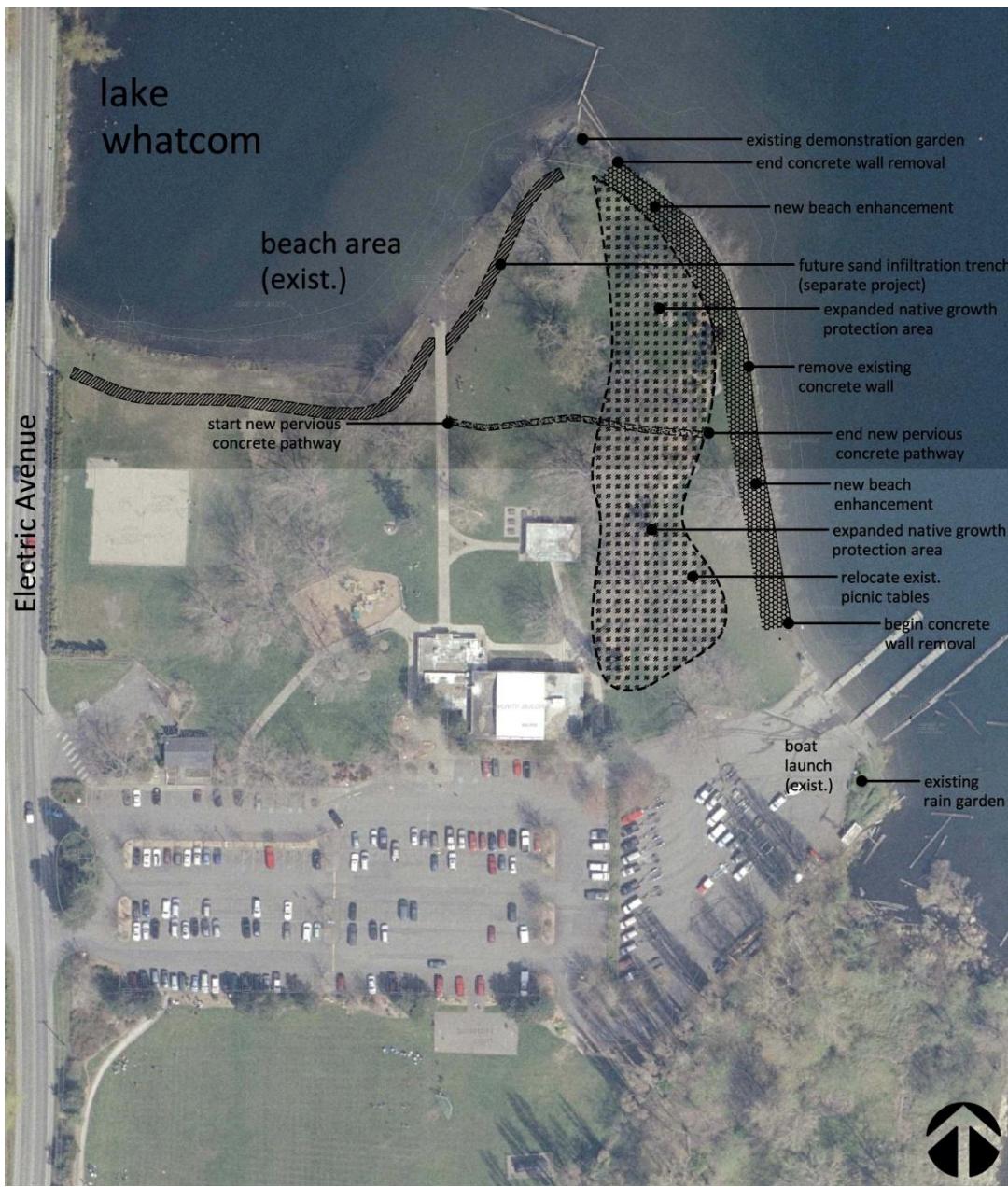
2. Bloedel Donovan Shoreline Restoration: Parks and Recreation Department Staff, in coordination with Public Works Storm Water Division and the Planning Department's Shorelines Planner, have investigated potential lake friendly options to remove the failing bulkhead and improve storm water run-off. The proposed project implements LID retrofits to mitigate for or eliminate sources of nutrient and bacteria loading in storm-water runoff from the park into Lake Whatcom. The project design utilizes reforestation and infiltration as Best Management Practices to mimic native forest conditions and sand media filtration to provide enhanced treatment.

Funding is being sought for final design and construction to include the following:

- Install sand infiltration along the shoreline to prevent pollutants from entering the Lake
- Remove the failing bulkhead and reshape the shoreline to a more natural slope
- Replacement of some turf grass areas with native landscaping to inhibit runoff

The project is estimated to cost up to \$500,000. A grant application is in process with Public Works Water funds providing a match. Some work may be done in-house with City crews.

A Park Master Plan amendment is currently underway, with scheduled public input, Park Board review and approval and final consideration by the City Council.



Proposed Shoreline Restoration

3. **Best Maintenance Practices:** In an effort to ensure that best management practices (BMPs) are being implemented with grounds maintenance, the Parks and Recreation Department, in cooperation with Public Works Storm Water Division, consulted with Dr. Gwen Stahnke, Extension Turf Grass Specialist from WSU. Dr. Stahnke met with staff at the park and reviewed mowing, aerification, irrigation and fertilizing practices. Dr. Stahnke agreed that the Department's turf grass management practices were appropriate for the site based on park uses, location, climate, surrounding vegetation and general soil conditions. In addition, staff provided Dr. Stahnke with soil samples for further research and is waiting for a final report regarding the current practices and any recommendations for changes or modifications to improve the turf care of the park.

- 4. Dogs off-leash:** The popularity of allowing off-leash use of the park during winter months has steadily increased since this practice began in 1999. As discussed earlier in this report, during the wet winter months, increased off-leash use contributes to turf degradation and subsequent siltation to the lake. During the winter of 2009-2010, the City's Storm Water Division and the Department of Ecology raised concerns about sediment drainage into the lake. As a result, in the winters of 2011 and 2012, the park area north of the parking lot has been closed to dog off-leash use. The closures have been effective in stopping the damage to the upper root zone and soil surface near the crown; thus holding the soil in place.

During autumn months turf areas will continue to be monitored to determine when off leash use impacts site conditions resulting in closure of the off leash area to prevent damage to the turf and underlying soil structure. In the spring, a determination will be made when site conditions are favorable to reopen the area for dog off-leash use.

The off-leash area has been relocated to the field south of the parking lot during winter months. Moving this activity away from the lake for the winter months reduces the benefit of dogs hazing migratory waterfowl.


- 5. Non-Motorized Boating:** For a number of years there has been public interest in establishing a non-motorized boating center at the park. Such a facility is included in the Park, Recreation and Open Space section of the City's Comprehensive Plan, to be privately funded. In 2011, the Whatcom Rowing Association began leasing space at the park for boat storage and is currently running a rowing program for youth and adults. Their goal is to construct a permanent, enclosed boat storage building that could be expanded to accommodate other non-motorized recreational boating programs. A park master plan amendment is required and underway.
- 6. Invasive Species:** The Parks Department is cooperating with Public Works on education programs and strategies to address the threat of invasive species entering the lake. A boating inspection program could be implemented as soon as 2013, either at the park or at an off-site location.

This page intentionally left blank

Appendix

C

This page intentionally left blank



Master Plan Amendment

Bloedel Donovan Park

DRAFT

City of Bellingham


March 13, 2012

This page intentionally left blank

Appendix

D

This page intentionally left blank



**Final Master Plan Amendment
Bloedel Donovan Park**



**City of Bellingham
Parks & Recreation
June 25, 2012**

This page intentionally left blank

Appendix

E

This page intentionally left blank

Bloedel Donovan Park Master Plan Amendment 2012 Public Process Summary

page 1 of 2

Updated June 25, 2012

<u>Date</u>	<u>Description</u>
March 2, 2012	Email sent to Bellingham Park Board, Silver Beach Neighborhood Reps, and Greenway Advisory Members
March 8, 2012	Press Release sent to Bellingham Communication Coordinator, ready to issue
March 8, 2012	Meeting notice mailed to property owners with 500ft (246 recipients)
March 8, 2012	Meeting notice mailed to all neighborhood associations, interested parties list, and media
March 5, 2012	Published public website page with public comment tracker http://www.cob.org/government/departments/parks/projects/bloedel-master-plan-amendment.aspx
March 9, 2012	Emailed Bellingham Herald reporter regarding upcoming press release
March 14, 2012	Presentation at Bellingham Parks and Recreation Advisory Board Meeting
March 14, 2012	Whatcom Rowing Association Presentation at City Council
March 14, 2012	Called Grateful Dogs Group
March 14, 2012	Emailed and called Lake Whatcom Watershed Advisory Board (WAB) using City contact information; called Mayor's office to discuss contact info (WAB phone number goes to City Mayor's office)
March 14, 2012	Contacted City staff liaison to WAB, emailed meeting information and draft plan for forwarding to WAB
March 14, 2012	Emailed Silver Beach MNAC reps again
March 15, 2012	Phone meeting with Mike from Silver Beach MNAC, offered in-person meeting to discuss master plan
March 16, 2012	Press release issued by City Communications Coordinator
March 22, 2012	Meeting in person with Grateful Dogs
March 26, 2012	Presentation to the Bellingham City Council

Bloedel Donovan Park Master Plan Amendment 2012 Public Process Summary

page 2 of 2

Updated June 25, 2012

<u>Date</u>	<u>Description</u>
March 26, 2012	Emailed WAB again to follow up and to offer an in-person meeting
March 26, 2012	Phone interview with Bellingham Herald reporter
March 26, 2012	Emailed Silver Beach Neighborhood rep John Everett to follow up and to offer in-person meeting
March 27, 2012	KGMI Radio interview
March 28, 2012	Bellingham Herald article published
March 28, 2012	Emailed WAKE (Whatcom Association of Kayak Enthusiasts) and offered a meeting to discuss the master plan
March 29, 2012	Public Meeting
April 19, 2012	Presentation to the Lake Whatcom Watershed Advisory Board
May 9, 2012	Presentation at Bellingham Parks and Recreation Advisory Board Meeting
June 4, 2012	Presentation to the Bellingham City Council
June 11, 2012	Bellingham City Council work session and field trip to Lake Whatcom
June 21, 2012	Bellingham City Council work session
July 2, 2012	Presentation to the Bellingham City Council, Final Adoption of Plan

Note: In addition to the public items summarized above and on the previous page, there have been numerous coordination meetings with City of Bellingham Public Works Stormwater , Environmental , Planning, and Parks staff.

Appendix

F

This page intentionally left blank

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 1 of 41

1	03/15/2012	Bloedel Donovan Park	Les Scott 2427 Vista Drive Les Scott upjumpin@gmail.com	<p>Really???</p> <p>Someone wants to return the park to it's natural state? It's one of the nicest parks around.</p> <p>I know the lake has its problems and we should work to mitigate them but is this really a solution?</p> <p>Sincerely, Les Scott 2427 Vista Drive Bham</p>	
2	03/28/2012	Inadequate Public Information	Wendy Harris w.harris2007@comcast .net	<p>To the Parks Director:</p> <p>The public has not been provided with meaningful information with regard to the proposed changes to the Bloedel-Donovan Master Plan, which is the subject of a public meeting scheduled on 3.29.12.</p> <p>The City website contains minimal information and the proposed changes are discussed in one short paragraph. The hyperlinks for additional information contain two maps of the Park, one in its existing state and another reflecting the proposed Master Plan revisions. However, these maps lack detail, such as measurements. In fact, the maps are orientated differently, making them challenging to compare. The maps do not reflect the changes in impervious surface or changes in the type and amount of vegetation.</p> <p>There is no written staff analysis or discussion of issues, including analysis of environmental impacts, or proposed mitigation. There is no reference to applicable legal provisions under SEPA, CWA, SMA, GMA, CAO or the City Codes and Comprehensive Plan. There is no discussion of the applicable Master Plan amendment process or an indication of where we are in the process.</p> <p>The average citizen does not monitor Council committee meetings and is unlikely to be aware that a more detailed discussion of this proposal was submitted as an agenda item. (Although the above items were still not discussed.) It is unclear why this information was not included on the website containing information of the public meeting.</p> <p>http://www.cob.org/web/council.nsf/0/85856E0975E750B2882579C900591BDA/\$File/26mar2012_AB19510.pdf?OpenElement/</p> <p>I am bringing this to your attention because at some point in the future, the Parks Department will cite to this meeting as proof of its due diligence in obtaining public</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>input, as it did during the recent City Council meeting. This meeting appears to be an attempt to provide information, rather than to receive information. I am submitting this comment so that the future record will reflect this distinction.</p> <p>Sincerely, Wendy Harris</p>	Page 2 of 41
3	03/28/2012	Fundamental Flaws in Bloedel Donovan Master Plan Proposal	Wendy Harris w.harris2007@comcast.net	<p>Attached [see comment 4 below] please find the comment I have submitted with regard to the proposed dock and boathouse at Bloedel.</p> <p>I attended the Council committee meeting on the proposed amendments to the Bloedel Park Master Plan and was disturbed when the Parks Department failed to discuss the functional wetland immediately adjacent to the Bloedel boat launches. Increased land and water activity will impact fish and wildlife and their habitat. The Shoreline Management Act requires the City to protect all of the Lake's ecological functions. The Lake is classified as a Shoreline of Statewide Significance, entitled to a higher level of protection. The Critical Area Ordinance protects wetlands and Habitat Conservation Areas. Although the SEPA process for the new dock was completed, it failed to result in any mitigation requirement.</p> <p>The Council was not provided with an estimate of the change in impervious surface that will result from Park plan revisions. While the Parks Department touted the new vegetated areas, these vegetated areas need to be off-set with any increased impervious surface, based on a cumulative impact analysis. Because the Plan involves a critical area, the law requires that any changes incorporate best available science. The Parks Department is far along in its plans, without consideration or discussion of these issues.</p> <p>Please ensure the City continues to comply with the requirements of the GMA and the SMA.</p> <p>Wendy Harris</p>	
4	03/28/2012	Bloedel Donovan Master Plan-Kayak/boat house	Wendy Harris w.harris2007@comcast.net	<p>Bloedel Donovan Master Plan Objection to Kayak Dock/Boathouse</p> <p>I strongly object to relocation of a hand launch boat dock and boat house at Bloedel Donovan Park, on the shorelines of Lake Whatcom. The dock and boathouse are being donated by the Whatcom Rowing Association for use by its members, who engage in competitive racing. Because these kayaks are routinely used in other waters bodies, this creates a high risk for introduction of invasive</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>species.</p> <p>The dock is currently located at the WWU Lakewood Recreational Facility. It is not coincidence that Lakewood has the worst Asian clam infestation on Lake Whatcom. When mapped out, the hot spots of Asian clam infestation in Lake Whatcom correlate with watercraft launches. Each time a kayak enters another water body and returns to Lake Whatcom, it carries a risk of introducing new aquatic invasive species or increasing the range of existing invasive species.</p> <p>The City has failed to consider the risks associated with the dock, along with the potential for increased costs of prevention, clean-up and control of invasive species. In fact, the City has not yet implemented an invasive species protection plan, and has no Asian clam management plan. Impacts to water quality or the aquatic ecosystem resulting from greater infestation has not been analyzed or addressed. In other words, the City is approving a project with a high risk of introducing invasive species without any adequate means of protecting the Lake, the Park or the public.</p> <p>The plans for the new dock are proceeding without consideration of the change in facts and circumstances since this project was initially planned. The Watershed Advisory Board, after careful consideration of the problem with invasive species, is requesting that the Bloedel boat launch be temporarily closed until we are better equipped to deal with aquatic invasive species.</p> <p>There are additional, and unmitigated, problems created by the dock and boathouse. Best available science establishes that overwater structures, including docks, are particularly damaging to the ecological functions of a Lake, and impact water quality. State agencies recommend no net increase in over-water structures in a highly developed Lake (i.e., those not already subject to a pending TMDL.) The City ignored this science, noting, during the SEPA process, that the impervious surface created by the dock is not relevant.</p> <p>The City avoided any discussion of the boathouse as part of the SEPA review, despite the resulting increase in impervious surface and accessory services, such as parking and restroom facilities. While this will be justified because the boathouse is not located on the shoreline, the boathouse is connected to the dock, and under SEPA, parts of proposals that are related to each other shall be evaluated in the same environmental document. WAC 197-11-060. I was unable to comment on this during the SEPA process because I lacked information regarding the boathouse.</p>	Page 3 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>The City has also ignored the proximity of the dock to a functioning wetland. The wetland is habitat for many resident and migratory birds, and small mammals. The City must mitigate for fish and wildlife impacts under the CAO and SMP. The impacts of increased human presence, both on the land and in the water, have not been considered. The site of the dock is an established erosion area within a 100 year flood plain, and will impact shoreline ecological functions.</p> <p>The long term cumulative impacts of the dock and boat house have not been addressed, and should be reviewed comprehensively with the other changes proposed for the Park. Under SEPA mitigation provisions, the City should require compensatory mitigation for the impacts that result from changes in the Comprehensive Plan.</p> <p>The Parks Department is fulfilling its mission in meeting the needs of recreational watercraft users, but it is doing so without consideration of and mitigation for impacts to the Lake's ecological functions. Recreational use should be not at the expense of City residents who rely upon the Lake for drinking water, as well as its fish and wildlife.</p> <p>Sincerely, Wendy Harris</p>	Page 4 of 41
5	03/29/2012	Public Comment: Bloedel Donovan Park Plan Amendment	Jeffrey A. Hegedus, MS, RS Environmental Health Supervisor Whatcom County Health Department 509 Girard Street Bellingham, WA 98227-0935 (360) 676-6724 ext. 50895 jhegedus@co.whatcom.wa.us	<p>Please accept this public comment regarding the currently proposed action of converting the Bloedel Donovan park east shoreline grassed area to native growth:</p> <ol style="list-style-type: none"> 1. Sand infiltration trenches treat surface water nutrient loading better than native growth areas. 2. Sand infiltration trenches cost less to construct and maintain than native growth areas. 3. Sand infiltration trenches allow the current land use of public waterfront enjoyment to continue, whereas conversion to native growth precludes this important land use. 4. Sand infiltration trenches also constitute a good legacy demonstration project opportunity for waterfront property owners. <p>For improved treatment of nutrient laden surface water, improved cost effectiveness, improved land use and improved public education opportunity, an improved strategy would be to:</p> <ol style="list-style-type: none"> 1. Continue the installation of sand infiltration trenches from the west shoreline area to the east shoreline area, extending to the boat launch area. 2. Reduce the size of the proposed east shoreline native growth area by 70%. 3. Install an education kiosk explaining how the use of BOTH trenches and native 	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>growth areas, for different shoreline locations and applications, are protective of water quality.</p> <p>Thank you, Jeff Hegedus.</p> <p>Jeffrey A. Hegedus,MS,RS Environmental Health Supervisor Whatcom County Health Department 509 Girard Street Bellingham, WA 98227-0935 (360) 676-6724 ext. 50895 jhegedus@co.whatcom.wa.us</p>	Page 5 of 41
6	03/29/2012	Bloedel Master Plan Ignores Wetland Impacts	Wendy Harris w.harris2007@comcast.net	<p>Development planned for Bloedel Park is of sufficient scope to require amendment to the City Comprehensive Plan. While inadequate information has been released to the public, I do know that Lake Whatcom, Bloedel Donovan Park and an adjacent wetland are "Fish and Wildlife Conservation Areas." BMC 16.16.55.470 applies to waters of the state, lakes, and "land useful or essential for preserving connections between habitat blocks and open spaces."</p> <p>The City Code requires mitigation for alteration to habitat conservation areas that achieves "equivalent or greater biologic and hydrologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis." BMC 16.16.490.</p> <p>Why, then, is the Parks Department proposing amendments to the Bloedel-Donovan Master Plan without consideration of, or mitigation for, fish and wildlife impacts? Increased development, with a new building, a new dock, new trails and roads, softer and more accessible shoreline areas, increased boat and car parking, a new watercraft permitting station, and increased Staff presence, in totality, increase use of land and water by humans and dogs.</p> <p>The Park abuts one of the only remaining Lake wetlands. As such, increased Park development will likely impact a rare urban habitat that is of high value to local wildlife species. Moreover, the Park and wetland provide habitat connectivity to Whatcom Creek and Bellingham Bay, as well as forested areas of the watershed that connect with the Chuckanut corridor. This habitat is of particular value for genetic exchange, and therefore, species survival.</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>The City lacks a comprehensive wildlife conservation plan that identifies and protects habitat connectivity areas, or plant and species diversity. The SMP shoreline inventory and characterization fail to adequately reflect the abundant variety of wildlife or the value of this habitat. The fine work done years ago by Ann Eissenger on Bellingham Fish and Wildlife and Wildlife Habitat was never adopted.</p> <p>The City has no quantifiable baseline standard from which to measure biologic and hydrologic functions, on a per function basis. And no mitigation was proposed for the new dock, despite knowledge that over water structures impair ecosystem function and having on-going cumulative impacts once constructed, which require compensatory mitigation.</p> <p>And contrary to allegations by the Rowing Association, kayaks have significant impact on fish and wildlife due to their ability to navigate close to shorelines, disturbing habitat and allowing humans to visit locations that are otherwise difficult to reach.</p> <p>The wildlife and habitat value of the Park and wetland were not addressed in the prior SEPA (State Environmental Policy Act) review for the Whatcom Rowing Association dock. The City summarily determined that there would be a net increase in ecological function simply because the dock was being moved to an area of the Lake with lower ecological function. This is not based on a specific analysis of habitat value and reflected a piece meal approach, where the scope and totality of Park development was not revealed. Thus, while I participated in the SEPA process, I was unaware that the dock needed to be considered as part of much larger development, with much greater impacts.</p> <p>The Parks Department should not be allowed to continue its on-going pattern of shoreline development for human use that completely ignores the needs of other species that share the land and water.</p> <p>The land speaks first. Why isn't the Parks Department listening?</p> <p>Sincerely, Wendy Harris</p>	
7	03/29/2012	Bloedel Donovan Plan	jhblethen@hotmail.com	Gina, My master plan comments are:	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>Be sure the aggregate size is big enough to take the sw winds without washing out. There is quite a reach here. Yes to a naturalization on the point. No shore pines please.</p> <p>Remove the dotted line road to service boats- this probably would be need to be 22' wide with permeable paving and other mitigation and hugely expensive for the use. It would ruin the south portion of the park for me also.</p> <p>Reduce the power boat launches to one launch pad, and curtail or eliminate regular power boat launching from our park for three reasons- potential infestation of invasive mussels and clams which potentially could cause millions of dollars of damage to water inlets to the City's and to the many home owners who withdraw water from the lake- respect for our drinking water with potential spills and contamination from boats- And also for noise calming and safety for park users and property owners around the lake. Does parks (Dick Henry) have the number of boaters that use the lake?</p> <p>put the hand launch boat facility in part of the existing and mitigated power boat parking lot. Solar site this building for potential future solar applications. Be as inclusive of hand powered boat users as possible .</p> <p>Move the dog facility to a more appropriate (ie off our drinking water) location . Continue to look for ways to remove now resident rather than migratory geese from this park and the lake.</p>	Page 7 of 41
8	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Whatcom Rowing Association prefers Electric Avenue location due to boat conflicts	
9	03/29/2012	Verbal Comment Given at Public Meeting	General Public	How long will construction take?	
10	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Will construction add pollution to the lake?	
11	03/29/2012	Verbal Comment Given at Public	General Public	Why install a concrete pathway?	

**Citizen Comments on:
Bloedel Master Plan Amendment
Updated July 2, 2012**

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 8 of 41

		Meeting			
12	03/29/2012	Verbal Comment Given at Public Meeting	General Public	With regard to new dock for Whatcom Rowers: No mitigation has been proposed, has not been properly permitted, project did not consider water quality. These projects will result in boats, more dogs, more use of the Lake. Invasive species will be brought in by boats and kayaks, Wetlands in proximity will impacted, fish and wildlife impacts have not been addressed, SEPA needs to consider cumulative impacts, need to incorporate a science-based analysis. Also, the native vegetation proposed is a habitat-island and has no benefit to species, need to mitigate for impacts from dogs and people.	
13	03/29/2012	Verbal Comment Given at Public Meeting	General Public	I support the boathouse. Rowing provides a positive, net gain and will reduce motorized boats on the Lake. Rowing provides events for people with disabilities in non-motor boating.	
14	03/29/2012	Verbal Comment Given at Public Meeting	General Public	The plan appears to limit public access for people to the lawn area. I am opposed to the plan. The park is busy. Don't remove area for people.	
15	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Concerned with limiting public access with the native planting area. We should use the sand infiltration trench along the entire shoreline instead of the proposed native planting area.	
16	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Supports location #1 for the boathouse [Electric Avenue]. Getting people paddling is positive. Rowing promotes healthy lifestyles with minimal negative impacts. You have a sense of ownership and care when you use the lake.	
17	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Supports location 1 [Electric Avenue]. It avoids conflict with boats and trailers at the boat launch. The Outriggers Club supports the Whatcom Rowing Association with location #1. It is easier and safer to launch at the lake than at the Bay. It is better for beginners.	
18	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Opposes the plan, except the proposal for the infiltration trench.	
19	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Concerned with privatization of parks for users groups like the rowing group. There's private use at Boulevard, Cornwall is taken over by a small interest group with their discs. Concerned with proposed road near wetlands. The fencing around the current rowing facility is maintained with spray herbicides. There's silt on the steps leading to the lake, which is runoff from the sidewalks. The rain gardens only treat a small percent of the parking area. Need to keep grass longer to absorb	

**Citizen Comments on:
Bloedel Master Plan Amendment
Updated July 2, 2012**

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 9 of 41

				water.	
20	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Keep the grass for the picnic area. Likes the boathouse on the paved area.	
21	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Supports the Whatcom Rowing Association. There should be a request for bids for the public land.	
22	03/29/2012	Verbal Comment Given at Public Meeting	General Public	There should be opportunities for accessible boating on Lake Whatcom. Likes rowing, likes the picnic area.	
23	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Need more information and more detailed studies. The planting area takes away major use of the area. The sand volleyball area is highly used. The boathouse will conflict with recreation, volley ball, and swimming. Find another location.	
24	03/29/2012	Verbal Comment Given at Public Meeting	General Public	The size of the paved area does not seem large enough for the boathouse.	
25	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Supports area 1 for the boathouse [Electric Avenue]. The cement retaining wall is nice for sitting. There is no need for a large beach. The park is nice as-is.	
26	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Grateful dogs are stewards of the park - hope that any development does not impact their use.	
27	03/29/2012	Verbal Comment Given at Public Meeting	General Public	The master plan amendment is driven by a special interest group.	
28	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Concerned about invasive species with new dock and kayaks.	
29	03/29/2012	Verbal Comment	General Public	Appreciates opportunity non-motor boat safely onto lake.	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
Page 10 of 41					
		Given at Public Meeting			
30	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Many communities have rowing programs. Activities for youth. Supports boathouse. Likes location #1 [Electric Avenue] avoids conflicts with motor boat launch. Adds adult supervision near volley ball courts.	
31	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Removal of retaining wall will add more public space than wall. Safer water access for families. Marine park is similar and provides more environmentally friendly and safer access.	
32	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Whatcom Rowing Association Float - permit process and analysis with Department of Fish and Wildlife, Department of Ecology has concluded. The float will allow conduit for education about invasive species. Only the current location is approved. The Whatcom Rowing Association float was an existing float that was renovated.	
33	03/29/2012	Verbal Comment Given at Public Meeting	General Public	Is there another location for the boathouse on the Lake so the park can be kept as-is? Western Washington University is at Lakewood.	
34	03/29/2012	Verbal Comment Given at Public Meeting	General Public	At the bulkhead, water is gushing out. This is not a good example of stewardship. This needs to be repaired/changed.	
35	03/29/2012	Verbal Comment Given at Public Meeting	General Public	The City is coordinating and communicating with state invasive species organization.	
36	03/29/2012	Verbal Comment Given at Public Meeting	General Public	<p>Q: Has it already been decided to do these things? Will native planting be available for picnicking? Opposes the road. Keep the grass area. Inspect boats outside of the park. Will native planting area help the lake? Grass is one of the best filters to keep chemicals out of the lake. Is sand better?</p> <p>A: One of the largest sources of phosphorous if from lawns and lawn clippings. Many homeowners are moving to native vegetation to reduce phosphorous runoff. This project can be an example to other property owners. Grass draws phosphorous from the soil, soils have phosphorous. Native forests are better at keeping phosphorous in place.</p>	
37	03/29/2012	Verbal Comment Given at Public	General Public	20 to 30 new houses on the lake creating pollutants. Lake Whatcom is stagnant. No flow through the lake due to Georgia Pacific shutdown.	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
Page 11 of 41					
		Meeting			
38	03/29/2012	Verbal Comment Given at Public Meeting	General Public	<p>Please include the Grateful Dogs as continued stewards of the park and lake through the use of the off-leash area. Grateful Dogs support responsible dog ownership and provides doggie pot bags and reduces goose population.</p>	
39	03/29/2012		Mollie Faulkner 3006 Barkley Gove Loop, Bellingham, WA 98226 647-0391	<p>Gina Austin: Bloedel Donovan Park is a Jewell. It is the only public access to Lake Whatcom within the City Limits. The Park is heavily used by picnickers and swimmers in the summer and virtually empty in the winter. But first and foremost Lake Whatcom is the source for the City's drinking water. We have been hearing for some time that the lake side needs more vegetation to filter the phosphorous run off. Putting a boathouse on the grass just does not make sense. It will drastically cut down swimming and picnic areas and leave a large area where there can be no vegetation. How did this plan come about? The Whatcom Rowing club is used by such a small percentage of the population but clearly with money to buy public space for a seasonal activity. Grateful Dog off leash association have been stewards of the park for the last fifteen years. They clean-up after all dogs, clear-up garbage and keep the destructive gees as bay. The dog walkers hours have been cut down drastically even in the winter when the only other users appear to be drug addicts, if the amount of syringes, beer cans and condoms that are picked up are any example. The dog walkers have not been permitted on the Lakeside for the last two winters for fear they damage the grass. Do you really expect that the boathouse and the transportation of the rowing shells to the water will not do any damage?</p> <p>Sincerely, Mollie Faulkner 3006 Barkley Grove Loop Bellingham, Washington 98226 647-0391</p>	
40	03/29/2012	From Public Meeting - Comment Handout	Wendy Harris 922-0442	<p>Comment: Habitat area - does not address habitat and species need. You are creating a nonfunctional habitat island. This is not in compliance with any Puget Sound Agency policies - no net increase in impervious surface and over water structure not in compliance. Shoreline access will increase human and dog presence. Legal standards for wildlife conservation area in CAO are high - equal or greater ecological function for each functions. What is baseline standard to measure mitigation? What science based analysis and stuff like no park</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				improvements offset impacts. I do not see a valid analysis per SMA, CAO, and CWA. What about connection of invasive species and recreational user. These kayaks were not inspected at Lakewood. They enter other water bodies and return to Lake Whatcom. Where is discussion of wetland - no consideration of rarity and impacts of increased use. This is not restoration under the SMA. It is offensive to talk about people with disabilities. I have disabilities and I do not support ignoring impacts of kayaks. Kayaks have significant impact on fish and wildlife and habitat and carry risk of invasive species. The rowing association failed to address any environmental impacts on SEPA application - did not know that Lake Whatcom is a sensitive water body and critical area report was only 2 pages. They do not care about public. There is no mitigation. The only people who support this plan are rowers. They do not live in the watershed. Who cares if rowing association is non-profit. They have the same impacts on water quality as any for-profit organization. This sets a very poor example for residents. For Comp Plan, you need a cumulative impact analysis - including impacts from boat inspection program, more parking, more boats, more employees, more roads. How much new impervious surface? Development is a source of water quality impacts - this is development - recreational use is source of invasive species in Lake - this is greater recreational use.	Page 12 of 41
41	03/30/2012	From Public Meeting - Comment Handout	Tom Yorkston 2425 Sylvan St Bellingham, WA 360-354-1183	Comment: I think it should be left the way it is cause there are a lot of people who enjoy sitting an BBQing away from the main park cause it is more privet and there are BBQs and picnic tables. I don't think that it is going to change anything with pollution to the lake. Interests: Just leave it for the people - they like it the way it is.	
42	03/30/2012	From Public Meeting - Comment Handout	Dick Rothenbuhler 3112 Meridian 733-6020 drothenbuhler@comcast.net	Comment: Removes an area where the morning sun is an often the only dry area. Have watched the sun rise there many times. Also removes to much picnic area and to few spots now 1 of the only public areas where this can be down now. Not in faver of special intrest groups taking over a park I had to carry or rent that privalige while I grew up and at 11 or 12 had to carry my boats. They also have that option even make trailers for them. Interests: 1 of the only sites on the lake available the public has now.	
43	03/30/2012	From Public Meeting - Comment Handout	Daphne Sluys 1116 Birch Falls Drive 360-778-1106	Comment: I fully support the proposed changes and prefer boathouse location 1 [Electric Avenue]. Interests: boating, walking, swimming. Family been here 23 years and enjoyed many aspects of park. Believe all changes to be positive.	
44	03/30/2012	Protect Swimming Area	Brian Scott 360-310-0065	Would like to see the public swimming areas protected for all people and is concerned for children's safety when more uses are introduced at the park for paddlers and rowers.	
45	03/30/2012	Proposed Changes to	Deborah Anderson Deborah-	I would like to make a comment with regard to proposed changes to Bloedel Donovan Park.	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
		Bloedel Donovan Park	@earthlink.net	<p>I looked at the map of proposed changes but it isn't very detailed. For example I was looking for the picnic tables on the east side of the park but can't tell whether they would be preserved or not. I hope so because in the summer, eating lunch or dinner at the picnic tables while watching the boats come and go is most enjoyable. Please do preserve the picnic tables and enough open space so that we can see the lake.</p> <p>Deborah Anderson</p>	Page 13 of 41
45	03/30/2012	Proposed rowing club modifications to Bloedel DOnovan; Other watershed issues	David M. Camp Editor, Whatcom Watch PO Box 1441 Bellingham, WA 98227-1441 Email: editor@whatcomwatch.org Website: www.whatcomwatch.org	<p>Hi, Gina,</p> <p>Two Items:</p> <p>1) ROwing CLub: I'm told you are the responsible person on this proposed project, so I'm contacting you to request more information on what is proposed to accomodate the rowing club at Bloedel DOnovan. Can you send me a map or drawing (perhaps part of a powerpoint presentation) of it? As you know, Bloedel Donovan is a very heavily used (in the summer) public lake access point - to me there should be a public debate about this proposal, which benefits only a very few prosperous people, potentially at the expense of the moderate income people who use the park and who are not well-connected like the rowing club proponents. Can you tell me what consideration has been made in the planning process for the needs and wants of the existing park users? Someone needs to be speaking for them in this process.</p> <p>2) Can you direct me to the person responsible for the program which helps landowners in the watershed with improvements to their properties? I'm not sure what it is called, but I've seen one such property, and the process seems very strange to me, as it involves killing a healthy turf with roundup, then covering with cardboard, then loading several yards of mulch, in preparation for planting shrubs, apparently. I'm really questioning how this is improving the watershed and why my taxes are going to pay for this.</p> <p>Thanks in advance,</p> <p>David</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>PS: copied to City council members and Mayor Linville because someone has to do it, I don't get paid to do this and I don't have time to be formal!</p> <p>David M. Camp</p> <p>Editor, Whatcom Watch PO Box 1441 Bellingham, WA 98227-1441 Email: editor@whatcomwatch.org Website: www.whatcomwatch.org</p>	Page 14 of 41
47	04/01/2012	Public Comments from Anara about Bloedel Master Plan	Anara Thomas 504 16th St. Bellingham, WA 98225 671- 4193 smilined@yahoo.com	<p>Dear Gina: After listening to comments at the public meeting about the Bloedel Master Plan amendment on March 29, 2012, speaking for Grateful Dogs Organization, I just want to restate my concern over keeping a dog off leash area at Bloedel. Remember, about one in four people own dogs and need areas to recreate with them, especially since there is water access, the only in the city. City wide, we want to retain our legitimate areas so people don't become scofflaws by taking dogs off leash in non-designated spaces. Our group has partnered with the city on projects like planting trees at Squalicum Creek Park, providing Doggie Bags at Bloedel and acting as park stewards by cleaning up after our dogs, others' dogs and people who litter the park. We are a committed group invested in keeping that park clean. We are the only users there in the winter--no matter what the weather. As long as geese like grass, the presence of dogs should keep them at bay.</p> <p>Speaking for myself and not for the Grateful Dogs, I want to bring up concerns about developing Bloedel park that leads to increased motor boat usage. If anything, motor boats on our only source of drinking water should be highly regulated. I'm also wondering about what paths or roads would need to be built if a boat house gets built? Would there be hidden costs to the public for a new boat house? After hearing support of the boat house from the Kayak and Canoe groups, I get confused about who would store boats on city parks property. I would have to say what interests me most about this site is the environment; including health of the lake and increased use of motorboats.</p> <p>You did a great job clearly describing this project and moderating comments and questions.</p> <p>Please contact me with additional info about Bloedel Park development.</p> <p>Anara Thomas 504 16th St. Bellingham, WA 98225 671- 4193</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 15 of 41

48	04/02/2012	Bloedel Donovan Master Plan	Jennifer Brighton 108 Crestline Drive Bellingham, WA 98229 jenbrighton@comcast. net	<p>smilined@yahoo.com</p> <p>Dear Ms. Austin:</p> <p>I am a member of the Grateful Dogs Off-Leash Association and am a native of Bellingham. I own two very active dogs and wish to offer some observations and comments about the need for off-leash areas for dogs in our city and especially a place for dogs to romp and swim at Bloedel.</p> <p>Over the years, as Bellingham has grown, the need for off-leash areas has grown, but as I'm sure you know, we've actually lost many spaces where dogs can be legally off-leash and especially places where dogs can swim (Post Point, Whatcom Falls Park, limited hours at Bloedel, the bulk of Lake Padden). I frequented Bloedel Donovan with my female dog almost daily until adopting a second dog from the shelter. The second dog can be unruly in a large group of dogs, so he is not a good dog park candidate. However, he is very socialized and does well in areas where he can run, such as the pipeline trail behind the cemetery, the Galbraith trails, Lake Padden trails, etc. where there are not a lot of dogs packed up in a small space.</p> <p>This weekend, while walking the trails in Whatcom Falls Park with my leashed dogs, it brought home the need for more off-leash areas, not less, and especially where dogs can swim. Of about 15 dogs I encountered in a short period on the main trails, only about 4 were leashed. My dogs are very social and have no problem encountering off-leash dogs that run up to them when they are on leash. However, many dogs are reactive in such a situation. The trails are narrow in WFP. I believe the loss of the full-time lake access winter hours at Bloedel has exacerbated this problem and I foresee it will continue to get worse as the population of Bellingham continues to grow. In fairness to all its citizens, the city must look out for dog owners (and collaterally non-dog owners), if nothing else as a safety measure, so owners have somewhere they can legally swim and let their dogs romp and owners who for one reason or another need to walk their dogs on leash have somewhere they can feel safe and be assured that other unleashed dogs are not going to run up to theirs.</p> <p>Thank you for your time in reading this email and your willingness to consider everyone's interests.</p> <p>Jennifer Brighton 108 Crestline Drive Bellingham, WA 98229</p>	
----	------------	-----------------------------------	---	---	--

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 16 of 41

49	04/03/2012	Invalid use of park land/invalid master plan proposal	Wendy Harris w.harris2007@comcast.net	<p>jenbrighton@comcast.net</p> <p>I request that your legal department review the City's handling of the two watercraft storage areas that have been provided to the Whatcom Rowing Association at Bloedel Donovan Park. One area was a pre-existing use and one is new. These privileges violate the City's Code and impair the public's ability to use Bloedel Park. This use has not been disclosed on the Park Master Plan and violates public process. I demand that these storage areas be immediately removed.</p> <p>Pre-Existing Storage Area</p> <p>With regard to the pre-existing storage area, (lower set of racks), I see no legal authority that extends the concept of nonconforming use to the City's public parks. The purpose of a nonconforming use statute is to protect private property rights when the public interest requires changes in land use and zoning codes. Because parks are managed in the interest of the public, there is no private property right that must be considered. Thus, the changes required for public health and safety should be fully implemented.</p> <p>Moreover, the City holds legal title to public lands. To the extent that it permits a special interest organization to use public land, the organization obtains no right or interest in public property that it could convey to another organization. Rather, upon cessation of use by the first group, the land reverts back to the City.</p> <p>Evidence of this is found in the City Code. The City's CAO and land use Code contain nonconforming uses and structures provisions. There are none in the BMC Title for Parks. This is because nonconforming uses were never contemplated for public land.</p> <p>Additionally, by the end of 1990, the Planning Department was required to notify anyone with a nonconforming use that they must apply for a certificate of nonconforming use, which would be issued only in limited circumstances after a public hearing before the Hearings Examiner. BMC 24.14.030.B.</p> <p>In this case, there is no record of a valid permit ever having been issued. Nevertheless, you assert that because you can not disprove that a permit was verbally issued, you must continue allowing the nonconforming use. This is contrary to City law. Assuming that nonconforming use of public land was legal, the lack of a required certificate would terminate this use.</p>	
----	------------	---	---------------------------------------	---	--

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>This conclusion is also supported by the City's nonconforming use regulations, which contain termination provisions for discontinuation or abandonment of use. The burden of showing continuous use is always placed upon the owner or applicant for a use. BMC 20.14.030; 16.55.130. It would be ludicrous to approve a conditional use based on lack of evidence and I certainly hope that this has not been the basis of other permit decisions.</p> <p>New Storage Area</p> <p>With regard to the new locked storage area provided to the Whatcom Rowing Association, you assert that it is 200 feet outside of boundaries regulated by the CAO for wetlands. However, the wetland delineation report noted that a "profession survey of the field delineation would be needed to determine the exact size and location of the wetland." The location and size of the wetlands in the provided report were noted to be "approximate."</p> <p>Moreover, you have failed, without explanation, to impose applicable provisions of the CAO for Fish and Wildlife Conservation Areas. As you know, where a site contains 2 or more types of critical areas, a report is required for each type. BMC 16.55.480.</p> <p>The new storage area was created against the fence line for the wetland associated with the Lake. The wetland is a wildlife conservation area because it is useful or essential for preserving connections between habitat blocks and open spaces. It was identified in City documents as a riparian zone that was an important wildlife corridor. The wetlands also contain priority species and habitat (eagles, osprey, blue heron, cavity nesting, beaver.). BMC 16.55.470; http://www.cob.org/documents/parks/development/pro-plan/2008-draft-update/wildlife-habitat.pdf.</p> <p>A conservation area report is required for any project site within 300 feet of a wildlife conservation area, and to my knowledge, this was not required. Moreover, as developed, there is no buffer between the Rowing Assoc.'s storage area and the conservation area, although this is also a CAO requirement. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby. BMC 16.55.490.F.</p> <p>Bald eagle habitat may be protected under BMC 16.55.500.A.3. The Code requires consultation with WDFW and DNR, which has not occurred to my knowledge. I am not certain if the provisions for riparian habitat buffers under 16.55.D are</p>	Page 17 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>applicable.</p> <p>Summary</p> <p>In sum, the City is providing public land to a special interest organization without consideration and mitigation for important species and habitat and without legal authority to permit a nonconforming use that violates current land use requirements. These storage areas will have a harmful impact on a habitat corridor from the Lake to Whatcom Creek and Bellingham Bay because they were permitted in connection with a planned new road that runs along side the storage areas, creating a barrier to wildlife travel.</p> <p>The decisions of the Planning Department and Parks Department should be reviewed by the Legal Department and revised as appropriate, and additional notice and revised Master Plans for Bloedel should be reissued to the public.</p>	Page 18 of 41
50	04/05/2012	Bloedel Master Plan Amendment	Wendy Harris w.harris2007@comcast.net	<p>I am disappointed that the City is not following its own recommendations for good Lake Stewardship with regard to vegetated shoreline buffers. Instead, the proposed amendments to the Master Plan for Bloedel Donovan include a sand infiltration trench, and virtually no vegetated buffer along the Lake's shoreline. This should be corrected to ensure that vegetated buffers are prioritized. If it is still feasible and funding exists to include an infiltration trench, then both should be incorporated.</p> <p>The suggested proposal contradicts the most recent cost/benefit analysis study indicating that native vegetation protection and restoration activities were often more effective and less costly than expensive engineered solutions.</p> <p>The restoration of Lake Whatcom requires a holistic watershed management approach. Healthy water is the result of a healthy ecosystem. An infiltration trench performs only one primary ecological function... reduction in stormwater run-off. A vegetated buffer performs a wider array of ecological functions, including wave attenuation, flooding, erosion, shoreline stabilization, reduction in water temperature, and wildlife habitat.</p> <p>Vegetated buffers are particularly indicated at Bloedel given the problem with goose poop and water quality. The geese and other waterfowl are attracted by grass lawns, and now, by the Asian clams. A vegetated buffer between the water and lawn provides an established deterrent for geese. Thus, in the case of the Park, a vegetated buffer provides an important water quality component missing with an infiltration trench.</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
---	---------------	---------	----------------	---	--------------

Page 19 of 41

				<p>The importance of vegetated buffers is reflected in the Shoreline Management Act and related SMP Guidelines. In particular, the Guidelines recognize the importance of vegetation in urban areas, noting that the ecological function it provides is often as great as or even greater than in rural areas due to its scarcity. Vegetated buffers are an important component of meeting SMP "no net loss" requirements.</p> <p>The City's updated SMP (still awaiting DOE approval) established as a foundational goal that "shorelines of Lake Whatcom should be restored in such a manner that bulkheads are removed, in-water structures are minimized, and a variety of native vegetation is planted in close proximity to the shoreline so that natural processes are reintroduced." SMP 2.02.20.B This policy applies to shoreline impacted by historical use. This is also in keeping with the Park's environment designation as urban conservancy. Additional policy goals emphasize the need for native vegetation sufficient to provide shade and filtration to reduce pollutant loading to Lake Whatcom's shorelines. SMP 2.02.20.I.</p> <p>Please redesign your proposal to include vegetated shoreline buffers. Access points to the docks and swimming areas could be incorporated into this design so that both restoration and public access are achieved.</p> <p>Sincerely, Wendy Harris</p>	
51	04/12/2012	Non-Motorized Boats and Bloedel Donovan Park Proposal	Wendy Harris w.harris2007@comcast.net	<p>The below Western Front article provides excellent information regarding the risks associated with non-motorized boat use on Lake Whatcom and infestation from aquatic invasive species. This article contains unusually candid quotes from City and County staff that underscore the reasons that it is improper to allow a competitive rowing team to use Bloedel Donovan Park for its classes, competition practices and competition events. We should not be promoting increased recreational use of the Lake when it is in direct conflict with the need to protect and restore our drinking water.</p> <p>Wendy Harris</p> <p>Western Front Blogs: News Sports Photos Lifestyle Tech</p> <p>Asian clams in local lakes threaten water quality, beaches Written by Mikey Jane Moran</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>Tuesday, 10 April 2012 05:28</p> <p>Bivalves are bombarding Bellingham. They kill native mussels, fill Bellingham shores with razor-sharp shells and pollute the drinking water of 85,700 people across Whatcom County. They are the Asian clam, and students may have brought them to local lakes. Invasive Asian clams have been found in Lake Whatcom, including around Lakewood, Western's water sports facility according to the City of Bellingham. Students who do not properly clean their boats could be part of the problem, said Teagan Ward, environmental resource assistant for the Bellingham Public Works Department.</p> <p>Asian clams pose a threat to native mussel species and could cause algae to grow in the lake, polluting the water pouring out of Whatcom County's taps, said Laurel Baldwin of the Whatcom County Noxious Weed Board. Live Asian clams and dead shells can also be swept into water intake pipes, costing the U.S. approximately \$1 billion dollars per year in damages according to the U.S. Geological Survey estimates.</p> <p>Many students are unaware of the disservice they could be doing to the lake by not properly washing their boats.</p> <p>Ward said Lakewood is a "hot spot" for clam colonies, and though they could have spread from other parts of the lake, they were most likely introduced by infected student crafts.</p> <p>Jeff Davis, the Lakewood facilities manager, said the sailing team often travels to compete, and has sailed on infested bodies of water. The clams may have traveled back to Bellingham on the team's boats, he said.</p> <p>Asian clams, or Corbicula fluminea, were first found in Lake Whatcom in September 2011. Significant infestations have been confirmed around Bloedel Donovan Park, Lakewood, Sudden Valley and Wildwood.</p> <p>Laurel Baldwin of the Whatcom County Noxious Weed Board said clam colonies are centered around areas with high boat traffic, which suggests they were spread by boaters.</p> <p>Clam larvae are spread easily through mud and sand left on boats or in the bait barrels of fishermen, Baldwin said. Invisible in the sediment, larva can only be contained if boats are properly washed and dried between uses.</p> <p>"They can be in a cup full of water, and you don't even see them," Davis said.</p> <p>Although the adult clams are very small, measuring only a few centimeters in length, the effects they can have on the lake are huge.</p> <p>Baldwin said users of a clam-infested beach may be injured on shores littered with thousands of sharp shells, which accumulate rapidly due to the clams' high</p>	Page 20 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>reproduction rate.</p> <p>"They can be so prevalent that they cover the beach and they can be a little bit like glass," Davis said.</p> <p>But sharp sand is the least of Lake Whatcom's worries when it comes to Asian clams. Clams may also be linked to water quality issues. Ward said the connection between algae blooms and clam populations is still unclear, but clams excrete phosphorus and nitrogen into the water. These chemicals encourage algae to bloom, which pollutes Bellingham's drinking water, Ward said. A larger clam population means more phosphorus and nitrogen, and thus more algae.</p> <p>Davis, Ward and Baldwin all agreed clams mean trouble because they are a warning sign of more threatening invasive species: the quagga and zebra mussels.</p> <p>Ward said these mussels have threads that allow them to attach to any surface, including water pipes. The mussels can form layers as thick as six inches, clogging pipes and costing tax dollars to remove. The mussels are more easily spread because the threads strongly attach to boats and are difficult to remove. Mussels can even latch on to native clams.</p> <p>While the Asian clam presents problems of its own, Davis described it as a "harbinger of worse situations."</p> <p>As Asian clams die, their shells dissolve, releasing the calcium zebra mussels need to form their shells, Ward said.</p> <p>So far, neither the school nor the city has done anything to address the clam infestations around Lakewood, but Ward said the city is considering distributing brochures and putting up signs around the facility to warn boaters about spreading invasive species.</p> <p>Lakewood staff and students who use the facility, including Davis, admitted to knowing little on the topic of invasive clams. Training boating instructors about cleaning boats or producing educational videos are good options to curb the spread of Asian clams, Ward said.</p> <p>Ward said the city is currently mapping clam colonies and discussing management strategies with a dive team from the Department of Fish and Wildlife.</p> <p>Baldwin said in other lakes, benthic barriers, or large plastic tarps, were spread across the lake floor to suffocate clams. While this method was effective, Baldwin said tarps kill all species, including native clams, and can be expensive. She said the city of Bellingham is still studying containment options and looking for ways to educate the public about the risks of spreading invasive species.</p> <p>Both Baldwin and Ward said the city hopes to have a plan to deal with the clams by the summer.</p> <p>http://westernfrontonline.net/news/14506-asian-clams-in-local-lakes-threaten-water-quality-beaches</p>	Page 21 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
52	04/19/2012	From Public Meeting - Comment Handout	Sharon Belk-Krebs 3942 Lakemont Road Bellingham, WA 98226 360-738-6888	<p>Sorry this has taken so long - especially since I may not remember everything! I think the efforts are fine + good to improve shoreline + retaining wall. What I don't like, in that aspect, is narrowing lawn area on the already narrow area on the boat launch side with wider native plantings. There are more efficient ways to reduce run-off without impacting an already small area of picnic tables + dog walking. My biggest concern is that it appears that Whatcom Rowers + other non-motor groups want to buy the use of Bloedel for their own niche use that will probably expand + expand + drive out dogs, swimmers, picnickers, sun bathers etc. I understand they even have their own key to the pavilion to do rowing exercise. Just because they have some big money + name behind them doesn't mean they should be allowed to take over. And will park workers be expected to deal with even more graffiti + vandalism to their boathouse, etc? They already deal with so much + this will probably bring more problems. Also, I don't really understand this boat road along field between field + Old Mill Village. Rowers have already taken away some of the driest area to walk. I can't imagine why Parks would think this is a good idea. Please see other side for my "interests" answer.</p> <p>My biggest use + interest has been as a responsible dog owner 1st + then discovering + joining Grateful Dogs. I have for years experienced some of my most available social contact there both me + my dogs. It's wonderful to meet like-minded folks + truly socialize my dogs to people + other dogs. Besides, look how we help with the goose poop! Speaking of poop - I have always picked up + encouraged others, but as part of Grateful Dogs we have more chance to educate less responsible owners through our actions, well-timed words to "offenders," + public events such as Paws n Claws + Dog Days. Our 1st Saturday poop clean-up is not really restricted to 1st Saturdays. Most of us do that every day we are there. Some of us also spend our spring + summer days helping to pick up the <u>loads</u> of garbage (some very disgusting) left by people. The dogs couldn't hope to do so much mess + damage. Bottom line, I've been saddened by the restrictions of the last couple years to our use of the park. We used to be able to be on the lakeside unlimited from sometime in Oct to May. Gees still poop then, you know! That whole part of the park gets little use in winter, late fall + early spring, other than after nightfall in the form of vandalism, beer parties + who knows what. I would love to see us reinstated, but at the very least, please don't restrict us even more or shut us out altogether. Specially not for rowers backed by big name + money who'd like to see the park their private playground.</p> <p>Sincerely Sharon Belk-Krebs</p>	Page 22 of 41
53	04/26/2012	Trailer parking at Bloedel-	Larry Mansfield mansf@comcast.net	Dear Council Member,	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
		Donovan		<p>At last week's Watershed Advisory Board meeting, Gina Austin presented the revised Bloedel-Donovan Master Plan Amendment. Many questions arose. In particular, Board members are concerned about boat trailer parking in the Park's play field. Gina said that there is no provision in the plan to change this. However, Clare Fogelsong said that he is considering using the strip across from the Park between Electric Avenue and the street, also called Electric, as a parking lot for boat trailers. When I said that this is a green area he said, "there are always downsides."</p> <p>I find it appalling that the City would even consider turning this strip into a parking lot. Most of the strip is in trees and the portion that is not should have been planted long ago. The strip not only provides a buffer for the City residents living along Electric, but it is a natural area seen when driving or walking by the Park. Isn't it time the City put its entire population ahead of the relatively small number of people who use the Park's boat ramp to launch powerboats on the Lake?</p> <p>Sincerely, Larry Mansfield</p>	Page 23 of 41
54	04/30/2012	Bloedel Master Plan Comments	David Jefferson 2230 Erie Street Bellingham, WA 98226 "David Gmail" david4per@gmail.com	<p>Hi Gale,</p> <p>Thank you for presenting at the WAB and Bloedel Donovan. Challenge getting all this public input but it looks like you are getting in done.</p> <p>Would like to add a few comments to the Bloedel Master plan:</p> <ul style="list-style-type: none"> · Not in favor of providing public park property to a private entity (boathouse) for private use. This will reduce park size, take away public use of property and water down the agreement that citizens have with their government that public property is for all public use. If the rowing club is allowed a club house, will Woods Coffee or another provider apply for a coffee shop permit? · I am in favor of closing the large park area to boat overflow parking. · The Public Works department and City Council is considering a boat inspection and cleaning station. This should be included in the plan for a variety of reasons <ul style="list-style-type: none"> o The community needs to see that departments are collaborating on large community wide programs like safe drinking water. Failure to show this degree of collaboration minimizes major goals and objectives and confuses the citizens about City priorities o It is incongruent to suggest more boat launching areas (private boat house) 	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>while ignoring the potential infestation mussels from boats that are already using the launch.</p> <ul style="list-style-type: none"> · The new infiltration projects seem appropriate but I would strongly suggest highlighting why this is being done, who are your collaborating partners, why this benefits the larger community and how this all ties into the grand plan of protecting our water source. <p>David Jefferson 2230 Erie Street Bellingham, WA 98226</p>	Page 24 of 41
55	5/7/2012	Bloedel Donovan proposed Boathouse	William Hadley <wahadley@live.com>	<p>One of the top complaints about the proposed update of the Bloedel Donovan Master Plan has been the relocation of the proposed boat house. I think there will be conflicts with other park users and traffic exiting the parking lot at the proposed new location. One of the questions asked was "Isn't there somewhere else they could launch their boats?" There is a possibility, Euclid Park. I visited the park Saturday to get a fresh look. There is about 250 ft. of undeveloped shoreline in a somewhat sheltered cove. It looks like it would be a great location for boat launch for unpowered boats. There has been a long standing question about a viable use for Euclid Park.</p> <p>I think the possibility is worth some serious consideration.</p> <p>Some other features for consideration are: The land near the shoreline is flat so placement of the boat house could be near the shoreline. The current trail length from the parking area is about 500 ft. The area is currently quite wet so there may be need for augmented drainage. There is probably not enough parking but it could be easily expanded. There would be a need for a restroom. There appears to be water and sewer available at the parking lot. In short there are lots of things to be considered but the possibilities seem to be warrant serious study.</p> <p>BillHadley</p>	
56	5/8/2012	Bloedel Donovan	Glenn Merrill gpm5@comcast.net	I am writing to voice concerns about the Bloedel Donovan Master Plan, specifically about the reduction in useable public space on the east shore of the park. The	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
		Master Plan		<p>plan to remove the bulkhead is commendable and will model good shoreline management practices; the accompanying development of a natural beach will add to aesthetic and access qualities. What I have concerns about is the plan to extend the planted landscape toward the east beach, minimizing the grassy space and picnic area available for use. When the north swimming area and playground are crowded (which is quite frequent during summer months), the east shoreline is the only quiet alternative in the park. In addition, it provides an extended view of the lake, the best of the morning sun, and the only sense of real natural space in the park (the north shoreline looks directly across to a highly developed housing area.)</p> <p>I encourage you to reconsider plans for redevelopment that retain as much public picnic space and grassy area along the east shore as possible.</p> <p>Glenn Merrill gpm5@comcast.net</p>	Page 25 of 41
57	5/31/2012	Bloedel Donovan Master Plan Amendment	Larry Mansfield WAB member mansf@comcast.net	<p>Dear City Council Member,</p> <p>I believe the Bloedel Donovan Master Plan Amendment has been sent to the City Council without sufficient input from the public. I attended the Parks and Recreation Advisory Board meeting at which the Amendment was first presented. I was amazed that there were no questions raised by members of the Parks Board. It is my understanding that there was again no comment at the second presentation when the Parks Board approved sending the Amendment to City Council. The Parks Board's reaction was in stark contrast to comments made at the public meeting and by members of the Watershed Advisory Board [WAB.]</p> <p>At the public meeting on the proposal, it was my impression that most of those not involved with the rowing club were opposed to the Amendment. There was a strong statement in opposition to turning over part of the park to a private organization. The general tenor seemed to be "don't mess with our park."</p> <p>One point made at the public meeting by supporters of the Electric Avenue position for the boathouse was that the present situation requires families to walk through the boat launch area to get to the hand launch float, thereby endangering people, especially children, from backing boat trailers. If the boat launch is closed for this year's boating season, then this is no longer a pressing problem. The one project that seems to need doing soon is the removal of the bulkhead and establishment of a natural beach. This should not require an entire revision of the Master Plan.</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>When the Master Plan proposal came to the WAB, it was the third time I had heard a presentation. However, it was the first time that the "Outdoor Equipment & Storage" area was mentioned. This feature is easy to miss on the drawing unless it is pointed out. It is to occupy the gentle grassy slope along Electric Avenue to the north of the proposed boathouse. Aside from comments on this storage area, there was strong opposition to the boathouse itself and the construction of a path and launch site for a private group in such a heavily used park. In addition, WAB members wanted boat trailers banned from the play field. The Master Plan should resolve this parking issue. Maybe a provision closing the play field to parking and a simple sign at the park entrance indicating when the trailer parking lot is full.</p> <p>It appears that this Master Plan Amendment is being rushed through. For example, the map presented to the Parks Board and the public meeting had an incorrect distance scale, two boathouses with one twice as long as the other, and a "road" through the play field that was no larger than a footpath. In addition, as a property owner in Silver Beach, I received the notice for the public meeting by snail mail before the Parks Board approved the date.</p> <p>Personally I believe that the infiltration trench in the Amendment is the wrong solution to a poorly defined problem. I have obtained confirmation of this position from an environmental engineer. I see the boathouse and especially the outdoor storage area as having the potential to produce an unsightly view of the park from Electric Avenue. Finally, the new location for the hand launch float is not well chosen. It is at the end of the swim area near the bridge used by many swimmers. A private launch float does not belong in a swim area with no other floats available to swimmers.</p> <p>When something is called a Master Plan, one expects more care devoted to its preparation. One would also expect that an advisory group dedicated to parks should have something to say about the design. It clearly was not perfect when the Parks Board saw it the first time and I submit that they passed on a flawed design the second time they saw it.</p> <p>This Master Plan Amendment is not worthy of City Council Approval.</p> <p>Sincerely,</p> <p>Larry Mansfield WAB member</p>	Page 26 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
Page 27 of 41					
58	5/31/2012	Bloedel Donovan Park Master Plan Amendment	Mollie Faulkner 3006 Barkley Grove Loop Bellingham, WA 98226 360-647-0391	<p>May 31, 2012</p> <p>Bellingham City Council 210 Lottie Street Bellingham, WA 98225</p> <p>Dear Council Members:</p> <p>I am a daily—year-round user of Bloedel Donovan Park. I walk my small dog there each morning before 10 AM.</p> <p>I am well aware of the amount of Summer use at the Park—picnickers, swimmers, volleyball players, fishermen, boaters and more.</p> <p>The Park is so small, in the last few years the boat storage enclosures have taken away valuable walking areas. The present rowing club storage forces winter walkers into ankle deep water.</p> <p>The thought of placing a huge boathouse and dock in the picnic and swimming area is madness. It would affect the emergency access, picnickers, the volleyball court and fisherman and most of all take away valuable grass area needed to protect this lake and our drinking water.</p> <p>Please give this new plan some serious thought. As the population grows and space becomes limited we all need to share. Not be taken over by those who can afford to pay. There is the danger of privatization of our public parks!</p> <p>Sincerely, Mollie Faulkner 3006 Barkley Grove Loop Bellingham, WA 98226 360-647-0391</p>	
59	06/04/2012	Bloedel Donovan Master Plan, new hand carry boathouse	Clayton Petree publicpolicyperspective s@comcast.net	<p>Dear Council, Mayor Linville, and Parks,</p> <p>I would like to express my support for improving the Bloedel Donovan park. I live close-by and it is one of the more popular parks in the entire city. Growing up in Bellingham, I have fond memories of my visits there, especially swimming and jumping off the diving boards.</p> <p>As a short term goal (1-3 years), I would like to see planning for at least some of the various docks and diving boards be brought back to the park. As it is today, the swimming area was always a highly used part of the park and when I was growing up, a fantastic way for me to spend a sunny day. As you can see by the number of</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>people that have been forced to jump from the Electric Avenue bridge, this is something that people want to do at a swimming area. Actually, even though it may be a little bit dangerous, I think it's a very interesting look at human nature that people jump off the bridge since the diving boards were removed - when you take away an opportunity to have fun, people will still find a way to have fun. It would make sense to provide that opportunity again, especially since there are so few opportunities for swimming outdoors in Bellingham's park system. The only other good place to swim and have fun in a similar way that I can think of is the cliff at Whatcom Falls Park.</p> <p>I would also like to express my opposition to the first location of the new proposed boathouse next to Electric Avenue. Putting the boathouse and a path to the water there will certainly conflict with the heavy use of the park in that location. There are constant volleyball matches and other uses there. However, the alternative location proposed where the locomotive currently sits is an excellent one and I urge you to adopt that as the primary, and only location. The proposed alternative hand launch dock location would be much better than along the bridge, but an even better location could be from the "existing rain garden" area. A dock could be designed to go over the rain garden (allowing the garden to continue to do its job), and the hand launch boats could launch on the other side of the floating logs there keeping everybody just a little bit safer with less cross traffic at the motor boat launch.</p> <p>I hope you find my comments helpful,</p> <p>Clayton Petree</p>	Page 28 of 41
60	06/04/2012	Opposed to Bloedel Master Plan Revisions!!	Wendy Harris w.harris2007@comcast.net	<p>Why are we discussing proposed revisions to the Bloedel Park Master Plan when many of these changes have already been implemented by the Parks Department? This reflects the Parks Department's disregard for public process, resulting in a Master Plan proposal that is procedurally and substantively flawed. I have submitted numerous comments on these problems over the last 6 months, all of which were ignored by the Parks Department, (referenced and incorporated herein).</p> <p>Wetlands</p> <p>The Park Master Plan revision fails to protect one of the only remaining urban wetlands on Lake Whatcom. This area adjacent to the public docks is a Shoreline of Statewide Significance, entitled to a greater level of protection under the SMA. It is also protected under the City Critical Area Ordinance as both a wetland and a "Fish</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>and Wildlife Conservation Area." BMC 16.16.55.470.</p> <p>Park development, and greater use of land and water, will have impact on this wetland, as well as the habitat corridor connecting Lake Whatcom with Whatcom Creek and Bellingham Bay and forested areas of the watershed that connect with the Chuckanut corridor. This corridor has particular value for genetic exchange, and therefore, species survival, but there is no mitigation for habitat impacts.</p> <p>The City lacks a comprehensive wildlife conservation plan that identifies and protects habitat connectivity areas, or plant and species diversity. The SMP shoreline inventory and characterization fail to adequately reflect the abundant variety of wildlife or the value of this habitat. The fine work done years ago by Ann Eissenger on Bellingham Fish and Wildlife and Wildlife Habitat was never adopted. And contrary to allegations by the Rowing Association, kayaks have significant impact on fish and wildlife due to their ability to navigate close to shorelines, disturbing habitat and allowing humans to visit locations that are otherwise difficult to reach.</p> <p>The City has no quantifiable baseline standard from which to measure biologic and hydrologic functions resulting from new Park development and use (i.e, ability to measure and monitor "no net loss"). No compensatory mitigation was required for the new dock although it is known that over water structures impair ecosystem function and have on-going cumulative impacts once constructed.</p> <p>Asian Clams The Parks Department proceeded with development plans without considering the impacts from development and increased Park use on Asian clam infestation or water quality problems. I repeatedly raised concerns during the SEPA review for the new dock and was ignored. Moreover, it was never disclosed that the new dock was connected to much greater development and use of the Park. The City engaged in improper piece-mealing during the SEPA process to avoid mitigating the totality of impacts from the revised Master Plan.</p> <p>The City has no invasive species management and control plan to deal with Asian clams nor an invasive species prevention plan to prevent new species from establishing. This calls into the question the wisdom of rededicating the park for the use of the Whatcom Rowing Association. Encouraging greater use of watercraft at Bloedel Park is likely to increase problems associated with invasive species.</p>	Page 29 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>Public Participation</p> <p>Public participation in the proposed Park Master Plan amendment has been particularly flawed. The City is engaging in a meaningless exercise intended only to meet its legal obligations. While the Parks Department is soliciting public input, "proposed" changes in design and use have already been implemented, and the ink on a Facility Use Agreement with the Whatcom Rowing Association has long since dried.</p> <p>The proposed amendments to the Park Master Plan were released on March 13, 2012. This is subsequent to installation of a new dock and a 2400 square foot boat storage area for the Whatcom Rowing Association. The WRA website and Facebook page proudly lists Bloedel Park as its home, as well as the location of its boathouse.</p> <p>Public plans reflect a "proposed" boathouse, but the public was not advised that a fenced boat storage area already exists. No shoreline permit was required because the Planning Department took the absurd position that the Row Club was entitled to a "nonconforming use" of park land, contrary to specific statutory requirements on point.</p> <p>My concerns are much more extensive than what is included in this comment, but have been documented in prior email comments, which I incorporate by reference herein.</p> <p>Please address these problems before approving any changes in the Bloedel Master Plan.</p> <p>Sincerely, Wendy Harris</p>	Page 30 of 41
61	06/04/2012	Bloedel Park Plan "Update" Draft Proposal	Stan Snapp Bellingham City Council snappcouncil@gmail.com	<p>Fellow Parks Committee Members,</p> <p>I suggest we have a ways to go before approval of the draft "plan update" proposal. My first read through raises plenty of red flags. From the goal statement to who initiated it, to the recreational tone from start to finish, this is not a plan that I can support. For the record, this process was initiated by Jack and myself by lobbying staff for as long as we've been on council. As another example, there have been many citizen complaints about the lack of our being good stewards of our park in terms of maintenance practices and other measures to protect our water supply that are consistent with practices we are imposing on watershed residents via the Silver Beach Ordinance and other extensive regulations.</p> <p>This update, the first in 32 years, seems to be driven primarily by a proposal to establish a club centered rowing facility as an added recreational activity in the</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>park. The update draft lacks any specifics including one recommended site for a new boat house and storage facility that would actually "add" to the impervious surfaces in the park with no mitigation suggested.</p> <p>In walking the park it is striking to me that so little has changed in the 32 years since the original plan was approved. It's appalling to me that we've spent millions of dollars effecting change in virtually all other aspects of drinking water protection and the only visible change at this huge impervious facility is two small, first generation rain gardens to handle some of the parking lot run off.</p> <p>At our March 29 meeting parks staff presented information to us that they have reduced herbicide and pesticide uses and no longer apply fertilizer containing phosphorus. These are very recent changes, that were imposed upon Silver Beach residents as best practices twenty years ago.</p> <p>I want us to adopt a "plan" or "update" if they insist on calling it that, recognizing throughout the tone and content that this park will become an example of drinking water protection stewardship that includes recreational activities consistent with that stewardship. This plan should state clearly in strong language the specifics of how and where those protection measures will be installed and should set out policies and mitigation strategies for processing the runoff from all impervious surfaces including buildings current and future. The early draft set aside a large part of the little used area directly east of the field house for an infiltration oriented native plantings area that could become a treatment area for field house runoff as a major step in mitigating that large impervious foot print. This latest draft removes that set aside because recreational users don't want to give up any of the grass that is now in a large portion of this park.</p> <p>The draft identifies that the grass on site has been tested and contains high amounts of phosphorus and we know that grass is a very poor surface for infiltration which is a preferred strategy for reducing phosphorus runoff into the reservoir.</p> <p>It is not surprising that recreational users like the park the way it is but we have a policy mandate to implement change and I see little of that in this draft plan.</p> <p>I'm going to seek a series of work sessions by our committee and other C M's that may assist us. An early session could, with your approval be held on the park site so we can view how little has changed over the 32 years of the current plan.</p> <p>Lastly, I talked with Michael yesterday about his concerns as a "non-committee" member and I asked that he send those to me. They are set out below for your consideration.</p>	Page 31 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>>>>>>>>>></p> <p>Stan,</p> <p><i>Since you serve on the Parks committee, I decided to share my thoughts with you so that to the extent that you agree with them, you might carry them forward into the committee's discussions this Monday. I do not sit on that committee.</i></p> <p><i>In a nutshell, my primary concern is that the critical importance of restoring Lake Whatcom water quality takes a back seat to the legitimate but less important purpose of public recreation. We want a good park, but we need clean drinking water. Safeguarding our source of drinking water has been a top priority, if not the top priority, of the City Council for years. I believe that this needs to be reflected in any revision to this important planning document.</i></p> <p><i>If you did not know any better, reading the new master plan would give you no idea that the Lake is a threatened and endangered body of water, and the sole drinking source for 90,000 people. You would have to know the "code words" in the plan which imply that water quality is an issue. The plan says "lake friendly landscapes, "plants that are better suited for the watershed," and "increased infiltration capacity," as well as discussing future "stormwater infiltration improvements." This is like a discussion of the trees, with no mention of the forest or why the forest is so important. "Friendly" for the lake? "Better suited"? If you did not know what this means, you would be hard pressed to guess.</i></p> <p><i>I believe this is not just an oversight. I believe it stems from the mind-set of the plan's authors, who adopted a guiding purpose that is upside down, in my opinion, and not in alignment with the City's highest priority needs. On p. 10 of the draft plan we read, "The overall goal of the final master plan is to create a balance between active and passive uses at the site, while minimizing negative impacts to water quality in the Lake Whatcom watershed." Notice that recreation is the priority. Notice also that the goal is merely to minimize negative impacts, not to avoid or reduce those impacts. I strongly suggest that the City Council amend the plan to include a substitute goal statement:</i></p> <p style="text-align: center;"><u><i>The overall goal is to reduce negative impacts to water quality in the Lake Whatcom watershed that arise from public recreational uses at the park site, while still allowing a balance of active and passive recreation.</i></u></p>	Page 32 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p><i>With this new goal statement, I believe a few more changes in the plan would be called for. The most important change that I would like to see is a return to the original proposal for an enhanced planting area on the northeast side of the park. Page 9-10 of the draft plan indicates that this enhancement was removed from the final version "based on subsequent public and staff input." Well, I would hope that it will be restored based upon subsequent Council directives. Along the same lines, near the bottom of p. 12 of the draft plan, we read "In response to public comment, the additional trees and shrubs should be located so as not to significantly interfere with existing public uses." I disagree. Again, I think this shows the wrong priorities, placing a "want" above a "need." This sentence should be struck or amended, in my view.</i></p> <p><i>I understand why park managers and park users would resist this change, but the City Council has an obligation to serve our community's best long term interests, even if a bit unpopular. Knowing how much work and passion you have put into Lake Whatcom, I am hopeful that you will agree and that you will work to make these changes at the committee level.</i></p> <p><i>Thanks for listening.</i></p>	Page 33 of 41
62	06/25/2012	Bloedel Donovan Park	Les Scott 2427 Vista Drive upjumpin@gmail.com	<p>Hello,</p> <p>I would just like to make few points and ask one question:</p> <ol style="list-style-type: none"> 1. The existing phosphorous problem in the lawn area is most likely the result of years of usage by geese and other waterfowl. 2. The usage of this area by off-leash dogs has eliminated or greatly reduced this problem and dog owners that use this area are very conscious of the importance of picking up after their pets. Many of us pick up after other pets in the few cases where their owners don't. 3. Every effort should be made to enhance the usage of this park while mitigating the pollution of the lake. This is one of Bellingham's premier parks and should be treated that way. 4. My question is - will the proposed unmotorized boat dock be available for usage by fishermen? This area is frequently used for that purpose. <p>Thank you all for the work you do to serve the people of this beautiful city. Les Scott 2427 Vista Drive</p>	
63	06/25/2012	Re: Bloedel Donovan Park	Stan Snapp Bellingham City Council snappcouncil@gmail.com	Scott, See responses below.	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>On Mon, Jun 25, 2012 at 10:18 AM, <CCmail@cob.org> wrote:</p> <p>Bloedel Donovan Park</p> <p>Les Scott to: ccmail</p> <p>06/25/2012 10:14</p> <p>Hello,</p> <p>I would just like to make few points and ask one question:</p> <p>1. The existing phosphorous problem in the lawn area is most likely the result of years of usage by geese and other waterfowl. It is unknown but staff tells us they have not used fertilizer with phosphorous for years. We do need to address the runoff and staff is not wed to the trenches being proposed and we have a grant to do the research to get the best answers.</p> <p>2. The usage of this area by off-leash dogs has eliminated or greatly reduced this problem and dog owners that use this area are very conscious of the importance of picking up after their pets. Many of us pick up after other pets in the few cases where their owners don't. Yes, the dogs have been a help. Trouble is, during the wet season they destroy the turf making lawn restoration in the spring a major problem. Also, the quantity of dogs is making this situation worse. To me it says that we need more off leash areas than we have given the huge number of dogs in our community.</p> <p>3. Every effort should be made to enhance the usage of this park while mitigating the pollution of the lake. This is one of Bellingham's premier parks and should be treated that way. That has been council members point for a long time. I do think we've turned the corner with staff and the public on this.</p> <p>4. My question is - will the proposed unmotorized boat dock be available for usage by fishermen? This area is frequently used for that purpose. All park facilities are open for uses. On a recent walk I noticed sun bathers using the new dock and I expect there will always be a variety of uses for it.</p> <p>Thank you all for the work you do to serve the people of this beautiful city. Thanks for emailing us Scott.</p> <p>Les Scott 2427 Vista Drive -- Stan Snapp, Bellingham City Council</p>	Page 34 of 41
64	06/26/2012	Re: Bloedel Donovan Park	Les Scott 2427 Vista Drive	Thanks for the reply prompt reply,	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
			upjumpin@gmail.com	<p>2. The usage of this area by off-leash dogs has eliminated or greatly reduced this problem and dog owners that use this area are very conscious of the importance of picking up after their pets. Many of us pick up after other pets in the few cases where their owners don't. Yes, the dogs have been a help. Trouble is, during the wet season they destroy the turf making lawn restoration in the spring a major problem. Also, the quantity of dogs is making this situation worse. To me it says that we need more off leash areas than we have given the huge number of dogs in our community.</p> <p>Concerning the problem of the dogs tearing up the turf - In my opinion, the problem is the poor drainage qualities of this area. If the drainage issue were addressed, the turf degradation would be addressed as well. Although, more off-leash areas is a good idea. ALL of Whatcom Falls Park trails would be a good start.</p> <p>Thanks again, Les Scott 2427 Vista Drive</p>	Page 35 of 41
65	06/25/2012	Bloedel Plan	Larry Mansfield mansf@comcast.net	<p>Leslie and Gina,</p> <p>Just for your info. No response needed. I'm happy that the research will give us the best answers and the DOE funding will help pay for the research for BMP's.</p> <p>Kind regards, Stan</p> <p>----- Forwarded message -----</p> <p>From: Larry Mansfield <mansf@comcast.net> Date: Mon, Jun 25, 2012 at 11:08 AM Subject: Re: Bloedel Plan To: Stan Snapp <stansnapp@gmail.com> Cc: Ibryson@cob.org, gaustin@cob.org, jking@cob.org, Seth Fleetwood <seth@openaccess.org>, Jack Weiss <zweiss@comcast.net>, Mayor Kelli Linville <klinville@cob.org></p> <p>Stan,</p> <p>Thanks for following up on this. My fear is that once something like a trench is drawn into the Master Plan, it will have a life of its own. The June 21st drawing still shows the trench with the label changed to "future stormwater infiltration improvements." The drawing also shows a "future beach enhancement" all around</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>the shoreline. It is hard for me to believe that the people who use the park will view over 30' of sand along the water's edge as an enhancement.</p> <p>When Gina presented the amendment to the Parks Board, she said that it had not been determined whether the bulkhead at the swim beach would be removed. The June 7th update had it and the steps removed, along with all the vegetation along the lake and replaced by a beach that might be found on a seashore, but not on a lake. If Parks is open to various approaches to storm water management, then why does the drawing look like the entire waterfront should be transformed? As I said in my May 5th message to you, I have confirmation from an environmental engineer that the run-off near the swim area can be handled without destroying the shoreline.</p> <p>Larry</p> <p>On Jun 25, 2012, at 10:22 AM, Stan Snapp wrote:</p> <p>Leslie,</p> <p>Thanks for doing that. There are lots of ways to infiltrate and I'm appreciative of your taking the time to do it the best way. It's great to have the funding to support that effort. Our thanks to DOE for that and for their being flexible regarding other plant layers besides trees.</p> <p>Stan</p> <p>On Mon, Jun 25, 2012 at 9:49 AM, <lbryson@cob.org> wrote:</p> <p>Stan:</p> <p>We made the stormwater improvement section of the master plan more general with the possibility of all kinds of stormwater infiltration designs. The grant will allow us to spend money on site evaluation and design to come up with the best methods.</p> <p>Leslie Bryson Design and Development Manager Bellingham Parks and Recreation 360-778-7000 FAX:320-778-7001</p>	Page 36 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>Supporting a healthy community by providing high quality parks and recreation services.</p> <p>From: Stan Snapp <stansnapp@gmail.com> To: gaustin@cob.org Date: 06/21/2012 16:41 Subject: Bloedel Plan</p> <p>Gina,</p> <p>Larry Mansfield, of the WAB sent me this email regarding the "trench" which he is very opposed to.</p> <p>Stan,</p> <p>Why are you ignoring the possibility of installing a dry well in that depression near the swim area? As Mark and Gina have said this could take care of the storm water in the area without destroying the beach.</p> <p>Larry</p> <p>I wrote back that you and I haven't discussed the "trench" or a depression, although I know what area he is talking about, it's the depression directly north of the beach volley ball court just north of one of the retaining walls.</p> <p>Stan</p>	<p>Page 37 of 41</p>
66	06/26/2012	Park give away	J. Kaye Faulkner 3006 Barkley Grove Loop Bellingham, WA 98226 360-647-0391 MALtha6995@aol.com	<p>June 25, 2012</p> <p>City Council:</p> <p>Giving such a block of space to Diehl for boats is likely the first step in the privatization of Bellingham City Parks. If this does not work out can the City back track? What constraints are there? Are they consistent with the needs of other users of the Park? It appears there will be crowding.</p> <p>This appears to me like another move of the former Park Director Leuthold and is consistent with the attitude toward what is happening in County parks. All of us should be concerned about losing control over our park system to private parties—one should wonder if our city council is thinking straight about the consequences for their public.</p> <p>Sincerely,</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
Page 38 of 41					
				J. Kaye Faulkner 3006 Barkley Grove Loop Bellingham, WA 98226 360-647-0391	
67	06/26/2012	Bloedel- Donovan plan and boathouse	Sincerely, Sharon Belk- Krebs sewbk1@gmail.com	I am writing about the comprehensive plan for Bloedel. I attended the information meeting at the park a while back to learn of the plans for maintenance, use, etc. I was please with most of it such as shoreline improvements. What I have a real issue with is the plans for a boathouse and access for a private, special interest group of rowers. It feels like their money and influence in the community is buying special interest use that is not appropriate. This lake is a wonderful place for picnics and swimming and has historically been Bellingham's prime place for this activity. This proposed plan seems to be a sort of take over by a special interest group that will shove out especially swimmers and impact their safety. I'm also unfortunately aware of the graffiti and other damage that happens at Bloedel. This boathouse and stored boats could very well be an attraction for even more of this activity. I wonder who is going to foot the bill for any damage that might happen. I am totally pained by the damage I've seen and wish there was a solution for it, but I fear this may exacerbate those problems. And Parks should not be responsible for any costs incurred. But mostly, I'm concerned about the shoving out of the traditional uses of the park and swimmer safety. I hope you reconsider this plan. Sincerely, Sharon Belk-Krebs	
68	07/02/2012	Bloedel Master Plan Amendments	Wendy Harris w.harris2007@comcast .net	I urge the Council to postpone the approval of the Bloedel Master Plan amendment until it contains some degree of certainty as to what, where, when and how. The actual engineered stormwater improvements and design are not determined, nor the impacts from the engineering project(s). The City still needs to meet with and obtain DOE approval for its stormwater proposal. So instead, the Master Plan amendment reflects what "may" occur. There is no discussion of how effective the engineered improvements will be or quantifiable standards that can be measured and monitored. There "may" be impacts to mature trees from the stormwater improvements and if so, that will involve yet another public process, resulting in further piece-mealing of environmental impacts. The wisdom of removing natural resources crucial to healthy ecological function in order to install expensive, man-made engineered solutions warrants more discussion and review. A landscape plan has not been developed although the Master Plan amendment involves up to 1500 new plantings. This is a significant oversight and fails to indicate how the plantings will impact existing park functions and uses, and whether this is the best choice for water quality improvement. The condition and functions of two existing rain gardens is unknown and needs to	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>be analyzed in order to determine the adequacy of other proposed park improvements. NNL should be a quantifiable science, but this reflects lack of appropriate measurements and monitoring to ensure TMDL standards will be met. A critical area report and a fully delineated wetland survey have not yet been completed, although the Master Plan changes will impact wetlands, habitat and a wildlife corridor. A new dock and kayak storage area have already been approved and constructed, indicating that the wetland and wildlife corridor require more oversight and protection than is provided for in this proposal.</p> <p>“Other improvements”, not identified in the Master Plan amendment, may be implemented.</p> <p>“A committee of city staff and citizens may be used to oversee design.” Is this an existing committee, is a new one to be created, who will be appointed and by whom?</p> <p>Because so many important details of the Master Plan amendments are still undeveloped, there is no justification for approving this proposal at the current time. Doing so would deprive the public of the right to public comment and would grant the Parks Department an inappropriate amount of discretion without public accountability. This nullifies the entire purpose for a Master Plan, which is to ensure clear, comprehensive policy and goals are established to guide future park use and development. The Parks Department’s desire for “flexibility” exceeds any reasonable parameters under this proposal.</p> <p>I hope that the rush to approve the Master Plan amendments is not driven by the Whatcom Row Club’s desire to move rapidly towards construction of its boathouse, as could be concluded from the recent Bellingham Herald article. Nor would DOE grant deadlines justify this type of sloppy planning for a matter so important to our community.</p> <p>The Row Club’s current assertion that none of its shells leave Lake Whatcom is still not adequate protection of our water quality because this is not just a matter of preventing new infestation. It is also a matter of managing and controlling existing infestation. Use of dedicated watercraft in an infested Lake is still likely to spread and increase the areas of Asian clams infestation.</p> <p>The fact that the boathouse is being built on existing impervious surface is not justification for approval. Under the TMDL, the City is required to protect and restore water quality. Since this proposal indicates that the current staff vehicle access area is not necessary, this is an area of impervious surface that could be restored. Status quo is NOT a victory.</p>	Page 39 of 41

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>The Master Plan amendment incorrectly references an “undocumented” wetland. However, this wetland is discussed and incorporated into the City’s new SMP. Review of the SMP shoreline reach inventory clearly reflects the wetland and connected wildlife corridor, and indicates this area should be prioritized for protection against development. While I am glad to see that the amendment includes possible plantings and improvements for this area, it fails to improve the wetland buffer, or to acknowledge the wildlife corridor and the need to protect habitat. The proposed trail should not be approved because this would run adjacent to the wetland/wildlife corridor. At a minimum, mitigation would be necessary.</p> <p>For the above reasons, the Bloedel Master Plan amendment needs additional development to ensure optimal use of the Park, maximum protection of water quality and adequate mitigation for impacts. The current proposal is an improvement over the original proposal, but more work is needed to protect the public’s interest.</p> <p>I am particularly interested in ensuring that the wetland and wildlife corridor are protected and improved and believe that the DOE grant provides the ability for the City to do so. If this proposal is approved, I request appointment to the city staff/citizen design review team, if one is created.</p> <p>Sincerely, Wendy Harris.</p>	Page 40 of 41
69	07/02/2012	Bloedel Park and wetland/wildlife corridor improvements	Wendy Harris w.harris2007@comcast.net	<p>http://www.epa.gov/owow/watershed/wacademy/acad2000/wetlands/values.htm</p> <p>Above, please find a link listing the ecological service and benefits provided by wetlands. This was created by the EPA as part of its Watershed Academy Program. Please read this link before you take action on the Bloedel Master Plan amendments.</p> <p>I have repeatedly emphasized the importance of restoring Lake Whatcom under a holistic approach that focuses on restoring all ecosystem functions. Engineered solutions are generally more expensive and less effective than protecting and maintaining the environmental integrity of natural resources degraded by development.</p> <p>Amendment to the Bloedel Master Plan emphasizes expensive engineered</p>	

#	Date Received	Subject	Citizen/ Group	Citizen Comments on: Bloedel Master Plan Amendment Updated July 2, 2012	Notes/Status
				<p>stormwater solutions, while paying little attention to a rare remaining wetland and wildlife habitat adjacent to the Park. This wetland was been mapped by the Federal Department of Fish and Wildlife and the State Department of Fish and Wildlife as well as the City of Bellingham.</p> <p>The wetland and habitat corridor is documented in the SMP Shoreline Characterization and Inventory for the Lake Whatcom reaches. http://www.cob.org/documents/planning/shoreline-master-program/characterization-inventory/lk-whatcom-reach-48.pdf.</p> <p>It is noted that “the only native habitat that remains in this segment is a shrub wetland just south of the boat launch. A narrow strip of undeveloped land along the southern park boundary provides some amount of connectivity, for some animals, between this shoreline habitat and the upland habitat to the south and west (the wetland complex in Reach 3 and Whatcom Falls Park). The analysis recommends protecting and enhancing this area. Planting and diversifying the native plant community is listed as a way to benefit the shoreline, wetland and improve the habitat corridor, while noxious weeds should be eliminated and monitored.</p> <p>The best and highest use of the native vegetation that the City is receiving from the DOE grant is improvement of the wetland and its buffer, the shoreline and expansion of the habitat corridor to provide geter connectivity to Whatcom Falls Park, which is a WDFW mapped area of biodiversity and wildlife corridor.</p> <p>The means of improving the ecological function and ecosystem services of Lake Whatcom is within reach. Improved wetland function will help reduce algae blooms, improve water quality, prevent shoreline erosion, and increase biodiversity. The wildlife corridor could be enhanced to improve connectivity for the benefit of local species, many of which are species of state or federal concern.</p> <p>Please take advantage of this important opportunity for ecological enhancement and greater ecosystem services. Ensure that these items are included and prioritized in the proposed amendments for the Bloedel Master Plan.</p> <p>Sincerely, Wendy Harris</p>	Page 41 of 41

This page intentionally left blank

Appendix

G

This page intentionally left blank

Lake Whatcom Watershed Infiltration Study

Bellingham, Washington

for

The City of Bellingham

May 13, 2010

GEOENGINEERS 

600 Dupont Street
Bellingham, Washington 98225
360.647.1510



600 Dupont Street
Bellingham, Washington 98225
360.647.1510

May 13, 2010

City of Bellingham
Department of Public Works
2221 Pacific Street
Bellingham, WA 98226

Attention: William M. Reilly

Subject: Letter Report
Geotechnical Engineering Services
Lake Whatcom Watershed Infiltration Mapping
Whatcom County, Washington
File No. 0356-112-00

INTRODUCTION AND SCOPE

This letter report presents the results of our geotechnical engineering services for the development of an infiltration mapping database for use by the City of Bellingham and residents in the City portion of Basin One of the Lake Whatcom Watershed (hereafter referred to as the "site"). The general location of the site is shown in the Vicinity Map, Figure 1.

It is our understanding that the City would like to be able to provide homeowners with an approximate infiltration rate to install residential on-site best management practices (BMPs) such as infiltration trenches, dry wells, rain gardens, etc. Our geotechnical engineering services were completed in general accordance with our proposal dated November 16, 2009. Our services were authorized by Ted A. Carlson with the City of Bellingham on November 25, 2009. The purpose of our geotechnical engineering services is to explore subsurface conditions at the site as a basis for providing recommendations for low-impact development (LID) methods to residential stormwater upgrades. Our scope of services included completing sixty-six explorations, completing laboratory testing on samples obtained from the explorations, developing a GIS based map, and preparing this letter report.

SITE CONDITIONS

Surface Conditions

The city portion of Basin One of the Lake Whatcom watershed is identified in Figure 1 and the Exploration Plan and Infiltration Rates, Figure 2. The project area includes:

- Bloedel-Donovan Park and multi-family residential units as far south as the Fraser Street right-of-way in the southwest corner of the area.
- Big Rock Garden Park and the single family residences one-block north of Barkley Boulevard in the northwest corner of the study area.

- The single family residences bounded by Oregon Street to the north, Villard Street right-of-way to the east, and Lake Whatcom in the east and northeast portions of the study area.

The terrain in the study area slopes downward toward the lake. Rock outcroppings were observed near the lake shore south of Bloedel-Donavan park and in the vicinity of Big Rock Park. Our study focused on developed areas and did not enter the undeveloped area around Big Rock Park. Therefore, the vegetation and surroundings generally consisted of landscaped yards and parks, asphalt paved roadways, gravel shoulders and concrete sidewalks.

Geology

We reviewed a U.S. Geologic Survey (USGS) geologic map for the project area, "Geologic Map of Western Whatcom County, Washington" by Don J. Easterbrook (1976). The site lies within an area mapped as Chuckanut Formation. This unit comprises sandstone, conglomerate, shale, and bituminous to sub-bituminous coal. Based on our experience, a weathered soil horizon and/or a thin layer of glaciomarine drift mantles the bedrock in this area. The soils tend to have a high fines content (silt and clay).

Subsurface Explorations

Subsurface soil and groundwater conditions were evaluated by excavating a 12-inch diameter hole with a subcontracted excavator at 66 different locations throughout the study area. A solid-stem flight auger mounted to a KX121-3 Kubota Excavator was used to complete the excavations. The explorations were completed on February 8-12, 15, 16, and 26 and May 13, 2010. The explorations were completed to a depth of approximately 5 feet below the existing ground surface (bgs) unless bedrock or an obstruction was encountered before reaching the full depth. The approximate locations of the explorations are shown in Figure 2.

Approximately 100 potential exploration locations were selected based on a random distribution throughout the study area; as previously mentioned, 66 were completed. Some of the locations were on public sites and access was permitted by individual home owners for the explorations that were completed. The locations of the explorations completed were determined by measuring from identifiable features in the vicinity; therefore, the locations shown in Figure 2 should be considered approximate.

The explorations were continuously monitored by an engineering geologist or a geotechnical engineer from our firm who examined and classified the soils encountered, obtained representative soil samples, observed groundwater conditions, and prepared a detailed log of each exploration. Soils were visually classified in general accordance with American Society for Testing and Materials (ASTM) D-2488-90, which is described in Figure 3. The samples were obtained by from the sidewalls of the excavation and off of the flights of the auger. The samples were placed in plastic bags for transportation to our laboratory. An explanation of our exploration log symbols is also shown in Figure 3.

The logs of the explorations are presented in Figures 4 through 36. The logs are provided in numerical order. Since not all 100 potential explorations were completed, only the locations and logs are presented for those performed. The logs are based on our interpretation of the field and laboratory data and indicate the various types of soils encountered. They also indicate the depths at which these soils or their characteristics change, although the change might actually be gradual. If the change occurred between samples in the exploration, it was interpreted.

Laboratory Testing

General

Soil samples obtained from the explorations were transported to GeoEngineers laboratory. Representative soil samples were selected for laboratory tests to evaluate the pertinent geotechnical engineering characteristics of the site soils and to confirm our field classification. Tests were performed in general accordance with test methods of ASTM or other applicable procedures as discussed below.

Grain Size Analyses

Grain size analyses were performed on selected samples in general accordance with ASTM D 422 to determine the sample grain size distribution. The wet sieve analysis method was used to determine the percentage of soil greater than the U.S. No. 200 mesh sieve. Hydrometer testing was used to determine the percentage of silt and clay in each sample. The results of the sieve analyses were plotted and classified in general accordance with the Unified Soil Classification System (USCS). Samples were also plotted on the United States Department of Agriculture (USDA) textural triangle to determine the USDA soil classification.

Due to the large number of tests, the individual test results are not graphically represented in this report. Instead a summary of the laboratory testing data is provided in Table 1.

Subsurface Conditions

Soil Conditions

The soils encountered in our explorations generally consisted of either sandy silt or silty sand extending to the full depth explored. The soils generally classified as loamy sand, sandy loam, or loam per the USDA textural triangle. Some areas of clean sand or even gravel were encountered, however, these were typically fill material and not representative of the local soil conditions. A material that classified as silt loam was encountered in three of the explorations.

Bedrock is relatively shallow in the study area and was encountered in 13 of the explorations.

The specific soil conditions encountered at each exploration are provided in the exploration logs. A general summary of the soil conditions is provided in Table 1.

Groundwater Conditions

Slow to moderate groundwater seepage was encountered in approximately 1/3 of the test pits. Generally the encountered groundwater represented a perched condition. Perched groundwater will occur where a relatively impermeable soil layer or bedrock limits vertical groundwater migration. Groundwater elevations will vary as a function of season, precipitation, and other factors.

CONCLUSIONS AND RECOMMENDATIONS

Infiltration Rate

The 2005 Stormwater Management Manual for Western Washington (Stormwater Manual) by the Washington State Department of Ecology provides three methods for determining the long term infiltration rate of site soils. These include:

- USDA Soil textural Classification – This method classifies the soil based on the percentage of sand, clay, and silt in the material after the gravel (that portion retained on the No. 10 sieve) has been removed. An infiltration rate is determined based on correlation with the USDA classification. This method is the most appropriate for soils with a higher silt and clay content. A correction factor of 4 is included in this method.
- ASTM Gradation Testing – This method is based on the d_{10} size of a soil determined in a grain size analysis per ASTM D422. (Ten percent of the sample is smaller than the d_{10} size.) A correlation is provided between the d_{10} size and the infiltration rate. This correlation is limited to materials with a d_{10} size of 0.05 mm or greater and represents a long term infiltration with a correction factor.
- The 2005 Stormwater Manual also includes a chart that projects a correlation between infiltration rate and the d_{10} size out to a d_{10} size equal to 0.002 mm. The chart includes both an upper and lower bound depending on the influent control, maintenance, and other factors. We determined that the projected infiltration rates along the lower bound are generally more conservative than those determined using the USDA classification method.
- In-situ Infiltration Measurements – This method involves completing a Pilot Infiltration Test consisting of excavating a large excavation (10 feet by 10 feet by 4 feet deep) and adding and monitoring water (typically from a fire hose) until a constant infiltration rate is determined. While this method provides the best site specific infiltration rate, it was unfeasible for the scope of this project.

The infiltration rates for each sample tested are provided in Table 1 based on the USDA textural classification, the ASTM gradation correlation, and the ASTM gradation lower bound chart. It is our opinion that the infiltration rate associated with the USDA soil textural classification is the most appropriate for the study area and these values have been provided in Figure 2. Due to the high silt and clay content of the soils encountered in the study area, the long term infiltration rate typically varies from 0.13 to 0.25 inches per hour.

LIMITATIONS

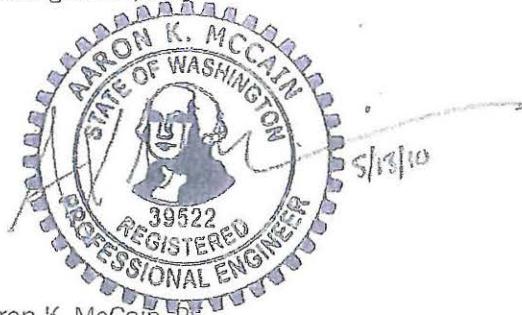
We have prepared this letter report for use by the City of Bellingham for planning stormwater BMP's in the City portion of the Lake Whatcom Basin One watershed. The exploration program consisted of limited locations over a very large area.

Within the limitation of scope, schedule and budget, our services have been executed in accordance with generally accepted geotechnical practices in the area at the time the report was prepared. No warranty or other conditions, express or implied, should be understood.

We appreciate the opportunity to work with you and on this project and look forward to providing additional services as this project advances. Please call if you have questions on any aspect of this report.

Sincerely,

GeoEngineers, Inc.



Aaron K. McCain, PE
Senior Geotechnical Engineer

A handwritten signature of J. Robert Gordon, PE.

J. Robert Gordon, PE
Principal

AKM:JRG:ms
BELL:P:356-112-00/Finals/Letter Report.docx

Attachments:

- Table 1 – Laboratory and Infiltration Rate Summary
- Figure 1 – Vicinity Map
- Figure 2 – Exploration Plan and Infiltration Rate
- Figure 3 – Key to Exploration logs
- Figures 4 to 36 – Log of Explorations

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS	TYPICAL DESCRIPTIONS
			GRAPH	LETTER
COARSE GRAINED SOILS MORE THAN 50% RETAINED ON NO. 200 SIEVE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GP POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GM SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		GC CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
				SW WELL-GRADED SANDS, GRAVELLY SANDS
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SP POORLY-GRADED SANDS, GRAVELLY SAND
FINE GRAINED SOILS MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH INORGANIC CLAYS OF HIGH PLASTICITY
				OH ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

- 2.4-inch I.D. split barrel
- Standard Penetration Test (SPT)
- Shelby tube
- Piston
- Direct-Push
- Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS	TYPICAL DESCRIPTIONS
GRAPH	LETTER
	CC Cement Concrete
	AC Asphalt Concrete
	CR Crushed Rock/ Quarry Spalls
	TS Topsoil/ Forest Duff/Sod

Measured groundwater level in exploration, well, or piezometer

Groundwater observed at time of exploration

Perched water observed at time of exploration

Measured free product in well or piezometer

Graphic Log Contact

— Distinct contact between soil strata or geologic units

— Approximate location of soil strata change within a geologic soil unit

Material Description Contact

— Distinct contact between soil strata or geologic units

— Approximate location of soil strata change within a geologic soil unit

Laboratory / Field Tests

- %F Percent fines
- AL Atterberg limits
- CA Chemical analysis
- CP Laboratory compaction test
- CS Consolidation test
- DS Direct shear
- HA Hydrometer analysis
- MC Moisture content
- MD Moisture content and dry density
- OC Organic content
- PM Permeability or hydraulic conductivity
- PP Pocket penetrometer
- SA Sieve analysis
- TX Triaxial compression
- UC Unconfined compression
- VS Vane shear

Sheen Classification

- NS No Visible Sheen
- SS Slight Sheen
- MS Moderate Sheen
- HS Heavy Sheen
- NT Not Tested

KEY TO EXPLORATION LOGS



Legend



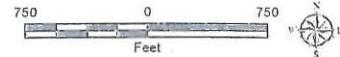
Study Area

Explorations and Infiltration Rates (in/hr)

- 0
- 0.13
- 0.25
- 0.5
- 2.0
- Fill

*Infiltration rates shown are based on USDA correlations
(see text for further explanation).

Notes:
1. The locations of all features shown are approximate. 2. This drawing is for information purposes. It is intended to assist in communication discussions in an informal document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of its communication. 3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.
Data Sources: watershed boundary and road photo - City of Bellingham 2005; parcels and watershed boundary - Whatcom County 2008; State Plane Washington North FIPS 4001 (Feet); North American Datum 1983. North arrow oriented to grid north.



Exploration Plan and Infiltration Rates

Lake Whatcom Infiltration Project
Bellingham, Washington

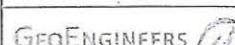
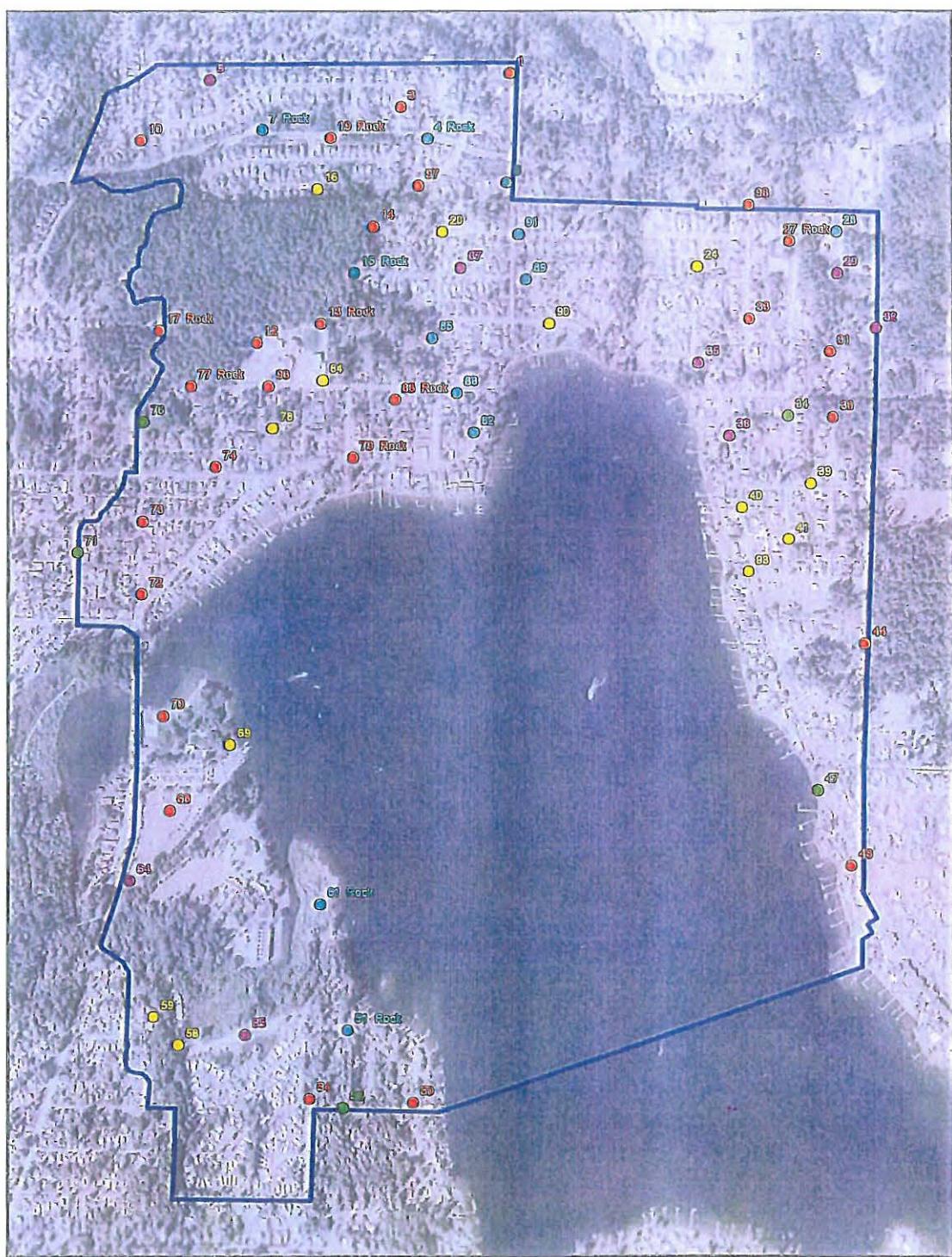


Figure 2



Legend

USDA Infiltration in/hr

- 0
 - 0.13
 - 0.25
 - 0.5
 - Fill
- COB Lake Whidbey Watershed

Notes:
1. The locations of all features shown are approximate. 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and merit of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication. 3. It is unlawful to copy or reproduce all or any portion of this drawing without permission of the copyright owner.

Source: COB Lake Whidbey Watershed boundary and aerial photo - City of Bellingham 2008; Parcels and watershed boundary - Whatcom County 2008; State Plane Washington North FIPS 4301 (Feet); North American Datum 1983. North arrow oriented to grid north.



750 0 750
N
S
E
W
Feet

Infiltration Rates

Lake Whatcom Infiltration Project
Bellingham, Washington

GEOENGINEERS Figure Draft

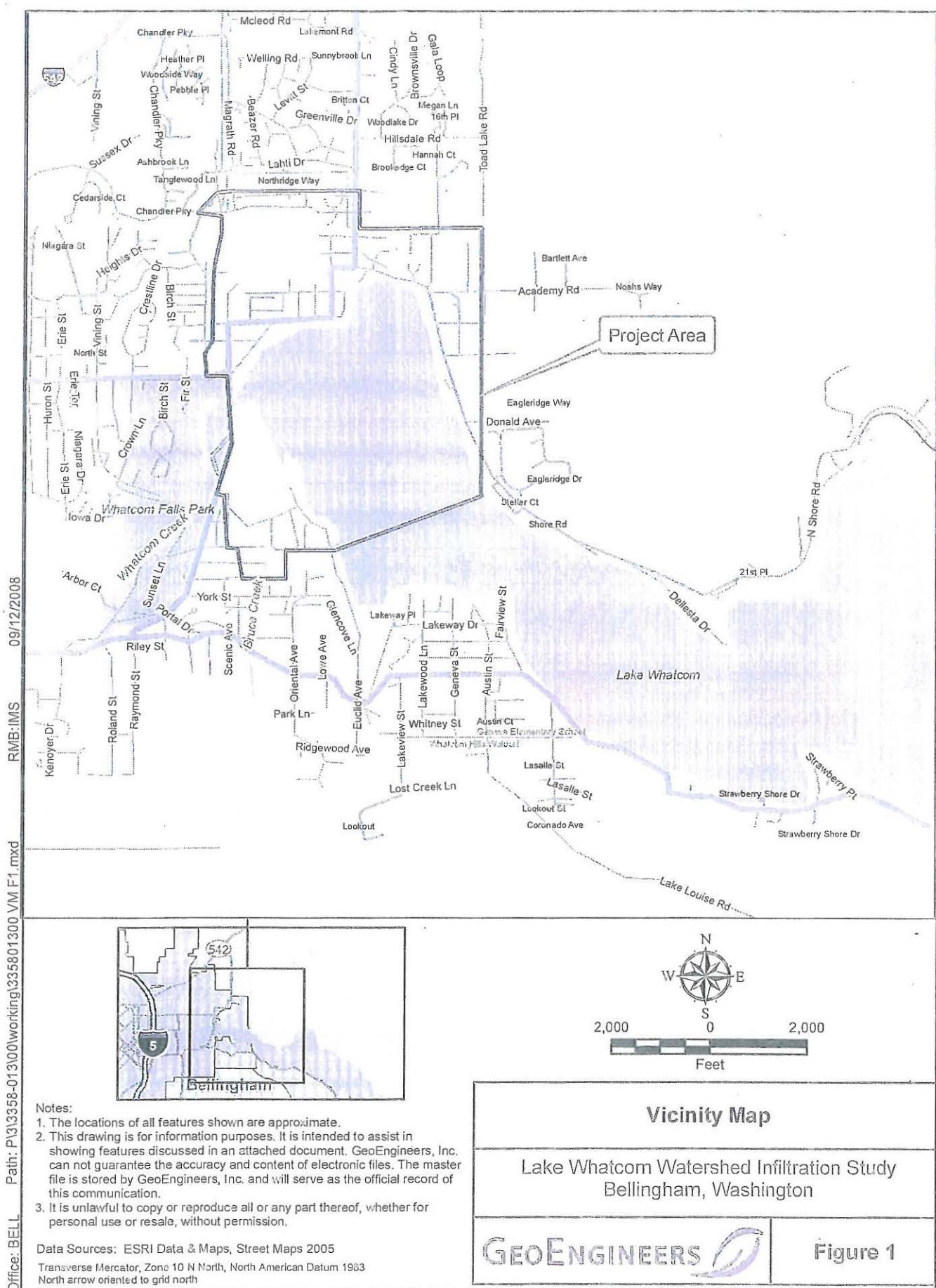


Table 1
Laboratory and Infiltration Rate Summary

ID	Exploration No.	Sample No.	Sample Depth (ft)	Percent Passing				D_{10} (mm)	USDA	USCS	USDA (in/hr)	ASTM $D_{10}^{(1)}$ (in/hr)	ASTM D_{10} Lower Bound ⁽²⁾ (in/hr)	Comments
				#10	#20	#270	Silt/Clay (0.002mm)							
1	TP-01	3	3	66	—	24	<7	0.007	Sandy Loam	SM	0.25	N/A	0.16	
3	TP-03	2	2.5	82	—	58	10	0.002	Sandy Loam	SM	0.25	N/A	0.13	
4	TP-04	not tested	—	—	—	—	—	—	—	Rock	Rock	Rock encountered at 1 ft bgs		
5	TP-05	3	4	100	—	89	28	ND	Silt Loam	CL	no	N/A	NA	
7	TP-07	not tested	—	—	—	—	—	—	—	Rock	Rock	Rock encountered at 1 ft bgs		
9	TP-08	3	3	69	—	37	8	0.003	Loam	MULC	0.13	N/A	0.15	
10	TP-10	3	4.9	67	—	26	<8	0.006	Sandy Loam	SM	0.25	N/A	0.17	
12	TP-12	3	4	47	—	15	<7	0.015	Sandy Loam	SM	0.25	N/A	0.21	
13	TP-13	-3	4	61	—	23	<9	0.005	Sandy Loam	SM	0.25	N/A	0.17	Rock encountered at 4.5 ft bgs
14	TP-14	4	5	62	—	23	<6	0.006	Sandy Loam	SM	0.25	N/A	0.17	
15	TP-15	not tested	—	—	—	—	—	—	—	Rock	Rock	Rock encountered at 1.5 ft bgs		
16	TP-16	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
17	TP-17	2	2.5	49	—	14	<4	0.02	Sandy Loam	SM	0.25	N/A	0.22	Rock encountered at 4 ft bgs
19	TP-19	2	1.8	65	18	17	<9	0.015	Sandy Loam	SM	0.25	N/A	0.21	Rock encountered at 2 ft bgs
20	TP-20	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
24	TP-24	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
27	TP-27	3	2.4	64	—	20	<9	0.007	Sandy Loam	SM	0.25	N/A	0.18	Rock encountered at 2.5 ft bgs
28	TP-28	3	1.75	93	—	59	16	0.001	Silt Loam	ML	no	N/A	0.10	
29	TP-29	2	3.5	62	—	33	<9	0.003	Loam	SM	0.13	N/A	0.15	
31	TP-31	2	2	62	—	20	<7	0.008	Sandy Loam	SM	0.25	N/A	0.19	
32	TP-32	2	3.5	90	—	47	14	0.001	Loam	SM	0.13	N/A	0.10	
33	TP-33	2	2.5	51	—	12	<6	0.003	Sandy Loam	SM	0.25	N/A	0.24	
34	TP-34	3	5	48	—	11	<4	0.041	Loamy Sand	SP-SM	0.5	N/A	0.25	
35	TP-35	3	4	82	—	43	10	0.002	Loam	SM	0.13	N/A	0.12	
36	TP-36	4	4.5	83	—	31	10	0.002	Sandy Loam	SM/ML	0.25	N/A	0.13	
38	TP-38	3	3	75	—	40	10	0.003	Loam	CL	0.13	N/A	0.15	
39	TP-39	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
40	TP-40	not tested	—	—	—	—	—	—	—	fill	fill	Construction encountered- fill		
41	TP-41	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
44	TP-44	3	4.5	65	—	28	<10	0.003	Sandy Loam	SM	0.25	N/A	0.15	
47	TP-47	2	3	51	—	9	<4	0.06	Loamy Sand	SM	0.5	0.80	0.26	Near shoreline
48	TP-48	2	3	100	—	48	10	0.002	Sandy Loam	SM	0.25	N/A	0.13	
50	TP-50	3	4.8	95	—	43	5	0.005	Sandy Loam	SM/ML	0.25	N/A	0.17	
51	TP-51	not tested	—	—	—	—	—	—	—	Rock	Rock	Rock encountered at 1.5 ft bgs		
52	TP-52	3	3	51	8	—	—	0.09	N/A	GP-GM	0.5	0.8	0.23	
52	TP-52	4	4.8	65	12	3	<4	0.06	Loamy Sand	SP-SM	0.5	0.8	0.26	
54	TP-54	4	4.2	67	—	39	10	0.002	Sandy Loam	ML	0.25	N/A	0.13	
58	TP-58	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
59	TP-59	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
61	TP-61	not tested	—	—	—	—	—	—	—	Rock	Rock	Rock encountered at 1.5 ft bgs		
64	TP-64	4	4.8	78	—	45	12	0.001	Loam	SM/ML	0.13	N/A	0.10	
68	TP-68	3	4	70	—	33	<10	0.003	Sandy Loam	SM	0.25	N/A	0.15	
69	TP-69	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
70	TP-70	3	3.8	75	35	27	<2	0.011	Sandy Loam	SM	0.25	N/A	0.20	
71	TP-71	3	3	55	8	—	—	0.09	Sand	SP-SM	2	0.8	0.28	
72	TP-72	3	3	74	—	34	<9	0.004	Sandy Loam	SM	0.25	N/A	0.16	
73	TP-73	4	4	77	—	36	<10	0.004	Sandy Loam	SM/ML	0.25	N/A	0.16	
74	TP-74	3	2.8	83	27	21	—	0.000	Sandy Loam	SM	0.25	N/A	0.17	
76	TP-76	2	2	36	8	—	—	0.11	N/A	GP-GM	fill	fill	Fill soils encountered	
77	TP-77	2	3	50	—	25	<9	0.007	Sandy Loam	SM	0.25	N/A	0.12	Rock encountered at 4.5 ft bgs
78	TP-78	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
79	TP-79	1	1.5	91	—	43	<10	0.002	Sandy Loam	SM	0.25	N/A	0.13	Rock encountered at 3.5 ft bgs
82	TP-82	3	3.5	65	—	46	13	0.001	Silt Loam	CL	no	N/A	0.10	
83	TP-83	2	2	74	—	32	<8	0.004	Sandy Loam	SM	0.25	N/A	0.16	Rock encountered at 2.5 ft bgs
84	TP-84	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
85	TP-85	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
87	TP-87	3	4.8	93	—	45	15	0.001	Loam	SM/ML	0.13	N/A	0.10	
88	TP-88	2	2.5	95	—	73	21	ND	Silt Loam	ML	no	N/A	N/A	
89	TP-89	2	3	100	—	76	27	ND	Silt Loam	CL	no	N/A	N/A	
90	TP-90	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
91	TP-91	3	3.5	61	—	62	22	ND	Loam	CL	no	N/A	N/A	
93	TP-93	not tested	—	—	—	—	—	—	—	fill	fill	Fill soils encountered		
95	TP-95	3	3	66	—	32	<6	0.003	Loam	SM	0.13	N/A	0.15	
95	TP-95	3	3.5	74	—	23	<10	0.005	Sandy Loam	SM	0.25	N/A	0.17	
97	TP-97	3	4.5	71	—	51	<10	0.004	Sandy Loam	SM	0.25	N/A	0.16	
98	TP-98	2	2	52	16	16	<7	0.01	Sandy Loam	SM	0.25	N/A	0.19	

ND - Not determined during testing

N/A - Not applicable

no - Infiltration not suitable for this material

(1) - Based on Table 3.B where $D_{10} > 0.5\text{mm}$

(2) - Based on Figure 3.2B

Log Of Exploration TP-1

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 4.0

Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing	Graphic Log				
1	1			SOD		Sod		HA
	2	X		SM		Brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		
	3	X		SM		Red-brown silty fine to coarse sand (loose, moist)		
	3	X		SM		Light gray silty fine to coarse sand with gravel (loose, moist to wet)		

Moderate groundwater seepage observed at 1.5 feet
 Minor caving observed from 1.5 to 3 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-3

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 3.2

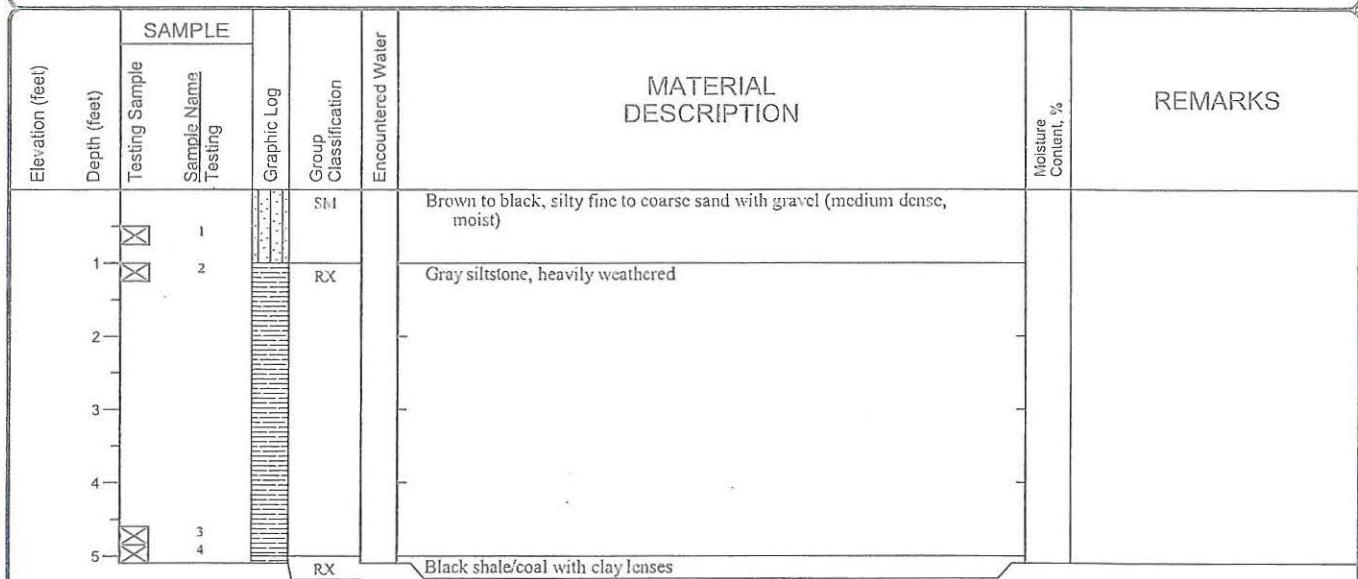
Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing	Graphic Log				
1	1			TS		Topsoil		HA
	2	X		SM		Brown silty fine to coarse sand with gravel and occasional cobble (medium dense, moist) (fill)		
	3	X		SM		Light brown silty fine to coarse sand with gravel (dense, moist)		
	3	X		RX		Bedrock		

Refusal on bedrock
 No groundwater seepage observed

Log Of Exploration TP-4

Date Excavated: 2/11/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.1

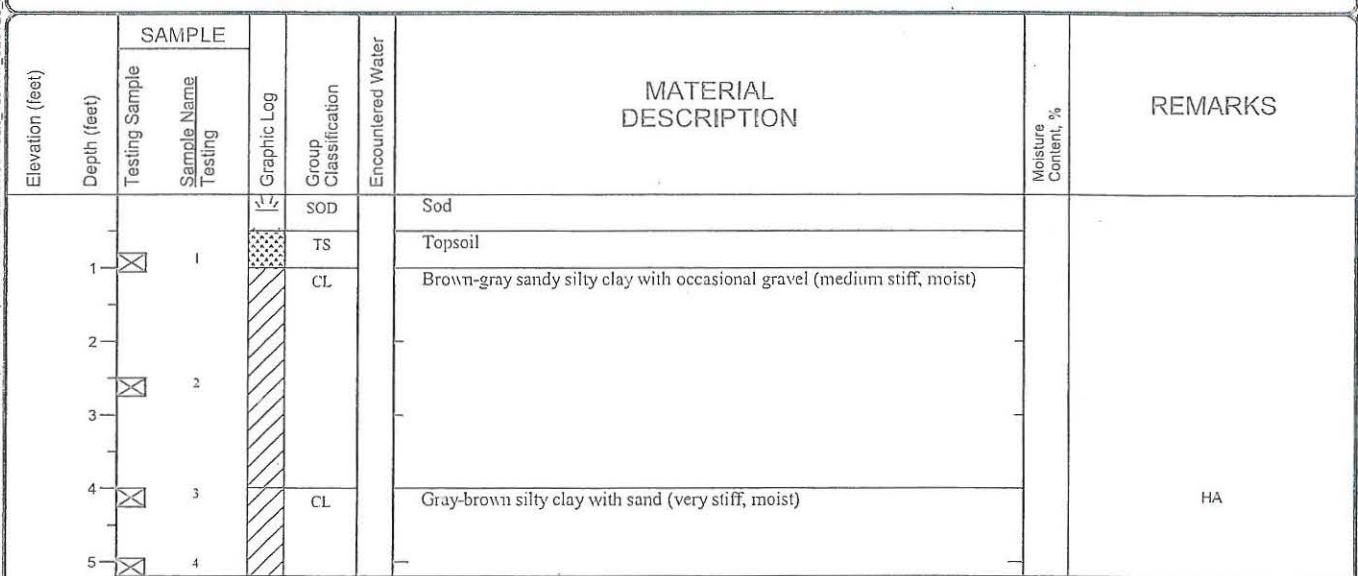


Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-5

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.2



Log Of Exploration TP-7

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 2.0

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
1	1	1	2	SOD CL RX		Sod Brown fine sandy clay (medium stiff, moist) Gray siltstone		

Refusal on bedrock
 No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-9

Date Excavated: 2/11/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 3.2

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
1	1	1	2	TS SP-SM ML ML/CL		Topsoil Gray fine to coarse sand with silt and gravel (medium dense, moist) (fill) Brown sandy silt with clay (medium stiff, moist) (fill) Brown clayey silt to silty clay with sand (medium stiff, moist)		

Refusal due to potential utility nearby
 No groundwater seepage was observed

Log Of Exploration TP-10

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
				SOD		Sod		
1		1		SM		Light brown silty fine sand with gravel and occasional cobble (medium dense, moist) (fill)		
2		2		SM		Gray silty fine to coarse sand with gravel (medium dense, moist)		
3		3				- grades to brown		
4								
5								
No groundwater seepage observed								

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-12

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.1

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
				SOD		Sod		
1		1		SM		Brown fine silty sand with gravel (medium dense, moist)		
2		2						
3		3						
4								
5								
No groundwater seepage observed								

Log Of Exploration TP-13

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.2

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1		X	1		Sod Brown silty fine sand to sandy silt with gravel (medium dense/stiff, moist) (fill)		
2		X	2		Gray silty fine to coarse sand with gravel and occasional cobbles (dense, moist) - increased silt content		
3		X	3				
4		X	4		Weathered bedrock		HA
5							

No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-14

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.2

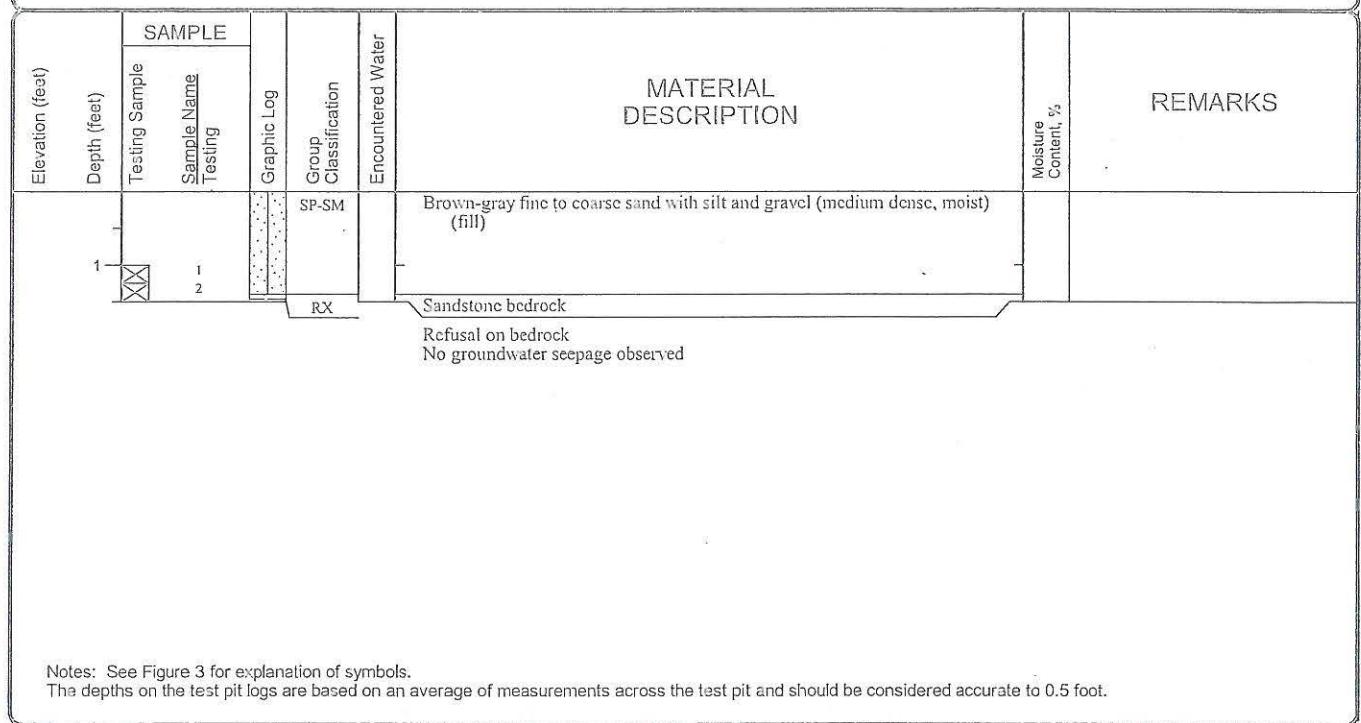
Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1		X	1		Sod Gray-brown fine to coarse gravel with sand, silt and occasional cobble (medium dense, moist) (fill)		
2		X	2		- filter fabric at 2 feet Gray fine to coarse sand with silt and gravel (medium dense, moist) (fill)		
3		X	3		Brown silty fine to coarse sand with gravel (medium dense, moist)		
4		X	4				
5							

Slow groundwater seepage observed at 2 feet

Log Of Exploration TP-15

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

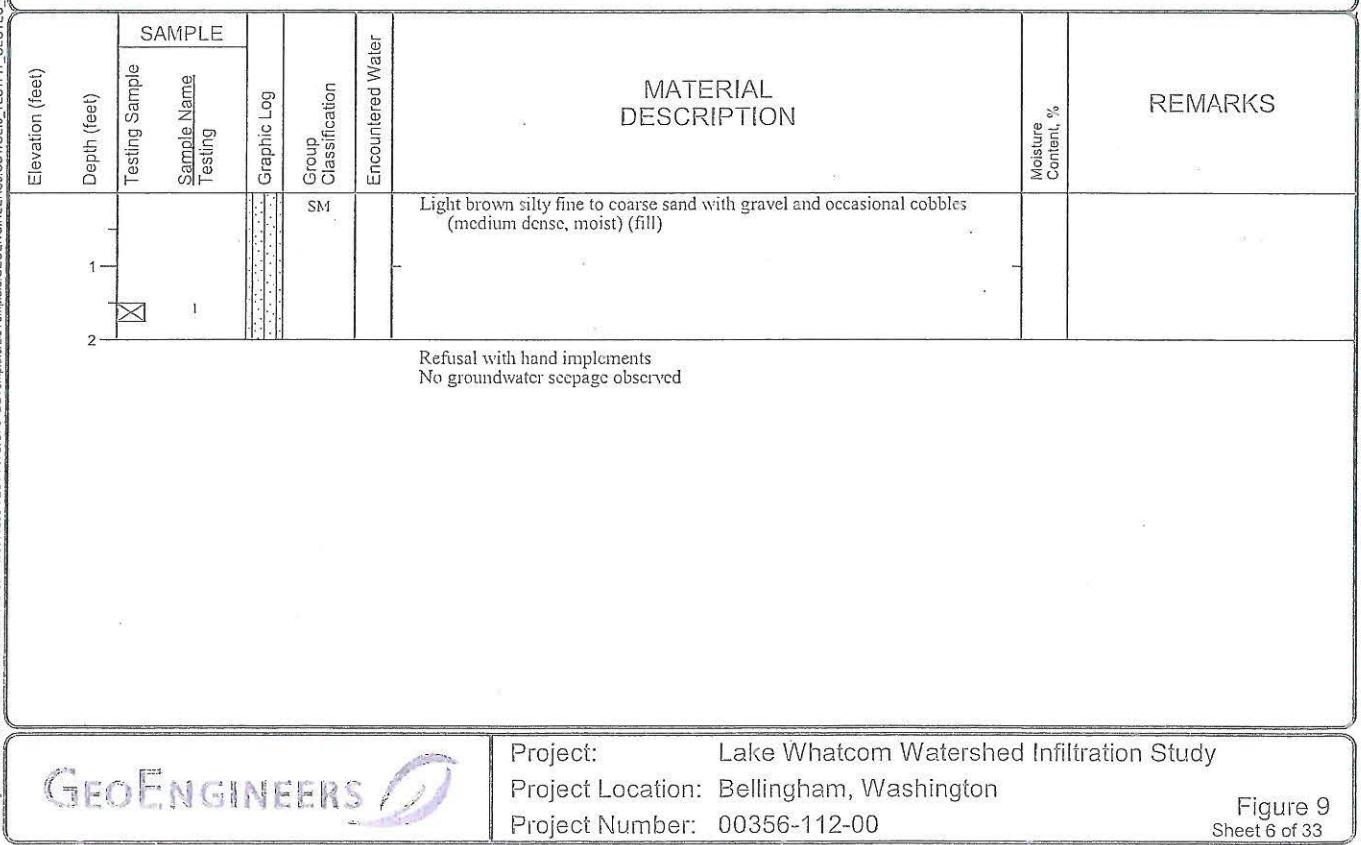
Logged By: AF2
 Total Depth (ft) 1.5



Log Of Exploration TP-16

Date Excavated: 2/11/2010
 Equipment: Hand Implements

Logged By: AJH
 Total Depth (ft) 2.0



Log Of Exploration TP-17

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 4.2

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
				SP-SIM		Brown-gray fine to coarse sand with silt and gravel (medium dense, moist) (pit run fill)		
1		1						
2		2		SM		Brown silty fine to medium sand with gravel (medium dense, moist)		HA
3		3				Sandstone bedrock.		
4				RX		Refusal on bedrock No groundwater seepage was observed		

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-19

Date Excavated: 2/11/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 2.2

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
				SOD		Sod		
1		1		SM		Brown silty fine to coarse sand with gravel (medium dense, moist) (possible fill)		
2		2		SM		Light brown silty fine to coarse sand (medium dense, moist)		
				RX		Sandstone bedrock		
						Refusal on bedrock No groundwater seepage was observed		HA/SA

Log Of Exploration TP-20

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 3.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1	1	1		SOD	Sod Light brown fine to coarse sand with silt and gravel (medium dense, moist) (fill)		
2	2			SP-SM			
3	3	2					

Refusal on concrete culvert
 No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-24

Date Excavated: 2/12/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1	1	1		SOD	Sod Brown silty fine sand with gravel (medium dense, moist) (fill)		
2	2	2		SM			
3	3						
4	4			▽	- increased moisture content		
5	5	3		SP-SM	Gray fine to coarse sand and gravel (loose, wet) (fill)		

Slow groundwater seepage observed at 4.5 feet

Log Of Exploration TP-27

Date Excavated: 2/12/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 2.6

Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name	Testing				
1	1				SOD	Sod Topsoil Brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		
	2				TS			
					SM			
					SM			
	2				RX	Light brown silty fine to coarse sand with gravel (medium dense, moist)		
						Sandstone bedrock		
						Refusal on bedrock		
						No groundwater seepage was observed		

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-28

Date Excavated: 2/12/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name	Testing				
1	1				SOD	Sod Brown silty fine to medium sand to sandy silt with clay (loose/medium stiff, moist) (fill)		
	2				SM/ML			
					TS	Relict topsoil		
					ML	Light brown sandy silt with occasional gravel (stiff, moist)		
	2							
	3							
	4							
	5							
						Slow groundwater seepage observed at 1.5 feet		

Log Of Exploration TP-29

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
	1				SM		Brown silty fine to coarse sand with gravel and occasional organic matter (loose, moist) (fill)		
	2				SM		Light brown silty fine to coarse sand with gravel (medium dense, moist) (native soil)		HA
	3								
	4								
	5								

No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-31

Date Excavated: 2/11/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 4.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
	1				TS		Sod/topsoil		
	2				SM		Brown silty fine to coarse sand with gravel (medium dense, moist)		
	3						- becomes wct at 2.5 feet		
	4					▽			

Refusal due to severe caving
 Moderate groundwater seepage observed at 3.5 feet

Log Of Exploration TP-32

Date Excavated: 2/15/2010
Equipment: KX121-3 Kubota

Logged By: AJH
Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	MATERIAL DESCRIPTION					REMARKS
		Testing Sample	SAMPLE	Graphic Log	Group Classification	Encountered Water	
1	1	1	P	GP	Crushed rock surfacing		
2	2			SM	Dark brown silty fine to coarse sand with gravel and occasional organic matter (medium dense, moist) (fill)		
3	3	2		SM/ML	Light brown silty fine to coarse sand to sandy silt with gravel (medium dense/medium stiff, moist)		HA
4	4						
5	5	3					

No groundwater seepage was observed

Notes: See Figure 3 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-33

Date Excavated: 2/15/2010
Equipment: KX121-3 Kubota

Logged By: AJH
Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
				Graphic Log				
1		1		SM		Brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		
2		2		SM		Light brown silty fine to coarse sand with gravel and cobble (medium dense, moist)		HA
3						- decreasing silt content		
4								
5		3						

No groundwater seepage observed

Log Of Exploration TP-34

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1	1				SP-SM		Brown fine to coarse sand with silt and gravel and occasional cobble (medium dense, moist) (fill) - grades to light brown		HA
	2						Brown fine to coarse sand with silt, gravel and occasional cobble (medium dense, moist) (possible native soil)		
	3								
No groundwater seepage observed									

Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-35

Date Excavated: 2/15/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 4.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1	1				SOD SM		Sod Brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		HA
	2								
	3						Brown silty fine to coarse sand to sandy silt with gravel (medium dense, moist) (possible native)		
Excavation terminated due to nearby utility Slow groundwater seepage observed at 2.3 feet									

Log Of Exploration TP-36

Date Excavated: 2/11/2010
 Equipment: KX12I-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
1	0			SOD		Sod		HA
	1					Brown silty fine to coarse sand with occasional gravel (medium dense, moist) (fill)		
	2					Brown silty fine to coarse sand with occasional gravel and organic matter (loose to medium dense, moist) (fill/relict topsoil)		
	3					Light brown silty fine to coarse sand with gravel to sandy silt with clay and gravel (medium dense/medium stiff, moist)		
4	4			SM/ML				
	5							

No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-38

Date Excavated: 2/16/2010
 Equipment: Hand Implements

Logged By: AF2
 Total Depth (ft) 3.0

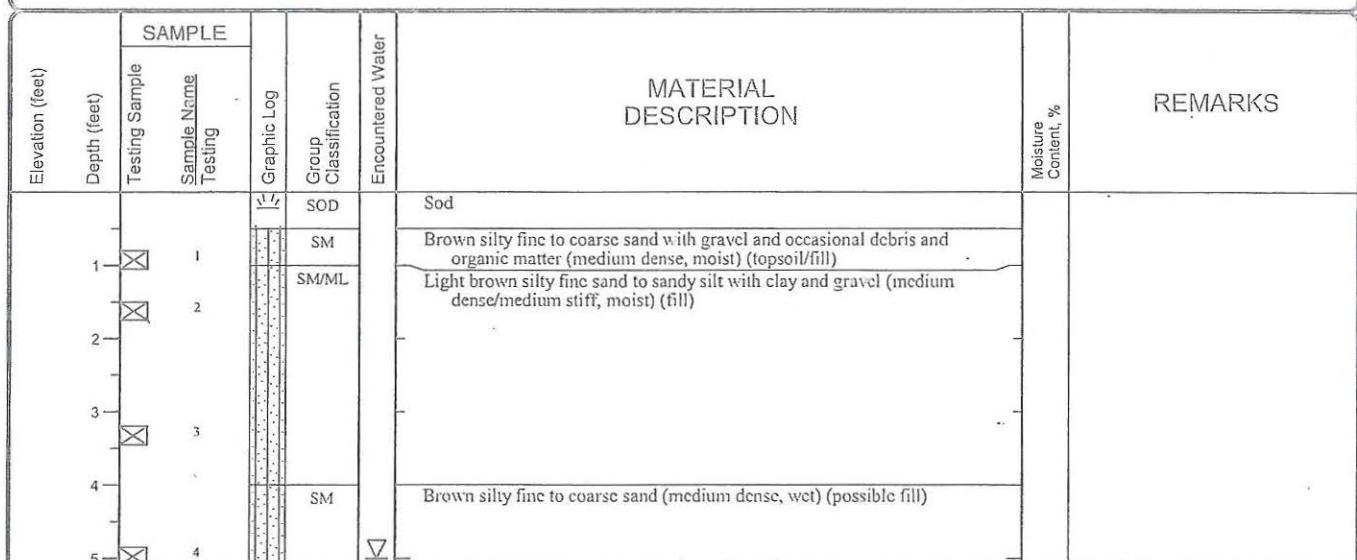
Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
1	0			GP SM		Crushed rock surfacing Brown silty fine sand with gravel (medium dense, moist) (fill)		HA
	1							
	2					Brown sandy clay with occasional gravel (stiff, moist)		
3	2			CL				
	3							

Refusal with hand implements
 No groundwater seepage observed

Log Of Exploration TP-39

Date Excavated: 2/16/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.1



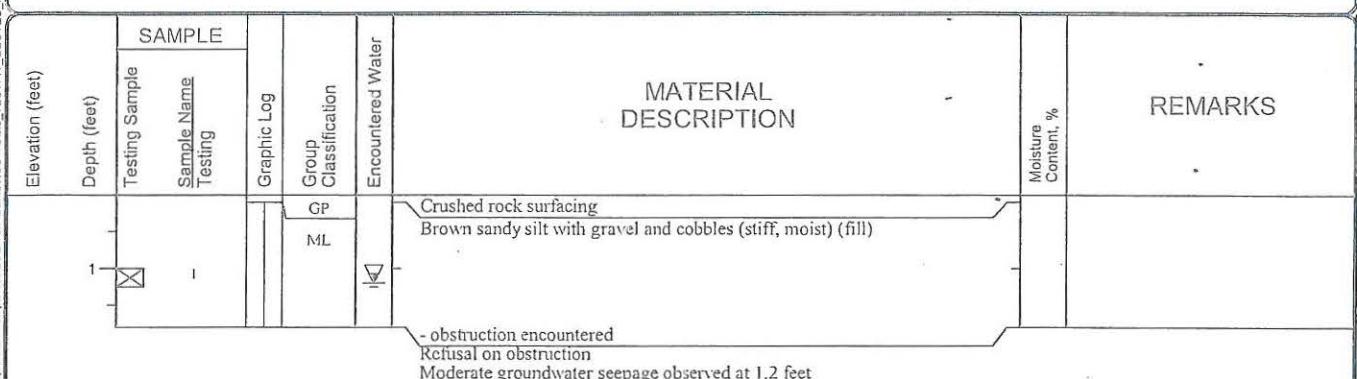
Slow groundwater seepage observed at 5 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-40

Date Excavated: 2/16/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 1.8



Log Of Exploration TP-41

Date Excavated: 2/16/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.2

Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name	Testing				
1	1	1	GP	GP-GM		Crushed rock surfacing		
	1.5					Brown-gray fine to coarse gravel with sand and silt (medium dense, moist) (fill)		
	2					Brown-gray silty fine to medium sand to sandy silt with occasional gravel (medium dense/medium stiff, moist) (fill)		
	2.5					Brown silty fine to coarse sand with gravel (dense, moist) (fill)		
	3							
	4							
5	5				▽	- becomes moist to wet		

Slow groundwater seepage observed at 5 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-44

Date Excavated: 2/11/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name	Testing				
1	1	1	GP	GP-GM		Gray-brown fine to coarse gravel with sand, silt and occasional cobble (medium dense, moist) (fill)		
	1.5							
	2					Brown silty fine to coarse sand to sandy silt with clay and gravel (medium dense/medium stiff, moist)		
	2.5							
	3							
	4					- becomes gray-brown at 4 feet		
5	5				▽	No groundwater seepage observed		HA

Log Of Exploration TP-47

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
	1			Sod	Sod		
1	1	1			Black silty fine to coarse sand with gravel and organic matter (loose, moist) (fill)		
2	2	2			Brown silty fine to coarse sand with gravel (loose, moist)		
3	3	3			Brown gray silty fine to coarse sand with gravel (loose, wet)		HA
5					No groundwater seepage observed		

Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-48

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
	1			TS	Topsoil		
1	1	1			Brown with orange staining silty fine to coarse sand to sandy with gravel (medium dense/medium stiff, moist)		
2	2	2					
3	3	3			Brown silty fine to coarse sand with gravel to sand with silt (medium dense, wet)		HA
5					No groundwater seepage observed		

Log Of Exploration TP-50

Date Excavated: 2/8/2010
Equipment: KX121-3 Kubota

Logged By: AF2
Total Depth (ft) 5.0

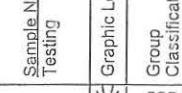
Elevation (feet)	Depth (feet)	MATERIAL DESCRIPTION					REMARKS	
		SAMPLE	Testing Sample	Sample Name	Graphic Log	Group Classification	Encountered Water	
1	1	1	X		SOD	Sod Brown silty fine sand with gravel, bricks and glass (medium dense, moist) (fill)		
	2	2	X		SM	Brown silty fine to coarse sand with occasional gravel (medium dense, moist) (fill)		
	3	3	X		SM/ML	Gray to light brown, silty fine sand to sandy silt with occasional gravel (medium dense/medium stiff, moist)		
	4	4	X			- becomes wet		
	5	5	X		SM	Brown silty fine to coarse sand with gravel (medium dense, moist)		

Notes: See Figure 3 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-51

Date Excavated: 2/8/2010
Equipment: KX121-3 Kubota

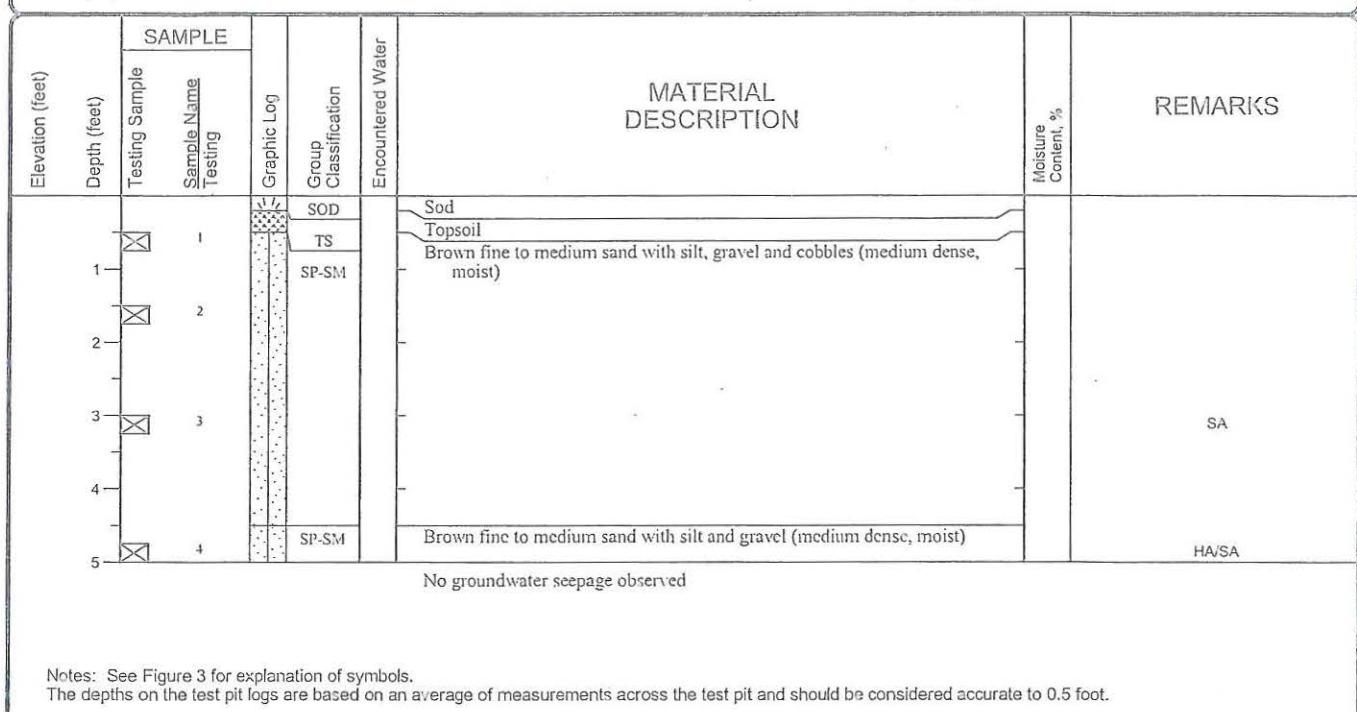
Logged By: AF2
Total Depth (ft) 1.5

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1	1	1 2	1 2 3 4 5 6 7 8 RX	Graphic Log 	SOD TS SM Sandstone bedrock	Sod Topsoil Brown silty fine to medium sand with gravel (medium dense, moist)	Refusal on bedrock No groundwater samples obtained

Log Of Exploration TP-52

Date Excavated: 2/8/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0



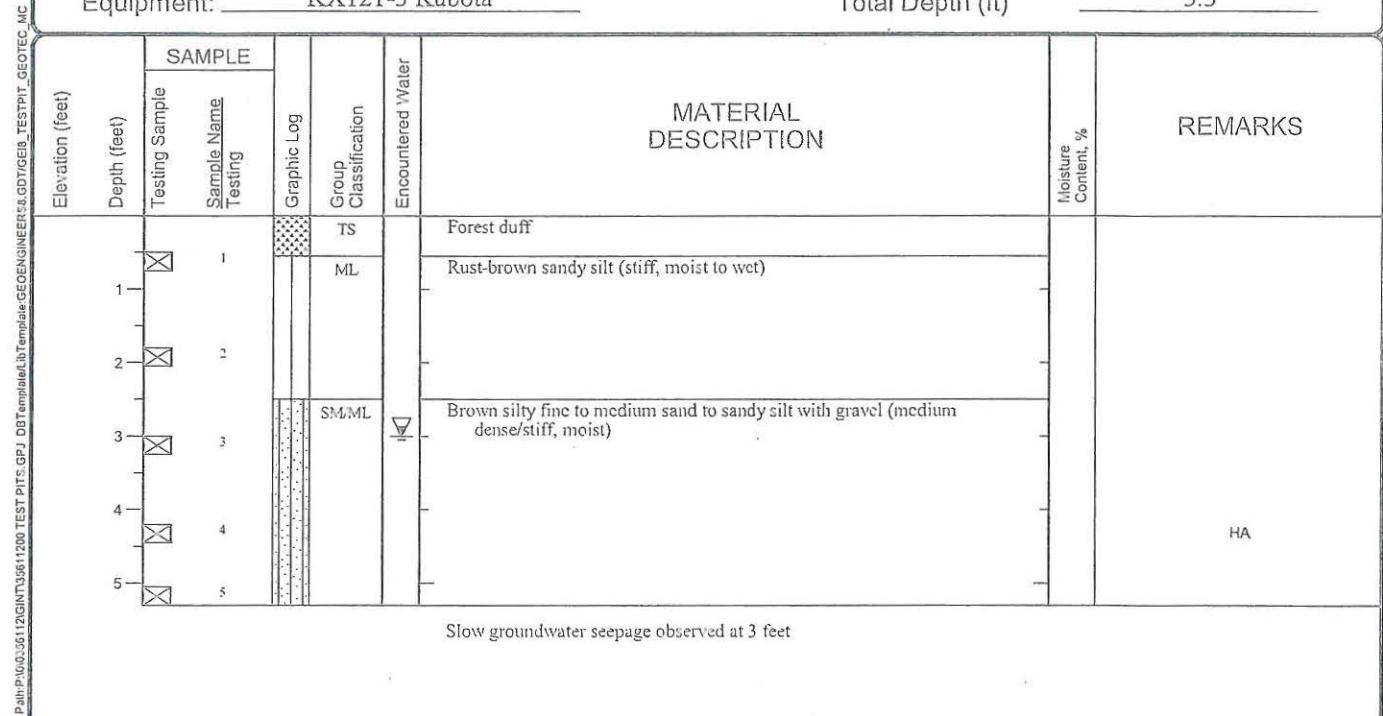
Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-54

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.3



Log Of Exploration TP-58

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.5

Elevation (feet)	Depth (feet)	SAMPLE Testing Sample Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	1	1		SM		Dark brown silty fine to coarse sand with gravel, organic matter and scattered debris (medium dense, moist) (topsoil/fill)		
	2	2		SP-SM		Brown fine to coarse sand with silt and gravel (dense, moist) (fill)		
	3	3						
	4	4						
	5	5						

No groundwater seepage observed
 Minor caving observed below 2 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-59

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE Testing Sample Sample Name Testing	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	1	1		SOD		Sod		
	2	2		SM		Brown silty fine to medium sand with gravel (medium dense, moist) (fill)		
	3	3				- piece of rusted metal debris encountered		
	4			ML		Rust-brown sandy silt with wood (stiff, moist) (possible fill)		
	5	4				- log encountered		

No groundwater seepage observed

Log Of Exploration TP-61

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 1.6

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1	1	1	2		SP-SM GP RX		Brown fine to medium sand with silt, gravel and occasional cobbles (medium dense, moist) (fill)		
							Gray gravel with fine to coarse sand and silt (fill)		
							Brown sandstone		
Refusal on bedrock No groundwater seepage observed									

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-64

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1	1	1	2		SOD ML SM/ML		Sod		
							Brown sandy silt with occasional gravel (medium stiff, moist) (fill)		
							- increased sand and gravel content		
							Gray silty fine sand with gravel to fine sandy silt (medium dense/medium stiff, moist)		
HA No groundwater seepage observed									

Log Of Exploration TP-68

Date Excavated: 2/8/2010
Equipment: KX121-3 Kubota

Logged By: AF2
Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1	1	1	SOD		Sod		
			TS		Topsoil		
	1		SM		Light brown silty fine to medium sand with gravel (medium dense, moist)		
2	2	2			-		
					- with cobble		
3	3				-		
4	4				-		
5	5	3			-		

Slow perched groundwater seepage observed at 10 inches

Notes: See Figure 3 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-69

Date Excavated: 2/8/2010
Equipment: KX121-3 Kubota

Logged By: AF2
Total Depth (ft) 2.3

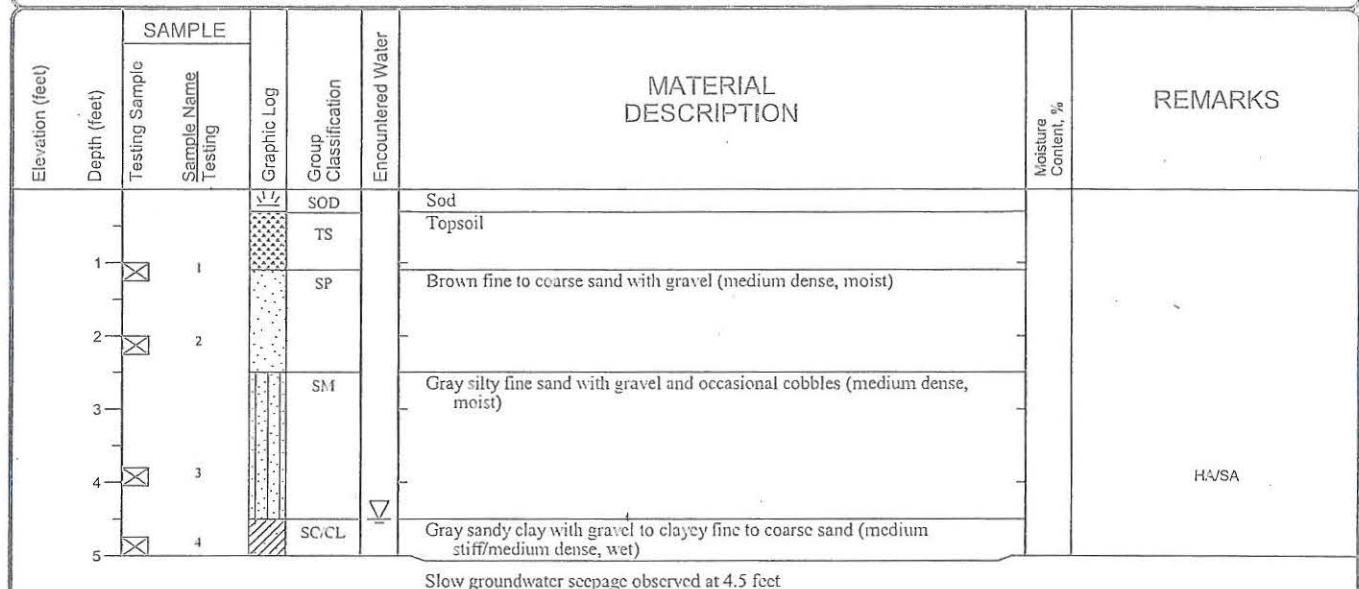
Elevation (feet)	Depth (feet)	SAMPLE	Testing Sample	Sample Name	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	REMARKS
1	1	1	-	Testing	1/2	SOD		Sod/topsoil	
2	2	2	3	o a	ML	GP		- Dark brown sandy silt with gravel (medium stiff, moist) (fill) - filter fabric at 1.8 feet - Gray-brown coarse gravel (medium dense, moist) (fill)	Moisture Content, %

Exploration terminated due to caving
No groundwater seepage observed

Log Of Exploration TP-70

Date Excavated: 2/8/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

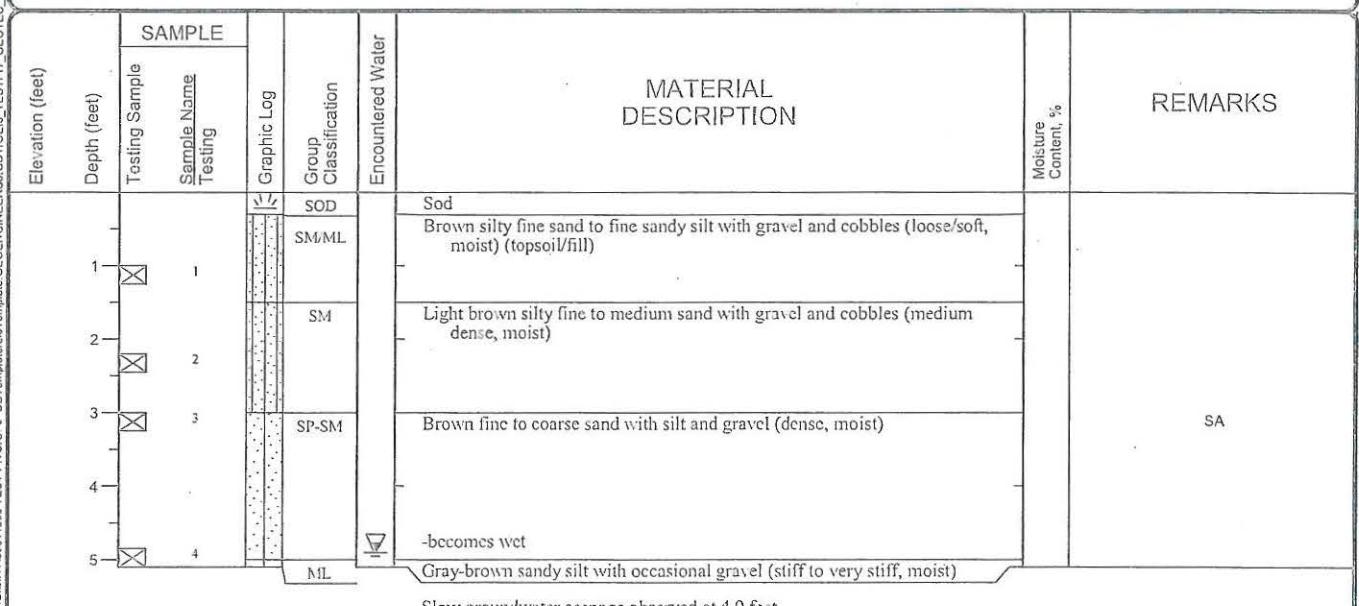


Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-71

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

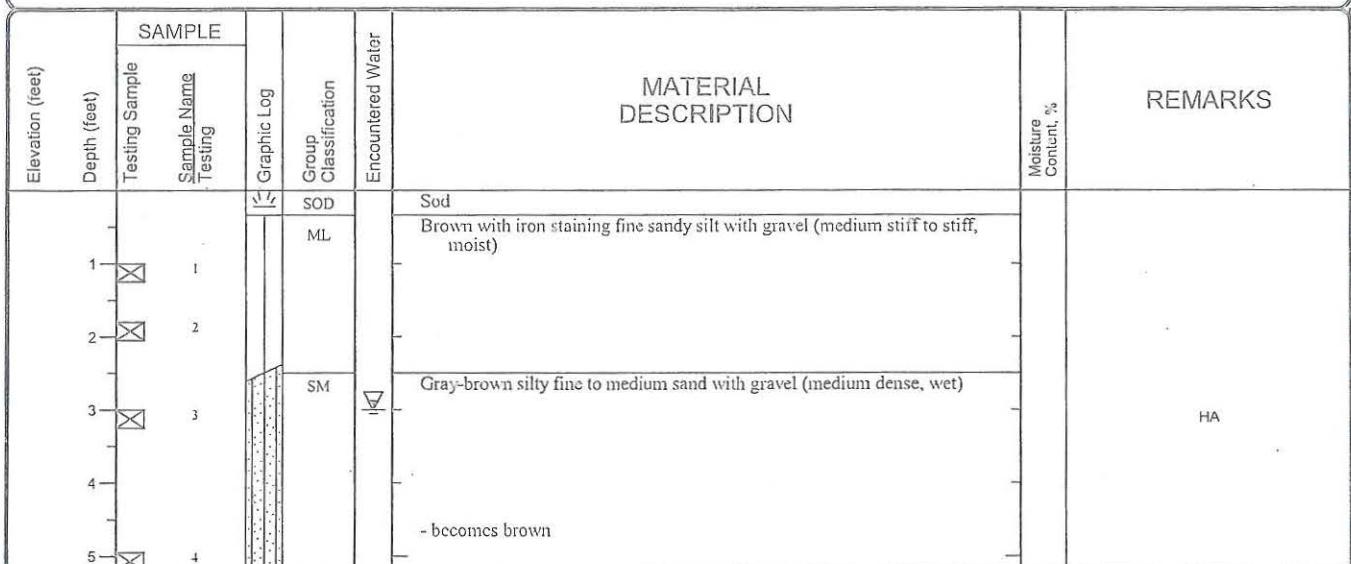
Logged By: AF2
 Total Depth (ft) 5.1



Log Of Exploration TP-72

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.2



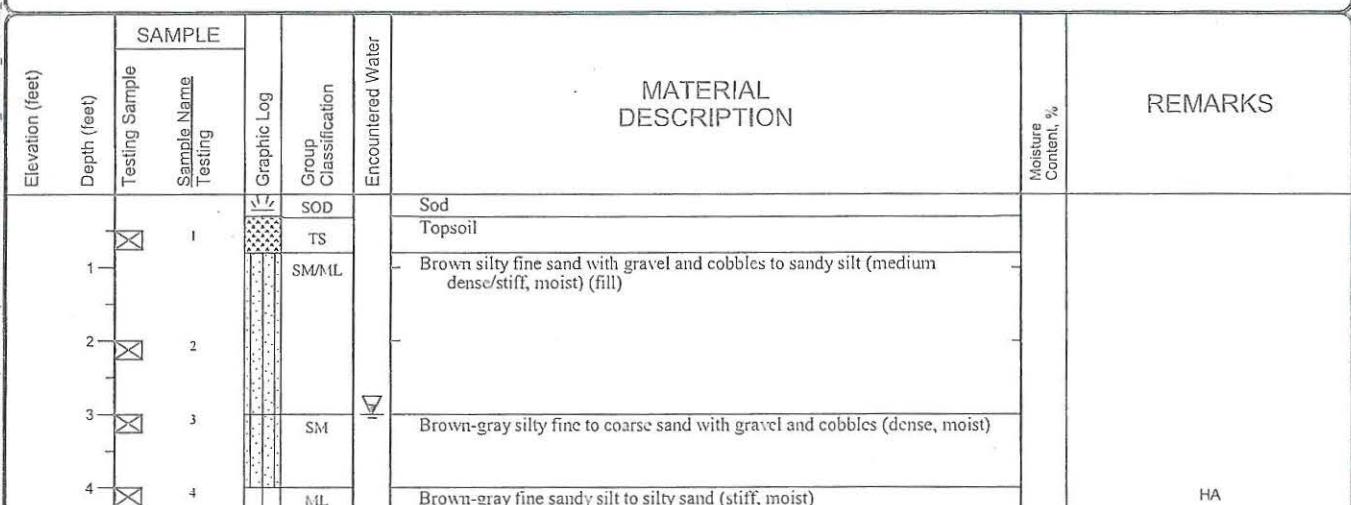
Slow groundwater seepage observed at 3 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-73

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 4.6

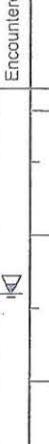


Refusal on large cobble
 Slow groundwater seepage observed at 3 feet

Log Of Exploration TP-74

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS		
		Testing Sample	Sample Name Testing								
1	1	☒	1		SOD		Sod Topsoil		SA		
	2	☒	2		SM		Light brown silty fine sand with occasional gravel (medium dense, moist)				
	3	☒	3		SM		Slow groundwater seepage observed at 2.8 feet				
	4	☒	4		SM		Brown silty fine sand with gravel (dense, moist)				
	5	☒	5								

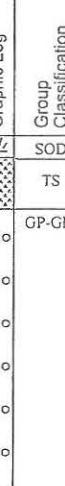
Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-76

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.1

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1	1	☒	1		SOD		Sod Topsoil		SA
	2	☒	2		GP-GM		Brown fine to coarse gravel with sand and silt (medium dense, moist) (fill)		
	3	☒	3						

No groundwater seepage observed

Log Of Exploration TP-77

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 4.8

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1							
2	2	1		GP	Crushed rock surfacing Brown silty fine to medium sand with gravel (dense, moist)		
3				SM			
4	4	2		SM	Light brown silty fine to medium sand with occasional gravel (stiff, moist)		
5	4.8	3		RX	Sandstone bedrock Refusal at 4.8 feet No groundwater seepage observed		HA

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-78

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

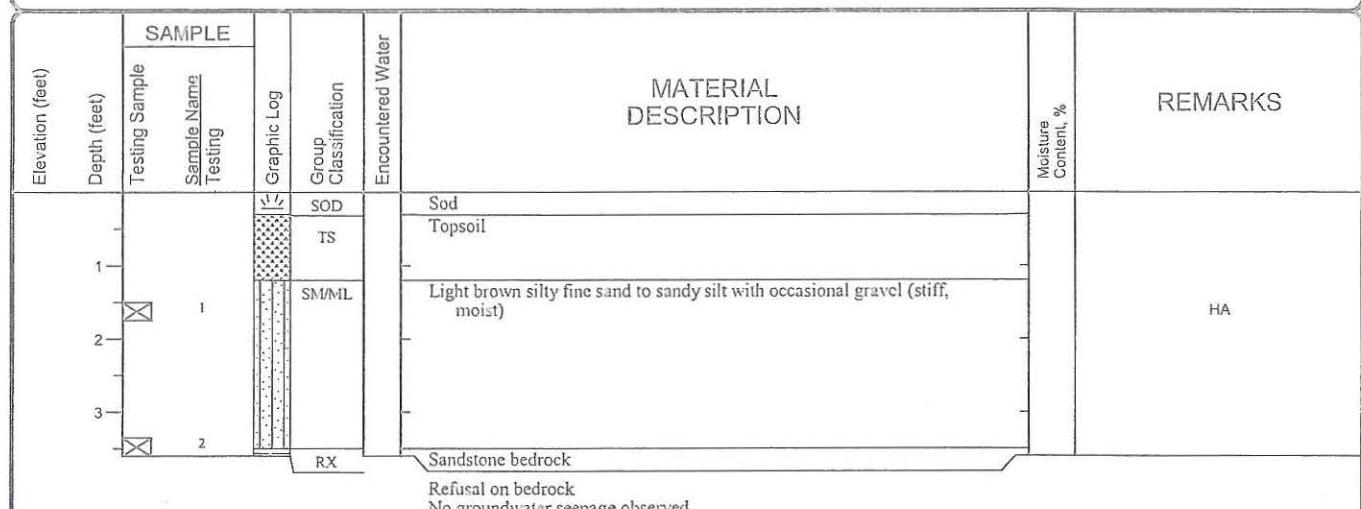
Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
1							
2							
3	1	1		SOD	Sod Brown-gray fine to coarse sand with silt, gravel and cobbles (medium dense, moist) (fill)		
4				SP-SM			
5	3	2					
6	5	3			No groundwater seepage observed		

Log Of Exploration TP-79

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 3.6



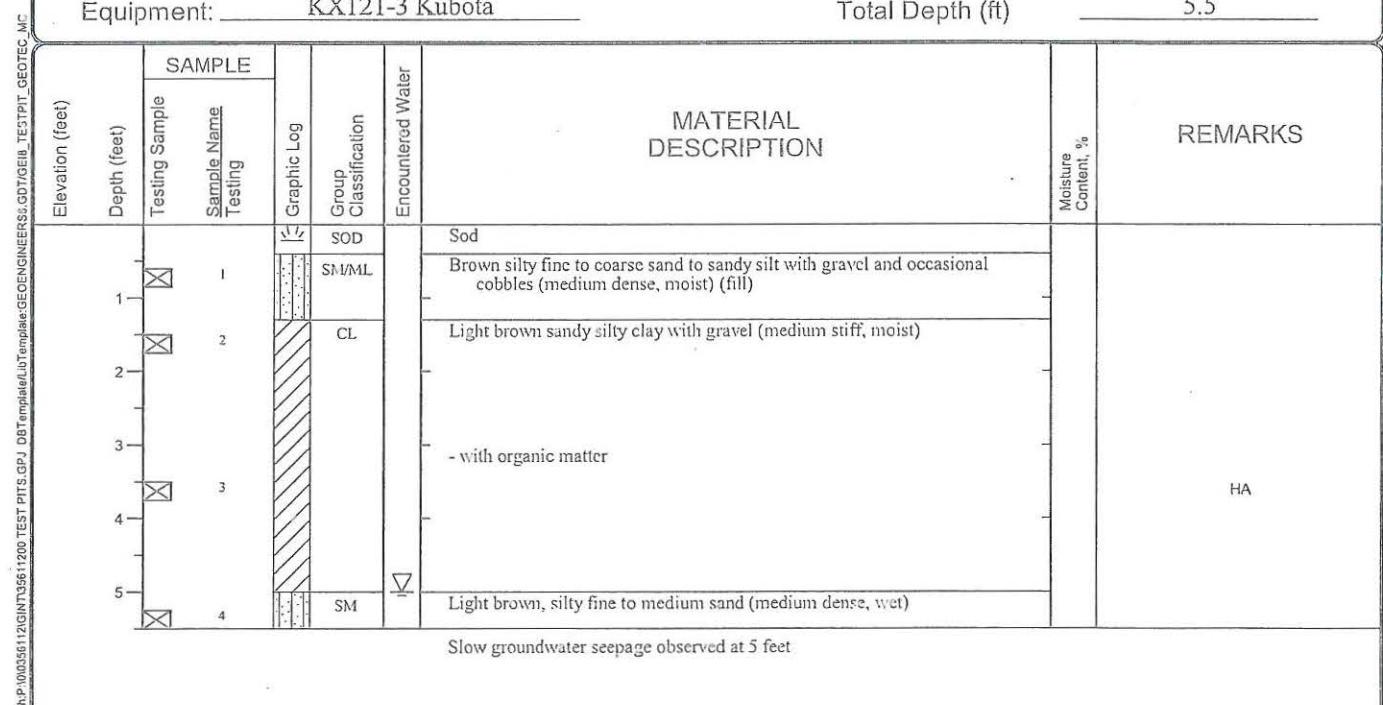
Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-82

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.5



Log Of Exploration TP-83

Date Excavated: 2/9/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 2.5

Elevation (feet)	Depth (feet)	SAMPLE	Testing Sample	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	1	1			SOD		Sod Brown silty fine to medium sand with gravel (medium dense, moist) (fill)		
	2	2			SM		Brown silty fine sand with occasional gravel and cobbles (stiff, moist)		
	2	3			SM		Sandstone bedrock Refusal on bedrock No groundwater seepage observed		HA
					RX				

Notes: See Figure 3 for explanation of symbols.

The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-84

Date Excavated: 2/10/2010
 Equipment: KX121-3 Kubota

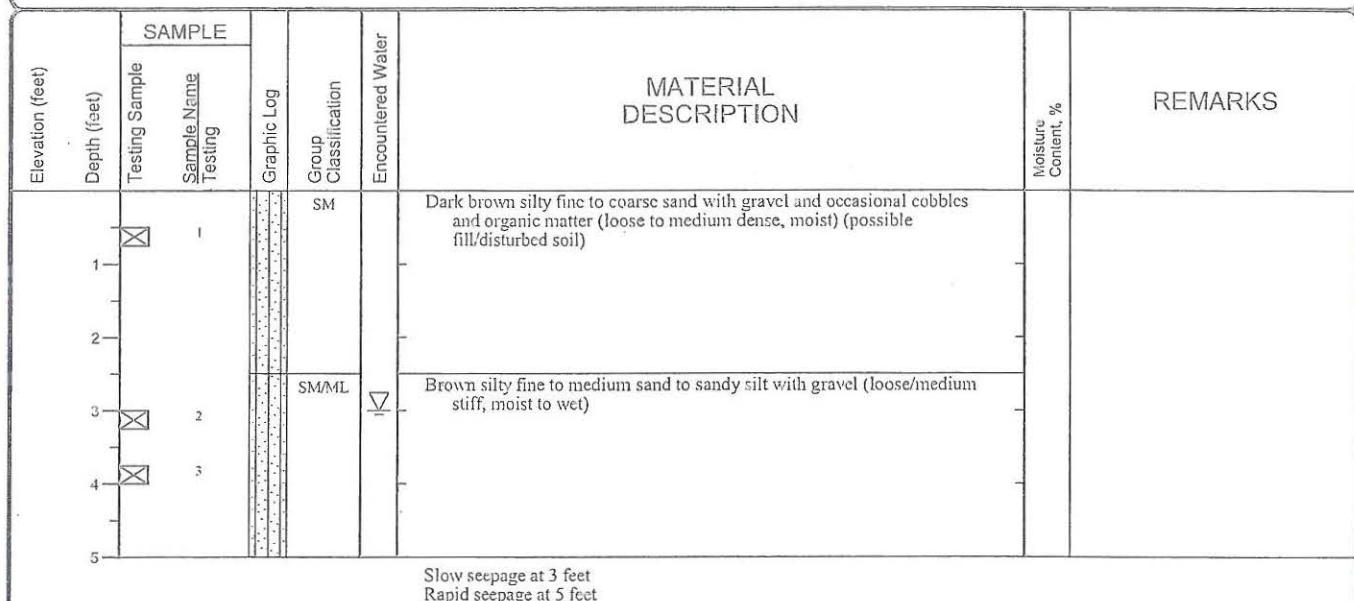
Logged By: AF2
 Total Depth (ft) 5.1

Elevation (feet)	Depth (feet)	SAMPLE	Testing Sample	Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	1	1			SOD		Sod		
	2	2			SM/ML		Brown silty fine sand to sandy silt with occasional gravel (medium dense/stiff, moist) (possible fill)		
	3	3					- becomes light brown		
	4								
	5						No groundwater seepage observed		

Log Of Exploration TP-85

Date Excavated: 2/15/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

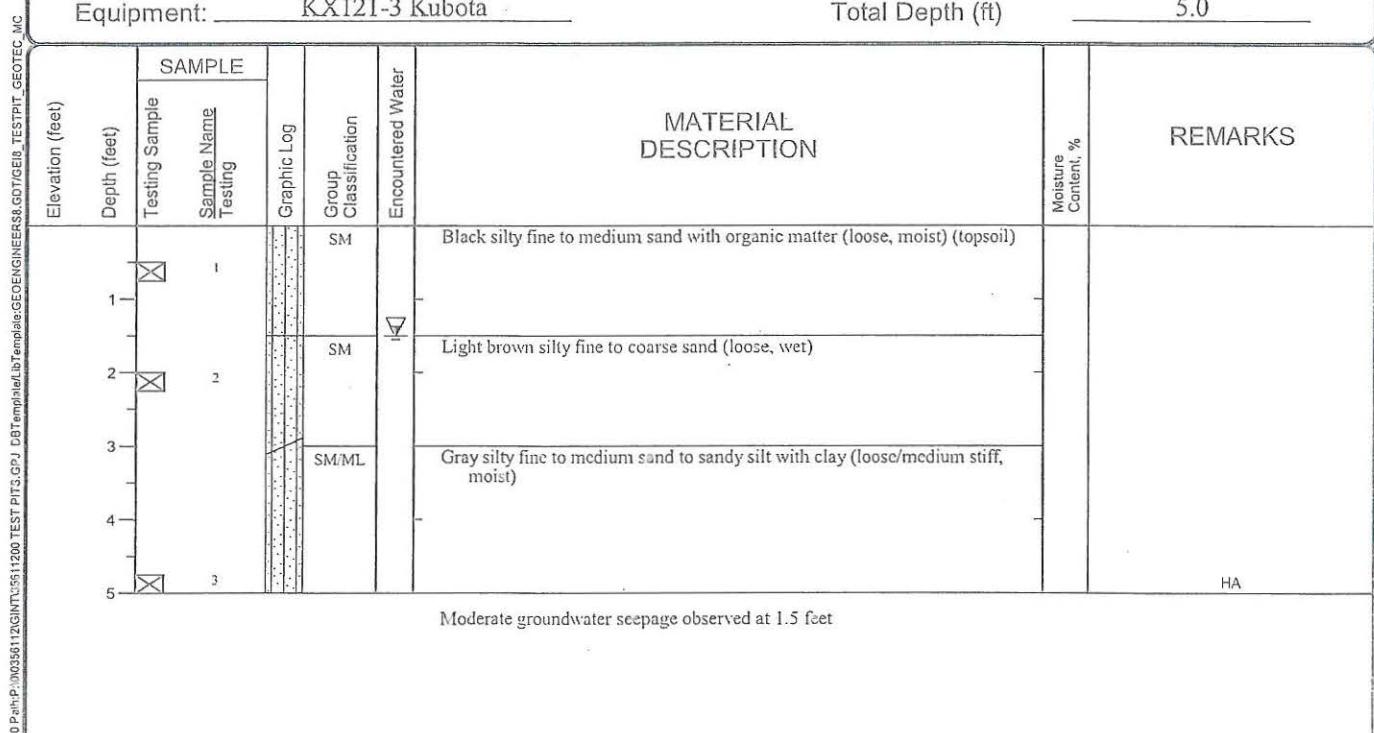


Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-87

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0



Log Of Exploration TP-88

Date Excavated: 2/26/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 4.9

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
				SOD	Sod Brown sandy silt with occasional gravel (medium stiff to stiff, moist)		
1				ML			
2			1	ML	Gray-brown clayey silt with sand and occasional gravel (stiff, moist)		HA
3			2				
4			3				
5							

No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-89

Date Excavated: 3/1/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing				
				SOD	Sod Brown silty fine to coarse sand (medium dense, moist) (fill)		
1			1	SM			
2			2	SM	Light brown silty fine to coarse sand with gravel (medium dense, moist)		
3			3	CL	Blue-gray silty clay with sand (medium stiff, moist)		HA
4							
5							

No groundwater seepage observed

Log Of Exploration TP-90

Date Excavated: 2/15/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 4.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1		1			SP-SM		Brown fine to coarse sand with silt and gravel (medium dense, moist) (fill)		
2		2							
3		3				▽	- increasing silt content		
4									

Refusal with hand implements
 Moderate groundwater seepage observed at 2.5 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-91

Date Excavated: 2/15/2010
 Equipment: KX121-3 Kubota

Logged By: AJH
 Total Depth (ft) 5.0

Elevation (feet)	Depth (feet)	SAMPLE		Graphic Log	Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing						
1		1			SP-SM		Brown fine to coarse sand with silt and gravel (medium dense, moist) (fill)		
2		2			SM		Light brown silty fine sand with occasional gravel (medium dense, moist) (fill)		
3		3			CL		- piece of asphalt encountered at 2.5 feet - Light brown sandy clay with gravel (medium stiff, moist)		
4									
5									

No groundwater seepage observed

Log Of Exploration TP-93

Date Excavated: 2/16/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 1.8

Elevation (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	Depth (feet)	Testing Sample	Sample Name Testing				
1	X	1		GP SM	Crushed rock surfacing Brown silty fine to coarse sand with gravel (dense, moist) (fill)		

Exploration terminated due to utility
 No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-95

Date Excavated: 2/8/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 5.0

Elevation (feet)	SAMPLE			Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
	Depth (feet)	Testing Sample	Sample Name Testing				
1	X	1		SOD	Grass/sod		
				TS	Topsoil		
1				SP-SM	Brown fine to medium sand to silty sand with gravel (medium dense, moist) (possible fill)		
2	X	2					
3	X	3		SM	Brown silty sand with gravel (medium dense, moist)		HA
4							
5	X	4			No groundwater seepage observed		

Log Of Exploration TP-96

Date Excavated: 2/15/2010
Equipment: KX121-3 Kubota

Elevation (feet)	Depth (feet)	MATERIAL DESCRIPTION					REMARKS
		Testing Sample	SAMPLE Sample Name Testing	Graphic Log	Group Classification	Encountered Water	
			1		SP	Brown fine to coarse sand with gravel (medium dense, moist) (fill)	
			2		SP-SM	Brown fine to coarse sand with silt and gravel (dense, moist) (fill)	
1			3		SM	Brown silty fine to coarse sand with gravel (medium dense, moist)	
			4				
2							
3							
4							

Refusal with hand implements
No groundwater seepage observed

Notes: See Figure 3 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Log Of Exploration TP-97

Date Excavated: 2/11/2010
Equipment: KX121-3 Kubota

Logged By: AJH
Total Depth (ft) 5.0

No groundwater seepage observed

Log Of Exploration TP-98

Date Excavated: 2/12/2010
 Equipment: KX121-3 Kubota

Logged By: AF2
 Total Depth (ft) 4.0

Elevation (feet)	Depth (feet)	SAMPLE		Group Classification	Encountered Water	MATERIAL DESCRIPTION	Moisture Content, %	REMARKS
		Testing Sample	Sample Name Testing					
1	1	☒	1	SOD GP SM	▽	Sod 3 inches of crushed gravel with sand Brown silty fine to coarse sand, gravel and occasional cobble (medium dense, moist) (fill)		
2	2	☒	2	SM	▽	Light brown silty fine to coarse sand with gravel and occasional cobble (medium dense, wct)		HASA
3								
4	3	☒	3					

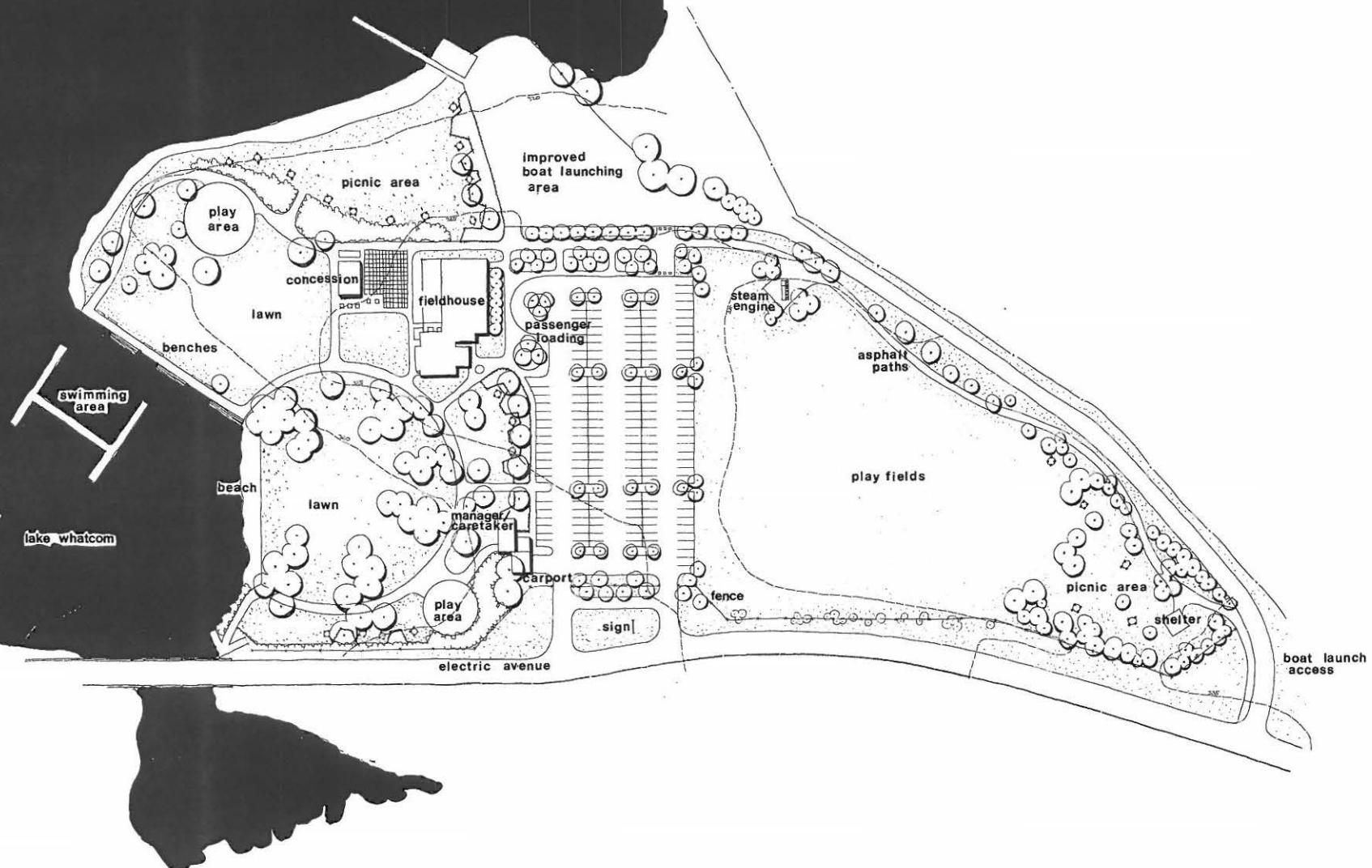
Exploration terminated due to utility
 Moderate groundwater seepage observed at 2 feet

Notes: See Figure 3 for explanation of symbols.
 The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

Appendix

H

This page intentionally left blank



BLOEDEL/DONOVAN PARK

RENOVATION PLAN

BELLINGHAM, WASHINGTON

DEPARTMENT OF PARKS & RECREATION

BYRON ELMENDORF, DIRECTOR

JONGEJAN | GERRARD | ASSOCIATES, INC.
LANDSCAPE ARCHITECTS



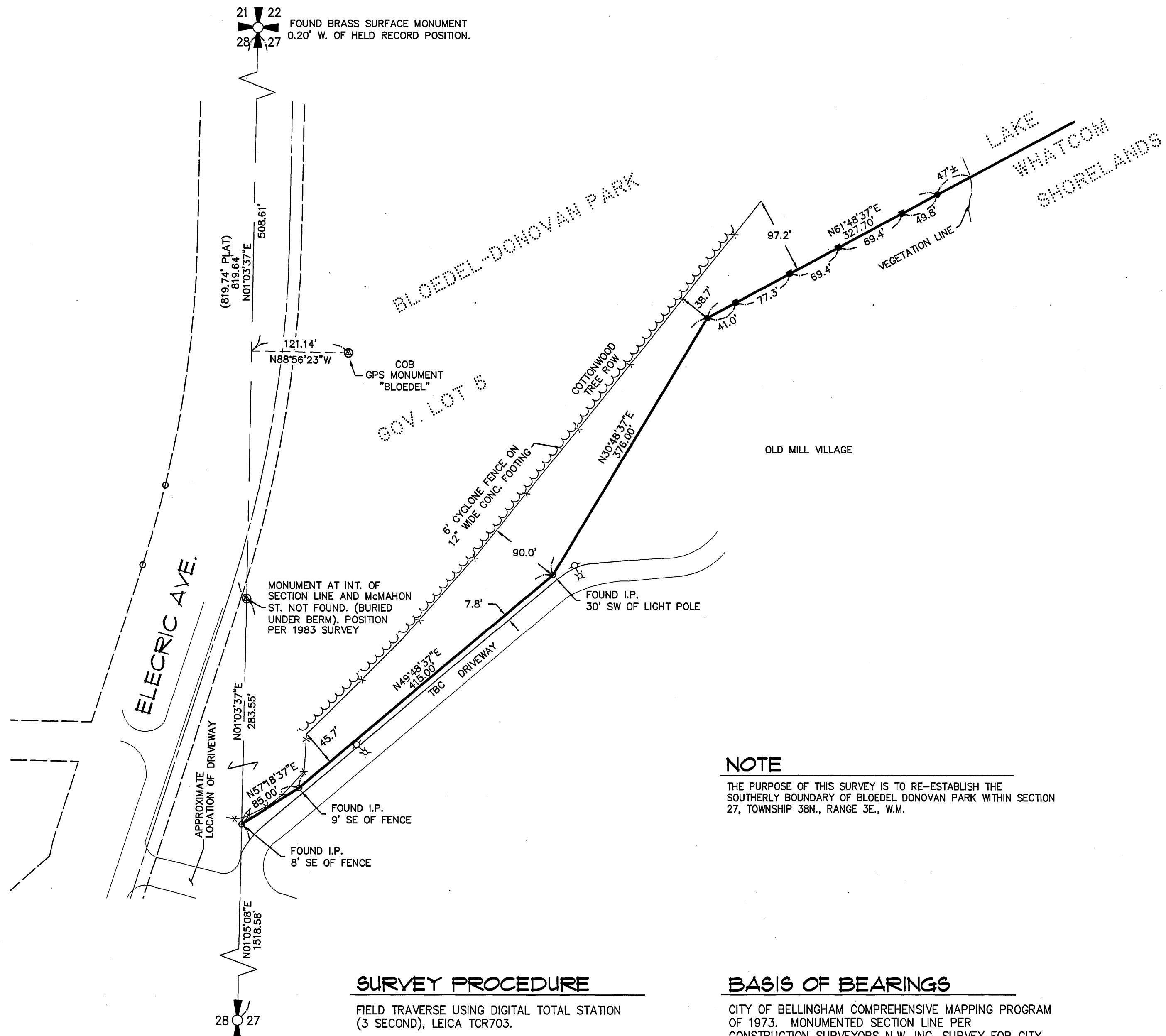
This page intentionally left blank

Appendix

I

This page intentionally left blank

2081101683



LEGAL DESCRIPTION

DEED AF#s 635889 & 635890

ALL THAT PART OF SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4, SECTION 28, TOWNSHIP 38 NORTH, RANGE 3 EAST, BOUNDED BY THE SOUTHEASTERLY LINE OF ELECTRIC AVE., THE EAST LINE OF SECTION 28, AND THE NORtherly LINE OF NORTHERN PACIFIC RAILWAY CO.'S RIGHT OF WAY.

ALL LOT 6, SECTION 22, TOWNSHIP 38 NORTH, RANGE 3 EAST, AND ALL OF BLOCKS 17, 18, LOTS 1 TO 14, INCLUSIVE, BLOCK 19, LAKE WHATCOM SHORE LANDS AND THAT PART OF LOT 5, SECTION 27, TOWNSHIP 38 NORTH, RANGE 3 EAST, AND BLOCK 16, LAKE WHATCOM SHORE LANDS LYING NORTH OF THE FOLLOWING DESCRIBED LINE:

"COMMENCING ON THE SECTION LINE BETWEEN SECTIONS 27, AND 28, TOWNSHIP 38 NORTH, RANGE 3 EAST, 283.55 FEET SOUTH OF CONCRETE MONUMENT MARKING THE CENTER LINE OF McMAHON AVE. ON VACATED LARSON HOME ADDITION TO BELLINGHAM; THENCE NORTH 56°15' EAST, 85 FEET, THENCE NORTH 48°45' EAST, 415 FEET; THENCE NORTH 29°45' EAST, 376 FEET; THENCE NORTH 60°45' EAST TO THE EAST LINE OF BLOCK 16, LAKE WHATCOM SHORE LANDS."

SUBJECT TO ALL EXCEPTIONS AND RESERVATIONS CONTAINED IN THAT CERTAIN "CORRECTION DEED" OF DATE DECEMBER 5TH, 1946, COVERING THE LANDS ABOVE DESCRIBED, AS GRANTOR, TO THE UNDERSIGNED, J. H. BLOEDEL, AS GRANTEE.

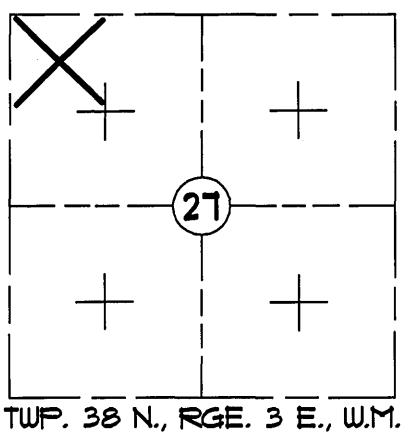
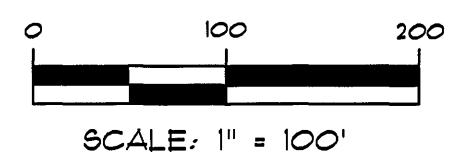
THIS CONVEYANCE IS FURTHER EXPRESSLY SUBJECT TO THE FOLLOWING CONDITION:

(A) THE LANDS ABOVE DESCRIBED SHALL BE DEVELOPED AND USED SOLELY FOR PUBLIC PARK PURPOSES AND SHALL BE DEVOTED TO NO OTHER USE IN WHOLE OR IN PART.

(B) SAID LANDS SHALL CONSTITUTE A PUBLIC PARK SEPARATE AND DISTINCT FROM ANY OTHER PARK AND, TOGETHER WITH ANY ADJOINING LANDS HEREAFTER ACQUIRED BY THE SAID CITY OF BELLINGHAM, OR ANY OF ITS DEPARTMENTS, DIVISIONS OR AGENCIES BY GIFT OR OTHERWISE, FOR PARK PURPOSES SHALL FOREVER BE KNOWN AND DESIGNATED AS "BLOEDEL DONOVAN PARK" AND NONE OF SUCH SHALL BE KNOWN OR DESIGNATED BY ANY OTHER APPELLATION.

LEGEND (MARCH 2001)

- FOUND IRON PIPE/CAP "ROCKY #11693"
- SET REBAR/CAP "STEELE #13138"
- SET WOOD LINE STAKE
- X LIGHT POLE
- SECTION CORNER, RECORD
- QUARTER CORNER, RECORD
- TBC TOP BACK OF CURB
- COB CITY OF BELLINGHAM

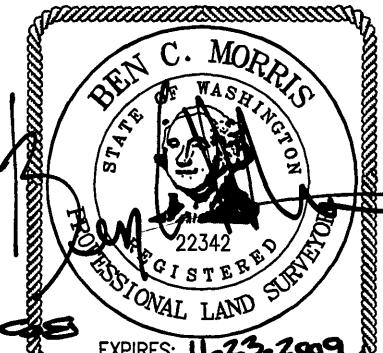


TWP. 38 N., RGE. 3 E., W.M.



AUDITOR'S CERTIFICATE	
FILED FOR RECORD THIS 19 th DAY OF November, 2008.	
AT 1:30 P.M. AT THE REQUEST OF LARRY STEELE AND ASSOCIATES, LAND SURVEYORS. RECORDED UNDER AUDITOR'S FILE NUMBER 2081101683.	
<i>Larry Steele by Seal Ann</i>	
WHATCOM COUNTY AUDITOR'S OFFICE	

SURVEYOR'S CERTIFICATE	
THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION AND IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF TIM WAHL, IN NOVEMBER, 2008.	
<i>BEN C. MORRIS</i>	
BEN C. MORRIS, P.L.S., CERTIFICATE NO. 22342	
EXPIRES: 11-23-2009	



BEING A PORTION OF THE NW 1/4 OF THE NW 1/4, OF SECTION 27, T. 38 N., R. 3 E., W.M. CITY OF BELLINGHAM, WHATCOM COUNTY, WA.

F.BK. 634/10

RECORD OF SURVEY		
FOR CITY OF BELLINGHAM PARKS AND RECREATION DEPT.		
DRVN BY RMT	DATE 11/18/2008	JOB NO. 02806
CHKD BY BCM	SCALE 1" = 100'	SHEET 1 OF 1

This page intentionally left blank

Appendix

J

This page intentionally left blank



Northwest Ecological Services, LLC

March 22, 2011

Mr. Jeff McClure
RMC Architects
1223 Railroad Avenue
Bellingham, WA 98225

RE: Bloedel Donovan Wetland Determination

Dear Mr. McClure,

Per your request, NES has performed a wetland delineation on a portion of Bloedel Donovan Park in the vicinity of a proposed Public Rowing Facility storage racks. Field work was conducted by Vikki Jackson and Clover Muters of NES on March 17, 2011. The following letter details the existing conditions observed on the subject property at the time of the site visit. It is our understanding that you will be applying to the City of Bellingham to construct new boat racks for the Whatcom Rowing Association. The racks will be outside of the 200 foot shoreline jurisdiction near the existing "kids locomotive" on site. The following letter details the existing conditions in the vicinity of the proposed racks. Figure 1 is a vicinity map of the site.

The wetland delineation was conducted in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Corps, 2010), the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Washington State Wetlands Identification and Delineation Manual* (WDOE, 1997). The methodology described in these manuals requires evidence that at least one positive wetland indicator be found for each of three parameters (vegetation, soils, and hydrology) to make a positive wetland determination. An area is not considered a regulatory wetland if indicators for any one of these three parameters are not observed under normal environmental conditions. Upland/wetland boundaries are delineated by locating the transition where soils, vegetation, or hydrology no longer indicate that wetland parameters are met.

The review area consisted of a portion of the southeast forested corner of the park depicted in Figure 1. This area is currently separated from the parking area and the ball fields by a fence. The review area extended from just south of the locomotive all the way to the shoreline. Canopy species throughout the majority of the review area consisted primarily of red alder (*Alnus rubra*), black cottonwood (*Populus balsamifera*), big leaf maple (*Acer macrophyllum*) and Lombardy poplar (*Populus nigra*) with an understory dominated by invasive species including Himalayan blackberry (*Rubus spectabilis*), English ivy (*Hedera helix*) and holly (*Ilex spp*). Other species observed included sword fern (*Polystichum munitum*), tall Oregon-grape (*Mahonia aquifolium*), Indian plum (*Oemleria cerasiformis*), and snowberry (*Symporicarpos albus*). This

plant community is representative of upland areas and does not meet hydrophytic vegetation criteria.

Five sample pits were dug through out the review area. Soils were generally a black to very dark brown (10YR 2/1-2/2) gravelly and rocky loam with no redox concentrations. Sample Plot 3, further from the shoreline and closest to the proposed boat racks, had a very dark grayish brown sandy loam. Sample plots 1-4 did not meet hydric soil criteria. Sample Plot 5, along the shoreline, was the only plot to display redox concentrations and met hydric soil indicator F6, Redox Dark Surface.

The site visit occurred in the early growing season, but still during the wet season after some heavy rainfall. Soil profiles throughout the review area were damp but no saturation was observed. The level of Lake Whatcom was low at the time of the site visit but based on vegetation and topography it appears that when the lake level is higher in the summer, saturation and/or inundation is likely present at the eastern end of the review area near Sample Plot 5. Although direct hydrology was not observed at the time of the site visit, primary and secondary hydrology indicators were present at Sample Plot 5 including water marks, sparsely vegetated concave surfaces and drainage patterns. This portion of the review area also had wetland plant species present which met the hydrophytic vegetation criteria. Species observed at Sample Plot 5 included yellow flag iris (*Iris pseudacorus*), reed canarygrass (*Phalaris arundinacea*), water foxtail (*Alopecurus genitulatus*) and speedwell (*Veronica americanum*) which were not observed in any other parts of the review area.

Determination

One wetland, Wetland A was identified in the review area. Wetland A is a lake fringe wetland associated with the shore of Lake Whatcom at the eastern end of the review area. Soils in Wetland A (Sample Plot 5) were slightly mucky and had redox concentrations present and net hydric soil indicators, unlike the rest of the soils observed in the review area. Hydrophytic vegetation and primary and secondary indicators of hydrology were also observed. Indications were present that this area is inundated when the lake level is higher.

NES first reviewed the site in 2005. Wetland A was identified and flagged in the field at that time. During this re-delineation, new data was recorded and the boundary of Wetland A was determined to be consistent with the original flagging. No new flagging was hung as it does not appear to be necessary for the scope of the proposal. The approximate boundaries of Wetland A are shown on Figure 2.

NES completed a wetland rating and functional assessment of Wetland A using the WDOE Wetland Rating System for Western Washington, revised 2004 (Rating System) (Hruby, 2004). This methodology identifies and quantifies the potential of various functions operating within a wetland. The determination is based on the physical characteristics of water quality, hydrologic, and habitat functions in the wetland and buffers. Using this system, wetlands are

given a score based on the functions provided by the wetland, and are classified as Category I through Category IV. Under this system Wetland A is a Category III wetland with moderate water quality, hydrologic and wildlife habitat functions (17 habitat points overall).

The COB Critical Areas Ordinance (CAO) states that no activity may be conducted within a regulated wetland or buffer without Critical Areas review and approval. Activities impacting regulated wetlands generally must provide mitigation sufficient to maintain or enhance the wetland functions. The COB also requires a buffer around regulated wetlands to protect functions. The buffer must remain naturally vegetated except where it can be enhanced to improve the functions (COB CAO, 2005).

The City of Bellingham requires a buffer around regulated wetlands and streams to protect functions. The buffer must remain naturally vegetated except where it can be enhanced to improve the functions. Wetland buffer widths are determined according to proposed or existing land use intensity, the overall wetland category and the habitat rating. Buffers are measured from the ordinary high water mark (OHWM) of the stream or the wetland edge.

Under the COB CAO, Wetland A is a regulated wetland which would be required to have a buffer width of 50-80 feet depending on the proposed land use. The City of Bellingham requires that buildings and other structures are setback a minimum of 15 feet from the edge of critical area buffers, or from the critical area where no buffer is required, to the extent that the critical root zone of trees in the buffer are not disturbed. Uses allowed within the 15-foot setback include: landscaping; uncovered decks; roof eaves and overhangs; impervious surfaces such as driveways and patios, provided such improvements may be subject to water quality regulations (BMC 16.55.340.G). Wetland A is also within the 200 foot shoreline jurisdiction and would be subject to shoreline regulations as well.

Wetlands are also regulated by The U.S. Army Corps of Engineers (Corps) and the WA State Department of Ecology (WDOE). The Corps requires notification for all disturbances to wetlands and it is incumbent upon the applicant to disclose such disturbances. However, the Corps does not have jurisdiction over isolated wetlands. Only the Corps has the authority to determine whether or not a wetland is isolated. However, Wetland A does not appear to be isolated as it is directly connected to Lake Whatcom, a navigable water, and would be under the jurisdiction of the Corps. A disturbance under one-half acre in size requires an application for a Nationwide Permit from the Corps. Fills exceeding one-half acre require an Individual Permit from the Corps. All wetland fill related to a project, whether it occurs once or in phases, counts towards the one-half acre limitation. In all cases the Corps requires concurrence with Section 7 of the Endangered Species Act. Notification and mitigation is required for all wetland fills.

The Corps also has discretion to not allow disturbance to high quality wetlands. The Washington Department of Ecology and Corps require certification that no listed or known endangered or threatened species, or National Historic Places are present on the parcel. WDOE reviews all permits received by the Corps for Water Quality Certification. WDOE has authority over all waters, including wetlands, of the state. DOE requires an individual review of all wetland disturbances greater than one-half acre. Water Quality Certification is required for all Individual Permit applications. DOE has authority over discharge into all wetlands and streams and can impose buffers and compensatory mitigation for impacts to these features.

Conclusion

One wetland, Wetland A, was identified in the review area. Wetland A and its buffer (assuming an 80 foot, buffer based on the most restrictive land use) are more than 200 feet from the proposed Public Rowing Facility storage racks. It does not appear that the wetland or its buffer would be impacted by the proposed activities.

Disclaimer: Wetland and stream delineations and determinations are based on protocols defined in manuals and publications produced by Federal, State and Local agencies. No guarantees are given that determinations or functional assessments described in this letter will concur with those performed by regulatory agencies or other qualified professionals. This letter is provided for the use of the named recipient only and is not intended for use by others parties for any other purpose.

If you have any questions please contact us at (360) 734-9484.

Sincerely,

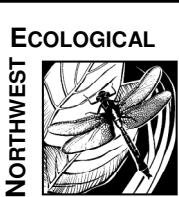
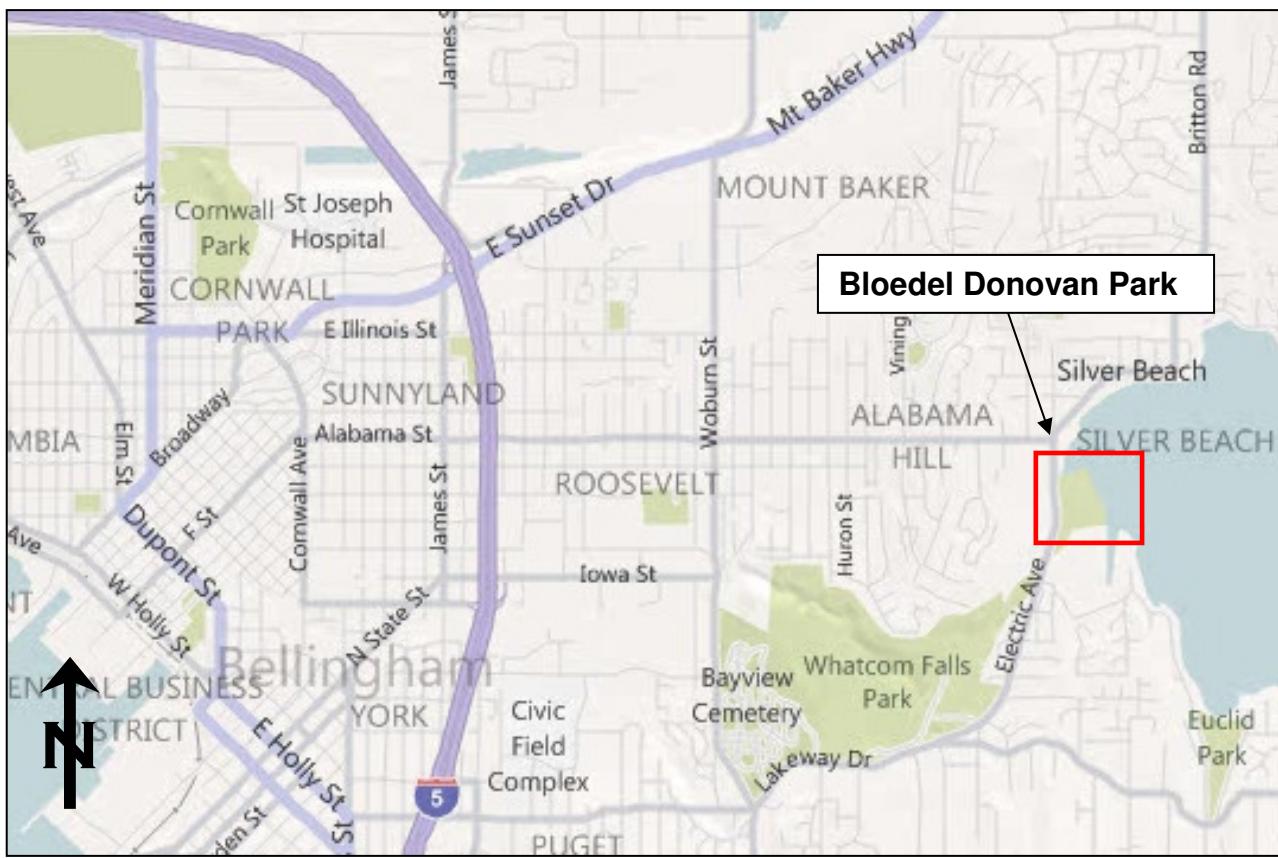


Vikki Jackson, PWS,
Senior Ecologist



Clover Mutters, Ecologist

Attachments: Figure 1. Vicinity Map
Figure 2. Wetland Sketch Map
Data Sheets
Wetland A Rating Form

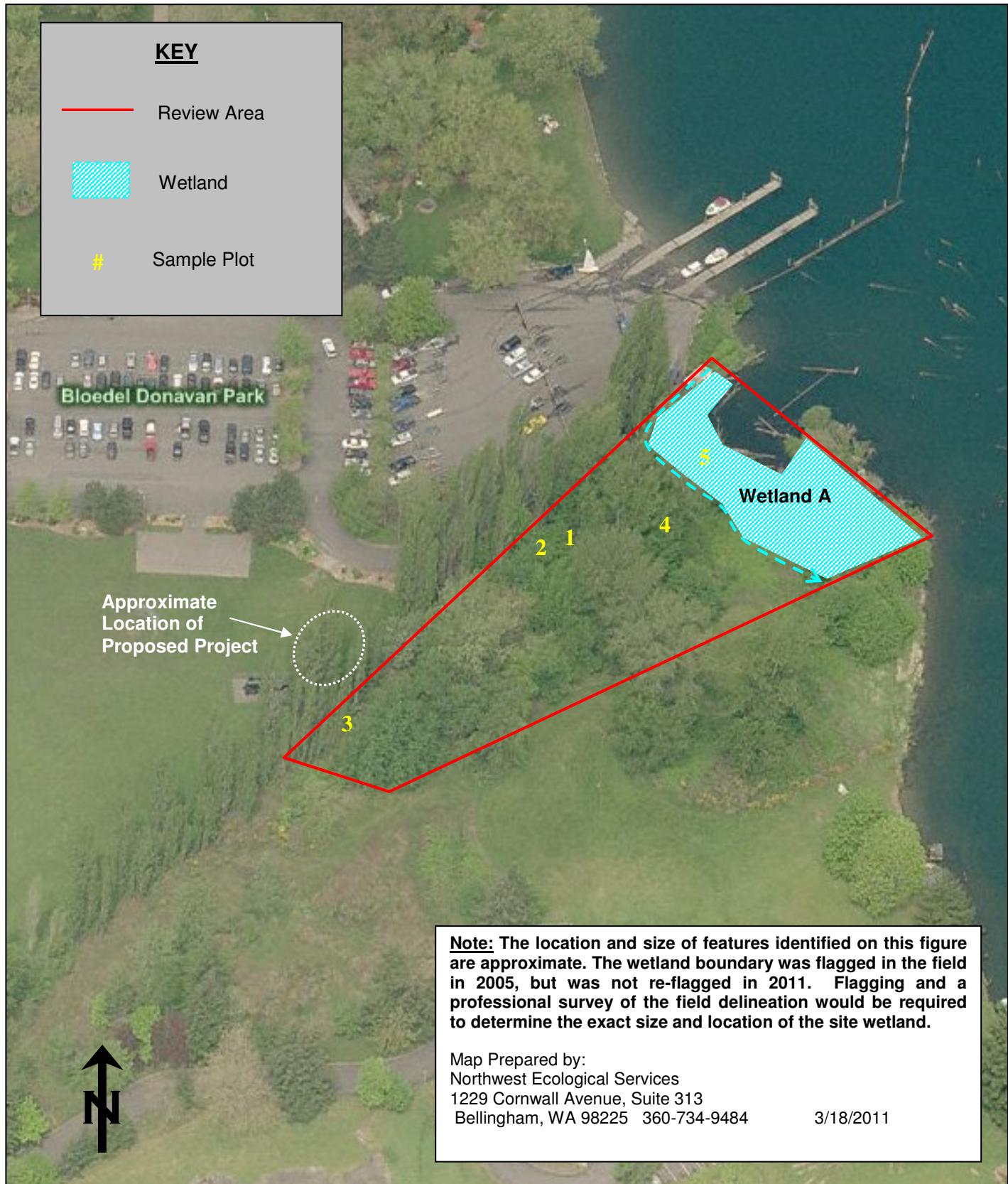


Vicinity Map
(Bing Maps, 2011)

Bloedel Donovan Park
Public Rowing Facility

Figure 1.

March 2011



ECOLOGICAL 	Wetland Sketch Map (Bing Maps, 2011) Bloedel Donovan Park Public Rowing Facility	Figure 2. March 2011
-----------------------	--	------------------------------------

WETLAND DETERMINATION DATA FORM – Western Mountain, Valley Coast Region

Project Site: Bloedel Donovan	City/County: Whatcom	Sample Date: 3.17.11
Applicant/Owner: RMC Architects	State: WA	Sample Point: 1
Investigator: V. Jackson, C. Muters	Section/Township/Range:	
Landform (hillslope, terrace, etc):	Local Relief (concave, convex, none) :	Subregion: LRR A
Soil Map Unit Name:	NWI Classification:	
Are climatic/hydrologic conditions on the site typical of this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Normal Circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		(If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Remarks: Positive indicators for all three parameters were NOT observed at this location.

VEGETATION

Tree Stratum (Plot size: 9 meters)		Absolute % Cover	Indicator Status	Dominant Species?	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC:	1 (A)
<i>Populus nigra</i>		20	NI	<input checked="" type="checkbox"/>		
<i>Alnus rubra</i>		80	FAC	<input checked="" type="checkbox"/>		
			-	<input type="checkbox"/>		
			-	<input type="checkbox"/>		
Total Cover:	100				Total number of dominant species across all strata:	3 (AB)
Sapling/Shrub Stratum (Plot size: 3 meters)					Percent of dominant species that are OBL, FACW, or FAC:	33 (A/AB)
<i>Polystichum munitum</i>	5	FACU		<input type="checkbox"/>		
<i>Oemleria cerasiformis</i>	trace	FACU		<input type="checkbox"/>		
<i>Ilex sp.</i>	5	-		<input type="checkbox"/>		
<i>Hedera helix</i>	trace	-		<input type="checkbox"/>		
		-		<input type="checkbox"/>	OBL species:	x 1=
					FACW species:	x 2=
Total Cover:	10+				FAC species:	x 3=
Herb Stratum (Plot size: 1 meter)					FACU species:	x 4=
		-		<input type="checkbox"/>	UPL species:	x 5=
		-		<input type="checkbox"/>	Total:	(A) (B)
		-		<input type="checkbox"/>	Prevalence Index = B/A =	
		-		<input type="checkbox"/>	Hydrophytic Vegetation Indicators:	
		-		<input type="checkbox"/>	Dominance Test is > 50%	
		-		<input type="checkbox"/>	Prevalence Index is ≤3.01	
		-		<input type="checkbox"/>	Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)	
		-		<input type="checkbox"/>	Wetland Non-Vascular Plants ¹	
		-		<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹	
Total Cover:					¹ Indicators of hydric soil and wetland hydrology must be present.	
Woody Vine Stratum (Plot size:)						
<i>Rubus armeniacus</i>	80	FACU		<input checked="" type="checkbox"/>		
		-		<input type="checkbox"/>		
		-		<input type="checkbox"/>		
Total Cover:	80					
% Bare Ground in Herb Stratum:						
Remarks: The majority of dominant species observed at this location were not hydrophytic. Ground was covered with thick layer of decaying tree leaves.					Hydrophytic Vegetation Present?	
					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

SOIL

Sample Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Soil Color		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	100			-	-	loam	very rocky and gravelly with fill bits including brick, glass and bolts
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

¹Type: C=concentration D=depletion RM=reduced matrix ²Location: PL=pore lining RC=root channel M=matrix**Hydric Soil Indicators: (applicable to all LRRs unless otherwise noted)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red parent material (TF2) |
| <input type="checkbox"/> Very shallow dark surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type:

Depth (inches):

Hydric Soil Present? Yes No

Remarks: Soil observed at this location did not meet NRCS hydric soil indicators.

HYDROLOGY**Wetland hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-stained (B9) (MLRA 1,2,4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Dry-season Water Table (C2) |
| <input type="checkbox"/> Water marks (B1) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Oxidized Rhizospheres along living roots (C3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Front-heave Hummocks (D7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-neutral (D5) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:Surface Water Present? Yes No Depth (inches):Water Table Present? Yes No Depth (inches):Saturation Present? Yes No Depth (inches): (include capillary fringe)**Wetland Hydrology Present?**Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Positive indicators of wetland hydrology were not observed at this location. Soil profile was moist throughout but no saturation was present.

WETLAND DETERMINATION DATA FORM – Western Mountain, Valley Coast Region

Project Site: Bloedel Donovan	City/County: Whatcom	Sample Date: 3.17.11
Applicant/Owner: RMC Architects	State: WA	Sample Point: 2
Investigator: V. Jackson, C. Muters	Section/Township/Range:	
Landform (hillslope, terrace, etc):	Local Relief (concave, convex, none) :	Subregion: LRR A
Soil Map Unit Name:	NWI Classification:	
Are climatic/hydrologic conditions on the site typical of this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Normal Circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		(If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Remarks: Positive indicators for all three parameters were NOT observed at this location.

VEGETATION

Tree Stratum (Plot size: 9 meters)		Absolute % Cover	Indicator Status	Dominant Species?	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC:	1 (A)
<i>Populus nigra</i>		20	NI	<input checked="" type="checkbox"/>		
<i>Alnus rubra</i>		80	FAC	<input checked="" type="checkbox"/>		
			-	<input type="checkbox"/>		
			-	<input type="checkbox"/>		
Total Cover:	100				Total number of dominant species across all strata:	3 (AB)
Sapling/Shrub Stratum (Plot size: 3 meters)					Percent of dominant species that are OBL, FACW, or FAC:	33 (A/AB)
<i>Polystichum munitum</i>	5	FACU		<input type="checkbox"/>		
<i>Oemleria cerasiformis</i>	trace	FACU		<input type="checkbox"/>		
<i>Ilex sp.</i>	5	-		<input type="checkbox"/>		
<i>Hedera helix</i>	trace	-		<input type="checkbox"/>		
<i>Athyrium filix-femina</i>	5	FAC		<input type="checkbox"/>	OBL species:	x 1=
Total Cover:	15+				FACW species:	x 2=
					FAC species:	x 3=
Herb Stratum (Plot size: 1 meter)					FACU species:	x 4=
		-		<input type="checkbox"/>	UPL species:	x 5=
		-		<input type="checkbox"/>	Total: (A)	(B)
		-		<input type="checkbox"/>	Prevalence Index = B/A =	
		-		<input type="checkbox"/>	Hydrophytic Vegetation Indicators:	
		-		<input type="checkbox"/>	Dominance Test is > 50%	
		-		<input type="checkbox"/>	Prevalence Index is ≤3.0 ¹	
		-		<input type="checkbox"/>	Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)	
		-		<input type="checkbox"/>	Wetland Non-Vascular Plants ¹	
		-		<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹	
Total Cover:					¹ Indicators of hydric soil and wetland hydrology must be present.	
Woody Vine Stratum (Plot size:)					Hydrophytic Vegetation Present?	
<i>Rubus armeniacus</i>	80	FACU		<input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	
		-		<input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Total Cover:	80					
% Bare Ground in Herb Stratum:						
Remarks: The majority of dominant species observed at this location were not hydrophytic. Ground was covered with thick layer of decaying tree leaves.						

SOIL

Sample Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Soil Color		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/2	100			-	-	loam	very rocky and gravelly with fill bits including brick, glass and bolts
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

¹Type: C=concentration D=depletion RM=reduced matrix ²Location: PL=pore lining RC=root channel M=matrix**Hydric Soil Indicators: (applicable to all LRRs unless otherwise noted)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red parent material (TF2) |
| <input type="checkbox"/> Very shallow dark surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type:

Depth (inches):

Hydric Soil Present? Yes No

Remarks: Soil observed at this location did not meet NRCS hydric soil indicators.

HYDROLOGY**Wetland hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-stained (B9) (MLRA 1,2,4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Dry-season Water Table (C2) |
| <input type="checkbox"/> Water marks (B1) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Oxidized Rhizospheres along living roots (C3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Front-heave Hummocks (D7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-neutral (D5) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:Surface Water Present? Yes No Depth (inches):Water Table Present? Yes No Depth (inches):Saturation Present? Yes No Depth (inches): (include capillary fringe)**Wetland Hydrology Present?**Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Positive indicators of wetland hydrology were not observed at this location. Soil profile was moist throughout but no saturation was present.

WETLAND DETERMINATION DATA FORM – Western Mountain, Valley Coast Region

Project Site: Bloedel Donovan	City/County: Whatcom	Sample Date: 3.17.11
Applicant/Owner: RMC Architects	State: WA	Sample Point: 3
Investigator: V. Jackson, C. Muters	Section/Township/Range:	
Landform (hillslope, terrace, etc):	Local Relief (concave, convex, none) :	Subregion: LRR A
Soil Map Unit Name:	NWI Classification:	
Are climatic/hydrologic conditions on the site typical of this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Normal Circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		(If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Remarks: Positive indicators for all three parameters were NOT observed at this location.

VEGETATION

SOIL

Sample Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Soil Color		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100	NA		-	-	sandy loam	very rocky and hard, could only dig to 6 inches
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

¹Type: C=concentration D=depletion RM=reduced matrix ²Location: PL=pore lining RC=root channel M=matrix

Hydric Soil Indicators: (applicable to all LRRs unless otherwise noted)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red parent material (TF2) |
| <input type="checkbox"/> Very shallow dark surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes No

Remarks: Soil observed at this location did not meet NRCS hydric soil indicators.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-stained (B9) (MLRA 1,2,4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Dry-season Water Table (C2)
<input type="checkbox"/> Water marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along living roots (C3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Front-heave Hummocks (D7)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-neutral (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches):Water Table Present? Yes No Depth (inches):Saturation Present? Yes No Depth (inches): (include capillary fringe)

Wetland Hydrology Present?

Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Positive indicators of wetland hydrology were not observed at this location. Soil profile was moist throughout but no saturation was present.

WETLAND DETERMINATION DATA FORM – Western Mountain, Valley Coast Region

Project Site: Bloedel Donovan	City/County: Whatcom	Sample Date: 3.17.11
Applicant/Owner: RMC Architects	State: WA	Sample Point: 4
Investigator: V. Jackson, C. Muters	Section/Township/Range:	
Landform (hillslope, terrace, etc):	Local Relief (concave, convex, none) :	Subregion: LRR A
Soil Map Unit Name:	NWI Classification:	
Are climatic/hydrologic conditions on the site typical of this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Normal Circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		(If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Remarks: Positive indicators for all three parameters were NOT observed at this location.

VEGETATION

Tree Stratum (Plot size: 9 meters)		Absolute % Cover	Indicator Status	Dominant Species?	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A)	1
<i>Populus nigra</i>		20	NI	<input checked="" type="checkbox"/>		
<i>Alnus rubra</i>		80	FAC	<input checked="" type="checkbox"/>		
			-	<input type="checkbox"/>		
			-	<input type="checkbox"/>		
Total Cover:	100				Total number of dominant species across all strata:	3 (AB)
Sapling/Shrub Stratum (Plot size: 3 meters)					Percent of dominant species that are OBL, FACW, or FAC: (A/AB)	33 (A/AB)
<i>Polystichum munitum</i>	5	FACU		<input type="checkbox"/>		
<i>Oemleria cerasiformis</i>	trace	FACU		<input type="checkbox"/>		
<i>Ilex sp.</i>	5	-		<input type="checkbox"/>		
<i>Hedera helix</i>	trace	-		<input type="checkbox"/>		
		-		<input type="checkbox"/>	OBL species:	x 1=
					FACW species:	x 2=
Total Cover:	10+				FAC species:	x 3=
Herb Stratum (Plot size: 1 meter)					FACU species:	x 4=
<i>equisetum sp.</i>	trace	-		<input type="checkbox"/>	UPL species:	x 5=
		-		<input type="checkbox"/>	Total:	(A) (B)
		-		<input type="checkbox"/>	Prevalence Index = B/A =	
		-		<input type="checkbox"/>		
		-		<input type="checkbox"/>		
		-		<input type="checkbox"/>		
Total Cover:						
Woody Vine Stratum (Plot size:)					Hydrophytic Vegetation Indicators:	
<i>Rubus armeniacus</i>	80	FACU		<input checked="" type="checkbox"/>	<input type="checkbox"/> Dominance Test is > 50%	
		-		<input type="checkbox"/>	<input type="checkbox"/> Prevalence Index is ≤3.01	
		-		<input type="checkbox"/>	<input type="checkbox"/> Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)	
					<input type="checkbox"/> Wetland Non-Vascular Plants ¹	
					<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹	
% Bare Ground in Herb Stratum:	80				¹ Indicators of hydric soil and wetland hydrology must be present.	
Remarks: The majority of dominant species observed at this location were not hydrophytic. Ground was covered with thick layer of decaying tree leaves.					Hydrophytic Vegetation Present?	
					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

SOIL

Sample Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Soil Color		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	100			-	-	loam	very rocky and gravelly with fill bits including brick, glass and bolts
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

¹Type: C=concentration D=depletion RM=reduced matrix ²Location: PL=pore lining RC=root channel M=matrix**Hydric Soil Indicators: (applicable to all LRRs unless otherwise noted)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red parent material (TF2) |
| <input type="checkbox"/> Very shallow dark surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type:

Depth (inches):

Hydric Soil Present? Yes No

Remarks: Soil observed at this location did not meet NRCS hydric soil indicators.

HYDROLOGY**Wetland hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-stained (B9) (MLRA 1,2,4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Dry-season Water Table (C2) |
| <input type="checkbox"/> Water marks (B1) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Oxidized Rhizospheres along living roots (C3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Front-heave Hummocks (D7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-neutral (D5) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:Surface Water Present? Yes No Depth (inches):Water Table Present? Yes No Depth (inches):Saturation Present? Yes No Depth (inches): (include capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Positive indicators of wetland hydrology were not observed at this location. Soil profile was moist throughout but no saturation was present. It is possible this area receives hydrology when the water level of the lake is higher in the summer.

WETLAND DETERMINATION DATA FORM – Western Mountain, Valley Coast Region

Project Site: Bloedel Donovan	City/County: Whatcom	Sample Date: 3.17.11
Applicant/Owner: RMC Architects	State: WA	Sample Point: 5
Investigator: V. Jackson, C. Muters	Section/Township/Range:	
Landform (hillslope, terrace, etc):	Local Relief (concave, convex, none) :	Subregion: LRR A
Soil Map Unit Name:	NWI Classification:	
Are climatic/hydrologic conditions on the site typical of this time of year? Yes <input type="checkbox"/> No <input type="checkbox"/> (if no, explain in Remarks)		
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are "Normal Circumstances" present? Yes <input type="checkbox"/> No <input type="checkbox"/>
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		(If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: **Wetland A.** Positive indicators for all parameters were present.

VEGETATION

Tree Stratum (Plot size: 9 meters)		Absolute % Cover	Indicator Status	Dominant Species?	Dominance Test worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A)	3 (A)
<i>Populus nigra</i>	10	NI	<input type="checkbox"/>			
<i>Alnus rubra</i>	30	FAC	<input checked="" type="checkbox"/>			
		-	<input type="checkbox"/>			
		-	<input type="checkbox"/>			
Total Cover:	40				Total number of dominant species across all strata:	4 (AB)
Sapling/Shrub Stratum (Plot size: 3 meters)					Percent of dominant species that are OBL, FACW, or FAC: (A/AB)	75 (A/AB)
		-	<input type="checkbox"/>			
		-	<input type="checkbox"/>			
		-	<input type="checkbox"/>	Prevalence Index worksheet		
		-	<input type="checkbox"/>	OBL species:	x 1=	
		-	<input type="checkbox"/>	FACW species:	x 2=	
Total Cover:	0			FAC species:	x 3=	
Herb Stratum (Plot size: 1 meter)					FACU species:	x 4=
<i>Phalaris arundinacea</i>	10	FACW	<input type="checkbox"/>	UPL species:	x 5=	
<i>Iris pseudacorus</i>	20	OBL	<input checked="" type="checkbox"/>	Total:	(A)	(B)
<i>Alopecurus geniculatus</i>	trace	OBL	<input type="checkbox"/>	Prevalence Index = B/A =		
<i>Veronica americanum</i>	30	OBL	<input checked="" type="checkbox"/>	Hydrophytic Vegetation Indicators:		
		-	<input type="checkbox"/>	<input checked="" type="checkbox"/> Dominance Test is > 50%		
		-	<input type="checkbox"/>	<input type="checkbox"/> Prevalence Index is ≤3.01		
Total Cover:	60+			<input type="checkbox"/> Morphological Adaptations ¹ (provide supporting data in Remarks or on a separate sheet)		
Woody Vine Stratum (Plot size:)					<input type="checkbox"/> Wetland Non-Vascular Plants ¹	
<i>Rubus armeniacus</i>	40	FACU	<input checked="" type="checkbox"/>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹		
		-	<input type="checkbox"/>	¹ Indicators of hydric soil and wetland hydrology must be present.		
Total Cover:	40					
% Bare Ground in Herb Stratum:				Hydrophytic Vegetation Present?		
Remarks: The majority of dominant species observed at this location were hydrophytic.					Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

SOIL

Sample Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Soil Color		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1-2/2	80	7.5YR 4/4	20	C	M	silt loam	slightly mucky. Large concentrations 8-10"
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

¹Type: C=concentration D=depletion RM=reduced matrix ²Location: PL=pore lining RC=root channel M=matrix**Hydric Soil Indicators: (applicable to all LRRs unless otherwise noted)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) |

Indicators for Problematic Hydric Soils³:

- | |
|---|
| <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Red parent material (TF2) |
| <input type="checkbox"/> Very shallow dark surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type:

Depth (inches):

Hydric Soil Present? Yes No

Remarks: Soil observed at this location did met NRCS hydric soil indicators.

HYDROLOGY**Wetland hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Water-stained (B9) (MLRA 1,2,4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Dry-season Water Table (C2) |
| <input checked="" type="checkbox"/> Water marks (B1) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Oxidized Rhizospheres along living roots (C3) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Front-heave Hummocks (D7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> FAC-neutral (D5) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:Surface Water Present? Yes No Depth (inches):Water Table Present? Yes No Depth (inches):Saturation Present? Yes No Depth (inches): (include capillary fringe)**Wetland Hydrology Present?**Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Positive indicators of wetland hydrology were observed at this location at the time of the site visit.

Wetland Rating Field Data Form- Western Washington

Background Information:

Name of Rater: C. Muters Affiliation: NW Ecological Date of site visit: 3.17.11

Name of Wetland (if known): Wetland A. Bloedel Donovan Park

Government Jurisdiction of Wetland: City of Bellingham, WA DOE, US Army Corps of Engineers

Location (attach map with outline of wetland to rating form):

1/4Section:

Section:

Township:

Range:

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland: I II III IV

Category I = Score >70

Category II = Score 51-69

Category III = Score 30-50

Category IV = Score < 30

Score for Water Quality Functions

14

Score for Hydrologic Functions

12

Score for Habitat Functions

17

TOTAL score for Functions

43

Category based on SPECIAL CHARACTERISTICS of wetland

I II III Does not apply

III

Final Category (choose the "highest" category from above)

Check the appropriate type and class of wetland being rated.

WETLAND TYPE

WETLAND CLASS

Estuarine

Depressional

Natural Heritage Wetland

Riverine

Bog

Lake-fringe

Mature Forest

Slope

Old Growth Forest

Flats

Coastal Lagoon

Freshwater Tidal

Interdunal

None of the Above

Does the wetland being rated meet any of the criteria below?

If the answer to any of the questions below is YES than the wetland will need to be protected according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
SP1. <i>Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP2. <i>Has the wetland been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purpose of this rating system, “documented” means the wetland is on the appropriate state database.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP3. <i>Does the wetland contain individuals of Priority species listed by the WDFW for the state?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP4. <i>Does the wetland have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance. <i>Lake Fringe wetland on Lake Whatcom, water quality protection, Shoreline jurisdiction</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

LAKE FRINGE WETLANDS		Points
WATER QUALITY FUNCTIONS-		
Indicators that wetland functions to improve the water quality.		
L1. Does the wetland unit have the potential to improve water quality?		-----
L1.1 Average width of vegetation along the lakeshore (<i>use polygons of Cowardin classes</i>):		3
<input type="checkbox"/> Vegetation is more than 33 ft (10m) wide	6 pts	
<input checked="" type="checkbox"/> Vegetation is more than 16ft (10m) wide and < 33ft	3 pts	
<input type="checkbox"/> Vegetation is more than 6ft (2m) wide and < 16ft	1 pts	
<input type="checkbox"/> Vegetation is less than 6ft wide	0 pts	
L1.2 Characteristic of the vegetation in the wetland:		4
<i>Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of cover is total cover in the unit, but it can be in patches. NOTE: herbaceous does not include aquatic bed.</i>		
<input type="checkbox"/> Herbaceous plants cover > 90% of the vegetated area	6 pts	
<input checked="" type="checkbox"/> Herbaceous plants cover > ½ of the vegetated area	4 pts	
<input type="checkbox"/> Herbaceous plants cover > ¼ of the vegetated area	3 pts	
<input type="checkbox"/> Other vegetation that is not aquatic bed in > ½ of vegetated area	3 pts	
<input type="checkbox"/> Other vegetation that is not aquatic bed in > ¼ of vegetated area	1 pt	
<input type="checkbox"/> Aquatic bed covers > ½ of the vegetated area	0 pts	
Total for L1	<i>add the points in the boxes above</i>	
L2. Does the wetland unit have the opportunity to improve water quality?		7
<i>Answer YES if you know or believe there are pollutants in lake water or polluted surface water flowing through the wetland into unit in the lake. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i>		
<input checked="" type="checkbox"/> Wetland is along the shore of a lake or reservoir that does not meet water quality standards.		
<input type="checkbox"/> Grazing in the wetland or within 150 feet		
<input checked="" type="checkbox"/> Polluted water discharges to the wetland along the upland edge		
<input type="checkbox"/> Tilled fields or orchards within 150 feet of the wetland		
<input checked="" type="checkbox"/> Parks with grassy areas that are maintained, ball fields, or golf courses are within 150 feet of the lake shore		
<input checked="" type="checkbox"/> Residential or urban areas are within 150 feet of wetland		
<input checked="" type="checkbox"/> Power boats with gasoline or diesel engines use the lake		
<input type="checkbox"/> Other		
YES = multiplier is 2	NO = multiplier is 1	
Total- Water Quality Functions	Multiply the score from L1 by L2 Add the score to the table on page 1	
	14	

Comments:

LAKE FRINGE WETLANDS		Points
HYDROLOGIC FUNCTIONS- Indicators that wetland functions to reduce shoreline erosion.		
L3. Does the wetland unit have the potential to reduce shoreline erosion?		-----
L3 Distance along shore and average width of Cowardin classes along the lakeshore (do not include aquatic beds): <i>Choose the highest scoring description that matches conditions in the wetland</i>		6
<input checked="" type="checkbox"/> > ¾ of fringe vegetation is shrubs or trees at least 33ft (10m) wide <input type="checkbox"/> > ¾ of fringe vegetation is shrubs or trees at least 6ft (2m) wide <input type="checkbox"/> > ¼ of fringe vegetation is shrubs or trees at least 33ft (10m) wide <input type="checkbox"/> Fringe vegetation is at least 6ft (2m) wide (any type except aquatic bed) <input type="checkbox"/> Fringe vegetation is less than 6ft (2m) wide (any type except aquatic bed)	6 pts 4 pts 4 pts 2 pts 0 pts	
Total for L3	<i>Add the points from the box above</i>	6
L4. Does the wetland unit have the opportunity to reduce erosion? Are there features along the shore that will be impacted if the shoreline erodes? <i>Note which of the following conditions apply.</i>		
<input checked="" type="checkbox"/> There are human structures and activities along the upland edge of the wetland (buildings, fields) that can be damaged by erosion <input type="checkbox"/> There are undisturbed natural resources along the upland edge of the wetland (e.g. mature forests, other wetlands) that can be damaged by erosion <input type="checkbox"/> Other		Multiplier =2
YES = multiplier is 2 NO = multiplier is 1		
Total- Hydrologic Functions	Multiply the score from L3 by L4 <i>Add score to table on page 1</i>	12

Comments:

HABITAT FUNCTIONS		Points
Indicators that the wetland functions to provide important habitat		
H1 Does the wetland have the potential to provide habitat for many species?		-----
H1.1 Vegetation structure		1
<p><i>Check the types of vegetation classes present (as defined in Cowardin) - Size threshold for each class is $\frac{1}{4}$ acre or more than 10% of the area if unit is smaller than 2.5 acres.</i></p> <p><input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent plants <input checked="" type="checkbox"/> Scrub/shrub- areas where shrubs have >30% cover <input type="checkbox"/> Forested- areas where trees have >30% cover</p> <p><i>If the unit has a forested class, check if:</i></p> <p><input type="checkbox"/> Forested areas have three out of five strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon</p>		
<i>Add the number of vegetation types that qualify. If you have:</i>		
	4 or more structures	4 pts
	3 structures	2 pts
	2 structures	1 pt
	1 structure	0 pts
H1.2 Hydroperiods		3
<p><i>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or $\frac{1}{4}$ acre to count.</i></p> <p><input type="checkbox"/> Permanently flooded or inundated <input checked="" type="checkbox"/> Seasonally flooded or inundated <input type="checkbox"/> Occasionally flooded or inundated <input checked="" type="checkbox"/> Saturated only <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland</p> <p><input checked="" type="checkbox"/> Lake-fringe wetland <input type="checkbox"/> Freshwater tidal wetland</p>		
	4 or more present	3 pts
	3 present	2 pts
	2 present	1 pt
	1 present	0 pts
	2 pts	
	2 pts	
H1.3 Richness of Plant Species		1
<p>Count the number of plant species in the wetland that cover at least 10 square feet. (<i>Different patches of the same species can be combined to meet the size threshold</i>)</p> <p><i>You do not have to name the species.</i></p> <p>Do no include Eurasian Milfoil, reed canary grass, purple loosestrife, or Canadian thistle.</p>		
Number of Species Counted:		
<input type="checkbox"/> >19 species		2 pts
<input checked="" type="checkbox"/> 5-19 species		1 pt
<input type="checkbox"/> <5 species		0 pts
List of species counted (not required):		

H2. Does the wetland have the <u>opportunity</u> to provide habitat for many species?	Points
H2.1 Buffers <i>Choose the description that best represents the condition of the buffer of the wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating.</i>	4
<input type="checkbox"/> 100m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. No structures are within undisturbed part of buffer. (Relatively undisturbed also means no-grazing, no landscaping, no daily human use.)	5 pts
<input type="checkbox"/> 100m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference.	4 pts
<input checked="" type="checkbox"/> 50m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference.	4 pts
<input type="checkbox"/> 100m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference.	3 pts
<input type="checkbox"/> 50m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference.	3 pts
If the buffer does not meet any of the above criteria	
<input type="checkbox"/> No paved areas (except paved trails) or buildings within 25m (80ft) of wetland >95% circumference. Light to moderate grazing, or lawns are OK.	2 pts
<input type="checkbox"/> No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK.	2 pts
<input type="checkbox"/> Heavy grazing in the buffer.	1 pt
<input type="checkbox"/> Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland).	0 pts
<input type="checkbox"/> Buffer does not meet any of the criteria above.	1 pt
H2.2 Corridors and Connections H2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150ft wide, has at least 30% cover of shrubs, forest, or native undisturbed prairie, that connects to estuaries, other wetlands, or undisturbed uplands that are at least 250 acres in size? Dams in riparian corridors, heavily used gravel roads, and paved roads are considered breaks in the corridor.	2
YES = 4 points (go to question H 2.3) NO = go to question H2.2.2	
H2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands, or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland. If it does not have an undisturbed corridor as in the question above.	
YES = 2 points (go to question H2.3) NO = go to question H2.2.3.	
H2.2.3 Is the wetland:	
<input type="checkbox"/> within five miles (8km) of a brackish or salt water estuary OR	
<input type="checkbox"/> within three miles of a large field or pasture (>40 acres) OR	
<input checked="" type="checkbox"/> within one mile of a lake greater than 20 acres?	
YES = 1 point NO = 0 points	

H2.3 Near or adjacent to other priority habitats listed by WDFW (<i>updated Oct 2008</i>)	Points
<p>Which of the following priority habitats are within 330ft (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4ha (1 acre).</p> <p><input type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife. (Full description in WDFW PHS report p. 152).</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> Old-growth/ Mature Forests: Old growth west of Cascade crest- Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) which are >81 cm (32 in) dbh or > 200 yrs of age. Mature Forests- Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100% ; decay, decadence, numbers of snags, and quality of large downed material is generally less than that found in old-growth; 80-200 yr old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full description in WDFW PHS report p. 158)</p> <p><input checked="" type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or wet prairie (full description in WDFW PHS report p. 161).</p> <p><input type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore (full description in WDFW PHS report p. 167-169, and glossary in Appendix A).</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25ft) high and occurring below 5000ft.</p> <p><input type="checkbox"/> Talus: Homogeneous areas of rock rubble ranging in average size from 0.15 to 2.0 m (0.5 to 6.5ft), composed as basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/ use by wildlife. Priority snags have a DBH of >51 cm (20 in) in Western Washington and are >2M (6.5 ft) in height. Priority logs are >30 cm (12 in) in diameter at the largest end and >6 m (20 ft) long.</p>	1

If the wetland has 3 or more priority habitats	4 pts
2 priority habitats	3 pts
1 priority habitat	1 pt
no priority habitats	0 pts

H2.4 Wetland Landscape Choose the one description of the landscape around the wetland that best fits.	Points
<input type="checkbox"/> There are at least three other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, field, or other development).	3
<input type="checkbox"/> The wetland is Lake-fringe on a lake with little disturbance and there are three other lake-fringe wetlands within ½ mile.	5 pts
<input type="checkbox"/> There are at least three other wetlands within ½ mile, BUT the connection between them is disturbed.	3 pts
<input checked="" type="checkbox"/> The wetland is Lake-fringe on a lake WITH disturbance and there are three other lake-fringe wetlands within ½ mile.	3 pts
<input type="checkbox"/> There is at least one other wetland within ½ mile.	2 pts
<input type="checkbox"/> There are no other wetlands within ½ mile.	0 pts
H2. Total Score - opportunity to provide habitat	10
<i>Add the scores in all of the H2 columns above</i>	
Total for H1	7
Total Score for Habitat Functions-	17
<i>Add the points from the total H1 and H2 boxes</i>	
<i>Add the score to table on page 1</i>	

This page intentionally left blank

Appendix

K

This page intentionally left blank

March 22, 2012

Mr. Steve Nordeen
Grounds Supervisor
1400 Woburn Street
Bellingham, Washington 98229

Dear Steve:

My apologies for the length of time it has taken to get this letter of evaluation on Bloedel Park back to you. Our turfgrass section has gone from 4 employees to just myself, so it has become rather difficult to get items done in a timely fashion. We have been working on a phosphorus bulletin that will be followed by the public when the new phosphorus bill goes into effect in order that people can make the correct choices and not make a poor choice that could impact water quality in a negative fashion.

Bloedel Park, located on the northwest end of Lake Whatcom is about 11 acres total. You have confirmed that only 4.5 acres (highly used areas by people) of the park is actually irrigated. This area is the major access for public boat launch traffic and public waterfront and beach access to the lake. These access areas are not very large for the actual amount of traffic you have and that is a major reason for the wear and tear on the areas closest to the lake.

I have reviewed your soil tests specifically for Bloedel Donovan Park both lake side and field side. I am confused about the organic matter percentages going up and down so drastically. I wondered if some of the thatch was sent in with the soil samples, which could cause the large variability from 3.2 and 3.8% organic matter in 1990 to and increase to 7.2 and 9.7% in 1994. The proper method of soil sampling was confirmed with Mike Stear of your organization, therefore it was not thatch being included in the soil samples. That is still a lot of organic matter accumulation in 4 years. In 2010, the organic matter went back down to 3.5 and 6.2%. These values don't really make sense with how they are varying, especially since you are removing most of the leaves. Mr. Marvin Harris sent me some historical pictures of the sawmill site where Bloedel Donovan Park is now located and those pictures show a large amount of fill being deposited on the site, which more than likely contained a good deal of sawdust in the mix as that is what they did back in those times. This would account for greater than average organic matter content on the site as well as greater phosphorus levels from that added organic matter.

After a discussion with Mike Stear, I discovered that there was an excessive population of geese, ducks and coots on the Bloedel site back in the period of 1994. There were no off-leash dog areas at Bloedel, so it is entirely possible that the increase in organic matter and phosphorus was from the feces of the

waterfowl. That is only item I have discovered to be different in those years. Now, there is a policy of off-leash dog areas, which has decreased the roosting of the water fowl population. If the turf becomes too wet and off leash dogs start to cause damage the P&R Department will close areas of the park to off leash dogs. At this time some areas (the big field) remain open to dogs off leash. The turf areas along the shoreline are closed to dogs off leash.

The calcium levels are in the correct range, but your magnesium levels are low. You might benefit from an application of MgSO₄ (Epsom salts) this spring to narrow your Ca: Mg ratio (raise magnesium level). All of your micronutrients are low as well, so you should use a micronutrient package in the spring and fall to help with the health of the grass plants.

Phosphorus levels were high in 1990 (75 and 31 (which is only a little high), 99 and 50 in 1994, which is also when the organic matter was so high, so I'm thinking those 2 items are related. The soil tests that you had pulled in November of 2010 had phosphorus levels of 80 and 65, which are also very high, but lower than in 1994. This level of phosphorus is most likely historical in nature. These levels are very high for western WA and are not normal. Do you know any of the practices that occurred while the site was a saw mill? Did they use horses to pull logs way back when? I'm thinking that the P in your soils was added to the site many years ago. Any organic matter from wood chips or sawdust from years ago would also be present in the soil for many years. It will continue breaking down slowly for many years releasing phosphorus at a rate that will depend upon the practices that were carried out when the wood was processed there as well as the soil temperatures and soil moisture content.

Cultural Practices Used by Parks:

Mowing – The one full-time worker that maintains Bloedel and mows 2X per week at 2 ½ to 3 inches with turfgrass clippings returned to the site. This is a good practice to follow to return some nutrients to the soil. Large rotary mowers are used on the open spaces and trim mowers are used in tighter areas. When areas are too wet to get mowers in the area, no mowing is done. This past winter, the off-leash dog area was taken away earlier and I understand that the grass is at about ½ inch in height due to the feeding of waterfowl and not mowing by the maintenance staff. This issue needs to be addressed somehow.

Aerification – Aerifying is done 2X per year (spring and fall) with both a core aerifier and /or a knife style aerifier. This should be done when the grass is growing so the holes can fill back in before either the summer or winter. Aerifying too late in spring or fall can stress the turfgrass with the holes remaining open over the summer or winter for weed infestation. This helps relieve the compaction caused by foot traffic on the area and allows for seed to establish better with a more vigorous root system.

Overseeding – Your crew overseeds in spring and fall with a slicer-seeder and a 3-way perennial ryegrass blend, which is the best blend to use on a highly used surface such as this park. This is probably one of the least expensive ways you can help to stabilize the soil and keep the people safe on the site so it doesn't become too hard or bare soil which can lead to erosion.

I am concerned that the city code; 16.80.120 – Seasonal Restrictions on Land Disturbing Activities (listed at the end of this letter), does not allow you to do your job to the best of your ability. Grasses in western WA grow their best in early spring and into late October depending upon the year. This is also when the public will not be using the site quite as much and you can get work done with the proper precautions. When I was on site in early October of 2010, I viewed an area at Bloedel that had been seeded and was growing well, but had been suffocated with straw which actually prevented it from filling in adequately. If that area had been left to grow on its own, it would have already been filled in with a strong turfgrass cover instead of thin and scraggly due to the cover from the straw. Once grass has germinated, it is very important to get it as much light as possible to establish. Also, there are newer turf type intermediate ryegrasses which we use on athletic fields to fill in areas in late October/November and in late March/April when soil temperatures are still relatively cool. These grasses will germinate at 40F and give us 2 weeks earlier and later growth on a soil area. This information should be added to your parks areas to widen your scope of work. I am not recommending this for homeowners, but in these public areas, as professionals, this will help you to be able to get the job done and protect the environment at the same time. The intermediate ryegrasses should be used early and late in the season and perennial ryegrasses can continue to be used in the bulk of the growing season when temperatures are above 50F.

Fertility – This first thing to do is to have a soil test taken at a minimum of every 3 years. I usually take the soil test in early spring so I can determine what to apply for the remainder of the year. Washington State law will require that you take a soil test at a 3-year minimum, beginning in January of 2013, if you want to apply phosphorus to public turf areas. I recommend it even if you are not using phosphorus. Why would you apply things to the area if you don't need them? I know you have been using the Lake Friendly Blend of fertilizer produced by Landscape Supply Inc. in Bellingham, WA (21-0-8, Attachment 1) for 8 to 9 years. Ten and one half percent of that product is polymer coated-sulfur coated urea, which means it is slowly available. Only 10.5% of the nitrogen is immediately available to the turfgrass. In this product is 8% potash (K_2O) to minimize plant stress and maximize root growth, 4% calcium (Ca) to help with nutrient uptake and cell wall strength and 13% sulfur (Su) to help with disease prevention and plant health. Two applications, one in the spring and one in the late fall, are made of this product at 5 lbs. product/1000 sq. ft. per application. Total nitrogen applied to the site per year is 2 lbs. of N/1000 sq. ft., with only 1 lb. N/1000 sq. ft. applied per application and only 0.5 lbs. N/1000 sq. ft. is available nitrogen. Research done at Washington State University back in 1991 with slow and quickly available nitrogen sources showed that if quickly available nitrogen is kept at or below 0.5 lbs. N/1000 sq. ft., available nitrates will not leach into the water sources from the turfgrass area. That amount of available nitrogen will be taken up by the plants themselves.

The fertilizer applications are made with a large rotary spreader on a tractor and any hard surfaces that receive any product are blown off into the grass. A buffer strip (non-fertilized grass area) of 40 ft. is kept from the lake by using a smaller walking type rotary spreader closest to the buffer strip. This is more than adequate for protection of the lake.

Pesticides – I believe it is important to note that the Parks staff follow Best Management Practices (BMP) and adhere to Integrated Pest Management (IPM) methods and tools to manage park sites. One tool they may use and have used on minimal occasions is herbicide treatments. Members of the P&R department have applied pesticides to target plants (weeds) for specific purposes. Target plants (weeds) are in shrub beds, tree circles, sidewalk cracks, roads or trails cut stump treatments (Garlon 4) and invasive weeds (Japanese Knotweed). (See Attachment 2 for pesticide list). The pesticide applications were made by members of the Facilities Team, Urban Forestry Team and the Natural Resources team. For the record, the last time someone on the Urban Parks Team applied an herbicide was on 08-21-2003. This application was to a shrub bed, not the turf. Archived records will confirm any turf pesticide application stopped somewhere in the late 1980's. I mention this fact because of the perception by some of the public and the false reporting by local newspapers which have stated that the Urban Parks Team continues to make pesticide applications. This statement is false. Note the last column on the right of Attachment #2. The total amount of actual pesticide used is minimal. The only large number is for injecting Japanese Knotweed by a member on the Natural Resources team. Edging the sidewalk that interfaces with turf is done with a power edger. Tree circles and shrub bed edges are manually edged. I could see weeds within the turfgrass areas when I was there at Bloedel Park as well. They are not evident at times due to the fact that they blend in well with the grasses on the site in many cases.

Irrigation – You have an automatic irrigation system that is efficient and up to date that irrigates about 4.5 acres on the north and east side of the community building. The large field on the site is not irrigated. If overseeding is done on this area, it should be done early in April to take advantage of the natural rainfall we get at that time for proper establishment.

Erosion Issues - I received a phone call from a concerned citizen from around Lake Whatcom in late fall of 2011. This person was concerned about the possible erosion on the edges of the beach. In my observation while I was at the park in fall of 2010, I saw annual bluegrass/colonial bentgrass that was creeping out onto the sandy beach. It did not appear that you were maintaining that, which is as it should be. This is also true of the sea wall along the east edge of the park. Raising and lowering of the lake's water level has caused erosion underneath the sea wall and is causing it to collapse. This definitely needs to be fixed and it is my understanding that it is in future plans to be done when the budget permits it to happen. To my understanding, only the Dept. of Fisheries and Wildlife can do any planting or disturbing of plants that are actually in the water. Your city and the Dept. of Fisheries and Wildlife need to decide how you are going to manage the edge of the beach and its vegetation.

Waterfowl Issues – As with many bodies of water, Canada geese, ducks and coots can be part of a problem with water pollution (See Attachments 4,5, and 6). As far as Bloedel and the turfgrass areas, the grasses closest to the lake are becoming roosting areas, with feces and limited grass due to feeding by the waterfowl. Many of the golf courses throughout the U.S. also have had that problem and have in some cases hired dogs to chase the birds away. When your team allows off-leash dog areas near the water, the bird population is greatly diminished in that area. Along with that, many golf courses have begun using green lasers to startle the geese or ducks and make them fly from the area. I am including an advertisement for one such product for your review. I would suggest you discuss this with Wildlife

and Fisheries to see if they think this would help your situation at Bloedel. The golf course superintendents that I deal with are very positive about this method of getting the geese to move on. It does take time and continual disturbance to be effective, just as with the dogs.

Off leash Dogs – This can be a good thing for waterfowl reduction, but when the area gets really soggy and the grass becomes thin near the lake, the dogs must be removed to another area of the park as you are already doing to minimize soil compaction and erosion near the lake. I know this is not popular, but it must be done if the grass is thinning too much. Light levels in the middle of winter are less than 1/3 full sun light and the grass needs as much as it can get to keep growing to maintain strong roots to hold the soil in place.

I think I have touched upon all of the issues that are within your parks program. I have not discussed any practices that might be occurring outside of the parks maintenance department. I think you are doing a great job with the limited personnel and budget that you have to maintain this highly used area. If you have any more questions that I can try to answer, please do not hesitate to call me.

16.80.120 - Seasonal Restrictions On Land Disturbing Activities

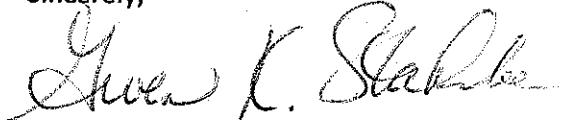
A. No land disturbing activity, including but not limited to clearing of vegetation, grading, filling, excavating or trenching of soil or earth materials shall be permitted from October 1st through May 31st, with the exception of restoration work described in BMC 16.80.080 E. and approved in writing by the Planning and Public Works Directors.

B. All bare soil and earth areas in excess of 500 sq. ft. shall be required to be covered during the above listed months with any of the following: 1) Well established grass, sod or a vegetated surface sufficient to prevent the erosion or transport of soil, sediment and silt laden water. No soil or earth may be visible. 2) A minimum of 3" cover of shredded wood chip/fiber, vegetative mulch, hay or straw. 3) Crushed rock or gravel, not less than $\frac{3}{4}$ " in aggregate size and 4" deep. 4) Or other approved coverage method approved in writing by the Planning and Public Works Directors.

C. The City may approve emergency exemptions to the seasonal restrictions as may be necessary to protect public health, safety, welfare, the environment and private or public property. Exemptions shall be construed narrowly and may be granted by the Planning and Public Works Directors.

[Ord. 2009-06-040; Ord. 2001-01-001]

Sincerely,



Gwen K. Stahnke
Extension Turfgrass Specialist
Attachments

gks/GKS



LANDSCAPE SUPPLY INC

21-0-8 50% CRN

Guaranteed Analysis

Total Nitrogen (N).....	21.00%
10.49% Ammoniacal Nitrogen	
10.51% Urea Nitrogen*	
Soluble Potash (K2O).....	8.00%
Calcium (Ca).....	3.89%
Sulfur (S).....	13.26%

Derived from: Calcium Carbonate, Ammonium Sulfate, Muriate of Potash, and Polymer Coated-Sulfur Coated Urea.

*10.50% Coated Slow Release Nitrogen from Polymer Coated-Sulfur Coated Urea

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.htm>

APPLY: 5 lbs./1,000 sqft., no more than 6 times a year.

CAUTION: KEEP OUT OF REACH OF CHILDREN HARMFUL IF SWALLOWED DO NOT INHALE

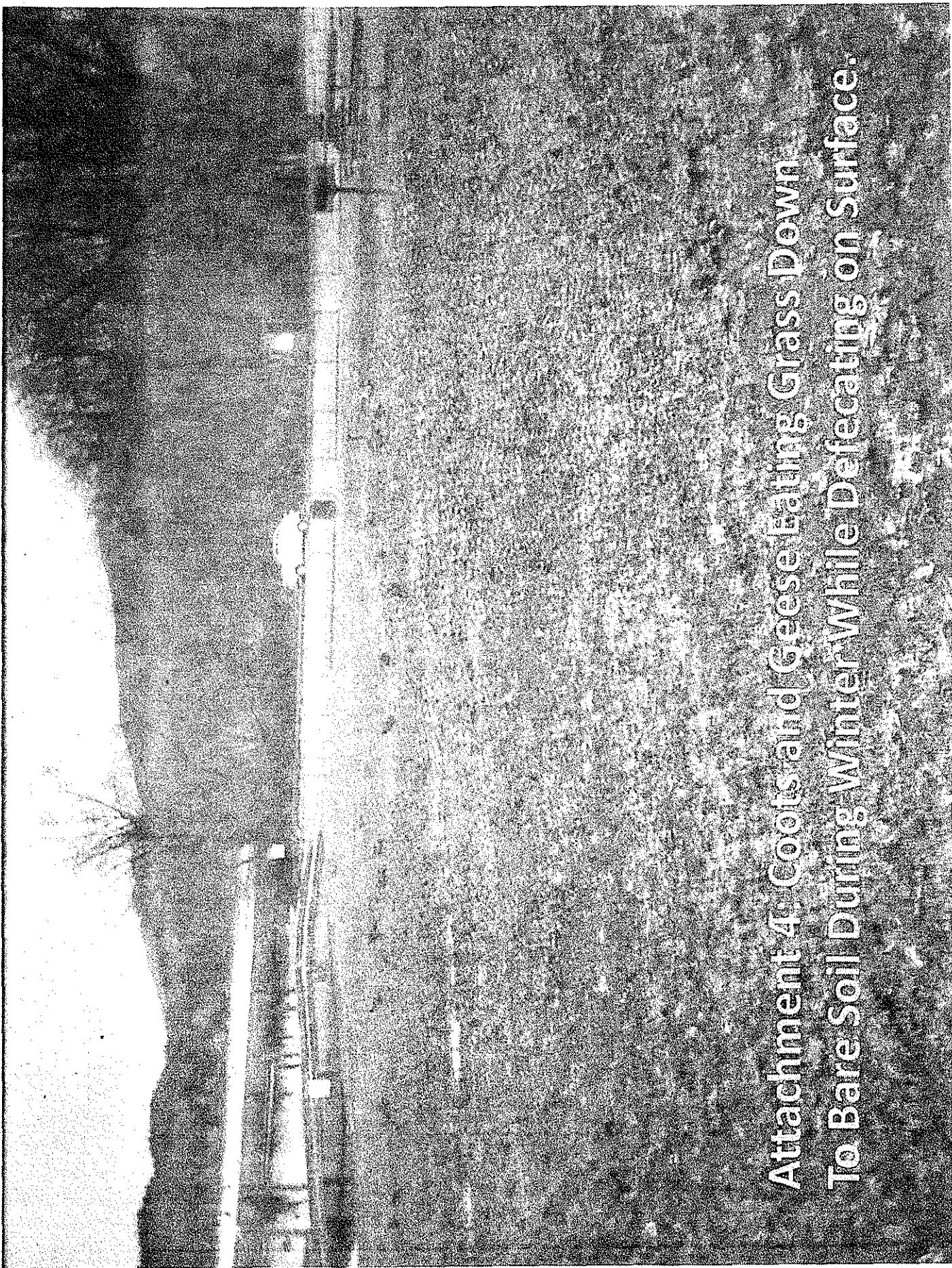
NET WEIGHT: 50 lbs. (22.67 Kg.) Blend # 13154

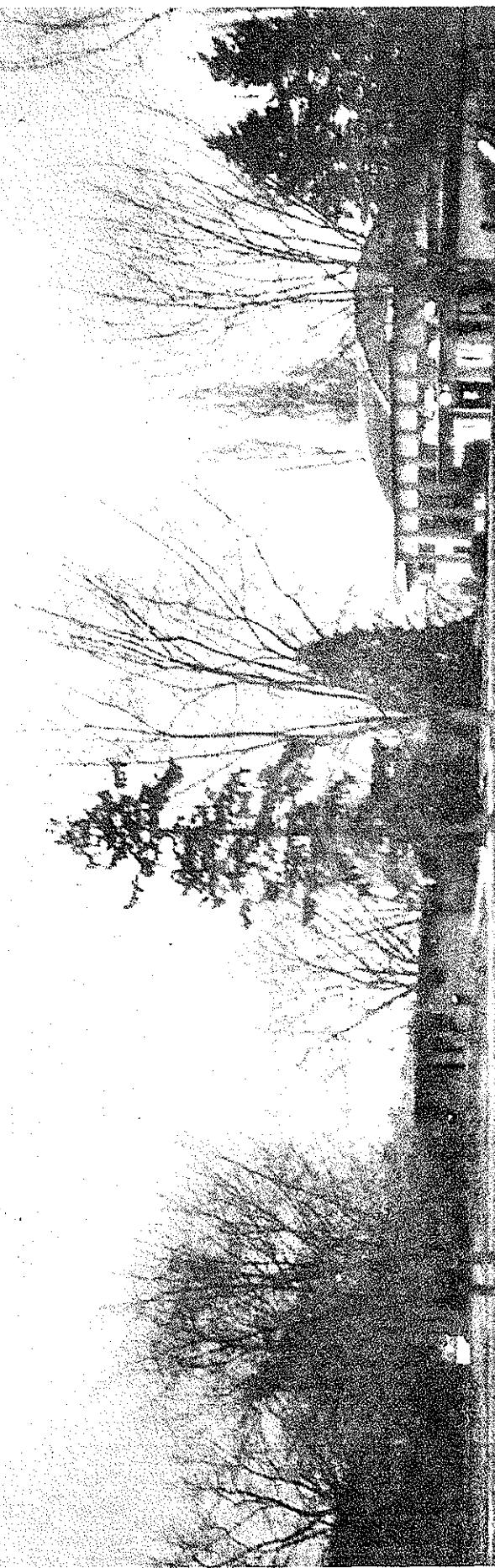
Attachment 2: Pesticide Usage at Bloedel Donovan Park from 2003 to 2011

DATE	APPLICATOR	LOCATION	TARGET	PREDUC	TOTAL
2/25/2003	WITT	BLOEDEL DONOVAN	BERMS, PKG LOT PLANTERS	ROUND UP PRO	
4/28/2003	WITT	BLOEDEL DONOVAN	BERM ALONG ELECTRIC	ROUNDUP PRO	3
8/7/2003	KELLN	BLOEDEL DONAVAN	BERM ALONG ROAD	ROUNDUP PRO	4
8/21/2003	KELLN	BLOEDEL DONOVAN	BLOEDEL BERM	ROUNDUP PRO	4
10/1/2003	CARROLL	BLOEDEL DONAVON PARK	BEDS AND ASPHALT	ROUNDUP PRO	30
3/22/2004	CARROLL	BLOEDEL DONOVAN PARK	TREE CIRCLES	ROUNDUP PRO	18
5/12/2004	STEAR	BLOEDEL DONOVAN PARK	PARKING LOT SOUTHSIDE	ROUNDUP PRO	3
5/18/2004	CARROLL	BLOEDEL DONOVAN PARK	SHRUB BEDS	ROUNDUP PRO	4
7/11/2004	CARROLL	BLOEDEL DONOVAN	WEEDS	ROUNDUP PRO	12
7/13/2004	CARROLL	BLOEDEL DONOVAN BERM	HORSETAIL	LILY MILLER	6
9/26/2004	CARROLL	BLOEDEL DONOVAN PARK	WEEDS	ROUNDUP PRO	36
9/26/2004	CARROLL	BLOEDEL DONOVAN PARK	HORSETAIL RUSH	LILY MILLER	8
5/29/2005	CARROLL	BLOEDEL DONAVAN PARK	WEEDS	ROUNDUP PRO	18
7/26/2005	CARROLL	BLOEDEL DONOVAN PARK	WEEDS	ROUNDUP PRO	24
9/14/2005	LUCE	BLOEDEL DONAVAN PARK	STUMPS	GARLON 4A	2
7/3/2006	CARROLL W	BLOEDEL DONAVAN	TR CIRC/F&SH BEDS/TRLS	ROUND-UP PRO	30
7/26/2007	CARROLL	BLOEDEL DONOVAN PARK	WEEDS	ROUND-UP PRO	30
6/29/2008	CARROLL	BLOEDEL DONOVAN (ELECTRIC)	TR CRG/RDWY/SH & FL BDS	ROUND-UP PRO	18
7/31/2008	COOL	BLOEDEL DONOVAN BOAT LAU	SOUTH EDGE & ALONG FENCE	AQUAMASTER	20.46
4/10/2009	THOMAS	BLOEDEL DONOVAN	EAST BIG FIELD/STUMPS	GARLON 4	0.25
8/5/2009	MUNIZ	BLOEDEL BOAT RAMP	KNOTWEED	AQUA MASTER	1.69
5/6/2010	CARROLL	BLOEDEL DONOVAN	RD TO PAV/TR CIR/SW CRKS	ROUND-UP PRO	6
8/9/2010	MUNIZ	BLOEDEL DONOVAN	KNOTWEED	AQUAMASTER	1.67
7/20/2011	CLARKE	BLOEDEL DONOVAN PARK	KNOTWEED	AQUAMASTER	5.884



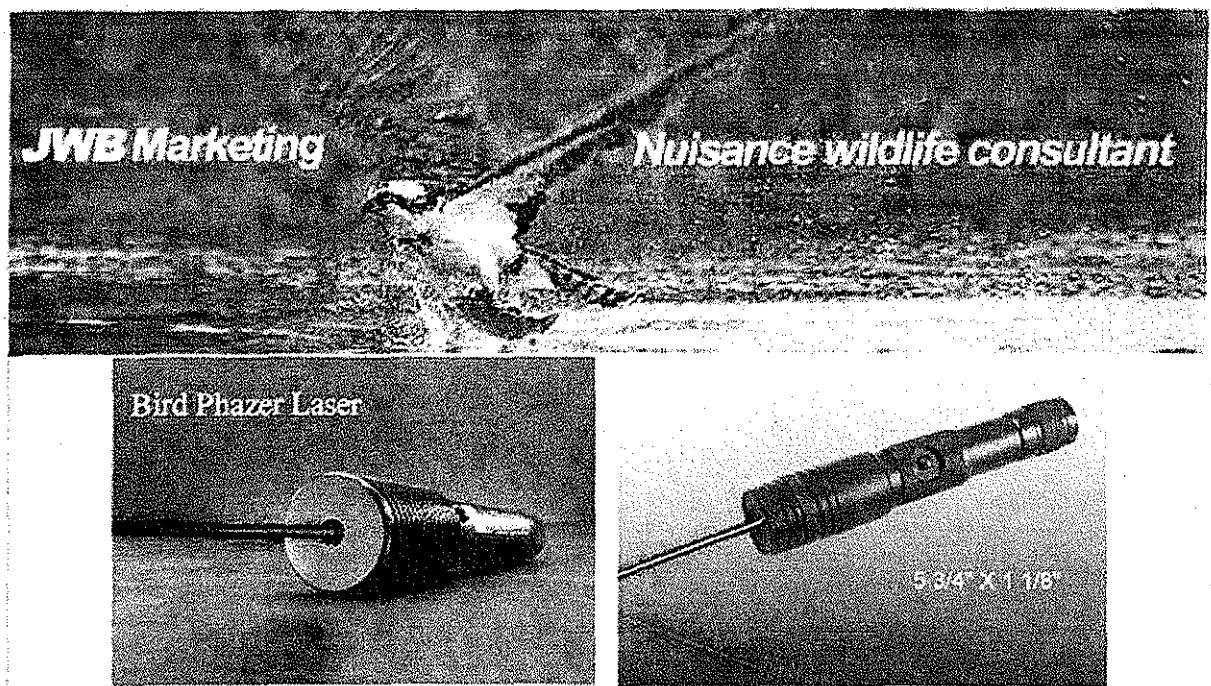
**Attachment 4: Coots and Geese Feeding Grass Down
To Bare Soil During Winter Defecating On Surfaces**





Attachment 5: Waterflow continuing to shear down
Grasses at Bloedel White Park is saturated.

Attachment 6: Green Lasers Used For Canada Geese Dispersement

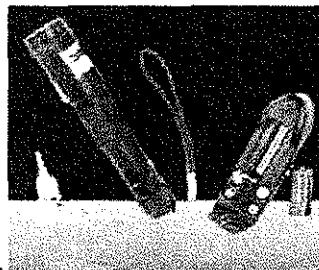


Bird Phazer Laser \$199

Disperse Canada geese and wild turkeys at dusk and night without the use of shotguns, or pyrotechnics.

"When the Bird Phazer Laser emits a powerful green light that hits bird feathers, it makes a bright splash of light. A flock of 100 geese immediately took flight from more than 200 yards away."

- The Bird Phazer Laser scares starlings and sparrows when laser light reflects off their feathers...not by making contact with their eyes.
- Heavy duty metal construction; separate key for safety lock.
- Range: Up to 45,000 ft in darkness
- Tests have shown that repeated use (3 to 6 nights, depending on species) will substantially reduce or eliminate roosts, requiring only occasional follow-up.
- This laser complies with 21 CFR1040.10 and 1040.11 of the FDA regulations.
- Power source: 1 X 3 volt CR123A rechargeable battery— best at 20 seconds on, 10 seconds off



- Size: 5.75 " x 1.12" diameter
- Includes laser, charger, safety keys, and 3 volt rechargeable lithium battery

- Class-IIIB OEM
- Spot Size: 4mm @ 3M
- Wavelength: 532nm, Super bright green
- Voltage: 3.0 - 3.3VDC @ 450 - 510 mA
- 30 days unconditional warranty. 6 months parts and labor
- [USDA evaluation of lasers for bird control .pdf](#)
- [Other products for nonharmful geese control go to geesedamage.com](#)

"We've been using the Bird Phazer for 5 years and just bought 2 more. We found it even works on misty days when the falcons can't fly for controlling gulls." Jim Tigan Owner, Tactical Avian Predators, Marysville, CA

E-mail us at: JimB@birddamage.com for questions. To order call: (800) 555-9634 or (803) 939-9622



Safety glasses are typically recommended for lasers over 500 mW. The Bird Phazer Laser is under 500mW.

*Laser Classification and Safety

The sale of this high powered laser is not for minors under 18 and is for professional use only. Never aim the laser at a person's eyes. Lasers can cause blindness. Never point a laser at a moving vehicles or airplanes. Shining a laser at an airplane is a felony. Never point a laser at reflective surfaces. Class IIIB (>100) are for professional bird management. The purchaser is fully responsible for the safe use of this laser and agrees to such when making a purchase. The seller assumes no responsibility for the misuse of this laser. Use of the laser is the full responsibility of the buyer from the point of sale. The seller holds no responsibility for any damage caused by the buyer with this product.