



**City of Bellevue
Development Services Department
Land Use Staff Report**

Proposal Name: Lewis Creek Park Phase II

Proposal Address: **5702 Lakemont Boulevard SE**

Proposal Description: Approval of a Critical Areas Land Use Permit to construct Phase II improvements associated with the Lewis Creek Park Master Plan. The project includes a new restroom building, two new picnic shelters, trail path, drive aisle, and parking area. The proposal will permanently impact approximately 50,450 square feet of wetland buffer. Proposed mitigation includes restoration of areas of stream buffer and degraded wetland buffer by removing invasive species and planting appropriate native plant species.

File Number: **10-112127 LO**

Applicant: **Ken Kroeger, Parks and Community Services Department**

Decisions Included: Critical Areas Land Use Permit
(Process II. LUC 20.30P)

Planner: Matthews Jackson, Planning Manager

State Environmental Policy Act Threshold Determination: **Determination of Non-Significance**

Carol V. Helland

Carol V. Helland, Environmental Coordinator
Development Services Department

Director's Decision: **Approval with Conditions**

Michael A. Brennan, Director
Development Services Department

By: *Carol V. Helland*

Carol V. Helland, Land Use Director

Application Date: May 6, 2010
Notice of Application Publication Date: June 17, 2010
Decision Publication Date: December 9, 2010
Project/SEPA Appeal Deadline: December 23, 2010

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the Decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

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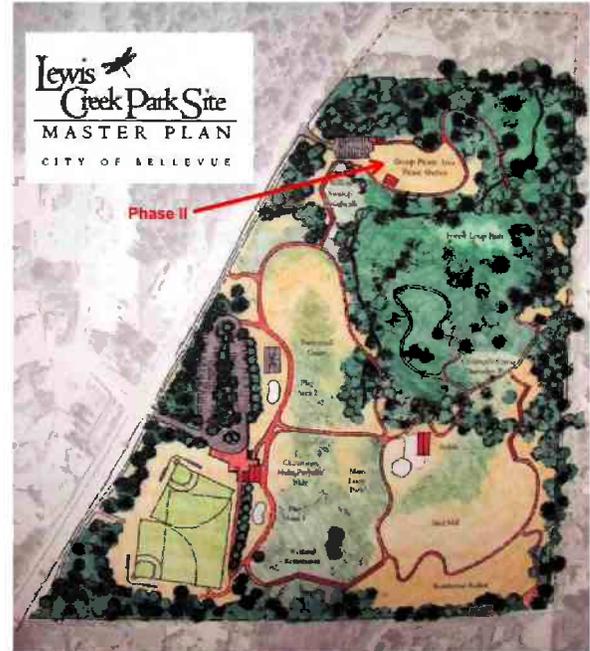
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I. Proposal Description

The City of Bellevue Parks and Community Services Department proposes to construct a new restroom building, two new picnic shelters, trail path, drive aisle, and parking area in Lewis Creek Park. The proposed improvements were included as Phase II of the Lewis Creek Park Master Plan that was adopted by the City Council in 2002. The Master Plan is intended to guide the long-term development of the park with a general depiction of the extent and location of proposed uses. Phase 1 construction was complete and open to the public in July 2005, and included two little league fields, a soccer field overlay, visitor center, parking lot, play areas, basketball court and trail system. In 2008, Bellevue voters approved the City of Bellevue Parks and Natural Areas Levy which was intended to enhance and maintain Bellevue Parks and the open space system. Two million dollars was allocated to Lewis Creek Park Phase II including the construction of the picnic area and improvements associated with this proposal.



Four wetlands have been delineated within 150 feet of the project limits. These have been identified as Category II and III waters. Portions of Lewis Creek and its tributaries within the project area are designated as Type N streams. The proposal will permanently impact approximately 50,450 square feet of wetland buffer. Proposed mitigation includes restoration of areas of stream buffer and degraded wetland buffer by removing invasive species and planting appropriate native plant species. Mitigation areas totaling approximately 17,000 square feet are located directly adjacent to the picnic area. An additional 83,900 square feet of mitigation is located nearby the picnic area within the park. Total proposed mitigation is approximately 100,900 square feet.

Alternatives Considered – LUC 20.25H.055.C.2.a

New or expanded facilities and systems are allowed within the critical area or critical area buffer only where no technically feasible alternative with less impact on the critical area or critical area buffer exists. A determination of technically feasible alternatives will consider:

- i. The location of existing infrastructure;
- ii. The function or objective of the proposed new or expanded facility or system;
- iii. Demonstration that no alternative location or configuration outside of the critical area or critical area buffer achieves the stated function or objective, including construction of new or expanded facilities or systems outside of the critical area;

- iv. Whether the cost of avoiding disturbance is substantially disproportionate as compared to the environmental impact of proposed disturbance; and
- v. The ability of both permanent and temporary disturbance to be mitigated.

Finding: In reviewing alternative sites for a group picnic area, the Parks and Community Services Department compared the attributes of alternative sites with the planned location. The following questions served as criteria for comparative analysis:

- Is the site large enough to achieve the desired capacity?
- Is the site convenient to parking, drop-off and restrooms?
- Is the site convenient to the active use areas?
- Can the site be developed in an environmentally responsible manner?
- Can the site provide a similar experience to the planned location?
- Would the site displace other recreational activities or facilities?
- Are there special circumstances that favor or detract from the site?

Eleven options were evaluated at eight different locations. The pros and cons of each are listed individually in **Attachment A**. Most alternatives failed multiple criteria. For example, only 5 of the eleven options could achieve a similar capacity as the planned location. Only 5 of the 8 locations were convenient to both restrooms and parking. Several suffered from a lack of useable open grass area nearby, which is a popular feature at picnics. All were more convenient to the active use areas of the park compared to the planned location.

The most promising location (basketball court site “B”) is convenient to restrooms, parking, drop-off, and most active use areas of the park. The site provides a beautiful setting for picnics with panoramic views of the park, is large enough to accommodate the desired capacity, and would not interrupt views from other areas of the park or visitor center. Three different options were studied at this location, one retains the existing basketball court (B1), one reduces it to a one-on-one court (B2), and one removes the court entirely (B3). While considered beneficial to locate a basketball court near a picnic shelter, locating the facilities immediately adjacent to each other is not recommended. Because of the limited size of site B, retaining the entire court would force the picnic shelter(s) to be immediately adjacent to the court, providing no open grass area adjacent to the picnickers, and causing noise and errant balls to frequently interrupt a picnic. Reducing the size of the court to a one-on-one facility creates much-needed buffer space between the two activities, but still leaves little room for an open grass area. The best option at site B (Option B3) would eliminate the basketball court entirely in favor of a picnic area. Though still less than half the size of the selected location (< ¼-acre vs ½-acre), it does provide a small amount of unstructured grass area for popular picnic activities such as volleyball, croquet, and lawn bowling, or can provide additional capacity for larger groups.

Based on the analysis of alternative sites within the park and technically feasible criteria, no site provides an equal or better option than that of the selected location. The most promising option, B3, does not provide the tranquil, wooded setting of the preferred

location, offers less than half the amount of open grass area nearby, and would eliminate the basketball court to be successful. The applicant has demonstrated that there is adequate opportunity to mitigate for anticipated impacts to critical area buffers and no impacts to critical areas will result from the picnic area. The scope of work under this proposal has been reduced to the minimum necessary to achieve its desired functions and objectives.

II. Site Description, Zoning, Land Use and Critical Areas

A. Site Description

The site is located at 5702 Lakemont Boulevard SE. Existing access to the park is provided from a single driveway near the visitors center. More than 80 percent of the 55 acre park is preserved in its natural condition. The park offers natural areas accessible by boardwalks and soft-surface trails. The site includes a visitor center, play area, basketball court, soccer/baseball fields, and restrooms.

The site is adjacent to the headwaters of Lewis Creek and associated wetlands. Lewis Creek is the largest stream on site and is typical of an urban stream. It has been channelized and relocated to accommodate surrounding neighborhoods and to support the previous pastureland use on site. In this location Lewis Creek is a Type N stream; it roughly follows Lakemont Blvd SE, and then eventually flows into Lake Sammamish.

The wetlands located in Lewis Creek Park are emergent, forested, or a combination of both. The four wetlands located in the project vicinity have been delineated and rated as Category II or III.

Vicinity Map



The proposed park creates a paved entrance to the picnic area by using the remnants of a gravel driveway which provided access to a home which was previously located onsite. Demolition of the residence and out buildings was completed in 2003. The combined footprint of the former buildings was approximately 3,200 square feet. The combined footprint of the structures under this proposal is approximately 1,500 square feet.

2001 Picnic Area



2009 Picnic Area



Site Photos – Existing Conditions



B. Zoning

The park is located in the R-1, R-5, and PO zoning districts. City parks without lighted sports fields are permitted uses in these zoning districts. All development on this site must conform to the dimensional requirements outlined in Land Use Code (LUC) Section 20.20.010 and Critical Areas Overlay District requirements outlined in LUC 20.25H.

C. Land Use Context

Lewis Creek Park is surrounded by a mixture of residential uses. The Lakemont Village Shopping Center is located approximately ¼ of a mile north of the park.

D. Critical Areas Functions and Values

i. Wetlands

Wetlands provide important functions and values for both the human and biological environment—these functions include flood control, water quality improvement, and nutrient production. These “functions and values” to both the environment and the citizens of Bellevue depend on their size and location within a basin, as well as their diversity and quality. While Bellevue’s wetlands provides various beneficial functions, not all wetlands perform all functions, nor do they perform all functions equally well. However, the combined effect of functional processes of wetlands within basins provides benefits to both natural and human environments. For example, wetlands provide significant stormwater control, even if they are degraded and comprise only a small percentage of area within a basin.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

Zoning in the portion of the site that contains the proposed picnic area is R-5. The proposal generally meets the R-5 zoning dimensional requirements found in LUC 20.20.010. The proposed structures will be evaluated for conformance with zoning requirements as part of the required building permit review. The proposed improvements must be found in conformance with zoning requirements regardless of the approval granted under this Critical Areas Land Use Permit.

B. Critical Areas Requirements LUC 20.25H:

The City of Bellevue Land Use Code Critical Areas Overlay District (LUC 20.25H) establishes performance standards and procedures that apply to development on any site which contains in whole or in part any portion designated as critical area, critical area buffer or structure setback from a critical area or buffer. The project is subject to the performance standards found in LUC 20.25H as specified in the table below

Critical Area	Wetlands
Performance Standards	20.25H.055.C.3.g 20.25H.100 20.25H.230

Modifications to the wetland critical area buffer that do not meet the criteria for buffer averaging in LUC 20.25H.095.C.2 may be considered through a critical areas report, LUC 20.25H.230.

C. LUC 20.25H.055.C.3.g - New and Expanded City and Public Parks Performance Standards:

1. Trail location and design shall result in the least impacts on the critical area or critical area buffer;

Finding: The trail design and building locations were selected to have no impacts to critical areas and minimized impacts to critical area buffers. The loop trail has been modified so that it no longer encroaches into the stream buffer.

2. Trails shall be designed to complement and enhance the environmental, educational, and social functions and values of the critical area with trail design and construction focused on managing and controlling public access and limiting uncontrolled access;

Finding: The proposed trail edges will be heavily planted with plants that will discourage people from cutting through wetlands and stream buffers. Environmentally, the critical area will be improved through implementation of a restoration plan that includes removal of invasive species and plantings of native species within and adjacent to the critical areas and buffers. The functional lift analysis provided in Section 5.0 of the Critical Areas Report prepared by SvR Design Company dated October 6, 2010 (Attachment C), indicates that overall, ecological function within the critical area will improve as a result of the proposed project due to increased stormwater infiltration and enhanced wildlife habitat.

Educational and social values of the critical area will also be improved as a result of the proposed project. The public would be provided with additional passive access opportunities, all while protecting the critical area and creating further awareness of the ecological sensitivity and uniqueness of the area.

3. Trails shall be designed to avoid disturbance of significant trees and to limit disturbance of native understory vegetation;

Finding: The proposed trail has been modified so that it no longer loops within the stream buffer and it meanders to maintain healthy significant trees at the trail edge. All existing significant trees within the project vicinity will be protected during construction. Areas of native vegetation that are impacted during construction activities will be restored with native plantings after trail and picnic area installation.

4. Trails shall be designed to avoid disturbance of habitat used for salmonid rearing or spawning or by any species of local importance;

Finding: No salmonids or species of local importance are known to occur within the project area. Species of local importance that are known to exist in the Bellevue area include pileated woodpecker, long-legged myotis, and long-eared myotis. In order to limit impacts to any species of local importance that may visit the site, the applicant has limited tree removal and will be replacing any removed trees at a much higher density. Two habitat snags will be provided and two bat houses are proposed within the park area.

5. The trail shall be the minimum width necessary to accommodate the intended function or objective;

Finding: The proposed trail and has been designed at a width of approximately five feet. The proposed width is intended to provide adequate and safe capacity for expected demand and is consistent with the width of connecting trails to the north and south of the project site.

6. All work shall be consistent with the City of Bellevue's "Environmental Best Management Practices" and all applicable City of Bellevue codes and standards, now or as hereafter amended;

Finding: All site disturbance and construction shall be consistent with the City of Bellevue Clearing and Grading Code (Chapter 23.76), permit conditions, and all other applicable codes, ordinances, and standards, including "Environmental Best Management Practices."

7. The facility shall not significantly change or diminish overall aquatic area flow peaks, duration or volume or flood storage capacity, or hydroperiod;

Finding: All portions of the trail and picnic areas will be located outside the limits of the wetlands and stream channels. Overall, there will be no change in flow peaks or storage capacity within the stream channels or wetlands. The stormwater facilities are intended to infiltrate stormwater to match predevelopment infiltration rates. Two rain gardens will be constructed within the drive loop to facilitate onsite infiltration and overflow stormwater will enter dispersion areas prior to discharge to the wetlands.

8. Where feasible and consistent with any accessibility requirements, any trail shall be constructed of pervious materials;

Finding: The proposed trail, drive aisle, and parking areas are to be constructed of pervious concrete pavement.

9. Crossings over and penetrations into wetlands and streams shall be generally perpendicular to the critical area, and shall be accomplished by bridging or other technique designed to minimize critical area disturbance considering the entire trail segment and function; and

Finding: No portions of the proposal cross wetlands or streams.

10. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.

Finding: The project proposes to remove native and invasive species and construct a pedestrian trail and picnic area. Approximately 50,450 square feet of wetland buffer will be permanently impacted by this proposal. Wetland buffers must be mitigated at a ratio of 1:1 to meet critical areas standards. The applicant is proposing a combination of restoration and mitigation planting totaling 100,400 square feet. These actions are included in a mitigation and restoration plan in accordance with LUC 20.25H.210 that

also requires monitoring and contingency plans. See Section X for related conditions of approval.

C. LUC 20.25H.100 - Wetland Critical Area Performance Standards:

Development on sites with a wetland or wetland critical area buffer shall incorporate the following performance standards in design of the development, as applicable:

i. Lights shall be directed away from the wetland.

Lights will be focused on the parking lot and away from the wetlands with the use of shields.

ii. Activity that generates noise such as parking lots, generators, and residential uses, shall be located away from the wetland, or any noise shall be minimized through use of design and insulation techniques.

Noise from the parking lot and picnic shelter will be minimized through vegetation.

iii. Toxic runoff from new impervious area shall be routed away from the wetlands.

Toxic stormwater runoff will be treated before it enters the wetland or other waters in the park. Stormwater from the new impervious surfaces, primarily the parking area and drive aisle, will be directed towards the rain gardens.

iv. Treated water may be allowed to enter the wetland critical area buffer.

Stormwater is proposed to be pre-treated through rain gardens and full dispersion will occur in the wetland buffer.

v. The outer edge of the wetland critical area buffer shall be planted with dense vegetation to limit pet or human use.

The limits of the project will be planted with dense vegetation to limit access to the most critical resources in the vicinity.

vi. Use of pesticides, insecticides and fertilizers within 150 feet of the edge of the stream buffer shall be in accordance with the City of Bellevue's "Environmental Best Management Practices," now or as hereafter amended.

The applicant will provide documentation regarding the use of pesticides, insecticides and fertilizers in the maintenance of the proposed restoration. See conditions of approval in Section X.

D. Consistency with Critical Areas Report LUC 20.25.230:

The applicant supplied a complete Critical Areas Report prepared by SvR Design Company, a qualified professional. The report meets the minimum requirements in LUC 20.25H.250 and includes a description of all affected critical areas and critical area buffers, a habitat assessment, and functional analysis. The applicant also submitted a copy of a City of Bellevue Draft Functional Assessment Tool for Upland Habitat which assists in rating habitat function using specific factors.

E. Consistency with Critical Areas Report – Additional provisions LUC 20.25H.110:

In addition to the general requirements of LUC 20.25H.230, a critical areas report for wetlands shall include a written assessment and accompanying maps of the wetlands and buffers within 300 feet of the project area, including the following information at a minimum:

- i. A discussion of measures, including avoidance, minimization, and mitigation, proposed to preserve existing wetlands and restore any wetlands that were degraded prior to the current proposed land use activity.**

A wetland delineation report titled Lewis Creek Picnic Area, dated January 6, 2010, and prepared by SvR Design Company, delineates and rates wetlands within the project area. The applicant submitted maps showing other wetlands within 300 feet of the subject property, including those identified by Parametrix, Inc. in 2002 in support of construction of Phase I improvements.

The applicant's critical areas report focused on the wetland ratings and the function of the existing wetlands on the property and the required mitigation plan proposes restoration of degraded wetland and wetland buffer.

- ii. A habitat and native vegetation conservation strategy that addresses methods to protect and enhance on-site habitat and wetland functions.**

The applicant's restoration plan addresses native habitat and vegetation restoration strategies. The long term vision to keep the majority of the park as natural open space provides a long term strategy for conserving vegetation on the site.

- iii. Functional evaluation for the wetland and adjacent buffer using a local or state agency staff-recognized method and including the reference of the method and all data sheets.**

The applicant's qualified professional utilized the Revised Wetland Rating System for Western Washington to satisfactorily characterize the wetland as a Category III wetland. The data sheets were included as an appendix to the wetland delineation report prepared by SvR Design Company.

IV. Public Notice and Comment

Application Date:	May 6, 2010
Public Notice:	June 17, 2010
Minimum Comment Period:	July 1, 2010

The Notice of Application for this project was published in the City of Bellevue weekly permit bulletin on June 17, 2010. It was mailed to property owners within 500 feet of the project site. Staff received two email comments that stated concerns regarding the need for two picnic structures and restroom, a separate parking area, and the need to spend tax dollars during this budget climate. In addition, another citizen circulated a petition regarding the proposal. On August 18th, 2010, a petition objecting to the

location of the project with forty signatories was submitted to the City. Sixteen signatories reside in the neighborhood immediately west of the park, thirteen reside in other parts of Bellevue, and eleven live in other nearby communities. The Parks Department has offered the following responses to the concerns expressed in the emails and petition. Additional Land Use responses are incorporated. A copy of the petition is included as **Attachment B** to this staff report.

Community Interests: The picnic area was originally identified during an extensive public master planning process. Its purpose was to provide facilities that would accommodate informal family and small neighborhood picnics as well as larger, reserved group picnics for the community. The site was selected to take advantage of the wooded, tranquil nature of the experience, which differs from the majority of the active park area. This component of the master plan was widely supported. The assertion that the master plan no longer represents the needs of the community is speculative. The park's continuing popularity, including passage of the 2008 levy, suggests that the master plan did (and continues to) represent the interests of the community.

Environmental Impact: The picnic location recognizes the challenge of locating such a facility in the active portion of the park. Significant earth moving was necessary to achieve the program elements that now exist at the park while respecting the environmental constraints of the site, including the stream, wetlands and mature woods. The 1.2-acre picnic area site is located on the site of a former residence, and would utilize the same entry and residential clearing in order to minimize environmental impacts. The combined footprint of the three proposed structures is modest (1,500 sq ft), less than half of the combined footprint of the former buildings (3,200 sq ft). The required creek setbacks are maintained. The original (2003) plans encroached on no wetlands and only ¼-acre of wetland buffer. The 2006 Critical Areas Ordinance increased the applicable wetland buffers from 50 feet to 110 feet causing more of the project to encroach into designated wetland buffers, thus requiring more mitigation. Parks has proposed enhancements to nearby wetlands to mitigate for this encroachment.

The condition of the referenced big leaf maple has deteriorated significantly in the recent past. A large number of major branches are dead, and even if the tree were not removed to accommodate construction, staff arborists state that it would need to be removed in the near future because falling branches represents a safety hazard to park users. An independent arborist report was submitted by Tree Solutions Incorporated Consulting Arborists (**Attachment D**) with an evaluation of the big leaf maple. The report dated September 17, 2010, summarizes that the tree has been impacted in the past and has extensive internal decay. One large limb is declining and forty percent of the base of the tree is dead due to wood decay fungi. The form of the tree and the decay means that large parts might fail, presenting risk. Although the tree has useful life left in it, the amount of defect present makes it a poor candidate for

retention, considering the planned improvements.

Safety and Security: The Parks Department reviewed the safety and security concerns expressed by the neighbors, who stated that both the Fire and Police Departments agreed that this was not an appropriate location for picnicking. The Fire Department has reviewed and approved the building permit plans submitted in support of this proposal. Parks met subsequently with the plan reviewer and Fire Marshall's office and determined that some modest reductions could be made to the paving requirements of the access road and turnaround, and they are working with them to consider changes. The neighbors also feared that the proposal represents a fire hazard because of the placement of barbeque grills directly under trees. The Fire Department does not share this concern, as there are no trees or tree branches, existing or proposed, over either of the two proposed grills.

Parks met with Detective Chinn from the Police Department, who is familiar with the principles of CPTED (Crime Prevention Through Environmental Design). Detective Chinn expressed concern about the hidden nature of the facilities, especially the restroom, suggesting that places removed from easy visibility provide opportunities for illicit behavior (he expressed similar concerns with much of our trail and open space system because so much of it is in hard-to-see places). He suggested moving the restroom nearer the road to provide easier visibility. Parks reviewed this option, but in addition to being less convenient for the picnickers, it would be located in a wetland. He also offered several design suggestions consistent with CPTED principles, which are now being reviewed with the design team.

Parks asked Detective Chinn if there have been any reported incidents of illegal behavior in or around Lewis Creek Park, especially since the park opened in 2005, or if this area of Bellevue is prone to this type of activity. There have been no reported problems and no evidence to suggest this area of town is especially vulnerable to this behavior. The picnic area will be patrolled by the Police Department, supplemented by Park Patrol in the busier summer months. If problems are reported, patrol will be increased.

Cost and Use Considerations: Picnic facilities closer to the active use areas may encourage more informal post-game or family use as suggested, and would provide for easier supervision of youngsters using these facilities. However, additional strategically-placed picnic tables (without shelters) would achieve much of this benefit. If a suitable location near the parking lot and visitor center were available, it would also eliminate the need to construct separate parking and restroom facilities, thus saving this cost. Peak use for picnic reservations occur from late June through Labor Day, after the majority of the little league baseball season that often fills the parking lot to capacity.

Approximately \$175,000 in design and technical studies have been committed to date

for this project. If the project were canceled or changed significantly, approximately \$125,000 of the expended fees would not be recoverable, in addition to the added fees to redesign the project at a new location. The construction cost is estimated to be approximately \$1.8 million. The 2008 Parks and Opens Space System levy allocated \$2 million dollars towards Lewis Creek Park Phase II improvements.

V. Summary of Technical Reviews

Clearing and Grading

The Clearing and Grading Division of the Development Services Department has reviewed the proposed development for compliance with Clearing and Grading codes and standards. The Clearing and Grading staff found no issues with the proposed development.

Utilities

The Utilities Department's Development Review Division has reviewed the proposed development for compliance with Bellevue Utilities' codes and standards. The Utilities Development Review staff found no issues with the proposed development.

VI. State Environmental Policy Act (SEPA)

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The Environmental Checklist submitted with the application adequately discloses expected environmental impacts associated with the project. The City codes and requirements, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, Building Code and other construction codes are expected to mitigate potential environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

A. Earth and Water

According to Geotechnical Engineering Report prepared by HWA GEOSCIENCES INC. dated April 5, 2010, the project area is underlain by dense to very dense Vashon till at depths of 5 to 6 feet. Soils are generally dense at the surface where a previous gravel driveway provided access to a home. Beneath both the topsoil and surficial top soils, weathered drift was present consisting of medium dense grading to dense, fine sandy, non-plastic silt with variable gravel content. This layer is approximately 2 to 4 feet thick. Approximately 2,200 square feet of impervious will result from building construction. Additional paved areas such as the drive aisle, parking area, and trails are proposed to be constructed out of pervious concrete pavement. Surfaces paved with pervious pavement or other innovative techniques designed to mimic the function of a pervious surface shall not be included in the calculation of impervious surface

areas, so long as the technique is designed by a professional engineer licensed by the State of Washington and the plans are approved by the Director. See related condition of approval in Section X.

Four wetlands and Lewis Creek and its tributaries are located in the project vicinity. Three of the wetlands have been rated as Category II and one has been rated as Category III. All streams in the vicinity have been rated as Type N. As a condition of approval of the subsequent clearing and grading permit, a Construction Stormwater Pollution Prevention Plan will need to be reviewed and approved by the City. The applicant will also be required to submit information regarding the use of pesticides, insecticides, and fertilizers to avoid impacts to water resources. There is a risk of some erosion from grading activities and the implementation of a temporary erosion and sedimentation control plan using best management practices will be required through clearing and grading permit approval. See Section X for related conditions of approval.

B. Animals

Numerous small animals and birds either use this site or are in close proximity. Other large animals such as deer, bear, and cougars have historically been present in the general vicinity. Construction of the picnic area and associated improvements should not result in a significant impact to the number or variety of species on site. Any fragmentation, loss of habitat, and accelerated edge and distance and human disturbance effects will be partially mitigated through the proposed revegetation plan.

C. Plants

Ninety-eight significant trees totaling 1,317 diameter inches have been identified within the project area. After construction, 81 trees totaling 1,004 diameter inches will remain. There is a mixed canopy of alder, cedar, big leaf maple, and douglas fir with alder being the dominant species due to prior site disturbance. Mitigation for temporary and permanent disturbance will be approved pursuant to an approved revegetation and enhancement plan. The applicant is proposing an extensive planting plan that includes approximately 76 western red cedars, 28 Sitka spruce, 20 Douglas firs, 16 big leaf maples, 13 Oregon ash and western hemlocks. Additional trees and an extensive shrub layer that includes willows, vine maples, and dogwoods is included. The monitoring and contingency plans included in the Critical Areas Report prepared by SvR Design Company must be implemented with construction permit approvals. See Section X for related conditions of approval.

D. Noise

The site is adjacent to single-family residences whose residents are most sensitive to disturbance from noise during evening, late night and weekend hours when they are likely to be at home. Construction noise will be limited by the City's Noise Ordinance (Chapter 9.18 BCC) which regulates construction hours and noise levels. See Section X for a related condition of approval.

VII. Changes to proposal as a result of City review

The following changes in project design were the result of City review.

1. In order to save two very large conifers located near the driveway entrance, the applicant has used gabion walls to stabilize the adjacent side slopes to reduce the amount of necessary grading.
2. The top of bank for Lewis Creek on the east side of the project area was revised based on the Land Use Code definition of top of bank.
3. The loop trail was reduced and modified so that it no longer encroaches into the Lewis Creek stream buffer.
4. The applicant submitted a detailed alternative site analysis to satisfy critical areas performance standards for new or expanded permanent park use structures.
5. The applicant increased the amount of mitigation area from 50,450 square feet to 100,900 square feet to satisfy applicable mitigation requirements for permanent impacts to wetland buffers.
6. The area of the proposed rain garden system has been removed from the total of area of mitigation.

VIII. Decision Criteria

A. Critical Areas Report Decision Criteria-Proposals to Reduce Regulated Critical Area Buffer LUC 20.25H.255.

The Director may approve, or approve with modifications, a proposal to reduce the regulated critical area buffer on a site where the applicant demonstrates:

Finding: The applicant has demonstrated through the functional lift analysis contained within the SvR Critical Areas Report that critical area and critical area buffer functions will improve with the proposal. This includes additional wildlife habitat and improved stormwater control. The Parks Department has the resources to implement the proposed mitigation and will provide for the long term maintenance of the property. This proposal furthers environmental education operations and is consistent with the long term vision of the park as expressed in the master plan.

1. **The proposal includes plans for restoration of degraded critical area or critical area buffer functions which demonstrate a net gain in the most**

important critical area or critical area buffer functions to the ecosystem in which they exist;

Finding: The wetland and buffers on site have been impacted by historic pasture use and other human activity. The proposal includes the removal of invasive plant species and restoration/enhancement with appropriate native varieties to improve critical area and buffer functions.

- 2. The proposal includes a net gain in stormwater quality function by the critical area buffer or by elements of the development proposal outside of the reduced regulated critical area buffer;**

Finding: The development is required to install compost as a top dressing on along the north edge of the driveway access, which will filter and improve the stormwater quality function of the critical area buffer.

- 3. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts;**

Finding: The Parks and Community Services Department has funding dedicated to maintenance of facilities and open spaces that are part of the City's Parks system. Funding will be available to maintain the improvements under this application in the future.

- 4. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site; and**

Finding: The proposed modification of the regulatory critical area buffer is not detrimental to the critical area and critical area buffer off-site because the buffers as all adjacent critical areas are contained within the 55 acre park.

- 5. The resulting development is compatible with other uses and development in the same land use district.**

Finding: The proposal is compatible with the surrounding residential uses as it is intended to serve as a neighborhood resource that provides additional passive and active recreation opportunities.

B. Critical Areas Land Use Permit Decision Criteria 20.30P

The Director may approve or approve with modifications an application for a critical areas land use permit if:

1. The proposal obtains all other permits required by the Land Use Code;

Finding: The proposal is required to apply for and obtain a clearing and grading and building permit. These permits must be reviewed and approved, contingent on compliance with all conditions of approval and applicable codes and standard, before any work may proceed on the site.

2. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer;

Finding: The applicant is developing the picnic area in a location that was previously disturbed due to the presence of a demolished home and outbuildings. The applicant has modified their plans to reduce impacts to critical areas and their buffers and they will deploy Low Impact Development techniques to further reduce impacts of stormwater.

3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable, and ;

Finding: As discussed in Section III, the proposal complies with the applicable performance standards of LUC 20.25H.

4. The proposal will be served by adequate public facilities including street, fire protection, and utilities; and;

Finding: The property is currently served by adequate public facilities. The proposal will not increase the need for public facilities.

5. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC Section 20.25H.210; and

Finding: The applicant's critical areas report includes a restoration plan that meets the requirements of LUC 20.25H.210. As discussed in Section VI, this plan includes significant new plantings and the removal of large quantities of invasive species.

6. The proposal complies with other applicable requirements of this code.

Finding: As discussed in Section IV & V of this report, the proposal complies with all other applicable requirements of the Land Use Code. All required federal and state permits and approvals must be received by the applicant prior to the commencement of any work. See related condition of approval in Section X.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the proposal for Lewis Creek Park Phase II modifications and enhancements to Category II and III wetland buffers.

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a Clearing and Grading Permit or other necessary development permits within one year of the effective date of the approval.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

<u>Applicable Ordinances</u>	<u>Contact Person</u>
Clearing and Grading Code- BCC 23.76	Savina Uzunow, 425-452-7860
Land Use Code- BCC 20.25H	Matthews Jackson, 425-452-2729
Noise Control- BCC 9.18	Matthews Jackson, 425-452-2729

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

- 1. Clearing and Grading Permit and Building Permit:** Before commencing any construction activity the applicant must apply for and obtain a Clearing and Grading Permit and Building Permit as required. All applicable conditions of approval must be incorporated into the appropriate plan set.

Authority: Land Use Code 20.30P

Reviewer: Matthews Jackson, Development Services Department

- 2. Restoration as Mitigation for Areas of New Permanent Disturbance:** To ensure the proposed restoration plan is successful, the mitigation, maintenance, and monitoring plan submitted as part of this application shall be submitted as part of the underlying clearing and grading permit required to implement the project. The plan shall document the total area of permanent disturbance and area of restoration and enhancement. The plan may include the use of salvaged trees, shrubs and ground covers from the picnic area, along with supplemental native plants supplied by a nursery. The plan shall not substantially deviate from the plan submitted as part of this application and approval and shall specify maintenance and monitoring for a period of not less than three years. Any modifications to the mitigation plans submitted under this application must be approved prior to issuance of the clearing and grading or building permit. Areas of planned mitigation must meet the minimum

requirements for replacement ratios as specified in the Land Use Code. Mitigation plans must include an updated contingency plan to identify what measures will be taken if monitoring indicates non-compliant results. The specified planting density of native plantings shall meet or exceed those standards specified in the City of Bellevue *Critical Areas Handbook*.

Authority: Land Use Code 20.25H.220

Reviewer: Matthews Jackson, Development Services Department

3. **Restoration for Areas of Temporary Disturbance:** A restoration plan for all areas of temporary disturbance associated with construction impacts from the boardwalk and pathway is required to be submitted for review and approval by the City of Bellevue prior to the issuance of construction permits. The plan shall include the documentation of existing site conditions and shall identify the restoration measures to return the site to its pre-existing conditions per LUC 20.25H.220.H.

Authority: Land Use Code 20.25H.220.H

Reviewer: Matthews Jackson, Development Services Department

4. **Mitigation Maintenance and Contingency Plan:** The applicant is required to implement the maintenance program contained in Section 8.0 and the Contingency Plan contained in Section 11.0 of the Critical Areas Report prepared by SvR Design Company, dated October 6, 2010. Maintenance of mitigation plantings shall, at a minimum, require three entries per year. During each entry, plant growth will be evaluated, soils amended as needed, and invasives will be suppressed.

Authority: Land Use Code 20.25H.220, 20.25H.180.C.5

Reviewer: Matthews Jackson, Development Services Department

5. **Submittal of Mitigation Maintenance and Monitoring Reports:** As part of the maintenance and monitoring, the applicant shall submit annual monitoring reports at the end of the growing season by no later than December 31 for each year monitored.

Authority: Land Use Code 20.25H.220, 20.25H.180.C.5

Reviewer: Matthews Jackson, Development Services Department

6. **Rainy Season restrictions:** Due to the proximity to wetland and stream critical areas, no clearing and grading activity may occur during the rainy season, which is defined as November 1 through April 30 without written authorization of the Development Services Department Clearing and Grading Division. Should approval be granted for work during the rainy season, increased erosion and sedimentation measures, representing the best available technology must be implemented prior to beginning or resuming site work.

Authority: Bellevue City Code 23.76.093.A,
Reviewer: Savina Uzunow, Development Services Department

7. **Pesticides, Insecticides, and Fertilizers:** The applicant must submit as part of the required Building Permit information regarding the use of pesticides, insecticides, and fertilizers in accordance with the City of Bellevue's "Environmental Best Management Practices".

Authority: Land Use Code 20.25H.220.H
Reviewer: Matthews Jackson, Development Services Department

8. **Noise Control:** Noise related to construction is exempt from the provisions of BCC 9.18 between the hours of 7 am to 6 pm Monday through Friday and 9 am to 6 pm on Saturdays, except for Federal holidays and as further defined by the Bellevue City Code. Noise emanating from construction is prohibited on Sundays or legal holidays unless expanded hours of operation are specifically authorized in advance. Requests for construction hour extension must be done in advance with submittal of a construction noise expanded exempt hours permit.

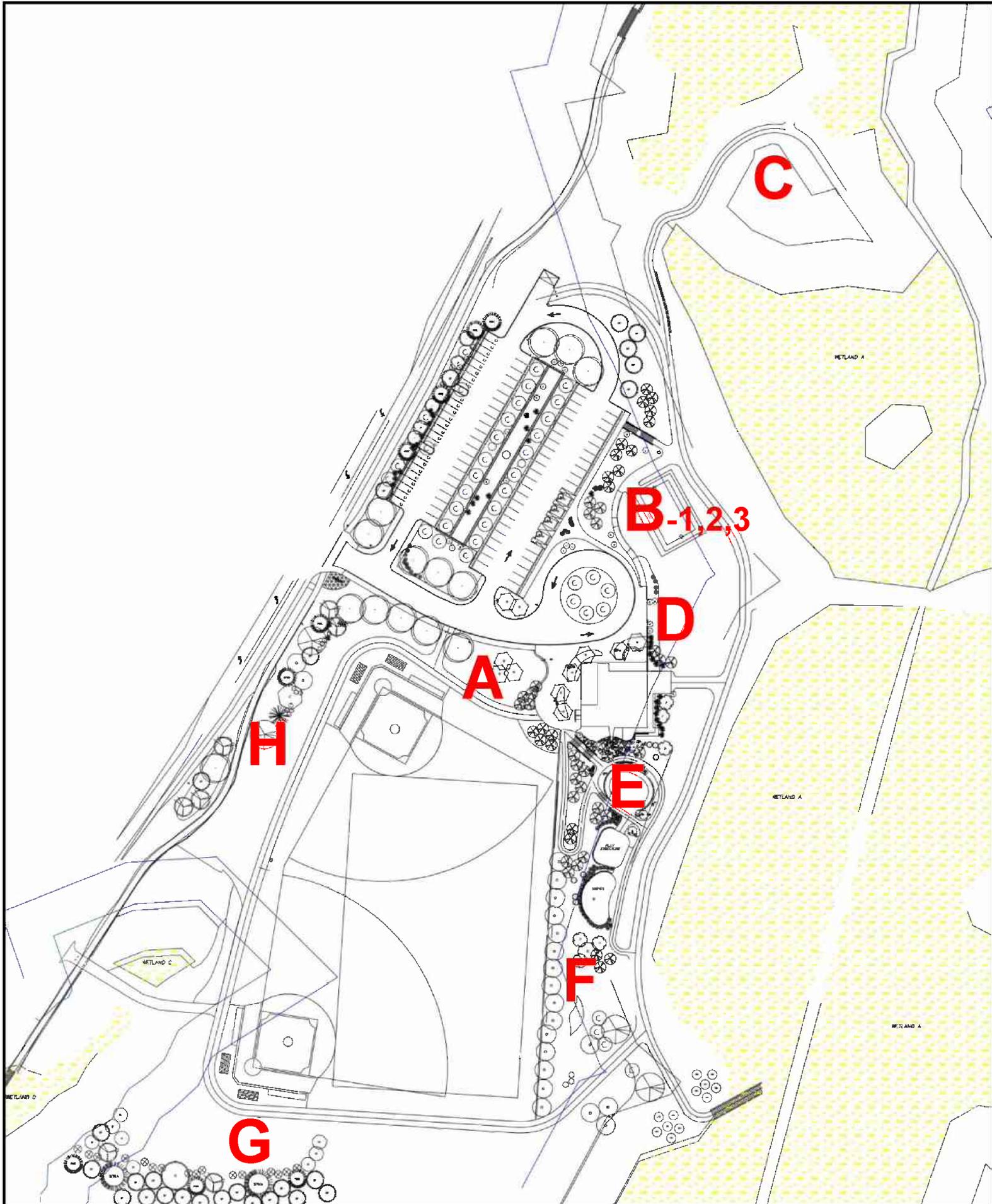
Authority: Bellevue City Code 9.18
Reviewer: Matthews Jackson, Development Services Department

9. **Applicable State and Federal Permits:** All required federal and state permits and approvals must be received by the applicant prior to the commencement of any work.

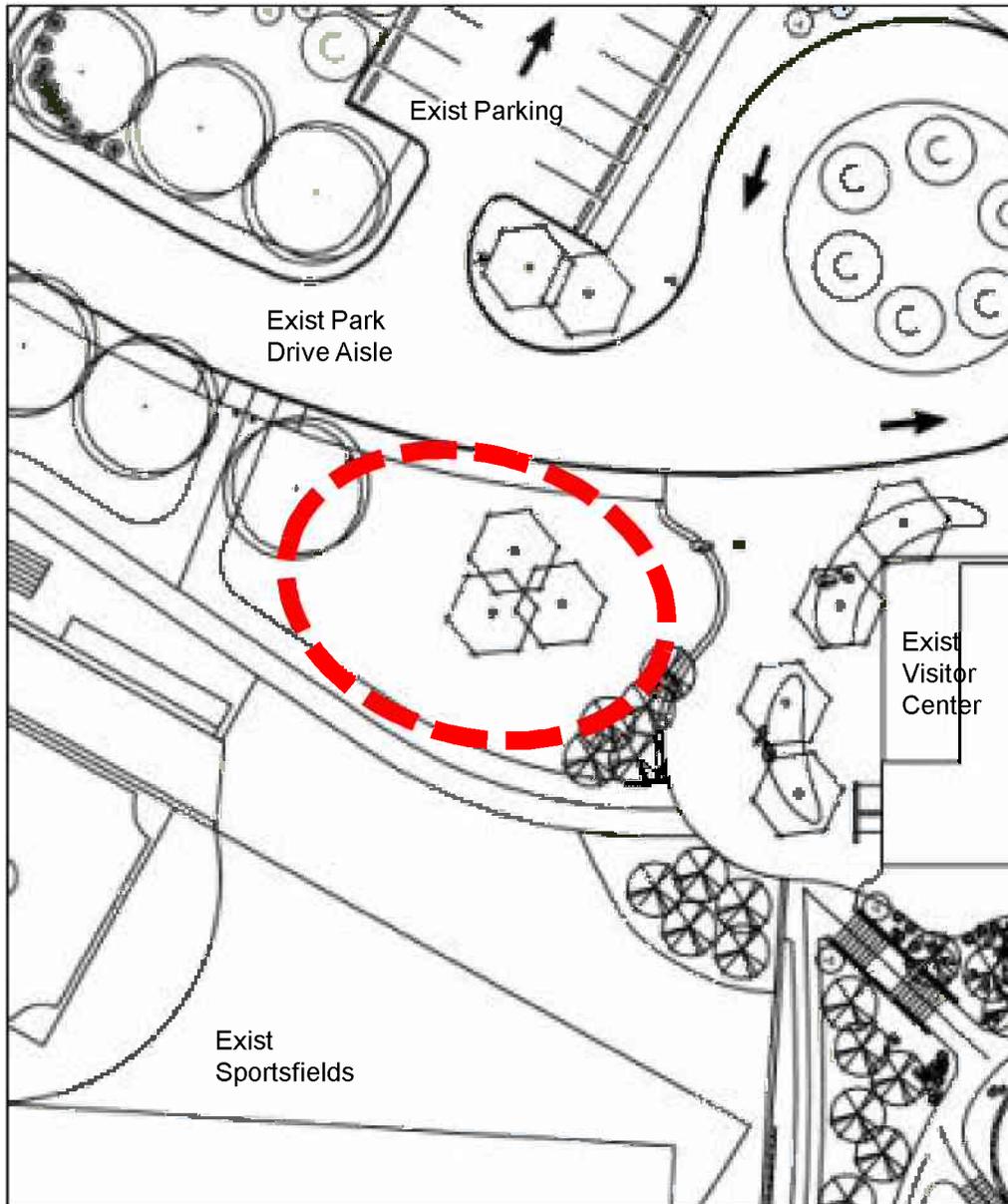
Authority: Land Use Code 20.25H.055.C.3.d
Reviewer: Matthews Jackson, Development Services Department

ATTACHMENT A

LEWIS CREEK PARK PICNIC AREA: RELOCATION OPTIONS:



Option A: Along Existing Entry Drive:



Pros:

- Close to restroom, parking, drop off and active use areas
- Does not remove any existing use/program
- No environmental issues

Cons:

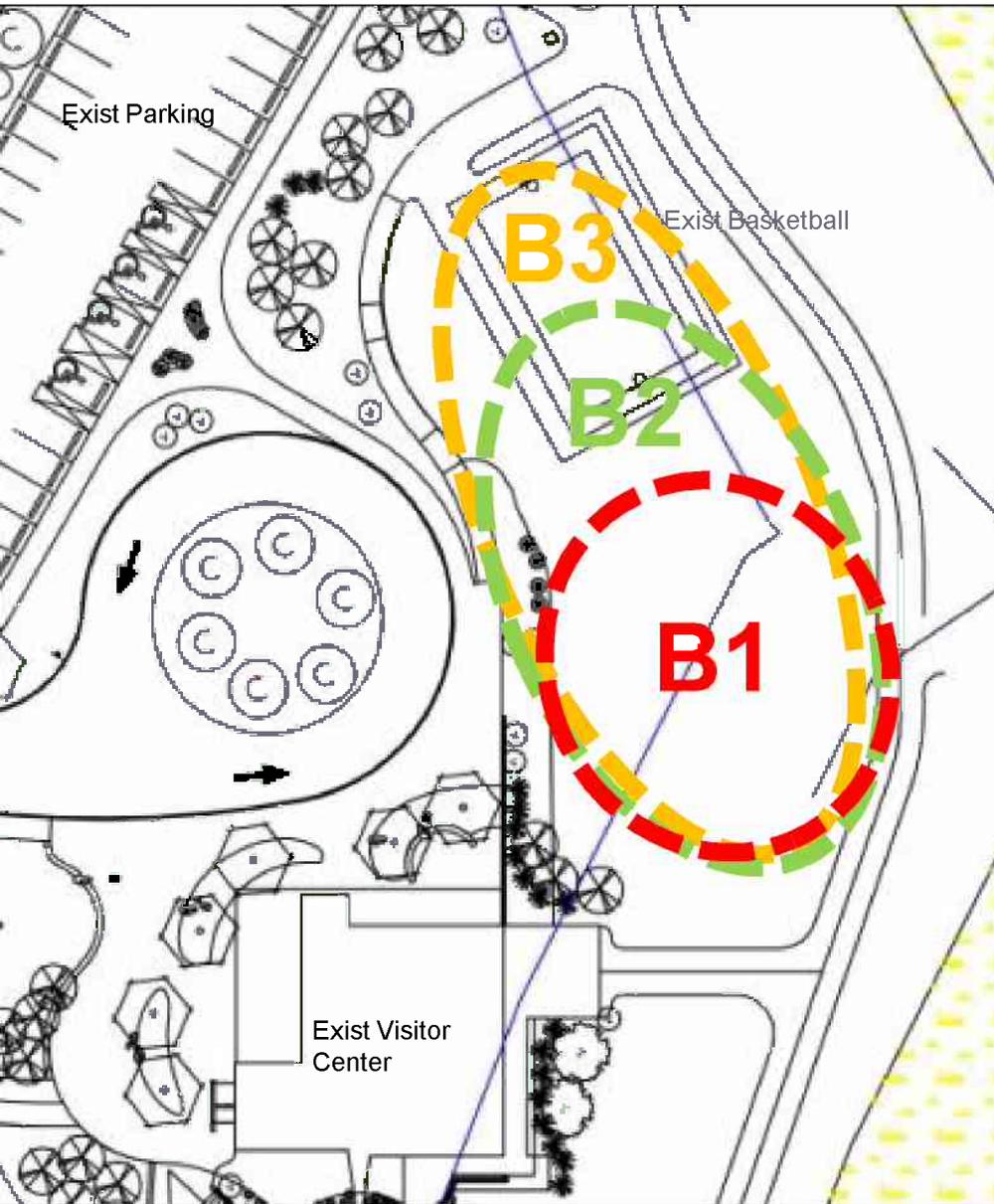
- Requires relocation of power transformer, irrigation valves, and other utilities
- Unappealing location near drive aisle, parking and main park entry
- Only provides capacity for one small shelter
- "Interrupts" the visual draw to the VC building
- No view of or to the playground
- Subject to foul balls

Option B – Location of existing basketball court:

B1 retains the entire court

B2 reduces it to a half-court

B3 eliminates the court



Pros:

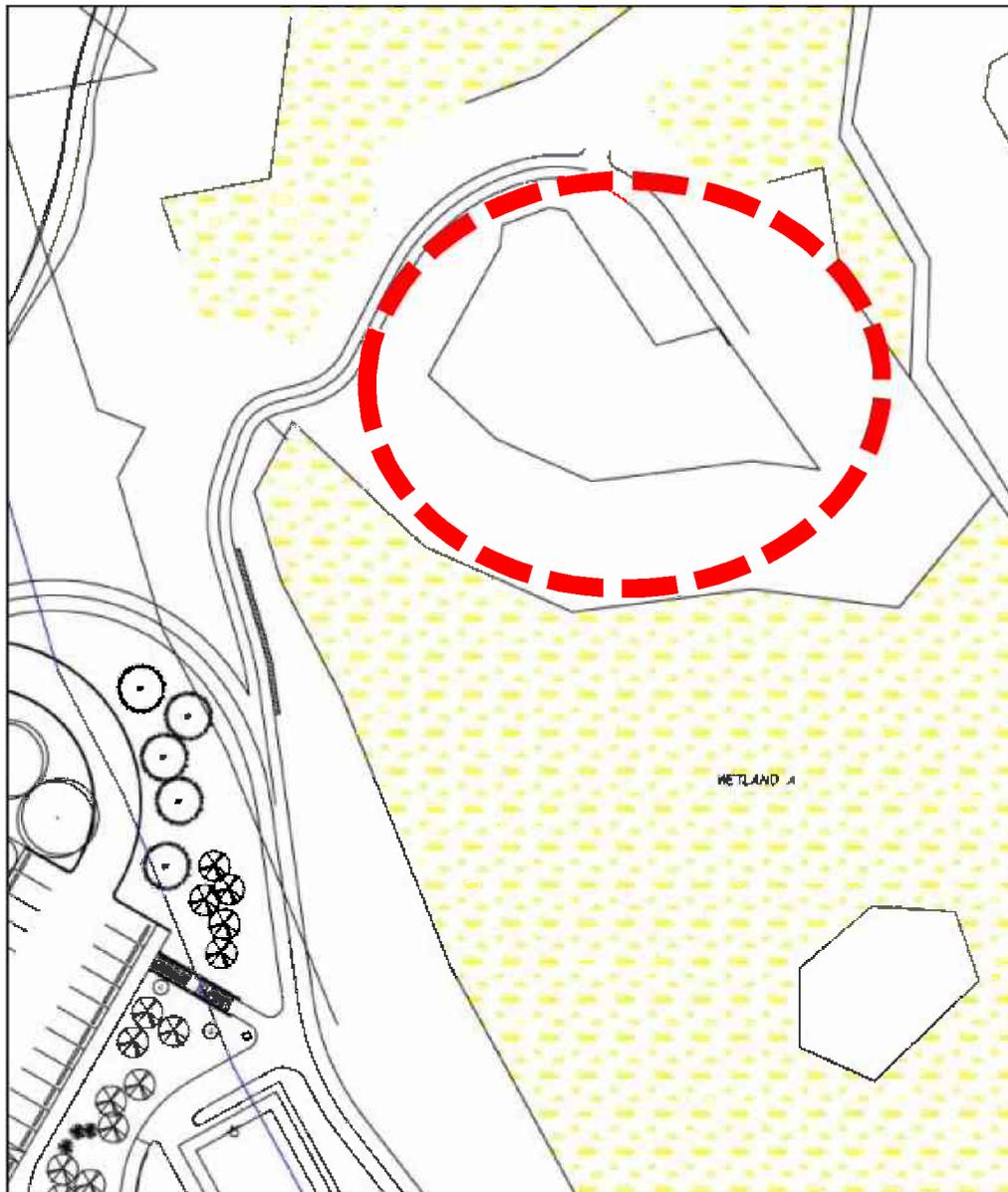
- Great panoramic views
- Convenient to playground, restroom, parking, and drop off
- Does not block views from the VC

- B1 does not eliminate any facilities
- B3 provides similar capacity and some useable area for games adjacent to picnic facility

Cons:

- B1 & B2 conflict with adjacent to basketball court (noise & distraction)
- B1 has no useable grass area nearby, B2 has limited useable area nearby
- B3 eliminates the basketball court; B2 reduces it to a half-court
- B1 only large enough for one small shelter
- B2 provides capacity for only one medium shelter

Option C: At Wetland "Pocket" northeast of parking lot



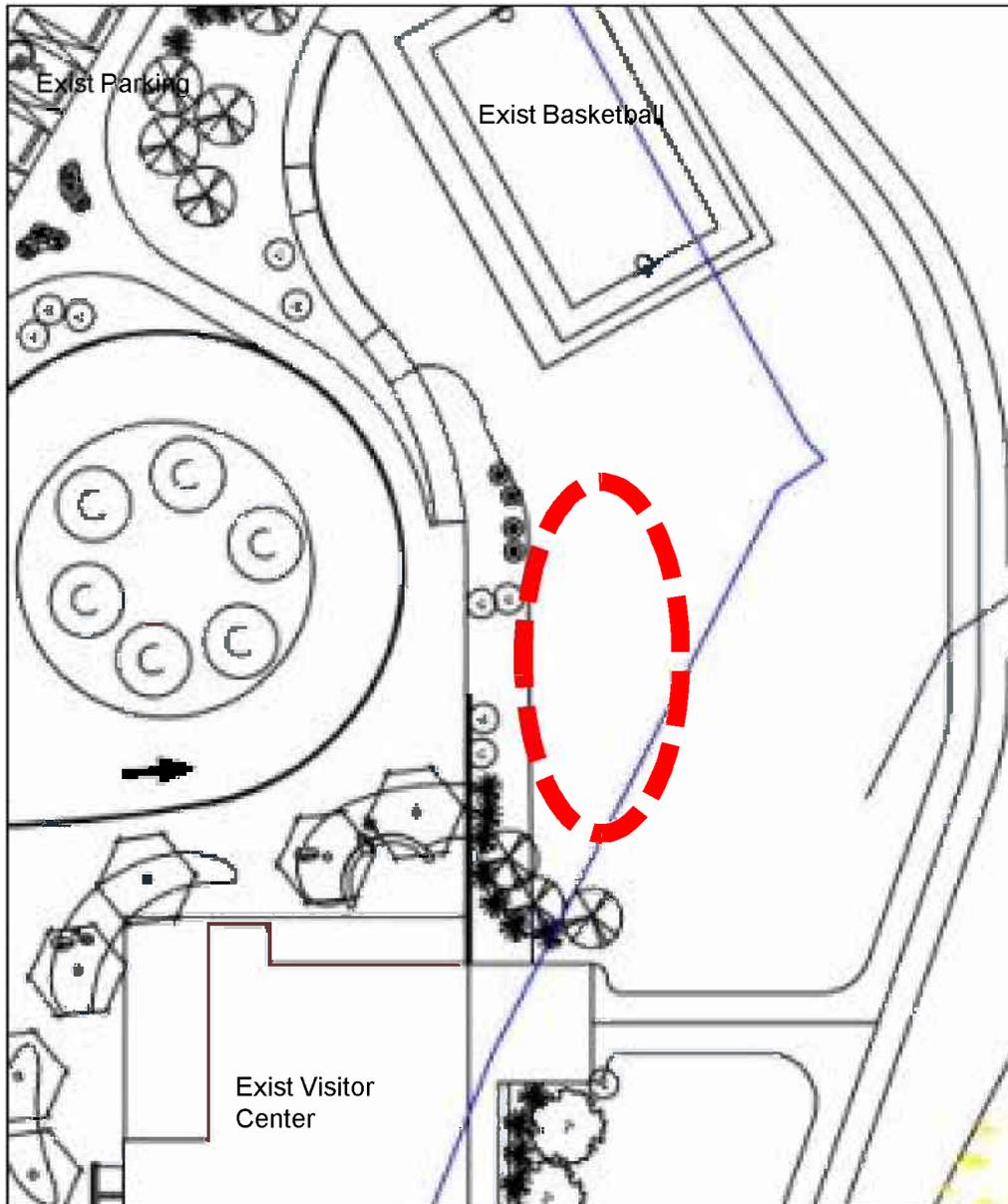
Pros:

- Good pastoral views of wetlands and woods
- Similar picnic shelter capacity
- Does not remove any existing programming
- Near basketball & parking lot

Cons:

- Inconvenient to restrooms, drop-off, playground & active use areas
- Potential construction challenges with wetlands and emergency access
- No nearby open grass area

Option D: Cantilever existing Visitor Center plaza over grass area



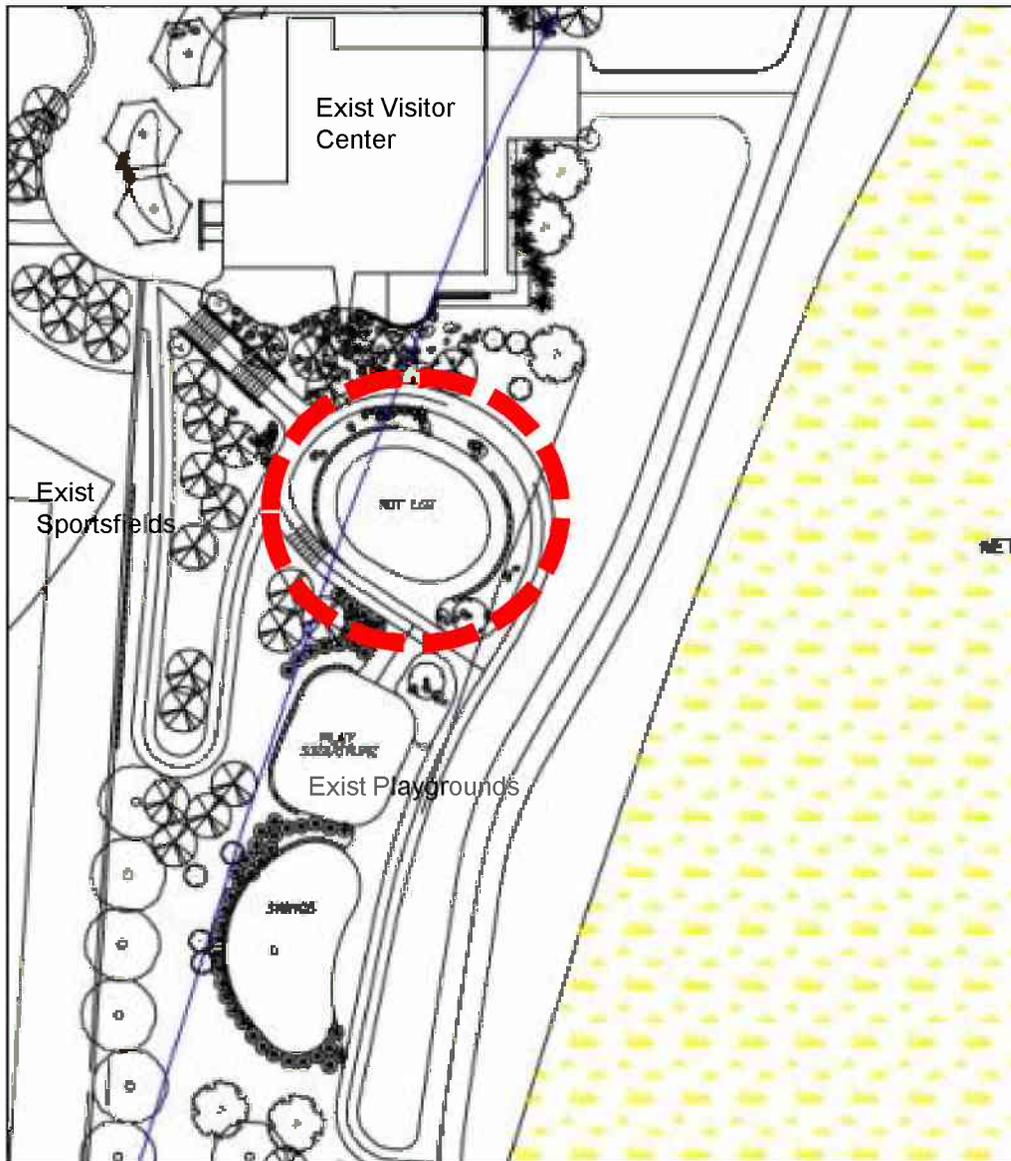
Pros:

- Close to restroom, parking, drop off and park amenities
- Does not remove any existing use/program
- Panoramic views of wetland

Cons:

- High construction cost
- Provides only half the picnic capacity
- Duplicates nearby picnic tables
- No adjacent grass area for picnic activities
- Interrupts views of park from the Visitor Center

Option E: Replace Existing Playground (Tot lot) with picnic shelter



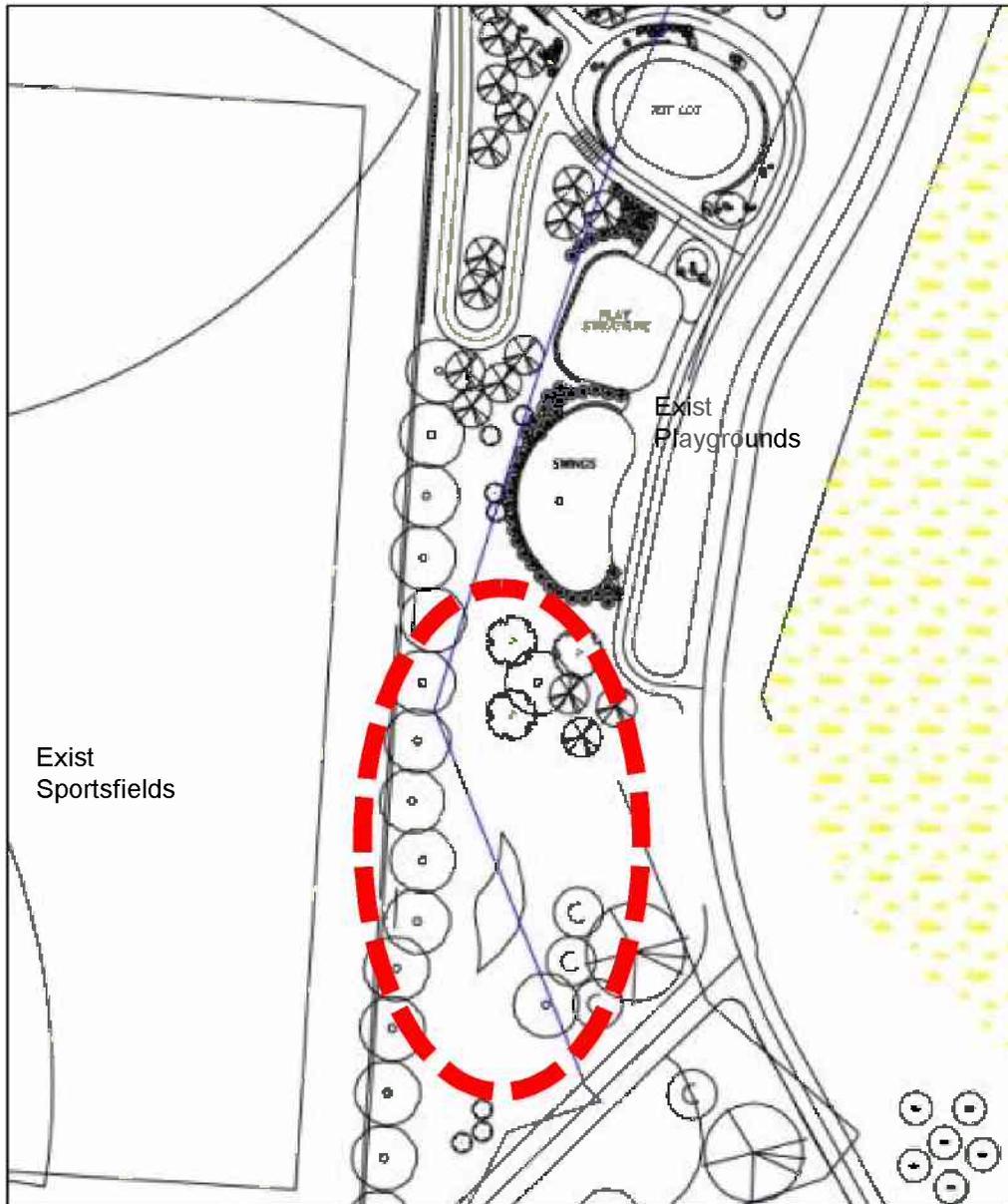
Pros:

- Near restroom, ballfields & remaining playgrounds
- Good views to wetlands
- Does not block views from the VC

Cons:

- Eliminates tot lot playground
- Small shelter with only ½ of the picnic capacity
- Difficult construction access
- No nearby grass area for picnic activities

Option F: Along Existing Ballfield Rockery : Between fields and Wetlands



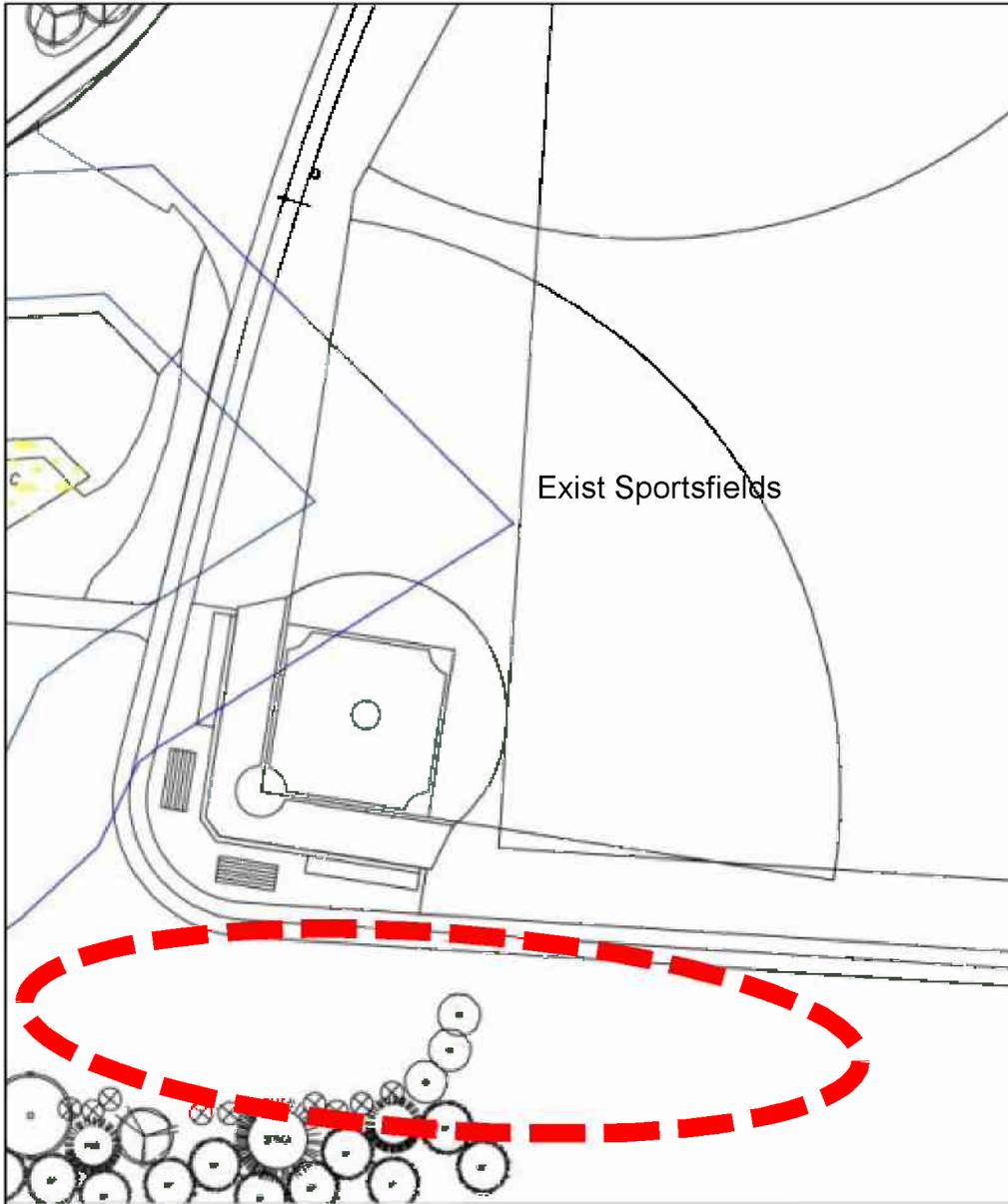
Pros:

- Convenient to restroom, playgrounds & ballfields
- Does not eliminate existing use/program
- Good panoramic views
- Similar picnic capacity could be created

Cons:

- Inconvenient to parking, & drop-off
- Difficult construction – retaining walls/steep slope

Option G: South of south ballfield



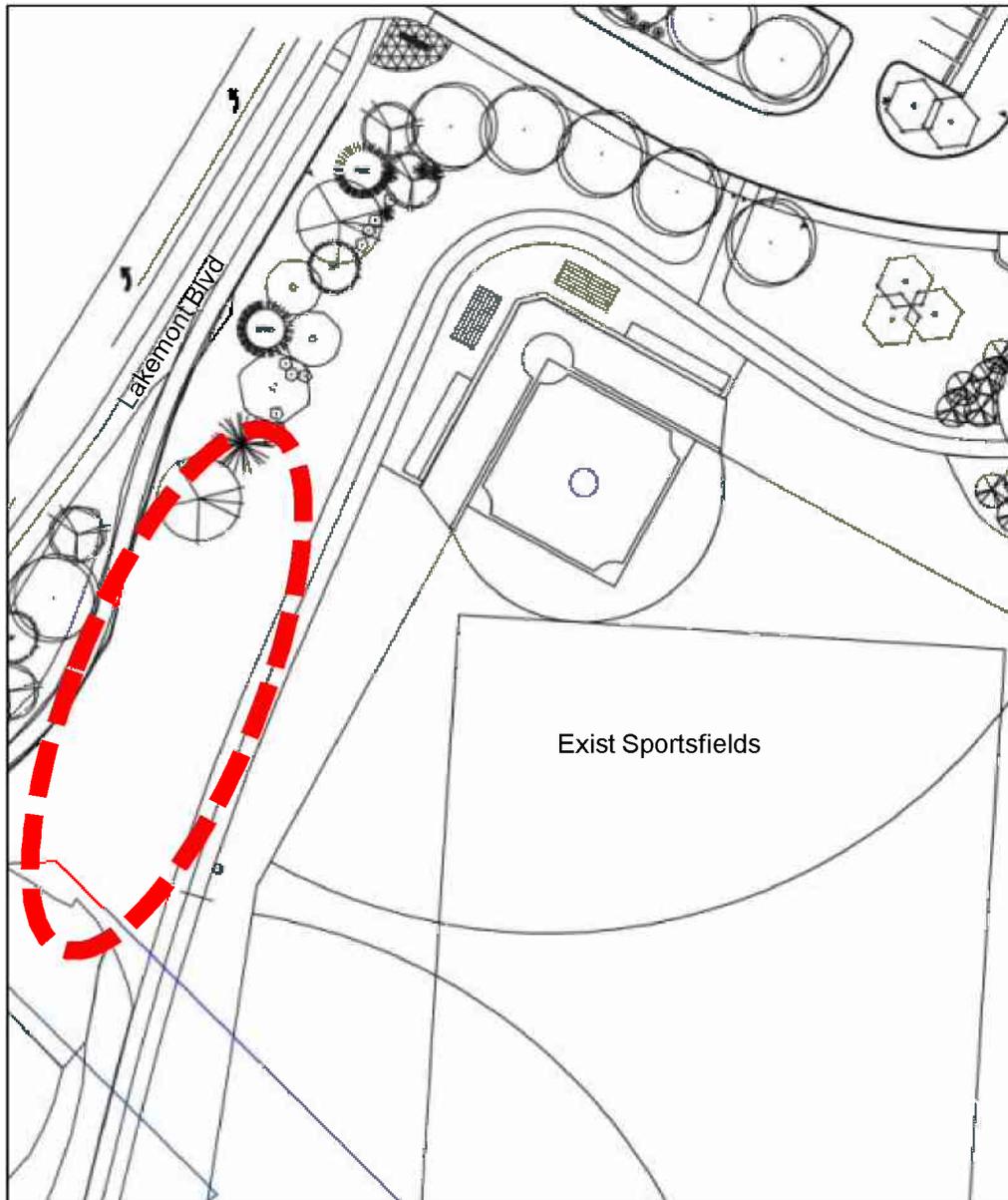
Pros:

- Convenient to ballfield for picnic activities
- Does not remove any existing use/program
- Can accommodate similar picnic capacity

Cons:

- Inconvenient to parking, drop off, playground, restrooms and basketball
- Unappealing location near ballfield with potential conflicts
- Violates buffer agreement with adjacent neighbors

Option H: West of ball fields, along Lakemont Blvd



Pros:

- Convenient to ballfield for picnic activities
- Nearby parking
- Does not remove any existing use/program
- Can accommodate similar picnic capacity
- Easy access for emergency and service vehicles

Cons:

- Inconvenient to drop off, restrooms, playground and basketball
- Unappealing location near ballfields and busy road
- Potential concerns from adjacent neighbors

ATTACHMENT B

RE: Petition to move planned Lewis Creek picnic area away from sensitive area and closer to ball fields and playground

The city is currently accepting input on proposed plans to build a 19 car parking lot, a 20X200 foot road, two bathrooms and two covered picnic areas in an environmentally sensitive area of Lewis Creek Park. Our Board (sans Jerry), the President of Save Lake Sammamish and I (Jean Buckner) met with the Parks Director, Patrick Foran last month to share concerns about the proposed location of the buildings for the following reasons:

1. **SAFETY and CRIME PREVENTION:** Present plans place the buildings in a secluded area – away from the road and the rest of the park. Lt. Chinn of the Bellevue Police department’s Crime Prevention through Environmental Design Department shares these concerns and has since met with the Parks Department to discuss them.
2. **COST:** The Budget for the project is approx \$2Million. If the picnic areas are located nearer the existing parking lot, ball fields and bathrooms, costs would go down dramatically as there would be no need for the added parking lot, road and bathrooms. The city might also explore opening the 2 additional bathrooms in the rear of the existing park building to the public if they are concerned about added need for bathrooms. In such a tight economy, perhaps monies could be better spent elsewhere?
3. **OPTIMAL USAGE:** Covered picnic tables nearer the ball fields and play area would be more fully utilized. Today, sports teams have few places to go to get out of the rain and would likely use the tables and grills for picnics after games. “Newly fueled” kids leaving the picnic area would have a place to go expend their energy if the tables were closer to the play area. Ideally the tables would be within sight of the play area so that parents could keep an eye on the kids.
4. **THE ENVIRONMENT:** According to Joanna Buehler, President of Save Lake Sammamish, building on the presently proposed site would further degrade Lewis Creek downstream (See pic. #1 below) as well as Lake Sammamish and further endanger a threatened species of Salmon, the Kokanee – which spawn in the creek. Joanna continued that building on already developed land nearer the ball fields and playground would have little negative impact. In addition, the proposed site would require cutting down the 100+ year old Maple tree. (See pic. 1) The tree is a favorite among some neighborhood children who have named it the Whomping Willow. Joanna asked that the city consider moving the location of the proposed building to areas of the park that had already been developed.



Picture #1



Picture 2

If you support the petition to request that the city move the planned Lewis Creek picnic area away from sensitive areas and closer to ball fields and playground, please respond to this e-mail saying that you support the petition and include your name(s). I would be glad to answer any questions or provide further documentation – Just call (425-747-9187) or e-mail me.

Regards, Jean Buckner

LIST OF SIGNATORIES to the petition requesting that the city of Bellevue move the planned Lewis Creek picnic area away from sensitive areas and closer to the ball fields and playground. Moving the project will also eliminate the need and cost of building the additional parking lot, the 20 X 200 foot road and the additional bathrooms. If extra bathrooms are needed, Parks should consider making the two bathrooms at the back of the current community building available to the public. Minor modifications would make this possible. These facilities are rarely used today.

1. Barbara Jurgens
13005 NE 71st Street
Kirkland, WA 98033

2. Barbara Llewellyn
5104 139th Place SE,
Bellevue, WA 98006

3. Cathy Jo Linn
Joseph L. Linn
425-837-9020
4021 E Lake Sammamish Shore Lane SE
Sammamish, WA 98075

4. Chek T. Lim
Tsang W. Lim
15824 SE 59th Place, Bellevue, WA 98006

5. Chris and Carmela Gellos
5546 159th Pl Se
Bellevue 98006
206.331.0193

6. Denise and Jerry Coy
15830 SE 58th Street,
Bellevue, WA 98006

7. Dianne and Erik Bugge
15865 SE 58th Street
Bellevue, WA 98006

8. Dutch and Austin Siedentopf and Jean Buckner
15723 SE 58th Pl,
Bellevue, WA

9. Frank and Marlene Lill
1308 W Lake Sammamish Pkwy NE
Bellevue, WA 98008

10. Hugh Jennings
16116 NE 4th St.
Bellevue, WA 98008-4439

11. James A. Creevey
1103 E. Lk. Sammamish Pkwy. NE
Sammamish, WA 98074

12. Joanna Buehler, President
Save Lake Sammamish - And we all win!
www.scn.org/savelake/ T: 425-641-3008
1420 NW Gilman Blvd., PMB 2565
Issaquah, WA 98027

13. Julie (and Bill) Torsen
5427 159th Place SE
Bellevue, WA 98006

14. Kari and Paul Grutzner
4237 185th Place SE
Issaquah WA 98027

15. Ken and Jenne Greene
5800 158th Avenue SE
Bellevue, WA 98006

16. Laurie Powazek
15902 SE 58th Street
Bellevue, WA 98006

17. Leigh Bangs
4314 193rd Ave SE
Issaquah, WA 98027

18. Lucinda Soha
3248 W Lk. Sammamish Pkwy SE
Bellevue, WA 98008

19. Lynn Withrow
5705 143 pl SE
Bellevue Wa 98006

20. Marilyn Fries
2434 W Lk Samm Pkwy N E
Redmond, WA
98052
21. Mike Herman
5608 159th Place SE
Bellevue, WA 98006
22. Nan Campbell
480 West Lake Sammamish Parkway N.E.
Bellevue, WA 98008
23. Penny J. Short
2303 205th Avenue SE
Sammamish, WA 98075
24. Rick and Mary Nelson
4254 185th Pl SE
Issaquah, WA 98027
25. Robyn and Carl Frye
15903 SE 58th Street
Bellevue, WA 98006
26. Ronald Bell and Bessie Bell
205 E. Lake Sammamish Pkwy SE
Sammamish, WA 98074
27. Steve Carrigan
1222 West Lake Sammamish Pkwy SE
Bellevue WA ?
28. Robert Polasek
5588 174th PL SE
Bellevue WA 98006
29. Stephen J Huettl
Diane E Huettl
6625 161st Ave SE Unit B
Bellevue, WA 98006-5686
30. Bob and Julie Cerelli
www.cerelliphotography.com

15822 SE 46th Way
Bellevue, WA 98006
206-817-5259

31. Erika & Mark Cottrell
15899 SE 58th Street
Bellevue, WA 98006
wacottrells@comcast.net
32. Yan Cui and Chun Yu
5803 158th Avenue SE
Bellevue, WA 98006
33. Ellen Ferrin
5484 159th Place SE
Bellevue, WA 98006
34. Kwang M. Lee
15898 SE 58TH ST
BELLEVUE, WA 98006
35. Allen & Monica Chi - Lot 5
15891 SE 59th Place,
Bellevue, WA 98006
36. Pamela Toelle
14845 NE 13th Street
Bellevue, WA 98007
37. Herbert Roberts
2830 E.Lake Sammamish Pkwy SE,
Sammamish, Wa 98075
38. Patti and Bill Gerould
6719A 161st Ave SE
Bellevue, WA
39. Annemarie Mainwaring
6639B 161st Ave SE
Bellevue WA 98006

40. Nikki & Justin Hartin
15803 SE 58th ST
Bellevue, WA 98006



DESIGN COMPANY

Lewis Creek Restroom Phase II

Wetland Buffer and Creek Buffer Mitigation/ Critical Areas Report

Part 1

(Reference: Lewis Creek Picnic Area Wetland Delineation Report)

(Reference: Lewis Creek Park Picnic Area Wetland and Stream Buffer
Mitigation Plan by The Watershed Company)

October 6, 2010

Prepared by: SvR Design Company
1205 Second Avenue, Suite 200
Seattle, WA 98101
Contact: Jennifer Lathrop, RLA, Wetland Specialist
206-223-0326
SvR Project No. 09027

Prepared for: **Client:**
Boxwood
1525 Forth Avenue Suite 600
Seattle, WA 98101
Contact: Kristen Fritsch
Phone: 206-343-0236

Owner:
City of Bellevue Parks and Community Services
450 110th Ave. NE
P.O. Box 90012
Bellevue, WA 98009
Contact: Ken Kroeger
Phone: 425-452-4624

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Figure 2 – Wetland Impacts and Mitigated Areas

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Appendix A – Buffer Mitigation Bond (To be submitted at later date)

1.0 INTRODUCTION

This report is a Critical Areas Report/Mitigation Report specific to the restroom and picnic area in Lewis Creek Park. The report also includes a Wildlife Management plan and Vegetative Management Plan. A separate Wetland Delineation Report, dated Jan 6, 2010 (Wetland Study), details the existing critical area on the site. The Delineation Report includes the wetland rating forms.

A new picnic area, including two shelters and a restroom building, is proposed. The proposed improvements will be located within wetland and stream buffers.

The study area is located within City of Bellevue in the Cougar Mountain Neighborhood. The Project is bounded to the west by Lakemont Boulevard SE, to the north by Wetland F, to the east by Wetland E, and to the South by Wetlands B and G, and Lewis Creek (See Figure 1 – Vicinity Map for Project location).

The mitigation restoration planting plan is included in the Lewis Creek Park Phase II Picnic Area plans.

The additional mitigation required for this Project is described in a separate mitigation plan/report prepared by The Watershed Company.

Mitigation for impacts to critical area buffers is per City of Bellevue's Critical Areas Ordinance 5680 adopted 6/26/2006 and described in City of Bellevue's code 20.25H.

2.0 NARRATIVE DESCRIPTION

The following is a description of the overall Project as required in the Critical Areas Land Use Code Narrative. The restroom area is a portion of the Project.

2.1 Project Description

To the north of the existing Lewis Creek Park and Visitors Center is a forested parcel of land that the City of Bellevue Parks Department is developing into a picnic and open meadow area. The site is currently vacant except for a trail that runs through the property connecting the Lakemont trail to Lewis Creek Park. Prior to 2002 there was a homestead on the property. The residence was demolished, and the remaining gravel driveway access has been partially maintained as a trail access to the park.

The proposed park design creates a paved entrance to the site at the remnants of the gravel driveway. The driveway loops around an existing open area where the previous residence was located. Nineteen parking stalls are located along the drive, and at the furthest reach of the loop, there is a public restroom building. A pedestrian path starts here and connects to the existing trail through this area. A picnic area consisting of two picnic shelters is located at the north edge of the path where the wetland begins to form into Lewis Creek.

All three park structures are designed to highlight the flow of rainwater as well as to make the visitor more aware of the impact and benefit of our wetlands and streams. The restroom building has a central scupper that will direct rainwater from the roof, and stretch across the path and pour out into a rain garden. The picnic shelters are designed to appear very light and be a nearly invisible building at the edge of the open space. They extend into the buffer and float above the plantings, allowing visitors to experience the surroundings with minimal disturbance to the forest floor. The roofs slope gently away from the path and water is allowed to shed off into a gravel trough and percolate into the ground. In a 100-year storm event, the amount of water coming off the roof would be in the range of 3in/hr. This flow would require one 3-inch diameter downspout, so allowing the rain to fall over 30 linear feet of roof to the gravel below is minimal. The Kynar painted metal roofing material is the least reactive with minimal contaminants picked up by the roof runoff as opposed to oil-based membranes or asphalt shingles.

2.2 Minimum Necessary Impact

The design of the picnic site was completed in 2003 but was not built. Upon revisiting the design in 2009 and applying new wetland buffer standards, a more compact site design is necessary to minimize impact in the wetland buffers. The loop drive initially extended deep into the site and circled the large maple tree. The tree's health is declining and it is unlikely it would survive the road construction around the roots; therefore, it was decided that the tree would be removed. The result is in a shorter loop drive. The access from Lakemont Blvd. is kept at the minimum 20-foot width that is required by the fire department and it was shifted north in order to save two significant fir trees. There will be a retaining wall at this location to minimize grading and protect the trees.

The Restroom building is located a few feet from the drive at the start of the pedestrian loop that circles the existing meadow. The trail wraps a portion of the edge of the open grassy area preserving the meadow. This creates an edge on the south side of the open space. The north edge of the loop trail is where the two 20-30 person picnic shelters will sit. The picnic shelters are tucked in between the trees and the gabion retaining walls are used to minimize grading in the buffer.

The initial program for the park included two small and one large picnic shelter and a restroom building. The program has been reduced to two large picnic shelters and the restroom building. The previous design had the picnic shelters pushed further into the buffer where there was significant grading occurring and several trees being removed not to mention disturbance of the buffer. The shortening of the loop drive allowed for the Restroom Building and the two Picnic Shelters to be pulled further west, away from the wetland, resulting in significantly less ground disturbance and, in the end, will preserve 14 trees.

2.3 Feasible Alternative Analysis

Lewis Creek Park is a large park, but it includes a creek, several wetlands, and steep slopes. Most of the park is situated such that vehicle access, and therefore construction, is limited because of the creek, wetlands, or the dispersion trenches from the visitor's center. There is very limited buildable area remaining, and only the homestead site offers existing vehicle access. Restoration has already taken place in the area, so it is a natural location for the picnic area to be developed, and complete restoration to occur.

2.4 Alternative Considered

Bellevue Parks' program for the north site initially called for over 21,000 s.f. of open space which is a small amount of open space to provide for a viable park. The design that is being proposed is under 21,000 s.f. of open space. The space shown is the absolute minimum amount of open space Bellevue Parks will accept for the programming of this site. The open space was situated to take advantage of the existing open area and will include dense planting with thorns to protect the creek bank. There is not a feasible alternative to putting a picnic area in this location. The programming has been pared down as small as practical. The site is remote and will need vehicle access, it was initially designed to provide 20 full size parking spaces, that has been reduced to thirteen regular size spaces (including ADA spaces) and five compact spaces. Alternative drive and parking lot configurations were explored, but the turn around for a fire department vehicle required significant space. The loop configuration provides for the best flow and visitor experience to the park, it also allows for the incorporation of a rain garden in the island instead of the option of having a large paved parking area with a hammerhead turnaround at the end.

The pedestrian path was designed to only be paved to the extent of the last picnic shelter and is the minimum width to accommodate a Parks Dept. vehicle. The path on the south side is reduced to 5 feet to provide accessibility.

2.5 Decision Criteria Met

The Project must meet the Decision Criteria of COB 20.30P.140, which is listed below with responses on how the Project meets the code.

- A. The proposal obtains all other permits required by the Land Use Code; and
All permits specified in the pre-application process will be submitted and comments addressed as required.
- B. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer; and

The site was originally occupied by a house with a grass area. The previously impacted area is the site of proposed site elements. Building location, access drives, parking paths were all designed to minimize impacts to existing significant trees. The buildings and parking are all located as far as possible from the wetland and creek edge.

- C. The proposal incorporates the performance standards of Part 20.25H LUC to the maximum extent applicable; and

The remainder of this report describes how the Project meets the Critical Areas Code 20.25H

- D. The proposal will be served by adequate public facilities including streets, fire protection, and utilities; and

The Project will have street access, through a driveway, and connecting walking trails. The site includes a fire access road and proposed fire hydrant. Proposed utilities include water, sewer, electrical, lighting, irrigation, communication, and storm.

- E. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC 20.25H.210; except that a proposal to modify or remove vegetation pursuant to an approved Vegetation Management Plan under LUC 20.25H.055.C.3.i shall not require a mitigation or restoration plan; and

A restoration plan and vegetation management plan is part of this report and is described later in this report.

- F. The proposal complies with other applicable requirements of this code. (Ord. 5683, 6-26-06, § 27)

The Project will be completed within the time line of this code.

2.6 Standards Proposed for Modification

The restroom and picnic shelter is an allowable use within a critical area but the Project must follow the standards in COB 20.25H.055C.3.g.

The trail and building's locations meet the objective of maximizing open space while still minimizing impacts to the creek and wetland buffers. The trail edges will be heavily planted on the outside with thorny plants to discourage people from cutting the down to the creek and wetland. The trail meanders to maintain healthy significant trees on the edge of the trail and within the open space. The restroom and picnic shelters will be maintained using a narrow porous access road/path. The pervious trail will narrow after the picnic shelters to become a footpath. To the best of its ability, the Project will meet City of Bellevue's BMP's, codes and standards. Grading on site is minimal for the most part and maintains the existing flows. The Project will utilize porous pavement that will assist in maintaining existing ground water tables. Rain gardens and a full dispersal trench will treat polluted water from the parking area before it enters the wetland and creek. No creek or wetland crossings are proposed. All disturbed areas will be restored according to 20.25H.210. See previous sections for a discussion of Public Use Structures.

The Project meets the performance standards listed in COB 20.25H.100.

Lights will be focused on the parking lot and away from the wetland. Noise from the parking lot and picnic shelter will be minimized through vegetation. Toxic storm water run-off will be treated before it enters the wetland. The treatment will take place within the buffer. Edges of Project will be planted with dense, often thorny, vegetation to limit pet and human use.

Pesticide, insecticide, and fertilizer use within 150 feet of the edge of a stream buffer is under guidelines of City of Bellevue's "Environmental Best Management Practices".

2.7 Critical Areas Report Process Criteria

The "Lewis Creek Picnic Area Wetland Delineation Report" dated Jan. 6, 2010, identifies the classification of all the critical area and buffers on the Project site. Properties immediately adjacent to the site are more than 150 feet so critical areas and buffers are not identified. Standards proposed for modification are listed above. An evaluation of the existing habitat prior to development is described in the delineation report. A habitat assessment and habitat performance standards for the developed site are included here. The following are also included within this report:

- Cumulative Impacts Assessment
- Functional Lift Analysis
- Mitigation / Restoration
- Vegetation Management Plan

3.0 WILDLIFE MANAGEMENT PLAN

The wetland delineation report details exiting vegetation on site within the undisturbed buffer and wetlands. The area of proposed improvements within a disturbed buffer is characterized by grass, Himalayan blackberries, a gravel road, salmon berries and scattered alder, cedar, maple, and hemlock trees. The following species of local importance are known to be in the area: pileated woodpecker, long-legged myotis, and long-eared myotis. The pileated woodpecker is on the state candidate list, and both myotis are on the federal species of concern list.

The WDFW recommends the following for pileated woodpeckers in urban/suburban areas:

- Conserve larger forest patches with large trees and snags;
- Retain forest in the largest patches available (>30 ha [74 ac] would be considered large). Where large patches are unavailable, smaller patches should be retained; where the average size of smaller patches should be no less than approximately 3 ha (7 ac); and
- Retain or create snags as well as retain live trees in the largest size classes available in the stand.

Bat houses are a recommendation for bats mentioned by WDFW.

Impacts include removal of several trees and a snag, more cars, people, and pets in the area, and less forested area. Water quality should not be impacted due to treatment measures being proposed.

The design of the site was sensitive to the location of existing trees. Mitigation efforts included adding walls to save existing trees and locating paths and buildings outside of the drip line of existing trees when possible. It was not possible to save all the trees on site. The trees that are being removed will be replaced with at least double the number removed. A

snag is also being removed and will be replaced with two snags. Two bat houses are also being proposed. Bellevue Parks Department will follow their best management practices in maintaining the site after construction. Additionally, management, maintenance and monitoring are included in the last section of the report.

4.0 CUMULATIVE IMPACTS ASSESSMENT

The following table includes the proposed impacted and mitigated areas.

Table 1 - Impacted and Mitigated Areas

Areas	Impacted Buffer	Mitigated Buffer Picnic Area	Additional Mitigated Area (Plan by The Watershed Company)
Wetland and Creek Buffer	50,450 sf	17,000 sf	83,900 sf

The buffers will be impacted temporarily by the construction of an access drive, parking area, restroom, picnic shelter and walking trail. Construction will occur during the dry season and appropriate erosion control methods will help to minimize the temporary impacts. The site will be restored with dense native landscaping.

The impacts that will occur as a result of the Project include an increase in people, cars and pets. In general, when more people and pets are around there is less available habitat for wild animals. Dense native vegetation will help buffer the habitat. If the people do not cleanup after their pets or litter, more pollutants enter the creeks and wetland. To minimize this impact, garbage cans and restrooms will be provided near each of the shelters. Vehicular traffic also produces pollutants. The run-off from the pavement will be treated through infiltration, rain gardens and a dispersal trench. Additionally, there are benefits to the habitat when people enjoy the area, realize the benefits of preservation, and provide support to the park.

5.0 FUNCTIONAL LIFT ANALYSIS

Wetland and Creek Buffer Functions	Existing Conditions	Standard Code Application	Proposed Modification (allowable use)	Functional Improvement with Proposed Modification?
Storm water flows slowed by woody plants and infiltration	60% of the buffer is grass and Himalayan blackberries.	No change.	Rain garden, full dispersion and porous pavement and increased plant density.	Yes, Water infiltrates and is slowed by increased density. Decrease in flooding
Wildlife Habitat	Non-native grass and invasive Himalayan blackberries provide limited food and cover.	No change.	Remove non-native and invasive species. Plant more than 20 different trees, shrubs and emergent plants to provide food and shelter to wildlife.	Yes, the increased variety will attract more wildlife.
Educational and Recreational Opportunities	Hiking trails connect to the main visitor center.	No change.	Shelter/setting will provide areas for people to enjoy the area.	Yes, people will stay longer and have room for passive activities.
Net Change	Non-native grass and invasive Himalayan blackberries provide limited food and cover or infiltration.	No change.	Rain gardens, full dispersion, dense highly varied native plants, and shelter for people to enjoy the area.	Increase infiltration, plant variety and wildlife habitat, and recreational opportunities.

6.0 MITIGATION AND RESTORATION

The mitigation will follow general mitigation standards, in the following sequence:

- a. Avoid the impact altogether by not taking a certain action or parts of actions;
- b. Minimize impacts by limiting the degree or magnitude of the action and its implementation;
- c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
- e. Compensating for the impacts by replacing or providing substitute resources or environment.

The following are broad goals of the mitigation work.

1. Retain significant trees
2. Remove non-native invasive plants
3. Increase the native plant diversity

The following sections address the specific objectives, performance standards and contingencies recommended to achieve the goals.

6.1 Goal #1 – Retain significant trees

- Mitigation Objective 1A: Proposed improvements are located as to retain as many existing trees as possible.

Performance Standard 1A: Protect existing trees during construction with tree protection fencing.

Contingency 1A: Plant extra trees in case existing trees do not survive.

6.2 Goal #2 – Remove non-native invasive plants

- Mitigation Objective 2A: Remove non-native invasive plants within the buffer.

Performance Standard 2A: The edges of the buffer contain Himalayan blackberry, *Rubus discolor*. The area to be mitigated will be clearly marked with stakes. The blackberries will be removed according to the vegetative management plan.

Contingency 2A: In the event the blackberry returns, other weeding methods will be explored. Herbicide use must be approved by the City of Redmond.

- Mitigation Objective 2B: Plant the buffer densely to crowd out non-native invasive plants.

Performance Standard 2B: The plant mortality will be monitored.

Contingency 2B: Replace dead plants once yearly with a different more suitable species if required.

6.3 Goal #3 – Increase plant diversity and remove invasive plants

- Mitigation Objective 3A: Increase plant diversity within the buffer.

Performance Standard 3A: The disturbed buffer is characterized by grass, Himalayan blackberries, a gravel road, salmon berries and scattered alder, cedar, maple, and hemlock trees. At least twenty different native trees, shrubs and ground cover will be planted to add diversity.

Contingency 3A: Ensure at least ten new native species are thriving and 60% plant cover of trees and shrubs at the end of the three-year monitoring period.

7.0 MITIGATION SITE PLANS

Mitigation plans (Appendix A) indicate the proposed improvements to implement the mitigation approach described in Section 3.

7.1 Hydrology and Topography

The existing conditions are documented in the drainage report and delineation report. Proposed improvements are also documented in the drainage report. In general, water quality and detention will be accomplished through porous pavement, rain gardens and full dispersion. Water that currently enters the wetlands and creeks surrounding the site will continue to enter the wetland.

7.2 Vegetation

Proposed vegetation will include native evergreen and deciduous trees and a diverse variety of shrubs and ground cover.

7.3 Wildlife

The plans include an increase in plant diversity and replacement of removed trees. Two replacement snags are proposed for the one removed. In addition, bat boxes will be provided.

7.4 Construction Management

A wetland specialist, landscape architect, or City Park's Department staff will be periodically present onsite during various phases of grading, earthwork, and re-vegetation in the buffer areas. They will recommend field adjustments to the planting plan as needed. In addition, the wetland specialist, landscape architect or City Park's Department staff will examine and approve plant materials before installation.

7.5 Irrigation

A temporary irrigation system will be installed for the lawn and edges of paved areas. The full dispersal will be on a temporary system. Irrigation will be required from June 1 through September 15 of each year during the three-year monitoring period.

8.0 MAINTENANCE PROGRAM

8.1 Maintenance Schedule

The Project will be monitored and maintained for a period of three years. Bellevue's Parks and Community Services Department will maintain the area according to the "Environmental Best Management Practices" and the maintenance section of the plans prepared by Watershed.

Below is the anticipated schedule:

Weeding

- February 1 to September 15 (a minimum of once a month).

Mowing

- Once weekly April to October

Plant replacement

- October 15 to March 1.

Watering

- June 1 to September 15 (a minimum of one-inch of water to be applied per week).

9.0 VEGETATION MANAGEMENT PLAN

A description of the existing site conditions, a site history, plan objectives, sensitive features, soils, existing vegetation and habitat associated with species of local importance present on the site are covered in other sections of this report and reports by Watershed. The allowed work limits and schedule will follow clearing and grading permit requirements. Clearing limits are the extents of grading and are clearly defined on the drawing. Cleared areas will be replaced with native species per drawings. See appendix for drawings.

The following is the recommendation for manual removal of Himalayan blackberry on King County's invasive removal web site:

- Hand-pull the stem close to the ground and uproot the root ball. This method is most effective with first year plants.
- Manual control works best after rain or in loose soils where the canes are suppressed because the blackberries are growing in a forest understory.
- Digging up root crowns and major side roots is slow but will control blackberry and is effective on small infestations.
- Using a claw mattock or pulaski/mattock is also effective.
- Recheck work area because large root fragments left can re-sprout.
- If removing dense patches, area should be replanted with native plants and mulched.

10.0 MONITORING AND MONITORING REPORTS

10.1 Monitoring Report

The monitoring report shall include:

1. Site plan;
2. Plant survival, vigor, and aerial coverage evaluated at the permanent sample/photo points;
3. General water quality, water flow and conveyance;
4. Surrounding buffer conditions and existing or potential degradation to buffers or wetlands;
5. Wild and domestic creatures observed;
6. Assessment of nuisance/exotic biota, and recommendations for control and management;
7. At least 2, four-by-six-inch color photographs taken from each permanent photo-points; and
8. Each report will provide recommendations for continued maintenance and actions to achieve Project mitigation goals.

10.2 Monitoring and Report Schedule

Post-Project monitoring will include two field visits per year: a spring assessment will monitor the establishment, recruitment, and control of invasive weed species on the property, and a late summer assessment will monitor the overall progress of mitigation. Monitoring reports documenting each field assessment will be submitted to City of Bellevue once yearly. The monitoring schedule for each of the three post-Project monitoring years is assuming the Project is constructed in 2011:

- End of Construction (planting), anticipate construction completion September 15, 2011. *Report due 30 days after planting October 15, 2011+/-.*
- Early in growing season (February – April) of first year.
- End of growing season (September – November) of first year. *Report due middle December 2011.*
- Early in growing season (February – April) of second year.
- End of growing season (September – November) of second year *Report due middle of December 2012.*
- Early in growing season (February – April) of third year.
- End of growing season (September – November) of third year *Report due middle of December 2013.*

11.0 CONTINGENCY PLAN

Overall mitigation goals and specific objectives will be compared to performance standards to evaluate the need for contingency plan implementation. Each performance standard is associated with a contingency plan.

In addition, as the Project progresses, the need for watering and weeding will be assessed. Some areas may require more intensive weeding than others may. It is anticipated that by the end of the third year supplemental water may not be required.

12.0 WETLAND AND BUFFER MITIGATION BOND

A restoration bond quantity worksheet will be prepared upon final plan approval.

13.0 REFERENCES

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FIGURES



Figure 1: Vicinity Map

APPENDIX A
(To be submitted at later date)

ATTACHMENT D



TO: Ken Kroeger, Project Manager, Parks and Community Services
City of Bellevue WA

JOB SITE: Lewis Creek Park

SUBJECT: Evaluation of Bigleaf maple tree

DATE: September 17, 2010

PREPARED BY: Scott D. Baker, Registered Consulting Arborist #414, ISA Board Certified
Master Arborist #PN-0670B, Certified Tree Risk Assessor #0145

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Attachments:
Plan sheet C2.1 showing tree location
Plan sheet C4.1 showing Park improvements

Summary

The tree in question is a large Bigleaf maple located in an unimproved area of Lewis Creek Park.

The tree has been impacted in the past and has extensive internal decay. One large limb is declining and forty percent of the base of the tree is dead due to wood decay fungi. The form of the tree and the decay means that large parts might fail, presenting risk.

Although the tree has useful life left in it, the amount of defect present makes it a poor candidate for retention, considering the planned improvements.

If the plans cannot be substantially changed, the tree should be removed.

Assignment & Scope of Report

This report outlines the site inspection by Scott Baker, RCA, of Tree Solutions Inc. on 8-31-2010. Included are observations and data collected at the site located at Lewis Creek Park, Bellevue WA. Mr. Ken Kroger, representing the owner of the property, requested these services to determine the condition of a large maple tree that is scheduled for removal as part of park improvements.

Limits of Assignment

Unless stated otherwise: 1) information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and 2) the inspection is limited to visual examination of the subject trees without dissection, excavation, probing, climbing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future. Additional assumptions and limiting conditions can be found in [Appendix A](#).

Methods

I evaluated tree health and structure utilizing visual tree assessment (VTA) methods. The basis behind VTA is the identification of symptoms, which the tree produces in reaction to a weak spot or area of mechanical stress. A tree reacts to mechanical and physiological stresses by growing more vigorously to re-enforce weak areas, while depriving less stressed parts. An understanding of the uniform stress allows me to make informed judgments about the condition of a tree. (Mattheck & Breloer 1994)

Using the Pacific Northwest International Society of Arboriculture (PNWISA) Tree Risk Assessment method, I assigned a risk potential rating to the tree. This method is adapted from the United States Forest Service risk assessment approach and is considered the present Standard of Care. This method provides assessors a structured process, based on good science and arboriculture, to assign recommended thresholds for action for the purpose of informing risk managers. The PNWISA Tree Risk Assessment method requires assessor certification. Additional information regarding this method can be found in [Appendix B](#).

The diameter of the tree was measured at standard height (DSH), typically 54 inches above grade. A simple sketch showing the tree can be found in [Appendix C](#). Plans showing the site with the tree location marked with a blue circle and with planned Park improvements are attached. Photographs taken during the site assessment are included in the [Observations](#) section below.

I used a steel probe to investigate areas of decay visible in the tree. In this case, use of a micro-resistance drill (Resistograph® drill) was not necessary.

Observations

The tree in question is a large, old Bigleaf maple (*Acer macrophyllum*) noted as tree # 1084 on the plans and associated Tree Preservation Table. Improvements, including parking areas, a restroom building, and several picnic shelters, are planned for this area of Lewis Creek Park.

I measured the tree diameter, using an average diameter tape below the lowest branch, as 63.5 inches. I measured the height, using a laser hypsometer, as 74 feet tall. The canopy circumference is 64 feet in an north/south direction and 74 feet in an east/west direction.

The current plan considers the maple as a removal due to the tree's condition, as assessed by Park employees. Neighborhood park users are reported to be very fond of the tree and refer to it as the "Whomping Willow" (a Harry Potter reference). They would like to see the tree preserved.

The park is located on the site of some older properties, and the remains of landscapes, including trees, are a feature of several areas within the park.

A home once stood beneath the tree that I inspected and I noted gravel areas beneath the canopy of the tree where the soils are compact. It looks possible that parts of the tree may have been altered in the past, contributing to its current form.

An old road, now configured as a trail, runs along the south side of the tree.

The tree has several dead sections within the crown and one scaffold limb, on the south side, is in decline and about 70% of the circumference of this limb has no live tissue beneath the bark.



Photo 1
Shows the tree viewed from the current park entrance looking east, now a foot trail, that will be improved as part of the planned project. The white arrows shows the limb that is in decline.

The plans call for a road to circle the tree to allow Fire Department access and turnaround for Park users.



Photo 2
Shows the tree viewed from the west. The white arrows show the declining limb.

The area in the foreground is gravel from earlier use of the site.

This photo also illustrates the form of the tree, which has several very large scaffold branches that support the crown.

There are two places where the tree has broken high in the canopy and has grown back. Decay areas and nesting holes are present. The leaf size and color is good, with typical leaf condition at the end of summer, with the exception of the south scaffold limb, which has small leaves and sparse density.

The form of the tree is unusual, as all of the large scaffold limbs branch out low to the ground. The tree also has a pronounced basal flare.

I made a careful examination of the basal flare, removing some soil and moss to look at the bark condition.

I found evidence of at least two fungal associates of Bigleaf maple on the south portion of the trunk flare near ground level. At the base of the tree there is a large area where the cambium layer is dead. Fruiting bodies of the fungus *Kretzschmaria deusta* are visible on the trunk and the rhizomorph of the fungus *Armillaria* are prevalent in the soil and on the roots that I uncovered. I probed the dead area and found extensive soft rot typical of *Armillaria*.

As mentioned, I found that the bark of the large scaffold limb on the south side of the tree was dead around 70% of the circumference of the limb. This dead area extends to the base of the tree on that side.



Photo 3 shows a sample of the soft rot due to *Armillaria*. This area of the tree was soft enough to push a 5" wood chisel into it all the way.

3



Photo 4 shows the area with the fungal associates present. The yellow arrows show fruiting bodies of *Kretzschmaria deusta*. The orange arrows show the area where I found the soft rot shown in photo 3. The white arrows show the area of dead bark and cambium below the south scaffold limb.

4

I was able to insert a probe 44 inches into the tree through an opening in the trunk where a scaffold branch failure had occurred in the past.



Photo 5 shows the south scaffold branch above the fungi (white arrow). I removed the dead bark for diagnostic purposes. This is just above the area shown in photo 4.

The handle of my 48" long steel probe inserted into an opening filled with decayed wood and maple roots (orange arrow) shows the presence of a substantial column of decay in the center of the main trunk of the tree.

5

I climbed into the tree to investigate several decay areas with openings and to try and determine if the tree might have been reduced (topped) in the past. I was also interested in seeing if there was any sign of separation of the large scaffolds from the decay hollow in the main trunk. I was able to insert my probe into the tree where one of the major scaffold branches is attached.

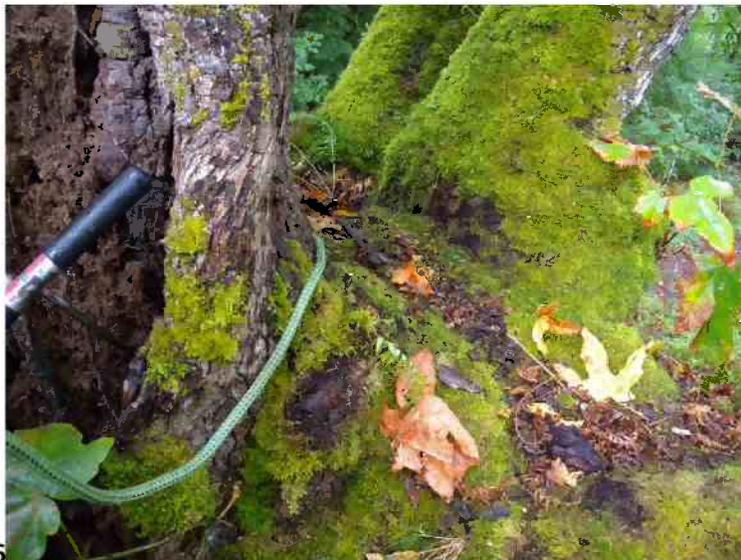


Photo 6 shows the probe inserted into the area where the east scaffold is attached.

6

I was not able to determine whether the tree was cut back in the past.

I reviewed the plans for the improvements. The tree in question is not shown on the plans as Preserved, as the road design to allow a loop for vehicular access has to circle the tree, leaving insufficient room for the tree root system.

The planning for improvements is limited by wetland buffers that limit the road and parking to the area that includes the maple tree and 14 other trees scheduled for removal.

Preservation planning for the remaining 86 trees is detailed using current best practices.

Discussion

This tree is large and old and has had human impacts in the past that are related to some of the issues I found in my inspection. I think, based on my experience, that the dead area of the trunk where the fungi are present may be related to grading activity in the past on the south side of the tree. Impacts from the old home are hard to identify, but certainly occurred.

Bigleaf maples are relatively long-lived. Recent anecdotal evidence (personal communications with plant pathologist Olaf Ribeiro, PhD, and UK arborist Neville Fay) indicates that the species can live for a very long time, with old trees kept alive by new growth from the basal trunk and/or the root system of the original tree.

The species is not prone to whole tree failure from the roots unless advanced decay is present. Bigleaf maple produces strong reaction wood around decay hollows and is resistant to breakage at these areas until a thin wall of live tissue remains.

Approximately 40% of the tree is dead along the basal flare.

This tree shows typical signs of an old tree of the species, with dead parts in the crown, areas of internal decay, and basal decay.

Considering the planned improvements, even if the road and parking could be reconfigured to avoid looping around the tree, the tree's current condition makes it a poor choice for retention.

Attempting to contain the tree within the turnaround loop would result in severe impacts to the tree and I think that it would decline rapidly. Furthermore, the tree would present a raised level of risk if retained within the road.

If the tree were retained, I would recommend that it be managed as a veteran tree. Pruning specifications would be limited to reduction of dead parts, leaving nest habitat, and using snag cuts that mimic natural breakage. No facilities or day use areas would be appropriate beneath the tree.

Tree Solutions is involved with management of several similar trees, one of which recently shed a 50-foot-long branch that had been attached to the 65-inch-diameter main trunk and was decayed by the same fungi I found on this tree. We had warned of this possibility and the tree owner was tolerant of the risk.

There are some treatments that might slow the movement of the fungi now present within the tree; none are known to eliminate them.

It is not possible to predict how long this tree will continue to live. However, based on my experience with old specimens of this species, I expect that if nothing changed around the tree, it would still be there with some live canopy in twenty years.

I performed a Risk Assessment for the tree using the Tree Risk Assessors Method. The method is described in Appendix B below. The tree rates 8 out of 12 points, or the high end of Moderate risk, at present, with the loss of a large scaffold limb the most likely failure. If the tree were retained in the road loop, the rating would increase to 9 out of 12 points or the low end of High Risk. Should the tree decline further, as I would expect if the tree was circled with a road, the likelihood of a major failure would increase, as would the Risk Rating.

Recommendations

- In order to construct the Park improvements as planned, the tree will need to be removed.
- It may be feasible to find a use for some of the wood from the tree. The best option would be to create benches for the site that could be milled on site. There may be areas of spalted (colored by fungal activity) or unusual grained wood that would be valuable to artisans.

Glossary

- basal (or trunk) flare:** the increased diameter where the roots and trunk meet (also known as the root flare or buttress) (Matheny *et al.* 1998)
- crown:** the aboveground portions of a tree (Lilly 2001)
- DBH or DSH:** diameter at breast or standard height; the diameter of the trunk measured 54 inches (4.5 feet) above grade (Matheny *et al.* 1998)
- fruiting bodies:** the reproductive structures of fungi, the presence of which may indicate decay in a tree (Lilly 2001)
- reaction wood:** specialized secondary xylem that develops in response to lean or similar mechanical stress to restore the stem to the vertical (Harris 1999)
- Resistograph drill:** a drilling instrument used to determine the density of wood by measuring the amount of resistance presented to the drilling needle as it is driven into the wood. The drilling resistance profiles show clearly where compression wood, annual rings, rot in various stages and other defects have been encountered by the drilling needle
- scaffold branches:** the permanent or structural branches of a tree (Lilly 2001)
- significant size:** a tree measuring 6" DSH or greater
- snag:** a tree left partially standing for the primary purpose of providing habitat for wildlife
- structural defects:** flaws, decay, or other faults in the trunk, branches, or root collar of a tree, which may lead to failure (Lilly 2001)
- veteran tree:** a tree which, because of its great age, size or condition is of exceptional value culturally, in the landscape, or for wildlife (Fay 2002)

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Appendix A - Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
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7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring. Consultant makes no warranty or guarantee, express or implied, that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Appendix B - Tree Risk Assessor Method

The Pacific Northwest International Society of Arboriculture (PNWISA) Tree Risk Assessment method is adapted from the United States Forest Service risk assessment approach and is considered the present Standard of Care. This method provides assessors a structured process, based on good science and arboriculture, to assign recommended thresholds for action for the purpose of informing risk managers. The PNWISA Tree Risk Assessment method requires assessor certification.

The method uses a 12 point system, divided into three categories, to rate the potential risk from a tree and its parts. **Ratings pertaining to Bigleaf maple tree shown in Red.**

P **Probability of Failure** is rated at 1-5 points based on the judgment of the assessor.

1 point = Low risk – The defect is not likely to lead to imminent failure and no further action is required. In many cases these defects might not even be recorded.

2 points = Moderate risk – One or more defects that are well established but would typically not lead to failure for several years. Corrective action might be useful to prevent future problems but only if time and money are available. Not the highest priority for action, these are the “retain and monitor” situations that can be used to inform budget and work schedules for subsequent years.

3 points = Moderately High risk – One or more defects areas well established but not yet deemed to be a high priority issue. Additional testing may be required or, the assessor may feel the problems are not serious enough to warrant immediate action, but do warrant placing the tree on a list of trees to be inspected more regularly. These are Retain and Monitor trees.

4 points = High risk – The defect is serious and imminent failure is likely and corrective action is required immediately. These cases require treatment within the next few days or weeks.

5 points = Extreme - The tree or component part is already failing. An emergency situation where treatment is required today.

S **Size of the Defective Part(s)** is rated 1-3 with 1 point for branches or stems up to 10cm (4 inches) in diameter, 2 points for branches or stems between 10-50cm (4-20 inches) in diameter and, **3 points** for branches or stems over 50cm (20 inches) in diameter. **Large scaffold branches are attached to a hollow shell.**

T **Target Area** is rated 1-4 based on the following target descriptions.

1= Low – Sites rated at one point are very rarely used for any long period of time, and people passing through the area (regardless of how they travel) do not spend a lot of time within the striking range of the tree within any one day. There are no valuable buildings or other facilities within striking range.

2= Moderate – Valuable buildings are at the edge of striking distance, so they would not be seriously damaged even if the tree did fall down. The site has people within striking range occasionally, meaning less than 50% of the time span in any one day, week, or month, and do not stay within striking range for very long. **Once the area is developed the Target rating would rise to 3 points.**

3= Moderately High – The site has valuable buildings within striking range. People are within striking range more than 50% of the time span in any one day, week, or month, and their exposure time can be more than just passing by. 4= High – The highest rated targets have a building within striking range frequently used by people, often for longer periods of time, or high volumes of people coming and going within striking range

The Overall Risk Rating and Action Thresholds

Risk Rating	Risk Category	Interpretation & Implications
3	Low 1	<i>Insignificant- no concern at all.</i>
4	Low 2	<i>Insignificant – very minor issues</i>
5	Low 3	<i>Insignificant – minor issues not of concern for many years yet</i>
6	Moderate 1	<i>Some issues but nothing that is likely to cause any problems for another 10 years or more</i>
7	Moderate 2	<i>Well defined issues – retain and monitor. Not expected to be a problem for at least another 5 – 10 years</i>
8	Moderate 3	<i>Well-defined issues – retain and monitor. Not expected to be a problem for at least another 1 – 5 years.</i>
9	High 1	<i>The assessed issues have now become very clear. The tree can still reasonable be retained as it is not likely to fall apart right away, but it must now be monitored annually. Subsequent to improvements the rating would be 9.</i>
10	High 2	<i>The assessed issues have now become very clear. The probability of failure is now getting serious, or the target rating and/or site context have changed such that mitigation measures should now be on a schedule with a clearly defined timeline for action..</i>
11	High 3	<i>The tree, or a part of it has reached a stage where it could fail at any time. Action to mitigate the risk is required within weeks rather than months.</i>
12	Extreme	<i>This tree, or part of it, is in the process of failing. Immediate action is required. All other less significant tree work should be suspended, and roads or work areas should be closed off until the risk issues have been mitigated.</i>

Disclaimer: **Interpretation and Implications** stated above are as shown in the Tree Risk Assessor Method certification course materials and are intended to inform the reader about general guidelines for establishing thresholds for action and to better understand risk abatement recommendations. Tree Solutions makes no guarantee or warranty, express or implied, that problems or deficiencies of the trees in question may not arise in the future or within the timeframe stated by the Method above.

Options for Mitigation of Risk Trees include:

Remove the risk altogether if possible by cutting off one or more branches, removing dead wood, or possibly removing the entire tree. Extreme risk situations should be closed off until the risk is abated.

Modify the risk of failure probability. In some cases it may be possible to reduce the probability of failure by adding mechanical support in the form of cables braces or props.

Modify the risk rating by moving the target. Risk ratings can sometimes be lowered by moving the target so that there is a much lower probability of the defective part striking anything. Moving the target should generally be seen as an interim measure.

Retain and monitor. This approach is used where some defects have been noted but they are not yet serious and the present risk level is only moderate.

Reference:

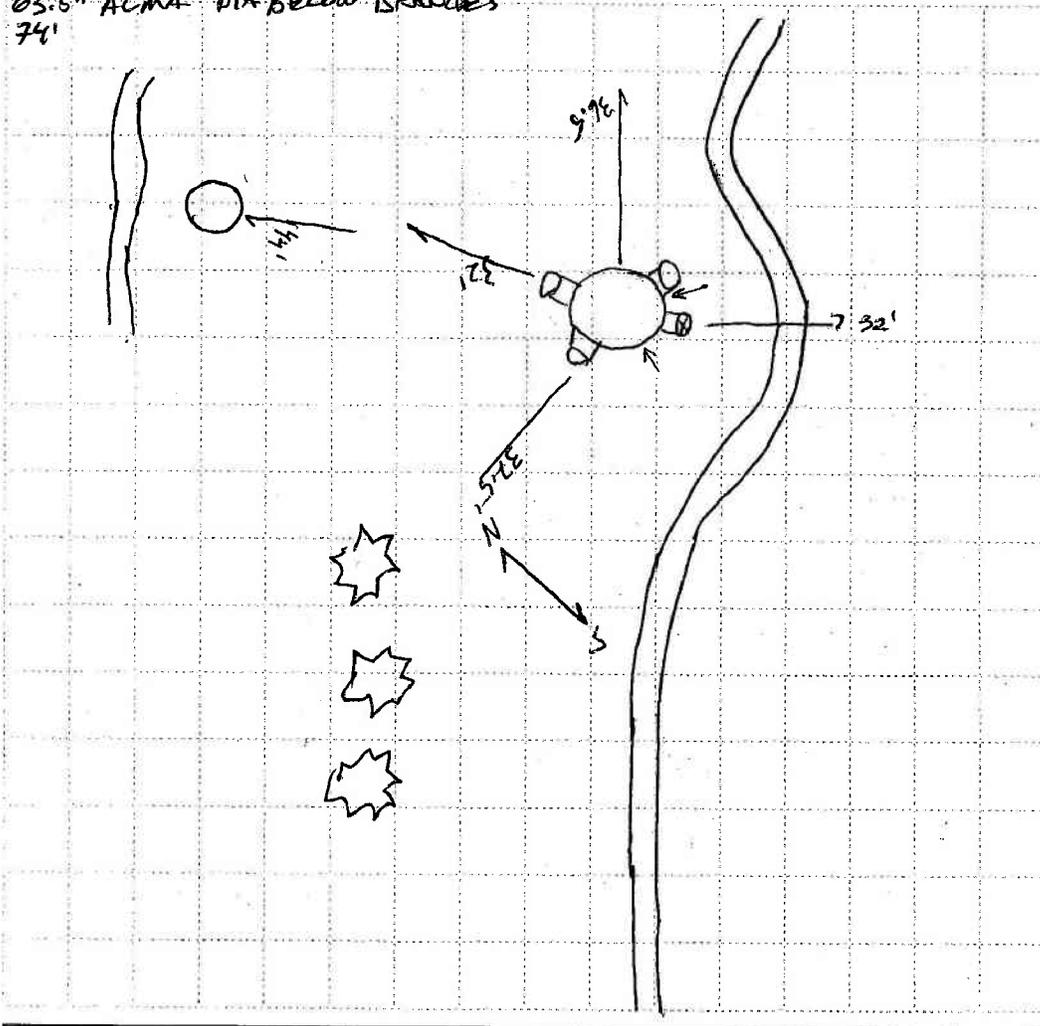
Dunster & Associates Environmental Consultants Ltd. Assessing Trees in Urban Areas and the Urban-Rural Interface, US Release 1.0. Silverton: Pacific Northwest Chapter ISA, 2006

Appendix C – Site Sketch

FIELD NOTES

	CLIENT	C. G. BELLVUE FARMS	DATE	8.31.10
	SITE		TIME IN	11:05
	PHONE		TIME OUT	12:45
	EMAIL		BILLABLE HOURS	1.75

63.5" AC MA DIA BELOW BRANCHES
 74'



CONSULTANT:

- | | | |
|---|---|---|
| <input checked="" type="checkbox"/> Scott D Baker, Principal
ASCA Registered Consulting Arborist #414
ISA Certified Arborist No. PN-0670A
PNW-ISA Certified Tree Risk Assessor #0145 | <input type="checkbox"/> Sean Dugan, Senior Consultant
ASCA Registered Consulting Arborist #457
ISA Certified Arborist No. PN-5459A
PNW-ISA Certified Tree Risk Assessor #0149 | <input type="checkbox"/> Associate Consultant
ISA Certified Arborist No. _____
PNW-ISA Certified Tree Risk Assessor # _____ |
|---|---|---|

ACCEPTED BY: _____

1058 N. 39th St. * Seattle WA 98103 * (206) 528-4670 * www.treesolutions.net

"Valuable Knowledge of Trees"

LEWIS CREEK PARK PICNIC AREA

WETLAND AND STREAM BUFFER MITIGATION PLAN FOR THE CITY OF BELLEVUE

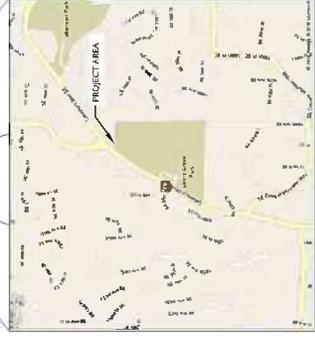


PLAN LEGEND

- STREAM (DELIMITED BY OTHERS)
- WETLAND (DELIMITED BY SWIN NOV. 2009)
- WETLAND (DELIMITED BY PARAVETRIX IN JAN. 2015)
- EXISTING TREE TO REMAIN
- EXISTING TRAIL
- PROPOSED MITIGATION AREA BY THE WATERSHED COMPANY IN MARCH OF 2019
- PROPOSED MITIGATION AREA DESIGNATED BY SWIN IN 2010

WETLAND TYP. DELIMITATED BY OTHERS

PICNIC AREA MITIGATION DETAILED IN THIS PLAN SET



VICINITY MAPS

SHEET INDEX

- 1 PROJECT OVERVIEW
- 2 AREA 1 PLANTING PLAN
- 3 AREA 2 PLANTING PLAN
- 4 PLANTING SPECIES & DETAILS AND MITIGATION
- 5 PLAN NOTES



PROJECT OVERVIEW

THE WATERSHED COMPANY
750 Sixth Street South
Kirkland WA 98033
P: 425.932.5242 F: 425.932.9116
www.watershedco.com
Science & Design

LEWIS CREEK PARK PICNIC AREA
WETLAND AND STREAM BUFFER MITIGATION PLAN
PREPARED FOR THE CITY OF BELLEVUE
5808 LAKE MOUNT BLVD., SE
BELLEVUE, WA 98009

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION
1	04-10-10	ISSUED FOR PERMIT
2	04-10-10	ISSUED FOR PERMIT
3	04-10-10	ISSUED FOR PERMIT
4	04-10-10	ISSUED FOR PERMIT
5	04-10-10	ISSUED FOR PERMIT
6	04-10-10	ISSUED FOR PERMIT
7	04-10-10	ISSUED FOR PERMIT
8	04-10-10	ISSUED FOR PERMIT
9	04-10-10	ISSUED FOR PERMIT
10	04-10-10	ISSUED FOR PERMIT

SHEET SIZE: 11x17
SCALE: ACCORDING TO PLAN

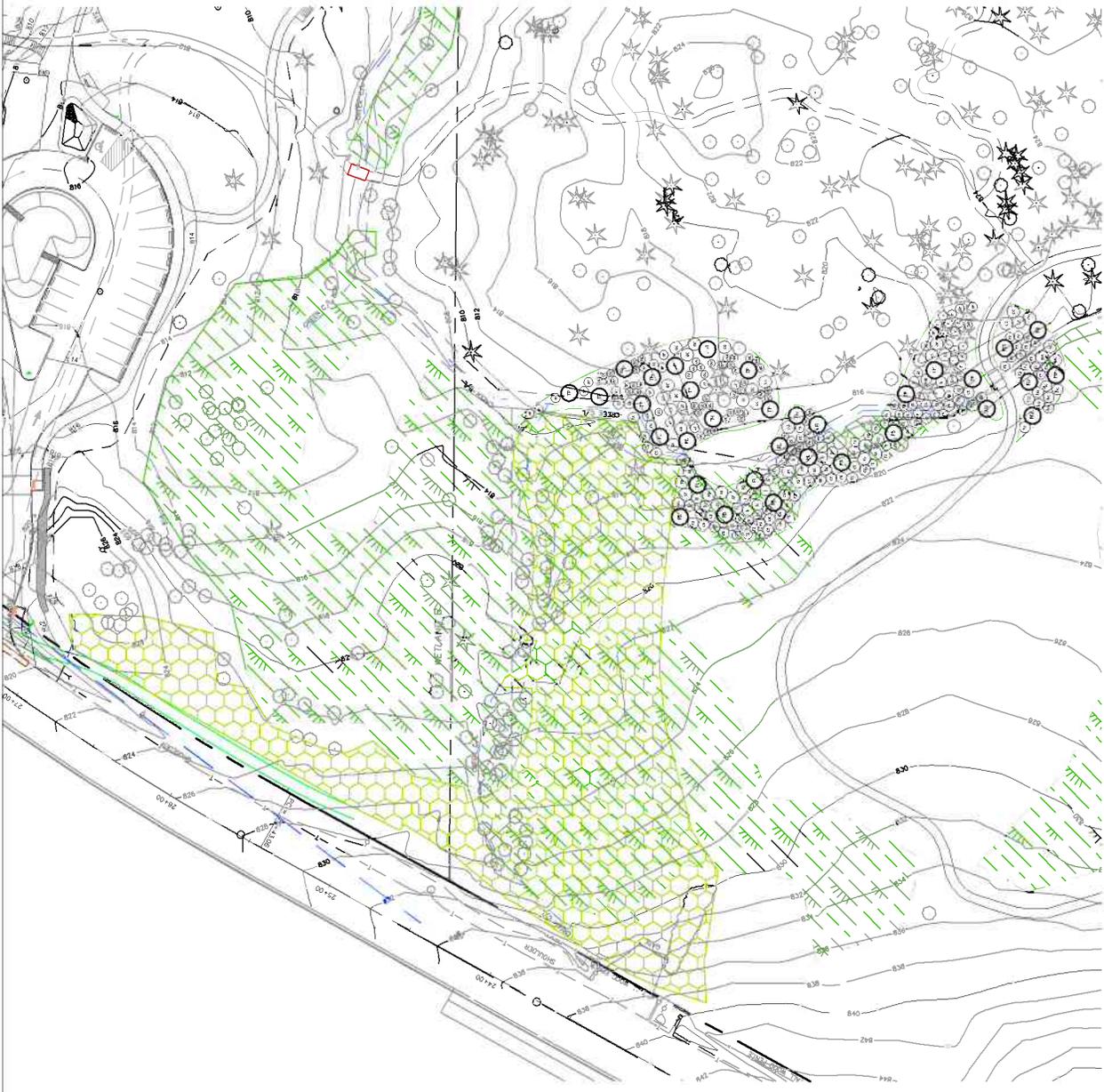
PROJECT MANAGER: MGC
DESIGNED BY: MGC
DRAWN BY: MGC
CHECKED BY: MGC
JOB NUMBER: 100220

SHEET NUMBER: 1 OF 4

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PLANTING LEGEND

SCIENTIFIC COMMON NAME	QTY	SIZE
1. AER. MACROPHYTE	1	2 GAL
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100. BIRCH	1	2 GAL



PLANTING PLAN - AREA 2

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION
1	04-10-10	PERM SET
2	04-10-10	PERM SET
3	04-10-10	PERM SET
4	04-10-10	PERM SET
5	04-10-10	PERM SET
6	04-10-10	PERM SET
7	04-10-10	PERM SET
8	04-10-10	PERM SET
9	04-10-10	PERM SET
10	04-10-10	PERM SET



**LEWIS CREEK
 PARK PHASE II
 PICNIC AREA**
 5702 LAKEMONT BLVD
 BELLEVUE,
 WASHINGTON

Project No. 034-1250-04-00
 Date: October 1, 2014

Revised:

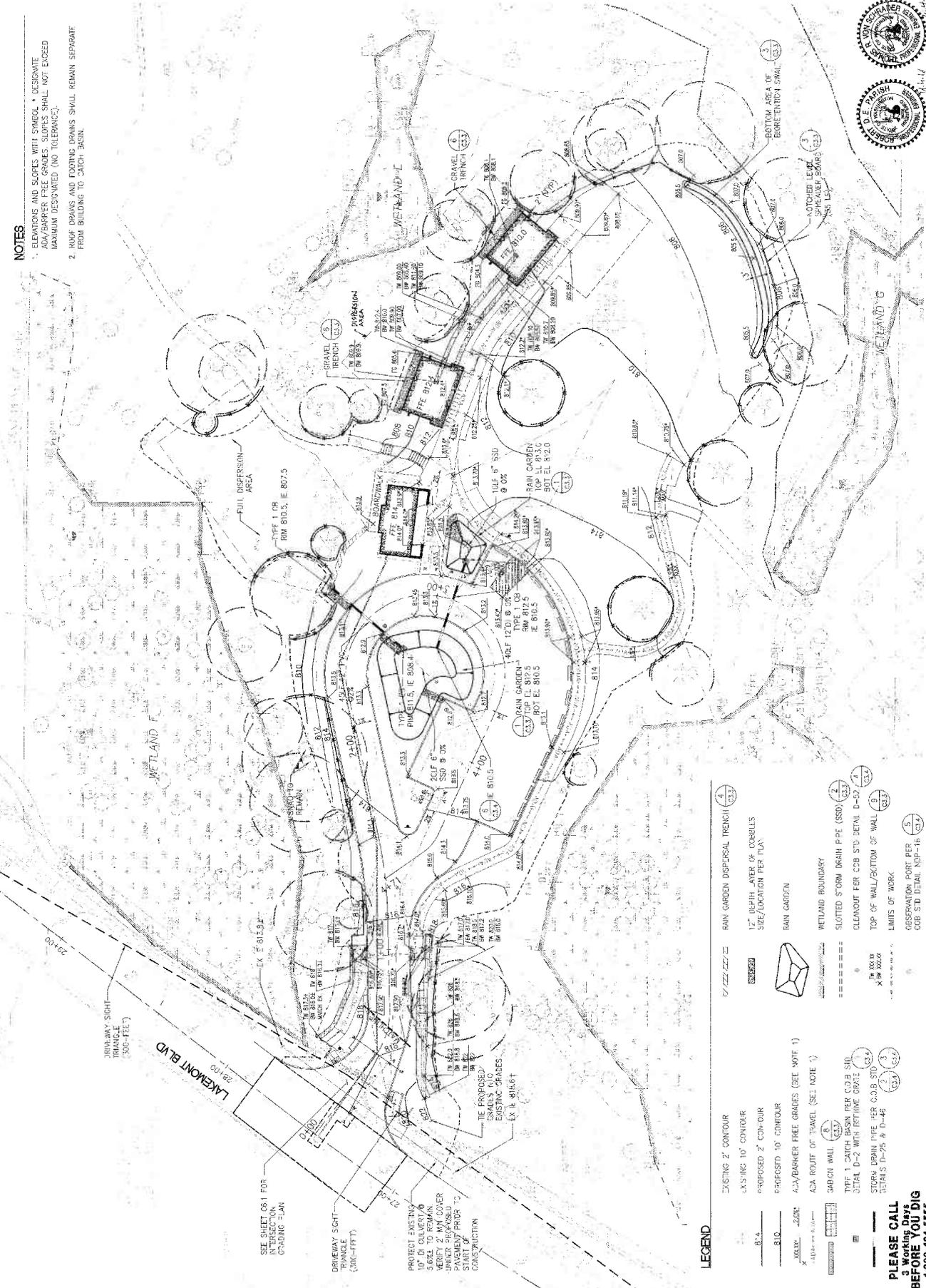
No.	Date	Description
1	10/1/14	Issue for Construction

**GRAVING AND
 STORM DRAINAGE
 PLAN**

C31

NOTES

- ELEVATIONS AND SLOPES WITH SYMBOL * DESIGNATE A3/BANKER FREE GRADES. SLOPES SHALL NOT EXCEED MAXIMUM DESIGNED (NO TOLERANCES).
- ROOF DRAINS AND FOOTING DRAINS SHALL REMAIN SEPARATE FROM BUILDING TO CATCH BASIN.



LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- A3/BANKER FREE GRADES (SEE NOTE 1)
- A2A ROUTE OF TRAVEL (SEE NOTE 1)
- GRABON WALL
- TYPE 1 CATCH BASIN PER C.O.B. STD. DETAIL D-2 WITH RETAINING GRADE
- STORM DRAIN PIPE PER C.O.B. STD. DETAILS D-75 & D-46
- RAIN GARDEN DISPERSAL TRENCH
- 12" DEPTH LAYER OF CORBELLS SIZE/LOCATION PER PLAN
- RAIN GARDEN
- WETLAND BOUNDARY
- SLOTTED STORM DRAIN PIPE (SSD)
- CLEANOUT PER C2B STD. DETAIL D-42
- TOP OF WALL/POSITION OF WALL
- LIMITS OF WORK
- GENERATION POINT PER C.O.B. STD. DETAIL NSP-16

**PLEASE CALL
 A WORKING DIG
 BEFORE YOU DIG
 1-800-424-5555**